PRODUCT CATALOGUE

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Introduction

WELCOME TO THE AP RACING PRODUCT CATALOGUE.

This catalogue has been designed to provide the user from whatever level of Motorsport, OE / High performance and Motorcycle industry with a guide to the most popular AP Racing products.
However not all products are listed so if your requirements differ from those in the catalogue please contact us for more help, we aim to be flexible.
A pdf version of this catalogue is also available to download from www.apracing.com

ABOUT US

THE COMPANY

For over 50 years AP Racing has been the leading manufacturer of performance brake and clutch systems for motorsport, OEM, aftermarket road, armoured and motorcycle applications. Based in Coventry, AP Racing has achieved more national and international sporting success than any of its rivals.
In 2018 alone, AP Racing supplied either brakes, clutches or both to over 30 champions across the entire spectrum of the motorsport world.
AP Racing core product ranges include, brake calipers, clutches, discs, pads, master cylinders, pedal boxes and air jacks as well as road and competition brake systems for motorcycles.
2018 saw AP Racing once again achieve accreditation to ISO:9001:2015 and registration to the IATF16949:2016 quality approval standards.This certification underlines AP Racing's commitment to provide the highest quality products and services to meet the exacting requirements of its customers.

RACE

Ever since AP Racing's creation it has been at the forefront of the motorsport industry, creating winners on the track and the roads, from Iron brakes to today's Carbon/Carbon, from large diameter clutches to compact Ø97mm, F1 multi-plate units that transmit 1000bhp at 12,000rpm, AP Racing has shown the way.
In Motorsport and F1 respectively our successes started with the incredible Auto Unions and have continued uninterrupted up to the 2018 Championship winning Mercedes. At the end of the 2018 Season AP Racing had notched up an incredible 818 Grand Prix wins with either our brake calipers or clutches since 1967.
This longevity of success has seen AP Racing repeating these achievements in other branches of motorsport from WRC, Touring Cars, Nascar, Indy Car, GT and many others in more than 50 countries around the world.

ORIGINAL EQUIPMENT

Competition is the best of test-beds and AP Racing's years of experience in motor sport also brings benefits for the latest OEM road cars.
The emphasis may be different, qualified by the everyday demands of the modern road conditions but the essential requirements remain the same. Supporting both low and high volume OE customers, AP Racing has the resources, technology and knowledge to bring its racing history and performance to the road.
For many years, AP Racing has been supplying some of the top marques in the high performance vehicle market with brake and clutch systems to suit specific applications.
Through a proven design and development program, along with engineering support to the customer, AP Racing is able to provide high performing, reliable brake and clutch solutions to a variety of performance car marques.

SPECIAL PROJECTS.

AP Racing, can and have, engineered unique solutions for various " Special Vehicles" sectors which includes Armoured or Defence, Hybrid, Electric, Land Speed, Bomb Disposal and even Aerospace applications, to a customer's own specific criteria and requirements.
With varying duty levels of brake and clutch systems available, solutions can be designed and developed based on our specific vehicle testing procedures replicating the environments and scenarios experienced by these vehicles.
With over 50 year's experience and a wealth of talent in all areas or our business, AP Racing is perfectly placed to offer the innovation required in these exciting market sectors.

ENGINEERING & TECHNOLOGY

It isn't easy being at the pinnacle of motorsport or performance road brake and clutch design, but the resources available to AP Racing ensure the best is always on hand for all its customers, from state of the art three dimensional solid modelling/design and FEA CAD facilities to sophisticated research, development, testing and quality departments that constantly probe the boundaries of technology.
Some 11 years ago AP Racing introduced its first Radi-CAL™ designed brake caliper to the world. This revolution in brake caliper technology features a design concept that improve efficiency, cooling and driver control. This proven race winning technology is available in all major race series around the world from F1, GT, Touring Car, WRC and Nascar to name a few and AP Racing are continuing with further developments of Radi-CAL™ technology for additional motorsport applications, and also including OEM Road and Aftermarket calipers. To date, AP Racing has produced some 90 first and second generation variants with the company continuing to refine the Radi-CAL™ design processes to further enhance its position as a world leader in brake caliper design.

THE COMPLETE COMPETITIVE RANGE.

This product catalogue offers an unequalled selection of brake and clutch systems and accessories. They form an integrated range of thousands of individual components and products carefully developed and selected for every motorsport, OEM, high performance upgrade and motorcycle application. With a worldwide network of 48 specialist distributors, modern Internet communication facilities and express delivery services, AP Racing ensures that the widest selection of high performance products is available, wherever you are.
N.B: Whilst this catalogue provides comprehensive details of AP Racing products our website (www.apracing.com) offers the most up to date information on the changes that may occur to our products.

Introduction Home Page

New Products & Changes

Customer Services

IMPORTANT INFORMATION

Whilst this catalogue provides a comprehensive overview of some of the most popular AP Racing products, our website **(www.apracing.com)** details the entire product range available and provides our customers with the most up to date information including any changes that may occur to the product ranges.

N.B: A version of this product catalogue including all installation drawings in pdf format for the products listed in this publication, where possible, can be download by reading the QR Code opposite.

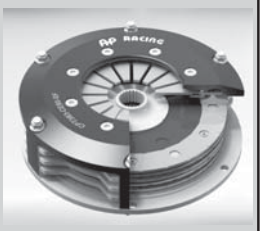
N.B: All information contained is intended as a guide only, the responsibility rests with the reader to ascertain its accuracy.

NEWS

AP Racing has many new exciting products and projects to be released throughout the next couple of years and will be announcing all relevant details through our website and social media platforms. Please sign up to our newsletter to receive information.

New Products:

Ø184mm (7¼") Race Clutch:-



We have added a 3 (Triple) plate paddle/cerametallic and organic clutch to the existing range to suit Historic racing.
- CP7383 - suitable for high torque historic race and rally applications - a forged aluminium alloy cover with four different capacity options. **See page 128 for further details.**

Reservoirs:-

Two new 400cc capacity plastic reservoirs with either a central of offset outlet supplied with 3/8"UNF push on adaptor fitting have been added to our extensive reservoirs range under CP2293-173 (offset outlet) and CP2293-185 (Centre outlet) part numbers. **See page 74 for further details.**

Catalogue Changes:

This highlights products and or ranges that have been removed from our previous catalogue.

Factory Big Brake Kits:

The following Road and Competition kits have been taken out of the catalogue, but their information remains on the website:

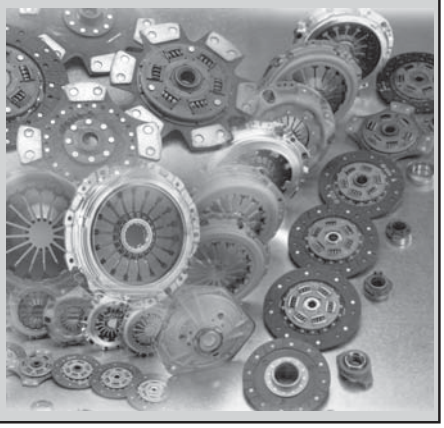
APPLICATION:	PART NUMBERS:	APPLICATION:	PART NUMBERS:	APPLICATION:	PART NUMBERS:
AUDI		**FORD**		**SUBARU**	
A3, 1.8T	CP5570-1003	FIESTA ST, MK5	CP6637-1001	IMPREZA, 93 - 2014	CP5555-1052
RS4 FRONT	CP5555M1034	FOCUS ST, MK2	CP6628-1004	**VW**	
RS4 REAR	CP6602-1000	**HONDA**		GOLF, MK4	CP5570-1003
BMW		CIVIC TYPE R, EP3	CP5570-1012	SCIROCCO, MK3 GTi / TDi	CP5570-1015
535i, E60	CP5555-1043	S2000	CP6637-1000		
M5, E34	CP5555-1001	**MITSUBISHI -** EVO 7,8,9 FRONT	CP5555-1032	**FACTORY COMPETITION BRAKE KITS**	
M5 / 5 SERIES, E39	CP5555-1036	**NISSAN -** 350Z REAR	CP7633-1000	MITSUBISHI EVO 10, FRONT & REAR	CP5060-1000NP
	CP5555-1038	**RANGE ROVER EVOQUE**	CP9040Z1000 CP8522Z1002		CP7636-1000NP

Motorcycle Products:

The individual motorcycle product section has been removed from this catalogue. However the motorcycle brake calipers and master cylinders have been included in the Brake calipers and Actuations sections respectively.

Special Tuning Clutches.

The whole range has been removed from this catalogue as AP Racing is no longer able to supply a number of critical component parts.
The remaining options are detailed on our website. However, the following cover assemblies have been made obsolete and no longer available to order:



Cover Families:-
- Ø215mm - CP2511-1 / CP2246-70 / CP2246-71 & CP2647-1.
- Ø220mm - CP3560-1 & CP3560-2.
- Ø240mm - CP3380-2 / CP2345-4 / CP2345-8.
- Ø267mm - CP2789-1

Driven Plate Families:-
For the part numbers affected please refer to our website for more information.

BRAKE CALIPERS

- GENERAL INFORMATION.
- PRO 5000 R .
- FORMULA CAR.
- GT.
- RALLY.
- TOURING CAR.
- 2 PISTON.
- HISTORIC RACE.
- MOTORCYCLE.
- PERFORMANCE ROADCAR.
- TECHNICAL INFORMATION.
- REPLACING CALIPER SEALS.

Brake Caliper Home Page
Pro 5000 R Caliper Range
Formula Car Calipers
GT Calipers
Rally Calipers
Touring Car Calipers
2 Piston Calipers
Historic Caliper Range
M/Cycle Caliper Range
Road Car Caliper Range
Technical Caliper Info

INTRODUCTION.

For over 50 years AP Racing has been a world leader in the technology and manufacture of motorsport and high performance brake calipers.
During this period many of the world's premier races and championships have been won using AP Racing braking systems. With one of the most comprehensive ranges available, AP Racing can offer a brake caliper suitable for every category of motorsport supplemented with a wide range of brake calipers to suit high performance road car applications for both OE and upgrade brake conversion kits. The AP Racing caliper range has been separated into the following groups to aid selection: PRO 5000 R, Formula cars, GT, Rally, Touring Cars, 2 Piston, Historic, Motorcycle and Road Car.
The calipers shown from pages 5 to 30 are the most popular calipers selected from the extensive AP Racing range and will provide the solution to most, if not all, applications. The standard calipers benefit from a more competitive price structure coupled with preferential delivery times.
Specialist caliper ranges such as those used in Formula One are not shown in this catalogue. The complete range however includes many other options and the majority can be found on www.apracing.com, so if you require a caliper not illustrated please contact AP Racing for information on availability, price and delivery.

ROAD OR RACE ?

It is important to choose the correct type of brake caliper for the intended application. The design requirements for a brake caliper to be used on the public highway (Road) or for competition use are significantly different. A road caliper often has to go for long periods without servicing or maintenance therefore corrosion protection and durability are primary considerations.
A brake caliper designed for competition use must be lightweight yet capable of operating reliably at high temperatures, however it is normally cleaned and serviced very frequently. AP Racing produce brake calipers optimised for these two very different applications. Although generally derived from our racing calipers, all AP Racing road calipers have a protective paint finish, wiper (dirt) seals or boot Seals to prevent dirt ingress and are of a heavier construction than calipers intended solely for competition use. We strongly recommend that only purpose designed 'Road' calipers are used on vehicles intended for regular use on the public highways.

DESIGN & DEVELOPMENT.

The whole process of design and development is carried out at our headquarters in Coventry. With our two brake dynomometers we are able to reproduce the most demanding test environments. AP Racing designers use the latest technologies to produce some of the most aesthetic and effective brake calipers at the affordable prices the markets request.

Radi-CAL™

Developed in 2007, this break from traditional design concepts has allowed AP Racing to lead the way in brake caliper design and manufacture, producing over 90 different variants for a cross selection of motorsport categories. Radi-CAL™ enabled AP Racing to take a fresh look at how the design envelope could be used and based its qualities around making calipers lighter, stiffer and run cooler, therefore making them more aesthetic to the eye.

STANDARD CALIPER FEATURES.

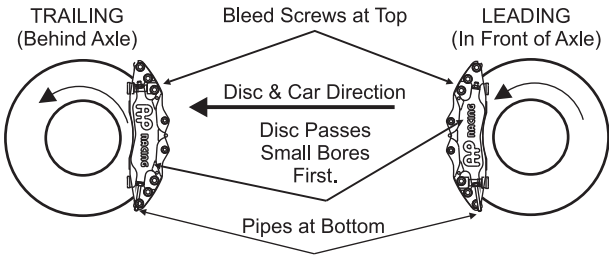
- **Differential Bores** and/or piston positioning are used on all AP Racing multi-piston calipers to combat pad taper.
- **High Temperature Seals** are standard on all AP Racing race (competition) calipers.
- **Hard Anodised Surface Treatment** is standard on all AP Racing competition calipers for optimum durability. (Except iron calipers and where indicated).
- **Road Calipers** have a high performance paint finish applied on top of the hard anodising for maximum durability and protection against road salts.
- Radial Mount fixings are standard unless indicated otherwise.
- All AP Racing Road calipers have piston dirt seals to protect against ingress of harmful debris.
- Where fitted, all Bridge Pipes on AP Racing calipers are Stainless Steel.
- Most AP Racing calipers are fitted with replaceable Steel Wear Plates to protect pad and caliper body.

CALIPER, SEALS & TEMPERATURE.

Because race Brake Calipers are sometimes subjected to very high and unpredictable operating temperatures, they must be examined and seals must be replaced on a regular basis to maintain efficiency and safety. Seal life is governed by time at temperature which should therefore be kept as low as possible by provision of cooling airflow. For guidance only, AP Racing offer the following recommendations (temperatures measured on outside of Caliper adjacent to logo):
- Calipers that regularly run at up to 200°C – Re-seal every other event.
- Calipers that run intermittently from 200°C to 220°C and above – Re-seal as soon as possible.
- Reduce "soak" temperatures after the car has come to rest where possible (e.g. do not leave foot on brake pedal when stationary with hot brakes) as this can cause excessive caliper temperatures.

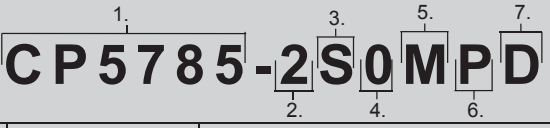
CALIPER HANDING.

- Calipers are available to suit installation in front (Leading) or behind (Trailing) the axle.
- The following abbreviations are used in this publication:-
- RHT = Right Hand Trailing. - LHT = Left Hand Trailing.
- RHL = Right Hand Leading. - LHL = Left Hand Leading.
- Bleed screws must always be positioned at the top.
- Discs must always pass the small piston first on differential bore calipers.
- Cross over pipes must always be positioned at the bottom.



PART NUMBERING SYSTEM.

An explanation of a Brake Caliper part number;



No.	Explanation	Description
1.	Caliper Family No.	Base Caliper No.
2.	Stroke No.	Even No. = Right hand caliper. Odd No. = Left hand caliper.
3.	Position of inlet Adaptor.	S = Sidefeed. / E = Endfeed.
4.	Anti-knockback Spring.	0 = No spring. / 4 = 4lbs. / 7 = 7lbs / 9 = 9lbs.
5.	Piston Material.	No character = Aluminium Alloy. L = Stainless Steel. & M = Titanium.
6 & 7	Options	C = Pistons fitted with caps. P = Pistons can accept caps. D = Cooling duct supplied.

SERVICING AND RECONDITIONING.

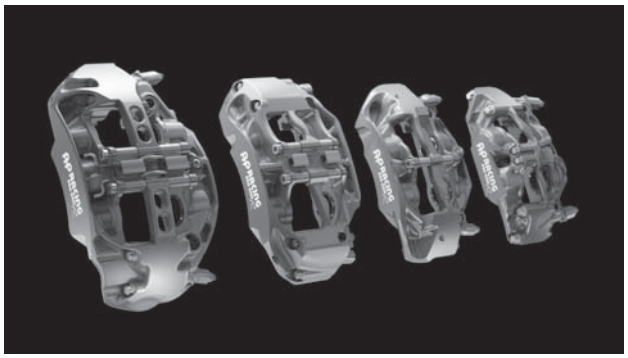
- Regular examination and maintenance of brake calipers is essential to maintain safety and efficiency of operation.
- AP Racing recommend that brake calipers should be cleaned with soapy water only, as this will not damage any of the seals.
- Replacement seals should be soaked in brake fluid for 30 minutes prior to fitment.
- AP Racing will no longer supply replacement fluid pipes for road calipers. Return to AP Racing for replacing.
- **A complete reconditioning service is available.**
- Seal repair kits and other spare parts e.g. pistons, bleed screws etc, for calipers detailed, and older obsolete calipers, are available and can be identified by referring to our website page:
- For more information please contact AP Racing.

DRY BLEED SYSTEMS (DRY BREAKS).

A Dry Bleed System has been designed for use with any AP Racing calipers suitable for 'O' Ring sealed bleed screws. The male dry bleed valve is fitted in place of the bleed screw, once fitted there should be no need to loosen or remove the coupling unless it is being replaced.
For detailed information please go to page 87.

Brake Caliper Home Page
More 4 Piston Pro 5000R Calipers
6 Piston Pro 5000 R Calipers
Formula Car Calipers
GT Calipers
Rally Calipers
Touring Car Calipers
2 Piston Calipers
Historic Caliper Range
M/Cycle Caliper Range
Road Car Caliper Range
Technical Caliper Info
General Brake Caliper Info

PRO 5000 R



INTRODUCTION.

Pro 5000R is an entry level option of Radi-CAL™ brake calipers, designed as the next generation of our popular Pro 5000 branded ranges.

Pro 5000R was developed from our experience in all areas of motorsport, the new forged designs feature the latest innovations from of our pioneering asymmetric design concept.
Manufactured with the same ideology as Pro 5000+ this range offers the same costing benefits but will not directly replace Pro 5000+.
It should be noted that there are dimensional differences between + and R ranges and all installations require checking before specifying.

- The range consists of 13 caliper variants and 16 different discs, which cover 6 & 4 piston calipers and ventilated discs from Ø390mm to Ø280mm and 36mm down to 18mm thickness.

- The 13 caliper variants are based on radially mounted two piece forged aluminium calipers and are fitted with 4lb anti-knockback springs (where applicable) with stainless steel pistons on all.

- All calipers run full depth pads.

- The discs are available with a straight or curved grooved or 'J' Hook face configurations.

- The main objective of the range is to provide a high quality "off the shelf" Radi-CAL™ brake system at a competitive price. The range will be kept to the part numbers listed in this catalogue and no variations are available.

- Alternative strength anti-knockback springs are available, please refer to AP Racing for details.

- This section provides the basic installation dimensions for both the calipers and the discs, if further information is required please contact AP Racing Technical Section.

NOTE. All dimensions in (mm) unless otherwise stated.

CUSTOMER NOTES

CP9440 & CP9441
4 Piston, Radi-CAL™

TECHNICAL SPECIFICATION

Piston Sizes	
CP9440-2/3	Ø36.0mm x 2 Ø41.3mm x 2
CP9441-2/3	Ø31.8mm x 2 Ø36.0mm x 2
Piston Area	
CP9440-2/3	47.12cm²
CP9441-2/3	36.19cm²
Weight No Pads	
CP9440-2/3	2.16Kg
CP9441-2/3/	2.1Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset	44.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	57.8mm

TYPICAL APPLICATION

- General competition use.

FEATURES

- Radial mount, 152 x 44mm ctrs.
- Benefits from a radical asym-metric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits Ø330/Ø315x28mm discs.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.
- **Smaller bore version for rear applications available - CP9441 Family - See Website for details.**

PART NUMBERS

- RH, CP9440-2S4L.
- LH, CP9440-3S4L.

- **Smaller bore version Part Nos.**
- RH, CP9441-2S4L.
- LH, CP9441-3S4L.

Note: For handing information check Installation drawing at: www.apracing.com

SPARE PARTS

CP9440 Pistons	
Ø36.0 Pistons	CP9440-107
Ø41.3 Pistons	CP9440-106
CP9441 Pistons	
Ø31.8 Pistons	CP9441-101
Ø36.0 Pistons	CP9440-106
Seal Repair Kit -	
CP9440	CP8518-HK
CP9441	CP8518-EH
RH - Wear Plate	CP9440-108
LH - Wear Plate	CP9440-109
Bleed Screw Kit	CP3880-1

PAD INFORMATION

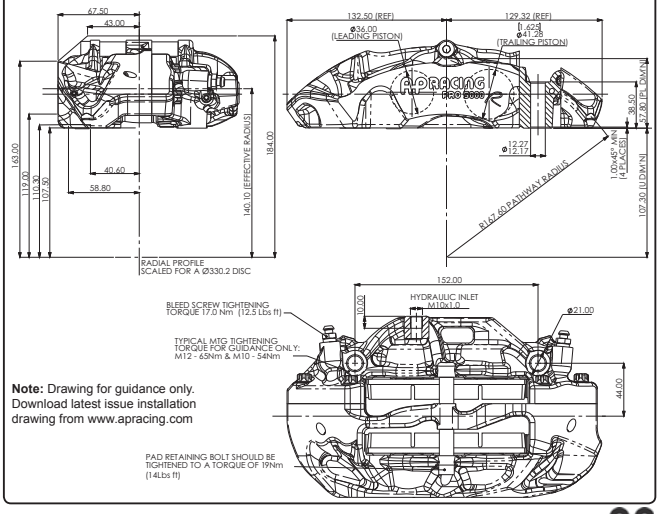
Pad Family - See page 52 for Profile.	CP3215D50
Pad Area	57.4cm²
Pad Volume	70.44cm³
Pad Thickness	16.8mm

Pad Material

BRAKE DISC INFORMATION

- Part Number.	CP5000-210/1CG8	CP3580-2898/9CG8	CP5000-220/1CG8
- Diameter.	Ø330.0	Ø330.0	Ø315.0
- Thickness.	28.0	28.0	28.0
- PCD.	Ø203.2mm	Ø203.2mm	Ø177.8mm
- Eye Diameter	Ø227.4mm	Ø230.0mm	Ø210.3mm
- Inside Flange Ø.	Ø185.0mm	Ø190.0mm	Ø164.3mm
- Flange Thickness.	5.1mm	5.6mm	5.95/6.10mm
- Mounting Holes.	12	12	12
- Mounting Hole Ø.	6.4mm	6.4mm	6.4mm
- Airgap.	15.25mm	14.0mm	14.0mm
- No of Vanes.	36	48	36
- Disc Weight.	4.94Kg	5.94Kg	5.6Kg
- Face Depth.	D50	D50	D52

CP9440 - INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Drawing

Visit www.apracing.com for full & up to date product range

Brake Caliper Home Page
More 4 Piston Pro 5000R Calipers
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GT Calipers
Rally Calipers
Touring Car Calipers
2 Piston Calipers
Historic Caliper Range
M/Cycle Caliper Range
Road Car Caliper Range
Technical Caliper Info
General Brake Caliper Info
Pad Material
View Drawing

CP9444 & CP9445

4 Piston, Radi-CAL™ - Suits 13" Wheels.

TYPICAL APPLICATION

- Designed to suit a 13" wheel, generally for single seaters.

FEATURES

- Radial mount, 152 mtg ctrs.
- Benefits from a radical asym-metric design concept. Offering superior dynamic performance.
- Forged, two piece Aluminium alloy body.
- Integral pad retainer to enhance caliper stiffness.
- Suits disc up to Ø280 x 18/21/22 & 25.mm thicknesses.
- Internally ported.
- **Smaller bore version for rear applications available - CP9445 Family - See Website for details.**

PART NUMBERS

- **To suit disc Ø280x22-25.4mm.**
- RH, CP9444-2S0L.
- LH, CP9444-3S0L.
- **To suit disc Ø280x18-21mm.**
- RH, CP9444-4S0L.
- LH, CP9444-5S0L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

Piston Sizes	
CP9444-2/3/4/5	Ø34.9mm x 2 Ø41.3mm x 2
CP9445-2/3/4/5	Ø31.8mm x 2 Ø38.1mm x 2
Piston Area	
CP9444-2/3/4/5	45.9cm²
CP9445-2/3/4/5	38.9cm²
Weight No Pads	
CP9444-2/3/4/5	1.86Kg
CP9445-2/3/4/5	1.85Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset's	
CP9444 & 5-2/3S0L = 40.0mm	
CP9444 & 5-4/5S0L = 38.0mm	
Mtg hole Ø	10.0mm
'PL' Dimension	57.0mm

SPARE PARTS

Ø31.8 Pistons	CP9444-108
Ø34.9 Pistons	CP9444-110
Ø38.1 Pistons	CP9444-109
Ø41.3 Pistons	CP9444-111
Seal Repair Kit -	
CP9444	CP8518-GK
CP9445	CP8518-EJ
RH - Wear Plate	CP9444-112
LH - Wear Plate	CP9444-113
Bleed Screw Kit	CP3880-1

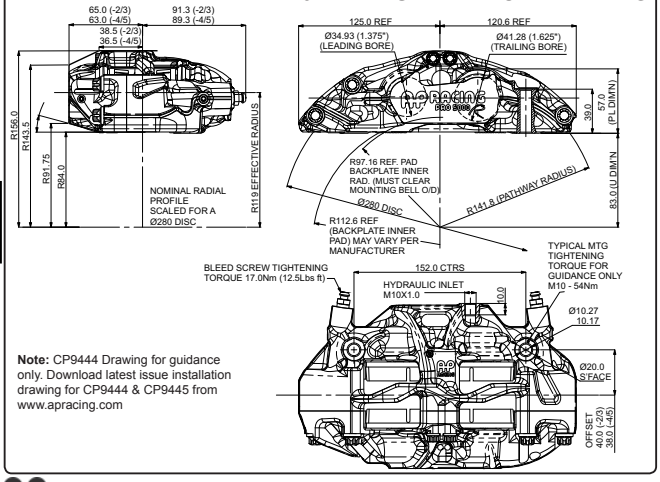
PAD INFORMATION

Pad Family - See page 51 for Profile.	CP3215D42
Pad Area	48.3cm²
Pad Volume	60.9cm³
Pad Thickness	16.75mm

VENTILATED BRAKE DISC INFORMATION

- Part Number.	CP3947-138/139CG4	CP3947-140/141CG4	CP4448-208/209CG4	CP4448-210/211CG4
- Diameter.	Ø280.0	Ø280.0	Ø280.0	Ø280.0
- Thickness.	18.0	21.0	22.0	25.4
- PCD.	175.0	175.0	175.0	175.0
- Eye Diameter	193.44	193.44	193.44	193.44
- Inside Flange Ø.	151.0	151.0	151.0	151.0
- Flange Thickness.	4.325	5.625	5.05/5.00	6.35/6.30
- Mounting Holes.	8 - Floating	8 - Floating	8 - Floating	8 - Floating
- Bobbin P/No.	CP2494-595MA	CP2494-589MJ	CP2494-592MC	CP2494-504MP
- Airgap.	8.0	8.0	10.5	10.5
- No of Vanes.	47	47	48	48
- Disc Weight.	2.8	3.5	3.3	4.1
- Face Depth.	D42	D42	D42	D42

CP9444 - INSTALLATION DRAWING



Note: CP9444 Drawing for guidance only. Download latest issue installation drawing for CP9444 & CP9445 from www.apracing.com

CP9446

4 Piston, Radi-CAL™ - 180mm ctrs.

TYPICAL APPLICATION

- General competition use.

FEATURES

- Radial mount, 180x35mm ctrs.
- Benefits from a radical asym-metric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits upto Ø380 x 32 or 28mm discs.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.

PART NUMBERS

- RH, CP9446-2S4L.
- LH, CP9446-3S4L.

Note: For handing information check Installation drawing at: www.apracing.com

TECHNICAL SPECIFICATION

Piston Sizes	Ø34.9mm x 2 Ø41.3mm x 2
Piston Area	45.6cm²
Weight No Pads	2.23Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mounting offset	35.0mm
Mtg hole Ø	12.00mm
'PL' Dimension	58.0mm

SPARE PARTS

Pistons	
Ø34.9 Pistons	CP9444-110
Ø41.3 Pistons	CP9444-111
Seal Repair Kit -	CP8518-GK
RH - Wear Plate	CP9446-110
LH - Wear Plate	CP9446-111
Bleed Screw Kit	CP3880-1

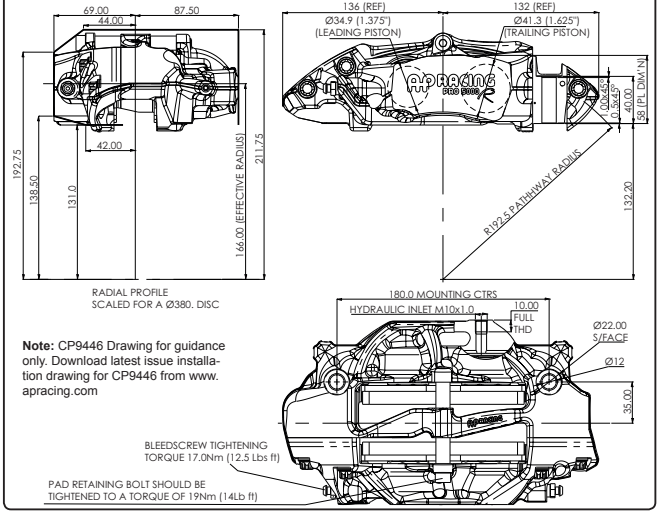
PAD INFORMATION

Pad Family - See page 55 for Profile.	CP6820D48
Pad Area	63.2cm²
Pad Volume	101.12cm³
Pad Thickness	16.0mm

BRAKE DISC INFORMATION

- Part Number.	CP5772-1128/9CG8	CP5914-110/1G8	CP5772-1010/1GA
- Diameter.	Ø356.0	Ø378.0	Ø378.0
- Thickness.	32.0	28.0	32.0
- PCD.	Ø240.0mm	Ø260.3mm	Ø260.4mm
- Eye Diameter	Ø258.6mm	Ø282.0mm	Ø282.0mm
- Inside Flange Ø.	Ø215.0mm	Ø235.3mm	Ø235.35mm
- Flange Thickness.	5.6mm	5.62mm	5.6mm
- Mounting Holes.	12 - Floating	12 - Floating	12 - Floating
- Bobbin Part No.	CP2494-589MJ	CP2494-589MJ	CP2494-589MJ
- Airgap.	19.5mm	13.5mm	19.5mm
- No of Vanes.	72	48	72
- Disc Weight.	5.94Kg	6.28Kg	6.2Kg
- Face Depth.	D46	D46	D46

CP9446 - INSTALLATION DRAWING



Note: CP9446 Drawing for guidance only. Download latest issue installation drawing for CP9446 from www.apracing.com

Pad Material
View Drawing

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Technical Caliper Info
General Brake Caliper Info
Pad Material
View Drawing

CP9448
4 Piston, Radi-CAL™ Front - 152mm ctrs.

TYPICAL APPLICATION
- Front - General competition use.

FEATURES
- Radial mount, 152 x 44mm ctrs.
- Benefits from a radical asym-metric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits disc upto Ø380mm x 28 or 32mm thickness.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.
- 4Lb Anti-knockback springs fitted as standard.

PART NUMBERS
- RH, CP9448-2S4L.
- LH, CP9448-3S4L.

Note: For handing information check Installation drawing at: www.apracing.com

TECHNICAL SPECIFICATION

Piston Sizes	Ø38.1mm x 2 Ø41.3mm x 2
Piston Area	49.4cm²
Weight No Pads	2.24
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset	44.0mm
Mtg hole Ø	12.2mm
'PL' Dimension	58.0mm

SPARE PARTS

Ø38.1 Pistons	CP9445-109
Ø41.3 Pistons	CP9444-111
Seal Repair Kit -	CP8518-JK
RH - Wear Plate	CP9444-112
LH - Wear Plate	CP9444-113
Bleed Screw Kit	CP3880-1

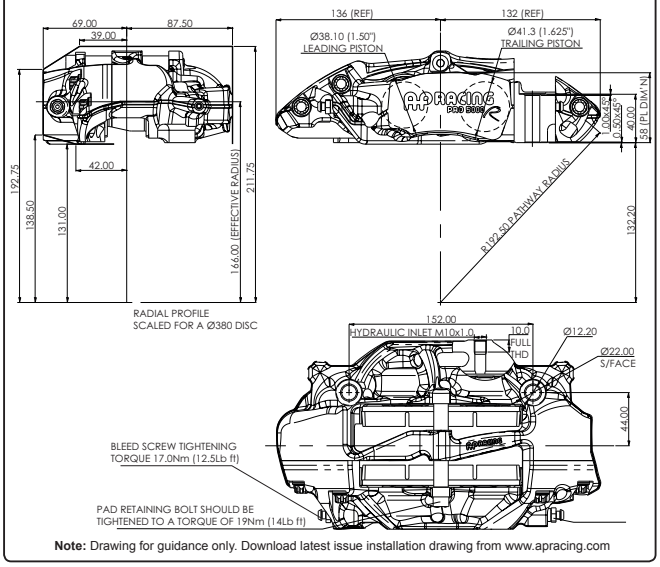
PAD INFORMATION

Pad Family - See page 52 for Profile.	CP3215D46
Pad Area	48.3cm²
Pad Volume	60.9cm³
Pad Thickness	16.75mm

BRAKE DISC INFORMATION

- Part Number.	CP5914-116/7G12	CP5914-110/1G8	CP5772-1010/1GA
- Diameter.	Ø378.0	Ø378.0	Ø378.0
- Thickness.	28.0	28.0	32.0
- PCD.	Ø260.3mm	Ø260.3mm	Ø260.4mm
- Eye Diameter	Ø282.0mm	Ø282.0mm	Ø282.0mm
- Inside Flange Ø.	Ø235.5mm	Ø235.3mm	Ø235.35mm
- Flange Thickness.	5.62mm	5.62mm	5.6mm
- Mounting Holes.	12 - Bolted	12 - Floating	12 - Floating
- Bobbin Part No.	N/A	CP2494-589MJ	CP2494-589MJ
- Airgap.	13.5mm	13.5mm	19.5mm
- No of Vanes.	48	48	72
- Disc Weight.	6.1Kg	6.28Kg	6.2Kg
- Face Depth.	D46	D46	D46

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP9449 / CP9450 / CP9451
4 Piston, Radi-CAL™ Rears - 152mm ctrs.

TYPICAL APPLICATION
- Rear - General competition use.

FEATURES
- Radial mount, 152 x 44mm ctrs.
- Benefits from a radical asym-metric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits upto Ø380 x 32 or 28mm discs.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.

PART NUMBERS
- **Ø28.6 / Ø34.0 bore versions.**
- RH, CP9449-2S4L.
- LH, CP9449-3S4L.
- **Ø27.0 / Ø31.8 bore versions.**
- RH, CP9450-2S4L.
- LH, CP9450-3S4L.
- **Ø25.4 / Ø28.6 bore versions.**
- RH, CP9451-2S4L.
- LH, CP9451-3S4L.

Note: For handing information check Installation drawing at: www.apracing.com

TECHNICAL SPECIFICATION

Piston Sizes (in mm)	
CP9449-2/3 - Ø28.6x2 / Ø34.0x2	
CP9450-2/3 - Ø27.0x2 / Ø31.8x2	
CP9451-2/3 - Ø25.4x2 / Ø28.6x2	
Piston Area	
CP9449-2/3	30.9cm²
CP9450-2/3	27.2cm²
CP9451-2/3	22.8cm²
Weight No Pads	2.20Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset	44.0mm
Mtg hole Ø	10.20mm
'PL' Dimension	52.0mm

SPARE PARTS

Pistons	
Ø25.4 Pistons	CP9451-106
Ø27.0 Pistons	CP9450-106
Ø28.6 Pistons	CP9449-106
Ø31.8 Pistons	CP9445-108
Ø34.0 Pistons	CP9449-107
Seal Repair Kit -	
CP9449	CP8518-DF
CP9450	CP8518-CE
CP9451	CP8518-AD
RH - Wear Plate	CP9444-112
LH - Wear Plate	CP9444-113
Bleed Screw Kit	CP3880-1

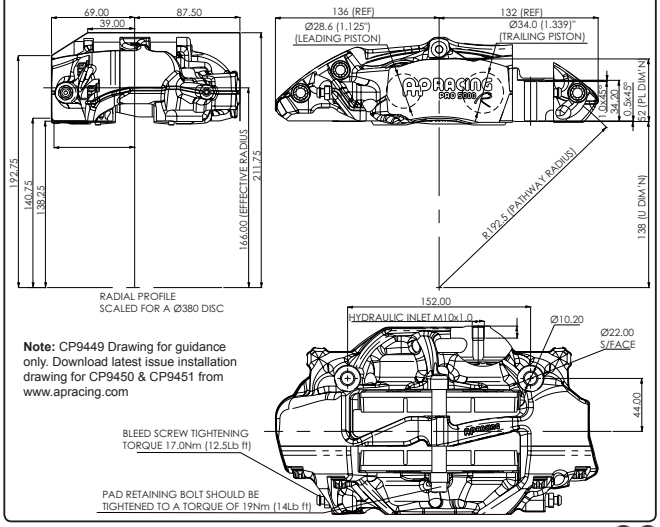
PAD INFORMATION

Pad Family - See page 52 for Profile.	CP3215D46
Pad Area	48.3cm²
Pad Volume	60.9cm³
Pad Thickness	16.75mm

BRAKE DISC INFORMATION

- Part Number.	CP5914-116/7G12	CP5914-110/1G8	CP5772-1010/1GA
- Diameter.	Ø378.0	Ø378.0	Ø378.0
- Thickness.	28.0	28.0	32.0
- PCD.	Ø260.3mm	Ø260.3mm	Ø260.4mm
- Eye Diameter	Ø282.0mm	Ø282.0mm	Ø282.0mm
- Inside Flange Ø.	Ø235.5mm	Ø235.3mm	Ø235.35mm
- Flange Thickness.	5.62mm	5.62mm	5.6mm
- Mounting Holes.	12 - Bolted	12 - Floating	12 - Floating
- Bobbin Part No.	N/A	CP2494-589MJ	CP2494-589MJ
- Airgap.	13.5mm	13.5mm	19.5mm
- No of Vanes.	48	48	72
- Disc Weight.	6.1Kg	6.28Kg	6.2Kg
- Face Depth.	D46	D46	D46

CP9449 - INSTALLATION DRAWING



Note: CP9449 Drawing for guidance only. Download latest issue installation drawing for CP9450 & CP9451 from www.apracing.com

Pad Material
CP9449 Drawing
CP9450 Drawing
CP9562 Drawing

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General Brake Caliper Info

CP9660

6 Piston, Radi-CAL™ - 180mm ctrs - 18mm Pad.

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm x 2
	Ø31.8mm x 2
	Ø38.1mm x 2
Piston Area	50.1cm²
Weight No Pads	2.78Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION

- General competition use.

FEATURES

- Radial mount, 180 x 42mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits disc up to Ø380 max / Ø356 min x 36 or 32mm thickness.
- Internally ported.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.

SPARE PARTS

Ø27.0 Pistons	CP9660-114
Ø31.8 Pistons	CP9660-115
Ø38.1 Pistons	CP9660-116
Seal Repair Kit	CP8518-CEJ
AKB Spring kit. - CP6518-4LBSSL	
Pad Retainer - CP9660-113 x 2	
Ret/Bolt P/No. - CP3596- 112ST	
RH - Wear Plate	CP9660-110
LH - Wear Plate	CP9660-111
Bleed Screw Kit	CP3880-1

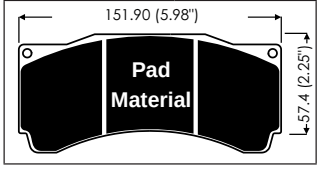
PART NUMBERS

- RH, CP9660-2S4L.
- LH, CP9660-3S4L.

Note: For handing information check Installation drawing at: www.apracing.com

PAD INFORMATION

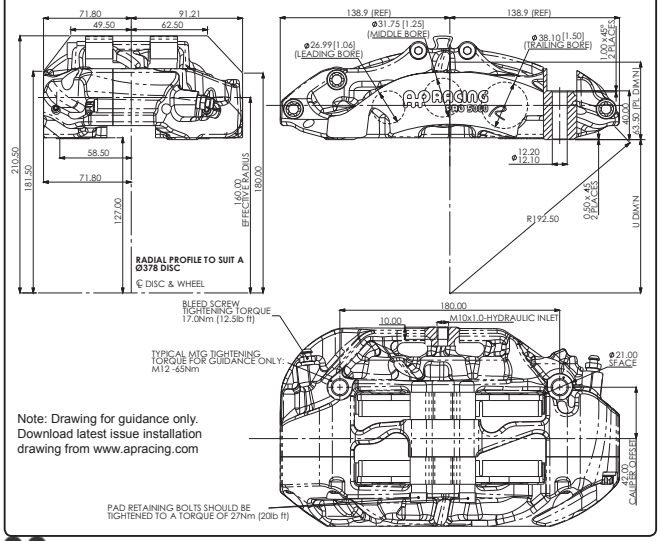
Pad Family	CP3905D54
Pad Area	77.4cm²
Pad Volume	100.1cm³
Pad Thickness	18.0mm



VENTILATED BRAKE DISC INFORMATION

- Part Number.	CP5772-1032/-1033G8	CP5000-218/-219CG8
- Diameter.	Ø378.0	Ø356.0
- Thickness.	36.0	32.0
- PCD.	Ø240.0	Ø228.6
- Eye Diameter	Ø266.0	Ø250.4
- Inside Flange Ø.	Ø215.0	Ø214.0
- Flange Thickness.	5.6mm	5.3mm
- Mounting Holes.	12 - Floating	12
- Mounting Hole Ó.	Bobbin - CP2494-589MJ	6.4mm
- Airgap.	20.0mm	19.5mm
- No of Vanes.	72	48
- Disc Weight.	7.4Kg	6.5Kg
- Face Depth.	D56	D53

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP9665

6 Piston, Radi-CAL™ - 210mm ctrs

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm x 2
	Ø31.8mm x 2
	Ø38.1mm x 2
Piston Area	50.1cm²
Weight No Pads	3.1Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.25mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION

- General competition use.

FEATURES

- Radial mount, 210 x 42mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits Ø390/362 x 36/32mm discs.
- Internally ported.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.

SPARE PARTS

Ø27.0 Pistons	CP9665-114
Ø31.8 Pistons	CP9665-115
Ø38.1 Pistons	CP9665-116
Seal Repair Kit	CP8518-CEJ
AKB Spring kit. - CP6518-7LBSSL	
Pad Retainer - CP9665-119A x 2	
Ret/Bolt P/No. - CP3715-117ST	
RH - Wear Plate	CP9665-112
LH - Wear Plate	CP9665-113
Bleed Screw Kit	CP3880-1

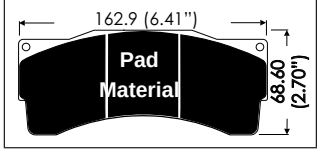
PART NUMBERS

- RH, CP9665-2S7L.
- LH, CP9665-3S7L.

Note: For handing information check Installation drawing at: www.apracing.com

PAD INFORMATION

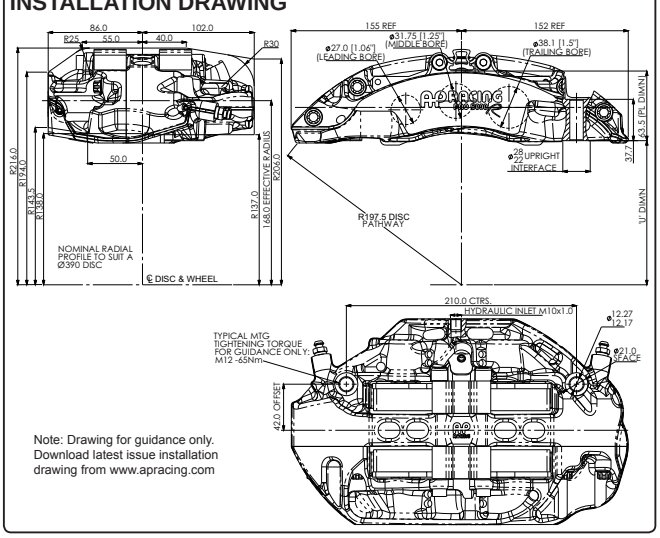
Pad Family	CP6230D54
Pad Area	81.6cm²
Pad Volume	164.3cm³
Pad Thickness	25.0mm



VENTILATED BRAKE DISC INFORMATION

- Part Number.	CP4284-134/-135CG8	CP5772-1030/-1031CG8
- Diameter.	Ø390.0mm	Ø378.0mm
- Thickness.	36.0mm	32.0mm
- PCD.	Ø260.0mm	Ø240.0mm
- Eye Diameter	Ø278.75mm	Ø266.8mm
- Inside Flange Ø.	Ø235.0mm	Ø215.0mm
- Flange Thickness.	6.80/6.85mm	5.6mm
- Mounting Holes.	12 - Floating	12 - Floating
- Mounting Hole Ø.	Bobbin - CP2494-589MJ	Bobbin - CP2494-589MJ
- Airgap.	21.0mm	20.0mm
- No of Vanes.	84	72
- Disc Weight.	8.7Kg	7.2Kg
- Face Depth.	D54	D56

INSTALLATION DRAWING



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CP9668

6 Piston, Radi-CAL™ - 180mm ctrs - 25mm Pad.

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm x 2 Ø31.8mm x 2 Ø38.1mm x 2
Piston Area	50.1cm²
Weight No Pads & bolted retainer	3.1Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.25mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION

- General competition use.

FEATURES

- Radial mount, 180 x 42mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged, two piece Aluminium alloy body.
- Suits disc up to Ø390 max / Ø356 min x 36 or 32mm thickness.
- Internally ported.
- Stainless Steel pistons fitted.
- Stainless Steel wear plates.

Bolted pad retainer with Quick-release spring clip supplied.

SPARE PARTS

Ø27.0 Pistons	CP9665-114
Ø31.8 Pistons	CP9665-115
Ø38.1 Pistons	CP9665-116
Seal Repair Kit	CP8518-CEJ
AKB Spring kit. - CP6518-7LBSSL	
Pad Retainer kit	CP9665-12
Quick Release Kit	CP9665-13
RH - Wear Plate	CP9668-106
LH - Wear Plate	CP9668-107
Bleed Screw Kit	CP3880-1

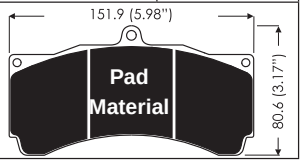
PART NUMBERS

- RH, CP9668-2S7L.
- LH, CP9668-3S7L.

Note: For handing information check Installation drawing at: www.apracing.com

PAD INFORMATION

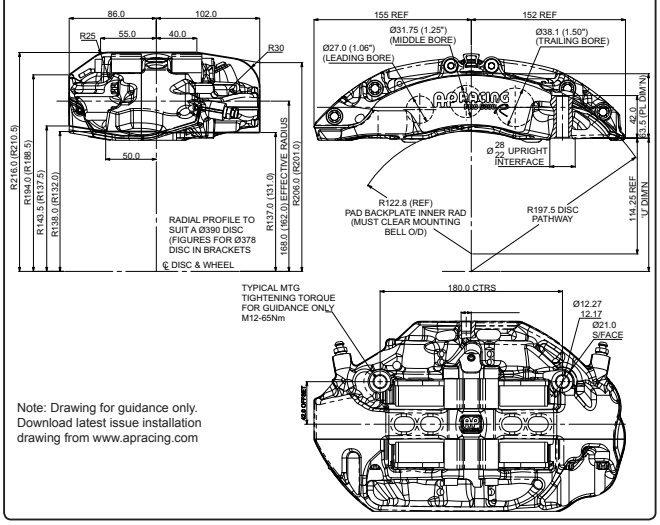
Pad Family	CP3558D54
Pad Area	77.4cm²
Pad Volume	155.8cm³
Pad Thickness	25.0mm



VENTILATED BRAKE DISC INFORMATION

- Part Number.	CP4284-134/-135CG8	CP5772-1030/-1031CG8
- Diameter.	Ø390.0mm	Ø378.0mm
- Thickness.	36.0mm	32.0mm
- PCD.	Ø260.0mm	Ø240.0mm
- Eye Diameter	Ø278.75mm	Ø266.8mm
- Inside Flange Ø.	Ø235.0mm	Ø215.0mm
- Flange Thickness.	6.80/6.85mm	5.6mm
- Mounting Holes.	12 - Floating	12 - Floating
- Mounting Hole Ø.	Bobbin - CP2494-589MJ	Bobbin - CP2494-589MJ
- Airgap.	21.0mm	20.0mm
- No of Vanes.	84	72
- Disc Weight.	8.7Kg	7.2Kg
- Face Depth.	D54	D56

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP5567

4 Piston, Forged Radi-CAL™

TYPICAL APPLICATION

- Front & Rear for 13" wheels.

FEATURES

- Radial mount, 152 x 30mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Reduced weight.
- Forged monobloc Aluminium alloy body.
- Suits Ø280 x 25.4mm disc.
- Aluminium alloy pistons.

- Stainless Steel option available.

- Stainless Steel wear plates.

TECHNICAL SPECIFICATION

Piston Sizes	Ø34.9mm Ø41.3mm
Piston Area	45.92cm²
Disc Diameter	Ø280.0mm
Disc Thickness	25.4mm
Weight No Pads	1.62Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mtg offset	30.0mm
Mtg hole Ø	10.15mm
'PL' Dimension	50.51mm

PART NUMBERS

- **With Aluminium Pistons.**
- Right Hand, CP5567-2S4.
- Left Hand, CP5567-3S4.

- **With Stainless Steel Pistons.**
- Right Hand, CP5567-2S4L.
- Left Hand, CP5567-3S4L.

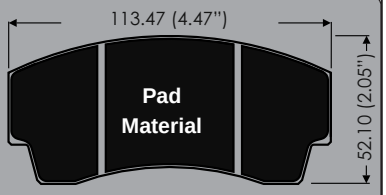
Note: It is important to select the correct hand of caliper, see page 4 for guidance.

SPARE PARTS

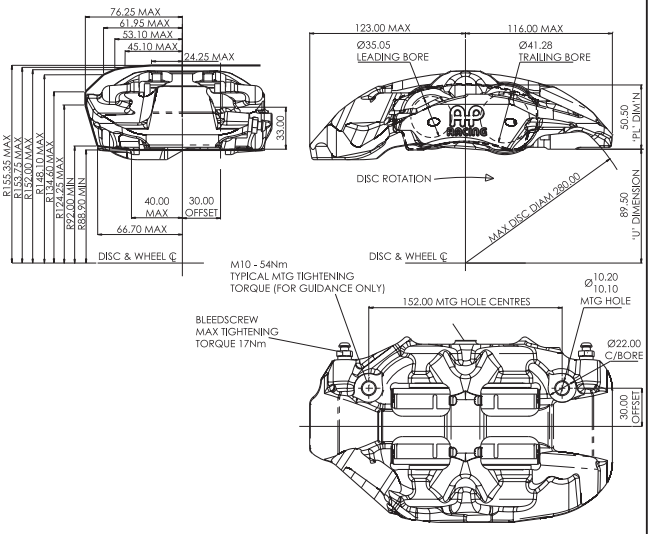
Pistons	
Ø34.9mm	CP5567-106
Ø41.3mm	CP5567-107
Seal Repair Kit	CP4518-GK
Wear Plates	
Pad x 4	CP5567-108
Ctr Beam x 1	CP5567-109
Bleed Screw Kit	CP3880-1
AKB Spring Kit	CP6518-4LBLL

PAD INFORMATION

- Pad Family = CP3345D44
- Pad Area = 43.4cm²
- Pad Depth = 44.1mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING



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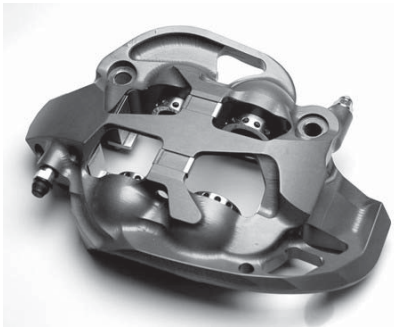
CP7031
4 Piston, Billet Radi-CAL™



TYPICAL APPLICATION
- Formula 3 Front & Rear.

FEATURES
- Radial mount, 120 x 40mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Reduced weight.
- Monobloc Aluminium alloy body.
- Suits Ø278 x 18mm disc.
- Stainless Steel pistons.
- Stainless Steel wear plates.
- Complete system (calipers, discs bells and pads) available, overall corner weight 4.37kg.

PART NUMBERS
- RH, CP7031-4S0LP.
- LH, CP7031-5S0LP.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

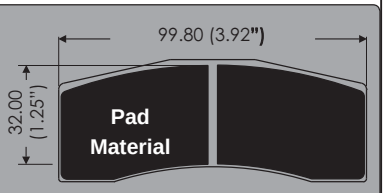
TECHNICAL SPECIFICATION

Piston Sizes	Ø25.4mm
	Ø31.8mm
Piston Area	25.97cm²
Disc Diameter	Ø278.0mm
Disc Thickness	
Max	18.0mm
Min	16.0mm
Weight No Pads	1.2Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	120.0mm
Mtg offset	40.0mm
Mtg hole Ø	10.15mm
'PL' Dimension	50.30mm

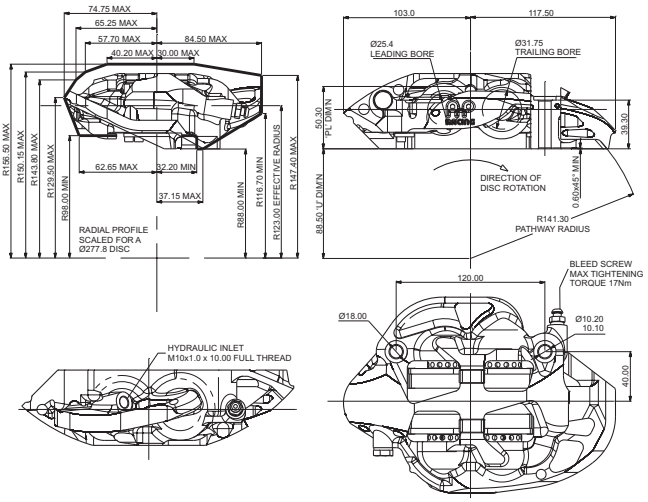
SPARE PARTS

Pistons	
Ø26.0mm	CP7031-113
Ø31.8mm	CP7031-108
Seal Repair Kit	CP4518-AE
Wear Plates	
Pad x 4	CP3307-222
Ctr Beam x 1	CP7031-106
Bleed Screw Kit	CP3880-1

PAD INFORMATION
- Pad Family = CP7031D32
- Pad Area = 30.35cm²
- Pad Depth = 32.0mm
- Pad Thickness = 15.75mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP5095
6 Piston, Forged Radi-CAL™ Front

TYPICAL APPLICATION
- All GT.

FEATURES
- Radial mount, 210 x 42mm ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Forged monobloc Aluminium alloy body
- Designed to operate on:
  - Ø378 x 36mm Iron disc or
  - Ø378 x 35mm Carbon disc.
- Internally ported.
- Stainless Steel pistons.
- 'Z' Piece pad retainer.
- 7lb Anti-knockback springs fitted.

PART NUMBERS
- To suit Iron Disc.
  - RHT, CP5095-2S7L.
  - LHT, CP5095-3S7L.
  - RHL, CP5095-4S7L.
  - LHL, CP5095-5S7L.
- To suit Carbon Disc.
  - RHT, CP5095-2S7LCA.
  - LHT, CP5095-3S7LCA.
  - RHL, CP5095-4S7LCA.
  - LHL, CP5095-5S7LCA.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

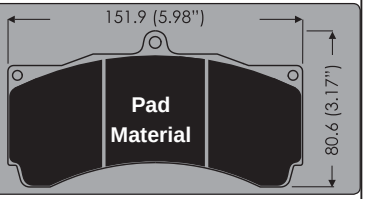
TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm
	Ø31.8mm
	Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	Ø378.0mm
Disc Thickness	
Iron	36.0mm
Carbon	35.0mm
Weight No Pads	2.7Kg
Hydraulic Thread	M10 x 1.0
Mounting Type	Radial
Mtg centres	210mm
Mtg offset	42.0mm
Mtg hole Ø	12.2mm
'PL' Dimension	63.5mm

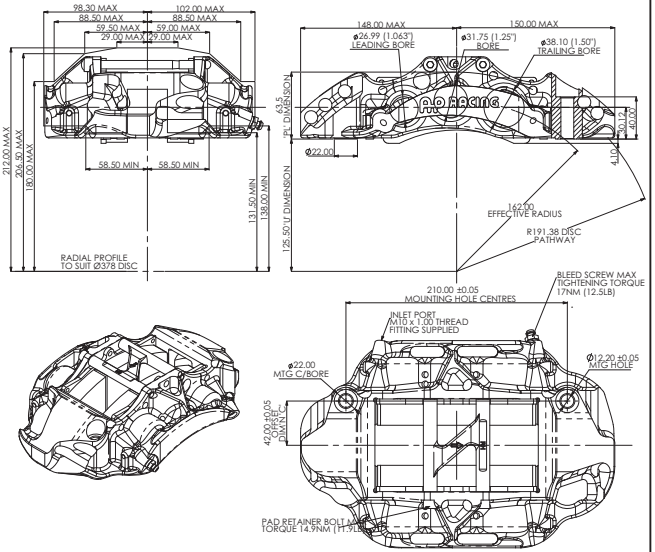
SPARE PARTS

Pistons	
Ø27.0mm	CP5260-109
Ø31.8mm	CP5260-110
Ø38.1mm	CP5260-111
Seal Repair Kit	CP4518-CEJ
AKB Spring Kit	CP6518-7LBLL
Z Piece Pad Retainer Part No	RH- CP5095-112 LH - CP5095-113
Wear Plates x 4	CP6075-105
Bleed Screw kit	CP3880-1

PAD INFORMATION
- Pad Family = CP3558D54
- Pad Area = 77.4cm²
- Pad Depth = 54.0mm
- Pad Thickness = 25.0mm



INSTALLATION DRAWING



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CP6078 & CP6077
6 Piston, Billet Radi-CAL™

TECHNICAL SPECIFICATION

Piston Sizes	
CP6078 - Seal Repair Kit CP4518-CEJ	Ø27.0mm Ø31.8mm Ø38.1mm
CP6077 - Seal Repair Kit CP4518-BCE	Ø26.0mm Ø27.0mm Ø31.8mm
Piston Area	
CP6078	50.1cm²
CP6077	37.9cm²
Disc Diameter	Ø355.0mm
Disc Thickness	Iron - 36.0mm Car - 35.0mm
Weight No Pads	2.25Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION
- GT Cars Front & Rear.

FEATURES
- CP6077 Small bore version.
- Radial mount, 210 x 42mm ctres.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance
- Ducted air cooling features,
  - reduces caliper temperatures.
- Monobloc Alumin/alloy body.
- Designed to operate on Carbon or Iron Discs.
- Internally ported.
- Titanium pistons.
- Carbon duct fitted.
- Dry Bleeds fitted.

CP6078 PART NUMBERS
- RH, CP6078-4S7MPD.
- LH, CP6078-5S7MPD.

CP6077 PART NUMBERS
- RH, CP6077-4S7MPD.
- LH, CP6077-5S7MPD.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

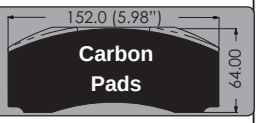
SPARE PARTS

Piston-Ø26.0mm	CP6057-104
Piston-Ø27.0mm	CP6055-110
Piston-Ø31.8mm	CP6055-111
Piston-Ø38.1mm	CP6055-112
Wear Plates. x 4	CP6075-105
Beam W/Plate	CP6078-104
Pad Supports	CP6078-105
Seal Repair Kit - See Piston Sizes above	
AKB Spring Kit	CP6518-7LB SSL
Dry-Bleed Fitting	CP6300-21
Duct Kit	CP6078-107

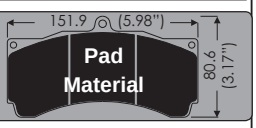
AVAILABLE OPTIONS
Thermo Sensor

RH = CP6282-2 / LH = CP6282-3

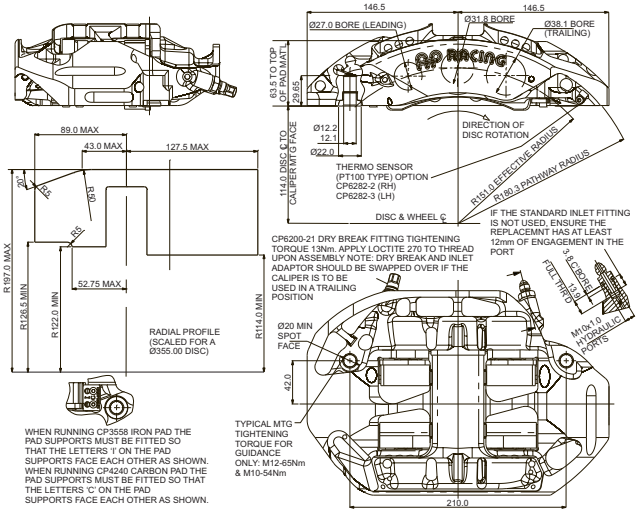
CP4240 CARBON PAD
- Area = 78.12cm²
- Depth = 53.0mm
- Thickness = 25.0mm



CP3558D54 IRON PAD
- Area = 80.17cm²
- Depth = 54.0mm
- Thickness = 25.0mm



CP6078 - INSTALLATION DRAWING



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CP6083
6 Piston, Billet Radi-CAL™ Swing Bridge, Quick Pad Release.

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm Ø31.8mm Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	390.0mm
Disc Thickness	36.0mm
Weight No Pads	2.42Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION
- All GT / Endurance Classes.

FEATURES
- Radial mount, 210 x 42mm Ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
  - Extra central bridge increases stiffness
- Swing bridge, quick release pad retainer mechanism.
- Monobloc Aluminium alloy body.
- Designed to operate Ø390 x 36mm Iron Discs.
- Designed to suit upto 32mm thick pad.
- 100mm total stack thickness allowed.
- Internally ported.
- Domed Titanium pistons fitted.
  - Stainless steel pistons option available.
- Dry Bleeds fitted.

PART NUMBERS
- RH, CP6083-2S7M.
- LH, CP6083-3S7M.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

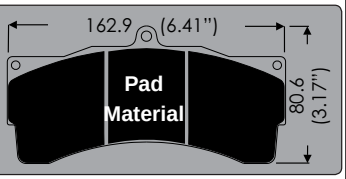
SPARE PARTS

Ø27.0 - Piston	CP6083-108
Ø31.8 - Piston	CP6083-107
Ø38.1 - Piston	CP6083-106
Wear Plates. x 4	CP5856-120
Beam W/Plate	CP6066-104
Pad Supports	CP6165-109
Seal Repair Kit	CP4518-CEJ
AKB Spring Kit	CP6518-7LB SSL
Dry-Bleed Fitting	CP6300-21
Quick Release Stud kit	CP6083-6
Quick Release Pad Retainer kit	CP6083-7

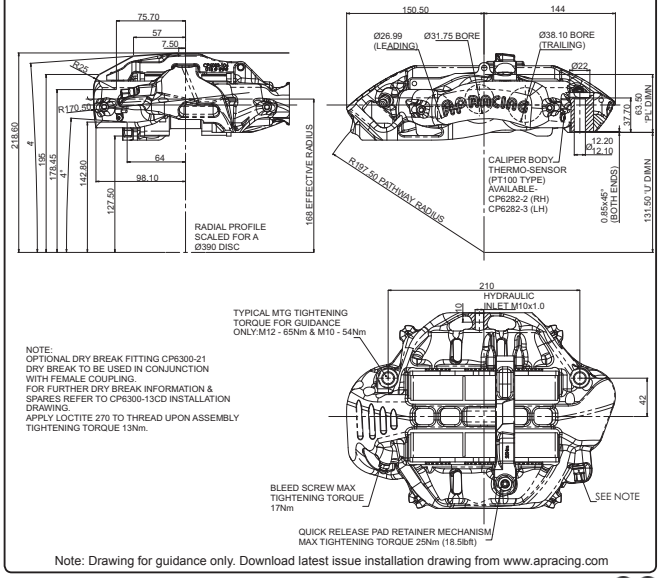
AVAILABLE OPTIONS
Thermo Sensor

RH = CP6282-2
LH = CP6282-3

CP6210D54 IRON PAD
- Area = 83.0cm²
- Depth = 54.0mm
- Standard Thickness = 30.0mm
- Special Thickness = 32.0mm



INSTALLATION DRAWING



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CP6169
6 Piston, Slimmed Radi-CAL™

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm Ø31.8mm Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	378.0mm
Disc Thickness	32.0mm
Weight No Pads	1.95Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION
- All GT / Endurance Sprint Classes.

NOTE
CP6169 has been designed for narrow carbon stack of 76mm

FEATURES
- Radial mount, 210 x 42mm ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Ducted air cooling features,
  - reduces caliper temperatures.
- Monobloc Aluminium alloy body
  - Nickel plated surface finish.
- Designed to operate on Ø378 x 32mm Carbon discs.
- Designed to accept 22mm thick carbon pad.
- Internally ported.
- Domed Titanium pistons fitted.
- Dry Bleeds fitted.

SPARE PARTS

Ø27.0 - Piston	CP6169-108
Ø31.8 - Piston	CP4969-139
Ø38.1 - Piston	CP6169-106
Wear Plates. x 4	CP6169-113
Seal Repair Kit	CP4518-CEJ
AKB Spring Kit	CP6518-7LB SSL
Dry-Bleed Fitting	CP6300-21
Carbon Cooling Duct	CP6169-110 or -111
Upper Mtg Bush x 2	CP6720-162

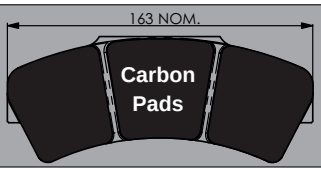
AVAILABLE OPTIONS

Thermo Sensor	
- PT100 Type CP6282-6 - PT1000 Type CP6282-7	
LDVT Assy Complete.	CP4969-54
LDVT Rod & Yoke Assy Spares.	CP4969-55

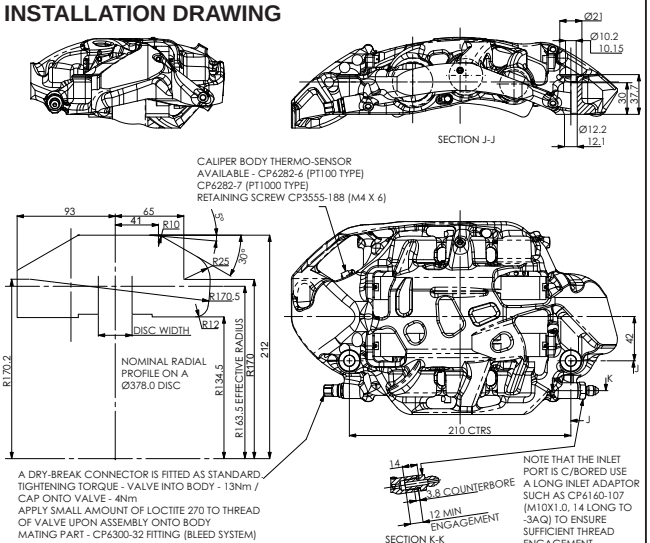
PART NUMBERS
- RH, CP6169-14S7M.
- LH, CP6169-15S7M.

Note: It is important to select the correct hand of caliper, For handing information check Installation drawing at: www.apracing.com

PAD INFORMATION
- PAD FAMILY = CP6169
- Full Pad Area = 80.5cm²
- Pad Depth = 53.0mm
- Pad Thickness = 22.0mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6269
6 Piston, Forged Radi-CAL™

TECHNICAL SPECIFICATION

Piston Sizes	Ø31.75mm Ø33.8mm Ø41.3mm
Piston Area	60.75cm²
Disc Diameter	390mm
Disc Thickness	35.60mm
Weight No Pads	3.3Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

TYPICAL APPLICATION
- GT3

FEATURES
- Radial mount, 210 x 42mm ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Ducted air cooling features,
  - reduces caliper temperatures.
- Forged monobloc Aluminium alloy body. - Anodised surface finish.
- Designed to operate on Iron discs 390mm x 36mm.
- 95.6mm total stack thickness allowed - 35.6mm disc & 2 x 30mm pads.
- Internally ported.
- Stainless Steel pistons fitted.
- Dry Bleeds available as an option.

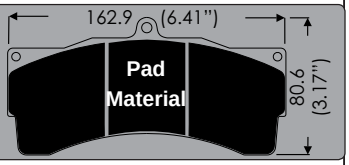
SPARE PARTS

Ø31.75 - Piston	CP6268-104
Ø34.0 - Piston	CP6268-105
Ø41.3 - Piston	CP6268-106
Seal Repair Kit	CP8518-EFK
Pad Abutment Plates	
Leading x 2	CP6269-102
Trailing x 2	CP6269-103
Pad Supports	CP6269-104
M4 Pad Support Cap Heads x 8	CP3215-115
H Piece Pad Retainer Kit	CP6268-20
Quick Release (Clip) Pad Retainer Kit.	CP6268-21
AKB Spring Kit	CP6518-7LB SSL
Bleed Screw	CP3880-1

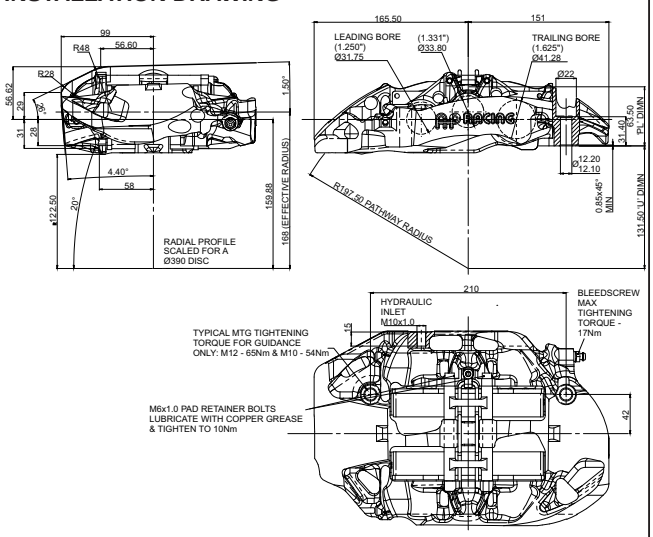
PART NUMBERS
- RHT, CP6269-2S7L.
- LHT, CP6269-3S7L.
- RHL, CP6269-4S7L.
- LHL, CP6269-5S7L.

Note: It is important to select the correct hand of caliper, For handing information check Installation drawing at: www.apracing.com

CP6210D54 IRON PAD
- Area = 83.0cm²
- Depth = 54.0mm
- Thickness = 30.0mm



INSTALLATION DRAWING



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Formula Car Calipers

CP6277
6 Piston, Billet Radi-CAL™

TYPICAL APPLICATION
- All GT / Endurance Classes.

FEATURES
- Radial mount, 210 x 42mm ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Ducted air cooling features,
- reduces caliper temperatures.
- Monobloc Aluminium alloy body.
- Designed to operate on Carbon or Iron Discs.
- Internally ported.
- Titanium pistons.
- Carbon duct fitted.
- Dry Bleeds fitted.
- Optional Ceramic piston insulation caps available.

PART NUMBERS
- RHT, CP6277-2S7MP.
- LHT, CP6277-3S7MP.

Note: It is important to select the correct hand of caliper, For handing information check Installation drawing at: www.apracing.com

TECHNICAL SPECIFICATION

Piston Sizes (mm)	Ø27.0mm Ø31.8mm Ø38.1mm
Piston Area	50.1cm²
Disc Diameters	
Iron	Ø390.0mm
Carbon	Ø380.0mm
Disc Thicknesses	
Iron	35.6mm
Carbon	37.0mm
Weight No Pads	2.48Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

SPARE PARTS

Ø27.0 - Piston	CP6277-104
Ø31.8 - Piston	CP6277-105
Ø38.1 - Piston	CP6277-106
Wear Plates. x 4	CP6277-109
Lower Mtg Bush	CP6277-108
Seal Repair Kit	CP4518-CEJ
Insulating Piston Cap Kit	CP4825-CEJ
AKB Spring Kit	CP6518-7LB SSL
Dry-Bleed Fitting	CP6300-21

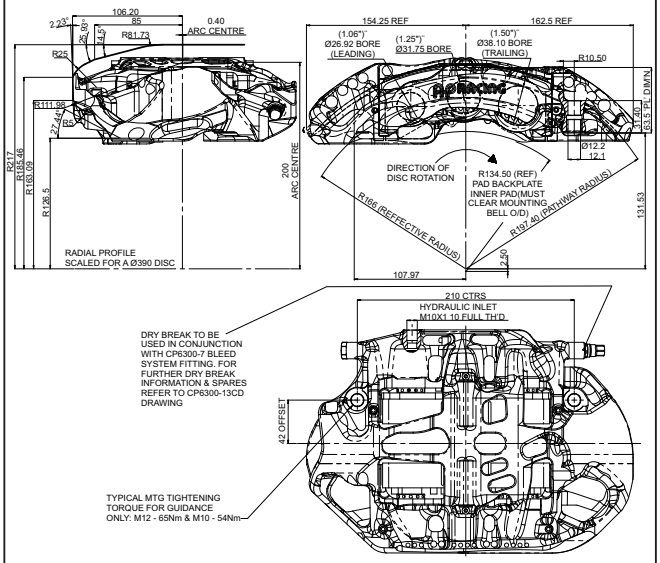
AVAILABLE OPTIONS

LDVT Assy	CP4969-506
LVDT Rod & Yoke S/Assy	CP4969-507

CP6276 & CP6277 IRON PADS
Note: Range of thicknesses available allowing for piston caps, see caliper installation drawing on www.apracing.com for guidance & part numbers.

CP2872 CARBON PADS
Note: Range of thicknesses available, see caliper installation drawing on www.apracing.com for guidance & part numbers.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6278
4 Piston, Billet Radi-CAL™ Rear

TYPICAL APPLICATION
- Rear for All GT / Endurance Classes.

FEATURES
- Radial mount, 180 x 42mm Ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Designed to operate on Carbon or Iron Discs.
- Monobloc Aluminium alloy body.
- Ducted air cooling,
- reduces caliper temperatures.
- Calipers are supplied with pistons to suit a 25mm thick brake pad.
- Titanium pistons.
- Internally ported.
- Optional Dry-Bleed fittings & body Thermo-Sensor.
- Optional Ceramic piston insulation caps available when used with a 32mm brake disc.

PART NUMBERS
- RH, CP6278-2S7MP.
- LH, CP6278-3S7MP.

Note: It is important to select the correct hand of caliper, For handing information check Installation drawing at: www.apracing.com

TECHNICAL SPECIFICATION

Piston Sizes	Ø28.6mm Ø36.0mm
Piston Area	33.2cm²
Disc Diameter	Ø355.0mm
Disc Thickness	
Iron	32.0mm
Carbon	35.0mm
Weight No Pads	1.9Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

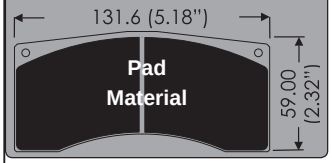
SPARE PARTS

Ø28.6 - Piston	CP6278-104
Ø36.0 - Piston	CP6278.105
Seal Repair Kit	CP4518-DH
Wear Plates. x 4	CP6278-106
AKB Spring Kit - CP6518-7LBSSL	
Dry-Bleed Fittings	CP6300-21

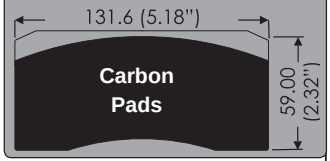
AVAILABLE OPTIONS

LVDT Assy	CP4969-504
LVDT Rod & Yoke S/Assy	CP4969-505

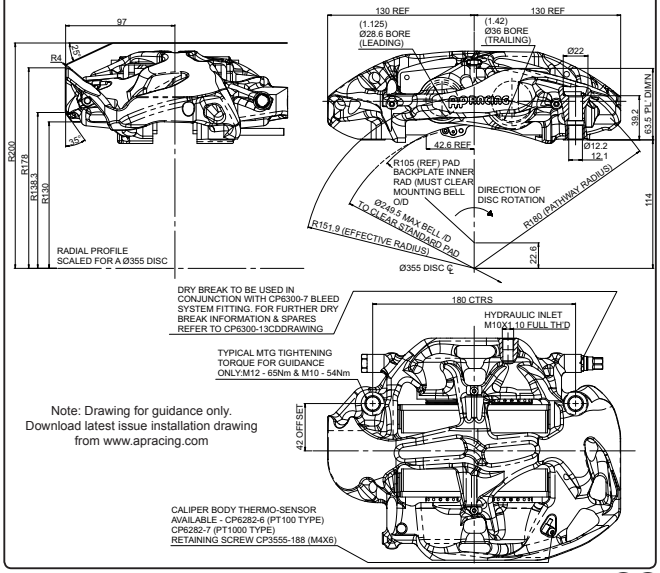
CP6070D49 IRON PAD
- Area = 61.6cm²
- Depth = 49.0mm
- Thickness = 25.0mm



CP6070 CARBON PAD
- Area = 61.6cm²
- Depth = 53mm
- Thickness = 25.0mm



IRON DISC INSTALLATION DRAWING



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CP6480
4 Piston, Forged Radi-CAL™ Rear

TYPICAL APPLICATION
- Rear for All GT / Endurance Classes.

NOTE
CP6480 has been designed to compliment, 6 Piston front caliper CP5095 family.

FEATURES
- Radial mount, 180 x 42mm ctrs.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Suits Ø355 x 32mm Iron discs.
- Forged monobloc Aluminium alloy body.
- Stainless steel pistons
- Internally ported.
- Optional Dry-Bleed fittings & body Thermo-Sensor.
- 7lb Anti-Knockback springs fitted.

PART NUMBERS
- RH, CP6480-2S7L.
- LH, CP6480-3S7L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

Piston Sizes	Ø28.6mm
	Ø36.0mm
Piston Area	33.2cm²
Disc Diameter	Ø355.0mm
Disc Thickness	32.0mm
Weight No Pads	2.25Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

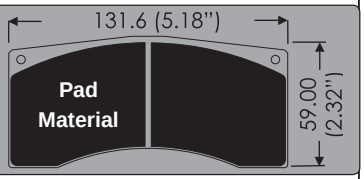
SPARE PARTS

Ø28.6 - Piston	CP6480-104
Ø36.0 - Piston	CP6286-134
Seal Repair Kit	CP4518-DH
Pad Retainer	H Piece
Retainer Part No.	
Right Hand	CP6480-106
Left Hand	CP6480-107
Wear Plates. x 4	CP6470-106
Pad Supports x 4	CP6270-101
AKB Spring Kit	CP6518-7LB SSL
Bleed Screw kit	CP3880-1

AVAILABLE OPTIONS

Dry-Bleed Fittings	See Page 86

PAD INFORMATION
- PAD FAMILY = CP6070D49
- Pad Area = 61.6cm²
- Pad Depth = 49.0mm
- Pad Thickness = 25.0mm



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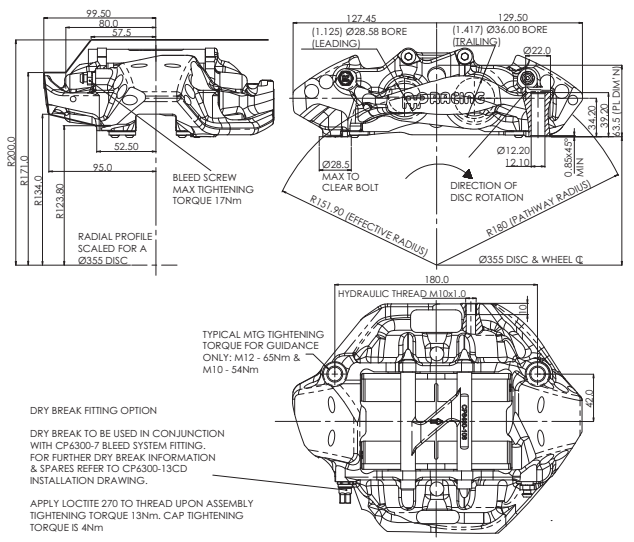

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CP6720 & CP6730
4 Piston, Front or Rear

TYPICAL APPLICATIONS
- Super 1600.
- S2000 Rally.
- Rally Raid.

FEATURES
- Radial mount, 180 x 35mm ctrs.
- Suits Ø355 / 285mm x 28mm disc.
- Aluminium alloy body.
- Internally ported.
  - No external bridge pipes.
- Protected bleed screws.
- Aluminium pistons standard,
  - Stainless Steel optional.

PART NUMBERS
- **CP6720 Type.**
  - RHT, CP6720-6S4.
  - LHT, CP6720-7S4 .
  - RHL, CP6720-8S4.
  - LHL, CP6720-9S4.
- **CP6730 Type.**
  - RH, CP6730-2S4.
  - LH, CP6730-3S4.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

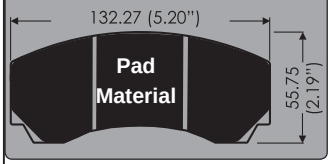
TECHNICAL SPECIFICATION

Piston Sizes	
CP6720	Ø34.9mm
	Ø41.3mm
CP6730	Ø31.8mm x 4
Piston Area	
CP6720	45.93cm²
CP6730	31.66cm²
Disc Diameter	
Max	Ø355.0mm
Min	Ø285.0mm
Disc Thickness	28.0mm
Weight No Pads	
CP6720	2.5Kg
CP6730	2.6Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	35.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	57.8mm

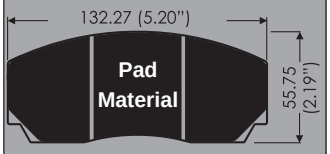
SPARE PARTS

Pistons	
Ø34.9mm	CP3567-108
Ø41.3mm	CP3344-109
Ø31.8mm	CP3349-103
Seal Repair Kit	
CP6720	CP4518-GK
CP6730	CP4518-EE
Pad Retainer	H/Piece
Retainer P/No.	CP6720-101
Ret / Bolt P/No.	CP3345-118
Wear Plates	CP5200-306
AKB Spring Kits	
CP6720	CP6518-4LBLL
CP6730	CP6518-4LBSS
Bleed Screw Kit	CP3880-1

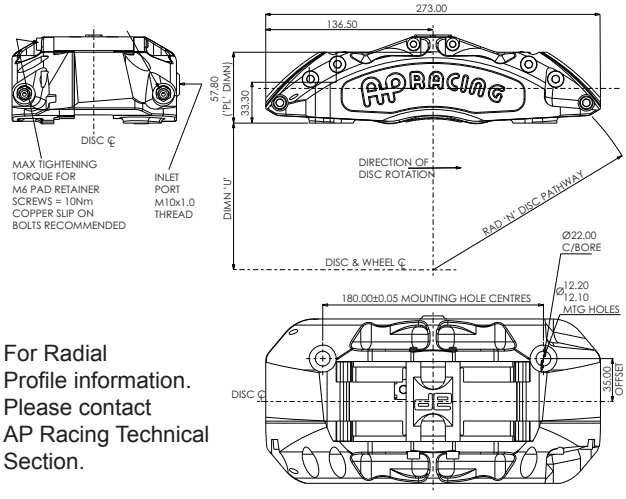
CP3215D46 PAD
- Pad Area = 54.6cm²
- Pad Depth = 45.6mm
- Pad Thickness = 16.8mm



CP3215D50 PAD
- Pad Area = 57.4cm²
- Pad Depth = 50.3mm
- Pad Thickness = 16.8mm



CP6720 - INSTALLATION DRAWING



For Radial Profile information. Please contact AP Racing Technical Section.

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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CP6750 - 6 Piston, Front

TYPICAL APPLICATIONS

- Rally Raid.
- Tarmac Rally.

FEATURES

- Radial mount, 180 x 35mm ctrs.
- Suits Ø320mm x 32 / 28mm disc.
- Aluminium alloy body.
- Internally ported.
  - no external bridge pipes.
- Stainless Steel pistons.
  - Dirt Seals fitted.
- Protected bleedscrews.
- H/Piece pad retainer.
- Superceded by CP6766.
- Version to suit Ø355 x 32mm available.

Refer CP6750-10cd Customer Drawing for details on www.apracing.com

PART NUMBERS

- **To suit a disc Ø320x28mm**
  - RHT, CP6750-2S4L.
  - LHT, CP6750-3S4L.
  - RHL, CP6750-4S4L.
  - LHL, CP6750-5S4L.
- **To suit a disc Ø320x32mm**
  - CP6750-6S4L RHT.
  - CP6750-7S4L LHT.
  - CP6750-8S4L RHL.
  - CP6750-9S4L LHL.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

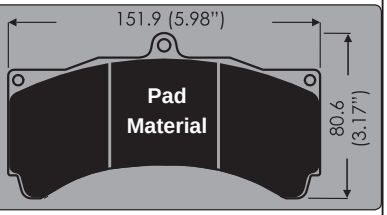
Piston Sizes	Ø27.0mm
	Ø31.8mm
	Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	Ø320.0mm
Disc Thickness	
CP6750-2/3/4/5	28.0mm
CP6750-6/7/8/9	32.0mm
Weight No Pads	3.0Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	
CP6750-2/3/4/5	35.0mm
CP6750-6/7/8/9	37.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	62.5mm

SPARE PARTS

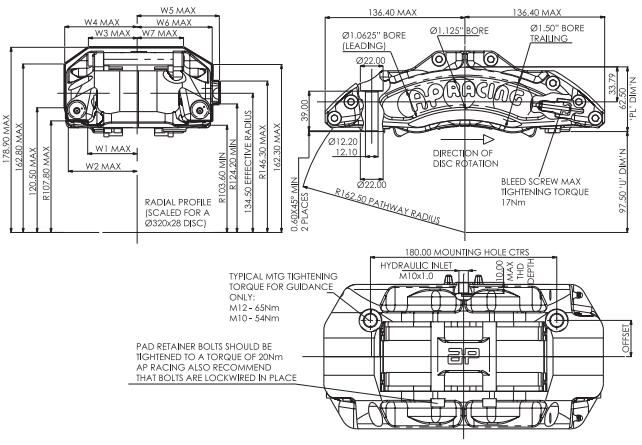
Ø27.0 - Piston	CP6750-106
Ø31.8 - Piston	CP6750-107
Ø38.1 - Piston	CP6750-108
Seal Repair Kit	CP4518-CEJ:RALLY
Pad Retainer	H/Piece
Ret / Part No.	
CP6750-2/3/4/5	CP6750-109
CP6750-6/7/8/9	CP6750-113
Ret / Bolt P/No.	CP3445-123
Wear Plates	
CP6750-110 x 1 / CP6750-111 x 1 & CP6750-112 x 2	
Bleed Screw Kit	CP3880-1

PAD INFORMATION

- Pad Family = CP3894D51
- Pad Area = 73.5cm²
- Pad Depth = 50.8mm
- Pad Thickness = 18.0mm



INSTALLATION DRAWING



Disc Width	W1	W2	W3	W4	W5	W6	W7
28.0	47.8	66.5	47.1	70.0	79.6	72.5	44.8
32.0	49.8	68.5	49.1	72.0	81.6	74.5	46.8

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6760 - 4 Piston

TYPICAL APPLICATIONS

- S2000 Rear.
- Grp 'N' Rear.

FEATURES

- Radial mount, 180 x 35mm ctrs.
- Suits Ø300mm x 28mm disc.
- Aluminium alloy body.
- Internally ported.
  - No external bridge pipes.
- Single protected bleedscrew.
- Stainless Steel pistons.
- H/Piece pad retainer.

PART NUMBERS

- RHT, CP6760-2S4L.
- LHT, CP6760-3S4L.
- RHL, CP6760-4S4L.
- LHL, CP6760-5S4L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

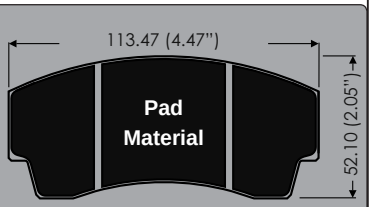
Piston Sizes	Ø27.0mm
	Ø34.0mm
Piston Area	29.60cm²
Disc Diameter	Ø300.0mm
Disc Thickness	28.0mm
Weight No Pads	2.1Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	35.0mm
Mtg hole Ø	10.15mm
'PL' Dimension	57.8mm

SPARE PARTS

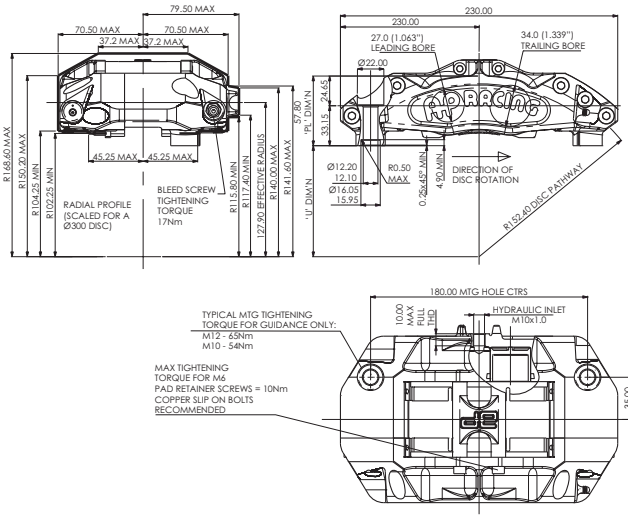
Pistons	
Ø27.0mm	CP4907-106
Ø34.0mm	CP6760-118
Seal Repair Kit	CP4518-CF
Pad Retainer	H/Piece
Retainer P/No.	CP4144-101
Ret / Bolt P/No.	CP3344-165
Wear Plates	CP6561-106
Bleed Screw Kit	CP3880-1

PAD INFORMATION

- Pad Family = CP3345D44
- Pad Area = 43.4cm²
- Pad Depth = 44.1mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING



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CP6768
6 Piston, Liquid Cooled Radi-CAL™

TYPICAL APPLICATION
- Rally Raid.

FEATURES
- Radial mount, 200 x 43mm ctrs.
- Re-circulating Liquid Cooling System.
  - Controls caliper temperatures.
- Monobloc Aluminium alloy body.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Ducted air cooling features.
- Designed to operate on Ø320 x 32mm Iron discs.
- Internally ported.
- Temperature Sensor Port.
- Stainless Steel pistons.
- Dirt (wiper) seals fitted.
- Non Liquid-Cooled option also available - CP6766 Family.

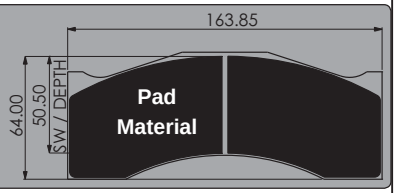
PART NUMBERS
- RHT, CP6768-2S7L.
- LHT, CP6768-3S7L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

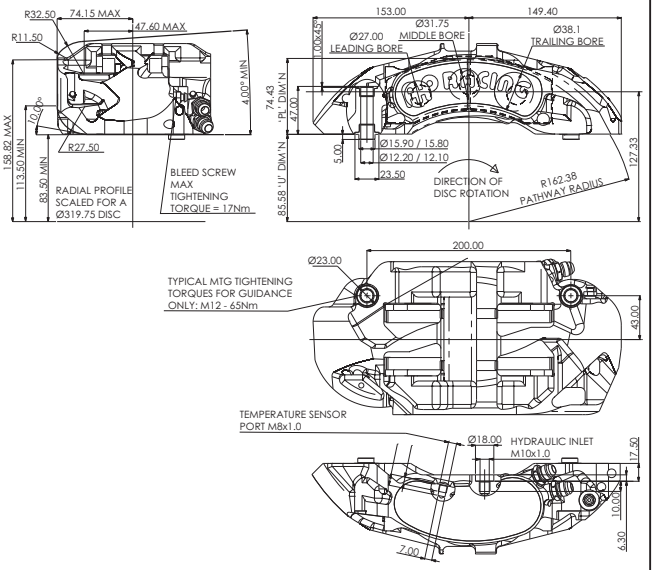
TECHNICAL SPECIFICATION	
Piston Sizes	Ø27.0mm
	Ø31.8mm
	Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	Ø320.0mm
Disc Thickness	32.0mm
Weight No Pads	2.9Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	200.0mm
Mtg offset	43.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	74.43mm
Coolant Connections	
Inlet & Outlet	9/16" x18 JIC

SPARE PARTS	
Pistons	
Ø27.0mm	CP6560-126
Ø31.8mm	CP6560-127
Ø38.1mm	CP6560-128
Wear Plates. x 4	CP6766-108
Beam W/Plate	CP6766-107
Pad Supports	CP6078-105
Seal Repair Kit	CP4518-CEJ:RAID
AKB Spring Kit	CP6518-7LB SSL
Bleed Screw Kit	CP3880-1
JIC Adaptor	CP6768-107

PAD INFORMATION
- Pad Family = CP6766D50
- Pad Area = 81.9cm²
- Pad Depth = 50.5mm
- Pad Thickness = 18.0mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6830 & CP6831 / Internally Ported, 4 Piston, Billet Radi-CAL™

TYPICAL APPLICATIONS
- WRC Turbo. ◘ S2000 Tarmac/Gravel Specifications

FEATURES
- Radial mount, 180 x 42mm ctrs.
- CP6831 Small bore Version for rear applications.
- Designed to operate on Ø355 or Ø300mm x 32mm Iron disc.
- Benefits from radical asymmetric design concept for Superior dynamic performance.
- Ducted air cooling features, significantly reduces caliper temperatures.
- Monobloc Aluminium/alloy body.
- Internally ported.
- Stainless Steel pistons.

FRONT PART NUMBERS
- RHL, CP6830-4S4LP.
- LHL, CP6830-5S4LP.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

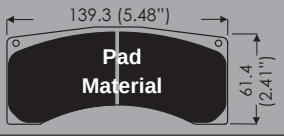
REAR PART NUMBERS
- RHL, CP6831-4S4LP.
- LHL, CP6831-5S4LP.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

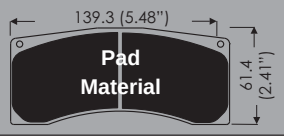
TECHNICAL SPECIFICATION	
Piston Sizes	
CP6830 - Front	Ø34.9mm x 2
	Ø41.3mm x 2
Piston Area	45.9cm²
CP6831 - Rear	Ø27.0mm x 2
	Ø31.8mm x 2
Piston Area	27.3cm²
Disc Ø - CP6830	Ø355.0mm
Disc Ø - CP6831	Ø300.0mm
Disc Thickness	32.0mm
Weight - CP6830	2.11Kg
Weight - CP6831	1.68Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	10.175mm
'PL' Dimension	57.5mm

SPARE PARTS	
Ø27.0mm Piston	CP6821-105
Ø31.8mm Piston	CP6821-104
Ø34.9mm Piston	CP6820-106
Ø41.3mm Piston	CP6820-107
Seal Repair Kit	
CP6830	CP4518-GK
CP6831	CP4518-CE
Wear Plates. x 4	
CP6830	CP6830-102
CP6831	CP6820-113
Beam W/Plate	CP6820-109
Bleed Screw Kit	CP3880-1
AKB Spring Kit	
CP6830 - CP6518-4LBLL	
CP6831 - CP6518-4LBSS	
Mounting Boss	
Upper	CP6720-162
Lower	CP6820-103

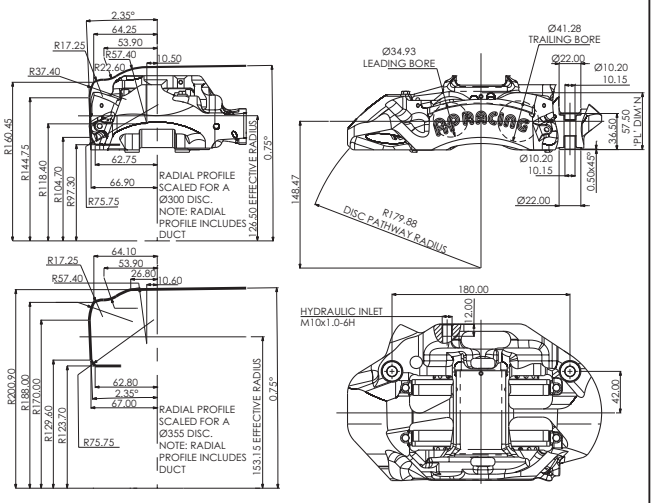
GRAVEL PAD
- Pad Family = CP6820D46
- Pad Area = 61.7cm³
- Pad Depth = 46.0mm
- Pad Thickness = 16.0mm



TARMAC PAD
- Pad Family = CP6820D48
- Pad Area = 63.2cm³
- Pad Depth = 48.0mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING FOR CP6830-4/5S4LP



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CP6840 Internally Ported, 4 Piston, Forged Radi-CAL™

TYPICAL APPLICATIONS

- WRC Turbo.
- S2000 Tarmac / Gravel specifications.
- To meet FIA R4T & R5 cost cap.

FEATURES

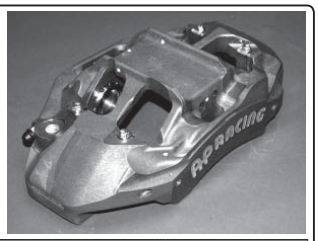
- Available with either a "Push In" or an "M10x1.0 threaded" Inlet.
- Radial mount, 180 x 42mm ctrs.
- Forged monobloc Aluminium alloy body.
- Designed to operate on Ø355 or Ø300mm x 32mm Iron disc.
- Benefits from radical asymmetric design concept.
- Superior dynamic performance.
- Ducted air cooling features, significantly reduces caliper temperatures.
- Internally ported.
- Stainless Steel pistons.

PART NUMBERS

Calipers with "Push-In" inlet.
- RH, CP6840-4S4L.
- LH, CP6840-5S4L.

Calipers with "M10 x 1.0 Threaded" inlet.
- RH, CP6840-6S4L.
- LH, CP6840-7S4L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.



TECHNICAL SPECIFICATION

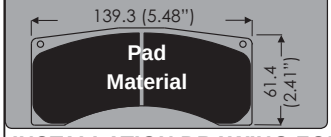
Piston Sizes	Ø34.9mm x 2
	Ø41.3mm x 2
Piston Area	45.9cm²
Disc Diameter	
Max	Ø355.0mm
Min	Ø300.0mm
Disc Thickness	32.0mm
Weight No Pads	2.16Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	10.175mm
'PL' Dimension	57.5mm

SPARE PARTS

Ø34.9mm Piston	CP6820-106
Ø41.3mm Piston	CP6820-107
Seal Repair Kit	CP8518-GK
Wear Plates. x 4	CP6820-113
Beam W/Plate	CP6820-109
Bleed Screw Kit	CP3880-1
AKB Spring Kit	CP6518-4LBLL
Carbon Duct Kit	CP6820-110

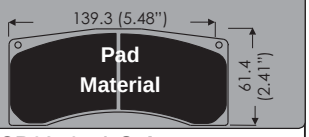
GRAVEL PAD

- Pad Family = CP6820D46
- Pad Area = 61.7cm³
- Pad Depth = 46.0mm
- Pad Thickness = 16.0mm

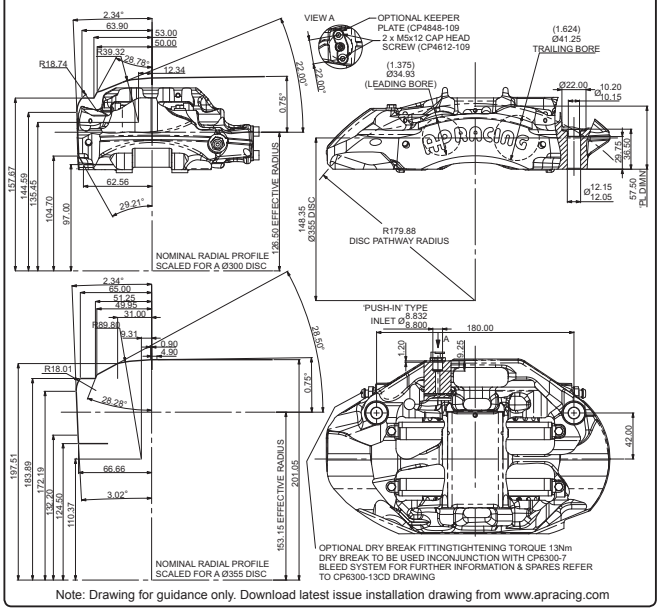


TARMAC PAD

- Pad Family = CP6820D48
- Pad Area = 63.2cm³
- Pad Depth = 48.0mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING FOR CP6840-4/5S4L



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP5785 4 Piston, Billet Radi-CAL™

TYPICAL APPLICATION

- World Touring Car Front.

FEATURES

- Radial mount, 180 x 42mm ctrs.
- Benefits from a second generation radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Reduced weight.
- Monobloc Alum-alloy body.
- Suits Ø380 x 34mm Iron disc.
- Titanium pistons standard.
- Stainless Steel option available.
- Carbon duct fitted.
- Stainless Steel wear plates.
- Dry Bleeds fitted.
- Supercedes CP5780 Caliper family.

PART NUMBERS

Underslung Mounted Caliper with Titanium Pistons.
- RHT, CP5785-2S0MPD.
- LHT, CP5785-3S0MPD.
- RHL, CP5785-4S0MPD.
- LHL, CP5785-5S0MPD.

CP5785 also available in conventional mounting/handing leading and trailing configuration. Please contact AP Racing technical section for more information.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

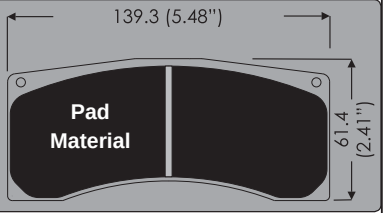
Piston Sizes	Ø36.00mm
	Ø44.45mm
Piston Area	51.39cm²
Disc Diameter	380.0mm
Disc Thickness	34.0mm
Weight No Pads	
S/Steel Pistons	2.13Kg
Titanium Pistons	1.98Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	42.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	61.9mm

SPARE PARTS

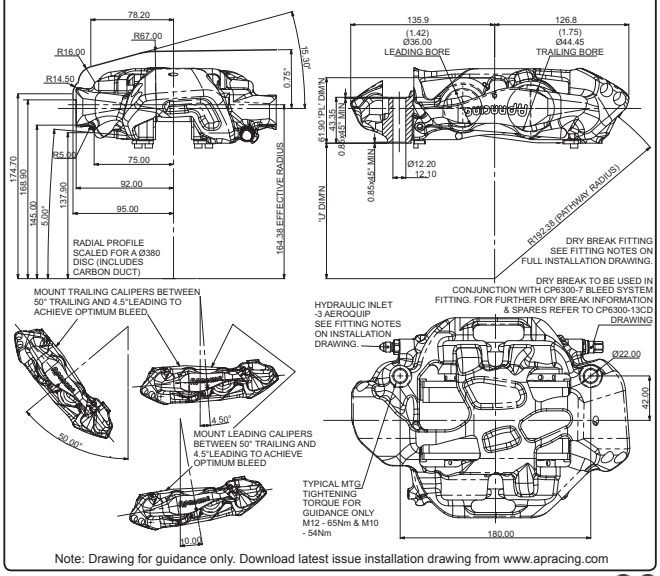
Titanium Pistons	
Ø36.00mm	CP5785-106
Ø44.45mm	CP5785-107
Stainless Steel Pistons	
Ø36.00mm	CP5785-108
Ø44.45mm	CP5785-109
Seal Repair Kit	CP4528-HL
Wear Plates x 4	CP5785-113
Pad Retainer Abutment Plates	
RH CP5782-124/LH CP5785-125	
Dry Bleed Fitting	CP6300-21
Inlet Fitting	CP5785-6
Carbon Duct Kits	
RH CP5785-104/LH CP5785-105	

PAD INFORMATION

- Pad Family = CP5788D54 (D48 available for lighter bake package)).
- Pad Area = 77.3cm²
- Pad Depth = 54.0mm
- Pad Thickness = 20.0mm



INSTALLATION DRAWING



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CP6267
4 Piston, Forged Radi-CAL™ Rear

TYPICAL APPLICATIONS
- Touring Car.
- GT.
- Factory Competition Brake Kits.

FEATURES
- Radial mount, 180 x 35mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged monobloc Aluminium alloy body.
- Suits Ø355 x 32mm Iron discs.
- Stainless Steel pistons.
- Stainless Steel wear plates.
- Optional Carbon Duct kit.

PART NUMBERS
- RHT = CP6267-6S0L.
- LHT = CP6267-7S0L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

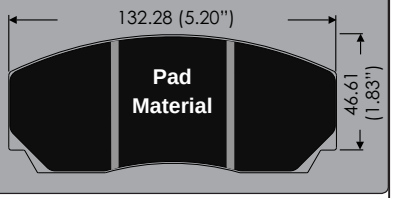
TECHNICAL SPECIFICATION

Piston Sizes	Ø28.6mm
	Ø34.9mm
Piston Area	31.9cm²
Disc Diameter	355.0mm
Disc Thickness	32.0mm
Weight No Pads	2.4kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	180.0mm
Mtg offset	35.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	55.0mm

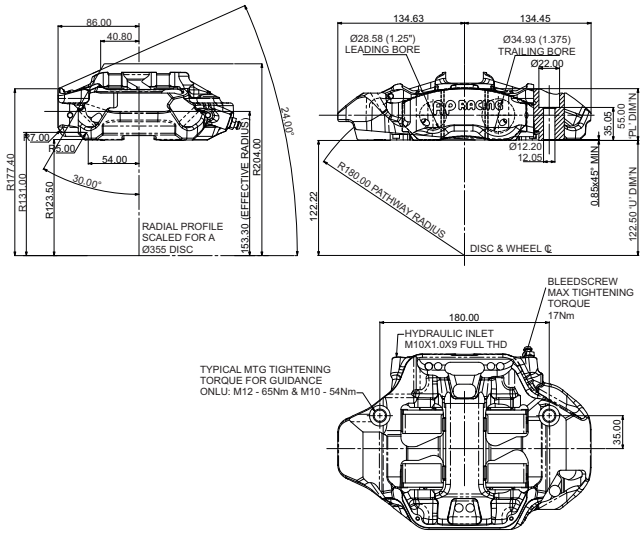
SPARE PARTS

S/Steel Pistons	
Ø28.6mm	CP6266-105
Ø34.9mm	CP6266-106
Seal Repair Kit	CP8518-DG
Wear Plates x 4	CP5760-105
Pad Retainer Wear Plate	CP6266-104
Pad Supports x 4	CP5870-108
Bleed Screw Kit	CP3880-1

PAD INFORMATION
- Pad Family = CP6267D50
- Pad Area = 60.4cm²
- Pad Depth = 50.0mm
- Pad Thickness = 25.0mm

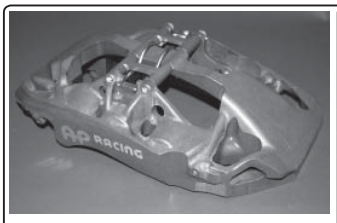


INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6268
6 Piston, Forged Radi-CAL™ Front



TYPICAL APPLICATIONS
- Touring Car.
- GT.
- Factory Competition Brake Kits.

FEATURES
- Radial mount, 210 x 44mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Forged monobloc Aluminium alloy body.
- Designed for Ø395 x 40mm Iron discs.

- Also suitable for Carbon discs.
- Stainless Steel pistons.
- Stainless Steel wear plates.
- Dual pad retainer option.
  - H Piece
  - Quick Release clip.

PART NUMBERS
- RHT = CP6268-12S7L.
- LHT = CP6268-13S7L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

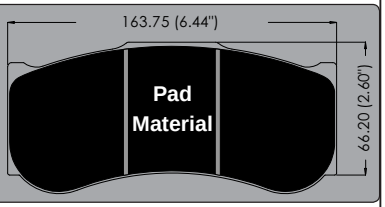
TECHNICAL SPECIFICATION

Piston Sizes	Ø31.75mm
	Ø34.0mm
	Ø41.3mm
Piston Area	60.75cm²
Disc Diameter	395mm
Disc Thickness	40.0mm
Weight No Pads	3.54Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	44.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	76.0mm

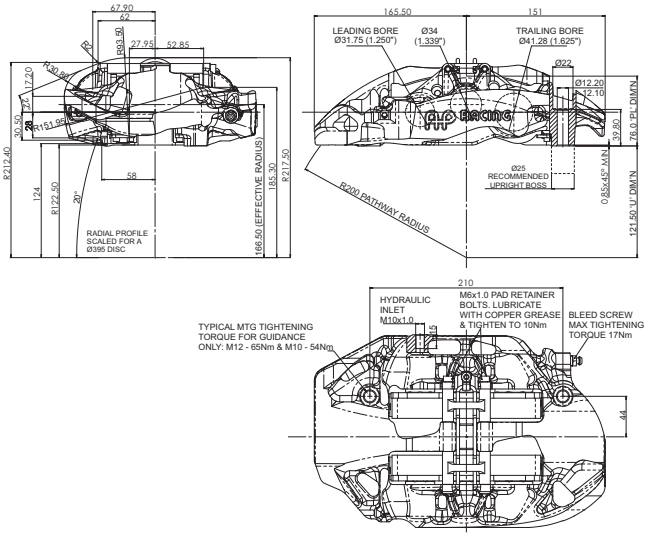
SPARE PARTS

Pistons & Support Rings	
Ø31.75mm	CP6268-104 & CP3804-113
Ø34.0mm	CP6268-105 & CP3804-114
Ø41.3mm	CP6268-106 & CP3804-104
Seal Repair Kit	CP8518-EFK
Pad Abutment Plates x 4	CP6268-111
H Piece Pad Retainer Kit	CP6268-20
Quick Release (Clip) Pad Retainer Kit	CP6268-21
Pad Supports x 4	CP6268-112
Bleed Screw	CP3880-1
AKB Spring Kit	CP6518-7LB SSL

PAD INFORMATION
- Pad Family = CP6268D62
- Pad Area = 97.9cm²
- Pad Depth = 62.0mm
- Pad Thickness = 28.0mm



INSTALLATION DRAWING



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Rally Calipers
Touring Car Calipers

CP6665
6 Piston, Forged Radi-CAL™

APPLICATIONS
- Touring Car Front & Rear.
- GT Front & Rear.

FEATURES
- Radial mount, 210 x 35mm ctrs.
- Benefits from a radical asymmetric design concept.
- Superior dynamic performance.
- Increased stiffness.
- Reduced weight.
- Forged monobloc Aluminium alloy body.
- Suits Ø380 x 35mm disc.
- Stainless Steel pistons.
- Stainless Steel wear plates.
- 4lb Anti-Knockback springs fitted.
- Optional Carbon Duct kit.

PART NUMBERS
- RHT = CP6665-2S4L.
- LHT = CP6665-3S4L.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

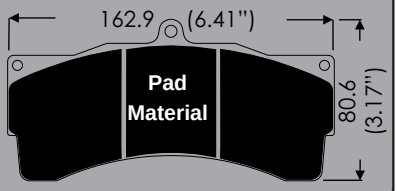
TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm Ø31.8mm Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	378.0mm
Disc Thickness	35.0mm
Weight No Pads	2.9kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	35.0mm
Mtg hole Ø	12.15mm
'PL' Dimension	63.5mm

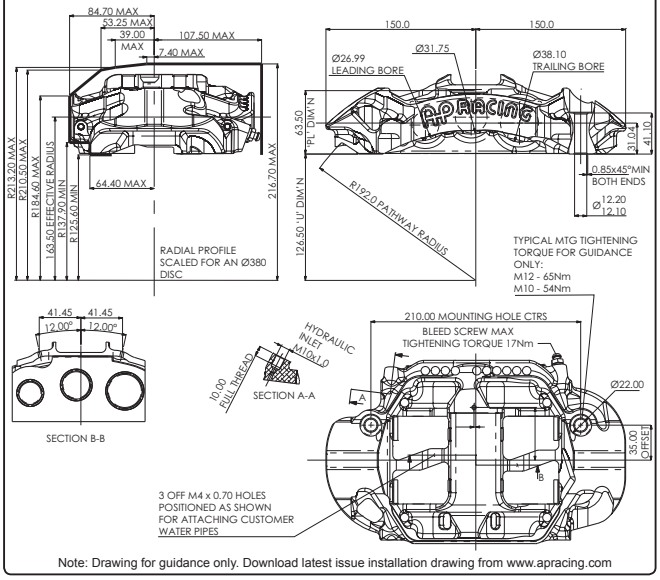
SPARE PARTS

S/Steel Pistons	
Ø27.0mm	CP6265-107
Ø31.8mm	CP6265-108
Ø38.1mm	CP6265-109
Seal Repair Kit	CP4518-CEJ
Wear Plates x 4	CP5760-104
Pad Retainer Wear Plate	CP6078-106
Bleed Screw Kit	CP3880-1
AKB Spring Kit	CP6518-4LBSSL

PAD INFORMATION
- Pad Family = CP6230D54
- Pad Area = 81.62cm²
- Pad Depth = 54.0mm
- Pad Thickness = 25.0mm



INSTALLATION DRAWING



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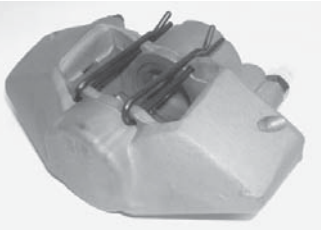
CP2576, CP2577, CP3176, CP3177 & CP3178 - Lug Mount



TYPICAL APPLICATIONS
- Rally / Circuit Rear.
- CP2577-14E0 Formula Ford Front & Rear. (Interchangeable with CP2485-8/9S0)

FEATURES
- Lug mount, 89mm ctrs.
- Aluminium alloy body.
- Non handed.
- Suits upto Ø267 x 9.7mm solid disc. .
- Aluminium pistons.
- Quick release 'R' Clip pad retainer.

PART NUMBERS
- CP2576-3E0.
- CP2577-3E0.
- CP2577-14E0.
- CP3176-2E0.
- CP3177-2E0.
- CP3178-2E0.

INSTALLATION
Install with bleed screws at the top (swap with blanking plug as required) to enable a good bleed.

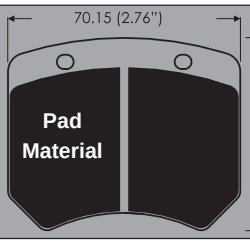
TECHNICAL SPECIFICATION

Piston Size / Piston Area	
CP2576-3E0	Ø41.3mm / 26.76cm²
CP2577-3/-14E0	Ø44.5mm / 31.04cm²
CP3176-2E0	Ø38.1mm / 22.8cm²
CP3177-2E0	Ø36.0mm / 20.35cm²
CP3178-2E0	Ø31.8mm / 15.83cm²
Disc Diameter	Ø267mm
Disc Thickness	9.7mm
Weight No Pads	1.1Kg
Hydraulic Thread	3/8"x24UNF
Mounting Type	Lug
Mtg centres	89.0mm
Mtg offset	24.6mm
CP2577-14E0	20.6mm
Mtg hole Ø	9.6mm
'PL' Dimension	46.9mm
CP2577-14E0	48.5mm

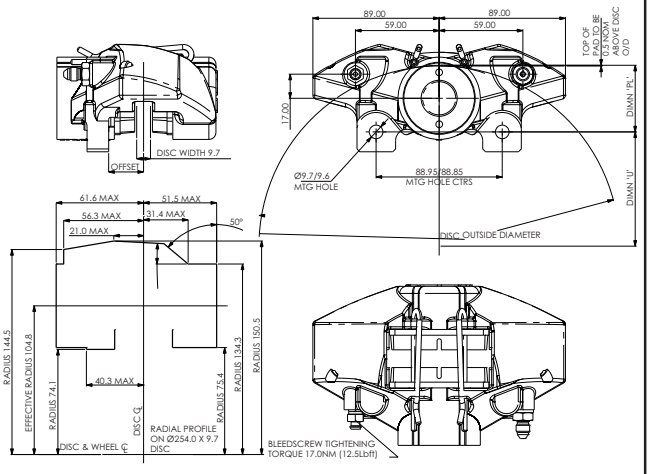
SPARE PARTS

Pistons	
CP2576-3E0	CP2576-105
CP2577-3/-14E0	CP2577-102
CP3176-2E0	CP3176-102
CP3177-2E0	CP3177-102
CP3178-2E0	CP3178-102
Seal Repair Kit	
CP2576-3E0	CP4518-K
CP2577-3/-14E0	CP4518-L
CP3176-2E0	CP4518-J
CP3177-2E0	CP4518-H
CP3178-2E0	CP4518-E
Pad Retainer	R Clip
Retainer P/No.	CP2213-17
Bleed Screw	CP3720-182

PAD INFORMATION
- Pad Family = CP2399D43
- Pad Area = 27.4cm²
- Pad Depth = 42.9mm
- Pad Thickness = 14.4mm



INSTALLATION DRAWING FOR CP2577



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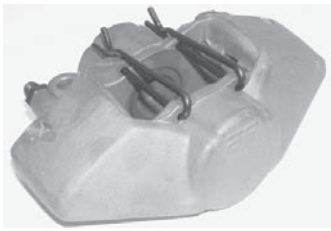
CP3676, CP3677, CP4586 & CP4596 Radial Mount



TECHNICAL SPECIFICATION

Piston Size / Piston Area	
CP3676	Ø41.3mm / 26.7cm²
CP3677	Ø44.5mm / 31.04cm²
CP4586	Ø36.0mm / 20.4cm²
CP4596	Ø31.8mm / 15.83cm²
Disc Diameter	Ø267mm
Disc Thickness	9.7mm
Weight No Pads	1.1Kg
Hydraulic Thread	3/8"x24UNF
Mounting Type	Radial
Mtg centres	95.0mm
Mtg offset	30.5mm
Mtg hole Ø	10.1mm
'PL' Dimension	47.33mm

TYPICAL APPLICATIONS

- Lightweight Single Seater Front.
- Rally / Circuit Rear.

FEATURES

- Radial mount, 95 x 30.5mm ctrs.
- Aluminium alloy body.
- Non handed.
- Suits Ø267 x 9.7mm solid disc. Versions are available for upto Ø300mm disc.
- Aluminium pistons.
- Quick release 'R' Clip pad retainer.

PART NUMBERS

- Ø41.3mm Bore - CP3676-4E0.
- Ø44.5mm Bore - CP3677-4E0.
- Ø36.0mm Bore - CP4586-4E0.
- Ø31.8mm Bore - CP4596-4E0.

INSTALLATION

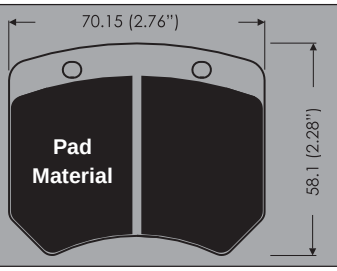
Install with bleed screws at the top (swap with blanking plug as required) to enable a good bleed.

SPARE PARTS

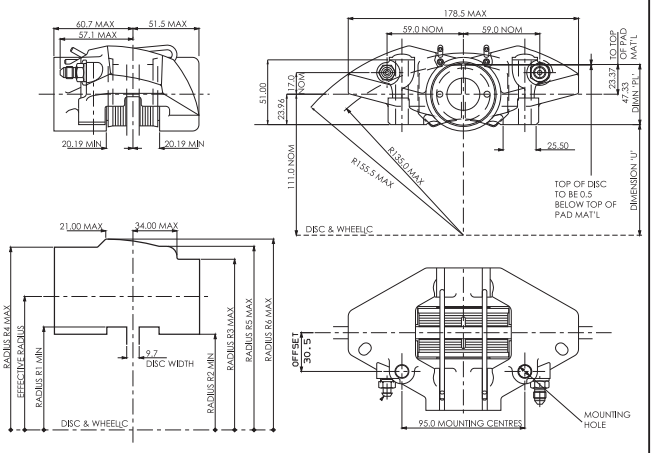
Pistons	
CP3676	CP2576-105
CP3677	CP2577-102
CP4586	CP3177-102
CP4596	CP3178-102
Pad Retainer	R Clip
Retainer P/No.	CP2213-17
Seal Repair Kit	
CP3676	CP4518-K
CP3677	CP4518-L
CP4586	CP4518-H
CP4596	CP4518-E
Bleed Screw	CP3720-182

PAD INFORMATION

- Pad Family = CP2399D43
- Pad Area = 27.4cm²
- Pad Depth = 42.9mm
- Pad Thickness = 14.4mm

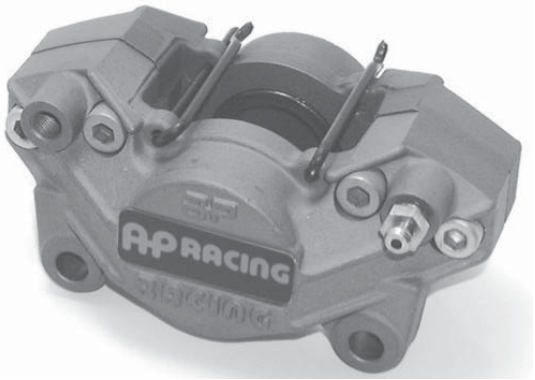


INSTALLATION DRAWING FOR CP3676.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP3696 - Lug Mount



TYPICAL APPLICATIONS

- Formula Ford.
- Rear of lightweight FWD Cars.

FEATURES

- Lug Mount, 89 x 19.1mm ctrs.
- Non handed.
- Two piece Aluminium alloy body.
- Suits Ø267mm x 7.1mm solid disc.
- Aluminium alloy pistons.
- R' Clip pad retainer.
- Interchangeable with CP2505-3S0.

PART NUMBERS

- CP3696-6E0.

INSTALLATION

Install with bleed screws at the top (swap with blanking plug as required) to enable a good bleed.

TECHNICAL SPECIFICATION

Piston Size	Ø41.3mm
Piston Area	26.7cm²
Disc Diameter	Ø267mm
Disc Thickness	7.1mm
Weight No Pads	800g
Hydraulic Thread	3/8"x24UNF
Mounting Type	Lug
Mtg centres	89.0mm
Mtg offset	19.1mm
Mtg hole Ø	10.15mm
'PL' Dimension	45.5mm

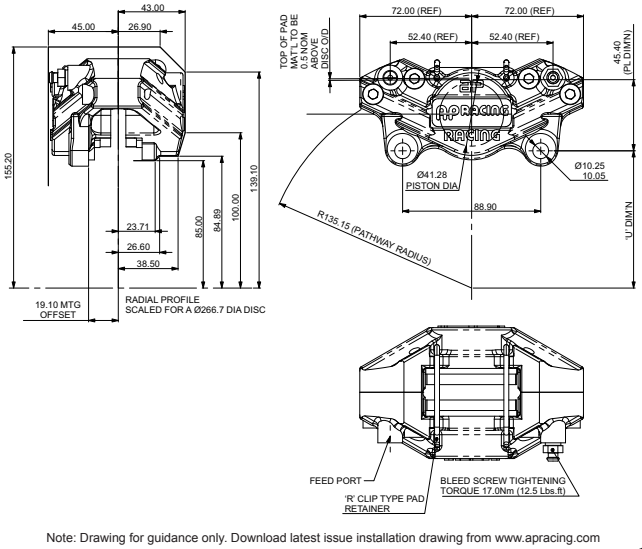
SPARE PARTS

Pistons	CP3696-105
Seal Repair Kit	CP4518-K
Pad Retainer	R Clip
Retainer P/No.	CP3696-106
Bleed Screw	CP3720-182

PAD INFORMATION

- Pad Family = CP2195D38
- Pad Area = 22.4cm²
- Pad Depth = 38.4mm
- Pad Thickness = 10.5mm

INSTALLATION DRAWING



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CP5928 - Billet Body

TYPICAL APPLICATIONS

- Touring Car Rear.
- Rally Rear.
- Lightweight Single Seater Front.

FEATURES

- Radial mount, 95 x 33.65mm ctrs.
- Billet two piece Aluminium alloy body.
- Non handed.
- Suits Ø300.0 x 16.0mm ventilated Iron disc.
- Aluminium pistons.
- Quick release 'R' Clip pad retainer.
- Stainless steel wear plates fitted.
- M10 to 3/8" fitting included.

PART NUMBERS

- CP5928-5E0.

INSTALLATION

Install with bleed screws at the top (swap with blanking plug as required) to enable a good bleed.

TECHNICAL SPECIFICATION

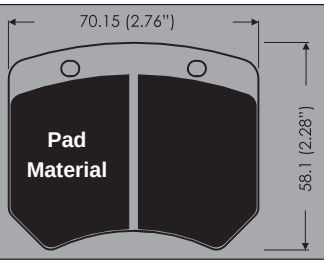
Piston Size	Ø36.0mm
Piston Area	20.4cm²
Disc Diameter	Ø300mm
Disc Thickness	16.0mm
Weight No Pads	1.1Kg
Hydraulic Thread	M10 x 1.0
Mounting Type	Radial
Mtg centres	95.0mm
Mtg offset	33.65mm
Mtg hole Ø	10.20mm
'PL' Dimension	46.73mm

SPARE PARTS

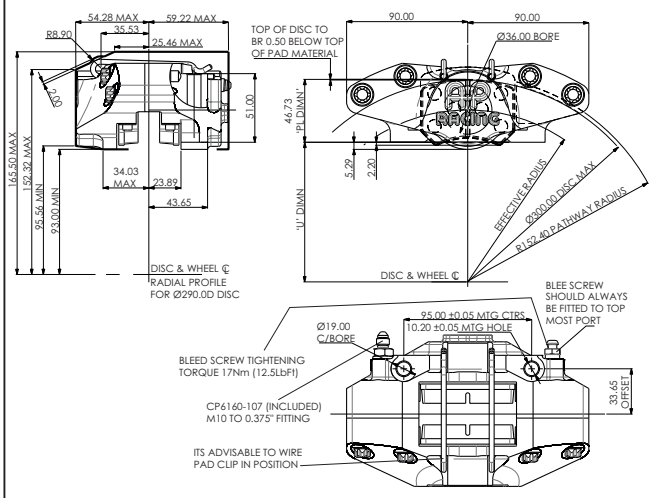
Pistons	CP5569-111
Seal Repair Kit	CP4518-H
Pad Retainer	R Clip
Retainer P/No.	CP4140-110
Bleed Screw	CP3880-1
Wear Plates x 4	CP5586-104
Wear Plate Bolt x 4	CP5166-108

PAD INFORMATION

- Pad Family = CP2399D43
- Pad Area = 27.4cm²
- Pad Depth = 42.9mm
- Pad Thickness = 14.4mm



INSTALLATION DRAWING

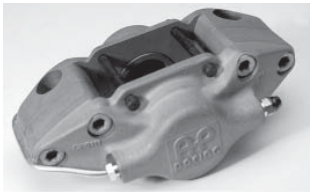


Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6120 & CP6121 - Solid Disc
CP6126 - Ventilated Disc

TYPICAL APPLICATIONS

- Formula Ford.
- Rally Rear.
- CP6126 Suitable for Lightweight Sportscars.



FEATURES

- Radial mount, 130 x 20.9mm ctrs.
- Two piece cast Aluminium alloy body.
- CP6120 & CP6121 suitable for solid disc up to Ø282 x 12.7mm, max thickness.
- CP6126 suitable for ventilated discs upto Ø280mm x 17.8mm, max thickness.
- Aluminium pistons.
- High temperature / low drag seals fitted as standard.
- Version with pipe protection available for CP6120 family only.

PART NUMBERS

- **Caliper with Ø44.5mm pistons for Solid Disc:**
  - CP6120-2S0 RHT / LHL.
  - CP6120-3S0 LHT / RHL.
- **Calipers with Ø38.1mm pistons for Solid Disc:**
  - CP6121-2S0 RHT / LHL.
  - CP6121-3S0 LHT / RHL.
- **Calipers with Ø44.5mm pistons for Vented Disc:**
  - CP6126-2S4 RHT / LHL.
  - CP6126-3S4 LHT / RHL.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

TECHNICAL SPECIFICATION

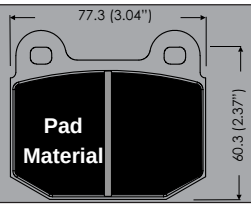
Piston Size / Piston Area	
CP6120 & CP6126	Ø44.5mm / 31.04cm²
CP6121	Ø38.1mm / 22.8cm²
Disc Diameter	Upto Ø282mm
Disc Thickness	
CP6120 / CP6121	12.7mm
CP6126	17.8mm
Weight No Pads	1.5Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	130.0mm
Mtg offset	
CP6120 / CP6121	20.9mm
CP6126	23.86mm
Mtg hole Ø	10.1mm
'PL' Dimension	50.51mm

SPARE PARTS

Pistons	
CP6120	CP5235-108
CP6121	CP6121-104
CP6126	CP5119-104
Pin Pad Retainer Part No	
CP6120 / CP6121	CP6120-103
CP6126	CP5119-107
Seal Repair Kit	
CP6120 / CP6126	CP4518-L
CP6121	CP4518-J
Bleed Screw	CP3880-1
Fluid Pipe	
CP6120 / CP6121	CP6120-6
CP6126	CP5119-123

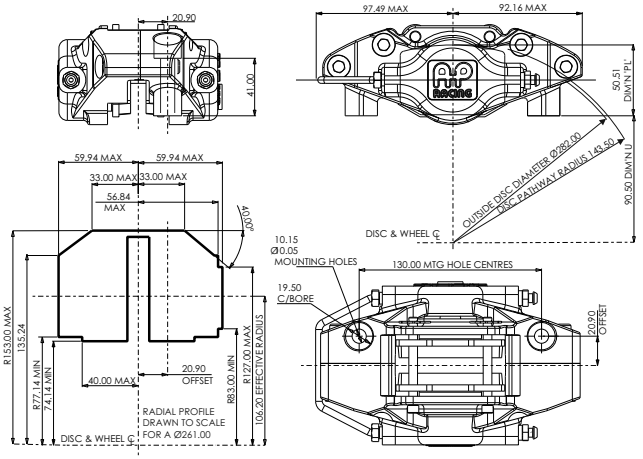
PAD INFORMATION

- Pad Family = CP5119D50
- Pad Area = 33.7cm²
- Pad Depth = 50.0mm
- Pad Thickness = 14.3mm



INSTALLATION DRAWING - CP6120-2/3S0

For CP6121 & CP6126 drawings visit www.apracing.com



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2 Piston Calipers

AP Racing's "Historic" Range of calipers are detailed below. These "Classic" items, such as CP2383 and CP2561 and have been reintroduced due to the popularity of various historic racing categories. The "Historic" Range of calipers are usually made to order, however some calipers are stock items, please check availability with AP Racing first. Spare part details for the calipers detailed can be found on our website.

CP2382 and CP2383 2 Piston Calipers.

View Drawing

TECHNICAL SPECIFICATION	
Piston Sizes	Ø50.8mm x 2
Disc Dia.	
Max	Ø266.7mm
Min	Ø254.0mm
Disc Thickness	
CP2382	20.7mm
CP2383	
Max	11.2mm
Min	9.7mm
Weight (No Pads)	1.8Kg
Hydraulic Thread	3/8"x24 UNF
Mounting Type	Lug
Mounting centres	88.9mm
Mounting offset	
CP2382	29.7mm
CP2383	24.9mm
Mtg hole Ø	11.27mm
'PL' Dim'n	54.1mm
Seal Repair Kit	CP4518-N

APPLICATIONS

- CP2382, Escort Rear, Grp 4 Rally Vented Disc.
- CP2383, Escort Rear, Grp 4 rally Solid Disc.

FEATURES

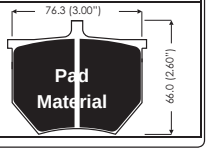
- Lug mount.
- Cast Aluminium alloy body.
- Aluminium alloy pistons.
- Hard anodised surface treatment.

PART NUMBERS

- **Vented Disc.**
  - CP2382-12E4, RH & -13E4, LH
- **Solid Disc.**
  - CP2383-12E4, RH & -13E4, LH.

Pad Family - CP2372D52

Pad Thickness = 15.9mm



CP2561 2 Piston Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø38.1mm x 2
Disc Dia.	Ø278.0mm
Disc Thickness	
Max	25.4mm
Min	22.8mm
Weight (No Pads)	1.17Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mounting centres	88.9mm
Mounting offset	50.0mm
Mtg hole Ø	9.6mm
'PL' Dim'n	26.0mm
Seal Repair Kit	CP4518-J

APPLICATIONS

- Historic Formula One, Balanced Braking from 1977 - 1985.

FEATURES

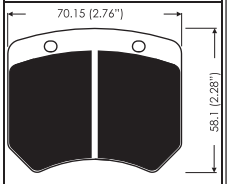
- Lug mount.
- Balanced braking (2 Calipers per disc).
- Cast Aluminium alloy body.
- Hard anodised surface treatment.
- R Clip pad retainer.
- High temperature seals.

PART NUMBER

- CP2561-3S4.

Pad Family - CP2554

Pad Thickness = 16.8mm



View Drawing

CP2270 4 Piston Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø41.3mm x 4
Disc Dia.	
Max	Ø302.0mm
Min	Ø260.0mm
Disc Thickness	28.0mm
Weight (No Pads)	2.7Kg
Hydraulic Thread	3/8"x24 UNF
Mounting Type	Blank Lug
Mounting centres	76.2 / 94.0mm
Mounting offset	33.3 / 42.4mm
Mtg hole Ø	N / A
'PL' Dim'n	66.3 / 85.6mm
Seal Repair Kit	CP4518-KK

APPLICATIONS

- Rally.
- Sports GT.
- Saloons.

FEATURES

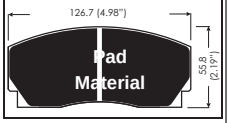
- Closed back aluminium alloy body.
- Blank lug mount.
- Ø41.3mm Aluminium alloy pistons.
- High temperature seals.
- Hard anodised surface treatment.

PART NUMBERS

- **Right Hand.** CP2270-144S4QR
- **Left Hand.** CP2270-145S4QR

Pad Family - CP2270D46

Pad Thickness = 16.6mm



View Drawing

CP2271 4 Piston Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø38.1mm x 4
Disc Dia.	
Max	Ø302.0mm
Min	Ø260.0mm
Disc Thickness	28.0mm
Weight (No Pads)	2.7Kg
Hydraulic Thread	3/8"x24 UNF
Mounting Type	Blank Lug
Mounting centres	76.2 / 94.0mm
Mounting offset	33.3 / 42.4mm
Mtg hole Ø	N / A
'PL' Dim'n	66.3 / 85.6mm
Seal Repair Kit	CP4518-JJ

APPLICATIONS

- Rally.
- Sports GT.
- Saloons.

FEATURES

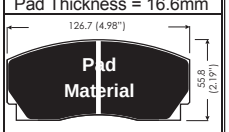
- Closed back Aluminium Alloy body.
- Blank lug mount.
- Ø38.1mm Aluminium Alloy pistons.
- Hard anodised surface treatment.

PART NUMBERS

- **Right Hand.** CP2271-182S4QR
- **Left Hand.** CP2271-183S4QR

Pad Family - CP2270D46

Pad Thickness = 16.6mm



View Drawing

CP2279 4 Piston Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø44.5mm x 4
Disc Dia.	
Max	Ø330.0mm
Min	Ø260.0mm
Disc Thickness	28.0mm
Weight (No Pads)	3.4Kg
Hydraulic Thread	3/8"x24 UNF
Mtg Type	Blank Lug
Mounting centres	
Max	88.9mm
Min	80.3mm
Mounting offset	
Max	50.0mm
Min	35.8mm
Mtg hole Ø	
Max	12.7mm
Min	10.1mm
'PL' Dimension	
Max	86.4mm
Min	70.6mm
Seal Repair Kit	CP4518-LL

APPLICATIONS

- Sports GT.

FEATURES

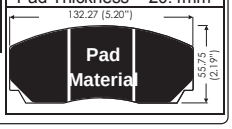
- Closed back Aluminium Alloy body.
- Blank lug mount.
- Ø44.5mm Aluminium alloy pistons.
- Hard anodised surface treatment.

PART NUMBER

- **Non Handed** CP2279-400S4BP

Pad Family - CP2279D50

Pad Thickness = 20.4mm



View Drawing

CP2361 4 Piston Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø38.1mm x 4
Disc Dia.	
Max	Ø267.0mm
Min	Ø248.0mm
Disc Thickness	20.7mm
Weight (No Pads)	2.0Kg
Hydraulic Thread	3/8"x24 UNF
Mounting Type	Blank Lug
Mounting centres	76.2 / 94.0mm
Mounting offset	28.7 / 31.2mm
Mtg hole Ø	N / A
'PL' Dimension	55.1 / 81.2mm
Seal Repair Kit	CP4518-JJ

APPLICATIONS

- Rally.
- Sports GT.

FEATURES

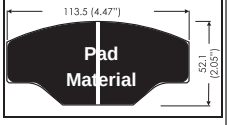
- Closed back Aluminium Alloy body.
- Blank lug mount to suit 13" wheels.
- Ø38.1mm Aluminium Alloy pistons.
- Hard anodised surface treatment.

PART NUMBERS

- **Right Hand.** CP2361-96S4QR
- **Left Hand.** CP2361-97S4QR

Pad Family CP2340D43 or D51

Pad Thickness = 15.9mm



View Drawing

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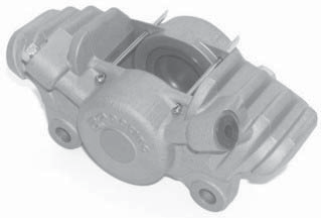
2 Piston Calipers
Historic Caliper Range

CP2696-38E0

2 Piston, Classic Caliper.



TECHNICAL SPECIFICATION	
Piston Sizes x 2	Ø41.3mm
Piston Area	26.8cm²
Disc Diameter	Ø304.0mm
Disc Thickness	6.4mm
Weight No Pads	900g
Hydraulic Thread	3/8" x 24UNF
Mounting Type	Lug
Mtg centres	89.0mm
Mtg offset	19.1mm
Mtg hole Ø	10.2mm
Seal Repair Kit	CP4518-K

APPLICATIONS

- Solo machines.
- Classic machines.
- F2 Sidecar.

FEATURES

- Classic design.
- Aluminium alloy body.
- Machined from high quality die castings.
- Aluminium alloy pistons.
- Hard anodised surface treatment.
- Split pin pad retainer.

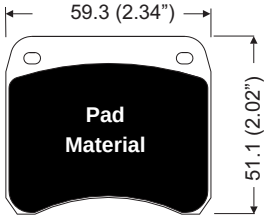
PART NUMBERS

- CP2696-38E0.

View Drawing

SPARE PARTS	
Piston	CP2055 x 1
	CP2195-9 x 1
Pad Retainer	Split Pin
Retainer P/No.	CP2696-160
Bleed Screw	CP3720-182
B/Screw Tightening Torque - 17Nm	

BRAKE PAD-CP2195D38	
Pad Thickness	10.5mm
Pad Depth	38.4mm
Pad Area	10.5cm²



CP4227-2S0

2 x 2, Rear Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes x 4	Ø25.4mm
Piston Area	20.2cm²
Disc Diameter	Ø220.0mm
Disc Thickness	4.0mm
Weight No Pads	500g
Hydraulic Thread	M10 x 1.0
Mounting Type	Lug
Mtg centres	96.0mm
Mtg offset	26.5mm
Mtg threads	M8 x 1.25
Seal Repair Kit	CP4518-AA

APPLICATIONS

- Grand Prix.
- Superbike.
- Road.
- FSAE - Formula Student.

FEATURES

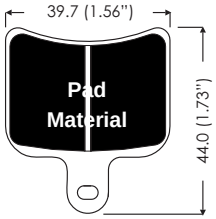
- Dual circuit caliper designed to allow the use of both a foot and thumb master cylinder.
- Aluminium alloy body.
- CNC machined from billet.
- Low Deflection.
- Lightweight.
- Aluminium alloy pistons.
- Hard anodised surface treatment.
- 'R' Clip quick release pad retainer.

PART NUMBERS

- CP4227-2S0

SPARE PARTS	
Piston	CP4226-103
Pad Retainer	R Clip
Retainer P/No.	CP4226-107
Bleed Screw	CP4469-101
B/Screw Tightening Torque - 5.5Nm	

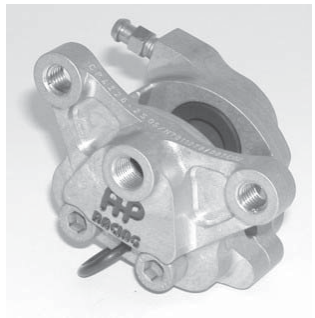
BRAKE PAD-CP4226D27	
Pad Thickness	7.0mm
Pad Depth	26.8mm
Pad Area	9.4cm²



View Drawing

CP4226-2S0

2 Piston, Rear Caliper.



TECHNICAL SPECIFICATION	
Piston Sizes x 2	Ø25.4mm
Piston Area	10.1cm²
Disc Diameter	Ø220.0mm
Disc Thickness	4.0mm
Weight No Pads	240g
Hydraulic Thread	M10x1.0
Mounting Type	Lug
Mtg centres	64.0mm
Mtg offset	26.5mm
Mtg Thread	M8x1.25
Seal Repair Kit	CP4518-A

APPLICATIONS

- Moto GP. / ◘ Superbike.
- Road. / ◘ FSAE - Formula Student.

FEATURES

- Aluminium alloy body.
- CNC machined from billet.
- Aluminium alloy pistons.
- Lightweight.
- Hard anodised surface treatment.
- 'R' Clip quick release pad retainer.

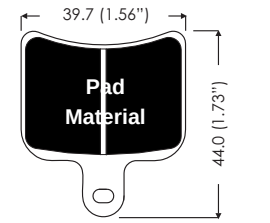
PART NUMBERS

- CP4226-2S0.

View Drawing

SPARE PARTS	
Piston	CP4226-103
Pad Retainer	R/Clip
Retainer P/No.	CP4226-104
Bleed Screw	CP4469-101
B/Screw Tightening Torque - 5.5Nm	

BRAKE PAD-CP4226D27	
Pad Thickness	7.0mm
Pad Depth	26.8mm
Pad Area	9.4cm²



CP7853

4 Piston, 2 Piece, Radial Mount Caliper.

TECHNICAL SPECIFICATION	
Piston Sizes	Ø31.75mm x 2
	Ø36.0mm x 2
Piston Area	36.2cm²
Disc Diameter	Ø320.0mm
Disc Thickness	6.0mm
Weight No Pads	760g
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	108.0mm
Mtg offset	22.5mm
Mtg hole	10.15mm
Seal Repair Kit	CP4518-EH

APPLICATIONS

- Performance Road.
- Supermoto.

FEATURES

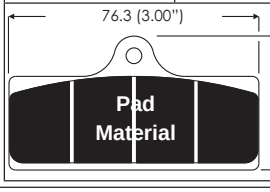
- Radial mount.
- Two piece aluminium alloy body.
- Machined from billet.
- Aluminium alloy pistons.
- Differential bore diameters. - for extended pad life.
- Pad anti-rattle clip fitted.
- Hard anodised surface treatment.
- 'R' Clip quick release pad retainer.

PART NUMBERS

- CP7853-2E0 Right Hand.
- CP7853-3E0 Left Hand.

SPARE PARTS	
Piston - Ø31.75	CP4484-107
Piston - Ø36.0	CP4484-106
Pad Retainer	R/Clip
Retainer P/No.	CP3696-106
Bleed Screw	CP4469-101
B/Screw Tightening Torque - 5.5Nm	

BRAKE PAD-CP4488D27	
Pad Thickness	9.5mm
Pad Depth	27.0mm
Pad Area	18.55cm²



View Drawing

Brake Caliper Home Page
2 Piston Road Calipers
4 Piston Road Calipers
6 Piston Road Calipers
world Radi-CAL 2 Calipers
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General Brake Caliper Info
Pro 5000 R Caliper Range
Formula Car Calipers
GT Calipers
Rally Calipers
Touring Car Calipers
2 Piston Calipers
Historic Caliper Range
M/Cycle Caliper Range

INTRODUCTION.

Competition is the best of test-beds, and AP Racing's years of close involvement with motorsport also bring benefits for the latest high performance road cars, aftermarket and armoured vehicles. The emphasis may be different, qualified by the everyday demands of modern road conditions, but the essential requirements remain the same. With a dedicated Road Car and Armoured team of engineers and designers AP Racing helps to bring extraordinary capability to extraordinary cars like, Ascari, Aston Martin, Bugatti, Caterham, Ford, HSV, Koenigsegg, Noble, Morgan, Lotus, PSV, Seat and TVR, to name a few.
In both brake and clutch requirements AP Racing takes pride in dealing with such prestigious companies and have the systems in place to offer our customers the best possible service available from a proven OE, Aftermarket, Armoured and special project brake system supplier.

SPECIAL VEHICLES

AP Racing can and have engineer unique solutions for various " Special Vehicles" sectors which includes Armoured or Defence, Hybrid, Electric, Land Speed, Bomb Disposal and even Aerospace applications, to a customer's own specific criteria and requirements. With varying duty levels of brake systems available, solutions can be designed and developed based on our specific vehicle testing procedures replicating the environments and scenarios experienced by these vehicles.
AP Racings motorsport and OEM experiences breeds excellence which leads to exciting designed tried and tested brake and clutch packages for a selection of vehicles including:
Land Cruiser 76. / - Land Cruiser 200. / - Hilux.

Please contact:
Matthew Dodd for further details and technical information: Tel: +44 (0)24 7688 3339
E-Mail: matthew.dodd@apracing.co.uk

THE RANGE

The calipers detailed on pages 24 to 30 are the most popular from within the range but not all are listed. If your requirements differ form those listed then please contact AP Racing Road Car Technical Section,.

DESIGN & DEVELOPMENT.

The whole process of design and development is carried out at our headquarters in Coventry. With two brake dynomometers we are able to reproduce the most demanding test environments. AP Racing designers use the latest computer technology to produce aesthetic and effective brake calipers at the affordable prices the markets demands.

MANUFACTURING.

The purpose built manufacturing facilities for AP Racing Road Car and Armoured Vehicle products benefit from manufacturing techniques and systems that enable AP Racing the ability to produce brake calipers for models in production at up to 10,000 vehicles per annum.

IMPORTANT SAFETY NOTE FOR CUSTOMERS.

All AP Racing brake calipers are designed and exhaustively tested to ensure they meet a set of specified parameters for both strength and durability. It is important when selecting a brake caliper to ensure that the relevant operating parameters are not exceeded on the application on which the product is to be installed. Technical Data Sheets for Road calipers can be found on our website.
It is the responsibility of the person specifying these products for a given application to ensure that the design parameters of the product are not exceeded.

TECHNICAL DATA SHEETS - BRAKE CALIPERS

Each Technical Data Sheet is specific to a caliper or family of calipers and details the maximum working pressure and maximum brake torque for each caliper. In addition they also include a guide to the typical gross vehicle weight to which this relates. These guides assume the application to be a standard passenger vehicle fitted with road tyres and therefore deceleration rates above 13m/s² (1.3g) will not be achievable.

CP5119
2 Piston, Suits Solid Discs

TYPICAL APPLICATION

- Road Lightweight Front or Rear.

FEATURES

- Radial mount, 130 x 33.75mm ctrs.
- Suits Ø282mm x 10mm solid disc.
- Aluminium alloy body.
- Aluminium alloy pistons.
- Piston dirt seals fitted.
- Advanced paint finish, protects against corrosion.
- Pad supports / retained on pins.

PART NUMBERS

RHT - CP5119-12S4BK.
LHT - CP5119-13S4BK.

INSTALLATION

It is important to select the correct 'hand' of caliper so that the bridge pipe is below the caliper and bleed screws are at the top to enable a good hydraulic bleed.

TECHNICAL SPECIFICATION

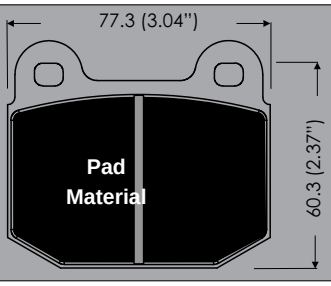
Piston Sizes	Ø44.5 x 2
Piston Area	31.11cm²
Disc Diameter	Ø282.0
Disc Thickness	10.0mm
Weight No Pads	1.6Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	130.0mm
Mtg offset	33.75mm
Mtg hole Ø	10.2mm
'PL' Dimension	50.51mm

SPARE PARTS

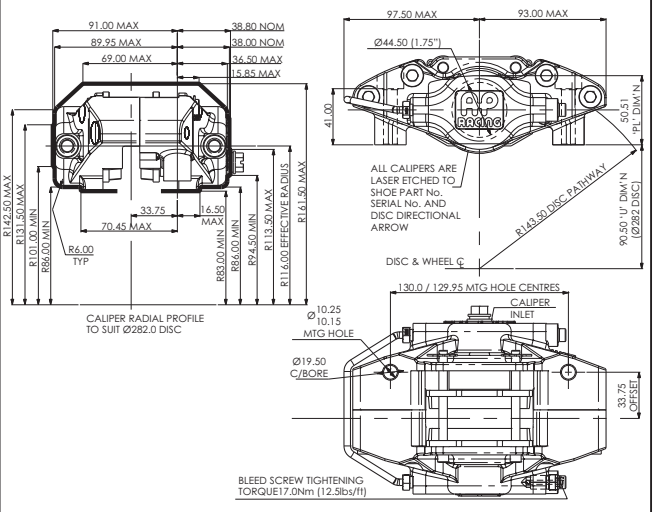
Pistons	CP5119-104
Seal Repair Kit	CP4519-L
Pad Retainer	Pin
Retainer P/No.	CP5119-144
Bleed Screw	CP3720-173

PAD INFORMATION

- Pad Family = CP5119D50
- Pad Area = 33.7cm²
- Pad Depth = 50.0mm
- Pad Thickness = 14.3mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Drawing

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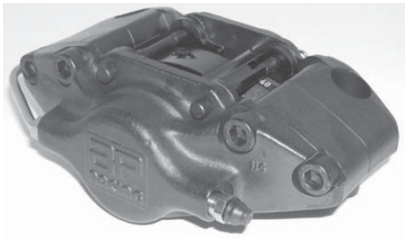
M/Cycle Caliper Range

CP5316 & CP5317
2 Piston, Suits Ventilated Discs



TYPICAL APPLICATION
- Road Lightweight Front or Rear.

FEATURES
- Radial mount, 130 x 27.5mm ctrs.
- Suits Ø332mm x 26mm disc.
- Aluminium alloy body.
- Aluminium alloy pistons.
- Piston dirt seals fitted.
- Advanced Red or Black anti-corrosion paint finish
- Pin pad retainer with 'R' Clip.

PART NUMBERS
- **For Black calipers**
- **With Ø38.1mm Pistons**.
- CP5316-2S0 RHT or LHL.
- CP5316-3S0 LHT or RHL.
- **With Ø41.3mm Pistons.**
- CP5317-2S0 RHT or LHL.
- CP5317-3S0 LHT or RHL.

- **For Red calipers**

add **'R2'** to end of part number **e.g CP5316-2S0R2.**

CALIPER HANDING
It is important to select the correct 'hand' of caliper so that the bridge pipe is below the caliper and bleed screws are at the top to enable a good hydraulic bleed.

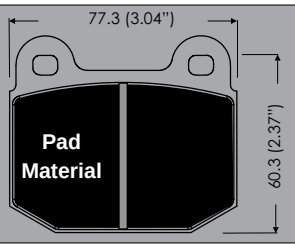
TECHNICAL SPECIFICATION

Piston Sizes	
CP5316	Ø38.1mm
CP5317	Ø41.3mm
Piston Area	
CP5316	22.8cm²
CP5317	26.8cm²
Disc Diameter	Ø332.0
Disc Thickness	26.0mm
Weight No Pads	1.5Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	130.0mm
Mtg offset	27.5mm
Mtg hole Ø	10.1mm
'PL' Dimension	50.5mm

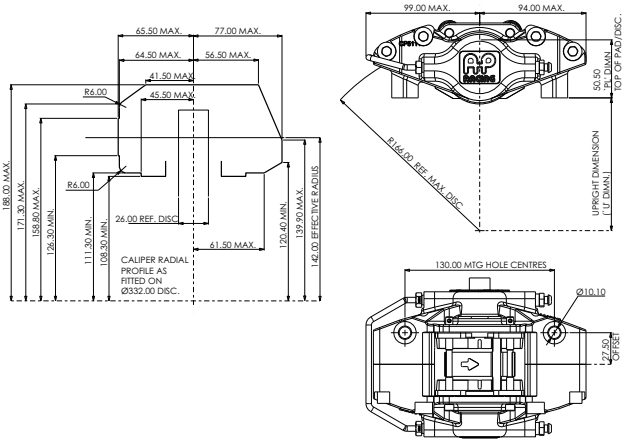
SPARE PARTS

Pistons	
CP5316	CP5128-104
CP5317	CP5317-103
Seal Repair Kit	
CP5316	CP4525-J
CP5317	CP4525-K
Pad Retainer	Clip
Retainer P/No.	CP5119-134
Bleed Screw	CP3720-173

PAD INFORMATION
- Pad Family = CP5119D50
- Pad Area = 33.7cm²
- Pad Depth = 50.0mm
- Pad Thickness = 14.3mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP5100
4 Piston, 130mm Radial Mount

TYPICAL APPLICATION
- Performance Road Front or Rear.

FEATURES
- Radial mount, 130 x 47.4mm ctrs.
- Suits Ø295mm x 25.4m iron discs.
- Cast Aluminium alloy body,
- Staggered equal bores.
- Aluminium Alloy pistons with dirt seals fitted.
- Advanced Red or Black anti-corrosion paint finish
- Steel wear plates.
- Pad anti-rattle clip fitted.

PART NUMBERS
- **For Black Calipers**
- **Suits Ø295 x 25.4mm disc.**

RHT = CP5100-806S4.
LHT = CP5100-807S4.
RHL = CP5100-808S4.
LHL = CP5100-809S4.

- **For Red Calipers**

- add **'R2'** to end of part number **e.g CP5100-806S4R2**

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

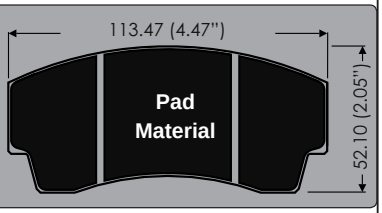
TECHNICAL SPECIFICATION

Piston Size	Ø38.1mm x 4
Piston Area	45.6cm²
Disc Diameter	Ø295.0mm
Disc Thickness	25.4mm
Weight No Pads	1.9Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	130.0mm
Mtg offset	47.4mm
Mtg hole Ø	10.1mm
'PL' Dimension	53.05mm

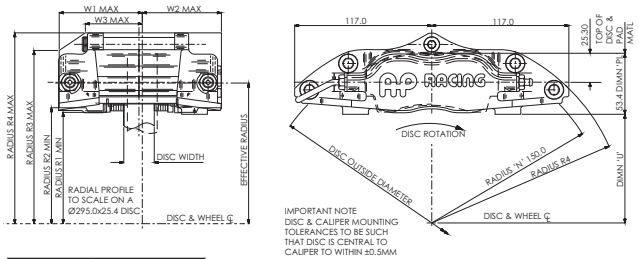
SPARE PARTS

Pistons	CP2409-160
Seal Repair Kit	CP4519-JJ
AKB Spring Kit - CP6518-4LBLL	
Wear Plates	CP5100-210 x 2 CP5100-211 x 2
Pad Retainer	Bolt
Retainer P/No.	CP5100-117
Ret / Bolt P/No.	CP5100-120
Bleed Screw	CP3720-173

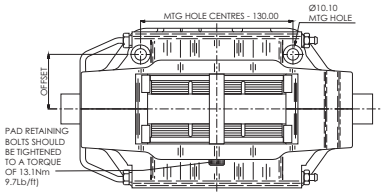
PAD INFORMATION
- Pad Family = CP3345D44
- Pad Area = 43.4cm²
- Pad Depth = 44.1mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING



RADIAL PROFILE DIM'N		
Disc Ø	295.0 x 22.9	295.0 x 25.4
W1	67.75	69.3
W2	70.2	71.8
W3	47.3	48.9
R1	96.7	96.7
R2	100.7	100.7
R3	151.5	151.5
R4	166.3	166.3
EFF RAD	125.15	125.15



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CP7600
4 Piston, Suits Ø295x24mm Discs

TYPICAL APPLICATION
- Performance Road Front.

FEATURES
- Radial mount, 130 x 47mm ctrs.
- Suits Ø295mm x 24mm iron disc.
- Cast Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Red or Black anti-corrosion paint finish
- Steel wear plates.
- Pad anti-rattle clip fitted.

PART NUMBERS
- **For Black Calipers**
  - CP7600-2S0 RHT.
  - CP7600-3S0 LHT.
  - CP7600-4S0 RHL.
  - CP7600-5S0 LHL.
- **For Red Calipers**
  - add **'R2'** to end of part number **e.g CP7600-2S0R2.**

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

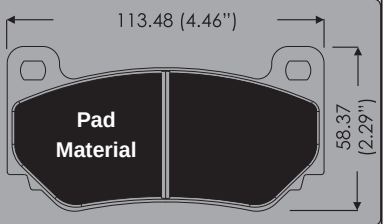
TECHNICAL SPECIFICATION

Piston Sizes	Ø38.1mm
Piston Area	45.6cm²
Disc Diameter	Ø295.0
Disc Thickness	24.0mm
Weight No Pads	2.6Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	130.0mm
Mtg offset	47.4mm
Mtg hole Ø	10.1mm
'PL' Dimension	53.0mm

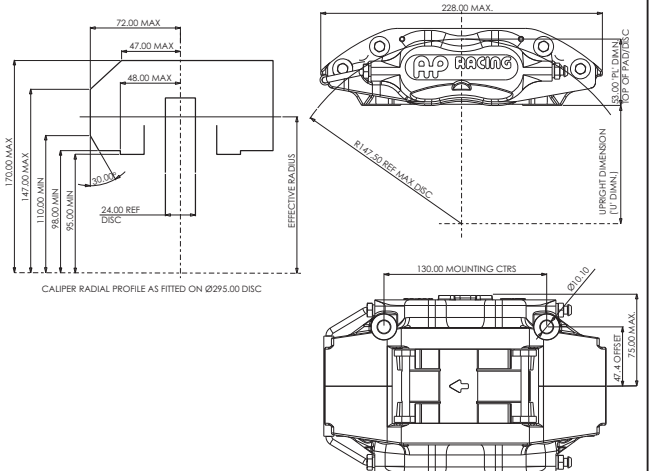
SPARE PARTS

Pistons	
Ø38.1mm	CP6200-104
Seal Repair Kit	CP4525-JJ
Pad Retainer	Pin
Retainer P/No.	CP7600-109
Wear Plates	CP7605-117 x 4
Bleed Screw Kit	CP3880-1

PAD INFORMATION
- Pad Family = CP7600D46
- Pad Area = 43.5cm²
- Pad Depth = 46.2mm
- Pad Thickness = 16.0mm



INSTALLATION DRAWING



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CP8530, CP8540 & CP8560
4 Piston, World Radi-CAL™ Calipers

TECHNICAL SPECIFICATION

Weight No Pads	3.35Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	195.0mm
Mounting offset	
CP8540-2/3/4/5 CP8560-2/3/4/5	34.0mm
CP8530-2/3/4/5 CP8540-6/7/8/9	36.0mm
Mtg hole Ø	12.1mm
'PL' Dimension	55.0mm

TYPICAL APPLICATIONS
- Road Front or Rear.
- Factory Big Brake kit Front or Rear.

FEATURES
- Benefits from a radical asymmetric design concept.
- Radial mount, 195mm ctrs.
- Suits Ø400mm x 28mm or 32mm disc.
- Forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Red or Black anti-corrosion paint finish
- Pad anti-rattle clip fitted.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

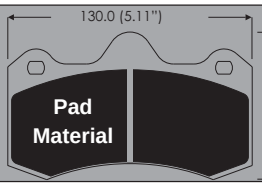
SPARE PARTS

Pistons	
Ø27.0mm	CP7555-106
Ø28.6mm	CP8336-111
Ø31.8mm	CP8336-116
Ø38.1mm	CP8335-110
Ø41.3mm	CP8335-111
Seal Repair Kits	
CP8530 Calipers	CP4527-JK
CP8540 Calipers	CP4527-DE
CP8560 Calipers	CP4527-CC
Pad Retainer	Pin
Retainer P/No.	CP8335-116
H Piece - See website for details.	
Bleed Screw Kit	CP3880-1

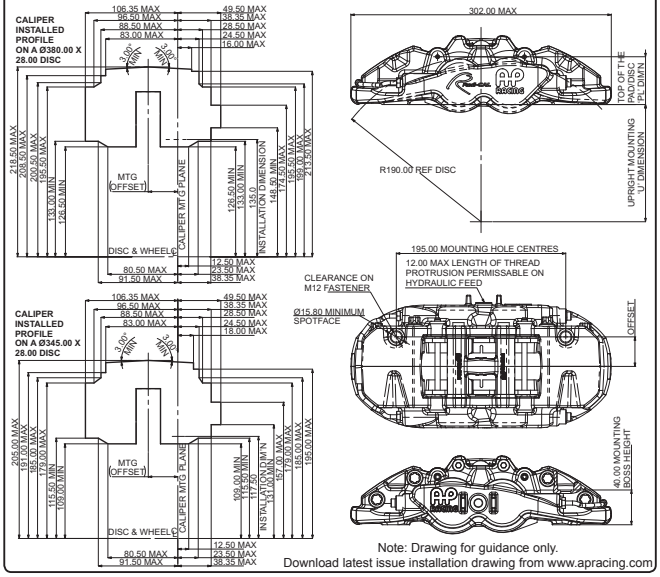
PART NUMBERS & PISTON INFORMATION

Part No.	Piston Sizes (mm)	Piston Area	Max Disc Ø x Thickness (mm)
CP8530-2/3/4/5S0BK or R2	Ø38.1 / Ø41.3	49.56cm²	400 x 32mm
CP8540-2/3/4/5S0BK or R2	Ø28.6 / Ø31.8	28.8cm²	400 x 28mm
CP8540-6/7/8/9S0BK or R2	Ø28.6 / Ø31.8	28.8cm²	400 x 32mm
CP8560-2/3/4/5S0BK or R2	Ø27 / Ø27	22.9cm²	400 x 28mm

PAD INFORMATION
- Pad Family = CP6600D55
- Pad Area = 64.6cm²
- Pad Depth = 55.0mm
- Pad Thickness = 16.75mm



INSTALLATION DRAWING FOR CP8540-2/3/4/5



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CP9200
4 Piston, Two Piece Forged Body - Front

TYPICAL APPLICATION
- Performance Road Front.

FEATURES
- Radial mount, 152 x 46.8mm ctrs.
- Suits Ø330mm x 28mm iron disc.
- Two piece forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced gloss Black or Red anti-corrosion paint finish.
- Pad anti-rattle clip fitted.
- Replaces CP5200 Caliper Family.

PART NUMBERS
- **Black calipers**
  - CP9200-2S0BG RHT.
  - CP9200-3S0BG LHT.
  - CP9200-4S0BG RHL.
  - CP9200-5S0BG LHL.
- **For Red Calipers**
  - add **'R2'** to end of part number
  - **e.g CP9200-2S0R2**

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

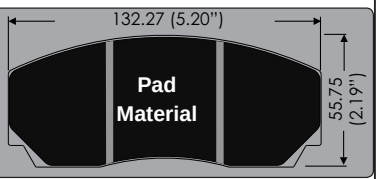
TECHNICAL SPECIFICATION

Piston Size	Ø38.1mm Ø41.3mm
Piston Area	49.56cm²
Disc Diameter	330.0mm
Disc Thickness	
Max	28.0mm
Min	26.0mm
Weight No Pads	2.43Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset	46.86mm
Mtg hole Ø	10.1mm - Nom
'PL' Dimension	60.36mm

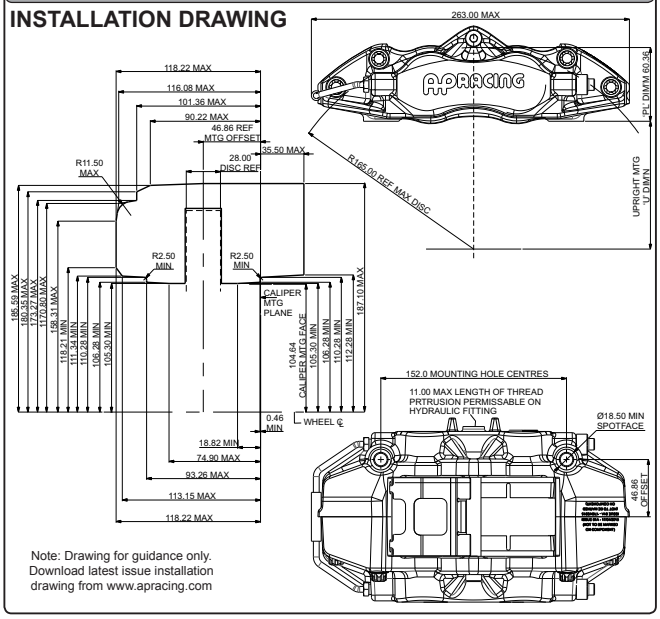
SPARE PARTS

Pistons	
Ø38.1mm	CP9200-108
Ø41.3mm	CP9200-109
Seal Repair Kit	CP4527-JK
Pad Retainer	Bolt
Retainer Part No.	CP5200-124
Retainer Bolt Part No.	CP3596-112ST
Bleed Screw	CP4970-125
Pad Anti- Rattle Clip	CP5200-151

PAD INFORMATION
- Pad Family = CP3215D50
- Pad Area = 57.4cm²
- Pad Depth = 50.3mm
- Pad Thickness = 16.8mm



INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP9202
4 Piston, Two Piece Forged Body - Rear

TYPICAL APPLICATION
- Performance Road Rear

FEATURES
- Radial mount, 152 x 46.8mm ctrs.
- Suits Ø360mm x 28mm iron disc.
- Two piece forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced gloss Black or Red anti-corrosion paint finish.
- Pad anti-rattle clip fitted.

PART NUMBERS
- **Black calipers**
  - CP9202-2S0BG RHT.
  - CP9202-3S0BG LHT.
  - CP9202-4S0BG RHL.
  - CP9202-5S0BG LHL.
- **For Red Calipers**
  - add **'R2'** to end of part number
  - **e.g CP9202-2S0R2**

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

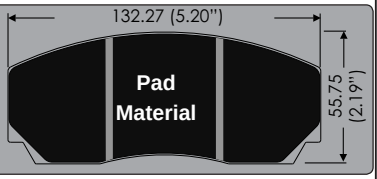
TECHNICAL SPECIFICATION

Piston Size (x 4)	Ø27.0mm
Piston Area	22.72cm²
Disc Diameter	360.0mm
Disc Thickness	
Max	28.0mm
Min	26.0mm
Weight No Pads	2.48Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mounting offset	46.86mm
Mtg hole Ø	10.1mm - Nom
'PL' Dimension	60.36mm

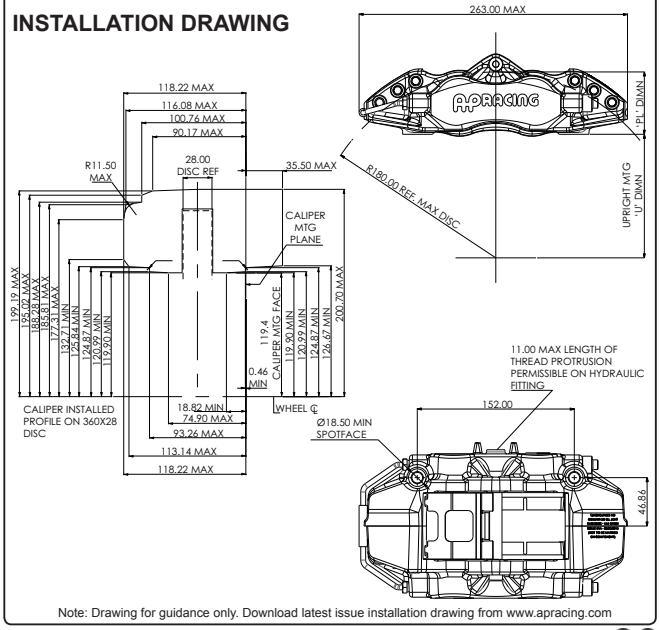
SPARE PARTS

Pistons	CP9202-108
Seal Repair Kit	CP4527-CC
Pad Retainer	Tube
Retainer Part No.	CP5200-124
Retainer Bolt Part No.	CP3596-112ST
Bleed Screw	CP4970-125
Pad Anti- Rattle Clip	CP5200-151

PAD INFORMATION
- Pad Family = CP3215D50
- Pad Area = 57.4cm²
- Pad Depth = 50.3mm
- Pad Thickness = 16.8mm



INSTALLATION DRAWING



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CP8310, CP8316 & CP8317
6 Piston, Heavy Duty Calipers

TECHNICAL SPECIFICATION

Piston Sizes	See Table Below.
Disc Diameter	Ø410.0mm
Disc Thickness	35.6mm
Weight No Pads	6.1Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	210.0mm
Mtg offset	52.0mm
Mtg hole Ø	14.2mm
'PL' Dimension	92.5mm

TYPICAL APPLICATIONS

- SUV.
- Heavy Duty Road.
- 4 x 4.
- Armoured Vehicles.

FEATURES

- Radial mount, 210 x 52mm ctrs.
- Suits Ø410 x 35.6mm disc.
- Large pad area.
- Suitable for higher line pressures.
- 3 different bore variants available, see table below.
- Cast Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Black or Red paint finish, protects against corrosion.
- Steel wear plates
- Pad anti-rattle clip fitted.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

SPARE PARTS

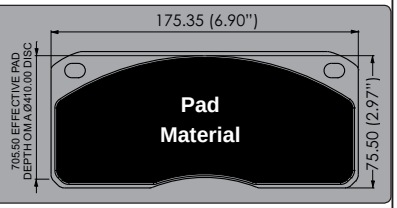
Pistons	
Ø27.0mm	CP7040-118
Ø31.8mm	CP6609-106
Ø36.0mm	CP6609-107
Ø38.1mm	CP6200-104
Ø41.3mm	CP6200-105
Seal Repair Kit	
CP8310	CP4525-CEJ
CP8316	CP4525-HJK
CP8317	CP4525-EHJ
Pad Retainer	Tubes.
Retainer Part No.	CP8310-110
Retainer Bolt.	CP2889-107
Wear Plates	
CP8310-114 x 2	CP8310-115 x 2
Bleed Screw	CP3880-1

PART NUMBERS & PISTON INFORMATION

Part No.	Piston Sizes (mm)	Piston Area
CP8310-2/-3/-4/-5S0BK	Ø27 / Ø31.8 / Ø38.1	50.4cm²
CP8316-2/-3/-4/-5S0R2	Ø36 / Ø38.1 / Ø41.3	70.0cm²
CP8317-2/-3/-4/-5S0BK	Ø31.8 / Ø36 / Ø38.1	59.0cm²

PAD INFORMATION

- Pad Family = CP8310D70
- Pad Area = 109.1cm²
- Pad Depth = 70.5mm
- Pad Thickness = 17.8mm



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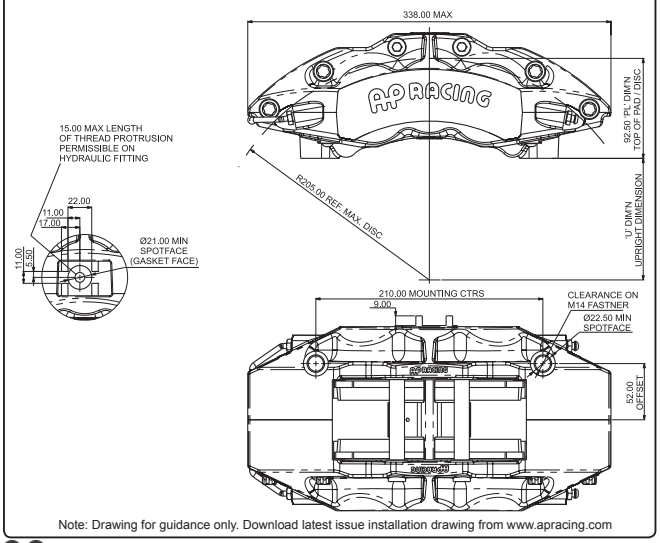

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CP8520, CP8521 & CP8522
6 Piston, World Radi-CAL™ Calipers

TECHNICAL SPECIFICATION

Disc Dia. Max.	410.0mm
Disc Dia. Min.	380.0mm
Disc Thickness	36.0mm
Weight No Pads	4.65Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	195.0mm
Mounting offset	49.50
Mtg hole Ø	12.1mm
'PL' Dimension	70.0mm

TYPICAL APPLICATIONS

- Road Front or Rear.
- Factory Big Brake kit Front or Rear.

FEATURES

- Radial mount, 195mm ctrs.
- Benefits from a radical asymmetric design concept.
- Suits Ø410mm x 36mm disc.
- Forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Red or Black anti-corrosion paint finish
- Pad anti-rattle clip fitted.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

SPARE PARTS

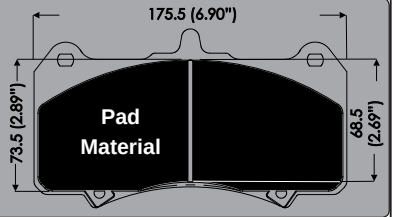
Ø27.0 - Piston	CP7555-106
Ø31.8 - Piston	CP8336-116
Ø36.0 - Piston	CP8520-107
Ø38.1 - Piston	CP8335-110
Ø41.3 - Piston	CP8335-111
Seal Repair Kits	
CP8520-2/3/4/8	CP4527-EHK
CP8521-2/3/4/5	CP4527-EEK
CP8522-2/3/4/5	CP4527-CEJ
Pad Retainer	Pin
Retainer P/No.	CP8335-116
H Piece	CP8520-106
Bleed Screw Kit	CP3880-1

PART NUMBERS & PISTON INFORMATION

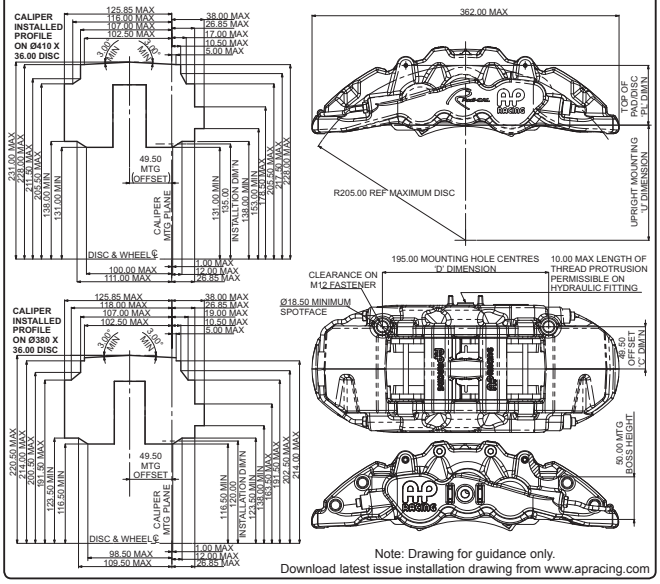
Part No.	Piston Sizes (mm)	Piston Area
CP8520-2/-3/-4/-5S0BK or R2	Ø31.8 / Ø36.0 / Ø41.3	62.5cm²
CP8521-2/-3/-4/-5S0BK or R2	Ø31.8 / Ø31.8 / Ø41.3	58.6cm²
CP8522-2/-3/-4/-5S0BK or R2	Ø27.0 / Ø31.8 / Ø38.1	50.1cm²

PAD INFORMATION

- Pad Family = CP7555D70
- Pad Area = 108.9cm²
- Pad Depth = 70.0mm
- Pad Thickness = 16.75mm



INSTALLATION DRAWING FOR CP8520-2/3/4/5



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CP9040
6 Piston, Two Piece Forged Body

TYPICAL APPLICATIONS
- High Performance Road.
- Factory Big Kit Caliper.

FEATURES
- Radial mount, 152 x 53.2mm ctrs.
- Suits Ø362mm x 32mm iron disc.
- Two piece forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced gloss Black or Red anti-corrosion paint finish.
- Pad anti-rattle clip fitted.

TECHNICAL SPECIFICATION

Piston Sizes	Ø27.0mm
	Ø31.8mm
	Ø38.1mm
Piston Area	50.1cm²
Disc Diameter	Ø362.0mm
Disc Thickness	
Max	32.0mm
Min	30.0mm
Weight No Pads	3.7Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	152.0mm
Mtg offset	53.2
Mtg hole Ø	12.1mm
'PL' Dimension	68.8mm

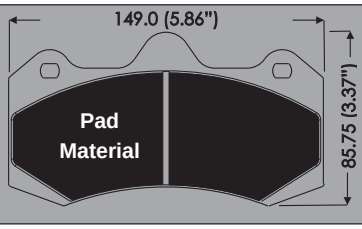
PART NUMBERS
- **Black calipers**
  - CP9040-2S0BG RHT.
  - CP9040-3S0BG LHT.
  - CP9040-4S0BG RHL.
  - CP9040-5S0BG LHL.
- **For Red Calipers**
  - add **'R2'** to end of part number
  - **e.g CP9040-2S0R2**

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

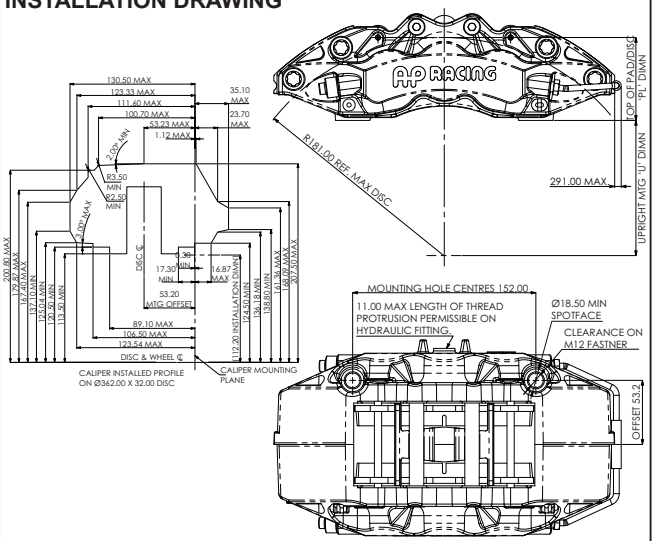
SPARE PARTS

Ø27.0 - Piston	CP9040-109
Ø31.8 - Piston	CP6696-124
Ø38.1 - Piston	CP6695-124
Seal Repair Kit	CP4527-CEJ
Pad Retainer	Tubes
Retainer Part No.	CP5555-157
Pad retaining pins	CP8335-116
Bleed Screw	CP3880-1
Anti-Rattle Clip	CP9040-108

PAD INFORMATION
- Pad Family = CP7040D61
- Pad Area = 72.50cm²
- Pad Depth = 61.0mm
- Pad Thickness = 16.75mm



INSTALLATION DRAWING



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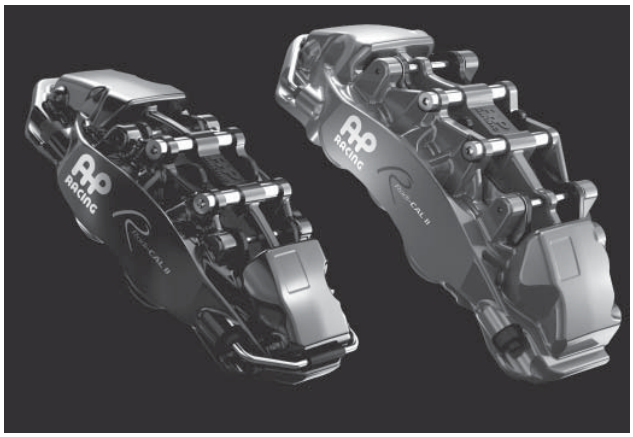
WORLD Radi-CAL II INTRODUCTION



Following on from the success of our **Pro 5000** range AP Racing has brought the same design philosophy to the road performance market in the form of the World Radi-CAL II range.

The forged 4 and 6 Piston range incorporate our patented technology allowing the road user to experience the superior performance that Rad-CAL™ offers.
In addition the calipers incorporate all the features demanded by the road market including, dirt seals, an attractive painted finish and noise abatement solutions.

Offering less mass, improved rigidity and better cooling characteristics than conventional brake caliper designs, the Radi-CAL™ concept represents a major innovation in braking technology when it was introduced.
The patented design was first developed by AP Racing in 2007, since then we have produced over 80 different Radi-CAL™ caliper designs for Race, OEM and now Performance upgrades markets.

AP Racing is constantly refining its Radi-CAL™ brake caliper designs, and the concept is protected by patents across Europe and in numerous other countries including the USA, China and Japan.

To complement these calipers AP Racing also supply a range of discs, pads and fluids. AP Racing always recommend the use of AP Racing brake discs and brake fluids with our calipers to achieve optimum performance and comfort.

For more detailed information please contact the AP Racing technical department for further assistance.

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CP9540-6/7/8/9 Drawing
CP9541-2/3/4/5 Drawing
CP9541-6/7/8/9 Drawing
CP9542-2/3/4/5 Drawing
CP9542-6/7/8/9 Drawing

CP9540, CP9541 & CP9542
4 Piston, World Radi-CAL II Calipers

TECHNICAL SPECIFICATION

Weight No Pads	3.25kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	195.0mm
Mounting offset	
CP9540-6/7/8/9 CP9541-6/7/8/9 CP9542-6/7/8/9	34.0mm
CP9540-2/3/4/5 CP9541-2/3/4/5 CP9542-2/3/4/5	36.0mm
Mtg hole Ø	12.1mm
'PL' Dimension	55.0mm

TYPICAL APPLICATIONS

- Road Front or Rear.

FEATURES

- Benefits from a radical asymmetric design concept.
- Radial mount, 195mm ctrs.
- Suits Ø380mm x 28mm or 32mm disc.
- Forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Black, Red or Silver anti-corrosion paint finish.
- Pad anti-rattle clip fitted.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

SPARE PARTS

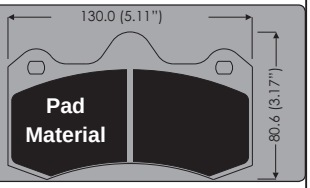
Pistons	
Ø27.0mm	CP7555-106
Ø28.6mm	CP8336-111
Ø31.8mm	CP8336-116
Ø38.1mm	CP8335-110
Ø41.3mm	CP8335-111
Seal Repair Kits	
CP9540 Calipers	CP4527-JK
CP9541 Calipers	CP4527-DE
CP9542 Calipers	CP4527-CC
Tube Pad Retainer	CP9560-106
Bleed Screw Kit	CP3880-1

PART NUMBERS & PISTON INFORMATION

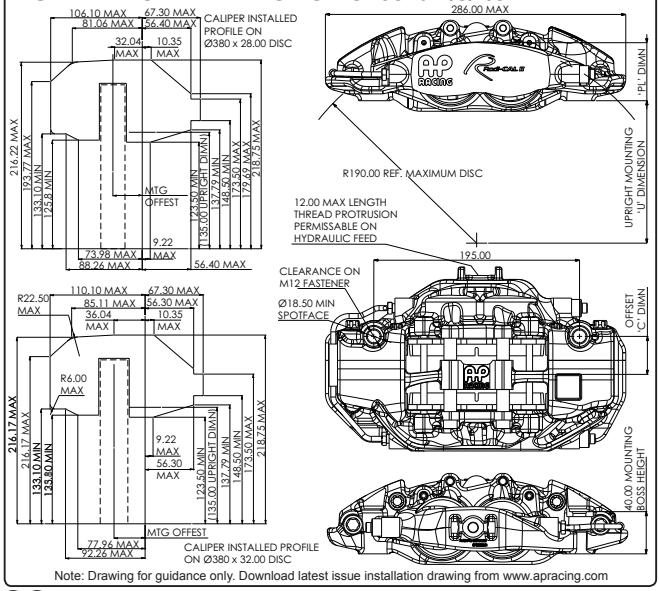
Part No.	Piston Sizes (mm)	Pist / Area	Max Disc Ø x Thick's
CP9540-2/3/4/5S0BG4/R12/S10	Ø38.1 / Ø41.3	49.56cm²	380 x 32mm
CP9540-6/7/8/9S0BG4/R12/S10			380 x 28mm
CP9541-2/3/4/5S0BG4/R12/S10	Ø28.6 / Ø31.8	28.8cm²	380 x 32mm
CP9541-6/7/8/9S0BG4/R12/S10			380 x 28mm
CP9542-2/3/4/5S0BG4/R12/S10	Ø27 / Ø27	22.9cm²	380 x 32mm
CP9542-6/7/8/9S0BG4/R12/S10			380 x 28mm

PAD INFORMATION

- Pad Family = CP6600D55
- Pad Area = 64.6cm²
- Pad Depth = 55.0mm
- Pad Thickness = 16.75mm



INSTALLATION DRAWING FOR CP9540-2/3/4/5



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP9560, CP9561 & CP9562
6 Piston, World Radi-CAL II Calipers

TECHNICAL SPECIFICATION

Disc Dia. Max.	390.0mm
Disc Thickness	
Max.	36.0mm
Min.	34.0mm
Weight No Pads	4.2Kg
Hydraulic Thread	M10x1.0
Mounting Type	Radial
Mtg centres	195.0mm
Mounting offset	49.50
Mtg hole Ø	12.1mm
'PL' Dimension	70.0mm

TYPICAL APPLICATIONS

- Road Front or Rear.

FEATURES

- Radial mount, 195mm ctrs.
- Benefits from a radical asymmetric design concept.
- Suits Ø390mm x 36mm or 34mm disc.
- Forged Aluminium alloy body.
- Aluminium alloy pistons.
- Boot type dirt seals fitted.
- Advanced Black, Red or Silver anti-corrosion paint finish.
- Pad anti-rattle clip fitted.

Note: It is important to select the correct hand of caliper, see page 4 for guidance.

SPARE PARTS

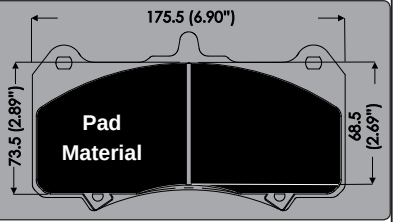
Ø27.0 - Piston	CP7555-106
Ø31.8 - Piston	CP8336-116
Ø36.0 - Piston	CP8520-107
Ø38.1 - Piston	CP8335-110
Ø41.3 - Piston	CP8335-111
Seal Repair Kits	
CP9560-2/3/4/8	CP4527-EHK
CP9561-2/3/4/5	CP4527-EEK
CP9562-2/3/4/5	CP4527-CEJ
Pad Retainer (x 4)	Tubes
Retainer P/No.	CP9560-106
Bleed Screw Kit	CP3880-1

PART NUMBERS & PISTON INFORMATION

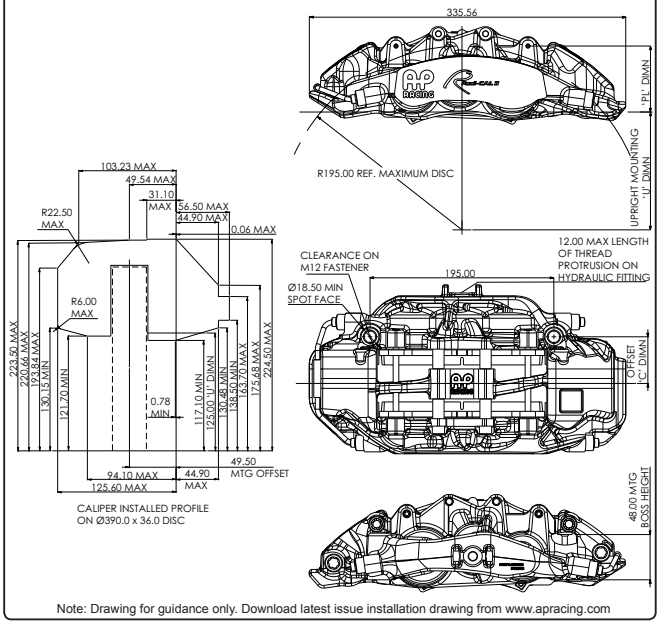
Part No.	Piston Sizes (mm)	Piston Area
CP9560-2/-3/-4/-5S0BG4/R12/S10	Ø31.8 / Ø36.0 / Ø41.3	62.5cm²
CP9561-2/-3/-4/-5S0BG4/R12/S10	Ø31.8 / Ø31.8 / Ø41.3	58.6cm²
CP9562-2/-3/-4/-5S0BG4/R12/S10	Ø27.0 / Ø31.8 / Ø38.1	50.1cm²

PAD INFORMATION

- Pad Family = CP7555D70
- Pad Area = 108.9cm²
- Pad Depth = 70.0mm
- Pad Thickness = 16.75mm



INSTALLATION DRAWING FOR CP9560-2/3/4/5



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP9560 Drawing
CP9561 Drawing
CP9562 Drawing

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Historic Caliper Range
Road Car Caliper Range
M/Cycle Caliper Range

RECOMMENDED TIGHTENING TORQUES.

AP Racing recommended tightening torques:

- M6 & ¼ UNF Pad Retaining Bolts: **- 18Nm**
- M4 Pad abutment cap head screws: (use loctite 242) **- 3.5Nm**
- M4 wear sensor clamp screw: (use loctite 243) **- 3.0Nm**
- Cross pipe tube nuts: (Use loctite 648 inside tube nuts, with 7649 activator) **- 24Nm**
- 3/8"UNF Adaptors and Banjo bolts:

- With one copper gasket: **- 13Nm + 45°**
- With two copper gaskets: **- 13Nm + 90°**

Resulting maximum torque must not exceed: **- 30Nm**

- CP6300 Dry Break Connector into caliper: **- 13Nm**

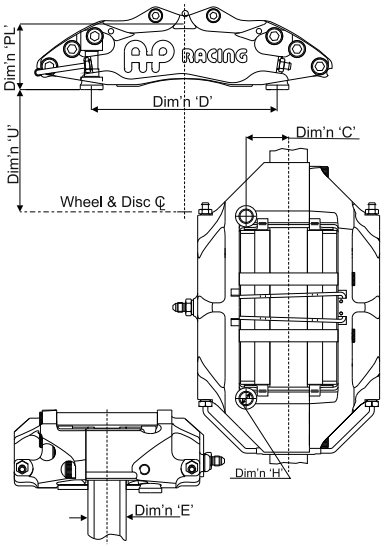
(Loctite 270 can be used)

- Dry Break connector cap: - **4Nm**
- Bleed Screws: **- 17Nm**

BASIC DIMENSIONS.

The drawing below offers a brief explanation of basic AP Racing Drawing dimensions.

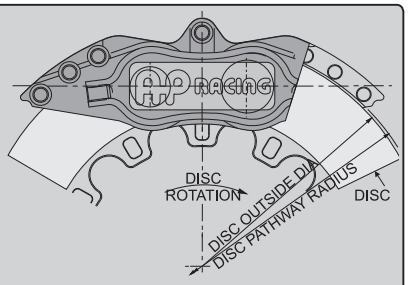
Dim'n	Descriptions
PL	Top of the pad material to mounting hole boss face, (hole centre-line on lug type calipers).
C	Offset - Disc centre line to centre of mounting hole (mounting face on lug type calipers)
D	Mounting hole centres.
H	Mounting hole diameters.
E	Disc width.
U	Wheel centre to caliper mounting hole boss. (disc diameter / 2 - 'PI' dimension).



DISC PATHWAY CLEARANCE.

Disc diameter clearance should be 2.5mm nominal from disc outside diameter to caliper pathway. The clearance can be reduced to 1.8mm minimum for smaller diameter discs (Ø280mm and lower).

It is recommended that the tighter clearance is only used with radial mounted calipers where some degree of adjustment by using shims can be achieved if required.



ANTI-KNOCKBACK SPRINGS.

A range of anti-knockback springs are available for use with AP Racing calipers. The spring is located behind the piston in the caliper bore and is designed to counteract pad knock off. The springs are available in four loads indicated in lbs/f (force) with 2 sizes dependant upon piston diameter.

Spring Load.	Piston ØF. Up to 34mm.	Free Length & Wire Ø. (mm)	Piston ØG. 34.9mm & above.	Free Length & Wire Ø. (mm)
4lbs	CP2632-113	38.43 & 0.91	CP2667-105	39.88 & 1.22
7lbs	CP4100-121	39.88 & 1.02	CP2667-113	39.88 & 1.29
9lbs	CP3432-134	49.02 & 1.02	CP2667-125	70.36 & 1.29
12lbs	CP2632-129	58.50 & 1.29	CP2667-154	70.36 & 1.49

Anti-Knockback Spring Kits.

Caliper Type	Part Number	Contents
4 Piston	CP6518-4LBSS	4 x CP2632-113
	CP6518-4LBLL	4 x CP2667-105
	CP6518-7LBLL	4 x CP2667-113
	CP6518-9LBLL	4 x CP2667-125
6 Piston	CP6518-4LBSSL	4 x CP2632-113 & 2 x CP2667-105
	CP6518-7LBSSL	4 x CP4100-121 & 2 x CP2667-113
	CP6518-9LBSSL	4 x CP3432-134 & 2 x CP2667-125

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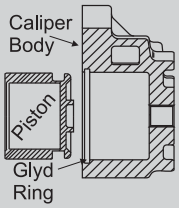
REPLACEMENT CALIPER SEALS

Brake calipers are a safety critical item and AP Racing recommend that calipers are reconditioned and piston seals inspected regularly to maintain optimum performance. Where calipers have been subjected to high temperatures or have been used in adverse conditions e.g. Off Road / Rallying, the calipers should be reconditioned and seals replaced more frequently to ensure that safety and performance levels are maintained. When cleaning calipers use warm soapy water or an alcohol based cleaning fluid e.g. Methylated Spirits.

DO NOT USE PETROL, GASOLINE OR MINERAL OIL CLEANER / LUBRICATE as this will damage the seals. Replacement seal kits are available for all AP Racing brake calipers. Depending on the seal type being replaced the following recommended procedures should be followed. To find correct seal kit see page 33.

CP4509 (SEAL ON PISTON)

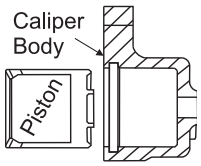
1) Soak new seals in brake fluid for minimum of 30 minutes.
2) Clean brake caliper with warm soapy water and dry off.
3) With the pads removed insert a brake disc or block into the centre of the caliper. Using either hydraulic pressure or compressed air carefully extend all pistons against the disc or block. Remove block and remove pistons. Keep all body parts away from escaping air and caliper pistons.



CAUTION: Your caliper is fitted with a Glyd Ring just inside the opening of each caliper bore. This ring should be examined and replaced if caliper has been subjected to high temperatures or used in adverse conditions e.g. Off Road / Rallying or not changed for a year.
4) Carefully remove old seals from piston with a narrow blunt edged tool.
5) Ensure that caliper bores, seal grooves and pistons are clean and free from debris and moisture. **Use only** Alcohol based cleaning fluid, **not Mineral oil.**
6) Carefully fit replacement seal into groove on piston ensuring that it seats correctly in the groove. Check seals are free from damage and correctly seated in groove not twisted or kinked.
7) Carefully engage piston into caliper bore and using a suitable rigid flat bar to apply even pressure, push pistons fully into body. N.B. Excessive force should not be necessary. If piston does not slide smoothly into bore remove & check seal has been fitted correctly.

CP4518 & CP8518 (SEAL IN BORE)

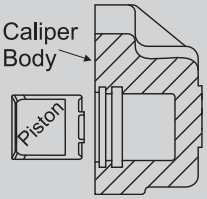
1) Soak new seals in brake fluid for minimum of 30 minutes.
2) Clean brake caliper with warm soapy water and dry off.
3) With the pads removed insert a brake disc or block into the centre of the caliper. Using either hydraulic pressure or compressed air carefully extend all pistons against the disc or block. Remove block and remove pistons. Keep all body parts away from escaping air and caliper pistons.



4) Carefully remove old seals with a narrow blunt edged tool.
5) Ensure that caliper bores, seal grooves and pistons are clean and free from debris and moisture. **Use only** Alcohol based cleaning fluid, **not Mineral oil.**
6) Carefully fit replacement seal into groove in caliper body ensuring that it seats correctly in the groove. Check seals are free from damage and correctly seated in groove not twisted or kinked.
7) Carefully engage piston into caliper bore and using a suitable rigid flat bar to apply even pressure, push pistons fully into body.
N.B. Excessive force should not be necessary. If piston does not slide smoothly into bore remove & check seal has been fitted correctly.

CP4519 (SEAL IN BORE WITH DIRT SEAL)

1) Soak new pressure seals in brake fluid for minimum of 30 minutes. Do not soak dirt seals (double lip).
2) Clean brake caliper with warm soapy water and dry off.
3) With the pads removed insert a brake disc or block into the centre of the caliper. Using either hydraulic pressure or compressed air carefully extend all pistons against the disc or block. Remove block and remove pistons. Keep all body parts away from escaping air and caliper pistons.



4) Carefully remove both old seals with a narrow blunt edged tool.

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M/Cycle Caliper Range

CP4519 (SEAL IN BORE WITH DIRT SEAL) CON'T.

5) Ensure that caliper bores, seal grooves and pistons are clean and free from debris and moisture. **Use only** Alcohol based cleaning fluid, **not Mineral oil.**

6) Carefully fit both replacement seals into groove in caliper body ensuring that they seat correctly in the grooves. Check seals are free from damage and correctly seated in grooves not twisted or kinked.

7) Carefully engage piston into caliper bore and using a suitable rigid flat bar to apply even pressure, push pistons fully into body. N.B. Excessive force should not be necessary. If piston does not slide smoothly into bore remove & check seals has been fitted correctly.

CP4525 & CP4527 (BOOT TYPE WITH DIRT SEAL)

Removal: Before removal procedure begins the brake caliper should be thoroughly cleaned using warm soapy water only. Ensure that all hydraulic ports are sealed before cleaning and dry caliper thoroughly before work begins.

Do not use chemical cleaners of any kind or petrol/gasoline or mineral oil based, as these will cause permanent damage to the new seals.

1) Use a reaction block selected to fill the full width of the caliper pathway as shown in fig.1. This block must span the length of the caliper opening and be well supported between the brake pad abutments at either end of the caliper.

2) Loosely insert a hydraulic fitting (M10x1.0) into the caliper feed port as shown in fig.2 (a spare Bleed Screw loosely fitted will suffice). Do not tighten to form a seal.

3) Press a hand held air gun against the fitting as shown in fig.3 and allow a short, high pressure burst of air to enter the caliper (a perfect seal between the air gun and fitting is neither necessary or advisable). Keep all body parts away from escaping air and caliper pistons.

4) A single burst of air should be sufficient to extend all pistons at once as shown in fig.4. If one or more pistons remain jammed in the caliper body after repeating this step then the caliper may need to be returned to AP Racing for assessment. Please contact AP Racing Technical for assistance.

5) Remove reaction block. It is possible that the dirt seals may become detached from the caliper body at this point. If so the pistons can be carefully pulled from the caliper body with dirt seals attached. It is also possible that the dirt seal may become detached from the piston in which case the piston should be pulled through the dirt seal to remove. Where dirt seal remains attached to both piston and caliper body a small blunt instrument (such as a rounded off screwdriver, see fig.10) should be used to carefully release the dirt seal from the piston, as shown in fig.5.

6) Fig.6 shows pistons removed with dirt seals remaining attached to caliper body.

7) The dirt seal can now be removed by carefully inserting a narrow, blunt blade (such as a medium sized screwdriver) through the seal opening and between the outer ring of the seal and the back wall of the dirt seal recess as shown in fig.7. By gently turning the screwdriver the seal should work free. Only very light force is required to perform this operation. Never use excessive force as damage to caliper body may result.

8) Once dirt seal is removed the pressure seal will be exposed, located in the groove in the caliper body as shown in fig.8.

9) Using the small blunt instrument from step 5 (see fig.10), carefully remove the pressure seal from the caliper body as shown in fig.9.

10) All dirt and pressure seals should be removed from the caliper by following the above procedure. Before new seals are fitted all pistons and the caliper body should be inspected for damage. If damage of any kind is present on either the caliper bores or piston outer diameters the caliper should be considered unfit for use and either replaced of returned to AP Racing for assessment. If in doubt regarding any aspect of caliper safety please contact AP Racing Technical for assistance.

Refitting:

11) Before re-assembly ensure that all parts are perfectly clean and free from debris or moisture. Replacement pressure seals should be soaked in AP Racing brake fluid for 30 minutes prior to fitment. Do not remove excess brake fluid as the excess will aid fitment of pistons. Do not soak dirt seals.

12) Carefully fit pressure seal into groove in caliper body ensuring that it seats correctly in the groove. Seal should be free from damage and not be twisted or kinked. Pre-assemble dirt seal on piston (seal locates in groove on piston end). Carefully slide piston into caliper bore (pressure seal must already have been installed as shown in fig.11. Only light pressure applied by hand is required. If piston does not slide easily into place remove and inspect parts. If difficulty is experienced when installing pistons please contact AP Racing Technical for assistance.

13) The dirt seals can now be pressed into caliper body. Carefully locate seal in caliper body using finger pressure only. Then select a suitable rigid, flat bar or similar as shown in fig.12. and position to cover dirt seal.

14) Apply slow and even pressure to dirt seal using bar as shown in fig.13. Care must be taken to ensure that dirt seal is inserted square to the caliper body.

15) On correct installation the dirt seal should sit flush with the caliper body as shown in fig.14. Repeat steps 12 to 15 to fit all remaining pistons and seals. Once calipers are refitted to vehicle a pressure test should be carried out to check for leaks. With the engine running press the brake pedal and hold at a constant load for 60 seconds. No 'sinking' of the brake pedal should occur. If the pedal does 'sink' (travel further when under constant/steady load) it should be considered that a leak in the brake system is present. If a leak is suspected check all hydraulic joints and inspect re-conditioned calipers. If cause of leak cannot be identified contact AP Racing Technical for assistance before vehicle is used. The repair kit may also contain 2 off small 'O'Rings for replacement of Bleed Screw seals where fitted. There may also be replacement Bleed Screw dust caps included. Where included these parts should be fitted to the brake caliper. Replacement seal kit details for all piston configurations used in AP Racing brake calipers "seal in bore", "seal on piston" and "seal in bore with dirt seals" are given in the table on page 33.


fig 1.


fig 2.


fig 3.


fig 4.


fig 5.


fig 6.


fig 7.


fig 8.

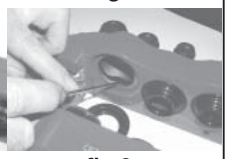
fig 9.


fig 10.

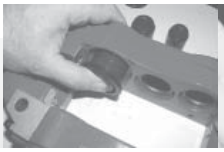
fig 11.


fig 12.


fig 13.


fig 14.

ORDERING

To determine the correct seal kit proceed as follows:-

1) If you know the part number of your caliper then determine the correct part number of the kit required by referring to the individual caliper listings.

2) If you do not know the part number of your caliper then proceed as follows:-

a) measure the nominal piston diameters.

b) determine the type by comparison with the drawings on pages 31/32.

c) Look at the column (caliper bore in mm) identify your sizes. The relevant kit number can be found on the right.

d) When ordering please quote the seal kit part no, given on the right hand side from the relevant table, then contact your nearest AP Racing stockist for availability.

3) Each kit contains seals to repair one caliper:-

a) One letter after Kit Nos = 2 seals, e.g. -J

b) Two letters after Kit Nos= 4 seals, e.g. -JJ

c) Three letters after Kit Nos = 6 seals, e.g. -CEJ

d) Four letters after kit Nos = 8 seals, e.g. -AEAE

NB. Kits are priced more competitively compared to purchasing individual seals.

NB. With CP4519, CP4525 and CP4527 seal kits, the appropriate number of dirt seals and or boot seals are also included.

NB. Kits contain one caliper set of seals e.g. 2, 4, 6, or 8.

BRAKE CALIPERS - Replacement Caliper Seals

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Caliper Bore identification Letters and Size Reference mm (inch)												
A = 25.4 (1.00")	B = 26.0	C = 27.0 (1.06")	D = 28.6 (1.125")	E = 31.8 (1.25")	F = 34.0	G = 34.9 (1.375")	H = 36.0	J = 38.1 (1.50")	K = 41.3 (1.625")	L = 44.5 (1.75")	M = 47.6 (1.875")	N = 50.8 (2.00")

CP4518 & CP8518- 'Seal in bore' Replacement seals and kit part numbers for Race Calipers

Caliper Bore	CP4518 - 'Standard' high temperature seals. Individual Part No.	Seal Kits	CP8518 - 'Very' high temperature seals. Individual Part No.	Seal Kits	Caliper
25.4	CP4900-172	CP4518-A			
31.8	CP4900-168	CP4518-E			
36.0	CP4900-165	CP4518-H			
38.1	CP4900-164	CP4518-J			2 Piston
41.3	CP4900-163	CP4518-K			
44.5	CP4900-162	CP4518-L	CP4900-282	CP8518-L	
50.8	CP4900-160	CP4518-N			
25.4	CP4900-172	CP4518-AA			
25.4 / 28.6	CP4900-172 / CP4900.169	CP4518-AD			
25.4 / 31.8	CP4900-172 / CP4900-168	CP4518-AE			
27.0 / 28.6	CP4900-170 / CP4900-169	CP4518-CD			
27.0 / 31.8	CP4900-170 / CP4900-168	CP4518-CE	CP4900-290 / CP4900-288	CP8518-CE	
27.0 / 34.0	CP4900-170 / CP4900-167	CP4518-CF			
27.0 / 34.9	CP4900-170 / CP4900-166	CP4518-CG			
28.6	CP4900-169	CP4518-DD			
28.6 / 31.8	CP4900-169 / CP4900-168	CP4518-DE			
28.6 / 34.9	CP4900-169 / CP4900-166	CP4518-DG	CP4900-289 / CP4900-286	CP8518-DG	
28.6 / 36.0	CP4900-169 / CP4900-165	CP4518-DH			
31.8	CP4900-168	CP4518-EE			
31.8 / 34.9	CP4900-168 / CP4900-166	CP4518-EG			
31.8 / 36.0	CP4900-168 / CP4900-165	CP4518-EH		CP8518-EH	4 Piston
34.0 / 41.3		CP4518-FK			
34.9	CP4900-166	CP4518-GG			
34.9 / 41.3	CP4900-166 / CP4900-163	CP4518-GK	CP4900-286 / CP4900-283	CP8518-GK	
36.0	CP4900-165	CP4518-HH			
36.0 / 38.1	CP4900-165 / CP4900-164	CP4518-HJ			
36.0 / 41.3			CP4900-285 / CP4900-283	CP8518-HK	
36.0 / 44.5	CP4900-165 / CP4900-162	CP4518-HL	CP4900-285 / CP4900-282	CP8518-HL	
38.1	CP4900-164	CP4518-JJ			
38.1 / 41.3	CP4900-164 / CP4900-163	CP4518-JK	CP4900-284 / CP4900-283	CP8518-JK	
38.1 / 44.5	CP4900-164 / CP4900-162	CP4518-JL			
41.3	CP4900-163	CP4518-KK			
41.3 / 44.5	CP4900-163 / CP4900-162	CP4518-KL			
44.5	CP4900-162	CP4518-LL			
44.5 / 47.6	CP4900-162 / CP4900-161	CP4518-LM			
25.4	CP4900-172	CP4518-AAA			
25.4 / 27.0 / 28.6	CP4900-172 / CP4900-170 / CP4900-169	CP4518-ACD	CP4900-292 / CP4900-290 / CP4900-289	CP8518-ACD	
25.4 / 27.0 / 31.8	CP4900-172 / CP4900-170 / CP4900-168	CP4518-ACE			
25.4 / 28.6	CP4900-172 / CP4900-169	CP4518-ADD			
26.0 / 27.0 / 31.8	CP4900-171 / CP4900-170 / CP4900-168	CP4518-BCE	CP4900-291 / CP4900-290 / CP4900-288	CP8518-BCE	
26.0 / 31.8 / 34.9		CP4518-BEG			
26.0 / 31.8 / 36.0	CP4900-171 / CP4900-168 / CP4900-165	CP4518-BEH	CP4900-291 / CP4900-288 / CP4900-285	CP8518-BEH	6 Piston
27.0 / 28.6 / 31.8				CP8518-CDE	
27.0 / 31.8 / 38.1	CP4900-170 / CP4900-168 / CP4900-164	CP4518-CEJ	CP4900-290 / CP4900-288 / CP4900-284	CP8518-CEJ	
28.6 / 31.8 / 41.3	CP4900-169 / CP4900-168 / CP4900-163	CP4518-DEK			
31.8	CP4900-168	CP4518-EEE			
31.8 / 34.0 / 41.3	CP4900-168 / CP4900-167 / CP4900-163	CP4518-EFK	CP4900-288 / CP4900-287 / CP4900-283	CP8518-EFK	
31.8 / 34.9 / 44.5	CP4900-168 / CP4900-166 / CP4900-162	CP4518-EGL			
25.4	CP4900-172 / CP4900-168	CP4518-AEAE			8 Piston

CP4519 - 'Seal in bore' replacement seals and dirt seal Part No.			CP4509 - 'Seal on piston' replacement seals and seal kit Part No.		
41.3	CP4900-163 (CP3477-114) / 113094 Retainer	CP4508-K			
44.5	CP4900-162 (119990) / 3662-298 Retainer	CP4508-L			
31.8	CP4949-110 (CP3477-105)	CP4519-E			
36.0	CP4949-113 (3853-742)	CP4519-H			2 Piston
38.1	CP4949-114 (CP3477-116)	CP4519-J			
41.3	CP4949-115 (CP3477-114)	CP4519-K			
44.5	CP4949-116 (119990)	CP4519-L			
27.0	CP4949-108 (CP4098-106)	CP4519-CC			
27.0 / 31.8	CP4949-108 (CP4098-106) / CP4949-110 (CP3477-105)	CP4519-CE			
28.6 / 36.0	CP2414-118 (4477-108) / CP4949-113 (CP4477-108)	CP4519-DH			
28.6 / 34.9			CP3724-138 CP3724-135	CP4509-DG	
31.8	CP4949-110 (CP3477-105)	CP4519-EE	CP3724-137	CP4509-EE	
31.8 / 36.0			CP3724-137 / CP3724-134	CP4509-EH	
31.8 / 38.1			CP3724-137 / CP3724-133	CP4509-EJ	4 Piston
34.9 / 41.3			CP3724-135 / CP3724-132	CP4509-GK	
36.0 / 38.1	CP4949-113 (3853-742) / CP4949-114 (3865-742)	CP4519-HJ			
38.1	CP4949-114 (CP3477-116)	CP4519-JJ	CP3724-133	CP4509-JJ	
38.1 / 41.3	CP4949-114 (CP3477-116) / CP4949-115 (CP3477-114)	CP4519-JK	CP3724-133 / CP3724-132	CP4509-JK	
38.1 / 44.5			CP3724-133 / CP3724-131	CP4509-JL	
41.3 / 44.5	CP4949-115 (CP3477-114) / CP4949-116 (119990)	CP4519-KL	CP3724-132 / CP3724-131	CP4509-KL	
25.4 / 28.6	CP4900-172 (CP4477-109) / CP4900-169 (CP4477-108)	CP4519-ADD			
27.0 / 31.8 / 38.1	CP4949-108 (CP4098-106) / CP4949-110 (CP3477-105) / CP4949-114 (CP3477-116)	CP4519-CEJ	CP3724-139 / CP3724-137 / CP3724-133	CP4509-CEJ	6 Piston
28.6 / 31.8 / 41.3			CP3724-138 / CP3724-137 / CP3724-132	CP4509-DEK	

CP4525 - 'Seal in bore' - 'Boot type seal' - Replacement seal and kit Part No.			CP4527- 'Seal in bore' - 'Boot type seal' - Replacement seal and kit Part No.		
CP4525 - Individual Seal & Boot Part No.		Seal Kit	CP4527 - Individual Seal & Boot Part No.	Seal Kit	
38.1	CP4949-114 (CP6200-114)	CP4525-J			2 Piston
41.3	CP4949-115 (CP6200-115)	CP4525-K			
27.0	CP4949-108 (CP7040-106)	CP4525-CC	CP4949-108 (CP8420-110)	CP4527-CC	
28.6	CP5107-109 (CP7040-106)	CP4525-DD			
28.6 / 31.8			CP4949-109 (CP6691-101) / CP4949-110 (CP6016-107)	CP4527-DE	
31.8	CP4949-110 (CP6200-112)	CP4525-EE	CP4949-110 (CP6016-107)	CP4527-EE	4 Piston
31.8 / 36.0	CP4949-116 (CP6200-112) / CP4949-113 (CP6200-114)	CP4525-EH			
			CP4949-113 (CP6696-109)	CP4527-HH	
38.1	CP4949-114 (CP6200-114)	CP4525-JJ	CP4949-114 (CP7516-108)	CP4527-JJ	
38.1 / 41.3	CP4949-114 (CP6200-114) / CP4949-115 (CP6200-115)	CP4525-JK	CP4949-114 (CP7516-108) / CP4949-115 (CP7516-109)	CP4527-JK	
27.0 / 31.8 / 38.1	CP4949-108 (CP7040-106) / CP4949-110 (CP6200-112) / CP4949-114 (CP6200-114)	CP4525-CEJ	CP4949-108 (CP8420-110) / CP4949-110 (CP6016-107) / CP4949-114 (CP7516-108)	CP4527-CEJ	
31.8 / 31.8 / 41.3			CP4949-110 (CP6016-107) / CP4949-115 (CP7516-109)	CP4527-EEK	
31.8 / 36.0 / 38.1	CP4949-110 (CP6200-112) / CP4949-113 / CP4949-114 (CP6200-114 x 4)	CP4525-EHJ			6 Piston
36.0 / 38.1 / 41.3	CP4949-113 / CP4949-114 (CP6200-114 x 4) / CP4949-115 (CP6200-115)	CP4525-HJK			
31.8 / 36.0 / 41.3			CP4949-110 (CP6016-107) / CP4949-113 (CP6696-109) / CP4949-115 (CP7516-109)	CP4527-EHK	
41.3 / 41.3 / 44.5			CP4949-115 (CP7516-109) / CP4949-116 (CP8510-109)	CP4527-KKL	

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BRAKE DISCS

- GENERAL INFORMATION.
- VENTILATED DISCS.
- SOLID DISCS.
- VENTILATED DISCS WITH INTEGRAL MOUNTING BELL.
- VENTILATED DISC, BELL AND PAD KITS.
- SOLID DISCS WITH INTEGRAL MOUNTING BELL.
- TEMPERATURE MEASUREMENT TOOLS.
- CARBON/CARBON DISCS.

Brake Disc Home Page
Ø254mm to Ø295mm Vented Discs
Ø300mm to Ø315mm Vented Discs
Ø320mm to Ø355mm Vented Discs
Ø356mm to Ø410mm Vented Discs
Disc & Bell Kits
Solid Brake Discs
Intergral Solid Brake Discs
Intergral Vented Brake Discs
Carbon/ Carbon Discs
Disc Technical Info

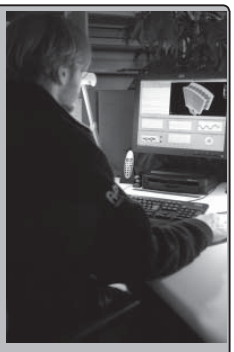
INTRODUCTION.

The AP Racing range of ventilated and solid brake discs have been developed with the benefit of unparalleled experience in brake technology, to meet the severe demands encountered under Race, Rally and Road conditions.

RACE: Our extensive range includes discs to suit all of the most demanding series in the world. Teams competing in F3, WRC, GT and Sports Prototypes, Nascar and Touring Car Championships use AP Racing discs.

ROAD: As well as our successes on the circuits and stages of the world, AP Racing has developed disc braking systems for many leading volume and specialist High Performance vehicle manufacturers including Aston Martin, Bugatti, Caterham, Ford, HSV, Koenigsegg, Morgan, Lotus, Seat and TVR, to name a few.

DESIGN.



AP Racing share innovations in the R&D processes between Race and Road projects, the basic function is the same for both although each has different service requirements.

▫ **Race Discs** are submitted to high braking and thermal loads. These loads are repeated frequently over many laps or stages.
The service life is short and noise and comfort are not really an issue. Race discs normally employ a separate disc and bell assembly which are generally available in two types:
- Light Duty - 2 piece bolted assemblies.
- Heavy Duty - 2 piece floating assemblies.
A given disc has to fit many different customer cars, so they require custom mounting bells.

▫ **Road Discs,** however have relatively low and infrequent loads, although mass increases compared to race cars which generates high braking torques. Road Discs have comfort and long service life requirements. Costs of each item also have to remain low for the OEM and the end user when replacement time arrives. For road cars, many applications use 1 piece disc and bell assemblies, this is due to high volume production requirements. High performance vehicles and Big Brake Kits usually use 2 piece bolted assemblies, enabling a heavy disc fitment similar to a race set-up.
- Light Duty - 1 piece disc and bell assembly.
- Heavy Duty - 2 piece bolted assemblies.

RESEARCH AND DEVELOPMENT.

Over the last nine years AP Racing has placed increased emphasis on advanced research and simulation to complement the existing technology, test and manufacturing processes of our competition and road discs. Product improvement is continuous, using feedback from our state of the art dynamometer and track testing, AP Racing are able to offer brake discs with optimum performance and cooling characteristics for any application.

DEVELOPMENT TOOLS.

AP Racing are equipped with state of the art design tools which have enabled us to study disc performance to a level not hitherto possible.

FEA: CFD AND THERMAL STRESS ANALYSIS.

Thermal simulation enables assessment of brake disc cooling without having to build costly prototypes. AP Racing has reached a high degree of confidence using these methods and has adopted FEA as the base of our design process. This enables AP Racing to tailor disc design to a given application.

R&D EXAMPLES.

The latest example of how our disc development department have benefited the AP Racing disc range.

- Alternative Drive Systems

'I' Drive discs mounting system has been developed to offer an update/alternative drive solution from the existing race bobbin design. The new system increases the drive lug strength capability that's required for higher weight and braking performance race cars.
Major Advantages are:
- Design Analysis has shown a 31% reduction in stress compared to the conventional race brake bobbin drive system.
- 'I' Drive design has been proven/approved on vehicles up to a mass of 2000kg.

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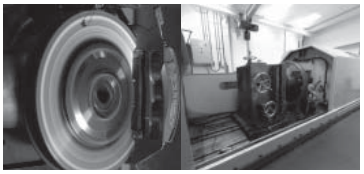
DYNOMOMETER TESTING.

Not everything can be modelled yet, so validation testing is essential. Our proven dynamometer, has been supplemented by a second, more powerful machine equipped with state of the art features. Two fully operational dynos give us even more significant test capabilities and help us demonstrate that AP Racing brake discs are the best.
AP Racing dynamometer plots provide data examples such as temperature and Friction Co-efficient comparison.



NUMERICAL SIMULATION.

AP Racing has continued to develop a unique thermal simulation software, in order to predict overall brake system temperatures on a real life cycle. This simulation is particularly useful for selection of brake specifications, and wear predictions for endurance races. It is able to calculate bulk temperatures and compare different brake system solutions for various vehicles and race tracks.

DISC CHOICE.

The choice of a particular size and type of disc will depend on the characteristics of the vehicle. Experience with the type of installation or racing format is very important. AP Racing has a wealth of experience of all types of racing and our Technical Section will be pleased to advise on disc choice. Some of the main considerations in this choice are:

HOMOLOGATION AND REGULATION.

In Group A and certain other classes of racing, brake equipment is restricted to that Homologated by the manufacturer with the FIA. Where applicable, you must therefore choose a disc size / type which has been Homologated. E.g. only 4 grooves are allowed in Formula 3.

DISC DIAMETER AND THICKNESS.

Disc diameter and thickness are major factors in basic stopping power. Usually the largest diameter disc that can be installed in a particular wheel profile is chosen to maximise braking power unless low weight, poor tyre adhesion or required brake balance dictate otherwise. Disc thicknesses normally increase with disc diameter and in proportion to vehicle weight, and hence work done and cooling required. Standard disc sizes should be used wherever possible, as this improves availability.

DISC RUBBING DEPTHS (SWEPT DEPTH).

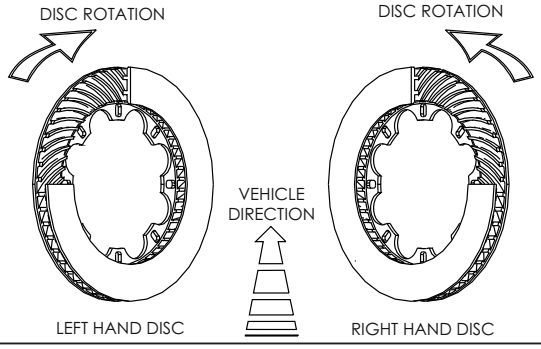
It is important to match the swept area of the disc to the Pad / Caliper combination that is intended to be used, to avoid any large cold areas which could lead to disc distortion. To make this easier, the radial depth of all AP Racing brake pads is incorporated into the part number (the "D" Number e.g. D46, D50 & D54).
Normally the Pad / Caliper is positioned so that the top edge of the pad is level with the nominal disc outside diameter. However it is normal to make the eye diameter on the inboard face (Non mounting side) slightly smaller in diameter than the mounting side to match the thermal characteristics of the two disc faces and avoid distortion in use. The amount of this under-hang will vary according to the installation and is part of the disc designers art, but analysis carried out by AP Racing shows that 2mm on radius (4mm on diameter) is sufficient in most cases.

N.B. THE PAD SHOULD NEVER OVERHANG THE DISC, AS THIS WILL LEAD TO A NUMBER OF BRAKING DIFFICULTIES.

DISC HANDING.

RIGHT / LEFT HAND IDENTIFICATION

Most AP Racing brake discs feature curved vanes and are handed. They should be installed with the cooling vanes running back from the inside to outside diameters, in the direction of rotation as indicated in the sketch.



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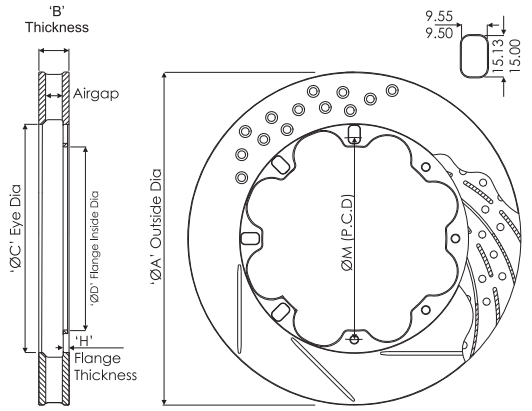
DISC LISTINGS.

The variety of disc options available provide the solution for virtually every Racing and High Performance Road application. The discs illustrated in these sections are a selection of discs from the range and have been listed by diameter, thickness and mounting details for convenience. If you are unable to satisfy your requirements from the discs listed, then please contact AP Racing Technical Section for guidance.

VENTILATED BRAKE DISCS.

This section on ventilated brake discs provides dimensional details, as well as information on face types and the weight of the most popular discs from the AP Racing disc range. **Not all discs are listed,** should you require a disc with particular dimensions which is not listed please contact the AP Racing Technical Section for assistance.

Discs which are highlighted are from the preferred disc range, which offers improved availability and pricing. Please contact AP Racing if you require more information.



Nominal Dimensions in (mm)

'A' Outside Dia.	'B' Thick-ness	Mounting Details 'M' P.C.D.	No.	Fixing Type. S/Bobbin = Standard CP2494. H/Bobbin = Heavy Duty CP4135 or CP7016	Ø.	'C' (Eye) Ø.	'D' Inside Flange Ø.	'H' Mtg. Flange	Max Pad Depth.	No. of Vanes.	Air Gap.	Weight Kg.	Face Types Available.	Comments.	Part Numbers.
254.0	21.0	139.7	6	Bolted	6.4	154.9	125.8	5.6	D46	36	9.3	3.2	G4		CP4136-568
257.0	21.0	139.7	6	Bolted	6.4	154.9	125.8	5.6	D51	36	9.3	3.6	G4		CP4136-86
260.0	25.4	139.7	6	Bolted	6.4	154.9	125.8	4.8	D51	48	10.5		G4	Mtg flange stepped in 1.2mm	CP4448-226/7
262.0	20.7	145.0	8	Bolted	6.4	158.0	130.0	5.3	D51	36	9.3	3.5	G4		CP4136-888
263.0	17.0	152.0	8	S/Bobbin	/	174.6	128.0	4.325	D43	47	8.0	2.44	CG4	Bobbin CP2494-595MA	CP3947-110/1
	18.0	152.0	8	Bolted	6.4	174.6	136.0	4.3	D43	47	8.0	2.6	CG4	Mtg flange stepped out 0.1mm	CP3947-108/9
264.0	21.0	139.7	6	Bolted	6.4	154.9	125.8	5.6	D51	36	9.3	3.7	G4		CP4136-208
265.0	17.0	139.7	8	Bolted	6.4	162.7	123.0	4.82	D51	24	6.5	3.0	G8		CP3770-1026/7
267.0	16.0	162.0	8	Bolted	6.4	180.7	145.0	4.35	D43	24	6.5		CG4		CP3770-1016/7
	18.0	158.0	8	Bolted	6.4	172.6	140.0	5.375	D46	24	6.5	3.1	CG4		CP3770-1030/1
	20.0	152.0	8	Bolted	6.4	172.6	138.0	4.82	D46	36	9.3	3.2	G4		CP4136-924
	21.0	139.7	6	Bolted	6.4	155.0	125.8	5.6	D54	36	9.3	4.4	G4		CP4136-48
	25.4	139.7	6	Bolted	6.4	180.2	123.0	5.02	D42	48	11.0	3.6	G8		CP4448-318/9
	28.0	139.7	6	Bolted	6.4	156.43	123.0	5.58	D54	48	10.5	5.1	G4	Mtg flange stepped in 2.54mm	CP4448-81/2
277.0	25.4	158.8	8	Bolted	6.4	174.1	141.0	4.82	D50	48	10.5	4.2	G4		CP4448-410/1
278.0	16.0	176.1	8	Bolted	8.45	187.4	156.0	4.5	D44	24	6.5	2.5	G4/P		CP3770-1002/3
	16.0	181.5	8	S/Bobbin	/	194.0	158.0	4.42	D38	24	6.5	2.4	CG4		CP3770-1014/5
	16.0	193.5	8	S/Bobbin	/	210.9	170.0	4.425	D32	47	8.0	1.86	CG4	Bobbin CP2494-595MA	CP3947-112/3
	18.0	193.5	8	S/Bobbin	/	210.9	170.0	4.42	D32	47	8.0	2.2	CG4		CP3947-102/3
280.0	17.0	171.4	8	S/Bobbin	/	191.4	146.5	4.42	D43	24	6.5	2.9	CG8	Bobbin CP2494-595MA	CP3770-1018/9
	17.0	176.8	8	Bolted	6.5	193.5	159.0	4.7	D43	24	6.5	2.5	G8		CP3770-1012/3
	18.0	175.0	8	S/Bobbin	/	193.44	151.0	4.325	D42	47	8.0	2.8	CG4	Pro 5000 Disc.	CP3947-138/9
	18.0	190.5	8	Bolted	6.4	203.0	176.0	5.5	D38	28	8.8		G8		CP4541-102/3
	20.0	176.8	8	S/Bobbin	/	192.0	154.0	5.0	D44	48	9.0		D/G4/G8	Bobbin CP2494-592MC	CP4348-862/3
	21.0	175.0	8	S/Bobbin	/	193.44	151.0	5.625	D42	47	8.0	3.5	CG4	Pro 5000 Disc.	CP3947-140/1
	21.0	176.8	8	Bolted	6.4	192.0	159.3	4.8	D44	48	10.5		G4	Mtg flange stepped out 1.2mm	CP4448-746/7
	22.0	175.0	8	S/bobbin	/	193.44	191.64	5.25	D42	48	10.5	3.3	CG4	Pro 5000 Disc.	CP4448-208/9
	22.2	165.1	8	Bolted	6.4	180.3	152.0	4.6	D51	48	10.5		G4		CP4448-752/3
	22.9	158.8	8	Bolted	6.4	173.6	141.0	4.82	D51	00	10.5		G4		CP4448-158/9
	23.0	176.8	8	Bolted	6.4	192.0	159.3	4.8	D44	48	10.5		G4		CP4448-744/5
	25.4	158.8	8	Bolted	6.4	174.0	141.0	4.8	D51	48	10.5		G4	Mtg flange stepped in 1.2mm	CP4448-160/1
	25.4	175.0	8	S/Bobbin	/	193.4	151.0	6.325	D42	48	10.5	4.1	CG4	Bobbin CP2494-504MP	CP4448-210/1
	25.4	176.8	8	Bolted	6.4	192.0	159.3	4.9	D44	30	12.9	4.0	CG8	Pro 5000+ Disc	CP5000-312/3
	25.4	176.8	8	S/Bobbin	/	192.0	154.0	5.0	D44	48	14.0	3.5	G4/G8	CP2494-592MC	CP3580-814/5
	25.4	177.8	12	Bolted	6.4	197.0	164.0	5.8	D41	48	10.5		G4		CP4448-856/7
	25.4	177.8	12	Bolted	6.4	197.0	164.0	4.9	D41	24	15.5	2.7	G8		CP3047-288/9
285.0	25.4	158.8	8	Bolted	6.4	190.0	141.0	4.6	D51	48	10.5		G4	Mtg flange stepped in 1.27mm	CP4448-506/7
	25.4	177.8	12	Bolted	6.4	197.0	164.0	4.9	D44	24	15.5	3.1	G8		CP3047-276/7
	27.0	179.0	10	S/Bobbin	/	194.5	154.0	5.02	D44	54	16.0	3.7	GA	Bobbin CP2494-592MC	CP5254-104/5
	28.0	158.8	8	Bolted	6.4	182.5	141.0	6.3	D51	48	10.5		G8		CP4448-268/9
	28.0	177.8	12	Bolted	6.4	190.4	164.0	5.8	D46	36	15.25	4.0	CR8/G8		CP3837-1002/3
	32.0	175.0	10	S/Bobbin	/	190.5	150.0	5.02	D46	54	20.5	4.0	GA		CP5154-110/1
290.0	20.7	177.8	12	Bolted	6.4	195.4	164.3	5.47	D46	48	9.0	3.6	G4		CP4348-896/7
	25.4	165.1	8	Bolted	6.4	180.0	152.9	5.32	D54	48	9.0	5.2	CG8	Interchangeable	CP4348-2636/7
					6.4	180.0	152.9	5.32	D54	48	14.0	4.5	G4		CP3580-2636/7
	28.0	165.1	8	Bolted	6.4	180.0	153.0	5.8	D54	30	15.2	5.1	G4		CP4448-680/1
295.0	25.4	177.8	12	Bolted	6.4	193.0	164.0	5.9	D51	48	9.0		RD / G4		CP4348-894/5
	25.4	177.8	12	Bolted	6.4	193.0	164.3	5.8	D51	48	14.0	4.3	G4/RD/P		CP3580-2894/5
	25.4	177.8	12	Bolted	6.4	204.0	164.0	5.6	D44	48	9.3	5.4	CG8	Pro 5000+ Disc	CP5000-510/1
	28.0	177.8	12	Bolted	6.4	193.0	164.0	5.9	D51	36	14.5		G4	Interchangeable	CP3837-102/3
								5.6		24	15.5	4.1	G8		CP3047-256/7
								6.6		48	14.0	5.0	G8/RD		CP3580-102/3
	28.0	177.8	12	S/Bobbin	/	192.4	154.0	5.6	D51	48	14.0	5.0	CG8	Bobbin CP2494-1341MD	CP3580-1134/5
	32.0	177.8	12	S/Bobbin	/	193.4	153.0	6.3	D51	48	14.0	5.8	CR8/RA	Bobbin CP2494-504MP	CP3580-394/5

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Nominal Dimensions in (mm)

'A' Outside Dia.	'B' Thick-ness	Mounting Details 'M' P.C.D.	No.	Fixing Type. S/Bobbin = Standard CP2494. H/Bobbin = Heavy Duty CP4135 or CP7016	Ø.	'C' (Eye) Ø.	'D' Inside Flange Ø.	'H' Mtg. Flange	Max Pad Depth.	No. of Vanes.	Air Gap.	Weight Kg.	Face Types Available.	Comments.	Part Numbers.
300.0	24.0	189.0	8	Bolted	6.4	204.4	172.0	5.02	D47	48	9.0	4.5	G4		CP4348-106/7
	25.4	190.0	8	Bolted	6.4	205.4	173.5	4.6	D46	24	15.5	3.3	G8		CP3047-398/9
	25.4	196.2	12	Bolted	6.4	213.3	181.5	6.67	D42	48	9.0	4.6	P		CP4348-910/1
	28.0	177.8	12	S/Bobbin	/	197.2	154.0	5.62	D50	48	14.0	5.0	RA		CP3580-1196/7
	28.0	177.8	12	Bolted	6.4	203.2	164.0	5.6	D46	36	15.25	4.65	G8		CP3837-1004/5
	28.0	181.0	8	S/Bobbin	/	195.0	160.0	5.42	D51	48	14.0	5.3	CG5	Brembo mounting	CP3580-1200/1
	32.0	187.5	12	Bolted	6.4	205.1	/	5.07	D46	48	21.0	4.05	GA	Mtg flange stepped out 0.2mm	CP3948-122/3
304.0	20.7	177.8	12	Bolted	6.4	195.0	164.3	5.6	D55	48	9.0		G4		CP4348-626/7
	24.0	190.5	12	Bolted	6.4	209.3	172.0	5.6	D46	48	9.0	4.65	CG8/CG12		CP4348-938/9
	25.4	177.8	12	S/Bobbin	/	195.0	152.4	4.825	D53	24	15.5	3.65	G8	Bobbin CP2494-593MB	CP3047-320/1
	25.4	177.8	12	Bolted	6.4	203.2	164.0	4.9	D50	24	15.5		G8	Interchangeable	CP3047-230/1
							164.3	6.6		48	9.0		G4		CP4348-528/9
							164.5	4.9		48	14.0	4.4	G8		CP3580-230/1
							164.0	4.9		36	14.5	4.1	G8		CP3837-230/1
		191.0	12	Bolted	6.4	205.8	177.6	4.92	D47	48	14.0	4.3	GA/G4		CP3580-280/1
	28.0	177.8	12	Bolted	6.4	201.4	161.0	6.6	D48	48	14.0	4.9	G8		CP3580-66/7
		177.8	12	Bolted	6.4	203.2	164.0	5.6	D48	24	15.5	4.5	G8	Interchangeable	CP3047-66/7
		177.8	12	Bolted	6.4	203.2	164.0	5.6	D48	48	14.0	5.2	G4		CP3580-2572/3
		177.8	12	Bolted	6.4	203.2	161.0	5.6	D50	54	16.0	4.6	GA/P		CP5254-106/7
	28.0	177.8	12	S/Bobbin	/	203.2	152.6	5.6	D50	24	15.5	4.6	G8		CP3047-270/1
	28.0	188.0	12	Bolted	6.4	203.2	170.0	6.57	D50	48	14.0	5.2	G8		CP3580-1182/3
	28.0	190.5	12	Bolted	6.4	210.6	174.0	5.6	D47	48	14.0		G8/RD		CP3580-1080/1
	28.0	191.0	12	Bolted	6.4	209.3	174.0	5.6	D47	48	14.0	4.9	G4		CP3580-1126/7
	30.0	172.0	12	Bolted	6.4	191.0	158.0	5.6	D54	54	16.0	5.6	G4		CP5254-126/7
	32.0	177.8	12	Bolted	6.4	191.0	164.3	6.6	D51	48	14.0		G4		CP3580-2604/5
310.0	28.0	190.5	12	Bolted	6.4	210.0	176.0	5.6	D50	24	15.5		G8		CP3047-212/3
	28.0	190.5	12	Bolted	6.4	211.3	174.0	6.6	D48	48	14.0	5.2	G8		CP3580-1058/9
	28.0	203.2	12	Bolted	6.4	220.0	190.0	5.6	D46	48	14.0	4.9	G8		CP3580-318/9
	32.0	177.8	8	Bolted	6.4	206.9	163.1	6.3	D51	48	16.5		G8		CP3784-6080/1
315.0	22.0	200.0	12	Bolted	6.4	220.22	180.0	5.6	D46	48	9.0		G4		CP4348-942/3
	25.4	177.8	12	Bolted	6.4	195.0	164.5	5.3	D59	48	14.0	5.3	G4		CP3580-1012/3
	25.4	190.5	12	Bolted	6.4	210.3	172.13	5.5	D51	48	14.0	4.77	G8		CP3580-1096/7
	25.4	203.2	12	Bolted	6.4	220.0	190.0	5.8	D46	24	15.5	3.8	G8		CP3047-328/9
	28.0	177.8	12	Bolted	6.4	195.1	164.3	5.8	D60	48	14.0	5.9	D/G4		CP3580-2416/7
	28.0	177.8	12	Bolted	6.4	195.0	164.5	6.6	D60	48	14.0	6.2	G8		CP3580-64/5
	28.0	177.8	12	Bolted	6.4	210.3	164.3	5.9/6.1	D52	48	14.0	5.6	CG8	Pro 5000+ & Disc	CP5000-220/1
	28.0	190.5	12	Bolted	6.4	210.3	174.0	6.57	D51	48	14.0	5.56	G8		CP3580-1034/5
	28.0	203.2	12	Bolted	6.4	220.0	190.0	5.6	D46	24	15.5	4.4	G8	Interchangeable	CP3047-178/9
										48	14.0	5.4	G8		CP3580-178/9
	32.0	177.8	12	Bolted	6.4	210.0	164.0	6.6	D51	24	15.5	6.0	G8		CP3047-216/7
320.0	28.0	191.0	12	Bolted	6.4	217.3	177.6	5.92	D50	24	15.5	4.68	CG4		CP3047-406/7
	28.0	203.2	12	Bolted	6.4	217.3	190.0	5.57	D51	54	16.0	4.8	G8		CP5254-110/1
	32.0	198.0	10	S/Bobbin	/	215.3	173.5	5.62	D51	61	20.0	5.3	CG8	Mtg flange stepped out 0.1mm	CP4661-104/5
	32.0	203.2	12	Bolted	6.4	217.3	190.0	5.57	D51	48	16.0	6.1	G8		CP3784-146/7
325.0	28.0	203.2	12	Bolted	6.4	222.0	187.0	6.6	D51	48	14.0	5.8	G4/G8/RD		CP3580-294/5
328.0	28.0	203.2	12	Bolted	6.4	222.0	190.0	5.57	D52	24	15.5	5.0	G4		CP3047-144/5
	28.0	203.2	12	Bolted	6.4	221.8	190.0	5.6	D51	24	15.5	5.2	G4		CP3047-372/3
	32.0	217.0	8	S/Bobbin	/	233.1	192.0	6.3	D46	72	20.0	5.2	CG8	Bobbin CP2494-504MP	CP5772-1558/9
330.0	25.4	212.0	12	Bolted	6.4	228.0	196.0	5.3	D51	48	14.0	5.2	P		CP3580-1022/3
	25.4	220.5	12	Bolted	6.4	239.2	206.0	5.3	D45	48	14.0		G8		CP3580-1092/3
	26.0	200.0	12	Bolted	6.4	227.0	183.0	5.52	D50	48	14.0	5.2	G8		CP3580-1162/3
	26.0	203.2	12	Bolted	6.4	225.2	184.0	5.5	D51	48	14.0	5.1	CG8/GA		CP3580-1180/1
	28.0	196.85	12	Bolted	6.43	217.25	215.45	7.01	D55	48	13.5	6.1	CG8		CP6565-194/5
	28.0	203.2	12	Bolted	6.4	220.0	190.0	5.6	D54	24	15.5	5.1	G8		CP3047-252/3
	28.0	203.2	12	S/Bobbin	/	227.2	178.0	6.32	D50	48	14.0	5.8	CG8	Bobbin CP2494-504MP	CP3580-1190/1
	28.0	203.2	12	Bolted	6.4	227.4	185.0	5.1	D51	36	14.5	4.94	CG8	Pro 5000+ & Disc	CP5000-210/1
	28.0	203.2	12	S/Bobbin	/	230.0	178.0	6.3	D50	48	14.0	5.6	G8		CP3580-2900/1
	28.0	203.2	12	Bolted	6.4	230.0	190.0	5.6	D50	48	16.5	5.2	G8	Interchangeable. CP3580-2898/9 is a Pro 5000 Disc	CP3781-2002/3
	28.0	203.2	12	Bolted	6.4	230.0	190.0	5.6	D50	48	14.0	5.94	CG8/G8/RD		CP3580-2898/9
	30.0	190.5	12	Bolted	6.4	217.2	172.0	5.575	D56	48	14.0	6.8	CR8		CP3580-1130/1
	32.0	203.2	12	Bolted	6.4	220.0	190.0	6.6	D54	48	19.5	5.8	G8		CP3581-222/3
	32.0	203.2	12	S/Bobbin	/	227.0	178.0	5.6	D50	70	16.5	6.5	CG8/GA	Bobbin CP2494-589MJ	CP3870-1130/1
	32.0	203.2	12	Bolted	6.4	227.4	190.0	6.6	D51	30	15.5	6.7	CG8	Pro 5000+ Disc	CP5000-206/7
	32.0	203.2	12	S/Bobbin	/	227.0	178.0	5.6	D51	48	19.5	5.8	CG8/GA	Bobbin CP2494-589MJ	CP3581-1130/1
	32.0	203.2	12	S/Bobbin	/	226.0	179.0	5.6	D51	48	19.5	5.8	G8		CP3581-1052/3
	36.0	203.2	12	S/Bobbin	/	226.2	176.0	6.3	D50	48	19.5	6.9	G8	Bobbin CP2494-504MP	CP3581-1040/1
				Bolted	6.4	219.4	190.0	6.6	D54	48	19.5	7.2	CG8	Pro 5000+ Disc	CP5000-112/3
332.0	32.0	203.2	12	Bolted	6.4	216.8	190.0	5.6	D58	48	19.5	6.2	G8		CP3581-766/7
	32.0	214.0	12	S/Bobbin	/	232.8	188.0	5.6	D47	48	19.5		D/GA	Bobbin CP2494-589MJ	CP3581-1564/5
	32.0	214.0	12	S/Bobbin	/	233.1	188.0	5.6	D48	70	16.5	6.3	D/RA		CP3870-1564/5
343.0	28.0	209.55	12	Bolted	6.43	229.5	227.7	7.01	D55	48	13.5	6.4	CG8		CP6565-192/3
	28.0	215.9	12	Bolted	6.4	237.5	198.0	6.5	D51	48	13.5		CG8		CP6565-160/1
	28.0	228.6	12	Bolted	6.4	240.0	212.0	5.3	D50	48	16.5	5.0	G8		CP3781-2122/3
	28.0	228.6	12	S/Bobbin	/	246.0	208.0	5.4	D51	48	16.5	5.2	G8	Bobbin CP2494-591MH	CP3781-2036/7
	32.0	215.9	12	Bolted	6.4	230.0	201.3	5.6	D54	48	19.5	6.1	CG8/G8 CG24/P/RD		CP3581-542/3
	32.0	215.9	12	S/Bobbin	/	236.0	190.5	5.6	D51	48	19.5	6.0	G8/CG8	Interchangeable, Bobbin CP2494-589MJ	CP3581-564/5
	32.0	215.9	12	S/Bobbin	/	236.0	190.5	5.6	D51	48	16.5		CG8		CP3781-564/5
	32.0	215.9	12	S/Bobbin	/	236.0	190.5	5.6	D	72	20.0		CG8		CP5772-2080/1
	36.0	215.9	12	Bolted	6.4	233.0	195.9	7.5	D54	48	19.5	7.7	G8		CP3581-1082/3
355.0	28.0	222.5	12	Bolted	6.4	241.0	239.2	7.01	D55	48	13.5	6.7	CG8	Mtg flange stepped out 0.75mm	CP6565-190/1
	28.0	247.6	12	Bolted	6.4	261.6	233.0	5.3	D46	48	16.5	5.1	G8	S1600 Disc	CP3781-2006/7
	32.0	210.0	10	S/Bobbin	/	226.8	187.0	8.0	D62	48	16.0	8.4	CG5	Mtg flange stepped out 2.5mm, Brembo Mtg	CP3784-160/1
	32.0	233.0	10	S/Bobbin	/	248.0	217.0	8.0	D51	36	19.5	5.8	G8		CP3836-2018/9
	32.0	215.9	12	Bolted	6.4	244.0	195.0	6.4	D54	48	17.5	7.3	CG12		CP4542-106/7
	32.0	236.5	12	S/Bobbin	/	252.0	211.5	5.6	D51	72	20.0	6.3	GA	Bobbin CP2494-589MJ	CP5772-108/9

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Nominal Dimensions in (mm)

'A' Outside Dia.	'B' Thick-ness	Mounting Details 'M' P.C.D.	No.	Fixing Type. S/Bobbin = Standard CP2494. H/Bobbin = Heavy Duty CP4135 or CP7016	Ø.	'C' (Eye) Ø.	'D' Inside Flange Ø.	'H' Mtg. Flange	Max Pad Depth.	No. of Vanes.	Air Gap.	Weight Kg.	Face Types Available.	Comments.	Part Numbers.
356.0	28.0	228.6	12	Bolted	6.4	238.6	212.0	5.3	D54	48	16.5	5.8	CG12		CP3781-2126-7
	28.0	228.6	12	Bolted	6.4	261.6	241.0	5.4	D46	48	16.5	5.5	G8		CP3781-2008/9
	28.0	228.6	12	S/Bobbin	/	251.6	202.6	5.0	D51	48	16.5	5.4	CG8	Bobbin CP2494-592MC	CP3781-2024/5
	28.0	240.0	12	Bolted	6.4	252.6	220.0	5.0	D51	48	16.5	5.3	CG8/GARA		CP3781-2142/3
	32.0	228.6	12	S/Bobbin	/	254.5	203.0	5.6	D49	36	19.5	5.7	CG8 / RA	Bobbin CP2494-589MJ	CP3836-2048/9
	32.0	228.6	12	S/Bobbin	/	244.6	202.8	5.6	D54	72	19.5	6.6	CG8/GA/G4	Bobbin CP2494-589MJ	CP5772-1150/1
										72 'S'	20.0	6.82	GA	'S' Vane Disc Bobbin CP2494-589MJ	CP6972-1150/1
	32.0	228.6	12	Bolted	6.4	245.0	214.0	5.6	D54	48	19.5	6.7	CG24/GA/ G8/P		CP3581-536/7
						244.8	211.5	6.5	D51	72	17.0	7.4	G8		CP7177-110/1
	32.0	228.6	12	Bolted	6.4	251.0	214.0	5.3	D51	48	19.5		CG8	Pro 5000+ & Disc	CP5000-218/9
	32.0	228.6	12	S/Bobbin	/	251.6	202.6	5.6	D51	48	19.5	6.6	G8/CG8	Bobbin CP2494-589MJ	CP3581-1080/1
	32.0	240.0	12	Bolted	6.4	261.6	225.5	5.6	D46	48	19.5	5.7	G8 / P		CP3581-1038/9
	32.0	240.0	12	S/Bobbin	/	258.0	215.0	5.6	D46	48	19.5		CG8	Interchangeable, Bobbin CP2494-589MJ	CP3581-1128/9
						258.6				72	19.5	5.94	CG8 / GA		CP5772-1128/9
	32.0	240.0	12	S/Bobbin	/	261.6	215.0	5.6	D46	48	19.5	5.8	G8	Interchangeable, Bobbin CP2494-589MJ	CP3581-1042/3
										36		5.3	GA/CG8/D		CP3836-2000/1
	36.0	228.6	12	Bolted	6.4	244.6	214.0	6.6	D54	48	19.5	7.7	CG8	Pro 5000+ Disc	CP5000-110/1
	36.0	228.6	12	Bolted	6.4	245.0	208.0	6.4	D54	48	19.5	8.3	G8/GD/T2		CP3581-1096/7
	36.0	228.6	12	Bolted	6.4	245.0	214.0	6.6	D54	48	19.5	8.2	G8	Interchangeable	CP3581-516/7
											16.5	9.4	G8		CP3781-516/7
	36.0	228.6	12	S/Bobbin	/	244.6	202.8	5.6	D54	48	19.5	7.6	G8	Interchangeable, Bobbin CP2494-589MJ	CP3581-1136/7
										72	19.5	7.8	RA		CP5772-1136/7
										72 'S'	20.0	8.0	RA	'S' Vane Disc	CP6972-1136/7
	36.0	228.6	12	S/Bobbin	/	251.6	202.6	6.3	D51	48	19.5	8.0	G8	Bobbin CP2494-504MP	CP3581-1078/9
362.0	32.0	215.9	12	Bolted	6.43	238.0	195.0	6.42	D61	48	17.5	8.4	G8/CG12		CP4542-142/3
	32.0	215.9	12	Bolted	6.4	251.0	195.0	6.43	D54	48	17.5	7.3	CG12		CP4542-112/3
	32.0	228.6	12	Bolted	6.4	247.2	208.0	5.95	D55	72	19.5	6.99	GA		CP5772-168/9
	32.0	228.6	12	Bolted	6.4	251.4	208.0	6.5	D54	48	17.5	7.8	G8/RD/T2		CP3718-1068/9
366.0	32.0	240.0	12	Bolted	6.4	268.0	224.0	6.4	D48	48	17.5	6.5	G8/GA		CP3718-1088/9
	40.0												RA		CP6072-104/5
370.0	36.0	241.3	12	Bolted	6.4	252.0	224.0	6.6	D54	72	19.5	8.56	P/RA		CP5772-6072/3
375.0	35.0	245.0	10	BREMBO MTG.		261.0	221.0	8.0	D54	72	19.5	8.52	P/RA	Mtg flange stepped out 1.0mm	CP5772-104/5
	36.0	241.3	12	Bolted	6.4	257.0	225.0	6.6	D54	72	19.5	8.72	CG8/P/RA /RC		CP5772-6076/7
	36.0	260.4	12	Bolted	6.4	269.7	245.0	6.6	D46	72	19.5	7.92	P/RA		CP5772-2072/3
376.0	28.0	260.0	12	S/Bobbin	/	277.6	235.4	5.6	D47	48	17.5	5.1	G8	Bobbin CP2494-589MJ	CP3718-1000/1
378.0	28.0	260.3	12	Bolted	6.4	282.0	244.0	6.07	D46	48	13.5	6.1	G12	Mtg flange stepped out 1.0mm,	CP5914-116/7
	28.0	260.3	12	S/Bobbin	/	282.0	235.3	5.62	D46	48	13.5	6.28	G8		CP5914-110/1
	32.0	235.8	10	Bolted	8.4	250.0	218.0	7.0	D64	48	16.0		CR8	Interchangeable	CP3784-2098/9
	32.0	235.8	10	Bolted	8.4	250.0	220.0	7.0	D64	48	17.5		G8		CP3718-2020/1
	32.0	240.0	12	S/Bobbin	/	267.0	214.5	5.6	D54	36	19.5	6.6	CG8/GA	Interchangeable, Bobbin CP2494-589MJ CP5772-1030/1 is a Pro 5000 Disc	CP3836-1030/1
						268.0	215.0	5.6	D54	48	17.5	7.2	CG8/G8		CP3718-1030/1
										72	19.5	7.16	CG8/GA/P		CP5772-1030/1
										72 'S'	20.0	7.46	CG8/GA	'S' Vane Disc Bobbin CP2494-589MJ	CP6972-1030/1
	32.0	260.4	12	Bolted	6.4	282.6	243.8	5.8	D48	36	19.5	5.8	GA		CP3836-2002/3
	32.0	260.4	12	S/Bobbin	/	282.7	235.0	5.625	D46	36	19.5	5.87	CG8/GA	Bobbin CP2494-589MJ	CP3836-1010/1
	32.0	260.4	12	S/Bobbin	/	282.0	235.5	5.6	D46	72	19.5	6.2	D/GA		CP5772-1010/1
							235.35	5.6	D46	72 'S'	20.0	6.4	GA	S' Vane Disc Bobbin CP2494-589MJ	CP6972-1010/1
	34.0	248.0	12	H/Bobbin	/	266.85	223.0	6.32	D54	84	21.5	7.9	GA	Bobbin CP4135-106FP	CP4284-2098/9
	36.0	240.0	12	S/Bobbin	/	264.9	216.0	5.6	D54	48	17.5	8.9	CG8/GA	Bobbin CP2494-589MJ CP5772-1032/3 is a Pro 5000 Disc	CP3718-2068/9
	36.0	240.0	12	S/Bobbin	1	264.0	214.5	5.6	D54	72	19.5	8.9	CG8/CR24 /RA		CP5772-2068/9
	36.0	240.0	12	S/Bobbin	/	266.0	215.0	5.6	D54	72	19.5		G8		CP5772-1032/3
	36.0	240.0	12	S/Bobbin	/	266.8	214.5	5.6	D54	72 'S'	20.0	8.9	RA	'S' Vane Disc Bobbin CP2494-589MJ	CP6972-2068/9
	36.0	247.6	12	H/Bobbin	/	266.8	221.0	7.5	D54	72	20.0	8.7	CG8/GA	Wide Bobbin Disc CP7016-139MS	CP5772-2084/5
380.0	32.0	228.6	10	S/Bobbin	/	247.0	202.2	5.6	D66	72	19.5	8.4	CG8	Bobbin CP2494-589MJ	CP5772-118/9
	40.0	240.0	12	S/Bobbin	/	266.0	216.0	5.4	D54	72	25.5	8.8	CR24/RA		CP6072-102/3
390.0	34.0	260.0	12	Bolted	6.4	268.8	243.0	6.14	D54	84	21.0	8.4	CG24		CP4284-102/3
	34.0	260.0	12	Bolted	6.4	278.8	243.0	6.14	D54	84	21.0	8.0	CG24		CP4284-112/3
	36.0	223.0	12	Bolted	8.1	247.0	202.0	7.00	D70	72	17.0	11.95	CG12 / GA		CP7177-124/5
	36.0	260.0	12	Bolted	6.4	268.8	243.0	6.3	D54	54	19.0	9.3	CG24		CP4095-100/1
	36.0	260.0	12	Floating	/	278.75	235.0	6.8	D54	84	21.0	8.7	CG8	Pro 5000 Disc	CP4284-134/5
400.0	36.0	270.0	12	Bolted	6.4	288.7	253.2	7.0	D54	73	19.0	9.3	CG12		CP4095-104/5
410.0	36.0	245.5	12	Bolted	8.25	266.0	225.5	8.10	D70	73	19.0		CG8/G8	Heavy Duty	CP4095-102/3

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VENTILATED DISC AND OR BELL KITS.

AP Racing now produce disc and bell kits as aftermarket alternatives for OE discs. These kits are designed to replace the standard single piece disc and retaining the vehicles production brake caliper.
The kits include either strap drive, bolted or floating discs and/or bell assemblies (see tables below & opposite) and for the kits with pads a set of Ferodo DS2500 material.

Note:-
On the Strap Drive kits for Subaru and Mitsubishi Evo installations the AP Racing kit requires a shallower pad than the original pad to enable them to clear the strap drive system.

Strap Drive Replacement OE Disc Kits

Application	Disc & Bell Kits.	Disc, Bell & Pad Kits.
Audi		
S3 (8P) 2006-2012	CP6890-001MNP.G8	
Mitsubishi		
Evo 7 / 8 / 9. Fitted with Brembo 4 pots. Grooved disc	CP6890-009MNP.T2	CP6890-009M.T2
Subaru		
Impreza 01 on & Including N14 models. Fitted with Brembo 4 Pot.	CP6890-007MNP.CG8	CP6890-007M.CG8
VW		
Golf MKV R32. 2005 on.	CP6890-001MNP.G8	

Floating in the Bell Replacement OE Disc Kits

Important Note: CP8080 Kits do not include mounting bells. These need to be purchased separately. Bobbin Kits are included.

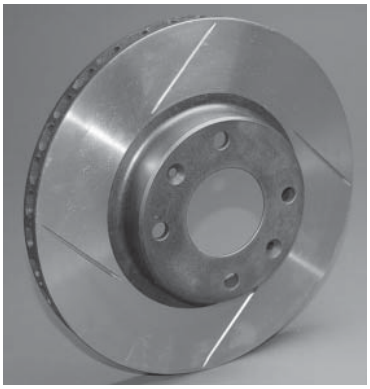
Audi	
RS4 - B7 Front. - Ø365 x 34mm disc fits OEM Brembo 8 Piston Caliper.	- RH = CP8080Z14SD / LH = Z15SD - Mounting Bell = CP8080Z140.
RS6 - C5 Front. - Ø365 x 34mm disc fits OEM Brembo 8 Piston Caliper.	- RH = CP8080Z14SD / Z15SD - Mounting Bell = CP8080Z141.
RS6 - C6 Front. - Ø390 x 36mm disc fits OEM Brembo 8 Piston Caliper (2008 - 2010)	- RH = CP8080Z24CG12 / LH = Z25CG12 - Mounting Bell = CP8080Z240.
RS6 - C6 Rear. - Ø356 x 26mm disc fits OEM Caliper.	- RH = CP8080Z26CG12 / LH = Z27CG12 - Mounting Bell = CP8080Z260.
R8 - Front. 2007 - on - Ø365 x 34mm disc fits OEM Brembo 8 Piston Caliper.	- RH = CP8080Z48SD / LH = Z49SD - Mounting Bell = CP8080Z480.
R8 - Rear. - Ø355 x 32mm - Directly replaces standard Ø355 x 32mm, 2 Piece disc with OEM calipers. **Installation Note - OEM Caliper Noise bar must be removed for disc mounting bolt clearance.**	- RH = CP8080Z50SD / LH = Z51SD - Mounting Bell = CP8080Z500.
Ford Focus RS Mk2 (2009 on). - Ø336 x 28mm disc.	- RH = CP8080Y18CG8 / LH = Y19CG8 - Mounting Bell = CP8080Y180
Nissan	
GT-R, R35 - Front 2011 on - Ø390x34mm disc. - Face types available include CG12, GA & SD.	- RH = CP8080Y10CG12 / LH = Y11CG12 - Mounting Bell = CP8080Y100
GT-R, R35 - Front 08-2011. - Ø378x34mm Disc. - Face types available include CG12, GA & SD	- Grooved Part No = CP4590-033YNP.CG12.
GT-R, R35 - Rear 2008 on - Ø378x30mm disc. - Face types available include CG12, GA & SD	- Grooved Part No = CP4590-034YNP.CG12.
Mitsubishi	
Evo X. Fitted with Brembo 4 pots - Other face types available include - CG12	- Plain Part No = CP4590-032YNP.P

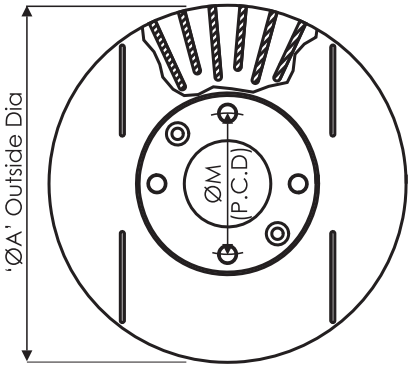
Bolted Disc and Bell OE Replacement Kits

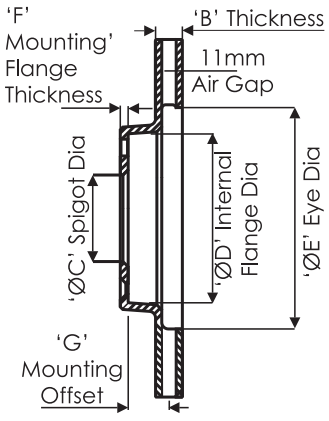
Ford Focus RS MK1	CP4590-007BNP.CG8
Renault Megane 225.	CP4590-011BNP.CG8

VENTILATED BRAKE DISCS WITH INTEGRAL MOUNTING BELL.

This section on ventilated brake discs with integral mounting bell provides dimensional details, as well as information on face types and the weight of the most popular discs from within the ventilated integral disc range. **Not all discs are listed,** should you require a disc with particular dimensions which is not listed please contact the AP Racing Technical Section for assistance.







Nominal Dimensions in (mm)										Max Pad Depth.	Weight Kg.	Face Types.	Part Number.
'A' Outside Dia.	'B' Thickness	Mounting Details 'M' P.C.D.	No.	Dia.	'C' Spigot Dia.	'D' Internal Flange Dia.	'E' Eye Dia.	'F' Mtg Flange Thickness.	'G' Mtg Offset.				
254.0	20.7	100.0	4	14.7	62.0	121.3	170.0	8.2	38.2	D41	4.3	G4	CP2589-120
262.0	20.1	108.0	4	12.9	66.1	131.0	156.0	6.0	31.0	D50	4.2	G4	CP2589-115
270.0	22.0	108.0	4	12.4	65.26	129.1	165.0	6.0	30.7	D52	4.8	G4 / G8	CP2589-138
273.0	20.5	108.0	4	12.9	66.1	129.0	169.0	6.0	30.2	D50	4.5	G4	CP2589-135
304.0	24.0	100.0	4	12.2	64.2	180.0	200.0	7.5	26.0	D46		SD / P / G8	CP7080-104
328.0	20.0	120.0	5	14.6	75.0	185.08	234.0	7.17	44.05	D48		G8	CP4475-122/3

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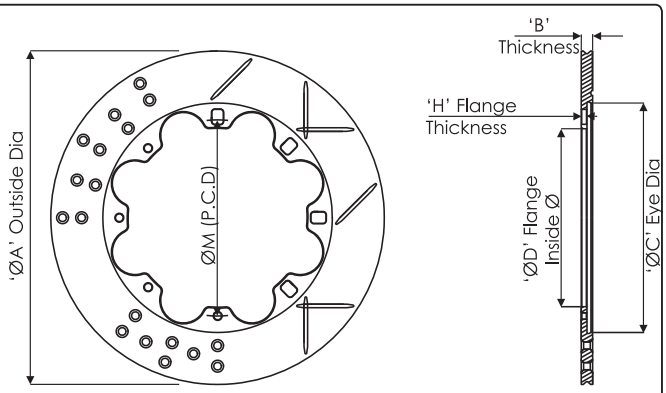
SOLID BRAKE DISCS.

This section on solid brake discs provides dimensional details, as well as information on face types and the weight of the most popular discs from within the solid disc range.

Note:

Not all solid discs are listed, should you require a disc with particular dimensions which is not listed please contact AP Racing Technical Section for assistance.

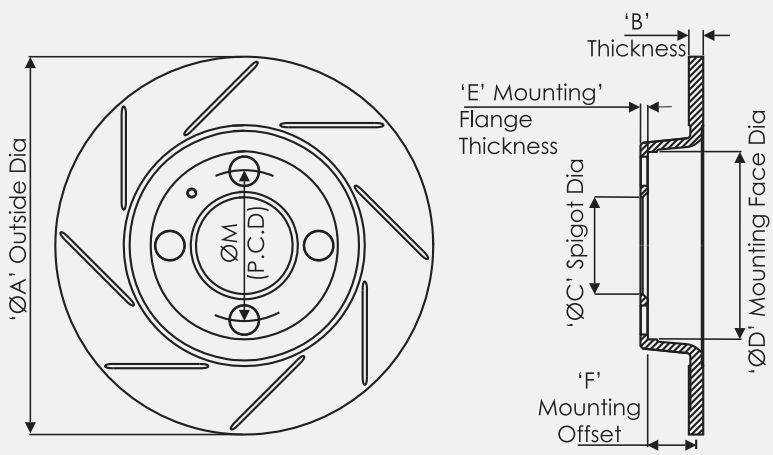


Previous View

Nominal Dimensions in (mm)														
'A' Outside Dia.	'B' Thick-ness	Mounting Details 'M' P.C.D.	No.	Fixing Type.	Ø.	'C' Eye Ø.	'D' Inside Flange Ø.	'H' Mtg. Flange.	Max Pad Depth.	Weight Kg.	Face Types Available.	Comments.	Part Numbers.
254.0	8.0	146.0	8	Bolted	8.45	165.0	131.0	6.0	D44		G4	Mtg Flange Stepped out 2.0mm	CP2866-215
	8.0	146.0	8	Bolted	8.45	165.0	131.0	6.0	D44		G4	Mtg Flange Stepped out 0.75mm	CP2866-218
	9.7	151.0	8	Bolted	6.4	166.0	134.0	4.8	D44		G4		CP2866-204
260.0	9.5	139.7	6	Bolted	7.95	172.7	123.2	5.1	D44		G4		CP2866-229
265.0	7.1	158.8	8	Bolted	6.4	177.0	141.0	4.8	D44		D / G4		CP2866-195
	8.0	158.8	8	Bolted	6.4	189.0	141.0	4.8	D38		G8		CP2866-214
	9.6	158.8	8	Bolted	6.4	177.0	141.0	4.8	D44	2.0	D / G4 /G8 / P		CP2866-179
	9.6	158.8	8	Floating	/	177.0	135.7	4.8	D44	2.1	D / G4 /G8 / P	Bobbin CP2494-593MB	CP2866-193
277.0	9.6	176.8	8	Bolted	6.4	192.0	159.0	4.8	D43	2.4	G4 / G8		CP2866-178
	9.6	176.8	8	Floating	/	192.0	154.0	4.8	D43	2.3	D / G4 / G8	Bobbin CP2494-593MB	CP2866-192
	9.6	181.5	8	Floating	/	197.6	159.3	4.8	D40	2.2	G4	Bobbin CP2494-593MB	CP2866-203
280.0	7.0	172.5	5	Floating	/	192.0	190.2	4.47	D44	1.76	G4	Bobbin CP2494-595MA	CP2866-239
	7.0	169.3	6	Floating	/	192.0	190.2	4.47	D44	1.8	G4	Bobbin CP2494-595MA	CP2866-238
	9.6	169.8	8	Floating	/	192.0	149.3	4.8	D44	2.4	G4	Bobbin CP2494-593MB	CP2866-194
	9.6	175.0	8	Bolted	6.4	191.5	158.0	4.8	D44		D / G8		CP2866-223
	9.6	176.8	8	Bolted	6.4	192.0	159.0	4.8	D44	2.5	D / G4 / G8		CP2866-177
	9.6	176.8	8	Bolted	6.4	192.0	159.0	4.8	D44	2.5	CG4	Pro 5000+ Disc	CP5000-177
	10.0	172.5	5	Floating	/	192.0	190.2	4.47	D43	2.47	G4	Bobbin CP2494-595MA	CP2866-240
290.0	10.0	180.0	8	Floating	/	201.7	155.0	5.8	D44	2.6	G8	Bobbin CP2494-589MJ	CP2866-237
295.0	10.0	176.8	8	Bolted	6.4	192.0	159.0	4.8	D48		G8		CP2866-200
300.0	9.6	189.0	8	Bolted	6.4	206.5	171.0	4.6	D46	2.5	D / P		CP2866-196

SOLID BRAKE DISCS WITH INTEGRAL MOUNTING BELL.

This section on solid brake discs with integral mounting bell provides dimensional details, as well as information on face types and the weight of the most popular discs from within the solid integral disc range. **Not all discs are listed,** should you require a disc with particular dimensions which is not listed please contact the AP Racing Technical Section for assistance.



Nominal Dimensions in (mm)												
'A' Outside Dia.	'B' Thickness	Mounting Details 'M' P.C.D.	No.	Dia.	'C' Spigot Dia.	'D' Mtg Face Dia.	'E' Mtg Flange Thicness.	'F' Mtg Offset.	Max Pad Depth.	Weight Kg.	Face Types.	Part Number.
248.0	7.1	95.25	4	9.5	76.2	128.0	5.1	32.5	D46	2.4	P	CP2222-9
254.0	9.7	95.25	4	9.5	76.2	128.0	5.1	31.5	D46	3.3	P	CP2222-10
	9.7	100.0	4	12.5	72.6	127.7	5.1	31.5	D43	2.8	G4	CP2222-273
264.0	11.1	107.95	4	11.6	86.36	133.35	7.87	16.8	D52	3.8	P	CP2407-129

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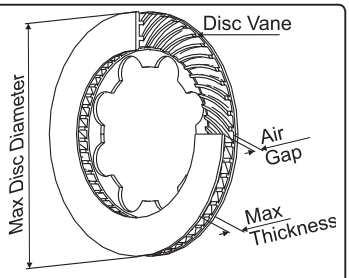
DISC CASTING TYPES.

Details of the various disc castings types available from AP Racing are given below to help you choose the correct disc for your application.

NB. AP Racing do not supply unmachined castings, as all disc go through special heat treatments processes during manufacture.



CP2222 Solid with Int/Bell Max Dia = Ø280mm Max Thickness = 22mm	**CP2407** Solid with Int/Bell Max Dia = Ø278mm Max Thickness = 12mm	**CP2866** Solid Max Dia = Ø304mm Max Thickness = 10mm
CP2589 Ventilated with Int/Bell. No. of Vanes = 30 Air Gap = 15.25mm Max Dia = Ø280mm Max Thickness = 21mm	**CP3047** Ventilated Curved Vane. No. of Vanes = 24 Air Gap = 15.5mm Max Dia = Ø343mm Max Thickness = 32mm	**CP3575** Ventilated with Int/Bell. No. of Vanes = 36 Air Gap = 16mm Max Dia = Ø330mm Max Thickness = 36mm
CP3580 Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 14mm Max Dia = Ø332mm Max Thickness = 28mm	**CP3581** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 19.5mm Max Dia = Ø356mm Max Thickness = 36mm	**CP3718** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 17.5mm Max Dia = Ø378mm Max Thickness = 36mm
CP3770 Ventilated Curved Vane. No. of Vanes = 24 Air Gap = 6.5mm Max Dia = Ø285mm Max Thickness = 18mm	**CP3781** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 16.5mm Max Dia = Ø356mm Max Thickness = 36mm	**CP3784** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 16mm Max Dia = Ø380mm Max Thickness = 36mm
CP3836 Ventilated Curved Vane. No. of Vanes = 36 Air Gap = 19.5mm Max Dia = Ø380mm Max Thickness = 36mm	**CP3837** Ventilated Curved Vane. No. of Vanes = 36 Air Gap = 14.5mm Max Dia = Ø332mm Max Thickness = 36mm	**CP3847** Ventilated Curved Vane. No. of Vanes = 36 Air Gap = 20mm Max Dia = Ø328mm Max Thickness = 32mm
CP3860 Ventilated Curved Vane. No. of Vanes = 60 Air Gap = 18mm Max Dia = Ø310mm Max Thickness = 36mm	**CP3870** Ventilated Curved Vane. No. of Vanes = 70 Air Gap = 16.5mm Max Dia = Ø330mm Max Thickness = 36mm	**CP3930** Ventilated Curved Vane. No. of Vanes = 30 Air Gap = 15.5mm Max Dia = Ø343mm Max Thickness = 36mm
CP3947 Ventilated Curved Vane. No. of Vanes = 47 Air Gap = 8mm Max Dia = Ø295mm Max Thickness = 22mm	**CP3948** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 21mm Max Dia = Ø332mm Max Thickness = 36mm	**CP4095** Ventilated Curved Vane. No. of Vanes = 73 Air Gap = 19mm Max Dia = Ø410mm Max Thickness = 36mm
CP4136 Ventilated Straight Vane. No. of Vanes = 36 Air Gap = 9.3mm Max Dia = Ø285mm Max Thickness = 28mm	**CP4661** Ventilated Curved Vane. No. of Vanes = 61 Air Gap = 20mm Max Dia = Ø332mm Max Thickness = 42mm	**CP4248** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 16mm Max Dia = Ø332mm Max Thickness = 30mm
CP4284 Ventilated Curved Vane. No. of Vanes = 84 Air Gap = 21mm Max Dia = Ø410mm Max Thickness = 36mm	**CP4348** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 9mm Max Dia = Ø315mm Max Thickness = 28mm	**CP4378** Ventilated with Int/Bell. No. of Vanes = 44 Air Gap = 18mm Max Dia = Ø378mm Max Thickness = 40mm
CP4448 Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 11mm Max Dia = Ø295mm Max Thickness = 36mm	**CP4470** Ventilated Curved Vane. No. of Vanes = 70 Air Gap = 24.5mm Max Dia = Ø332mm Max Thickness = 42mm	**CP4540** Ventilated Curved Vane. No. of Vanes = 28 Air Gap = 8.82mm Max Dia = Ø300mm Max Thickness = 22mm
CP4542 Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 17.5mm Max Dia = Ø366mm Max Thickness = 32mm	**CP4670** Ventilated Curved Vane. No. of Vanes = 70 Air Gap = 22mm Max Dia = Ø332mm Max Thickness = 38mm	**CP5125** Ventilated with Int/Bell. No. of Vanes = 36 Air Gap = 8mm Max Dia = Ø282mm Max Thickness = 23mm
CP5154 Ventilated Curved Vane. No. of Vanes = 54 Air Gap = 20.5mm Max Dia = Ø334mm Max Thickness = 36mm	**CP5254** Ventilated Curved Vane. No. of Vanes = 54 Air Gap = 16mm Max Dia = Ø334mm Max Thickness = 32mmm	**CP5772** Ventilated Curved Vane. No. of Vanes = 72 Air Gap = 19.5mm Max Dia = Ø380mm Max Thickness = 40mm
CP5775 Ventilated Curved Vane. No. of Vanes = 72 Air Gap = 17.5mm Max Dia = Ø378mm Max Thickness = 33mm	**CP5914** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 13.5mm Max Dia = Ø380mm Max Thickness = 32mm	**CP6072** Ventilated Curved Vane. No. of Vanes = 72 Air Gap = 25.5mm Max Dia = Ø380mm Max Thickness = 42mm
CP6972 Ventilated 'S' Vane. No. of Vanes = 72 Air Gap = 19.5mm Max Dia = Ø380mm Max Thickness = 40mm	**RP6565** Ventilated Curved Vane. No. of Vanes = 48 Air Gap = 13.5mm Max Dia = Ø366mm Max Thickness = 32mm	**RP7177** Ventilated Curved Vane. No. of Vanes = 72 Air Gap = 17mm Max Dia = Ø390mm Max Thickness = 36mm

DISC FACE TYPES.

Disc Grooves and sometimes cross drilling are normally used on all racing brake discs to clean the surface of the pad & allow gases produced to escape. In doing so the friction characteristics are modified.

Different groove and drilling patterns affect the friction characteristic in different ways, some affect overall friction and others the bite or release characteristics & therefore the best solution is not necessarily the same for each application.

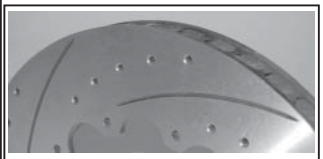
AP Racing is constantly developing and refining disc face patterns and new variations will be introduced from time to time. The most popular face types are detailed below and the page opposite.

N.B. Not all Face Types are available for every disc.

P = Plain.
(No grooves or holes). Mainly used for road cars where low noise is vital.

CG4,CG8,CG12 & CG24 = Curved Grooves. (Backward facing). The number specifies grooves per face. **Standard pattern.**

RD = Radiused Drilled.
(Cross drilled but with radiused run out to reduce noise & improve life compared with standard cross drilling. Usually used on Road applications.



GD = Grooved & Drilled.
Usually used on Road applications.

RA = 'J' Hook Design.
Gives improved bite and debris clearance and reduces distortion / vibration, outer grooves run out to O/D. Thick wall discs only

RC = 'J' Hook Design.
As RA design but with 3 hooks across face. This design gives improved bite and debris clearance and reduces distortion / vibration. Thick wall discs only

G4,G8,G12 & G24 = Grooved.
(Straight forward facing). The number specifies grooves per face. Traditional style groove

CR4, CR8, CR12 & CR24 = Curved Grooves. (Backward facing running out on O/D to clear debris. Only used on thick wall discs). The number specifies grooves per face.

D & SD = Cross Drilled.
(Drilled holes chamfered).
Still preferred with some pad materials but can compromise disc life.

PG = Partial Groove.
Shorter length groove pattern

GA = 'J' Hook Design.
Latest design gives improved bite & debris clearance & reduces distortion / vibration, outer grooves do not run out to O/D.

T2= Continuous Grooves.
Two continuous grrooves per face. Usually for road and Brake Kit apllications.

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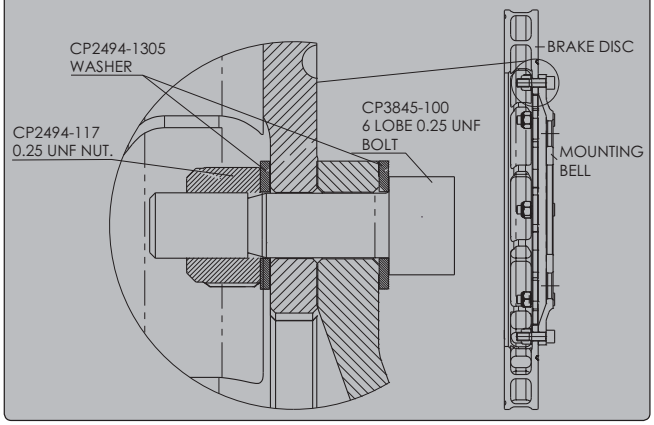
DISC MOUNTING.

Most racing and many high performance road brake discs are designed to be mounted on to the hub or stub axle by means of a mounting bell. Mounting bells are usually made from high grade Aluminium alloy although other materials can be used.
This arrangement is much lighter than a one piece disc and bell, but more importantly allows some compliance to reduce the risk of distortion due to heat expansion of the disc. This becomes more important the larger the disc and is considered essential above Ø330mm diameter. There are essentially two methods of attaching the disc to the bell, 'Bolted' and 'Floating'. The method to be used will depend on the particular application.

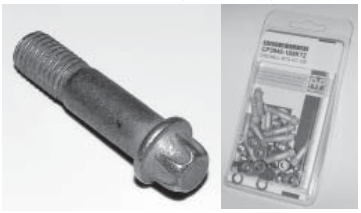
BOLTED.

For lower duty applications and on smaller discs a bolted mounting is sometimes preferred for strength and simplicity especially for off-road application (e.g. Rallies) where debris may clog a floating mechanism leading to run-out and disc vibration. Stiff flat bells should be avoided with a bolted mounting.
Standard AP Racing disc mounting hole size is 6.40 / 6.45mm diameter. AP Racing offer a range of bolts, nuts and washers to suit. These are also available in wheel set kits, see below for details.



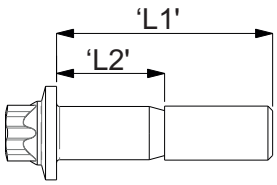
BOLTS AND BOLT KITS.

E8 - 6 Lobe Headed Bolt kits available for AP Racing discs are given in the table below. The 6 Lobe bolt offers the following advantages over a cap head:
- More positive drive.
- More consistent clamping loads.
- Lighter.
- Better corrosion resistance
- Less prone to damage.
- Improved airflow.



BOLT DIMENSIONS.

▫ AP Racing recommend a bolt / nut tightening torque for a disc and bell of 14Nm (10.5Lb/ft).



Bolt Dimensions and Part Numbers. (Dim'n in mm)					
Bolt Part No.	Dim'n 'L1'	Dim'n 'L2'	Bolt Part No.	Dim'n 'L1'	Dim'n 'L2'
CP3845-100	22.2	9.5	CP3845-107	30.2	17.5
CP3845-101	25.4	12.7			
CP3845-102	27.0	14.3			

E8, 6-LOBE HEAD BOLT KITS (All Bolts ¼" UNF).		
Kit Part No.	No. of Bolts in kit.	Bolt Part No.
CP3845-100K08	8	CP3845-100 - .875" long.
CP3845-102K10	10	CP3845-102 - 1.062" long.
CP3845-100K12	12	CP3845-100 - .875" long.
CP3845-101K12	12	CP3845-101 - 1.0" long.
CP3845-102K12	12	CP3845-102 - 1.062" long.
Each of the above kits contain the required number of CP2494-117 Nut & CP2494-1305 washer.		
Note: 3/8" E8, 6-Lobe Socket - CP2494-153 is available		

▫ NOTE: Bolts, nuts and washers are **not** available separately, but can be purchased in boxes of 100.
- The Cap Head bolt will continue to be available as a loose part in kits of 100.

Individual Bolt, Nuts and Washer Components in boxes of 100.		
Component.	**E8 - 6-Lobe Head Type Part Nos.**	**Alternative Cap Head Type Part Nos.**
.875" Long Bolt.	CP3845-100K100	CP2494-116K100
1.00" Long Bolt.	CP3845-101K100	CP2494-718K100
1.062" Long Bolt.	CP3845-102K100	CP2494-331K100
Nut.	CP2494-117K100	
Washer.	CP2494-1305K100	
N.B. BOLTS, NUTS AND WASHERS NOT SOLD INDIVIDUALLY		

FLOATING.

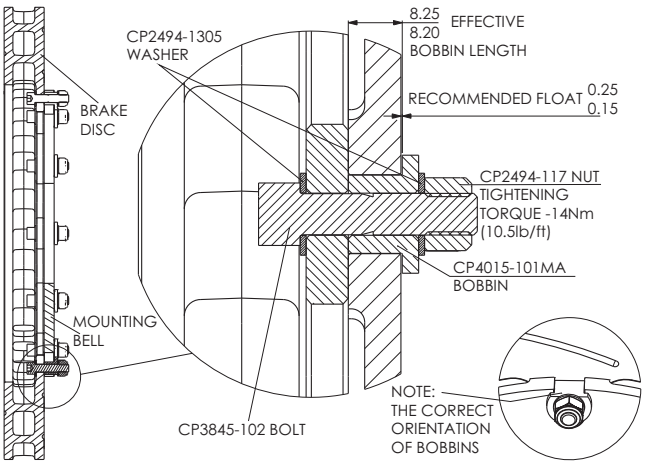
Discs for heavy duty applications, especially larger discs, should be mounted to allow some axial & radial float between disc & bell. This may be achieved by the following methods:-
'Float in the bell' ,
'Float in the disc'
or 'Strap Drive'.
Radial float allows differential expansion of disc and bell thus reducing stresses in the disc and minimising disc cracking and distortion. The idea of axial float is to compensate for a certain amount of stub axle / upright flex by allowing the disc to take up its ideal position within the range of float thus avoiding 'Knockback' of the caliper pistons. However the float should not be excessive as disc gyroscopic loads can cause the same effect that the float is meant to alleviate.
The amount of axial float will depend somewhat on the application. In a 'perfect' system with minimal disc movement relative to the Caliper the amount of float need only be around 0.15 - 0.25mm.

FLOAT IN THE BELL'.

The AP Racing 'Float in the Bell' system has the advantage of being used with standard bolted discs, float is controlled by bell thickness. During use some wear of the bell inevitably occurs which tends to increase float and requires more frequent Bell replacement than the Float in the Disc system.

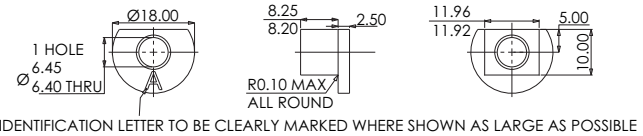
NOTE.

Recommended bell flange thickness for use with this bobbin is 8.00 / 8.05 to give 0.15 / 0.25mm float.



▫ CP4015 Float in the bell Bobbins.

The bobbin for use with 'float in the bell' mounting is CP4015-101MA



IDENTIFICATION LETTER TO BE CLEARLY MARKED WHERE SHOWN AS LARGE AS POSSIBLE

▫ Bobbin kit CP4015-101K12

CP4015-101MA bobbin can be bought separately or in a kit which contains the bobbins, bolts, nuts & washers.

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Intergral Vented Brake Discs
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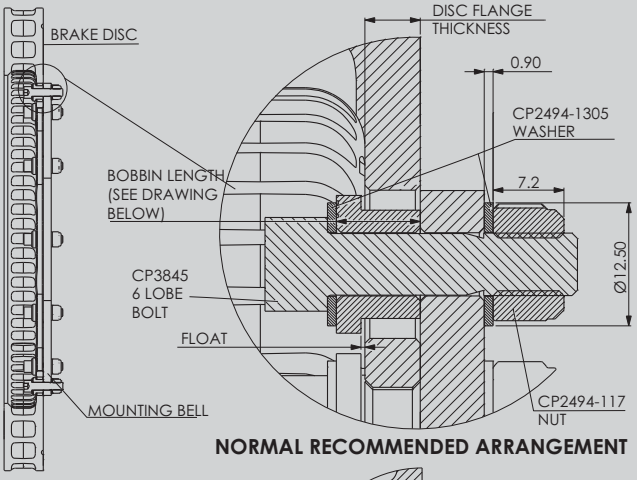
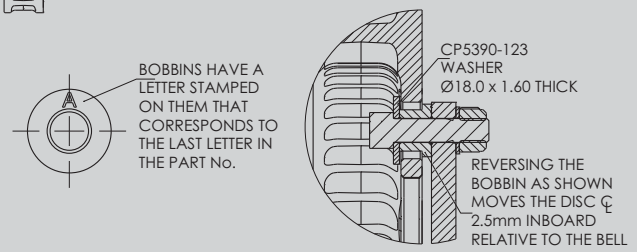
STANDARD 'FLOAT IN THE DISC' BOBBIN.

The AP Racing 'Float in the Disc' system uses a disc with an elongated flat sided mounting hole. The harder disc is less prone to wear than the bell but regular maintenance / cleaning is required if float is to be maintained at the original level.

N.B. Mounting bell thickness 8.00mm Max but is typically 6.5mm



NORMAL RECOMMENDED ARRANGEMENT

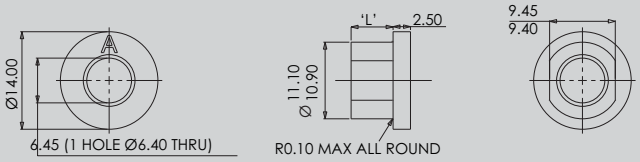


ALTERNATIVE ARRANGEMENT REVERSE BOBBIN

¤ Float in the disc bobbins.

The float in the disc bobbins available for AP Racing floating discs are given in the table below.

- All bobbin kits comprise either, CP3845-100, CP3845-101 bolts, CP2494-117 nut and CP2494-1305 washer and the specified bobbin.



¤ Tightening torque for bolts is 14Nm (10.5lb/ft).

Bobbins & kit Part Numbers for 'Float in Disc' Mounting. (Dimensions in mm)					
Flange Thick-ness.	Bobbin Part No. CP2494	Dim'n 'L'.	Nom Float.	Kit Part No. CP2494	Bolt. Part No. CP3845
4.35/4.30	-595MA	4.70/4.75	0.4	-595K08(S)	-100
				-595K12	-101
4.85/4.80	-593MB	5.20/5.25	0.4	-593K10	-101
				-593K12	
5.05/5.00	-592MC	5.40/5.45	0.4	-592K10	-101
				-592K12	
5.55/5.50	-591MH	5.90/5.95	0.4	-591K12	-101
5.65/5.60	-1341MD	5.80/5.85	0.2	-1341K12	-101
5.65/5.60	-589MJ	6.00/6.05	0.4	-589K08	-101
				-589K12	-101
				-589K12L	-102
5.65/5.60	-626ML	6.30/6.35	0.7	-626K12	-101
6.35/6.30	-1342MM	6.50/6.55	0.2	-1342K12	-101
6.35/6.30	-504MP	6.70/6.75	0.4	-504K10	-101
				-504K12	-101
				-504K12L	-102
Note: bobbin kit with 'L' suffix denotes longer CP3845-102 bolt in kit.					

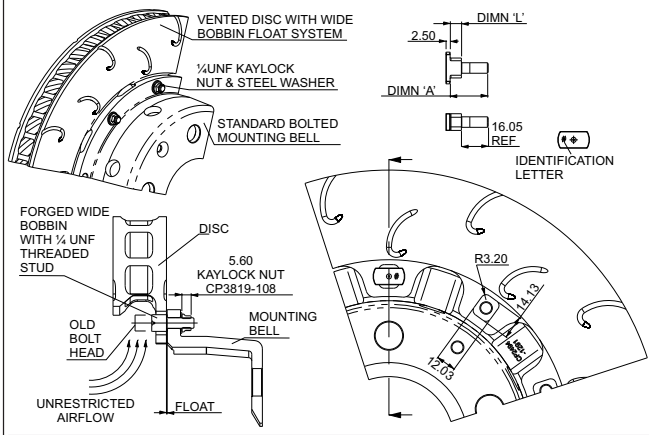
HEAVY DUTY 'WIDE' BOBBINS.

AP Racing offer two options of wide bobbins for heavy duty disc arrangements offering improved stability in high torque applications.

- **CP4135** a forged one piece bobbin & stud providing improved and unrestricted airflow. (Replaces CP4015 bobbins).
- **CP7016** a two piece alternative for thicker mounting bell flanges, using separate bolt. The drawings and tables below provide all information required to aid the user.

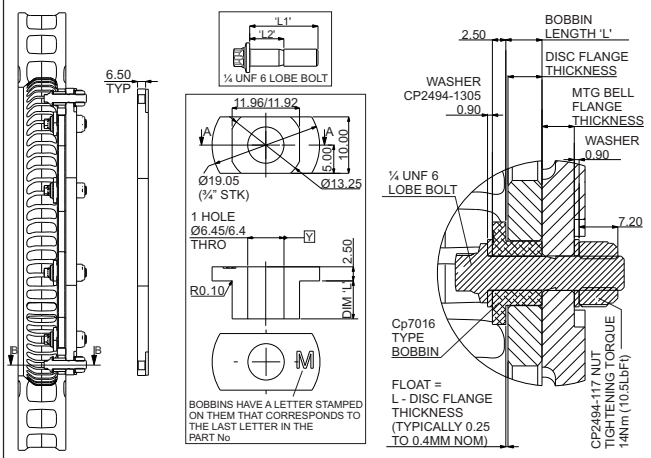
Note: Special tool available, CP4015-137 to assist bobbin orientation whilst assembling both CP4135 and CP7016 bobbiins.

CP4135 - Forged One Piece Bobbin & Stud.



CP4135 Bobbin & Stud Part Numbers. (Dim'n in mm)					
Dim'n 'A'	Dim'n 'L'	Disc Flange Thickness	Nominal Disc Float	Ident Letter	Bobbin / Stud Part No.
21.8/21.2	5.5/5.4	5.05/5.00	0.4	C	CP4135-102FC
22.0/21.4	5.7/5.6	5.25/5.20	0.4	E	CP4135-103FE
22.2/21.6	5.9/5.8	5.45/5.40	0.4	D	CP4135-104FD
22.9/22.3	6.6/6.5	6.15/6.10	0.4	M	CP4135-105FM
23.1/22.5	6.8/6.7	6.35/6.30	0.4	P	CP4135-106FP
23.6/23.0	7.3/7.2	6.85/6.80	0.4	R	CP4135-107FR
24.3/23.7	8.0/7.9	7.55/7.50	0.4	S	CP4135-108FS
23.45/22.85	7.15/7.05	6.85/6.80	0.3	Q	CP4135-109FQ
Bobbin kits available. Please contact AP Racing for details					

CP7016 - Two Piece Bobbin/Bolt Alternative.



CP7016 Bobbin & Bolt Part Numbers. (Dim'n in mm)				
Dim'n 'L'	Disc Flange Thickness	Nominal Disc Float	Ident Letter	Bobbin / Stud Part No.
6.55/6.50	6.15/6.10	0.4	M	CP7016-120MM
7.10/7.05	6.70/6.65	0.4	V	CP7016-126MV
7.80/7.75	7.40/7.35	0.4	X	CP7016-132MX
7.95/7.90	7.55/7.50	0.4	S	CP7016-139MS
Bobbin kits available. Please contact AP Racing for details				

Bolt dimensions and Part Numbers. (Dim'n in mm)					
Bolt Part No.	Dim'n 'L1'	Dim'n 'L2'	Bolt Part No.	Dim'n 'L1'	Dim'n 'L2'
CP3845-100	22.2	9.5	CP3845-107	30.2	17.5
CP3845-101	25.4	12.7	CP3845-108	17.9	9.5
CP3845-102	27.0	14.3			

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Disc & Bell Kits
Solid Brake Discs
Intergral Solid Brake Discs
Intergral Vented Brake Discs

DISC OPERATING ADVICE.

This section on operating advice has been produced as a guide only, as many formula or racing series may have different requirements.

DISC TEMPERATURES.

In order to achieve optimum racing brake performance and prolong disc life it is essential that the brakes operate at the correct temperature. In general discs should run at similar temperatures front and rear and from side to side, dissimilar temperatures will lead to varying brake balance. Temperature balance can be checked as soon as the car stops in the pit lane using a Pyrometer such as AP Racing Pyrometer kit CP2640-24 (see below). However a pyrometer reading is not a good indicator of disc operating temperature which decays rapidly with time when the brakes are not being applied. Under racing conditions disc bulk temperatures should normally be maintained in the range 400°C to 600°C for best performance. Disc face peak temperatures may be higher but should not exceed the maximum recommended for the pad material being used. An effective method of checking maximum disc operating temperature is by using temperature paints applied to the disc. A suitable paint kit can be obtained under AP Racing Part No.CP2649-1, this kit contains three paints, Green (430°C), Orange (560°C) and Red (610°C) plus thinners and brushes. When assessing brake temperatures it is important to complete several successive laps (5 or preferably 10) at race speeds and vehicle weight to allow temperatures to stabilise at a representative level. Typically when running within the correct temperature range the Green paint (430°C) will turn throughout, the Orange paint (560°C) 50% to 100% throughout and the Red paint (610°C) turned up to 5mm from each brake face. If the Red paint (610°C) turns throughout, the discs are running too hot. Circumferential disc face ridges are also an indication of running too hot. Circuits and drivers vary enormously in the amount of work they demand from the brakes and therefore the brake system has to be tuned for each circuit by adjustment of the cooling airflow. The temptation to over cool the disc should be resisted. **The aim is to keep the temperature as stable as possible within the working temperature range.** High maximum to low minimum temperature cycles are the enemy of disc life and cause performance variations.

TEMPERATURE MEASUREMENT.

▫ DIGITAL READ-OUT PYROMETER

CP2640-24 Digital pyrometer for brake, disc and tyre temperatures. High accuracy display reads in centigrade. The unit comes complete with probes for both brake discs and tyres in a heavy duty carry case.

▫ THERMAL PAINT KITS

CP2649-1 kit comprises of three paints for monitoring peak Brake Disc temperatures. The three paints are:-
- Green changes colour to White at 430°C.
- Orange changes colour to Buff at 560°C.
- Red changes colour to White at 610°C.

The kit also comprises, one bottle of thinners and three brushes.

▫ BRAKE CALIPER TEMPERATURE STRIPS

CP2650-11 Temperature indicator strips for monitoring caliper temperatures.
- Temperature range 149°C to 260°C
- Each packet contains 10 strips.

▫ TEMPERATURE RECORDING PAD

CP2640-25 Allows the user to record temperature data for Brake Discs and Brake Calipers.

DISC COOLING.

A good source of cooling air should be supplied preferably through the upright to the disc throat. A typical venting cross section of 100cm² (16in²) is usually sufficient. The pick up should preferably be in an area of clean high pressure air flow and the ducting should be arranged to avoid sharp bends or changes in section which may choke the air flow. Careful design of the Mounting Bell is important in achieving effective disc cooling and avoiding problems. Typically 80% of the airflow should be directed up the disc vents and 10% up each face of the disc. This ratio can vary considerably in practice but it is important that both disc faces are cooled equally by adjusting the air gaps. Unequal face temperatures can lead to disc distortion and a long pedal. Lightening holes in the bells should be avoided as available cooling air can be lost without cooling the disc.

DISC BEDDING.

All cast iron brake discs need to be bedded-in to ensure heat stabilisation and improve resistance to cracking. Cracks or even disc failure can occur during the first few heavy stops if careful bedding is not carried out.
AP Racing recommend the following procedures or visit www.apracing.com for the latest advice.

RACE CAR INSTALLATIONS:

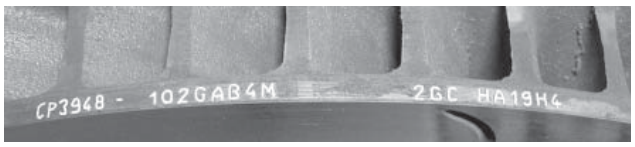
1) If ducts are fitted they should be ¾ blanked off. **2)** Use previously bedded pads. **3)** For a minimum of 15Km use brakes gently at first from initially low speeds - Progressively raise speed to normal racing speed but still using gentle applications. **4)** For the final 2 or 3 applications brakes can be used quite heavily. **5)** If AP Racing thermal paints are used then only the Green paint (430°C) should have fully turned to white and maybe also just the Orange paint (560°C) on the outside edges of the discs during the bedding procedure. **6)** Allow to cool. **7)** AP Racing offer a pre-bedding service at nominal extra charge. This ensures that discs are bedded consistently assuring better performance & life. Contact AP Racing for details.

ROAD CAR INSTALLATIONS:

1) For the first 10 miles, light braking from 50/60 mph down to 30 mph if possible in blocks of 5. Do not attempt any high-speed stops down to zero at this point, as only the faces will heat up with the mass remaining cool along with the mounting area. **2)** For the next 100 miles increase the braking pressures similar to stopping in traffic, again avoiding if possible full stops from above 70 mph. By now the area around the mounting bolts should be a light blue temper colour. This is a good indication that the correct heat soak has been achieved. **3)** For the next 100 miles gradually increase the braking effort after this full power stops can be used. The disc should now be an even dark to light blue temper colour, depending on the pad type and the braking effort being used during the process.
This process must be completed before any race circuit use.
Track Day Use: For the latest Track Day Bedding Instructions visit our website.

PART NUMBERING.

When ordering discs please use the correct part number wherever possible. An example part number is explained below:- All AP Racing brake discs are individually marked with the following information:



PART NUMBERING EXPLANATION

Basic Disc (casting) Type — Disc Face Suffix (see below)

CP3581 - 1042 CG8 B1

Stroke Number — Bedding (if applicable)

▫ HANDING
- **Even** Stroke Numbers are Right Hand
- **Odd** Stroke Numbers are Left Hand

▫ FACE TYPES

- P = Plain / **- D** = Drilled Face / **- G** = Straight Grooves G3 = When G appears with a digit, this denotes the number of grooves per face on the disc. e.g. G4/G6/CG8/CR12 etc. / **- CG** = Curved Grooves **- GD** = Grooved & Drilled / **- CR** = Curved Grooved backward facing running out to O/D. / **- PG** = Partial Groove. / **- RD** = Radius Drilled **- SD** = Similar to RD but with smaller holes. / **- RA** = J Hook Design, grooves run-out. / **- GA** = J Hook Design, grooves do not run-out. **- RC** = J Hook as GA but with 3 hooks across face. / **- B1** = A "B" and a Number added to the end of the part number i.e.CP3581-1042DB? means the disc has been pre-bedded with a particular pad material.

SAFETY AND CARE OF DISCS.

Cast iron brake discs should not normally be operated at bulk temperatures in excess of 610°C and above rotational speeds of 3000 revolutions per minute. Discs must be regularly and frequently inspected for excessive heat crazing and cracking. After heavy and prolonged use some surface crazing will often be evident, if this turns into distinct surface cracks which are radiating towards the inside or outside diameter the disc should be changed. Discs with cracks emanating from mounting holes / slots, inside diameter, scallops, or outside diameter should be changed immediately.

IF IN DOUBT REPLACE.

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Ø356mm to Ø410mm Vented Discs
Disc & Bell Kits
Solid Brake Discs
Intergral Solid Brake Discs
Intergral Vented Brake Discs

INTRODUCTION.

Carbon/Carbon brake discs & pads offer very lightweight construction together with excellent braking performance.
Carbon/Carbon is also expensive but if managed correctly, mainly a question of temperature control, then wear rates and hence running costs can be surprisingly low. AP Racing has more than 20 years of experience with Carbon/Carbon brakes in F1 and Sportscar racing.
We recommend and supply a number of Hitco Carbon/Carbon materials which we consider to offer the best performance and braking characteristics together with low wear of any material currently available.
This section on Carbon discs is designed as a users guide for reference only and we recommend you contact AP Racing technical section for more detailed information before finalising installation details.

COOLING REQUIREMENTS.

The uprights should be designed to provide a cooling air pathway of at least 140cm² area. Hitco Carbon/Carbon requires good face cooling. It is worth monitoring airflow / temperature on both inside and outside disc faces during testing.
It may be found that a larger face-cooling gap is required for the inside face to equalize the face temperatures. This is due to the tendency of the airflow to bypass this outlet when exiting the upright and flowing mainly up the outside face. The resultant temperature differential can lead to uneven wear, especially if temperature / wear is high.

BEDDING DISC AND PADS PRIOR TO RACE.

Because AP Racing Carbon/Carbon brake materials have lower operating temperatures compared to other carbon brake materials, it is easy to achieve running temperatures without the problem of glazing the rubbing faces. Blanking the brake ducts is not required in dry conditions.
When bedding the driver should apply hard brake pressure in short applications. Take care not to drag the brakes under lighter loads as this may result in glazing. If this occurs and the driver reports there is inadequate retardation, then the pads should be removed from the calipers and both these and the discs should have the rubbing faces de-glazed with coarse emery paper and dust thoroughly removed.

MONITORING TEMPERATURES.

The most reliable way of monitoring the disc temperature is by the application of indicating paints. Use of pit lane thermocouple temperatures is useful for achieving a front / rear balance. The green (430°C) and red (610°C) paints must only be used. The Orange paint in most kits should **not** be used as this will damage the disc. If the disc O/D is painted with either brown or grey antioxidant paint, this and the grey CVD coating must be completely removed from the section of the disc before the paints are applied. Failure to do this could result in the indicating paint not changing colour, regardless of the operating temperature.
The temperature paint colour change is not instantaneous, but is accelerated by higher temperature and the time at temperature is cumulative. It is therefore advisable that at least 5 consecutive laps at representative speed are completed before reference to the temperature paint. Turning the green paint 75% across disc width is adequate. Turning the red paint just on the disc edges (2-3mm) is acceptable.
Running the material at higher temperatures will only result in increased wear rate. If the red paint has changed across the entire disc width, extra cooling must be applied. Continued running at this level of temperature may result in excessively high wear rates, and can lead to weakening of the disc structure.

DISC CONDITION.

Experience has shown that if normal operating guidelines are adhered to, Hitco Carbon/Carbon discs can safely be used down to their minimum thickness.
However if for any reason discs are used at very high temperatures it is possible for oxidation to occur throughout the material, this will severely weaken the Carbon structure. Therefore avoid running the disc with the red paint fully blown.

RECONDITIONING.

The Carbon Discs may exhibit uneven surfaces when worn.
AP Racing offer a reconditioning service to re-machine disc faces.

Visit www.apracing.com for full & up to date product range

MAINTENANCE.

If the discs and pad surfaces are worn unevenly they can be machined flat and parallel again. A fixture should be made to mount the disc on its mounting flange, and both sides should be machined at the same setting. Failure to do this may result in thick / thin which will cause pedal “pulsing” and vibration. For H13.5 discs only brown antioxidant paint is available from AP Racing (CP2872-145) and should be “touched-up” as required.

NOTE: Do not attempt to degrease the material with any solvents. If a Carbon disc is contaminated with oil or other please contact AP Racing for advice

WEAR PREDICTION.

If high brake wear is anticipated in the race, it is important to complete as many laps as possible in “race trim” (using a measured set of carbon) during practice.
A race wear prediction can then be made using a similar system to that detailed on the AP Racing “Carbon Brake Life Evaluation” sheet which can be obtained from AP Racing or from our website. All laps (including “in” and “out” laps) are included and a 1.5 x safety factor applied.

WEAR GUIDE.

AP Racing carbon discs have disc wear indictors in the brake face and vary depending on the new thickness.

- 37.00mm Thick discs which have angles vents have a 16mm diameter indicator 1.00mm deep a 12.00 diameter indicator 3.50mm deep and there is a triangle wear indicator that is 6.00mm deep. This indicator shows the direction of rotation of the disc and is the last wear indicator.
All these indicators are on both sides of the disc. These are there to give the user a guide as to the disc wear and when the triangle indictors are no longer showing the disc is at or below 25mm its minimum thickness.

- 35.00mm Thick discs that use angles vents have a 12.00mm indicator 2.50m deep and there is a triangle wear indicator that is 5.00mm deep. This indicator shows the direction of rotation of the disc and is the last wear indicator.
All these indicators are on both sides of the disc. These are there to give the user a guide as to the disc wear and when the triangle indictors are no longer showing the disc is at or below 25mm its minimum thickness.

- 35.00mm Discs which run non handed vents have a 12.00mm diameter indicator 2.50mm deep and an 8.00mm diameter indicator 5.00mm deep. When the 8.00mm diameter indicator is no longer visible on both sides this will show the disc at or below its 25.00mm minimum thickness.

NOTE:- In some circumstances one disc face may wear more than the other. If the disc shows signs of this you must make sure you keep a minimum disc thickness of 5.00mm between the outer disc braking face and the inner cooling vent hole in the centre of the discs .

TECHNICAL CONTACTS.

AP Racing offer several different Carbon materials for different applications and operating conditions. The choice of the best material for given application is complex. Please contact AP Racing Technical Section (racetech@apracing.co.uk) or one of the following engineers directly.

Note: See page 46 for Part Numbering.

- Nic Olson — **Key Account / Race Engineer, GT / ALMS.**
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- Mobile: +44 (0)7768 270 883
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Disc Technical Info
Disc General Info
Ø254mm to Ø295mm Vented Discs
Ø300mm to Ø315mm Vented Discs
Ø320mm to Ø355mm Vented Discs
Ø356mm to Ø410mm Vented Discs
Disc & Bell Kits
Solid Brake Discs
Intergral Solid Brake Discs
Intergral Vented Brake Discs

CARBON DISC INSTALLATION DETAILS.

AP Racing offer the following advice as a guide only for mounting and installing a Carbon/Carbon Disc.

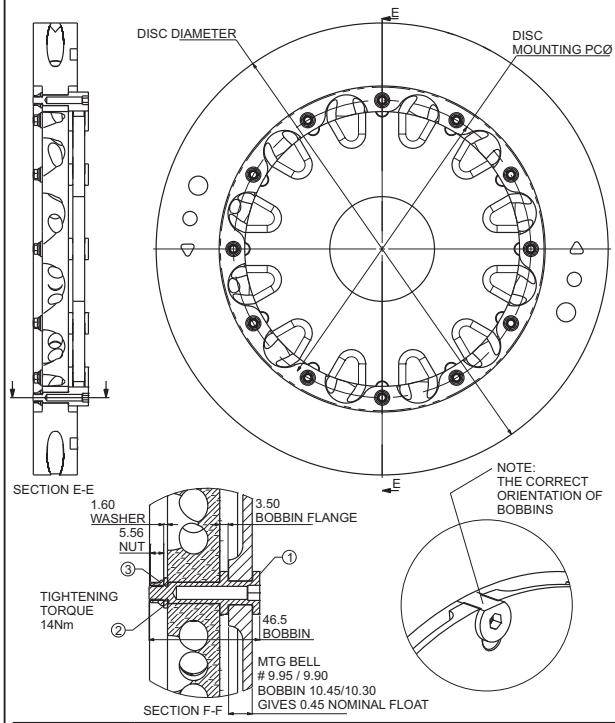
The preferred mounting method for carbon discs is " float in the bell" as this allows for axial and radial float between disc and bell. Radial float allows differential expansion of disc and bell thus reducing stresses in the disc.

The idea of axial float is to compensate for a certain amount of stub axle / upright flex by allowing the disc to take up its ideal position within the range of float thus avoiding 'Knockback' of the caliper pistons.

However the float should not be excessive as disc gyroscopic loads can cause the same effect that the float is meant to alleviate. The amount of axial float will depend somewhat on the application.

In a 'perfect' system with minimal disc movement relative to the Caliper the amount of float need only be around 0.45mm nominal float.

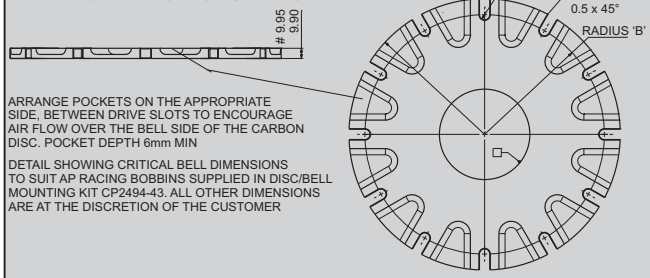
The drawings opposite provide information on disc and bell mounting, typical mounting bell data and an example of disc and caliper ducting.



DISC & BELL BOBBIN KIT CP2494-43			
REF No.	**DESCRIPTION**	**PART No.**	**QTY**
1	BOBBIN	CP2494-1939	12
2	WASHER	CP2494-747	12
3	NUT (HIGH TEMP)	CP2494-748	12

MOUNTING BELL DATA.

THESE DIMENSIONS ARE FINISHED DIMENSIONS AFTER ANY HARD ANODISING OR OTHER TREATMENTS HAVE BEEN APPLIED. MAKE APPROPRIATE ALLOWANCE DURING MACHINING

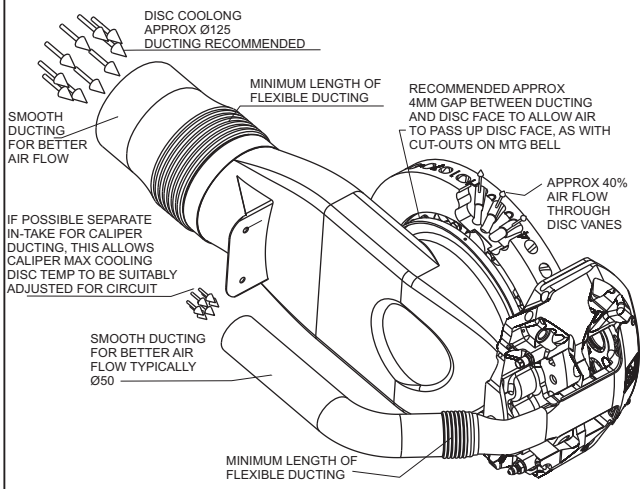


ARRANGE POCKETS ON THE APPROPRIATE SIDE, BETWEEN DRIVE SLOTS TO ENCOURAGE AIR FLOW OVER THE BELL SIDE OF THE CARBON DISC. POCKET DEPTH 6mm MIN

DETAIL SHOWING CRITICAL BELL DIMENSIONS TO SUIT AP RACING BOBBINS SUPPLIED IN DISC/BELL MOUNTING KIT CP2494-43. ALL OTHER DIMENSIONS ARE AT THE DISCRETION OF THE CUSTOMER

BELL DATA			
DISC Ø	**Disc MOUNTING PCØ**	**RADIUS 'A'**	**RADIUS 'B'**
380	250.0	132.0 ± 0.15	116.5 ± 0.15
355	225.0	119.5 ± 0.15	104.0 ± 0.15
340			

DISC AND CALIPER DUCTING.



DISC Ø.	MINIMUM CROSS SECTION THROUGH DISC VANES	MINIMUM CROSS SECTION DISC FACE
Ø380	4673MM²	6230MM²
Ø355	4608MM²	5913MM²
Ø340	4608MM²	5913MM²

PART NUMBERS.

Below are part number examples for guidance only. Please confirm correct requirements before placing an order with one of the Engineers detailed on page 45 or contact AP Racing's technical department.

- Discs:

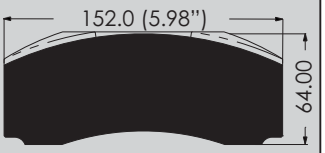
▫ AP Racing offer a range of disc from Ø380 or Ø355 x 37mm or 35mm. Listed are some typical GT sized discs.

- **Ø380mm x 37mm** RH = CP2872-400H17I. LH = CP2872-401H17I.
- **Ø355mm x 37mm** RH = CP2872-402H17I. LH = CP2872-403H17I.
- **Ø355mm x 35mm** RH = CP2872-404H17I. LH = CP2872-405H17I.

- Pads:

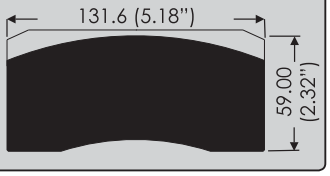
▫ Pads are available in various thicknesses and shapes to suit AP Racing Calipers and most other manufacturers variants.

▫ CP4240-54H18
- Pad Area = 78.12cm²
- Pad Depth = 53mm
- Pad Thickness = 25mm
- For Calipers:- CP6077 & CP6078.



▫ CP4970-28H18
- Pad Area = 81.9cm²
- Pad Depth = 53mm
- Pad Thickness = 27mm
- For Calipers:- CP6080, CP6160, CP6161. & CP6165.

▫ CP6070-108H18
- Pad Area = 69.1cm²
- Pad Depth = 49mm
- Pad Thickness = 25mm
- For Calipers:- CP6470, CP6270 & CP6271



BRAKE PADS

- GENERAL INFORMATION.
- AP RACING PAD MATERIALS.
- BRAKE PAD CHARACTERISTICS.
- BRAKE PAD PROFILES.

Brake Pad Home Page

AP Racing Brake Pad Range

Brake Pad Profiles

Brake Pad Technical Info

Brake Pads To Suit AP Racing calipers

INTRODUCTION.

As the foremost manufacturer of brake systems for competition and high performance vehicles, AP Racing are continually developing and improving our product ranges.
The friction material used in a brake system is a vital factor in the overall performance of that system and it is therefore important to choose the correct pad for the particular application, which is why AP Racing has now developed its own **(APF)** branded range of brake pads to suit AP Racing Calipers for both Road and Competition applications, thus **ensuring full system integrity.**
The range currently comprises 5 Material Grades across 24 Pad Shapes. (See page 49 for more technical details)
AP Racing's unparalleled experience in racing brake technology puts us in a unique position to evaluate friction materials and brake pad performance both on our dynamometer test beds and through rigorous vehicle track testing.
Note: AP Racing policy is to offer a range of the best friction materials currently available from whatever source.

GENERAL INFORMATION.

Pages 51 to 55 provide details on a range of pads and friction materials, including our own new APF range for competition and road use with AP Racing brake calipers. This section also includes information to assist in the selection of the most suitable pad for a given application and other useful information on choosing the correct brake pad.
AP Racing Technical Section will be pleased to advise on the most suitable equipment for any particular application and can provide more detailed technical information if required.

BRAKE PAD TEMPERATURES.

An important factor in consistent brake performance is maintaining the operating temperatures within the effective range of the pad material being used by controlling the flow of cooling air from the brake ducts.
There are several different methods of monitoring the brake system temperatures:-
1. THERMAL PAINTS
2. BRAKE TEMPERATURE PYROMETER
3. TEMPERATURE STRIPS
For more detailed information of these methods please go to page 44.

'BEDDING IN' PROCEDURES.

¤ **RACE FRICTION MATERIALS:**
AP Racing offer a large variety of the best friction materials currently available from various sources to suit every racing condition. It is therefore very difficult to recommend a common 'Bedding in' procedures suitable for all friction materials. Please refer to the manufacturers own 'Bedding' information for guidance.
¤ **ROAD FRICTION MATERIALS:**
For Pads for AP Racing brake calipers or kits use the following procedure:-
Bed the pad and disc contact areas by using moderate brake applications for 80Km (50 miles), avoiding excessive speeds, building the stopping power and vehicle speed gradually over the next 80Km (50 miles). This will ensure maximum pad performance and disc life.

FOR OE APPLICATIONS PLEASE REFER TO THE MANUFACTURERS OWN INSTRUCTIONS.

BRAKE NOISE.

Brake noise or squeal is a vehicle system problem since the severity, regularity and tone is a function of the brake and suspension components in combination. This does not represent a problem on competition vehicles where performance is the primary objective but is generally unacceptable for road use. Some vehicles are particularly susceptible to the problem.
The contact between the pad and disc during braking creates the raw energy to produce the noise but the actual squeal can be primarily or a combination of the disc, caliper and pad.
Elimination of squeal under all brake operating conditions is difficult to achieve when specifying a brake package whose purpose is to safely absorb very high energy inputs. A number of methods are available to reduce the noise factor of a brake system but assuming the base vehicle suspension system is settled, the reduction or elimination of noise is usually achieved by a process of trial and error. The first and easiest solution to try is the addition of high temperature grease to the back of the pad to provide a damping medium between the piston and pad.
Typically Copper Slip is applied although care must be taken to avoid any grease coming into contact with the pad face. The use of high friction brake pads such as Pagid RS4-2 / M1177 creates high energy at the friction interface which can characteristically lead to more brake squeal but some pads are typical for their lower noise rating. These pads are characterised by their lower friction coefficient and reduced initial 'bite'. Examples of such a materials is Ferodo 3432F.
There are a number of disc variants available from AP Racing & the type chosen can have an effect on brake noise, depending again on the pad choice. Generally it is found the multi drilled or grooved discs used in conjunction with competition pads will give unacceptable noise levels for road use, Plain face discs can cause higher levels of squeal, as the pad is not cleaned by the actions of holes or grooves.
For the AP Racing Formula Big Brake kit conversions, we have found a reduced drill pattern with a radiused edge and using APF405 pads give little or no pad noise and still have good performance. Where the noise is a function of the brake pad temperature, characterised by the noise reducing (possibly to zero) as the brakes are used more severely. The pad may also respond to the addition of pad chamfers which reduce the effective pad area and change the pad shape / centre of pressure. These chamfers (10,0mm x 30 degrees) can be added to the leading edge first and their effect assessed prior to the addition of a chamfer on the trailing edge. Please contact AP Racing technical section for more details.

ANTI-SQUEAL SHIMS.

Anti squeal shims are very effective and CP5070 pad family have them fitted as standard. Anti squeal shims are also available for other pad families, but if you experience noise using other pad families please contact the road car technical section for further advice

MATERIAL AVAILABILITY.

In order to get the best performance from your AP Racing brake system, it is important to choose the friction material which best suits the particular application. AP Racing offer a large variety of the best friction materials currently available from various sources to suit every racing condition.
The Individual pad profiles on pages 51 to 55 gives information on all the friction materials available for that pad in the current range.

Note:
Should you wish for a pad profile in another material please contact AP Racing Technical Section for more information.

PAD ORDERING.

1. Refer to caliper listing on page 55 to obtain the correct pad shape for a given caliper and check this against the pad shape illustrations on pages 51 to 55.

2. Consult individual pad profile and select the material from those available referring to the information on pages 47 to 49 if necessary.

3. Example part number below: CP3894D54-APF403.
This part number comprises 4 pads (1 axle set).

4. Construct part number as in the example below by adding the material suffix to the basic pad shape family number.

¤ All pads with the following exceptions are sold in sets of 4.
- CP4226, CP3086, CP4484, CP3386, CP2372, CP3666, CP4466 are in pairs (2 pads).

¤ NB. For Carbon / Carbon pad material see page 46 for more details

¤ NB. Materials with the blackout segments are on phase out mode and once stocks have been exhausted will be made inactive.

EXAMPLE PAD PART NUMBER.

Pad Family Part Number
- Defines Pad Shape & Thickness18.00mm (0.71")

CP3894 D54- APF403

Pad Radial Depth 54.0mm

Pad Material APF403

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Brake Pads To Suit AP Racing calipers

AP RACING BRAKE PADS

This section provides more detailed information on our own APF branded brake pads, developed for both road and competition applications. The graphs below and adjacent announce the 5 material grades currently available and provide visual details of some pad characteristics.

PAD PROFILES:

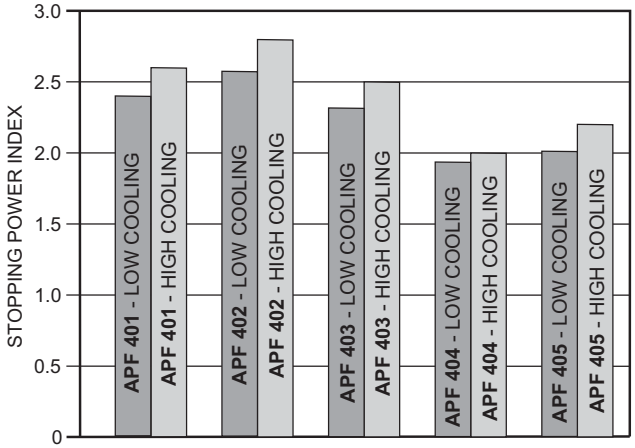
Not all materials are available in all pads shapes. Here is a list of the shapes currently available:
CP2195 / CP2270 / CP2279 / CP2340 / CP2372 / CP2399 / CP3215 / CP3345 / CP3558 / CP3894 / CP5070 / CP5119 / CP5788 / CP6210 / CP6268 / CP6600 / CP6627 / CP6820 / CP7031 / CP7040 / CP7555 / CP7600 / CP7635 / CP8250 / CP8310. (See pages 51 to 55, to check material availability).

NOTE: All the information on this page is offered for guidance only. AP Racing has gathered this information by incorporating the experiences of our engineers and our special dynomometer evaluations carried out in-house.

STOPPING POWER INDEX.

AP Racing have created our own Stopping Power Index. This is related to friction but is also influenced by energy absorption and the change of friction both with temperature and during the braking event. It is based on the total stopping time over a series of constant pressure stops for a range of speed differentials over a complete dynomometer test cycle, this index creates a very good overall measure to compare different friction materials. Higher numbers = more stopping power

N.B. The stopping power is influenced by level of cooling.

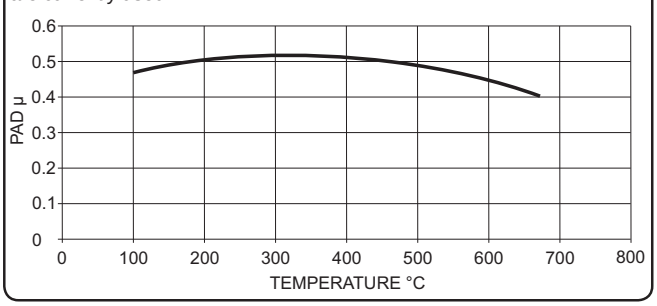


MATERIAL GRAPHS.

The traditional friction vs temperature graphs exhibited below are derived from our dynomometer test cycle carried out on our 2 in house dynomometers which we use for all pad evaluations.
These graphs are for guidance only. Numbers are not absolute - results can vary according to the test cycle used (load, pressure, speed, cooling etc) but we believe the results shown fairly represent the performance that will be experienced by the user under normal conditions.

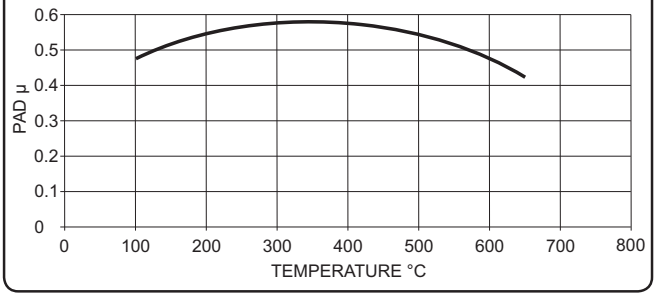
APF 401

Competition Pad suitable for Circuit & Rally use. Good bite and stable friction give excellent modulation & release characteristics.
Should be considered where PFC# 01, Ferodo DS1.11 and Mintex F2R are currently used.



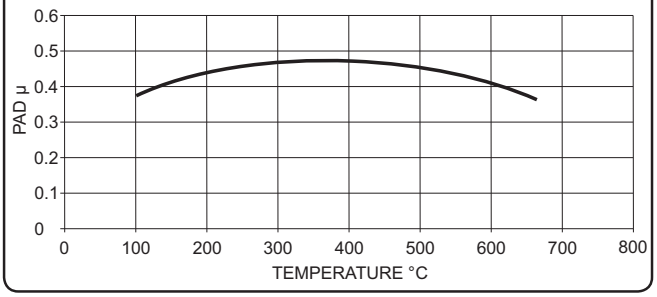
APF 402

Competition Pad for Circuit & Rally use. Not suitable for road use. Higher friction than 401, rising torque, good release , little or no fade.
Should be considered where Project Mu H19, PFC # 05, Raybestos ST43, Ferodo DS2.11, Mintex F6R or F4R are currently used.



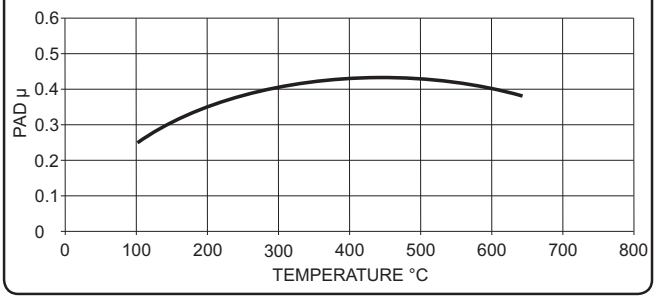
APF 403

General Competition Pad. Not suitable for road use. Easy to bed, predictable and repeatable performance with good bite & friction.
Consider where Raybestos ST41/ST43, Ferodo DS3000 or 4003 are currently used.



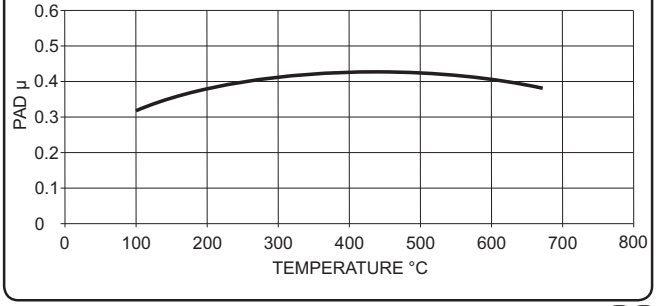
APF 404

Excellent High Performance Road and Track pad.
Consistent performance, low wear, disc friendly, low noise, low dust, low fade, good feel.
Consider where Ferodo DS2500, Pagid Blue (RS4-2), Pagid RS421 or Carbo-TechXP10 are currently used.



APF 405

Suitable for High Performance Road, Track and Lightweight circuit cars.
Consistent performance, disc friendly, low noise, good feel.
Consider where Pagid (Blue) RS4-2, RS4-4, Ferodo DS2500 are currently used.



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PAD CHARACTERISTICS.

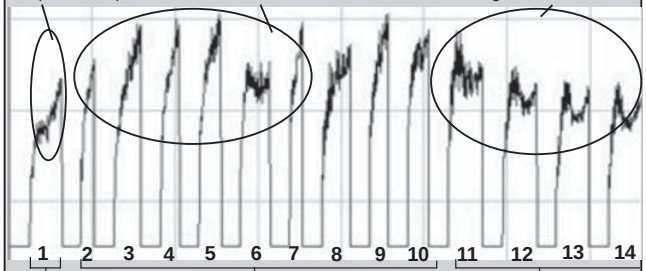
There are numerous characteristics associated with friction materials, few of which are absolute, for example the friction Coefficient (μ) varies depending on temperature, speed, pressure and energy level and no two dynomometer programmes will ever produce quite the same results. Choosing the most suitable pad for your application is a complex problem requiring careful evaluation of all the available information.
To help you with this AP Racing have developed a rating system for the principal pad characteristics incorporating both the experience gathered by our engineers over many years and our special dynomometer evaluation carried out in-house on our state of the art facility.
The AP Racing dynomometer brake pad evaluation is based around a series of stops which represent the full range of conditions likely to be experienced in use. A composite dynomometer plot and an explanation of the AP Racing evaluation and rating systems is given below & opposite.

COMPOSITE DYNAMOMETER PLOT.

This material shows relatively poor friction from cold improving as the pad heats up.

This material has a good friction level but a climbing (non user friendly) plot and poor initial bite relative to the average friction level.

This material exhibits slight fade but still maintains a relatively high friction level.



Very severe high speed stop from cold. (Cold Performance)

Variety of stops ranging in severity from light to very severe.

Very severe stops from high speed to demonstrate fade capabilities.

Fig 1.

High initial "Bite" with friction gradually reducing & stabilising through the stop. Most "User Friendly" Type 5.

Essentially flat. Type 3.

Steeply rising plot. Least "User friendly" Type 1.

Fig 2.

- **AVERAGE FRICTION:** Overall mean friction coefficient calculated over the complete test cycle. (Fig 1.)
- **"BITE":** Initial friction at the start of the stop. **Rating 1 to 5. (5 = Good, 1 = Poor) (Fig 1.)**
- **FADE:** Drop off in friction coefficient from stop to stop when used for very hard braking. Calculated from last 4 stops on test plot on a scale of **1 to 5. (5 = No significant fade). (Fig 1.)**
- **AVERAGE PAD WEAR:** A comparative rating of pad wear across all conditions. **Rated on a scale of 1 to 5 (1 = best).**
- **PLOT SHAPE:** The shape of the friction plot during a brake application. High initial "bite" with friction gradually decreasing through the stop as speed drops off is considered to be the easiest to control (most "user friendly"). A climbing friction level through the stop is considered the most difficult to control (least "user friendly") although some pads with this characteristic are extremely popular due to their overall high friction level and fade resistance. **Assessed types 5 to 1. (Fig 2.)**
- **COMFORT / NOISE:** Does the pad promote judder or brake squeal ? Important on road car applications but not usually a consideration for racing use.
- **DISC LIFE:** Does the pad promote high disc wear or cracking?. Especially important on road car applications. **Rated on a scale of 1 to 5 (5 = best).**
- **EFFECTIVE TEMPERATURE RANGE:** The temperature range within which the pad material can be considered effective should be used as a comparative guide only as temperature measurement techniques vary significantly and the true picture must include the energy level (quantity of heat). Pad temperatures are affected by disc mass and cooling. **Rated 1 to 5 (1 = 200°C / 2 = 350°C / 3 = 500°C / 4 = 650°C and 5 = 800°C).**
- **SUITABLE AREA OF USE:** The areas for which the pad material is considered most suitable. This is a subjective assessment relying on the pooled experience of AP Racing engineers over many years. Contact AP Racing Technical Section for guidance.
- **PAD MATERIAL PERFORMANCE:** The table below provides the ratings given for the characteristics described on the this page. The table results are AP Racing's own, determined from our dynomometer testing and may differ from manufacturers own specifications.

Pad Material.	Performance			Characteristics.			Wear.	Temp Range.	Suitable For.								
	Average Friction Mu.	Bite.	Fade.	Plot Shape.	Disc Life.	Stopping Power	Average Wear.	Temperature Rating.	Road.	Light Comp.	F3 / (T.Car Rear).	Touring Car Front.	Sports Car.	Rally.	Grp 'N'	Hill Climb.	Motor Cycle.
AP Racing Pad Materials.																	
APF401	0.44	4	3	2	3	2.6	4	4				X	X	X	X		
APF402	0.47	4	4	2	3	2.8	4	4				X	X	X	X		
APF403	0.40	3	3	4	3	2.5	3	4		X		X	X	X	X	X	
APF404	0.35	3	3	4	4	2.0	3	3	X								
APF405	0.36	3	3	4	4	2.2	3	3	X	X	X					X	
Ferodo Pad Materials.																	
4003F	0.43	3	3	4	2	N/A	3	2		X	X					X	
DS2500	0.34	3	3	4	4	2.1	3	2	X								
DS3000	0.42	2	2	4	3	2.5	3	4				X	X	X	X		
DS3000+	0.41	3	3	3	4	2.5	2	4		X	X			X			
DS1.11	0.43	2	3	1	4	2.5	4	4				X	X	X	X		
DS2-11	0.47	2	4	2	3	2.7	4	4				X	X	X	X		
Mintex Pad Materials.																	
F1R	0.46	4	4	3	4	2.7	4	4				X	X	X			
F2R	0.42	4	4	3	4	2.6	4	4				X	X	X			
F4R	0.47	4	4	3	4	2.5	4	3			X		X	X			
F6R	0.44	3	4	3	4	2.5	3	3			X		X	X			
M1166	0.38	3	3	3	3	N/A	3	3		X				X	X		
Pagid Pad Materials.																	
RS14	0.39	3	4	3	5	N/A	4	3				X	X	X		X	
RS4-2	0.35	4	2	4	4	N/A	4	3		X	X			X		X	
RS4-4	0.34	4	3	4	4	N/A	4	3			X			X			
Raybestos Pad Materials.																	
ST39	0.40	2	2	2	3	N/A	3	2		X	X			X		X	
ST41	0.42	5	3	4	4	2.6	4	4				X	X	X	X		
ST42	0.37	5	4	4	3	2.3	4	4				X	X		X		
ST43	0.39	5	3	5	3	2.5	4	4				X	X	X			
ST45	0.38	5	3	4	3	2.4	4	4				X	X	X			
ST47	No Data Currently Available, Contact AP Racing																
Other Friction Materials.																	
H16	No Data Currently Available, Contact AP Racing										X	X	X				
H19	No Data Currently Available, Contact AP Racing											X	X				
H21	No Data Currently Available, Contact AP Racing											X	X				
RQ3	0.41	3	5	3	4	N/A	3	2									X
APH420	0.39	3	5	3	4	N/A	4	2									X
SRR	0.46	5	4	5	4	N/A	1	3									X

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BRAKE PADS - Pad Profiles For AP Racing Calipers

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More Brake Pad Profiles

AP Racing Brake Pad Range

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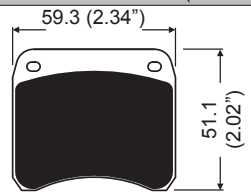
Brake Pad Technical Info

Brake Pads To Suit AP Racing calipers

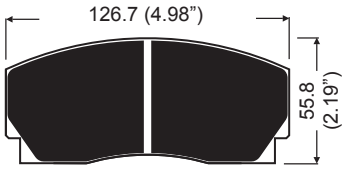
The following details provide basic information for each of the pad shapes in the range of brake pads currently available from AP Racing. Please note that drawings are not to scale.

CP2195D38
- Pad Thickness = 10.5mm (0.40")
- Pad Depth = 38.4mm (1.51")
- Pad Area = 22.4cm² (3.47in²)



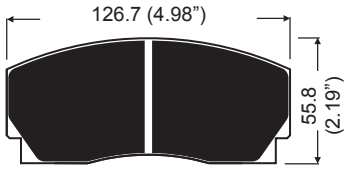
Available Friction Materials:
▫ APF403 ▫ APF405 ▫ 4003F ▫ APH420 ▫ DS2500 ▫ M1144

CP2270D46
- Pad Thickness = 16.6mm (0.65")
- Pad Depth = 46.0mm (1.81")
- Pad Area = 53.4cm² (8.27in²)



Available Friction Materials:
▫ APF401 ▫ APF403 ▫ APF405 ▫ M1144

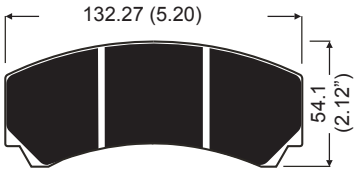
CP2270D50
- Pad Thickness = 16.6mm (0.65")
- Pad Depth = 50.3mm (1.98")
- Pad Area = 56.3cm² (8.72in²)



Available Friction Materials:
▫ APF403 ▫ APF405 ▫ DS2500 ▫ DS3000

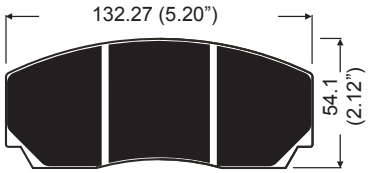
Previous View

CP2279D42
- Pad Thickness = 20.4mm (0.80")
- Pad Depth = 42.0mm (1.65")
- Pad Area = 48.3cm² (7.48in²)



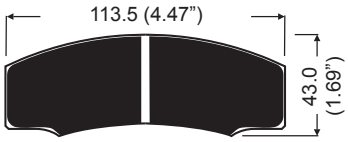
Available Friction Materials:
▫ APF403 ▫ DS3000

CP2279D50
- Pad Thickness = 20.4mm (0.80")
- Pad Depth = 50.3mm (1.98")
- Pad Area = 57.4cm² (8.89in²)



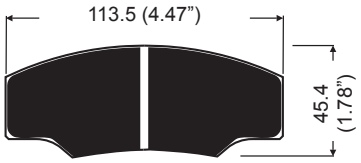
Available Friction Materials:
▫ APF401 ▫ APF402 ▫ DS1.11 ▫ H16

CP2340D38
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 38.0mm (1.50")
- Pad Area = 37.1cm² (5.75in²)



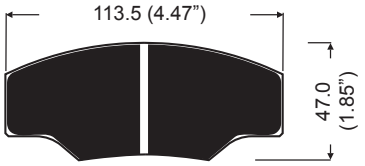
Available Friction Materials:
▫ Please Enquire; racetech@apracing.co.uk

CP2340D40
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 40.0mm (1.57")
- Pad Area = 38.5cm² (5.96in²)



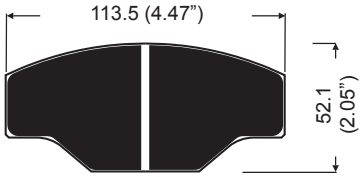
Available Friction Materials:
▫ DS3000

CP2340D43
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 43.1mm (1.70")
- Pad Area = 40.4cm² (6.26in²)



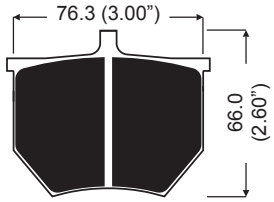
Available Friction Materials:
▫ APF401 ▫ APF403 ▫ APF404 ▫ DS2500 ▫ ST42

CP2340D51
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 50.8mm (2.0")
- Pad Area = 43.4cm² (6.73in²)



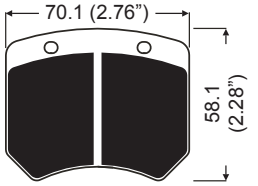
Available Friction Materials:
▫ APF402 ▫ APF403 ▫ APF404 ▫ DS2500 ▫ DS3000

CP2372D52
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 52.3mm (2.06")
- Pad Area = 34.61cm² (5.36in²)



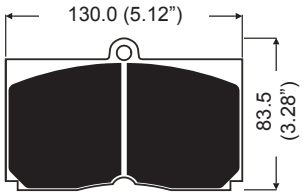
Available Friction Materials:
▫ APF403 ▫ DS3000

CP2399D43
- Pad Thickness = 14.3mm (0.56")
- Pad Depth = 43.0mm (1.69")
- Pad Area = 27.7cm² (4.29in²)



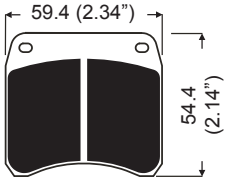
Available Friction Materials:
▫ APF403 ▫ APF405 ▫ DS1.11 ▫ DS2500 ▫ DS3000 ▫ H12 ▫ M1144 ▫ ST41 ▫ ST42 ▫ ST45

CP2749D66
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 65.5mm (2.58")
- Pad Area = 77.84cm² (12.06in²)



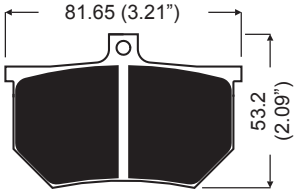
Available Friction Materials:
▫ Please Enquire, racetech@apracing.co.uk

CP2868D38
- Pad Thickness = 6.95mm (0.27")
- Pad Depth = 38.4mm (1.51")
- Pad Area = 22.4cm² (3.47in²)



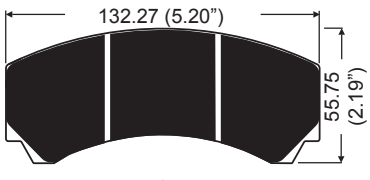
Available Friction Materials:
▫ RQ3 - ▫ N.B. Set of 2

CP3086D37
- Pad Thickness = 8.0mm (0.31")
- Pad Depth = 37.0mm (1.45")
- Pad Area = 26.13cm² (4.05in²)



Available Friction Materials:
▫ RQ3 - N.B. Set of 2

CP3215D42
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 50.29mm (1.98")
- Pad Area = 48.3cm² (7.48in²)



Available Friction Materials:
▫ APF401 ▫ APF403 ▫ DS3000 ▫ ST47

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BRAKE PADS - Pad Profiles For AP Racing Calipers

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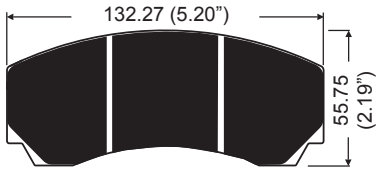
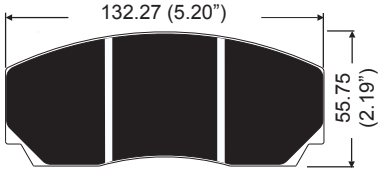
The following details provide basic information for each of the pad shapes in the range of brake pads currently available from AP Racing. Please note that drawings are not to scale.

CP3215D46
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 45.67mm (1.79")
- Pad Area = 54.6cm² (8.45in²)



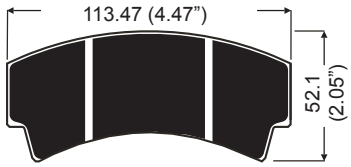
Available Friction Materials:
▫ APF403 ▫ DS2500 ▫ DS3000 ▫ ST41 ▫ ST43

CP3215D50
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 50.29mm (1.98")
- Pad Area = 57.36cm² (8.89in²)



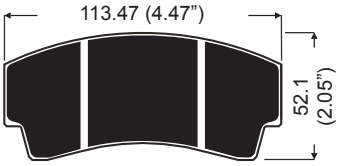
Available Friction Materials:
▫ APF402 ▫ APF403 ▫ APF404 ▫ DS2500 ▫ DS3000 ▫ F4R ▫ RS29 ▫ ST41 ▫ ST43 ▫ ST47

CP3345D38
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 38.0mm (1.49")
- Pad Area = 40.28cm² (6.24in²)



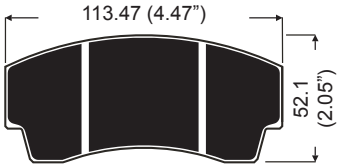
Available Friction Materials:
▫ APF403 ▫ F6R

CP3345D42
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 42.00mm (1.65")
- Pad Area = 43.90cm² (6.80in²)



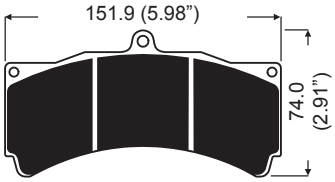
Available Friction Materials:
▫ APF401 ▫ APF405 ▫ DS2500 ▫ DS1.11 ▫ DS2.11

CP3345D44
- Pad Thickness = 15.9mm (0.63")
- Pad Depth = 44.14mm (1.74")
- Pad Area = 46.16cm² (7.15in²)



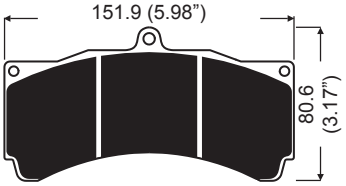
Available Friction Materials: ▫ APF401
▫ APF403 ▫ APF404 ▫ DS1.11 ▫ DS2.11
▫ DS2500 ▫ DS3000 ▫ RS14 ▫ ST41

CP3558D46
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 45.7mm (1.80")
- Pad Area = 66.6cm² (10.32in²)



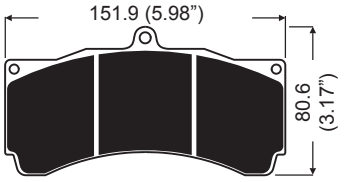
Available Friction Materials:
▫ Please Enquire, racetech@apracing.co.uk

CP3558D51
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 50.8mm (2.00")
- Pad Area = 73.7cm² (11.43in²)



Available Friction Materials:
▫ APF402 ▫ F2R ▫ ST45

CP3558D54
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 77.43cm² (12.00in²)

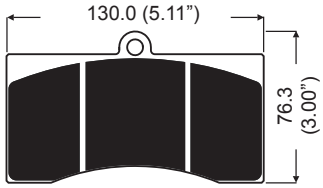


Available Friction Materials:
▫ APF402 ▫ DS2.11 ▫ DS3000 ▫ H16 ▫ RS29 ▫ ST41 ▫ ST45 ▫ ST47

CP3666D22
- Pad Thickness = 8.9mm (0.35")
- Pad Depth = 22.0mm (0.86")
- Pad Area = 19.83cm² (3.07in²)

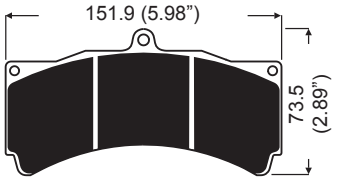
Available Friction Materials:
▫ RCA3 - N.B. Set of 2

CP3714D54
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 66.02cm² (10.23in²)



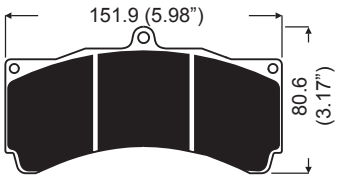
Available Friction Materials:
▫ DS3000

CP3894D46
- Pad Thickness = 18.0mm (0.71")
- Pad Depth = 45.7mm (1.80")
- Pad Area = 66.6cm² (10.32in²)



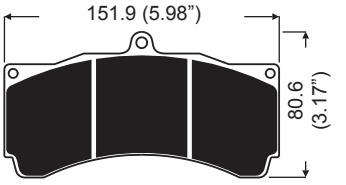
Available Friction Materials:
▫ APF405 ▫ DS2500 ▫ DS3000

CP3894D51
- Pad Thickness = 18.0mm (0.71")
- Pad Depth = 50.8mm (2.00")
- Pad Area = 73.7cm² (11.43in²)



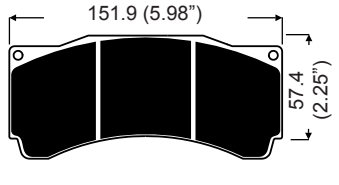
Available Friction Materials:
▫ APF402 ▫ APF403 ▫ APF404 ▫ DS2500 ▫ DS3000 ▫ RS42 ▫ RS421 ▫ ST41 ▫ ST42 ▫ ST45

CP3894D54
- Pad Thickness = 18.0mm (0.71")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 77.44cm² (12.00in²)



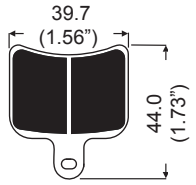
Available Friction Materials: ▫ APF402
▫ APF404 ▫ DS2500 ▫ DS3000 ▫ ST41

CP3905D54
- Pad Thickness = 18.0mm (0.71")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 77.44cm² (12.00in²)



Available Friction Materials: ▫ APF402
▫ APF404 ▫ H21 ▫ ST45 ▫ ST47

CP4226D27
- Pad Thickness = 7.0mm (0.27")
- Pad Depth = 26.84mm (1.05")
- Pad Area = 9.4cm² (1.45in²)



Available Friction Materials: ▫ APH420
▫ RQ3 ▫ RX ▫ N.B. Set of 2

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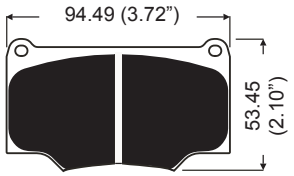
Brake Pads To Suit AP Racing calipers

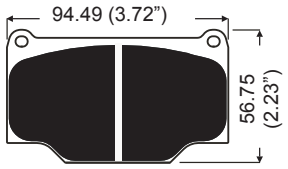
The following details provide basic information for each of the pad shapes in the range of brake pads currently available from AP Racing. Please note that drawings are not to scale.

CP4296D43
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 43.3mm (1.70")
- Pad Area = 35.9cm² (5.56in²)



Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP4296D46
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 45.7mm (1.79")
- Pad Area = 36.9cm² (5.72in²)



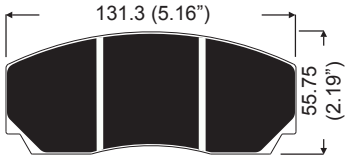
Available Friction Materials:
- Please Enquire racetech@apracing.co.uk

CP4466D22
- Pad Thickness = 9.0mm (0.35")
- Pad Depth = 22.0mm (0.86")
- Pad Area = 19.83cm² (3.07in²)

Available Friction Materials:
- RQ3
- SRR
- N.B. Set of 2

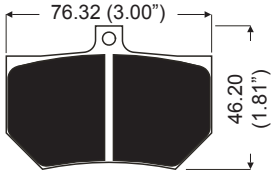
Previous View

CP4479D50
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 50.3mm (1.98")
- Pad Area = 60.44cm² (9.36in²)



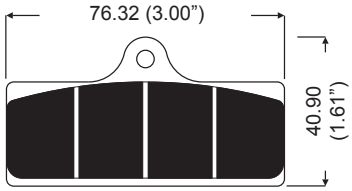
Available Friction Materials:
- Please Enquire racetech@apracing.co.uk

CP4484D34
- Pad Thickness = 8.0mm (0.31")
- Pad Depth = 34.0mm (1.34")
- Pad Area = 24.14cm² (3.74in²)



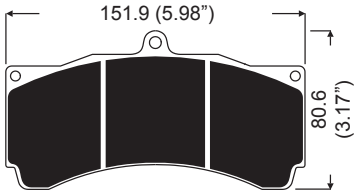
Available Friction Materials:
- RQ3
- N.B. Set of 2

CP4488D27
- Pad Thickness = 9.5mm (0.37")
- Pad Depth = 27.0mm (1.06")
- Pad Area = 18.55cm² (2.87in²)



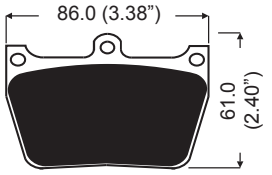
Available Friction Materials:
- CRR
- SRR
- N.B. Set of 2

CP4595D54
- Pad Thickness = 28.5mm (1.12")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 77.44cm² (12.00in²)



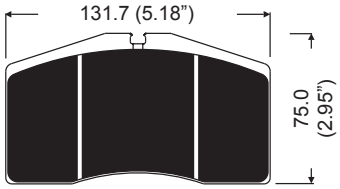
Available Friction Materials:
- Please Enquire racetech@apracing.co.uk

CP4848D46
- Pad Thickness = 18.0mm (0.70")
- Pad Depth = 46.0mm (1.81")
- Pad Area = 35.5cm² (5.50in²)



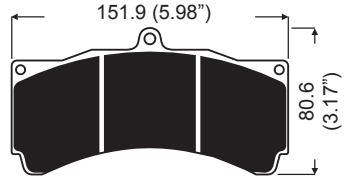
Available Friction Materials:
- DS3000

CP5045D61
- Pad Thickness = 24.0mm (0.94")
- Pad Depth = 60.5mm (2.38")
- Pad Area = 74.0cm² (11.47in²)



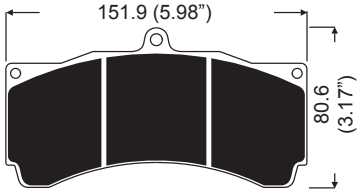
Available Friction Materials:
- DS3000
- F2R

CP5070D51
- Pad Thickness = 17.0mm (0.67")
- Pad Depth = 50.8mm (2.00")
- Pad Area = 73.7cm² (11.43in²)



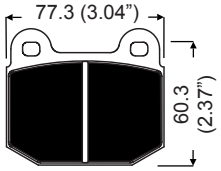
Available Friction Materials:
- APF404
- DS2500
- DS3000
- RS421

CP5070D54
- Pad Thickness = 17.0mm (0.67")
- Pad Depth = 54.0mm
- Pad Area = 77.2cm² (11.96in²)



Available Friction Materials:
- APF404
- DS2500

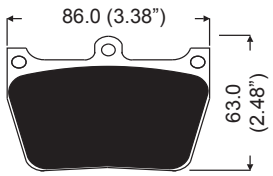
CP5119D50
- Pad Thickness = 14.35mm (0.56")
- Pad Depth = 50.0mm (1.96")
- Pad Area = 33.70m² (5.22in²)



Available Friction Materials:
- APF401
- APF403
- APF405
- 4003F
- DS2500
- DS25HP
- DS3000
- RS14
- RS29

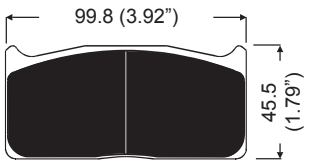
Previous View

CP5148D46
- Pad Thickness = 15.0mm (0.59")
- Pad Depth = 46.0mm (1.81")
- Pad Area = 35.5cm² (5.50in²)



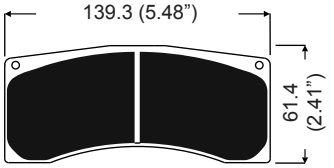
Available Friction Materials:
- DS3000
- ST39

CP5510D43
- Pad Thickness = 20.0mm (0.78")
- Pad Depth = 43.0mm (1.69")
- Pad Area = 39.39cm² (6.10in²)



Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP5788D48
- Pad Thickness = 20.0mm (0.78")
- Pad Depth = 48.0mm (1.88")
- Pad Area = 63.2cm² (9.79in²)



Available Friction Materials:
- APF402
- APF403
- DS2.11
- H16
- H19
- ST41
- ST43
- ST45
- ST47

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BRAKE PADS - Pad Profiles For AP Racing Calipers

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More Brake Pad Profiles
AP Racing Brake Pad Range
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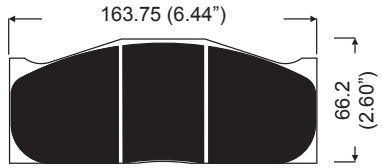
The following details provide basic information for each of the pad shapes in the range of brake pads currently available from AP Racing. Please note that drawings are not to scale.

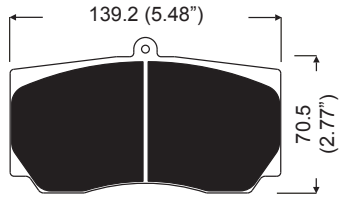
Previous View

CP5820D62
- Pad Thickness = 29.8mm (1.17")
- Pad Depth = 62.0mm (2.44")
- Pad Area = 89.84cm² (13.78in²)



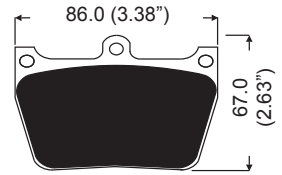
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP5850D62
- Pad Thickness = 27.7mm (1.09")
- Pad Depth = 62.0mm (2.44")
- Pad Area = 78.88cm² (12.22in²)



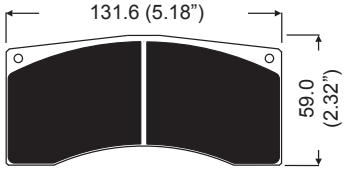
Available Friction Materials:
- ST41
- ST42
- ST45
- ST47

CP6050D50
- Pad Thickness = 20.0mm (0.78")
- Pad Depth = 50.0mm (1.96")
- Pad Area = 38.8cm² (6.01in²)



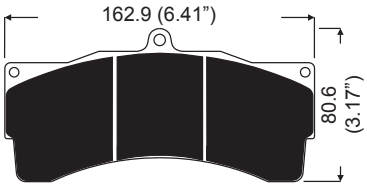
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6070D49
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 49.0mm (1.92")
- Pad Area = 61.6cm² (9.54in²)



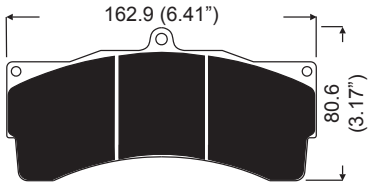
Available Friction Materials:
- DS3000
- H16
- H21

CP6210D54
- Pad Thickness = 30.0mm (1.18")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 83.07cm² (12.97in²)



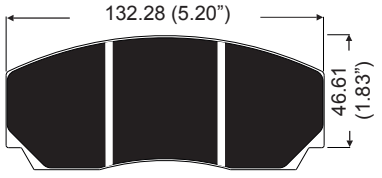
Available Friction Materials:
- DS2.11
- H16
- H21
- APF402
- ST41

CP6230D54
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 81.62cm² (12.65in²)



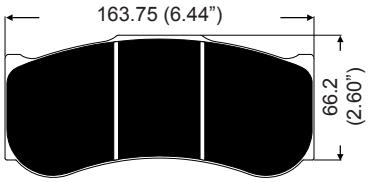
Available Friction Materials:
- APF404
- DS3000
- H16
- ST43

CP6267D50
- Pad Thickness = 25.0mm (0.98")
- Pad Depth = 50.0mm (1.96")
- Pad Area = 60.4cm² (9.36in²)



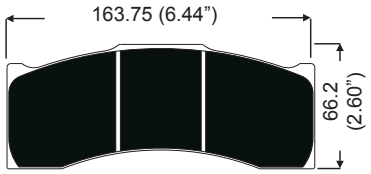
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6268D62
- Pad Thickness = 28.0mm (0.98")
- Pad Depth = 62.0mm (2.44")
- Pad Area = 97.9cm² (15.17in²)



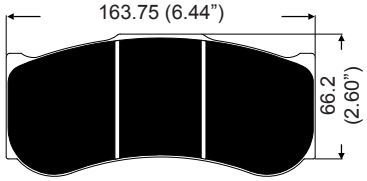
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6276D54
- Pad Thickness = 30.0mm (1.18")
- Pad Depth = 54mm (2.12")
- Pad Area = 82.33cm² (12.76in²)



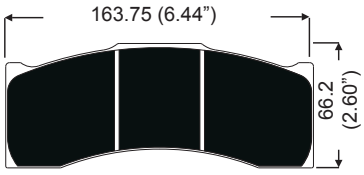
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6276D62
- Pad Thickness = 30.0mm (1.18")
- Pad Depth = 62.0mm (2.44")
- Pad Area = 94.72cm² (9.36in²)



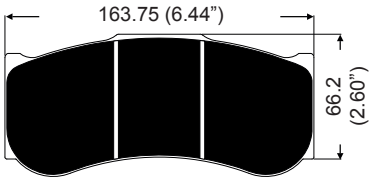
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6277D54
- Pad Thickness = 32.0mm (1.25")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 82.33cm² (12.76in²)



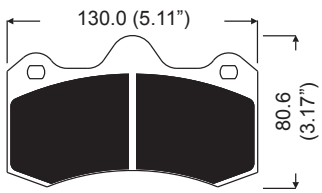
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6277D62
- Pad Thickness = 32.0mm (1.25")
- Pad Depth = 62.0mm (2.44")
- Pad Area = 97.9cm² (15.17in²)



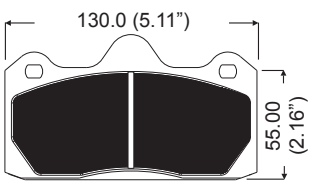
Available Friction Materials:
- Please Enquire, racetech@apracing.co.uk

CP6600D55
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 55.0mm (2.16")
- Pad Area = 64.6cm² (10.01in²)



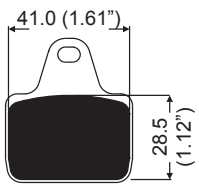
Available Friction Materials:
- APF404
- DS2500
- DS3000
- RS14B

CP6627D51
- Pad Thickness = 14.75mm (0.58")
- Pad Depth = 51.0mm (2.00")
- Pad Area = 55.60cm² (8.61in²)



Available Friction Materials:
- APF404

CP6688D29
- Pad Thickness = 10.0mm (0.39")
- Pad Depth = 28.5mm (1.12")
- Pad Area = 11.09cm² (1.71in²)



Available Friction Materials:
- CRR
- N.B. Set of 2

Brake Pad Home Page

Brake Pads To Suit AP Racing calipers

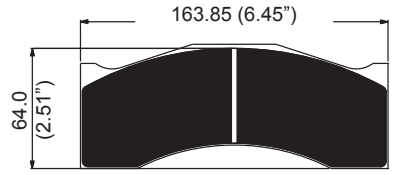
AP Racing Brake Pad Range

Brake Pad General Info

Brake Pad Technical Info

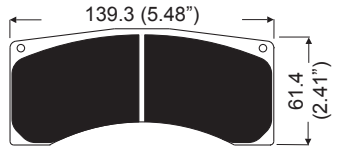
The following details provide basic information for each of the pad shapes in the range of brake pads currently available from AP Racing. Please note that drawings are not to scale.

CP6766D50
- Pad Thickness = 18mm (0.70")
- Pad Depth = 50.5mm (1.98")
- Pad Area = 81.9cm² (12.69in²)



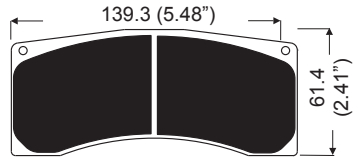
Available Friction Materials:
- ST41

CP6820D46
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 46.0mm (1.81")
- Pad Area = 61.7cm² (9.56in²)



Available Friction Materials:
- APF403
- ST41
- ST45
- ST47

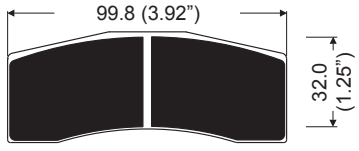
CP6820D48
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 48.0mm (1.89")
- Pad Area = 64.6cm² (10.01in²)



Available Friction Materials:
- APF403
- DS3000
- ST45
- ST47

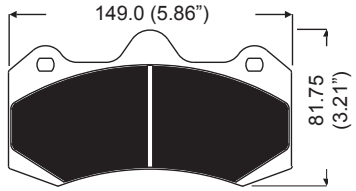
Previous View

CP7031D32
- Pad Thickness = 15.75mm (0.62")
- Pad Depth = 32.0mm (1.26")
- Pad Area = 30.35cm² (6.74in²)



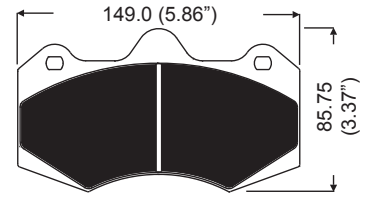
Available Friction Materials:
- APF402
- DS1.11
- DS2.11
- F4R
- F6R

CP7040D54
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 54.0mm (2.12")
- Pad Area = 68.35cm² (10.59in²)



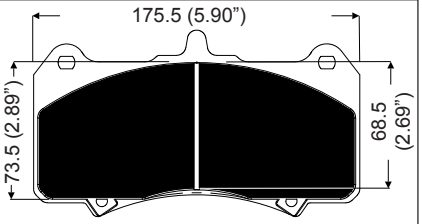
Available Friction Materials:
- APF404
- APF405
- DS2500
- DS25HP
- DS3000

CP7040D61
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 61.0mm (2.40")
- Pad Area = 72.5cm² (11.23in²)



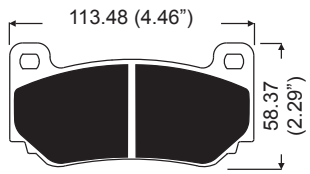
Available Friction Materials:
- APF405
- DS2500
- DS25HP
- DS3000
- RS29
- ST45
- ST47

CP7555D70
- Pad Thickness = 16.75mm (0.66")
- Pad Depth = 70.0mm (2.75")
- Pad Area = 108.9cm² (16.87in²)



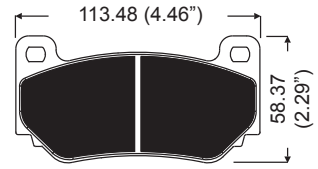
Available Friction Materials:
- APF404
- DS25HP
- DS3000

CP7600D43
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 43.0mm (1.69")
- Pad Area = 30.35cm² (4.70in²)



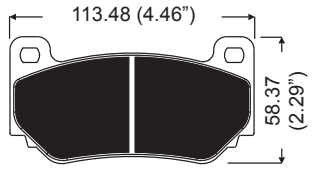
Available Friction Materials:
- DS2500
- DS3000

CP7600D46
- Pad Thickness = 16.0mm (0.63")
- Pad Depth = 46.2mm (1.81")
- Pad Area = 43.5cm² (6.74in²)



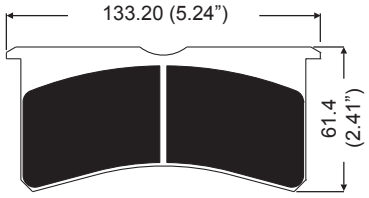
Available Friction Materials:
- APF403
- APF404
- DS2500
- DS25HP
- DS3000
- F4R

CP7635D46
- Pad Thickness = 14.25mm (0.56")
- Pad Depth = 46.2mm (1.81")
- Pad Area = 43.5cm² (6.74in²)



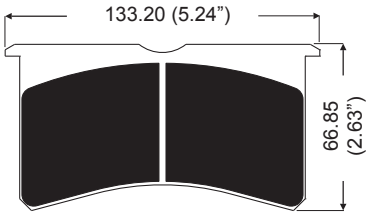
Available Friction Materials:
- APF404
- DS25HP
- RS14B

CP8250D41
- Pad Thickness = 20.1mm (0.79")
- Pad Depth = 41.0mm (1.61")
- Pad Area = 50.2cm² (7.78in²)



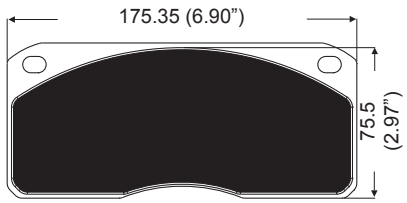
Available Friction Materials:
- APF403
- APF405
- DS3000

CP8250D50
- Pad Thickness = 20.1mm (0.79")
- Pad Depth = 49.7mm (1.95")
- Pad Area = 58.3cm² (9.03in²)



Available Friction Materials:
- APF403
- APF405

CP8310D70
- Pad Thickness = 17.8mm (0.70")
- Pad Depth = 70.5mm (2.77")
- Pad Area = 109.1cm² (16.9in²)



Available Friction Materials:
- APF405
- DS2500
- DS25HP

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AP Racing Brake Pad Range

Brake Pad Technical Info

Brake Pad Profiles

BRAKE PADS TO SUIT AP RACING BRAKE CALIPERS.

The tables below provide details of the complete range of AP Racing brake calipers and the correct pad shape to suit each caliper in the range. As well as providing information on current calipers, the table also includes all the obsolete AP Racing calipers.
(Calipers no longer in production or no longer available from AP Racing), and gives the correct pad family number where still available. Please refer to the individual pad profiles on pages 51 to 55 to ensure that the pad shape is still available. When using the chart the following points should be noted:-

1. Some installations require the use of a 'Scalloped' version of the given pad family. In these cases the full area pad cannot be used.
2. In most cases a thinner version of the original pad can be used as an alternative.
3. A 'Scalloped' pad (smaller radial depth) can usually be used in place of the full area pad but may affect ultimate performance.
NB Inclusion of a caliper in this list does not indicate availability.

Caliper No.	Pad No.
CP2195	CP2195
CP2270	CP2270
CP2271	CP2270
CP2279	CP2279
CP2290	CP2279
CP2340	CP2340
CP2361	CP2340
CP2372	CP2372
CP2373	CP2372
CP2382	CP2372
CP2383	CP2372
CP2384	CP2372
CP2385	CP2340
CP2399	CP2399
CP2409	CP2279
CP2425	CP2270
CP2485	CP2399
CP2505	CP2195
CP2561	CP2554
CP2562	CP2554
CP2564	CP3714
CP2570	CP2372
CP2575	CP2270
CP2576	CP2399
CP2577	CP2399
CP2578	CP2372
CP2586	CP2399
CP2587	CP2399
CP2600	CP2195
CP2601	CP2195
CP2632	CP2887
CP2636	CP2279
CP2639	CP2279
CP2645	CP2645
CP2661	CP2340
CP2667	CP2399
CP2696	CP2195
CP2698	CP2372
CP2699	CP2372
CP2702	CP2702
CP2712	CP2712
CP2735	CP2195
CP2736	CP2702
CP2749	CP2749
CP2750	CP2749
CP2751	CP2749
CP2752	CP2749
CP2755	CP2749
CP2756	CP2749
CP2757	CP2749
CP2758	CP2749
CP2770	CP2195
CP2824	CP2340
CP2830	CP2830
CP2831	CP2270
CP2832	CP2749
CP2833	CP2749
CP2843	CP2749
CP2852	CP2399
CP2854	CP2554
CP2862	CP2399
CP2868	CP2868
CP2870	CP2870
CP2876	CP2270
CP2877	CP2279
CP2879	CP2554
CP2887	CP2340
CP2888	CP2340
CP2889	CP2279
CP2890	CP2279
CP2895	CP2399
CP2910	CP2279
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CP2919	CP2399
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CP2988	CP2340
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CP2999	CP2998
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CP3090	CP2279
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CP3162	CP2749
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CP3167	CP2749
CP3170	CP2279
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CP3176	CP2399
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CP3178	CP2399
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CP3209	CP2279
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CP3249	CP2279
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CP3259	CP2749
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CP3288	CP3215
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CP3360	CP2749
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CP3379	CP2340
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CP3386	CP3086
CP3387	CP3714
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CP3394	CP2279
CP3395	CP2279
CP3416	CP2279
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CP4227	CP4226
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CP4477	CP4466
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CP4960	CP4240
CP4970	CP4970
CP4974	CP4970
CP4979	CP4990
CP4995	CP4990
CP4996	CP3215
CP5000 RANGE	
-10 / -13	CP3714
-20 / -23	CP3215
-30 / -33	CP3345
-40 / -43	CP3215
-50 / -53	CP3215
-56 / -59	CP3215
-74 / -77	CP3215
CP5006	CP3215
CP5015	CP3714
CP5016	CP3714
CP5017	CP3714
CP5018	CP3714
CP5020	CP2399
CP5030	CP4296
CP5040 RANGE	
-2 / -5	CP3215
-10 / -13	CP3345
-20 / -23	CP3714
-30 / -33	CP2279
CP5045	CP5045
CP5060	CP3894
CP5070	CP5070
CP5090	CP2279
CP5095	CP3558
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CP5895	CP4595
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CP5990	CP5788
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CP6560	CP3215
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CP6562	CP3215
CP6564	CP3215
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CP7635	CP7635
CP7751	CPF751
CP7853	CP4488
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CP9445	CP3215
CP9446	CP6820
CP9447	CP6820
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CP9450	CP3215
CP9451	CP3215
CP9540	CP6600
CP9541	CP6600
CP9542	CP6600
CP9560	CP7555
CP9561	CP7555
CP9562	CP7555
CP9660	CP3905
CP9665	CP6230
CP9668	CP3558

FACTORY BRAKE KITS

- FACTORY BIG BRAKE KITS.
  - INTRODUCTION.
  - APPLICATION LISTING.

- FACTORY COMPETITION BRAKE KITS.

FACTORY BIG BRAKE KIT

AP Racing, the world's premier brake specialists continue to put their unrivalled experience into producing up-rated brake kits for a range of models. The Factory Big Brake Kits are compatible with standard suspension on all applications, but in the majority of cases will require an aftermarket wheel. AP Racing continually improve their brake kits by carrying out extensive testing programs to replicate the conditions encountered by performance brake systems in everyday use. Information on the equipment used in Factory Big Brake Kits, together with performance data obtained from an independent test on a typical high performance vehicle and a current application list is given on page 59.

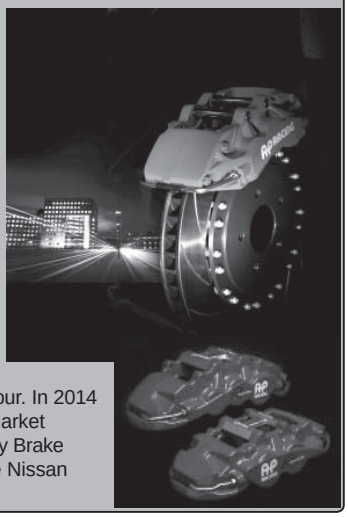
FACTORY BIG BRAKE KITS HAVE:-

- **INCREASED STOPPING POWER** - Bigger discs and multi piston calipers mean more power.
- **REDUCED FADE** - Greater tolerance to heat build up means consistent stops.
- **RACING PEDIGREE** - Built with the same care and by the same technicians as our racing brakes.
- **FULLY ADAPTED FOR ROAD USE** - Adapted specifically for the road with dust seals and a durable anti corrosion finish.

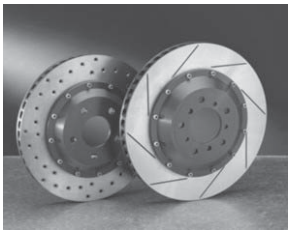
FACTORY BIG BRAKE KITS ARE:

4 OR 6 PISTON DIFFERENTIAL BORE CALIPERS.

Calipers are made to AP Racing's exacting standards and use two or three pairs of opposing pistons, depending on the application, in each caliper. Trailing edge pistons often have a slightly larger diameter than the leading ones, to compensate for mechanical end load and protect the pads from tapered wear. On road cars with thin spoke alloy wheels the visual effect of the brakes is important. The calipers are hard anodised and then finished with a tough Red or Black protective paint finish with the AP Racing logo embossed in the casting or screen printed in a contrasting colour. In 2014 AP Racing launched its first aftermarket Radi-CAL™ calipers to the Factory Brake Kit range. Initial application was the Nissan Skyline GTR35



LARGE DIAMETER DISCS.

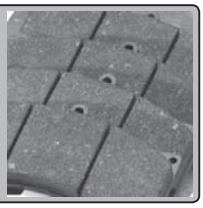


Ventilated discs have 24, 30, 36, 48 or 72 cooling vanes, depending on the application, to draw air through the centres of the discs. They are handed left and right, and are cross drilled or grooved, again, depending on the application, to allow gasses that build up on the pad surface to escape. Where cross drilling is used it is more restrained than on our full face race discs, as pad longevity is more important on a road car than weight saving. The discs are wider and of a larger diameter than standard. The extra material controls heat buildup and the larger diameter means that the calipers can be mounted further away from the centre increasing the leverage effect, which increases braking torque while decreasing effort required on the pedal.

HEAVY DUTY DISC APPLICATIONS.

Some heavy duty applications will use AP Racing's latest disc mounting technology. Either Bobbin Float or Strap Drive Systems are used. The strap drive option uses a series of stainless steel straps to locate the disc to the mounting bell, producing a flexible coupling between the hub and the disc faces, this allows the disc to run true in the caliper under all conditions and also permits the disc to expand and contract without being restricted.

PERFORMANCE BRAKE PADS.



Almost all AP Racing Factory Big Brake Kits come complete with AP Racing APF404 pads. These are ideally suited for all round performance road use. We can advise on, or specify and supply alternative pads specifically for track days.

FACTORY DOT 5.1 BRAKE FLUID.

Factory DOT 5.1 meets the performance criteria of DOT 5.1 and as such is one of the most advanced brake fluids on the market, suitable for all conditions likely to be encountered in modern driving conditions.

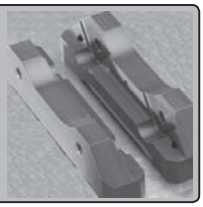
STAINLESS STEEL BRAIDED HOSES & GUARDS.

Not only do braided hoses offer extra protection against damage, they also resist expansion when fluid within them is under pressure. Standard hoses can 'give' under pressure resulting in a spongy feel.

ALUMINIUM BELLS.

To prevent heat distortion and stress cracking, the special cast iron discs are mounted on aluminium bells. (Except BMW Mini & some rear kits.) This allows for the tiny amount of flexing required to avoid distortion.

CALIPER MOUNTING BRACKETS.

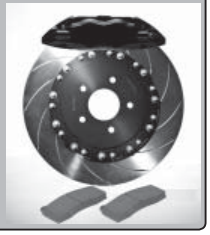


Machined from aluminium or steel billet for maximum strength.
The brackets ensure accurate relocation of the calipers making installation straight forward.

BOLTS, WASHERS AND FIXINGS.

AP Racing Brake Kits are complete conversions containing everything you need. Disc and bells are already assembled, mounting nuts and bolts are of high tensile steel.

VENTILATED DISC AND BELL KITS



AP Racing now produce disc and bell kits as aftermarket direct replacements for OE discs. These kits are designed to replace the standard single piece disc retaining the vehicles production caliper. The kits includes either bobbin float, strap drive or rigid (Bolted) disc and bell assemblies and for the kit with pads a set of AP Racing APF404 or Ferodo DS2500 pads. For applications and part number details see page 39.

APPLICATION.		YEAR.	BRAKE KIT PART No.	CALIPER TYPE.	DISC SIZE / No VANES.	BRAKE DISC PART NUMBERS.	BRAKE PADS.	WHEEL & NOTES.
AUDI	TT.	98 - 06	CP5570-1009	6 Pot	Ø330x28 / 48V	CP3580-2898CG8 (RH) / -2899CG8 (LH)	CP5070D51-APF404	7.5Jx17" ET32 Standard Ronal.
	S3.	99 - 03	CP5570-1009	6 Pot	Ø330x28 / 48V	CP3580-2898CG8 (RH) / -2899CG8 (LH)	CP5070D51-APF404	7.5Jx17" ET32 Standard Ronal.
		03 - 12	CP5575M1011BK.CG12	6 Pot	Ø355x32 / 48V	CP6895-03M.CG12 (RH) & (LH) Disc Kit	CP5070D54-APF404	18" OE Requires 3mm Spacer.
BMW	335i E92. Front	2006 on	CP5575-1009.G8	6 Pot	Ø355x32 / 48V	CP3581-536G8 (RH) / -537G8 (LH)	CP5070D54-APF404	18" Standard Wheel.
	335i E92. Rear		CP6625-1000BK	4 Pot	Standard BMW Disc. Not Included in kit.		CP6600D50-APF404	
	M3, E36 Front.	93 - 2001	CP5555-1009	6 Pot	Ø343x32 / 48V	CP3581-542G8 (RH) / -543G8 (LH)	CP3894D54-APF404	18" Aftermarket.
	M3, E36 Rear.		CP5144-1002	4 Pot	Standard BMW Disc. Not Included in kit.		CP2340D43-APF404	8Jx17", M Sport
	M3, E46 Front.	01 - 06	CP5555-1037	6 Pot	Ø356x32 / 48V	CP7177-110G8 (RH) / -111G8 (LH)	CP3894D54-APF404	18", Aftermarket.
			CP5575-1004	6 Pot	Ø356x32 / 48V	CP7177-110G8 (RH) / -111G8 (LH)	CP5070D54-APF404	18" / 19" BMW Standard.
	M3, E46, Rear.	01 - 06	CP5144-1003	4 Pot	Standard BMW Disc. Not Included in kit.		CP2340D51-APF404	18" / 19" BMW Standard.
			CP5144-1004.G8	4 Pot	Ø328x20 / 48V	CP4475-122G8 (RH) / -123G8 (LH)	CP2340D51-APF404	
	M3, E92 Front, 18" wheel	2007 on	CP5555M1050BG.G8	6 Pot	Ø368x36 / 72V	CP6895-02M.G8 kit	CP3894D54-APF404	18" OE.
	M3, E92 Front, 19" wheel	2007 on	CP5555M1049BG.G8	6 Pot	Ø378x36 / 72V	CP6895-01M.G8 Kit	CP3894D54-APF404	19" OE.
	M3, E92 Rear		CP6602-1001BG.G8	4 Pot	Ø352x26 / 48V	CP6565-172G8 (RH) / -173G8 (LH)	CP6606D51-DS2500	
	M5, E60.	05 - 10	CP5555M1051.T2	6 Pot	Ø378x36 / 48V	CP6895-01M.T2	CP3894D54-APF404	Standard Wheel.
	M5, E60 Rear.	05 - 10	CP6635-1000.T2	4 Pot	Ø366x26 / 48V	CP6565-122T2 (RH) / -123T2 (LH)	CP6600D55-APF404	
	M6, E63/64	05 - 10	CP5555M1051.T2	6 Pot	Ø378x36 / 48V	CP6895-01M.T2	CP3894D54-APF404	
	M6, E63/64 Rear.	05 - 10	CP6635-1000.T2	4 Pot	Ø366x26 / 48V	CP6565-122T2 (RH) / -123T2 (LH)	CP6600D55-APF404	
	Mini One, Cooper & S.	2000 on	CP7611-1000	4 Pot	Ø304x24	CP7080-104SD x 2	CP7600D46-APF404	16"/17" Aftermarket Rim.
		2000 on	CP6638-1000.CG8	4 Pot	Ø330x26 / 40V	CP5175-144.CG8 (RH) / -145.CG8 (LH)	CP6627D51-DS500	17" Aftermarket
	Mini R53 & R56	2000 on	CP7645-1001BG.G4	4 Pot	Ø315x22 / 48V	CP4348-942G4 (RH) / -943.G4 (LH)	CP7635D46-APF404	17" JCW Wheels
	Z3M Coupe Front.	98-02	CP5555-1009	6 Pot	Ø343x32 / 48V	CP3581-542G8 (RH) / -543G8 (LH)	CP3894D54-APF404	8Jx17", M Sport
	Z3M Coupe Rear.	98-02	CP5144-1002	4 Pot	Standard BMW Disc. Not Included in kit.		CP2340D43-APF404	8Jx17", M Sport
	Z4M Coupe (Only) Front.	06 - 08	CP5575-1010BK.G8	6 Pot	Ø355x32 / 48V	CP7177-110G8 (RH) / -111G8 (LH)	CP5070D54-APF404	18" Standard Wheel. Z4M (only) Kits do not fit Alpina models.
	Z4M Coupe (Only) Rear.		CP5144-1004.G8	4 Pot	Ø328x20 / 48V	CP4475-122G8 (RH) / -123G8 (LH)	CP2340D51-APF404	
FORD	Fiesta ST MK7	2013	CP6637-1004CG12	4 Pot	Ø315x24 / 48V	CP4348-940.CG12 (RH) / -941.CG12 (LH)	CP6627D51-APF404	17" Aftermarket Wheel
	Focus RS.	02 - 03	CP7040-1006	6 Pot	Ø355x32 / 48V	CP4542-106CG12 (RH) / -107CG12 (LH)	CP7040D54-APF404	Standard 02/18".
	Focus RS Mk2	09 / 10	CP5575-1012BG.PG10	6 Pot	Ø355x32 / 48V	CP4542-106.PG10 (RH) / -107.PG10 (LH)	CP5070D54-APF404	19" OE
	Focus ST MK3	2012 -	CP6628-1006BG.CG8	4 Pot	Ø343x28 / 48V	CP6565-160CG8 (RH) / -161CG8 (LH)	CP6627D51-DS2500	18" or 19" Aftermarket Wheel.
HONDA Civic Type R - FN2		2007 on	CP6637-1002.CG8	4 Pot	Ø330x26 / 48V	CP3580-1180CG8 (RH) / -1181CG8 (LH)	CP6627D51-DS2500	
JAGUAR - XJR8 Rear.		97 - 03	CP5108-1000BK.G8	4 Pot	Ø306x23 Integ	CP4450-130T2 x 2	CP2340D43-APF404	8Jx18", Aftermarket.
MITSUBISHI	Evo 5 and 6 Rear.	96 - 01	CP5108-1002	4 Pot	Standard Evo Disc. Not included in kit.		CP2340D43-APF404	7.5Jx17", OZ Super Turismo.
	Evo 7, 8 & 9 Front.	01 - 08	CP5555-1035	6 Pot	Ø362x32 / 48V	CP3718-1068RD (RH) / -1069RD (LH)	CP3894D54-APF404	8Jx18", Compomotive.
			CP7040-1008R2.CG12		Ø362x32 / 48V	CP4542-112CG12 (RH) / -113CG12 (LH)	CP7040D54-APF404	19", Aftermarket.
			CP7040-1009R2.CG12		Ø355x32 / 48V	CP4542-106CG12 (RH) / -107CG12 (LH)	CP7040D54-APF404	18", Aftermarket.
	Evo 7, 8 & 9 Rear.	01 - 08	CP5108-1003	4 Pot	Standard Evo Disc. Not included in kit.		CP2340D43-APF404	8Jx17", ET38 Standard.
	Evo 10 Front.	2008 on	CP7040M1014BK.CG12	6 Pot	Ø355x32 / 48V	CP6895-03M.CG12 (RH) & (LH) Disc Kit.	CP7040D54-APF404	18" OE.
NISSAN	Skyline GTR33 Front.	95 - 98	CP5555-1000BG.CG12	6 Pot	Ø343x32 / 48V	CP3581-542CG12 (RH) / -543CG12 (LH)	CP3894D54-APF404	8Jx17", Standard Wheel.
	Skyline GTR34 Front.	99 - 02	CP5555Y1026BG.CG12	6 Pot	Ø356x32 / 48V	CP8080Y40CG12(RH) / 41CG12 (LH)	CP3894D54-APF404	18", Aftermarket Wheel - CP8080Y40 & Y41 disc kits include CP2494-2261 disc & bell mtg kit.
	Skyline GTR35 - Front	2008 on	CP8521Z1000BG.CG12	6 Pot	Ø410x36 / 73V	CP8080Z28CG12 (RH) /Z29CG12 (LH)	CP7555D70BX-DS25HP	20" GTR Wheel. Note CG & GA Disc face types available.
	Skyline GTR35 - Rear	2008 on	CP8540Z1000BG.CG12	4 Pot	Ø400x32 / 73V	CP8080Z30CG12 (RH) / Z31CG12 (LH)	CP6600X55BX-DS25HP	
	300 ZX.	89 - 96	CP5555-1000BG.CG12	6 Pot	Ø343x32 / 48V	CP3581-542CG12 (RH) / -543CG12 (LH)	CP3894D54-APF404	8Jx17", Wheel.
	350Z Front.	03 - 09	CP7040-1011.CG12	6 Pot	Ø362x32 / 48V	CP4542-142CG12 (RH) / -143CG12 (LH)	CP7040D61-DS2500	Standard Wheel.
PEUGEOT 106.		91 - 04	CP5100-1004	4 Pot	Ø285x25 / 30V	CP4448-916RD (RH) / -917RD (LH)	CP2340D43-APF404	6.5Jx15", Speedline (212/P1655S1)
SUBARU	Impreza - Fr - Classic shape	93 - 01	CP5570-1000.G8	6 Pot	Ø330x28 / 48V	CP3580-2898CG8 (RH) / -2899CG8 (LH)	CP5070D51-APF404	8Jx17".
	Impreza - Rr - Classic shape	93 - 01	CP7615-1002.G8	4 Pot	Ø310x24 / 36V	CP4450-448P (RH) / -449P (LH)	CP7600D43-DS2500	Replace Subaru, 2 Pot Caliper.
	Impreza - New age shape & N14 Front	2001 / 2014	CP9040Y1003R2.CG12	6 Pot	Ø355x32 / 48V	CP8080Y38.CG12 (RH) / Y39.CG12 (LH)	CP7040D54-APF404	18", Speedline.
			CP5570-1017.G8	6 Pot	Ø330x28 / 48V	CP3580-2898CG8 (RH) / -2899CG8 (LH)	CP5070D51-APF404	17" wheel.
	Impreza Rear. "New age shape"	01 - 07	CP7625-1000R2. CG12	4 Pot	Ø335x24 / 36V	CP6950-110CG12 (RH) / CP6950-111CG12 (LH)	CP7600D46-APF404	17", Standard. Replaces 2 Pot Brembo/Subaru Calipers.
	N14 Rear	08 on	CP7615-1004BK. CG12	4 Pot	Ø335x24 / 36V	CP6950-110CG12 (RH) / CP6950-111CG12 (LH)	CP7600D46-APF404	18" Standard, replaces Brembo 2 Pot Calipers.
	BRZ - Front 6 Piston Kit	2012	CP9040Y1001BG. CG12	6 Pot	Ø350x32 / 48V	CP8080Y20.CG12 (RH) / CP8080Y21.CG12 (LH)	CP7040D54-APF404	18" Aftermarket. GA (J Hook) Disc option available.
	BRZ - Front 4 Piston Kit		CP6628-1005BG. CG12	4 Pot	Ø332x26 / 48V	CP6565-188CG12 (RH) / CP6565-189CG12 (LH)	CP6627D51-APF404	Standard 17" Wheel. GA (J Hook) Disc option available.
	BRZ - Rear		CP7615-1005BG.CG12	4 Pot	Ø335x24 / 36V	CP6950-114CG12 (RH) / -115CG12 (LH)	CP7600D46-APF404	GA (J Hook) Disc option available.
TOYOTA Supra Mk4 Turbo		93 - 02	CP5555-1008	6 Pot	Ø356x36 / 48V	CP3581-1096G8 (RH) / -1097G8 (LH)	CP3894D54-APF404	9Jx18", ET45 Gewalt Mackin.
TOYOTA Celica.		93 - 99	CP5570-1018.G8	6 Pot	Ø330x32 / 48V	CP3581-222G8 (RH) / -223G8 (LH)	CP5070D51-APF404	17" Aftermarket
TOYOTA GT86 - Front 6 Piston Kit		2012	CP9040Y1001BG. CG12	6 Pot	Ø350x32 / 48V	CP8080Y20.CG12 (RH) / CP8080Y21.CG12 (LH)	CP7040D54-APF404	18" Aftermarket. GA (J Hook) Disc option available.
TOYOTA GT86 - Front 4 Piston Kit			CP6628-1005BG. CG12	4 Pot	Ø332x26 / 48V	CP6565-188CG12 (RH) / CP6565-189CG12 (LH)	CP6627D51-APF404	Standard 17" Wheel. GA (J Hook) Disc option available.
TOYOTA GT86 - Rear			CP7615-1005BG.CG12	4 Pot	Ø335x24 / 36V	CP6950-114CG12 (RH) / -115CG12 (LH)	CP7600D46-APF404	GA (J Hook) Disc option available.
VW	Golf Mk5, R32	05 - 08	CP5575M1011BK.CG12	6 Pot	Ø355x32 / 48V	CP6895-03M.CG12 Disc Kit	CP5070D54-APF404	18" Aftermarket Wheel
	Golf Mk6, GTi & TDi	2009 on	CP7068-1000BG. CG12	6 Pot	Ø355x32 / 48V	CP4542-106CG12 (RH) / -107CG12 (LH)	CP7040D54-APF404	18" Aftermarket wheel.
	Scirocco Mk3, GTi/TDi	2008 on						

CUSTOMER NOTES

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FACTORY BIG BRAKE & COMPETITION BRAKE KITS

Factory Big Brake Kit Home Page

Factory Big Brake Kits

Appl Listing Audi to VW

IMPORTANT NOTE: BRAKE PROFILE DRAWINGS.
To help with the correct wheel choice to suit our Factory Big Brake Kits please log on to: www.apracing.com to check the wheel profile drawing which can be downloaded for your given model. If the information is not available for your model please contact AP Racing directly.

FACTORY COMPETITION BRAKE KIT

AP Racing, the world's premier racing Brake specialists, are able to apply their unrivalled experience into producing upgraded Brake Kits for a range of models for competition use. The Brake Kits listed below are compatible with standard suspension on all applications. But in the majority of cases will require an aftermarket wheel. AP Racing carry out extensive testing programs which replicate the conditions of use and operate a policy of continuous product development.

COMPETITION BRAKE KITS HAVE:-

¤ INCREASED STOPPING POWER
- Larger ventilated discs and multi piston calipers mean more power and superior cooling.

¤ SUPERIOR FADE RESISTANCE
- Greater tolerance to heat build up means consistent stops.

¤ RACE WINNING PEDIGREE
- AP Racing products have won thousands of races including over 800 GP Victories, stopping many World Champions in Championships across the globe.

COMPETITION BRAKE KITS ARE:-

¤ 4 OR 6 PISTON CALIPERS
- Calipers are made to AP Racing's exacting standards and use two or three pairs of opposed pistons in each caliper, the most efficient design. Trailing edge pistons have a slightly larger diameter than the leading ones, to protect the pads from tapered wear.

¤ LARGE DIAMETER DISCS
- Ventilated discs have 24, 30, 36, 48 or 72 cooling vanes depending on the application, to draw air through the centres of the discs. They are handed left and right, and are cross drilled or grooved, again, depending on the application, to allow gasses that build up on the pad surface to escape.

¤ COMPETITION BRAKE PADS
- AP Racing brake kits come complete with appropriate pads for all round performance for the individual application. We can specify and supply more specialised pads.
N.B. Kits with an NP suffix in the Part Number do not contain pads.

¤ ALUMINIUM BELLS
- To prevent heat distortion and stress cracking, the cast iron discs are mounted on Aluminium bells. This allows for the tiny amount of flexing required to avoid distortion.

¤ ALUMINIUM MOUNTING BRACKETS
- Machined from Aluminium billet for maximum strength and weight saving. The brackets ensure accurate relocation of the calipers making installation simpler.
N.B. Some competition brake kits use lug type calipers and therefore do not contain brackets.

¤ BOLTS, WASHERS AND FIXINGS
- AP Racing Brake Kits are complete conversions with everything you need. Disc and bells are already assembled, mounting nuts and bolts are of high tensile steel.

Application.	Year.	Brake Kit Part Number.	Caliper.	Disc Size. (in mm)	Brake Disc Part Number.	Brake Pads Part Number..	Wheels & Notes.
BMW							
335i E93	2006 on	CP5040-1002NP	CP5040-30/31, 4 Pot	Ø330x32 / 48V	CP3581-40CG8 (RH) / -41CG8 (LH)	CP2279D50	18"
M3 E46 - Front	00 - 06	CP5260-1003NP	CP5260-8/9, 6 Pot	Ø368x36 / 72V	CP5772-164G8 (RH) / -165G8 (LH)	CP3558D54	18"
M3 E46 - Rear		CP5144-1005NP	CP5144-18/19, 4 Pot	Ø328x20 / Int	CP4475-22G8 (RH) / -23G8 (LH)	CP3345D44	18"
M3 E92 - Front	2006 on	CP5260-1001NP	CP5260-8/9, 6 Pot	Ø368x36 / 72V	CP5772-164G8 (RH) / -165G8 (LH)	CP3558D54	18"
M3 E92 - Rear		CP6602-1003NP	CP6602-20/-21, 4 Pot	Ø352x26 / 48V	CP6565-48G8 (RH) / -49G8 (LH)	CP6606D51	18"
Honda							
Civic Type R - EP3	01 - 05	CP7600-1000.G4	CP7600, 4 pot	Ø295x25 / 48V	CP3580-2894G4 (RH) / -2895G4 (LH)	CP7600D46-DS3000	15" Compomotive.
Mitsubishi							
Lancer Evo 7/8/9 Front	01 to 07	CP5060-1002NP	CP5060-12/13, 6 POT	Ø355x32 / 48V	CP3581-1150CG12 (RH) / -1151CG12 (LH)	CP3894D54	18" motorsport Wheel
Lancer Evo 7/8/9 Rear		CP4556-1001	CP4556, 4 Pot	Ø304x25 / 36V	CP3837-230GA (RH) / -231GA (LH)	CP2340D51-APF402	17" Aftermarket.
Subaru							
Impreza Front	1993 on	CP5060-1006NP	CP5060-10/11, 6 Pot	Ø356x32 / 48V	CP3581-536G8 (RH) / -537G8 (LH)	CP3894D54	18" Aftermarket.
Impreza Rear	1993 on	CP7625-1001NP	CP7625-10/11, 4 Pot	Ø335x24 / 48V	CP6565-200G8 (RH) / -201G8 (LH)	CP7600D46	18" Aftermarket.
VW							
Golf MK5, GTi & TDi	05 to 08	CP5060-1001NP	CP5060-12/13, 6 Pot	Ø362x32 / 48V	CP4542-112CG12 (RH) / -113CG12 (LH)	CP3894D54	18" Motorsport Wheel Brake Pads not included in kits
Scirocco	2008 on	CP5060-1001NP	CP5060-12/13, 6 Pot	Ø362x32 / 48V	CP4542-112CG12 (RH) / -113CG12 (LH)	CP3894D54	

CUSTOMER NOTES

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Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders
Pedal Boxes
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves

ACTUATION

It is widely understood that the actuation system is a major factor in the overall performance of the brake system. AP Racing R&D is focused on this area and a number of new and or improved products have been added to the range which now includes not only Master Cylinders, Brake Fluid, Reservoirs, Proportioning Valves but also Floor Mounted and Underslung Pedal Boxes, Balance Bars, and accessories. This Section provides technical information regarding each product, if you require further details please contact AP Racing Technical Section.

- MASTER CYLINDERS.
- MOTORCYCLE CYLINDERS.
- FLUID RESERVOIRS.
- PEDAL BOXES.
- HAND BRAKES.
- BALANCE BARS.
- BRAKE FLUID.
- HYDRAULIC FITTINGS.
- DRY BLEED SYSTEM (DRY BREAKS).
- PROPORTIONING VALVES.

Actuation Home Page
Master Cylinders
M/Cycle Cylinders
Fluid Reservoirs
Pedal Boxes
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves

MASTER CYLINDERS.

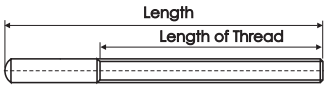
AP Racing Master Cylinders have been developed with the benefit of our unparalleled experience in racing brake technology to respond to the severe demands encountered under competition conditions and are used in all forms of motorsport. The current range of lightweight aluminium alloy master cylinders comprises 13 designs suitable for all forms of competition use. Each master cylinder is individually shimmed during manufacture to give a shorter cut off and less lost travel than equivalent production cylinders. Most designs are available in 10 bore sizes from 14.0mm to 25.4 (1.00") diameter. Below and opposite offers a brief description of each master cylinder within the range.

MASTER CYLINDER RANGE.

- **CP2623 -** A compact forged bodied flange mounted master cylinder suitable for all brake and clutch applications especially where space is restricted. Short travel to cut off is standard. 10 available bore sizes from 14.0mm to 25.4mm. Hydraulic threads are Imperial.
- **CP4623** - A compact cast bodied master cylinder similar to CP2623 but with a 60° mounting flange offset to give improved access to mounting bolts. Short travel to cut-off is standard. 9 available bore sizes from 14.0mm to 15/16". All threads on this master cylinder are metric.
- **CP5623** - A compact master cylinder based on CP2623 but with metric hydraulic ports. 9 available bore sizes from 14.0mm to 25.4mm.
- **CP9093 -** A compact flange mounted 'Push type' master cylinder with centre valve to replace CP6093 family which is no longer available. CP9093 is similar to CP7198 type but with **IMPERIAL** hydraulic ports. The center valve configuration helps to improve cylinder performance and seal durability.
- **CP7198** - A compact flange mounted 'Push type' master cylinder with centre valve. CP7198 is similar to CP9093 type but with **METRIC** hydraulic ports. The center valve configuration helps to improve cylinder performance and seal durability.
- **CP7398** - Is a new compact 60° offset flange mounted 'Push type' master cylinder. CP7398 is similar to CP7198 type but with **IMPERIAL** hydraulic ports. The center valve configuration helps to improve cylinder performance and seal durability. 3 Bore sizes available initially.
- **CP4400** - A compact Master Cylinder which has been specially designed with a 'centre lock' bulkhead fixing (10mm Min / 22mm Max thick) to meet the installation requirements of composite structure racing cars. The inlet and the outlet ports are positioned at the end of the master cylinder away from the bulkhead, to provide clearance for steering racks etc., where required. Extra short travel to cut off, reducing the amount of lost pedal travel, is standard on this cylinder with short cut-off available to order where rapid fluid return is required. 8 bore sizes available from 14.0mm to 15/16". Hydraulic threads are imperial.
- **CP7854** - A high efficiency single circuit, short push type master cylinder. Fixed through a trunnion system running in needle roller bearings and with a one piece piston / push rod it offers a significant improvement in efficiency over traditional master cylinder designs. Full range of 10 bore sizes available. Imperial threads.
- **CP7855 -** A high efficiency single circuit, short push type master cylinder. Fixed through a spherical bearing and with a one piece piston / push rod it offers a significant improvement in efficiency over traditional master cylinder designs. Full range of 10 bore sizes. Imperial threads.
- **CP6465** - This cylinder operates on the Pull rather than Push principle of other cylinders. It has a built in trunnion mounted in needle roller bearings for direct mounting to the balance bar. The ultimate in master cylinder efficiency. Metric threads.
- **CP6468** - A new cylinder based on CP6465 type but mounted through a spherical bearing.
- **CP6467** - This pull type cylinder (Similar to CP6465 family) features center valve configuration which helps to improve cylinder performance and seal durability.
- **CP5540** - This lightweight double ended (tandem) master cylinder with two separate hydraulic chambers which, when compressed by pedal effort, creates two output pressures, one each for front & rear brake circuits only. Version also available for hand brake applications.

NON CAPTIVE PUSH RODS.

Special versions of some master cylinders are available with 'non captive' push rods for use where rapid master cylinder changes may be required during an event (e.g. rally stages). Push rods to suit these master cylinders must be ordered separately under the following part numbers.



Push Rod Part No.	Length.	Thread Form.	Thread Length.
CP2142-45	112.0mm	5/16" UNF	60.0mm
CP2142-47	157.0mm	5/16" UNF	105.0mm
CP2142-48	157.0mm	M8x1.25	105.0mm

IMPORTANT NOTE:-

AP Racing push type master cylinders are individually shimmed during assembly to minimise lost travel therefore push rods, pistons and other internal components must never be switched between individual master cylinders.
Note: This is to differentiate between push and pull type cylinders, pull type cylinders are not shimmed.

ABS ADVISORY NOTICE WHEN USING AP RACING MASTER CYLINDERS

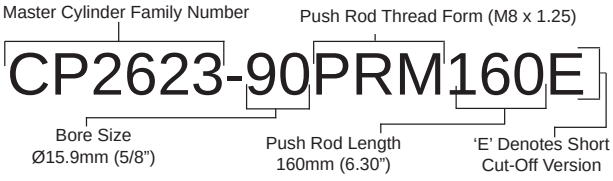
Most AP Racing master cylinders use small cut-off ports to ensure that pressure is relieved from the brake system when no travel is applied to the brake pedal. As the brakes are applied the seal travels over this cut-off port. In normal operation the seal has travelled past this port before high pressure has built up in the system. However when used in conjunction with ABS depending on how the ABS operates pressure can be built up earlier in the travel or during the return stroke. This can then result in heel nibble where the seal is partially extruded up the cut-off port. The pulsing nature of ABS can also make this effect worse.
It is possible to run AP Racing cylinders with ABS by allowing sufficient travel before pressure is built up and limiting the pressure during return, but as AP Racing do not control the ABS we cannot guarantee successful operation. Typically 6mm of travel will allow all seal sizes to be past the port and the maximum pressure up to this travel should be approximately 10 bar maximum. If this is exceeded the life of the seal will be compromised and re-sealing should be carried out more frequently.
For ABS systems we recommend the use of one the following centre valve master cylinders CP6467, CP7198, CP7398 or CP9093.

CENTRE VALVE MASTER CYLINDERS

In 2017 AP Racing are introducing a new range of centre valve high efficiency master cylinders.
Those cylinders CP6467, CP7198, CP9093 & now CP7398 types feature a center valve configuration which helps to improve cylinder performance and seal durability with ABS.
The center valve replaces conventional 'cut off' ports that can cause 'seal heel nibble' when used with some ABS systems.
CP6467 also features an optional system, (for which there is a patent pending), to greatly reduce 'Knock Back' events. This feature can be removed by substituting a sleeve for the AKB Plug.

ORDERING.

When ordering please quote the full part number whenever possible. Part numbers are given in the individual master cylinder pages. An explanation of the part numbers is given below.



NB. For non captive push rod version add 'NC' after bore size e.g. CP2623-90NCE

IDENTIFICATION OF BORE SIZES.

All AP Racing master cylinders have their part number nominal bore size laser marked on the body together with batch codes, this allows full manufacturing traceability. All master cylinders also have a coloured tie wrapped around the body for quick visual identification of bore size.

Push Type Master Cylinders	
14.0mm (0.551")	Black & Orange.
15.0mm (0.590")	Black & Red.
15.9mm (0.625") 5/8"	Black.
16.8mm (0.661")	Black & Yellow.
17.8mm (0.70")	Blue.
19.1mm (0.75") 3/4"	Green.
20.6mm (0.812") 13/16"	Orange.
22.2mm (0.875") 7/8"	Red.
23.8mm (0.937") 15/16"	White.
25.4mm (1.00")	Yellow.

Pull Type Master Cylinders	
14.9mm (0.587")	Black & Red.
16.2mm (0.638")	Black.
17.3mm (0.681")	Blue.
18.8mm (0.740")	Green.
20.2mm (0.795")	Orange.
21.2mm (0.834")	Orange & Red.
21.8mm (0.858")	Red.
22.4mm (00.882")	Red & White.
23.7mm (0.933")	White.
25.4mm (1.00") 1"	Yellow.

CP2623 Flange Mounted

GENERAL INFORMATION

- A compact master cylinder suitable for all brake and clutch applications especially where space is restricted.
- Short travel to cut-off.
- New forged aluminium alloy body.
- 50g weight saving over cast version
- Flange mounting.
- Short travel to cut-off only.
- Non captive cylinders available.

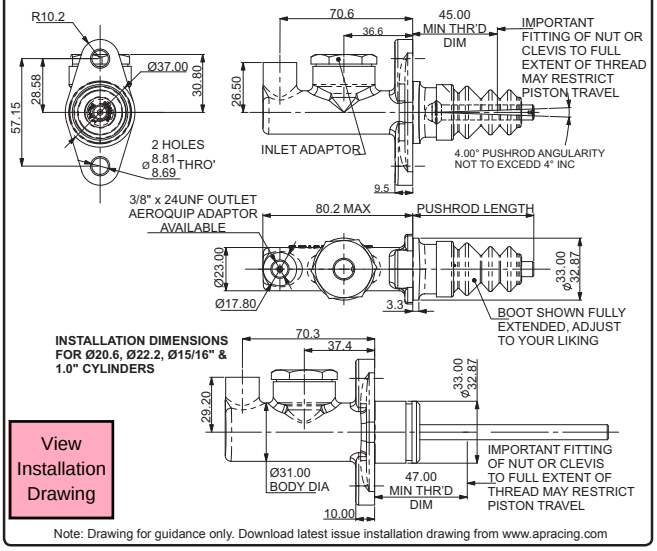
TECHNICAL DETAILS.	
Weight.	0.26kg (0.7lbs)
Full Stroke.	25.4mm (1.00")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRM	M8 x 1.25
- PRT	5/16" UNF
Push Rod Length From Mounting Flange.	
PRM/PRT115	115mm (4.53")
PRM/PRT160	160mm (6.30")

CP2623 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders.		Non Captive Cylinders.
	PRM Pushrod.	PRT Pushrod.	
14.0mm.	CP2623-88PRM115 CP2623-88PRM160	CP2623-88PRT115 CP2623-88PRT160	CP2623-88NC
15.0mm.	CP2623-89PRM115 CP2623-89PRM160	CP2623-89PRT115 CP2623-89PRT160	CP2623-89NC
15.9mm (.625") 5/8".	CP2623-90PRM115 CP2623-90PRM160	CP2623-90PRT115 CP2623-90PRT160	CP2623-90NC
16.8mm.	CP2623-905PRM115 CP2623-905PRM160	CP2623-905PRT115 CP2623-905PRT160	CP2623-905NC
17.8mm (.70").	CP2623-91PRM115 CP2623-91PRM160	CP2623-91PRT115 CP2623-91PRT160	CP2623-91NC
19.1mm (.75") 3/4".	CP2623-92PRM115 CP2623-92PRM160	CP2623-92PRT115 CP2623-92PRT160	CP2623-92NC
20.6mm (.812") 13/16".	CP2623-93PRM115 CP2623-93PRM160	CP2623-93PRT115 CP2623-93PRT160	CP2623-93NC
22.2mm (.875") 7/8".	CP2623-94PRM115 CP2623-94PRM160	CP2623-94PRT115 CP2623-94PRT160	CP2623-94NC
23.8mm (.937") 15/16".	CP2623-95PRM115 CP2623-95PRM160	CP2623-95PRT115 CP2623-95PRT160	CP2623-95NC
25.4mm (1.00").	CP2623-96PRM115 CP2623-96PRM160	CP2623-96PRT115 CP2623-96PRT160	CP2623-96NC

- Ordering - Select the required cylinder from the part numbers above.
E.G. CP2623-94PRM115.

INSTALLATION DRAWING



View Installation Drawing

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CP4623 Flange Mounted

GENERAL INFORMATION

- A compact Master Cylinder similar to CP2623 but with a 60° mounting flange offset to give improved access to mounting bolts.
- Short travel to cut off standard.
- Cast aluminium Alloy body.
- 60° Flange mounting.
- Non captive cylinders available.
- All threads on this master cylinder are metric.

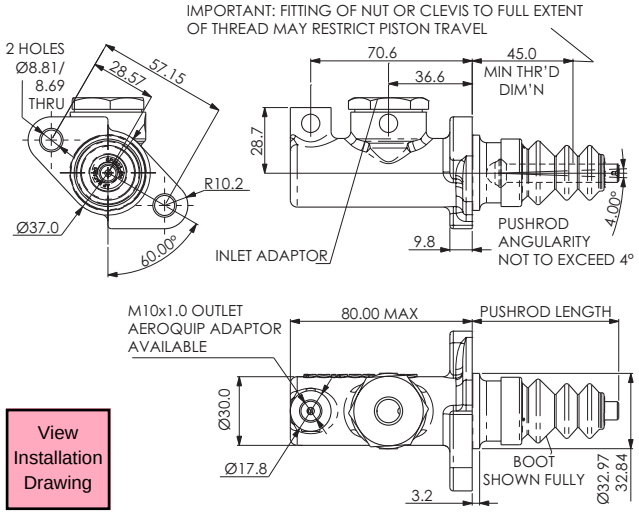
TECHNICAL DETAILS.	
Weight.	0.31kg (0.7lbs)
Full Stroke.	25.4mm (1.00")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
- Inlet.	M12 x 1.0
Push Rod Threads.	
- PRM	M8 x 1.25
- PRT	5/16" UNF
Push Rod Length From Mounting Flange.	
PRM/PRT115	115mm (4.53")
PRM/PRT160	160mm (6.30")

CP4623 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders.		Non Captive Cylinders.
	PRM Pushrod.	PRT Pushrod.	
14.0mm.	CP4623-88PRM115 CP4623-88PRM160	CP4623-88PRT115 CP4623-88PRT160	CP4623-88NC
15.0mm.	CP4623-89PRM115 CP4623-89PRM160	CP4623-89PRT115 CP4623-89PRT160	CP4623-89NC
15.9mm (.625") 5/8".	CP4623-90PRM115 CP4623-90PRM160	CP4623-90PRT115 CP4623-90PRT160	CP4623-90NC
16.8mm.	CP4623-905PRM115 CP4623-905PRM160	CP4623-905PRT115 CP4623-905PRT160	CP4623-905NC
17.8mm (.70").	CP4623-91PRM115 CP4623-91PRM160	CP4623-91PRT115 CP4623-91PRT160	CP4623-91NC
19.1mm (.75") 3/4".	CP4623-92PRM115 CP4623-92PRM160	CP4623-92PRT115 CP4623-92PRT160	CP4623-92NC
20.6mm (.812") 13/16".	CP4623-93PRM115 CP4623-93PRM160	CP4623-93PRT115 CP4623-93PRT160	CP4623-93NC
22.2mm (.875")7/8".	CP4623-94PRM115 CP4623-94PRM160	CP4623-94PRT115 CP4623-94PRT160	CP4623-94NC
23.8mm (.937")15/16".	CP4623-95PRM115 CP4623-95PRM160	CP4623-95PRT115 CP4623-95PRT160	CP4623-95NC

- Ordering -
Select the required cylinder from the part numbers above.
E.G. CP4623-94PRM115.

INSTALLATION DRAWING



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CP5623 Flange Mounted

GENERAL INFORMATION

- A compact Master Cylinder identical to CP2623 but has metric hydraulic threads.
- Suitable for all brake and clutch applications especially where space is restricted.
- Short travel to cut off standard.
- Hard anodised body.
- Aluminium Alloy body.
- Flange mounting.
- Non captive cylinders available.

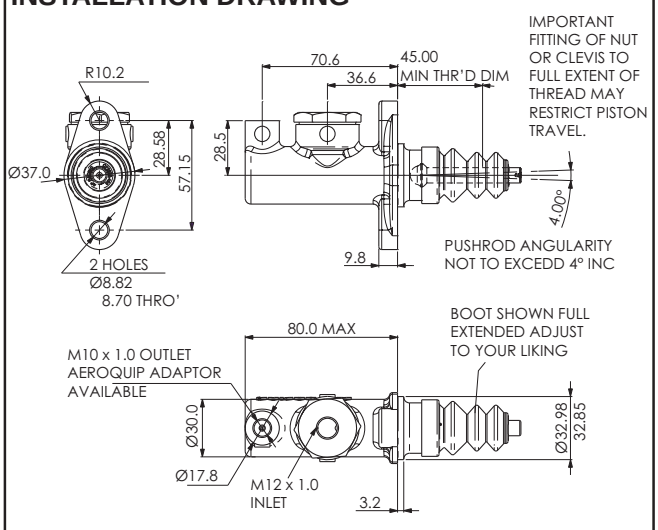
TECHNICAL DETAILS.	
Weight.	0.3kg (0.66lbs)
Full Stroke.	25.4mm (1.00")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
- Inlet.	M12 x 1.0
Push Rod Threads.	
- PRM	M8 x 1.25
Push Rod Length From Mounting Flange.	
PRM115	115mm (4.53")

CP5623 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders. PRM Pushrod.	Non Captive Cylinders.
14.0mm.	CP5623-88PRM115	CP5623-88NC
15.0mm.	CP5623-89PRM115	CP5623-89NC
15.9mm (.625") 5/8"	CP5623-90PRM115	CP5623-90NC
16.8mm	CP5623-905PRM115	CP5623-905NC
17.8 (.70")	CP5623-91PRM115	CP5623-91NC
19.1mm (.75") 3/4"	CP5623-92PRM115	CP5623-92NC
20.6mm (.812") 13/16".	CP5623-93PRM115	CP5623-93NC
22.2mm (.875") 7/8".	CP5623-94PRM115	CP5623-94NC
23.8mm (.937") 15/16".	CP5623-95PRM115	CP5623-95NC
25.4mm (1.00").	CP5623-96PRM115	CP5623-96NC

- Ordering -
Select the required cylinder from the part numbers above.
E.G. CP5623-94PRM115.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP7198 Flange Mounted

GENERAL INFORMATION

- Push type design.
- Centre valve configuration, helps to improve cylinder performance & seal durability.
- For use in ABS and high pressure applications.
- Flange mounted.
- Suitable for most brake and particularly clutch applications.
- Short travel to cut-off standard.
- Forged Aluminium alloy body.
- Metric hydraulic threads.

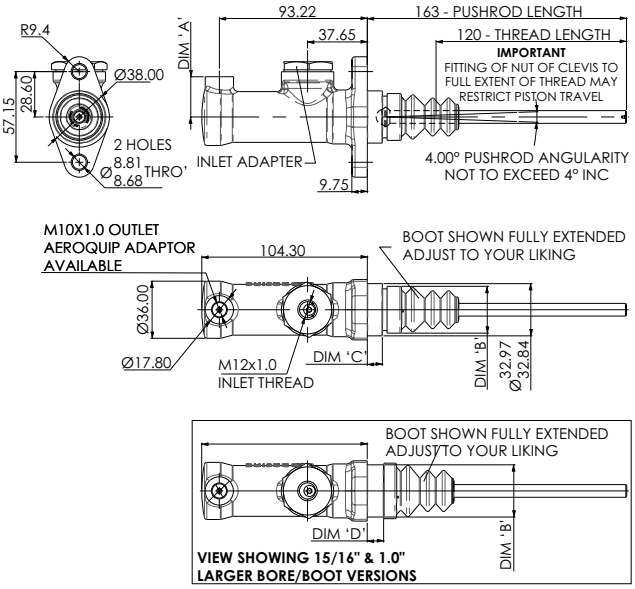
TECHNICAL DETAILS.	
Weight.	0.37kg (0.81lbs)
Full Stroke.	30.0mm (1.18")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	M10x1.0
- Inlet.	M12x1.0
Push Rod Threads.	
- PRT	5/16" UNF
- PRM	M8x1.25
Push Rod Length From Mounting Flange.	
PRT163	163mm (6.41")
PRM163	163mm (6.41")

CP7198 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders. PRT163 Pushrod.	Short Cut-off Cylinders. PRM163 Pushrod.	Dim'n 'A'	Dim'n 'B'	Dim'n 'C'
15.9mm (.625") 5/8"	CP7198-90PRT163	CP7198-90PRM163	25.4	Ø29.50 Boot Dia.	9.75
16.8mm.	CP7198-905PRT163	CP7198-905PRM163	25.9		
17.8mm (.70")	CP7198-91PRT163	CP7198-91PRM163	26.4		
19.1mm (.75") 3/4"	CP7198-92PRT163	CP7198-92PRM163	27.0		
20.6mm (.812") 13/16"	CP7198-93PRT163	CP7198-93PRM163	27.8		
22.2mm (.875") 7/8"	CP7198-94PRT163	CP7198-94PRM163	28.6		
23.8mm (.937") 15/16"	CP7198-95PRT163	CP7198-95PRM163	29.4	Ø35.00 Boot Dia.	10.3
25.4mm (1.00")	CP7198-96PRT163	CP7198-96PRM163	30.2		

- Ordering - Select the required bore size from the table above.E.G. CP7198-94PRT163.

INSTALLATION DRAWING



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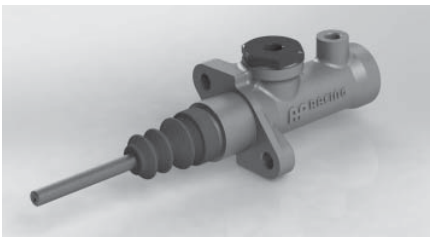
CP7398 Flange Mounted



GENERAL INFORMATION

- Push type design, similar to CP7198 type but with a 60° mounting flange offset.
- Centre valve configuration, helps to improve cylinder performance & seal durability.
- For use in ABS and high pressure applications.
- Suitable for most brake and particularly clutch applications.
- Short travel to cut-off standard.
- Forged Aluminium alloy body.
- Imperial hydraulic threads.
- 3 Bore sizes available initially.

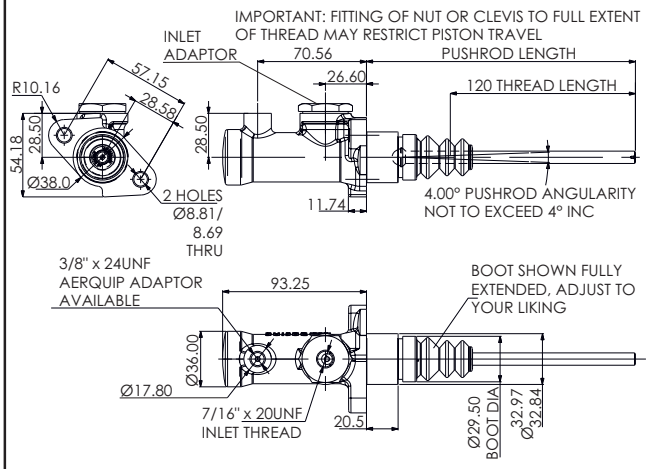
TECHNICAL DETAILS.	
Avg Weight.	0.37kg (0.81lbs)
Full Stroke.	30.0mm (1.18")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRT	5/16" UNF
- PRM	M8x1.25
Push Rod Length From Mounting Flange.	
PRT128	128mm (5.03")
PRM128	128mm (5.03")

CP7398 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders. PRT128 Pushrod.	PRM128 Pushrod.	Dim'n 'A'
17.8mm (.70")	CP7398-91PRT128	CP7398-91PRM128	26.4
19.1mm (.75") 3/4"	CP7398-92PRT128	CP7398-92PRM128	27.0
22.2mm (.875") 7/8"	CP7398-94PRT128	CP7398-94PRM128	28.6

- Ordering - Select the required bore size from the table above. E.G. CP7398-93PRT128.

INSTALLATION DRAWING



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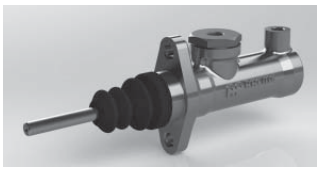
CP9093 Flange Mounted



GENERAL INFORMATION

- Push type design.
- Centre valve configuration, helps to improve cylinder performance & seal durability.
- For use in ABS and high pressure applications.
- Flange mounted.
- Suitable for most brake and particularly clutch applications.
- Short travel to cut-off standard.
- Forged Aluminium alloy body.
- Imperial hydraulic threads.

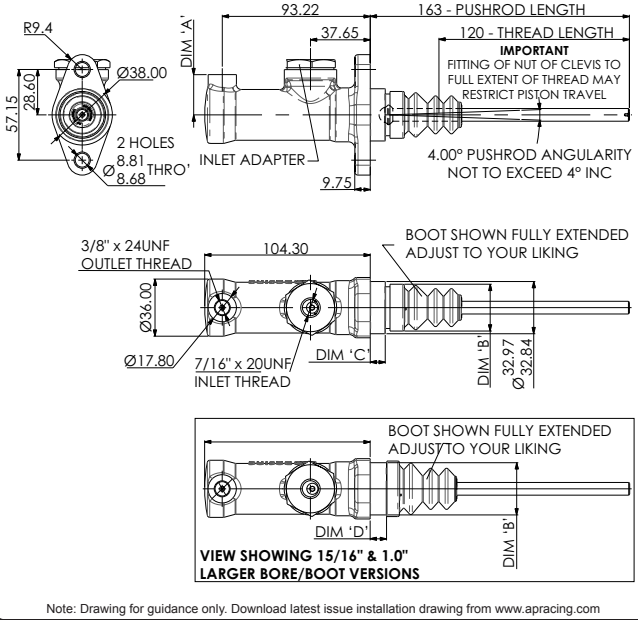
TECHNICAL DETAILS.	
Weight.	0.37kg (0.81lbs)
Full Stroke.	30.0mm (1.18")
Travel To Cut-Off.	
- Short	0.68 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRT	5/16" UNF
- PRM	M8x1.25
Push Rod Length From Mounting Flange.	
PRT163	163mm (6.41")
PRM163	163mm (6.41")

CP9093 PART NUMBERS

Available Bore Sizes.	Short Cut-off Cylinders. PRT163 Pushrod.	PRM163 Pushrod.	Dim'n 'A'	Dim'n 'B'	Dim'n 'C'
15.9mm (.625") 5/8"	CP9093-90PRT163	CP9093-90PRM163	25.4	Ø29.50 Boot Dia.	9.75
17.8mm (.70")	CP9093-91PRT163	CP9093-91PRM163	26.4		
19.1mm (.75") 3/4"	CP9093-92PRT163	CP9093-92PRM163	27.0		
20.6mm (.812") 13/16"	CP9093-93PRT163	CP9093-93PRM163	27.8		
22.2mm (.875") 7/8"	CP9093-94PRT163	CP9093-94PRM163	28.6		
23.8mm (.937") 15/16"	CP9093-95PRT163	CP9093-95PRM163	29.4	Ø35.00 Boot Dia.	10.3
25.4mm (1.00")	CP9093-96PRT163	CP9093-96PRM163	30.2		

- Ordering - Select the required bore size from the table above.E.G. CP9093-94PRT163.

INSTALLATION DRAWING



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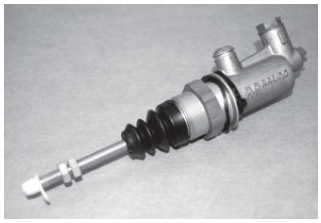
CP4400 Bulkhead Mounted



TECHNICAL DETAILS.	
Weight.	0.29kg (0.64lbs)
Full Stroke.	25.4mm (1.00")
Travel To Cut-Off.	
- Extra Short	0.48 to 0.63mm (.019" to .025")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRT	5/16" UNF
Push Rod Length From Mounting Flange.	
PRT135	135mm (5.31")
PRT180	180mm (7.08")

GENERAL INFORMATION

- Bulkhead mount.
- A compact Master Cylinder which has been designed with a 'centre lock' bulkhead fixing (10mm to 22mm Max) to meet the installation requirements of composite structure racing cars. The inlet and the outlet ports are positioned at the end of the master cylinder away from the bulkhead to provide clearance for steering racks etc, where required.
- Aluminium Alloy body.
- Extra short travel to cut-off standard.

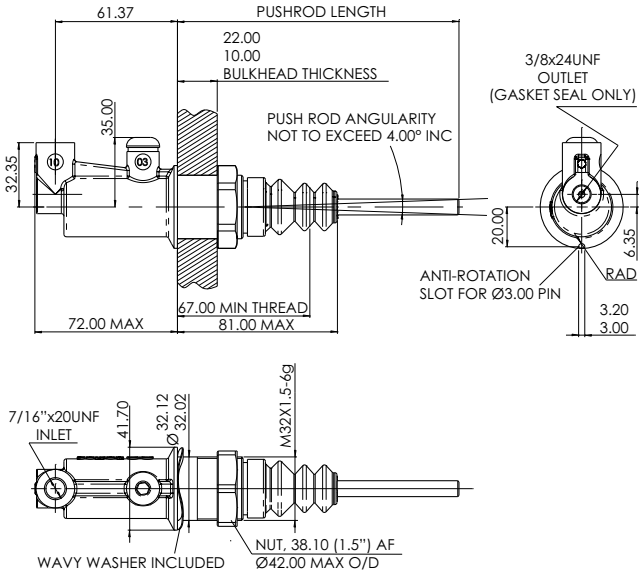
CP4400 PART NUMBERS

Available Bore Sizes.	Extra Short Cut-off Cylinders. PRT Pushrod.
14.0mm.	CP4400-88PRT135E or CP4400-88PRT180E
15.0mm.	CP4400-89PRT135E or CP4400-89PRT180E
15.9mm (.625") 5/8".	CP4400-90PRT135E or CP4400-90PRT180E
16.8mm.	CP4400-905PRT135E or CP4400-905PRT180E
17.8mm (.70")	CP4400-91PRT135E or CP4400-91PRT180E
19.1mm (.75") 3/4".	CP4400-92PRT135E or CP4400-92PRT180E
20.6mm (.812") 13/16".	CP4400-93PRT135E or CP4400-93PRT180E
22.2mm (.875") 7/8".	CP4400-94PRT135E or CP4400-94PRT180E
23.8mm (.937") 15/16".	CP4400-95PRT135E or CP4400-95PRT180E

- Ordering - Select the required cylinder from the part numbers above. E.G. CP4400-94PRT135E.

Note: (1.00") Bore size is not available in this cylinder series.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP7854 Trunnion Mounted

GENERAL INFORMATION

- Aluminium alloy body.
- Compact design.
- Hard anodised.
- High efficiency push type design.
- One piece piston and push rod.
- Has a built in trunnion mounted in needle roller bearing for direct mounting to the balance bar.
- Use with CP5520-3,-4 or -25LC trunnion type balance bar or purpose designed pedal box.
- Full range of 10 bore sizes.
- Extra short travel to cut-off.
- Rubber boot fitted.
- Version with spherical bearing available Part Number CP7855.
- Replaces CP5854 Family.
- **NOTE:** Repair kits are still available for CP5854 type cylinder, contact AP Racing Technical Department for details.

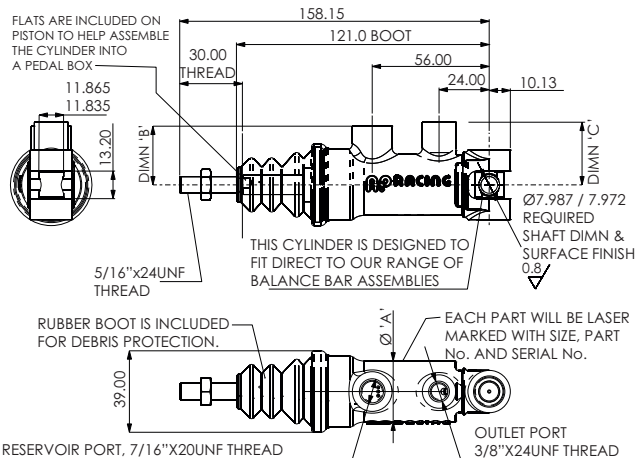
TECHNICAL DETAILS.	
Weight.	0.19 to 0.22kg (0.42 to 0.49lbs)
Full Stroke.	
14mm to 7/8" Bores	30.0mm (1.18")
15/16" to 1.00" Bores	28.0mm (1.10")
Travel To Cut-Off.	
- Extra Short	0.48 to 0.63mm (.019" to .025")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRTE	5/16" x 24 UNF

CP7854 PART NUMBERS

Available Bore Sizes.	Extra Short Cut-off Cylinders.	Repair Kit Part Number.	Ø 'A' mm	Dimn 'B'	Dimn 'C'
14.0mm.	CP7854-88PRTE	CP7855-88RK	22.92	25.1	27.0
15.0mm.	CP7854-89PRTE	CP7855-89RK			
15.9mm (.625") 5/8".	CP7854-90PRTE	CP7855-90RK			
16.8mm.	CP7854-905PRTE	CP7855-905RK			
17.8mm (.70")	CP7854-91PRTE	CP7855-91RK			
19.1mm (.75") 3/4".	CP7854-92PRTE	CP7855-92RK			
20.6mm (.812") 13/16".	CP7854-93PRTE	CP7855-93RK	29.25	28.1	30.0
22.2mm (.875") 7/8".	CP7854-94PRTE	CP7855-94RK			
23.8mm (.937") 15/16".	CP7854-95PRTE	CP7855-95RK			
25.4mm (1.00").	CP7854-96PRTE	CP7855-96RK			

- Ordering: Select the required bore size from the table above. E.G. CP7854-94PRTE.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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CP7855 Bearing Mounted

TECHNICAL DETAILS.	
Weight.	0.169 to 0.198kg (0.37 to 0.44lbs)
Full Stroke.	
14mm to 7/8" Bores	30.0mm (1.18")
15/16" to 1.00" Bores	28.0mm (1.10")
Travel To Cut-Off.	
- Extra Short	0.48 to 0.63mm (.019" to .025")
Hydraulic Thread.	
- Outlet.	3/8" x 24UNF
- Inlet.	7/16" x 20UNF
Push Rod Threads.	
- PRTE	5/16" x 24 UNF

GENERAL INFORMATION

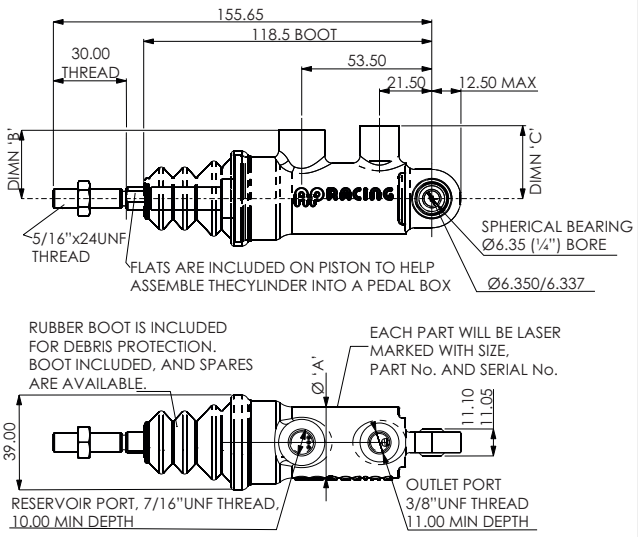
- Aluminium alloy body.
- Compact design.
- Hard anodised.
- High efficiency push type design.
- Mounted through a spherical bearing.
- One piece piston and push rod.
- Full range of 10 bore sizes.
- Extra short travel to cut-off.
- Rubber boots fitted.
- Version with built in trunnion mounting available under Part No. CP7854 Family.
- Replaces CP5855, CP5511 and CP4411 families.
- **NOTE:** Repair kits are still available for CP5855 type cylinder, contact AP Racing Technical Department for details.

CP7855 PART NUMBERS

Available Bore Sizes.	Extra Short Cut-off Cylinders.	Repair Kit Part Number.	Ø 'A' mm	Dimn 'B'	Dimn 'C'
14.0mm.	CP7855-88PRTE	CP7855-88RK	22.92	25.1	27.0
15.0mm.	CP7855-89PRTE	CP7855-89RK			
15.9mm (.625") 5/8".	CP7855-90PRTE	CP7855-90RK			
16.8mm.	CP7855-905PRTE	CP7855-905RK			
17.8mm (.70").	CP7855-91PRTE	CP7855-91RK			
19.1mm (.75") 3/4".	CP7855-92PRTE	CP7855-92RK			
20.6mm (.812") 13/16".	CP7855-93PRTE	CP7855-93RK	29.25	28.1	30.0
22.2mm (.875") 7/8".	CP7855-94PRTE	CP7855-94RK			
23.8mm (.937") 15/16".	CP7855-95PRTE	CP7855-95RK			
25.4mm (1.00").	CP7855-96PRTE	CP7855-96RK			

- Ordering: Select the required bore size from the table above.
E.G. CP7855-94PRTE.

INSTALLATION DRAWING



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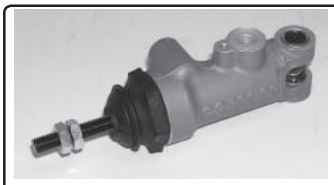
CP6465 Pull Type Trunnion Mounted



TECHNICAL DETAILS.	
Weight.	0.23 to 0.27kg (0.51 to 0.59lbs)
Full Stroke.	25.4mm (1.00")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
Inlet, Special Fittings.	
75° type.	CP6465-10
Straight type.	CP6465-11
90° type.	CP6465-12
All inlet fittings are sold separately.	
Push Rod Threads.	
- PRME	M8 x 1.25

GENERAL INFORMATION

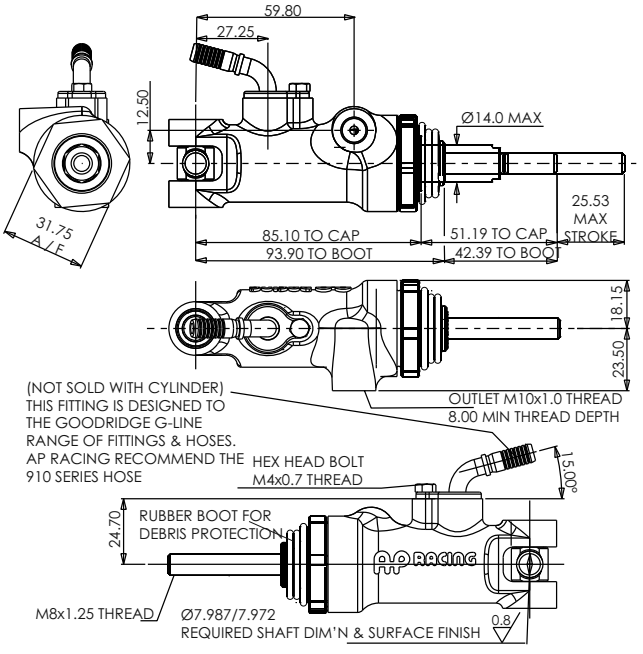
- A pull type design, more efficient than conventional type master cylinders.
- Aluminium Alloy Body.
- Has a built in trunnion mounted in needle roller bearing for direct mounting to the balance bar.
- Low profile inlet and outlet.
- Special "plug in" inlet connection can be swaged directly to dash 4 hose.
- Use with CP5520-3, -4 or -25L trunnion type balance bars.
- Choice of 10 bore sizes.
- Extra short travel to cut-off standard.

CP6465 PART NUMBERS

Available Bore Sizes.	Extra Short Cut-off Cylinders. PRME Pushrod.	Repair Kits.
14.9mm (.587").	CP6465-149PRME	CP6465-149RK
16.2mm (.638").	CP6465-162PRME	CP6465-162RK
17.3mm (.681").	CP6465-173PRME	CP6465-173RK
18.8mm (.740").	CP6465-188PRME	CP6465-188RK
20.2mm (.795").	CP6465-202PRME	CP6465-202RK
21.2mm (.834")	CP6465-212PRME	CP6465-212RK
21.8mm (.858")	CP6465-218PRME	CP6465-218RK
22.4mm (.882")	CP6465-224PRME	CP6465-224RK
23.7mm (.933").	CP6465-237PRME	CP6465-237RK
25.4mm (1.00").	CP6465-254PRME	CP6465-254RK

- Ordering - Select the required bore size from the table above.
E.G. CP6465-237PRME.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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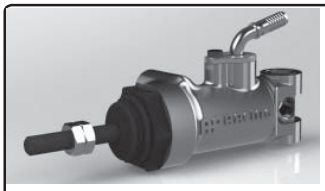
CP6467
Pull Type Trunnion Mounted



TECHNICAL DETAILS.	
Weight.	0.24 to 0.28kg (0.53 to 0.61lbs)
Full Stroke.	25.4mm (1.00")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
Inlet, Special Fittings.	
75° type.	CP6465-10
Straight type.	CP6465-11
90° type.	CP6465-12
All inlet fittings are sold separately.	
Push Rod Threads.	
- PRME	M8 x 1.25

GENERAL INFORMATION

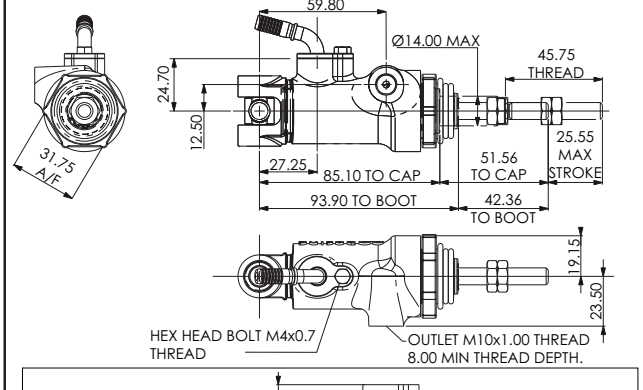
- A pull type design, more efficient than conventional type master cylinders virtually identical to CP6465 family with a centre valve configuration, helps to improve cylinder performance & seal durability.
- For use in ABS and high pressure applications.
- Aluminium Alloy Body.
- Special "plug in" inlet connection can be swaged directly to dash 4 hose.
- Use with CP5520-3, -4 or -25L trunnion type balance bars.
- Choice of 9 bore sizes.
- Extra short travel to cut-off standard.
- CP6467 has been designed to incorporate an optional anti-knockback plug to reduce pad knockback. The can be replaced with a sleeve to revert the cylinder to a standard centre valve ABS type. Master cylinders with Anti-knockback plugs have 'K' suffix and cylinders with sleeve have 'S' suffix.

CP6467 PART NUMBERS

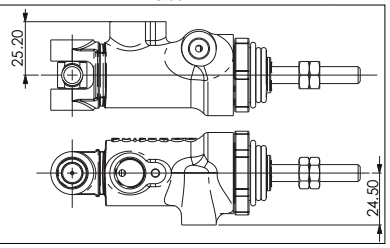
Available Bore Sizes.	Extra Short Cut-off Cylinders. PRME Pushrod.	Repair Kits.
14.9mm (.587").	CP6467-149PRME:K or S	CP6467-149RK
16.2mm (.638").	CP6467-162PRME:K or S	CP6467-162RK
17.3mm (.681").	CP6467-173PRME:K or S	CP6467-173RK
18.8mm (.740").	CP6467-188PRME:K or S	CP6467-188RK
20.2mm (.795").	CP6467-202PRME:K or S	CP6467-202RK
21.2mm (.834")	CP6467-212PRME:K or S	CP6467-212RK
21.8mm (.858")	CP6467-218PRME:K or S	CP6467-218RK
23.7mm (.933").	CP6467-237PRME:K or S	CP6467-237RK
25.4mm (1.00").	CP6467-254PRME:K or S	CP6467-254RK

- Ordering - Select the required bore size from the table above.
E.G. CP6467-237PRME.

INSTALLATION DRAWING



IMPORTANT NOTE:
THE CP6467-254PRME MASTER CYLINDER HAS SOME DIFFERENCES WITH VARIOUS INSTALLATION DIMENSIONS THESE ARE SHOWN OPPOSITE



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6468
Pull Type Bearing Mounted

TECHNICAL DETAILS.	
Weight.	0.23 to 0.27kg (0.51 to 0.59lbs)
Full Stroke.	25.4mm (1.00")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
Inlet, Special Fittings.	
75° type.	CP6465-10
Straight type.	CP6465-11
90° type.	CP6465-12
All inlet fittings are sold separately.	
Push Rod Threads.	
- PRME	M8 x 1.25

GENERAL INFORMATION

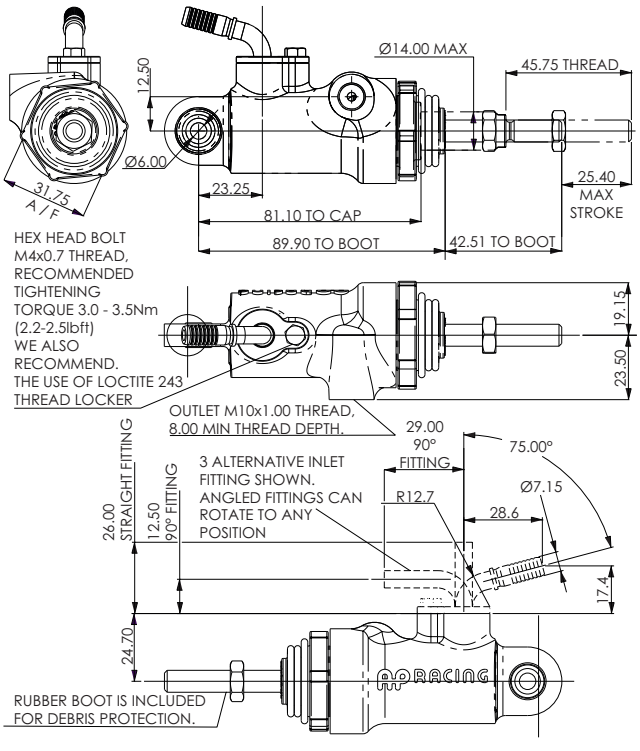
- A pull type design, more efficient than conventional type master cylinders.
- Aluminium Alloy Body.
- Mounted through a spherical bearing.
- Low profile inlet and outlet.
- Special "plug in" inlet connection can be swaged directly to dash 4 hose.
- Choice of 5 bore sizes.
- Extra short travel to cut-off standard.

CP6468 PART NUMBERS

Available Bore Sizes.	Extra Short Cut-off Cylinders. PRME Pushrod.	Repair Kits.
14.9mm (.587").	CP6468-149PRME	CP6465-149RK
16.2mm (.638").	CP6468-162PRME	CP6465-162RK
17.3mm (.681").	CP6468-173PRME	CP6465-173RK
18.8mm (.740").	CP6468-188PRME	CP6465-188RK
20.2mm (.795").	CP6468-202PRME	CP6465-202RK

- Ordering - Select the required bore size from the table above.
E.G. CP6468-202PRME.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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CP5540 Double Ended

GENERAL INFORMATION

- Lightweight double ended (Tandem) cylinder with two separate hydraulic chambers, to create two output pressures, for either front & rear brake circuits or a hand brake and differential release assembly.
- Aluminium alloy body.
- Hard anodised.
- High efficiency push type design.
- Mounted through a spherical bearing.
- Rubber boots fitted.
- Hand brake version available with additional spring fitted to delay the increase of pressure to that bore. This is required to ensure the differential is unlocked prior to the rear brakes coming on.

TECHNICAL DETAILS.	
Weight. (without spring)	
With Rod Ends	0.40Kg (0.88ilbs)
Without Rod Ends	0.30Kg (0.66lbs)
Full Stroke.	2 x 22.5mm
Travel To Cut-Off.	
- Extra Short	0.48 to 0.63mm (.019" to .025")
Hydraulic Thread.	
- Outlet.	M10x1.00
- Inlet.	M10x1.00

PART NUMBERS FOR USE WITH CP5540 PEDAL BOX

Available Bore Sizes.		Master Cylinder Part Numbers.	Repair Kit Part Number.
Small Bore	Large Bore		
5/8" (.625")	**0.70"**	CP5540-9091PRME	CP5540-9091RK
5/8" (.625")	**3/4" (0.75")**	CP5540-9092PRME	CP5540-9092RK
0.70"	**0.70"**	CP5540-9191PRME	CP5540-9191RK
0.70"	**3/4" (0.75")**	CP5540-9192PRME	CP5540-9192RK

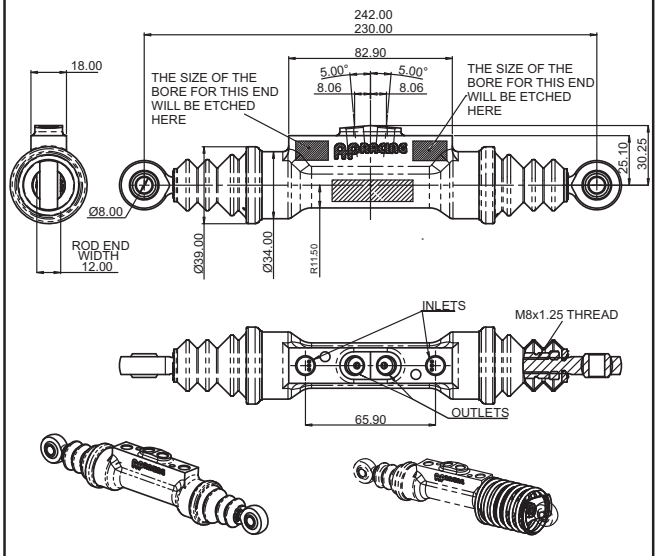
- Ordering: Select the required bore size from the table above.
E.G. CP5540-9091PRME.

PART NUMBERS TO SUIT CP4780-4 HAND BRAKES & DIFFERENTIAL RELEASE ASSY.

Available Bore Sizes.		Master Cylinder Part Numbers.
Small Bore	Large Bore	
5/8" (.625")	**0.70"**	CP5540-9091EHB(#)
5/8" (.625")	**3/4" (0.75")**	CP5540-9092EHB (#)
0.70"	**0.70"**	CP5540-9191EHB
0.70"	**3/4" (0.75")**	CP5540-9192EHB(#)

Note: - The(#) is an option as to which end the you want the spring to be fitted. If you required the spring to be fitted to the small bore end, replace the (#) with an 'S'. If fitted to the large bore replace (#) with an 'L'.
e.g. CP5540-9192EHS - A hand brake cylinder with a 0.7" & 0.75" bores with the spring fitted to the 0.7" end.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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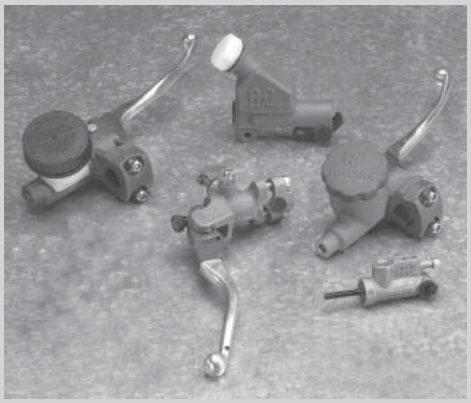
Visit www.apracing.com for full & up to date product range

INTRODUCTION.

The range of AP Racing master cylinders are patented, worldwide state of the art products that are a major advance in brake technology offering the ability to precisely set the braking performance of any motorcycle under all conditions.
CP4125 cylinder has a unique radial pull type design with variable lever ratio and span adjustment which can cater for all hand spans.
All AP Racing master cylinders are meticulously manufactured and rigorously tested for the peace of mind of the rider.



MASTER CYLINDER RANGE.

CP4125

This unique design of pull type handlebar master cylinder provides the user with the ability to adjust the ratio and the lever position as required. The single chamber configuration allows the compact design to weigh only 320grams, and is now non handed to allow it to be used as a clutch master cylinder. This master cylinder is typically used on Moto GP, Superbike as well as Road Applications. Use with remote fluid reservoir (not supplied)

CP3125

The original adjustable ratio master cylinder used by GP and Superbike teams in the 80's. Can be used to upgrade any brake system. Available with integral reservoir only.

CP3756

This uniquely developed single chamber, pull type rear master cylinder, has been designed for use on all solo motorcycle applications. The pull type configuration allows an exceptionally compact design for ease of installation. Weight 100grams.

CP2215

Due to demand CP2215-90 "Classic" master cylinder has been added to the range. The assembly is based on the original CP2215-20 cylinder, but using latest seal technology.

CP2232

Due to demand CP2232-90 "Classic" rear master cylinder has been added to the range. The assembly is based on the original CP2232-12 cylinder, but using latest seal technology.

RECONDITIONING NOTES.

CP4325, CP4225.

User reconditioning is limited to replacing lever assemblies. However AP Racing offer a reconditioning service for seal and piston replacement where the use of specialist test equipment is necessary to set up the master cylinder.

CP6125, CP4125, CP3125, CP2215 & CP2232

User servicing of these master cylinders is possible and seal repair kits are available.
Obsolete master cylinder seal repair kits are available for those cylinders which are no longer detailed in this catalogue please contact AP Racing technical section for help.

IMPORTANT NOTE:

IF ANY IMPACT IS SUSTAINED ON THE LEVER OR CYLINDER BODY, THE COMPLETE MASTER CYLINDER ASSEMBLY MUST BE SENT BACK TO AP RACING FOR EXAMINATION OR BE REPLACED.

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CP4125-26

Adjustable Ratio Master Cylinder.

FEATURES.

- Single chamber configuration.
- This unique design of pull type handlebar master cylinder provides the user with the ability to adjust the lever ratio and the lever position in increments as required.
- Reverse for use as clutch master cylinder.
- Use with remote fluid reservoir. (Not supplied)
- Incremental ratio adjustments. Ratio is 6.88-14.45:1

TYPICAL APPLICATIONS.

- Grand Prix Machines / - Superbikes / - Road.

ASSEMBLY PART NUMBER.

- CP4125-26 (17mm to 20mm effective bore)

TECHNICAL SPECIFICATIONS.

View Installation Drawing

Weight	304g
Range Effective bore size	16mm -20mm.
Actual bore size	22.0mm (0.86")
Hydraulic Connections - Outlet thread	M10 x 1.0
Bleed Screw Tightening Torque	5.5Nm (4lbs/ft)
Repair Kit	CP4125-26RK

RATIO ADJUSTMENTS GUIDE.

This variable ratio master cylinder has a knurled wheel to adjust the ratio. This adjuster is rotated to increase or decrease the lever ratio.

TECHNICAL SPECIFICATIONS & NOTES.

- Master Cylinder will be supplied with the wheel adjuster set at position 0 (i.e. with the fulcrum point at end of guide slot in lever, nearest to end of the handlebars, as drawn) at this setting piston travel is at its maximum, which will give best conditions for bleeding the brake system. Typical working stroke is shown as a guide only, working stroke should be set to riders preference. After initial setting only small adjustments, typically ±1 turn should be necessary to suit differing conditions. The ratio adjuster wheel has a detent mechanism allowing it to be moved ¼ turn per click. No locking of the mechanism is required. Lever travel will usually increase slightly in dynamic applications over static settings due to disc run-out etc. it is therefore advisable to set lever feel on the hard side for initial test.
- Master Cylinder will be supplied with the lever reach set at the nominal position as drawn. To obtain a longer reach the adjuster should be turned anti-clockwise using the reach adjuster wheel to suit riders preference. Conversely the adjuster can be turned clockwise to give a shorter reach. Adjustments should be made in ¼ turn increments, but should not be set between detents positions. The correct lever reach should be established prior to any adjustment to the lever ratio using the wheel adjuster.
- Outlet fitting is not supplied with assembly as standard, but Tecalamit or Aeroquip are available on request.
- To remove lever sub-assembly, take the Master Cylinder off the handlebar, then set wheel adjuster in position 0. Knock out spring and remove the lever reach adjuster wheel. Turn the exposed pull rod clockwise using the 1mm slot in it's end until the lever assembly is disconnected from the pull rod lever sub-assembly will then slide out from the retaining flanges. To replace lever sub-assembly reverse the above procedure.
- **Important: If any impact is sustained on lever causing a high pressure input to brake system, whole system should be replaced.**

CP3125-2

Original Adjustable Ratio Master Cylinder.

FEATURES.

The original adjustable ratio brake master cylinder can be used to upgrade any brake system.

- Supplied with integral fluid reservoir.
- Incremental ratio adjustments - 6.4 / 9.34:1

TYPICAL APPLICATIONS.

- Historic Grand Prix & Superbike machines and Road.

View Installation Drawing

PART NUMBER.

- CP3125-2 R/H (16mm to 19mm effective bore)

TECHNICAL SPECIFICATIONS.

- Weight	475g
- Effective bore size	16mm -19mm.
- Actual bore size	19.0mm (0.74")
- Hydraulic Connections - Outlet thread	M10 x 1.0
- Bleed Screw Tightening Torque	5.5Nm (4lbs/ft)
- CP3125-2 Repair Kit	CP3125-2RK
- CP3125-4 & -5 Repair Kit	CP3125-4RK

RATIO ADJUSTMENTS GUIDE.

This variable ratio master cylinders has a screw to adjust the ratio. This adjuster is moved to and away from the handlebar with the effects detailed in the table below.

GUIDE TO ADJUSTMENT			
Screw Adjuster	Braking	Lever Travel	Lever Feel
In - Clockwise	Decreased	Decreased	Harder
Out - Anti-Clockwise	Increased	Increased	Softer

TECHNICAL SPECIFICATIONS & NOTES.

- Master cylinder will be supplied with the screw adjuster set at position 0 (i.e. with the adjuster flush with locknut as drawn) at this setting piston travel is at its maximum, which will give best conditions for bleeding the brake system.

Typical working stroke is shown as a guide (see table opposite) only working stroke should be set to riders preference. After initial setting only small adjustments, typically ±½ turn should be necessary to suit differing conditions.

- Lever travel will usually increase slightly in dynamic applications over static settings due to disc runout etc. It is therefore advisable to set lever feel on the hard side for initial test.
- **Important: If any impact is sustained on lever causing a high pressure input to brake system, the whole system should be either replaced or set back to AP Racing for examination.**

CP3756-4

Pull Type Rear Master Cylinder.

TYPICAL APPLICATIONS.

- All Solo Machines.

FEATURES.

View Installation Drawing

- Pull type configuration.
- allows for a compact installation.
- Single chamber, single seal.
- Aluminium alloy body.
- Manufactured from high quality castings.

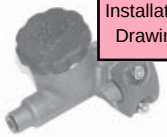
TECHNICAL DETAILS.	
Weight.	100g
Effective Bore Size	14.0mm
Actual Bore Size	15.87mm (0.625")
Stroke.	16.2mm (0.638")
- Outlet.	M10 x 1.0
Hydraulic Connections.	
Push-on inlet	7.9mm (5/16") inside hose Ø
Outlet thread	M10x1.0
RECONDITIONING / SERVICING CP3756 has to be returned to AP Racing for this service. No repair kit available.	

CP2215-90

"Classic" Master Cylinder.

TYPICAL APPLICATIONS.

- Classic racing and road motorcycle



View Installation Drawing

FEATURES.

- The original "Classic" master cylinder.
- Aluminium alloy body and cap.
- Suitable for single and twin disc applications.
- Integral fluid reservoir.
- Manufactured from high quality castings.
- Replaces CP2215-20.

TECHNICAL DETAILS.	
Weight.	520g
Actual Bore Size	15.87mm (0.625")
Stroke.	16.0mm (0.638")
Hydraulic Connections.	
Outlet Thread	3/8"x24UNF
Reservoir Capacity = 50cc. **Note:** When filling reservoir reform internal bellows as flat as possible prior to re-fitting.	
SPARE PARTS	
Repair kit	CP5678-1RK
Lever Part No.	CP2233-18

CP2232-90

"Classic" Rear Master Cylinder.

TYPICAL APPLICATIONS.

- Classic racing and road motorcycle

FEATURES.

- The original "Classic" rear master cylinder.
- Aluminium alloy body.
- Manufactured from high quality castings.
- Integral fluid reservoir.
- Replaces CP2232-12.

View Installation Drawing

TECHNICAL DETAILS.	
Weight.	300g
Actual Bore Size	15.87mm (0.625")
Stroke.	11.8mm (0.46")
Hydraulic Connections.	
Outlet Thread	3/8"x24UNF
Reservoir Capacity	35cc
Spare part kit for CP2232-90 only.	
Repair kit - CP5678-1RK	
Seal kit for original CP2232- CP2232-12RK	

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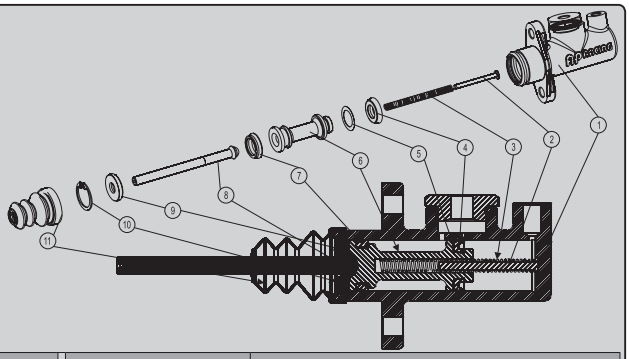
MASTER CYLINDER REPAIR KITS.

Repair kits are available for AP Racing Master Cylinders detailed in this catalogue. Repair kit Part Nos can be found below and on page 72.
IMPORTANT NOTE: The changing of internal components of the master cylinder in rare cases, may alter the distance to cut-off.
If you are unable to bleed the cylinder after a seal change, please consult AP Racing. Also ensure that any parts that have been dis-assembled are kept with the original cylinder and are not mixed.

CP2623, CP4400, CP4623, CP5623 & CP6093.

Repair kit information for CP2623, CP4400, CP4623, CP5623 & CP6093 master cylinders are tabled below. Please follow the instructions below.



INSTRUCTIONS

1) Remove rubber boot **(11)** and circlip **(10)**.

2) Carefully remove internal components.

3) Replace the following. (Making sure all seals have been lubricated with Brake Fluid). Primary seal **(4)**, Piston Washer **(5)** and the Secondary seal **(7)**. **(Care must be taken when assembling seals as damage maybe caused)**

4) Check bore is free from debris.

5) Lubricate bore with Brake Fluid.

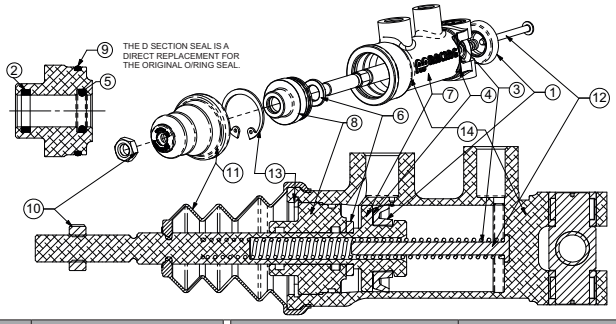
6) Reassemble internal components into body.

7) Use new circlip **(10)** to secure internal components and new boot to protect from debris **(11).**

Ref.	Description.	Included in Repair Kit.	Bore Size.	Repair Kit Part No.
1.	Body.		14.00mm	CP2623-88RK
2.	Spring Guide Pin.		15.00mm	CP2623-89RK
3.	MCyl Return spring.		15.9mm (0.625") 5/8"	CP2623-90RK
4.	Primary Seal.	Yes.	16.8mm	CP2623-905RK
5.	Piston Washer.	Yes.	17.8mm (0.70")	CP2623-91RK
6.	Piston		19.1mm (0.75") 3/4"	CP2623-92RK
7.	Secondary Seal.	Yes.	20.6mm (0.812") 13/16"	*CP2623-930RK* * new piston maybe required. see www.apracing.com
8.	Push Rod.		22.2mm (0.875") 7/8"	CP2623-94RK
9.	Piston Stop Washer.		23.8mm (0.937") 15/16"	CP2623-95RK
10.	Circlip.	Yes.	25.4mm (1.00")	CP2623-96RK
11.	Boot.	Yes.		

CP7854 and CP7855 REPAIR KITS.

Repair kit information for CP7854 and CP7855 are tabled below for all Master Cylinders bore sizes. Please follow the instructions given.



INSTRUCTIONS

1) Remove rubber boot **(11)** and circlip **(13)**.

2) Carefully remove internal components.

3) Replace the following. (Making sure all seals have been lubricated with Brake Fluid). Primary seal **(1)**, Slydring Bearing **(2)**, Piston Washer **(4)**, D-Ring Piston Seal **(5)** & O-Ring End Cap Seal **(9)**. **(Care must be taken when assembling seals as damage may be caused).**

4) Check bore is free from debris.

5) Lubricate bore with Brake Fluid.

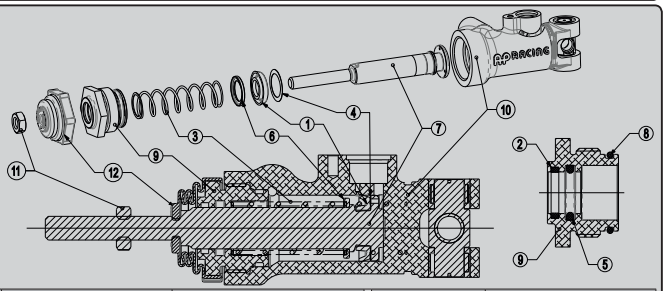
6) Reassemble internal components into body.

7) Use new circlip **(13)** to secure internal components and new boot to protect from debris **(11).**

Ref.	Description.	Included in Repair Kit.	Bore Size.	Repair Kit Part No.
1.	Primary Seal.	Yes.	14.00mm	CP7855-88RK
2.	Slydring Bearing.	Yes.	15.00mm	CP7855-89RK
3.	MCyl Return Spring.		15.9mm (0.625") 5/8"	CP7855-90RK
4.	Piston Washer.	Yes.	16.8mm	CP7855-905RK
5.	D-Ring Piston Seal.	Yes.	17.8mm (0.70")	CP7855-91RK
6.	Cut-off Shim.		19.1mm (0.75") 3/4"	CP7855-92RK
7.	Piston.		20.6mm (0.812") 13/16"	CP7855-93RK
8.	End Cap.		22.2mm (0.875") 7/8"	CP7855-94RK
9.	O-Ring Cap Seal.	Yes.	23.8mm (0.937") 15/16"	CP7855-95RK
10.	Lock Nut 5/16" UNF.		25.4mm (1.00")	CP7855-96RK
11.	Boot.	Yes.		
12.	Spring Guide Pin.			
13.	Circlip.	Yes.		
14.	Body.			

CP6465 & CP6468 REPAIR KITS.

Repair kit information for CP6465 Master cylinders are tabled below for all bore sizes. Please follow the instructions given.



INSTRUCTIONS

1) Remove rubber boot **(12)** and unscrew end cap **(9)**.

2) Carefully remove internal components.

3) Replace the following. (Making sure all seals have been lubricated with Brake Fluid). Primary seal **(1)**, Slydring Bearing **(2)**, Piston Washer **(4)**, D-Section Piston Seal **(5)** & O-Ring End Cap Seal **(8)**. **(Care must be taken when assembling seals as damage maybe caused)**

4) Check bore is free from debris.

5) Lubricate bore with Brake Fluid.

6) Reassemble internal components into body.

7) Use original end cap **(9)** to secure internal components. Tighten to 24Nm (18lbf-ft) and use loctite threadlocker 242 or 243).

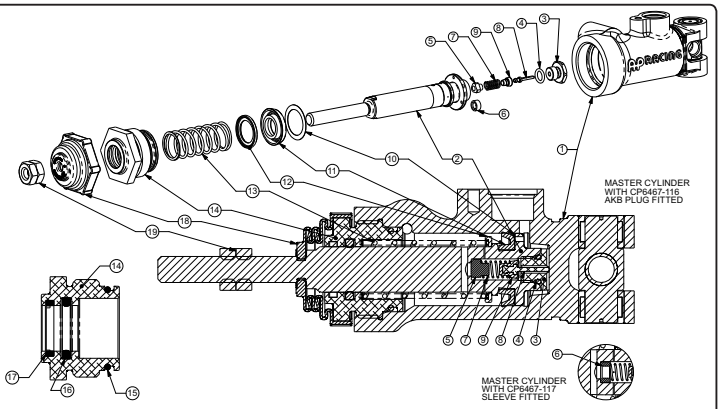
8) Fit new boot **(12)** to protect from debris**.**

Ref.	Description.	Included in Repair Kit.	Bore Size.	Repair Kit Part No.
1.	Primary Cup Seal.	Yes.	14.9mm	CP6465-149RK
2.	Slydring Bearing.	Yes.	16.2mm	CP6465-162RK
3.	MCyl Return spring.		17.3mm	CP6465-173RK
4.	Piston Washer.	Yes.	18.8mm	CP6465-188RK
5.	D-Section Piston Seal.	Yes.	20.2mm	CP6465-202RK
6.	Piston Stop.		21.2mm	CP6465-212RK
7.	Piston.		21.8mm	CP6465-218RK
8.	O-Ring Cap Seal.	Yes.	22.4mm	CP6465-224RK
9.	End Cap.		23.7mm	CP6465-237RK
10.	Body.		25.4mm	CP6465-254RK
11.	Locknut M8x1.25			
12.	Boot.	Yes		

Visit www.apracing.com for full & up to date product range

CP6467 REPAIR KITS.

Repair kit information for CP6467 Master cylinders are tabled below for all bore sizes. Please follow the instructions given.



INSTRUCTIONS

1) Remove rubber boot **(18)** and un-screw end cap **(14)**.

2) Carefully remove internal components and un-screw valve cap **(3)**.

3) Carefully remove centre valve components.

4) Replace the following. (Making sure all seals have been lubricated with Brake Fluid). O-Ring Valve Cap Seal **(4)**, Centre Valve Seal **(9)**, Piston Washer **(10)**, Primary Seal **(11)**, O-Ring End Cap Seal **(15)**, D-Section Piston Seal **(16)** and Slydring Bearing **(17)**. (Care must be taken when assembling seals as damage may be caused).

5) Check bore is free from debris.

6) Lubricate bore with Brake Fluid.

7) Reassemble valve seal components into piston **(2)**.

8) Use original valve cap **(3)** to secure centre valve components. Tighten to 5Nm (3.7lbf-ft) and use Loctite threadlocker 242 or 243.

9) Reassemble internal components into body.

10) Use original end cap **(14)** to secure internal components. Tighten to 24Nm (18lbf-ft) and use Loctite threadlocker 242 or 243.

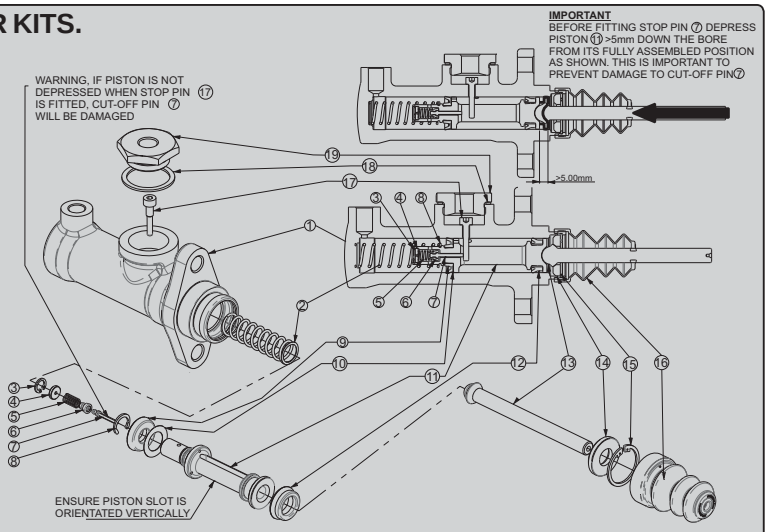
11) Fit new boot **(18)** to protect from debris.

Ref.	Description.	Included in Repair Kit.
1.	Body.	
2.	Piston.	
3.	Valve Cap.	
4.	O-Ring, Valve Cap Seal.	Yes
5.	AKB Plug.	
6.	Sleeve.	
7.	Spring.	
8.	Valve Piston.	
9.	Centre Valve Seal.	Yes
10.	Piston Washer.	Yes
11.	Primary Seal.	Yes
12.	Piston Stop.	
13.	Return Spring.	
14.	End Cap.	
15.	O-Ring, End Cap Seal.	Yes
16.	D-Section Piston Seal.	Yes
17.	Slydring Bearing.	Yes
18.	Boot.	Yes
19.	Lock Nut M8x1.25.	

Bore Size	Repair KitPart Number
14.9mm	CP6467-149RK
16.2mm	CP6467-162RK
17.3mm	CP6467-173RK
18.8mm	CP6467-188RK
20.2mm	CP6467-202RK
21.2mm	CP6467-212RK
21.8mm	CP6467-218RK
23.7mm	CP6467-237RK
25.4mm	CP6467-254RK

CP7098, CP7198, CP7398 & CP9093 REPAIR KITS.

Repair kit information for CP7098, CP7198, CP7398 and CP9093 Master cylinders are tabled below for all bore sizes. Please follow the instructions given.



INSTRUCTIONS

A) Remove inlet **(19)**, gasket **(18)**, boot **(16)** and depress push-rod >5mm **(13)** into body.

B) Remove stop pin **(17)** and circlip **(15)**.

C) Carefully remove internal components from body.

D) Remove internal circlip **(3)** and cut off components from end of piston **(11)**.

E) Replace the following (Making sure all seals have been lubricated with Brake Fluid). Primary seal **(9)**, Piston Washer **(10),** Cut off Pin Seal **(6)**, Internal circlip **(3)**, Secondary seal **(12)** and Inlet Gasket **(18)**. **(Care must be taken when fitting seals as damage may occur from fitting tools or over-stretching).**

F) Reassemble cut off components into end of piston **(11)** and secure with new internal circlip **(3)**.

G) Check bore is free from debris.

H) Lubricate bore with Brake Fluid.

I) Reassemble internal components into body **(1)** ensuring piston slot is orientated vertically and depress piston **(11)** >5mm into body beyond its assembled position as shown on the drawings. **(Depressing the piston is important to avoid damage to the internal cut-off pin (7).**

J) Screw in stop pin **(17)** with piston still depressed with a tightening torque of 3.5Nm (2.6lbft) and assemble pushrod **(13)** and stop washer **(14)**.

K) Use new circlip **(15)** to secure internal components and new boot **(16)** to protect from debris.

L) Reassemble new inlet gasket **(18)** and inlet **(19)** and tighten with a tightening torque of 67Nm (50lbft) ensuring inlet is clean of any debris.

Ref.	Description.	Included in Repair Kit.
1.	Body.	
2.	Piston Return Spring.	
3.	Internal Circlip.	YES
4.	Flow Restrictor.	
5.	Cut off Pin Spring.	
6.	Cut off Pin Seal.	YES
7.	Cut off Pin.	
8.	Spring Retainer.	
9.	Primary Seal.	YES
10.	Piston Washer.	YES
11.	Piston.	
12.	Secondary Seal.	YES
13.	Pushrod.	
14.	Stop Washer.	
15.	Circlip.	YES
16.	Boot.	YES
17.	Stop Pin.	
18.	Inlet Gasket.	YES
19.	Inlet.	

Bore Size.	Repair Kit Part Number.
14.0mm	CP7198-88RK
15.0mm	CP7198-89RK
15.9mm (0.625") 5/8"	CP7198-90RK
16.8mm	CP7198-905RK
17.8mm (0.70")	CP7198-91RK
19.1mm (0.75") 3/4"	CP7198-92RK
20.6mm (0.812") 13/16"	CP7198-93RK
22.2mm (0.875") 7/8"	CP7198-94RK
23.8mm (0.937") 15/16"	CP7198-95RK
25.4mm (1.00")	CP7198-96RK

INTRODUCTION.

AP Racing offer a comprehensive range of plastic reservoirs.
The reservoir detailed on pages 73 & 74 to complement not only our own Master Cylinders but other manufacturers also.
Full installations drawings can be downloaded from:
www.apracing.com

CP4709 TYPE.

A small diameter plastic reservoir with central outlet which can be screwed directly into a master cylinder.

- Features

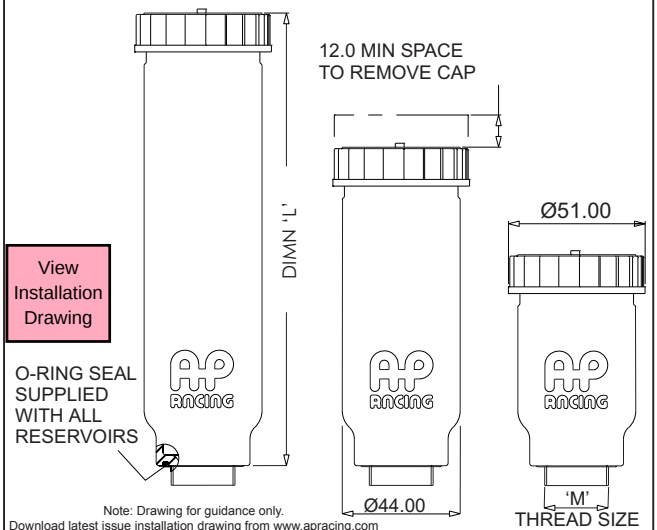
- Available in a choice of 3 volumes.
- 'O' Ring seal supplied.
- CP2709-156 Bellows available.
- Push on & threaded connector for remote cylinder available - CP4709-107.

- Part Numbers

- **CP4709-10,-11 & -12** Will screw directly onto, CP2623, CP4623, CP5623 and CP6093 cylinders by removing inlet adaptor.
- **Note:** For fitting instructions refer to leaflet P14.073 or see website.
- **CP4709-13,-14 & -15** are for remote use but will fit directly to CP4400 master cylinders.
- **CP4709- 16 & -17** are for remote use only.
- **CP4709- 19,-20 & -21** reservoir with push on outlet, for remote use only.

IMPORTANT NOTE: CP4709-12 /-13 /-16 & -19 small reservoir have no bellows to suit please use CP4709-25 Catch Tank Kit.

View Installation Drawing



Note: Drawing for guidance only.
Download latest issue installation drawing from www.apracing.com

Type.	Reservoir Part No.	Volume CC's		Dim'n 'L' (mm)	Thread Size
		Basic	+ Bellows		
Tall	CP4709-10	170	155	169	15/16" x 20 UNS - Direct Fit -
Medium	CP4709-11	110	95	119	
Short	CP4709-12	65	50	79	
Short	CP4709-13	65	50	96	7/16" x 20 UNF - Remote -
Medium	CP4709-14	110	95	136	
Tall	CP4709-15	170	155	186	
Short	CP4709-16	65	50	96	M12 x 1.0 - Remote -
Medium	CP4709-17	110	95	136	
Short	CP4709-19	65	50	94	PUSH ON ADAPTOR - Remote -
Medium	CP4709-20	110	95	134	
Tall	CP4709-21	170	155	184	

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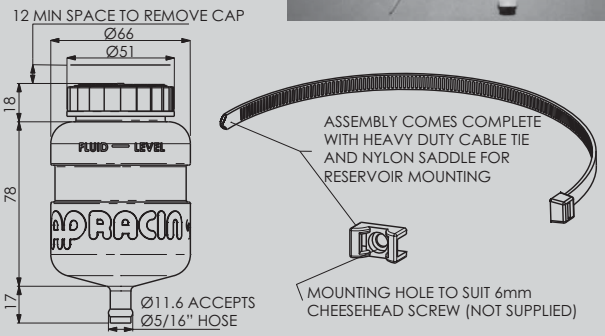
CP5709-10.

- A remote plastic reservoir, accepts Ø5/16" hose.
- Complete with heavy duty cable tie & nylon saddle.
- Volume = 185cm³ (11.3in³)
- No Diaphragm available.
- Replaces 112009 Reservoir.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

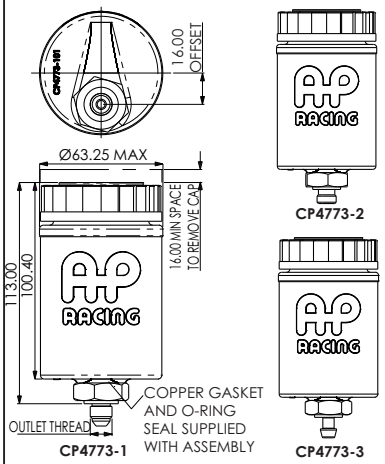
CP4773 TYPE.

- CP4773 reservoir capacity is midway between, CP4709 and CP2293-141/3 types. Both assemblies have an offset outlet and are fitted with bellows (CP4773-102).
- **Volume = 195cm³.**

View Installation Drawing

Part Numbers:

- **CP4773-1 (7/16UNF outlet).**
- **CP4773-2 (M12 outlet).**
- **CP4773-3 (Push on Fitting).**



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP4709-25 - CATCH TANK KIT.

CP4709-25 catch tank is an alternative fluid surge system to traditional bellows without compromising reservoir capacity.
CP4709-25 is suitable for all AP Racing reservoirs and can be used in all competition formulae.

The kit comprises of:

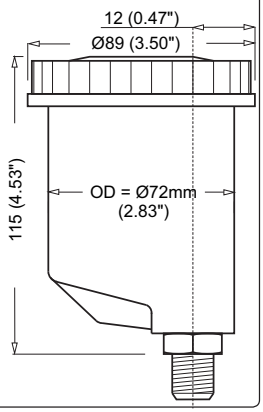
- 1 x catch tank.
- 75cm of silicone tube.
- 3 x nipples with washers & nuts.
- 1 x T-Connector.
- 2 x Cable ties.
- 4 x Mounting blocks.

NOTE:
For installation & fitting details refer to,
http://www.apracing.com/drawings/cp4709-25cd-iss1.pdf

View Installation Drawing

CP2293-141 / CP2293-143 & CP4623-7 / CP4623-8 TYPES.

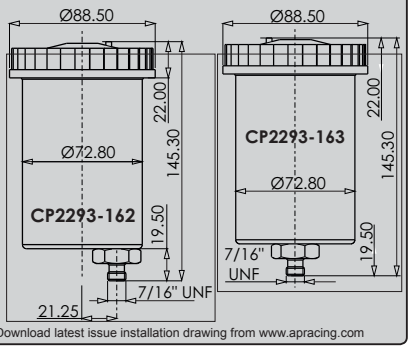
- A large capacity plastic reservoir with offset outlet which screws directly into the master cylinders detailed below.
- Can be supplied with or without rubber diaphragm (bellows), CP2293-174.
- Supplied complete with cap 4325-148, or alternative cap 3847-246 if bellows are fitted, and adaptor.
- **CP2293-141 & -143** suitable for: CP2623, CP4400 & CP6093.
- **CP4623-7 & -8** suitable for: CP4623 & CP5623.
- To rotate reservoir unlock nut included and reposition, then re-tighten.



Part No.	Diaphragm.	Fitting
CP2293-141	No	7/16" UNF
CP2293-143	Yes	
CP4623-7	Yes	M12x1.0
CP4623-8	No	
Volume 275cm³ (13.4in³).		

CP2293-162, CP2293-163 & CP2293-176 - 340cc CAPACITY TYPES.

- Three 340cc capacity plastic reservoirs with either offset or central outlets which screw directly into all master cylinders with 7/16" UNF inlet thread or can be used remotely.
- Volume = 340cm³ (20.7in³)
- Supplied with CP2293-173 rubber diaphragm (Bellows) to minimise entry of moisture, dirt and help prevent spillage.
- Supplied complete with cap 3847-246 & adaptor.
- "Push on" inlet version available. Part No **CP2293-176**.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

DIAPHRAGMS (BELLOWS).

Rubber Diaphragms (bellows) minimise the entry of moisture and dirt to help prevent spillage. The diaphragms listed below are suitable for use with appropriate AP Racing reservoirs in this catalogue. **NOTE: The use of Diaphragms (bellows) may restrict effective volume or reservoirs.**

CP2709-156 (SMALL)

- For use with reservoir cap LBNM9057AXBR, on the following reservoir assemblies. All CP4709 Series except -12/ -13/ 16 & -19.

CP2293-174 (MEDIUM)

- For use with reservoir cap 3847-246, on the following reservoir assemblies.

CP2293-141, -143 & -69 / CP2293-85 / 4342-355. / CP4623-7/-8 /-9 & -10. **Replaces CP2293-48.**

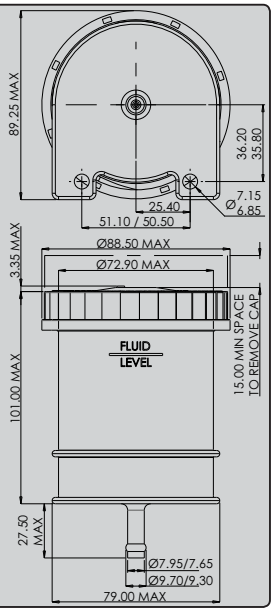
CP2293-173 (LARGE)

- For use with reservoir cap 3847-246, on the following reservoir assemblies - CP2293-162 /-163 /-176 & -185. **Replaces CP2293-166.**

IMPORTANT NOTE: When fitting new bellows CP2293-173 (supercedes CP2293-166) & CP2293-174 (supercedes CP2293-48) to old 4325-148 cap assembly the plastic insert and rubber seal must be removed from the cap.New cap 3847-246.

CP2293-69 & 4342-372 TYPES.

- A large capacity remote plastic reservoir with 1 outlet.
- **CP2293-69** supplied with diaphragm (bellows) CP2293-174 & cap 3847-246.
- **4342-372** supplied without diaphragm (bellows) & cap 4325-148.
- Accepts Ø5/16" diameter hose.
- Volume = 280cm³ (17.1in³).



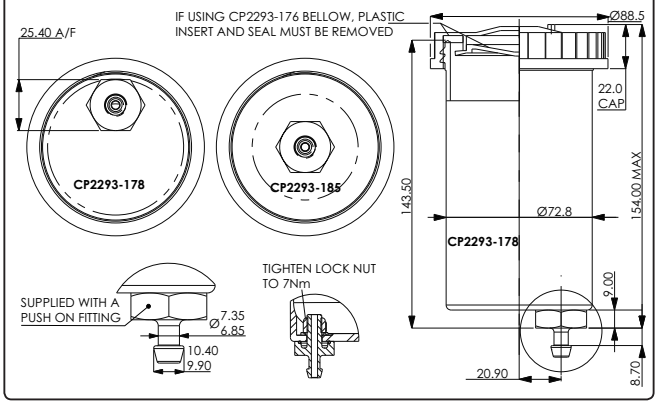
View Installation Drawing

CP2293-178 & CP2293-185, 400cc CAPACITY TYPES.

- Two 400cc capacity plastic reservoirs with either a central or offset outlet supplied with 3/8"UNF push on adaptor fitting.
- Volume = 400cm³ (24.4in³)
- Supplied without bellows, but optional bellows fitment available:

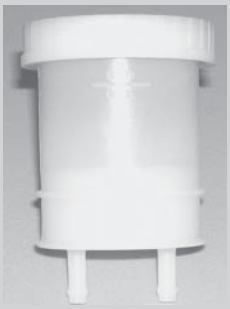
IMPORTANT NOTE: CP2293-178 & -185 can be fitted with CP2293-173 bellows if required. However, the plastic insert and rubber seal must be removed otherwise the bellow will not fit correctly.

- Supplied complete with cap 4325-148 and CP2623-250 adaptor.

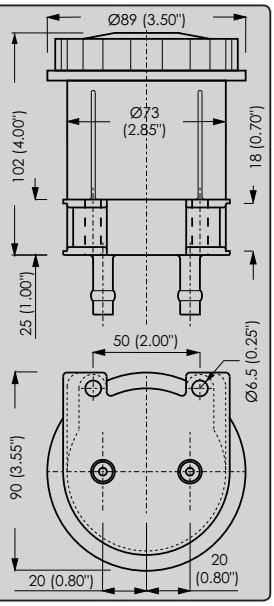


View Installation Drawing

CP2293-85 & 4342-355 TYPES.



- A large capacity remote plastic reservoir with 2 outlets.
- **CP2293-85** supplied with diaphragm (bellows) CP2293-174 & Cap 3847-246.
- **4342-355** supplied without diaphragm (bellows) & cap 4325-148.
- Accepts Ø5/16" diameter hose.
- Volume = 280cm³ (17.1in³)

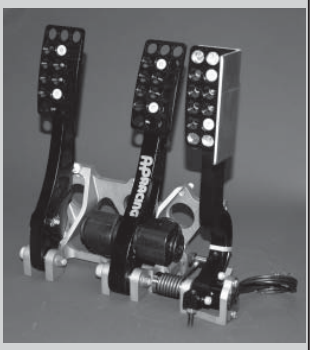


Actuation Home Page
CP5509 Floor Mounted Push Type
CP5516 Floor Mounted Pull Type
CP5538 Sliding Floor Mounted
CP5540 Floor Mounted Tandem
CP5508 Underslung Multi-Ratio
CP5517 Underslung Pull Type
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

INTRODUCTION.

AP Racing's range of pedal boxes are proving to be masterpieces of functional design. Our pedal boxes represent a major step forward in chassis control, giving driver better feel, greater dexterity, quicker laps.
All pedal boxes are lightweight, flexible and ergonomically efficient, these multi-ratio pedal boxes are designed to harmonise with the complete range of master cylinders available from AP Racing.

CP5500 - FLOOR MOUNTED PUSH TYPES.



CP5500 family is a generic racing pedal box design.
Designed for comfort and control. The 3 pedal assembly CP5500-605 has been updated to include a new contact less rotary throttle sensor with dual input/output for redundancy.
This family of pedal boxes benefits from optimised machined billet base plate and pedals with adjustable footpads to alter pedal ratio's. The throttle pedal includes travel stops and additional features to aid connection to bell cranks and cables.
All pedal pivots feature ball bearings. The base plate and pedals together with low friction treatments and a high quality spherical balance bar bearing set high standards in pedal box efficiency. The CP5500 range is also available in 3, 2 and 1 pedal configurations.

PART NUMBERS.

- **Brake, Clutch & Throttle Assembly:**
- **With throttle sensor.**
- CP5500- 605MTS or CP5500-605UTS.
- **Without throttle sensor.**
- CP5500- 605M or CP5500-605U.
- **Brake & Throttle Assembly:**
- **With throttle sensor.**
- CP5500- 625MTS or CP5500-625UTS.
- **Without throttle sensor.**
- CP5500- 625M or CP5500-625U.
- **Brake & Clutch Assembly.**
- **Brake & Clutch Assembly.**
- CP5500- 515MET or CP5500-515UNF.
- **Brake Pedal Assembly.**
- CP5500- 535MET or CP5500-535UNF.
- **Note: UNF & UTS Assemblies -**

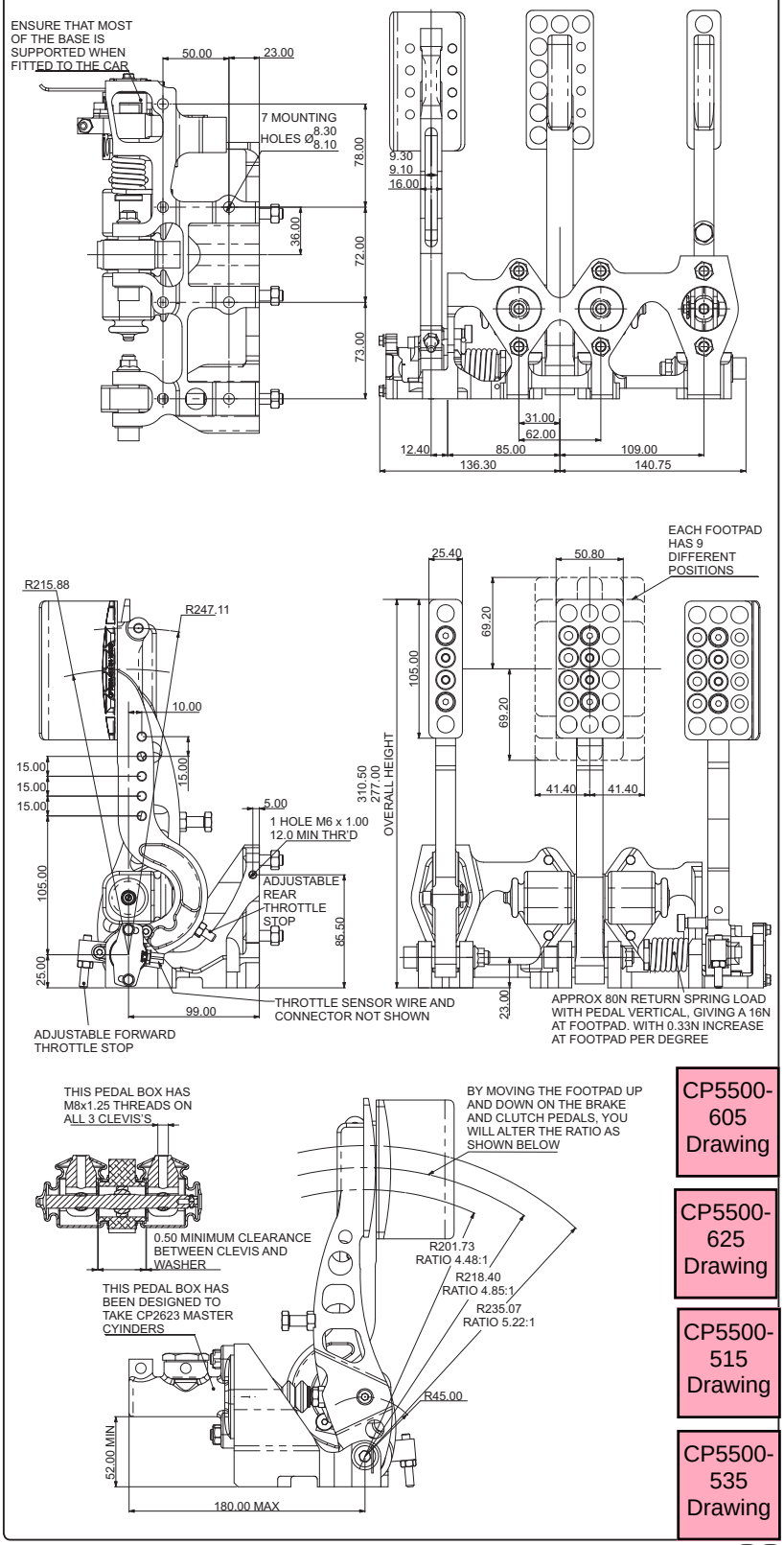
The only threads that are imperial are the three clevis's that attach to the master cylinder pushrods.

FEATURES.

- Optimised, lightweight Aluminium alloy base plate, machined from Billet.
- Optimised, lightweight billet clutch and brake pedal, with improved twist resistance.
- Forged throttle pedal with additional features.
- Adjustable forward & rear stops.
- Return spring.
- 9 Different footpad positions.
- Side Plate.
- Optional throttle linkage kit - CP5500-43.
- Brake and clutch pedal ratio 4.85:1.
- All pedals pivot on ball bearings.
- Suitable master cylinder ranges - CP2623
- Recommended push rod length
- brake 88.0mm. / - clutch 65.0mm.
- Adjuster cable CP2905-18 included.
- 10mm balance bar fitted with rubber boots to prevent dirt ingress.
- **Supercedes CP5500-505.**

CP5500-605MTS INSTALLATION DRAWING BELOW:

Note: For all other CP5500 pedal box installation drawings visit, www.apracing.com



CP5500-605 Drawing

CP5500-625 Drawing

CP5500-515 Drawing

CP5500-535 Drawing

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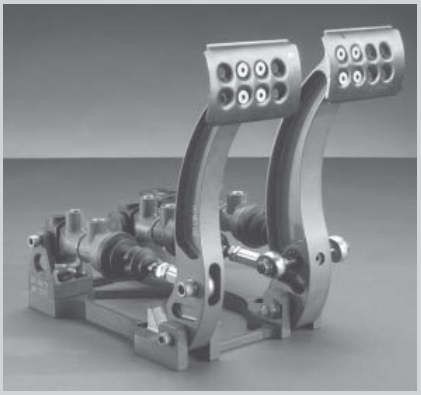
Actuation Home Page
CP5516 Floor Mounted Pull Type
CP5538 Sliding Floor Mounted
CP5540 Floor Mounted Tandem
CP5508 Underslung Multi-Ratio
CP5517 Underslung Pull Type
CP5500 Floor Mounted
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5509 FLOOR MOUNTED PUSH TYPE.



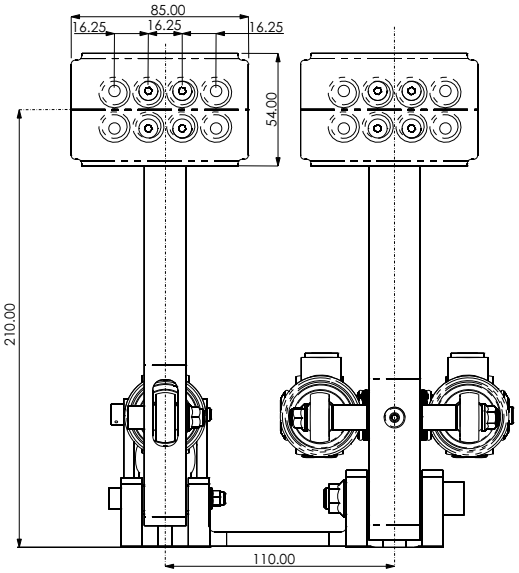
This is a general purpose floor mounted pedal box which utilises the latest high efficiency CP7854 push type master cylinders. Minimum hysteresis and balance variation are assured by the use of needle roller bearings in the centre trunnion and ball bearing pedal pivots.

PART NUMBERS.

- Brake and clutch assembly.
  - CP5509-1

FEATURES.

- Lightweight billet base, machined from Aluminium.
- Includes billet aluminium alloy Pedals and Balance Bar.
- Adjustable foot pads for optimum driver comfort.
- Adjustable clutch stop.
- Brake and clutch pedal ratio 4.8:1.
- Brake and clutch pedal are pivoted on ball bearings for increased efficiency and smoothness.
- Designed for use with master cylinder.
  - CP7854 see page 66.
- Travel sensor kit CP5854-10 available for the master cylinders used with this pedal box.
- Weight .
  - without cylinders 1.75kg
- Adjuster cable CP2905-18 included with assembly.



SETTING UP THE BALANCE BAR
ADJUST THE PUSHRODS SO THAT THE BALANCE BAR ISPERPENDICULAR TO THE PUSHRODS UNDER MAXIMUM LOAD. THE SYSTEM IS THEN SQUARE. IT IS NOT IMPORTANT THAT THE SYSTEM IS SQUARE WHEN RELEASED, BUT IT HAS TO BE UNDER LOAD.

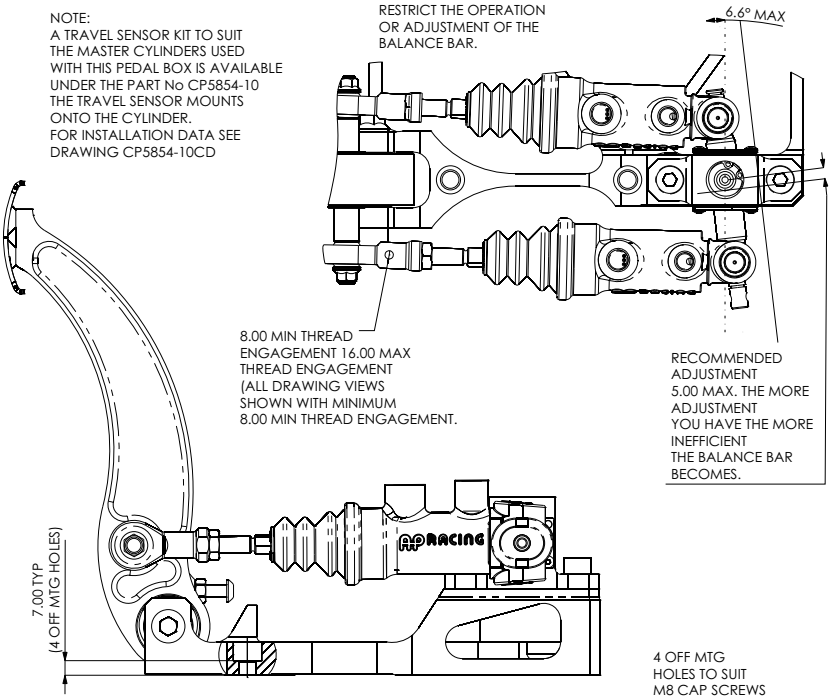
FOR MAXIMUM EFFICIENCY, IT IS RECOMMENDED THAT THE PEDAL IS AT RIGHT ANGLE WITH THE PUSHRODS UNDER MAXIMUM BRAKING LOAD; AND ALSO KEEPING THE BALANCE BAR CENTRAL WITH BETTER SELECTION OF MASTER CYLINDER SIZES HELPS REDUCE INEFFICIENCIES.

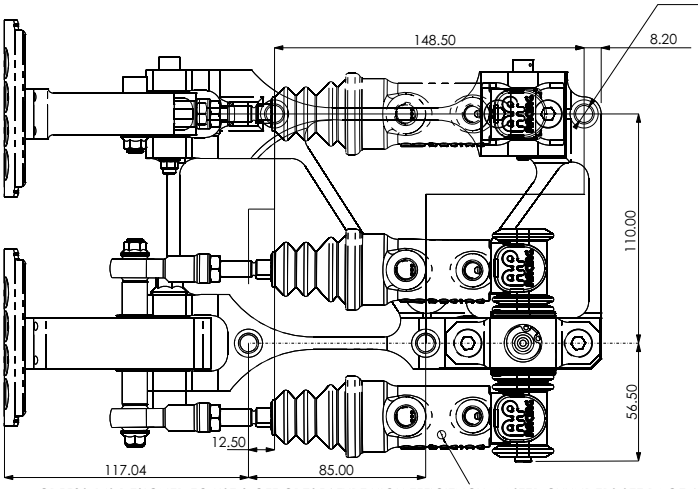
ALSO MAKE SURE THAT THE MASTER-CYLINDER PISTONS FULLY RETURN BEFORE USE. THIS CAN BE CHECKED BY FEELING THE PUSHRODS FOR SLIGHT MOVEMENTS THERE SHOULD NOT BE ANY EXCESSIVE LOOSE MOVEMENT.

MAX ANGLE ADJUSTMENT AT SETUP THIS IS SET BY ADJUSTING THE THREAD ENGAGEMENT OF THE ROD END BAR AND MASTER CYLINDER PISTON.
THIS RELATES TO 8.0mm OF DIFFERENCE IN TRAVEL OF FRONT TO REAR CYLINDERS. REMEMBER THE BALANCE BAR SHOULD BE PERPENDICULAR WHEN AT MAX BRAKE PRESSURE.

NOTE:
A TRAVEL SENSOR KIT TO SUIT THE MASTER CYLINDERS USED WITH THIS PEDAL BOX IS AVAILABLE UNDER THE PART No CP5854-10 THE TRAVEL SENSOR MOUNTS ONTO THE CYLINDER.
FOR INSTALLATION DATA SEE DRAWING CP5854-10CD

** IMPORTANT NOTE:
BRAKE PIPES MUST NOT RESTRICT THE OPERATION OR ADJUSTMENT OF THE BALANCE BAR.





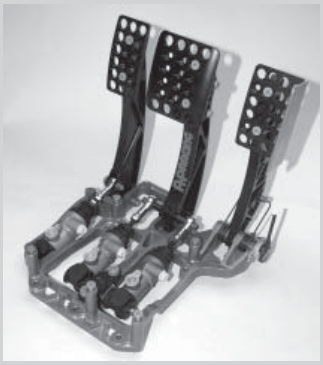
CP5509-1 IS DESIGNED TO USE 3-OFF CP7854 TYPE HIGH EFFICIENCY MASTER CYLINDERS SEE PAGE 65.

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

Actuation Home Page
CP5538 Sliding Floor Mounted
CP5540 Floor Mounted Tandem
CP5508 Underslung Multi-Ratio
CP5517 Underslung Pull Type
CP5500 Floor Mounted
CP5509 Floor Mounted Push Type
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5516 FLOOR MOUNTED REVERSED PULL TYPE.



This unique pull type design allows the pushrod to remain in line eliminating all side loads making it the most efficient pedal box on the market.
The cylinders are mounted under the drivers feet for optimum space utilisation and access.
Minimum hysteresis and balance variation are assured by the use of needle roller bearings in the centre trunnion.

PART NUMBERS.

▫ **For Fly-By-Wire throttle sensor applications.**
- CP5516-88TS.

CP5516-88TS BENEFITS.

▫ CP5516-88TS is fitted with a throttle sensor..
- Benefits over CP5516-7 are:
- Faster responding electronics.
- Reduces the number of moving parts.
- Minimum adjustment & maintenance.
- Greater accuracy of data.

STANDARD FEATURES.

▫ Lightweight aluminium base, machined from high quality casting.
- Extra Strengthening rib.

▫ All pedals are machined from aluminium billet.

▫ Brake pedal is pivoted by ball bearings to increased smoothness.

▫ Designed for use with master cylinder.
- CP6465 see page 67.

▫ Adjustable foot pads for extra driver comfort.

▫ Throttle pedal has foot pad.

▫ Adjustable throttle pedal position, linkage with a torsion spring for positive pedal return.

▫ Adjustable pedal stops on clutch and throttle.

▫ Weight = 3.4kg, without cylinders.

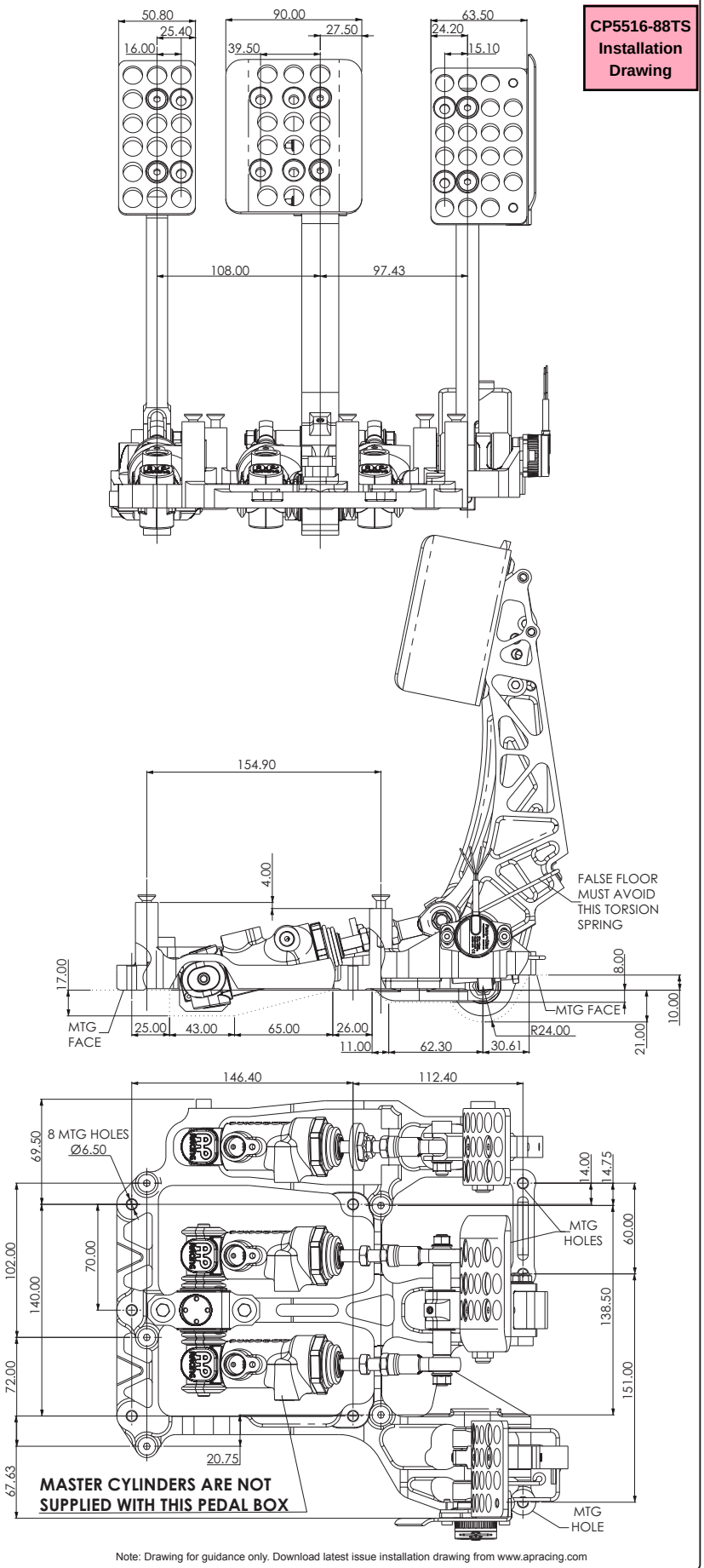
▫ Brake and clutch pedal ratio 4.8:1

▫ All threads are metric.

▫ Adjuster cable CP2905-18 included with assembly.

CP5516-88TS INSTALLATION DRAWING

CP5516-88TS Installation Drawing



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Actuation Home Page
CP5540 Floor Mounted Tandem
CP5508 Underslung Multi-Ratio
CP5517 Underslung Pull Type
CP5500 Floor Mounted
CP5509 Floor Mounted Push Type
CP5516 Floor Mounted Pull Type
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5538
SLIDING FLOOR MOUNTED REVERSED PULL TYPE.

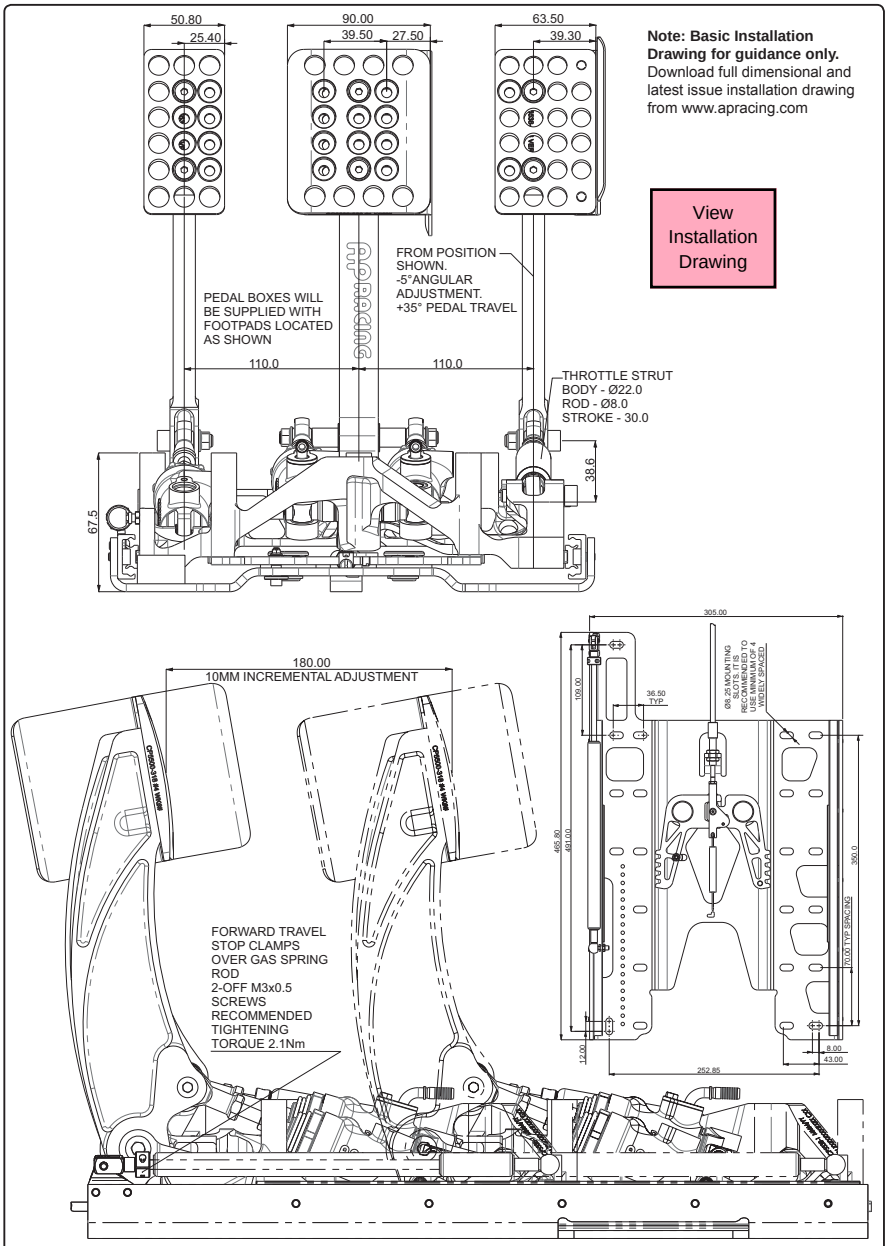
This unique optimised pull type sliding pedal box is AP Racing's solution to comply with the potential new safety regulation of a fixed driver seat in GT Racing allowing for the accommodation of different height drivers in the same car.
CP5538 incorporates a brake clutch and throttle pedal similar to CP5516-88 model.
Pull type design allows for the pushrod to remain straight, eliminating all side loads making it the most efficient pedal box on the market.
CP5538 is mounted in two low friction, linear bearing rails which provide 180mm of adjustment with 19 fixed positions. The cylinders are mounted under the drivers feet for optimum space utilisation and access.
Minimum hysteresis and balance variation are assured by the use of needle roller bearings in the centre trunnion.

PART NUMBERS.

- Brake, Clutch & throttle assembly. CP5538-1TS
- Brake, Clutch & without throttle assembly. CP5538-1
- Brake & Clutch assembly - CP5538-2

FEATURES.

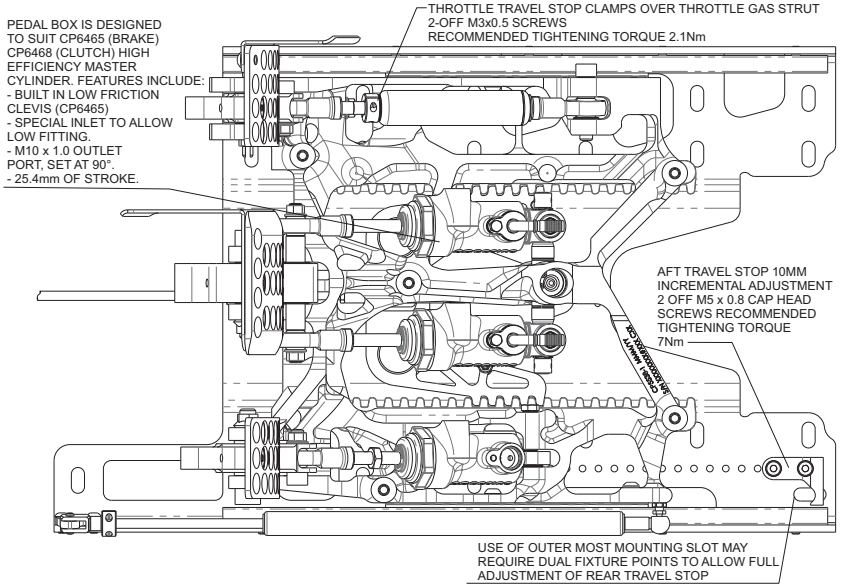
- Lightweight aluminium base, machined from solid billet.
- All pedals are machined from aluminium billet.
- Brake pedal is pivoted by ball bearings to increased smoothness.
- Designed for use with master cylinder.
  - Brake CP6465 - see page 67.
  - Clutch CP6468 - see page 68.
- Adjustable foot pads for extra driver comfort.
- Adjustable throttle pedal position, linkage with a gas spring for positive pedal return.
- Adjustable pedal stops on clutch and throttle.
- Approximate Weight
  - with cylinders - 7.7Kg
  - without cylinders - 6.8kg
- Brake and clutch pedal ratio 4.66:1
- All threads are metric.
- Adjuster cable CP2905-33 included with assembly.



Note: Basic Installation Drawing for guidance only.
Download full dimensional and latest issue installation drawing from www.apracing.com

View Installation Drawing

MASTER CYLINDERS ARE NOT SUPPLIED WITH THIS PEDAL BOX
FOR INFORMATION ON CYLINDER SIZES PLEASE CONTACT AP RACING OR OBTAIN CP6465-1CD OR CP6467-1CD & CP6468-1CD



Actuation Home Page
CP5508 Underslung Multi-Ratio
CP5517 Underslung Pull Type
CP5500 Floor Mounted
CP5509 Floor Mounted Push Type
CP5516 Floor Mounted Pull Type
CP5538 Sliding Floor Mounted
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5540
FLOOR MOUNTED TANDEM PUSH TYPE.

CP5540-50 is a floor mounted push type racing pedal box, incorporating a tandem master cylinder CP5540 family for brake application only and a standard cylinder is required for clutch actuation.
The tandem master cylinder removes the ability to adjust the brake balance during an event, therefore brake balance should be set by selecting an appropriate bore within the master cylinder range.

PART NUMBERS.
◘ Brake, clutch and throttle assembly
- CP5540-50

FEATURES.
◘ A double ended master cylinder with two separate hydraulic chambers which, when compressed by pedal effort, creates two output pressures, one each for front & rear brake circuits.

◘ Brake pedal has multi ratios mounting bracket allowing three different ratio to be used. Therefore overall braking effort (to achieve a certain retardation) can be varied by switching to an alternative pedal ratio.

◘ The system eliminates several components that are used in a typical pedal box because there is no need for a balance bar. For example the number of bearings is reduced from 6 to 3.
- Brake ratios: 2.1:1 / 2.5:1 & 2.9:1
- Clutch ratio: 4:1

◘ Optimised, lightweight Aluminium alloy base plate.

◘ Throttle pedal has a return spring fitted.

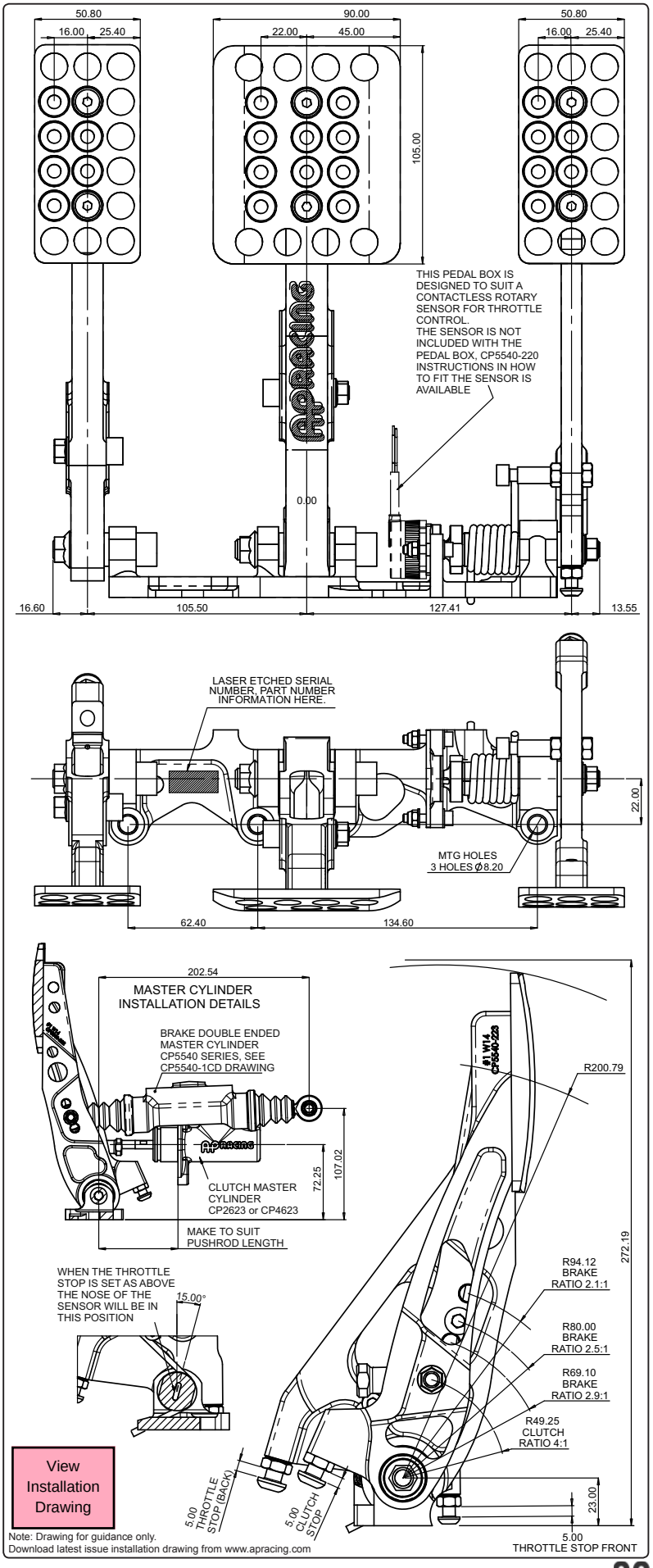
◘ Both pedals are pivoted on ball bearings to increase smoothness of feel for the driver.

◘ Adjustable stop on clutch pedal.

◘ Designed for use with master cylinder types:
- Brake - CP5540 see page 69.
- Clutch - CP2623 or CP4623 see page 63.

◘ Designed to suit accept a contact less rotary throttle potentiometer. This sensor in not included with pedal box order seperately.
Part number - CP5540-220.

◘ Weight.
- Without cylinders 1.64kg



View Installation Drawing

Note: Drawing for guidance only.
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Actuation Home Page
CP5517 Underslung Pull Type
CP5500 Floor Mounted
CP5509 Floor Mounted Push Type
CP5516 Floor Mounted Pull Type
CP5538 Sliding Floor Mounted
CP5540 Floor Mounted Tandem
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5508 UNDERSLUNG MULTI RATIO PUSH TYPE.

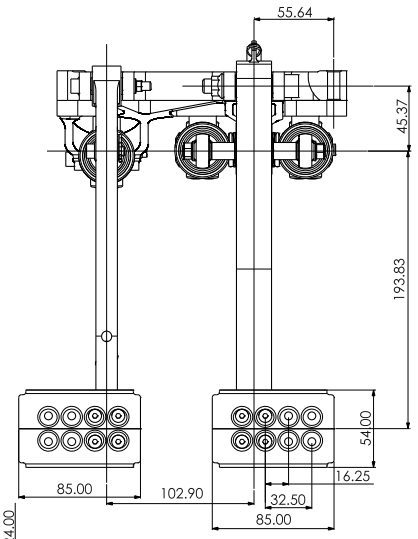
This multi ratio push type pedal box allows the pushrod to remain straight, eliminating all side loads therefore making it very efficient.
The master cylinders connect directly to a high efficiency balance bar.
A lightweight aluminium base, and ergonomic steel and alloy pedals offer the user the ultimate control in this critical area. Uses CP7854 Master Cylinders.

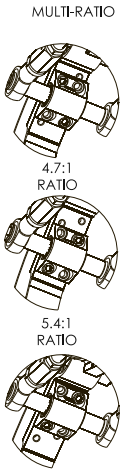
PART NUMBERS.

- Brake and clutch assembly
- CP5508-1

FEATURES.

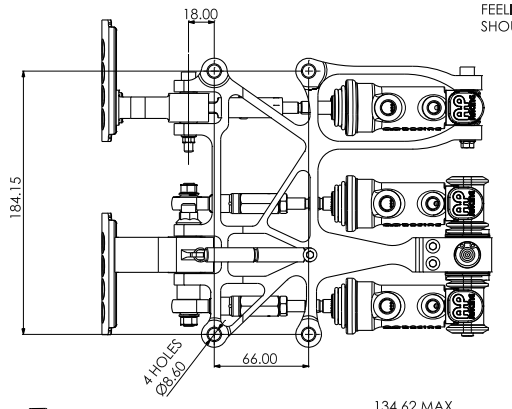
- Lightweight aluminium base, machined from solid.
- Clutch pedal is machined from aluminium billet.
- Brake pedal is machined from steel.
- Brake pedal has multi ratios mounting bracket allowing three different ratio to be used.
- Brake pedal has a return spring fitted.
- Both pedals are pivoted on ball bearings to increase smoothness of feel for the driver.
- Adjustable stop on clutch pedal.
- Designed for use with CP7854 master cylinder see page 66.
- Travel sensor kit CP5854-10 available for the master cylinders used with this pedal box.
- Weight.
  - without cylinders 2.12kg
  - with cylinders 2.72kg



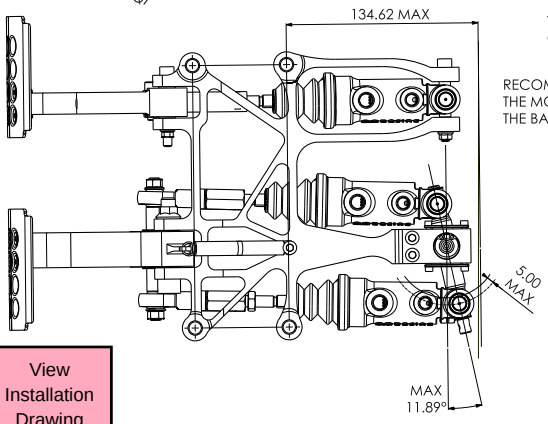


TO ALTER THE RATIO
JUST UN-BOLT THE
BRACKET AND MOVE
IT TO A DIFFERENT
POSITION

BALANCE BAR SET UP
ADJUST THE PUSHRODS SO THAT THE BALANCE BAR IS PERPENDICULAR TO THE PUSHRODS UNDER MAXIMUM LOAD. THE SYSTEM IS THEN SQUARE. IT IS NOT IMPORTANT THAT THE SYSTEM IS SQUARE WHEN RELEASED, NUT IT HAS TO BE UNDER LOAD. FOR MAXIMUM EFFICIENCY, IT IS RECOMMENDED THAT THE PEDAL IS AT RIGHT ANGLE WITH THE PUSHRODS UNDER MAXIMUM BRAKING LOAD: AND ALSO KEEPING THE BALANCE BAR CENTRAL WITH BETTER SELECTION OF MASTER CYLINDER SIZES HELPS REDUCE INEFFICIENCIES. ALSO MAKE SURE THAT THE MASTER CYLINDER PISTONS FULLY RETURN BEFORE USE. THIS CAN BE CHECKED BY FEELING THE PUSHRODS FOR SLIGHT MOVEMENTS THERE SHOULD NOT BE ANY EXCESSIVE LOOSE MOVEMENT.



NOTE:
A TRAVEL SENSOR KIT TO SUIT THE MASTER CYLINDERS USED WITH THIS PEDAL BOX IS AVAILABLE UNDER THE PART No CP5854-10 THE TRAVEL SENSOR MOUNTS ONTO THE CYLINDER. FOR INSTALLATION DATA SEE DRAWING CP5854-10CD



** IMPORTANT NOTE
BRAKE PIPES MUST NOT RESTRICT THE OPERATION OR ADJUSTMENT OF THE BALANCE BAR

RECOMMENDED ADJUSTMENT.
THE MORE OFFSET THE LESS EFFICIENT THE BALANCE BAR BECOMES.

MAX ANGLE ADJUSTMENT. THIS IS SET BY ADJUSTING THE THREAD ENGAGEMENT OF THE ROD END AND MASTER CYLINDER PISTON.
THIS RELATES TO 9.0mm OF DIFFERENT IN TRAVEL OF FRONT TO REAR CYLINDERS.REMEMBER THE BALANCE BAR SHOULD BE PERPENDICULAR WHEN AT MAX BRAKE PRESSURE.

View Installation Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Actuation Home Page
CP5500 Floor Mounted
CP5509 Floor Mounted Push Type
CP5516 Floor Mounted Pull Type
CP5538 Sliding Floor Mounted
CP5540 Floor Mounted Tandem
CP5508 Underslung Multi-Ratio
Hand Brakes
Balance Bars
Brake Fluid
Hydraulic Fittings
Dry Bleed System
Prop Valves
Master Cylinders
Fluid Reservoirs
M/Cycle Cylinders

CP5517 UNDERSLUNG BULKHEAD PULL TYPE.

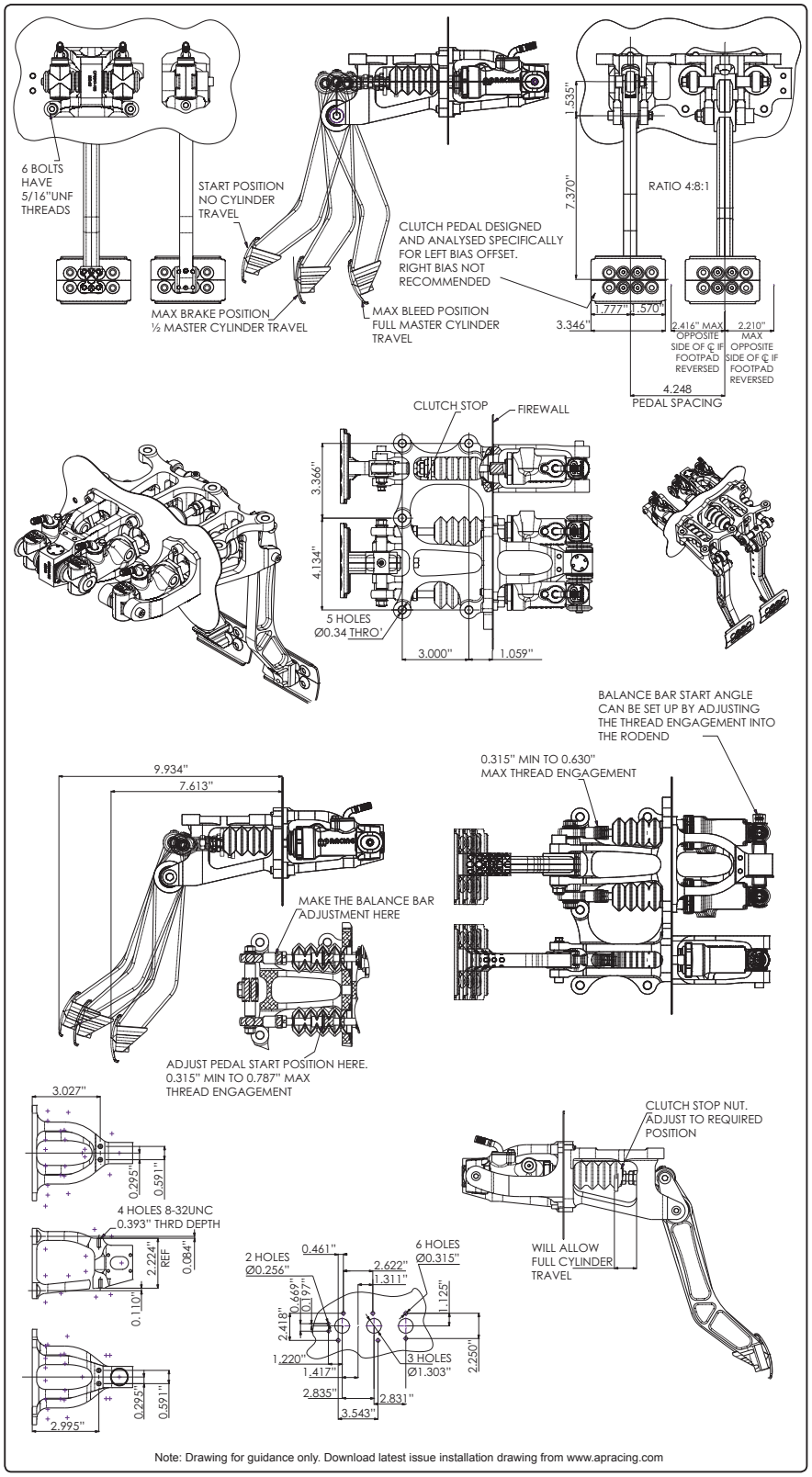
This unique pull type bulkhead mount design with master cylinders being located in the engine or front compartments allows the pushrod to remain in line eliminating all side loads making it one of the most efficient pedal box on the market. It's lightweight aluminium base, and ergonomic steel and alloy pedals offer the user the ultimate control in this critical area.

PART NUMBERS.

- Brake and clutch assembly.
  - CP5517-1

FEATURES.

- Lightweight aluminium base, machined from high quality casting.
- Fabricated steel brake pedal.
- Machined aluminium alloy clutch and throttle pedals.
- Designed for use with master cylinder.
  - CP6465 see page 67.
- Bellows to seal the fire wall. Made from fire retardant material.
- Adjustable foot pads for extra driver comfort.
- Adjustable pedal stops.
- Brake and clutch pedal ratio 4.8:1
- Adjuster cable CP2905-18 included with assembly.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

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CP4780, Hand Brakes.

GENERAL INFORMATION.

- Lightweight fabricated base and lever assembly
- Ratchet locking & fly off mechanism incorporated.
- Lever ratio 7:1
- Mounted using spherical bearing.
- Three options available for single or dual circuits and differential release

APPLICATION.

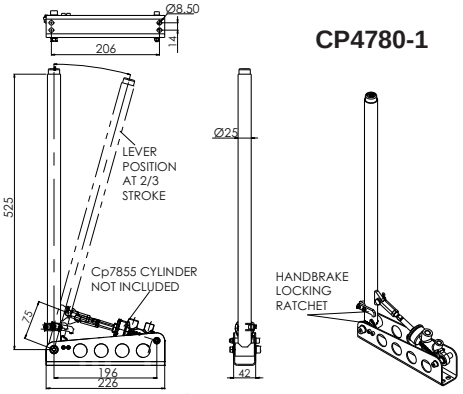
- General Rally use.

PART NUMBERS AND USAGE GUIDANCE.

Hand Brake Assy Part Numbers.	Hand Brake Single Circuit	Hand Brake Dual Circuit	Hand Brake Single circuit & Differential Release	Master Cylinder Families to be used:
CP4780-1	●			CP7855 Family. (See Page 67)
CP4780-3		●		CP6026-91
CP4780-4			●	CP5540 Family (See Page 69.)

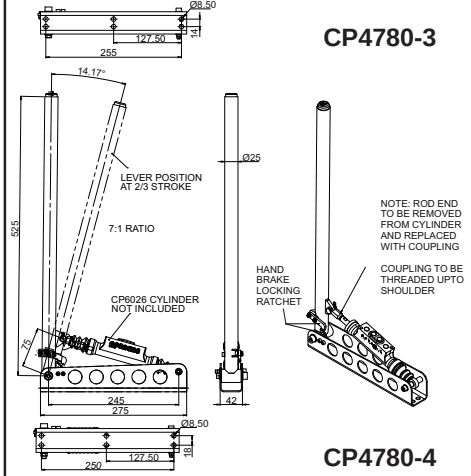
INSTALLATION DRAWINGS

CP4780-1

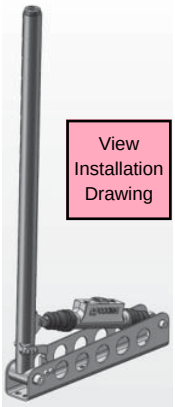


View Installation Drawing

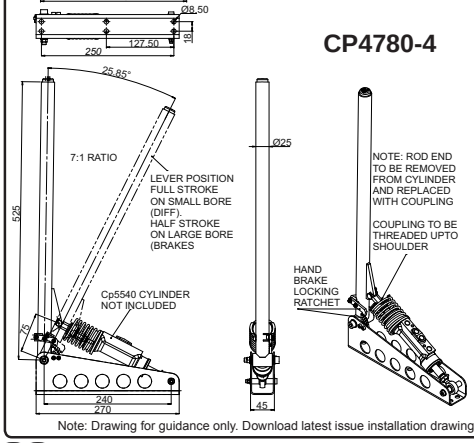
CP4780-3



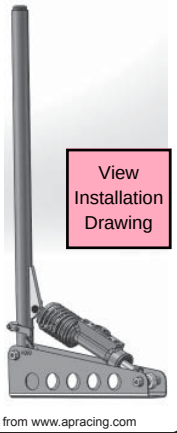
View Installation Drawing



CP4780-4



View Installation Drawing



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6026-91, Hand Brake Cylinder.

GENERAL INFORMATION

- Double ended hand brake Master Cylinder.
- For use with dual circuits where diagonal brake split is mandatory.
- Forged Aluminium alloy body.
- Lightweight compact design.
- Hard anodised.
- High efficiency push type design.
- Mounted using rod end spherical bearings.
- One piece piston & push rod.
- Rubber boots fitted as standard.
- Alternative bore sizes available please contact AP Racing Technical Department for more information.

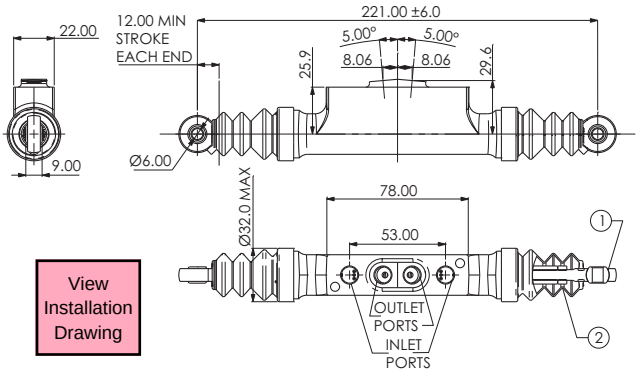
TECHNICAL DETAILS.

Weight.	0.25kg (0.55lbs)
Full Stroke.	2 x 12mm
Bore Dia.	0.70" (17.8mm)
Travel To Cut-Off.	
- Short	0.69 to 1.09mm (.027" to .043")
Hydraulic Thread.	
- Outlet.	M10 x 1.0
- Inlet.	M10 x 1.0
Typical Application.	Dual Circuit hand brake systems.

CP6026-91 SPARES LIST

REF:	DESCRIPTION	PART No.	QTY /CYL
1	Rod End	CP6026-101	2
2	M6 Nut	ME21001	2
ADDITIONAL SPARE PARTS			
Seal Repair Kit (2 off each part) Boits, Seals, Piston Washers & Circlips.		CP6025-91RK	

INSTALLATION DRAWING



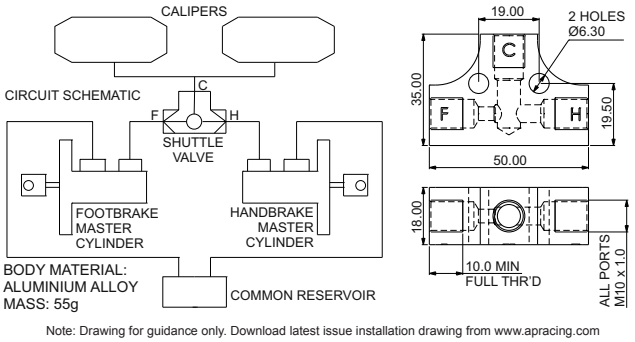
View Installation Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP5088-1 SHUTTLE VALVE

The AP Racing shuttle valve is a means of feeding two input hydraulic systems into one output.
The output pressure will be as the largest input.
A typical usage to separate a hydraulic hand brake from the foot brake system is illustrated opposite.

IMPORTANT: Foot brake and hand brake master cylinders must be fed from a common reservoir as indicted. When brake is operated from one source, this valve will decay at a rate of about 6 Bars over 10 minutes. As such it should not be used to park the car for long periods unattended.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

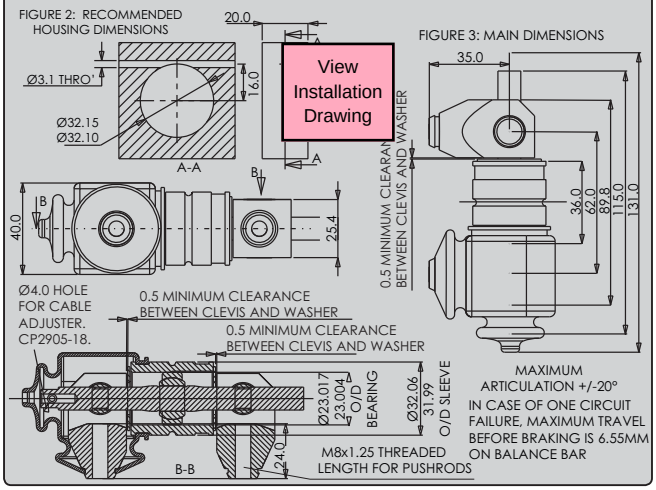
INTRODUCTION.

AP Racing Balance Bar Assemblies are designed to offer the user improved levels of efficiency and control. The range consists of three families. CP5500, CP5507, CP5520. AP Racing also offers a choice of cable adjusters, information can be found on page 84.

CP5500-9 & CP5500-9UNF / STANDARD DUTY

A lightweight and durable conventional Balance Bar manufactured from a high grade alloy steel treated with a low friction coating for extra smoothness of adjustment. It incorporates a spherical bearing for improved efficiency, an outer tube to ease installation and rubber boots to prevent ingress of dirt & grit. Not suitable for heavy duty applications or high pedal ratios. A similar assembly is also available without the rubber boot CP5500-4. NB. Select CP5500-9 for use with M8 Master Cylinder pushrods & CP5500-9UNF for use with 5/16"UNF Master Cylinder pushrods.

NOTE: For the latest Installation drawing and advice for installation of sleeve and balance bar visit our website: www.apracing.com

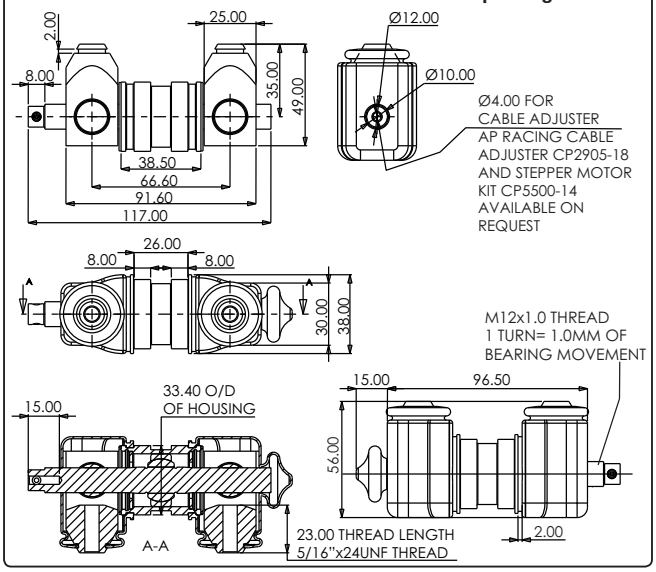


CP5507-2 / HEAVY DUTY

Similar in concept to CP5500-9 but with a heavy duty 12mm balance bar for applications where a high pedal ratio and / or heavy pedal loads are used. Features include low friction coatings, spherical bearing and rubber boots to prevent dirt ingress.
NB. Suitable for use with 5/16"UNF Master Cylinder pushrods

Note: CP5500-9 & CP5507-2. If used with conventional master cylinders with articulated push rods e.g. CP2623, CP4623 etc. The push rod angularity must be limited to 4° from straight to avoid unacceptable side loads on the pistons.

NOTE: For the latest Installation drawing and advice for installation of sleeve and balance bar visit our website: www.apracing.com



View Installation Drawing

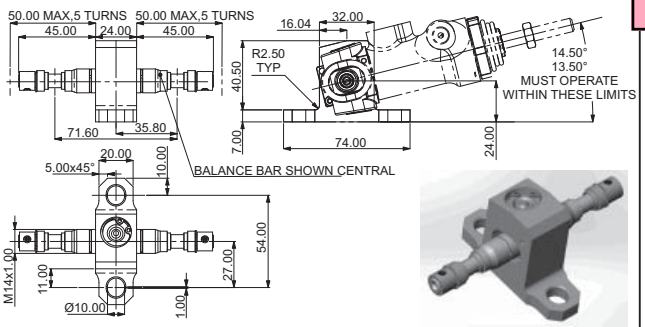
HIGH EFFICIENCY TRUNNION TYPES.

These small and compact balance bars use needle roller bearings, to provide low hysteresis and high efficiency. These versions are designed to fit at the fixed end of master cylinders fitted with integral trunnions such as CP6465 & CP6467 (Pull Type) and CP7854.

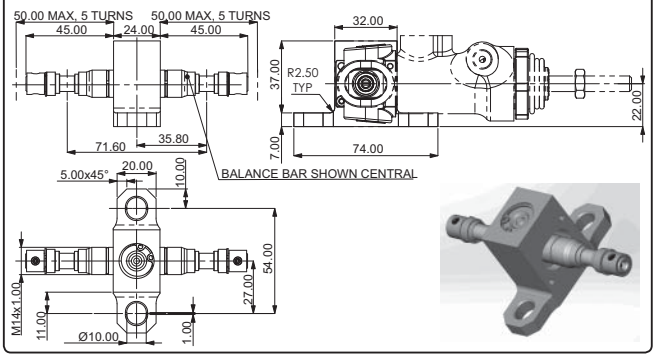
NOTE: For the latest Installation drawing and advice for installation of sleeve and balance bar visit our website: www.apracing.com

View Installation Drawing

CP5520-3 ANGLED TRUNNION



CP5520-4 STRAIGHT TRUNNION



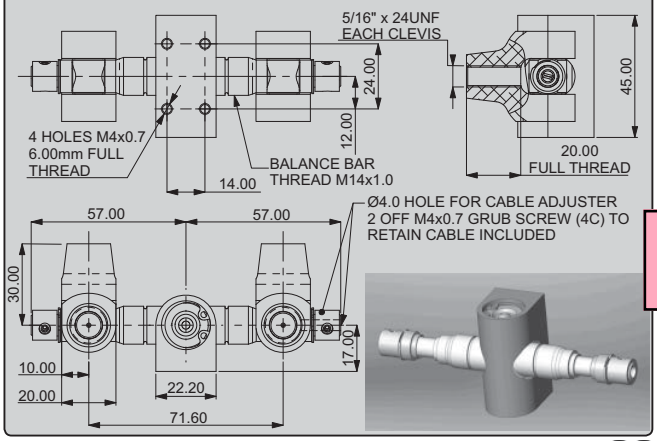
CP5520-25 TRUNNION STYLE.

A new concept in balance bars where the central pivot is a trunnion rather than a spherical bearing. This has the advantage of preventing balance bar movement in the vertical plane thus removing the largest cause of unwanted balance variation. The centre trunnion and clevises employ needle roller bearings to reduce friction and hysteresis to a minimum, improving modulation. CP5520-25 can be attached to the pedal or to the fixed end of the pedal box. This specific version is designed to fit CP7855 type cylinder.

This balance bar is available with or without clevis's, Part Numbers:
- CP5520-25L without Clevis's.
- CP5520-25LC with Clevis's.

Supercession: CP5520-25L replaces CP5520-2 and CP5520-25LC replaces CP5520-13.

NOTE: For the latest Installation drawing and advice for installation of sleeve and balance bar visit our website: www.apracing.com



View Installation Drawing

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Actuation Home Page
Brake Fluid
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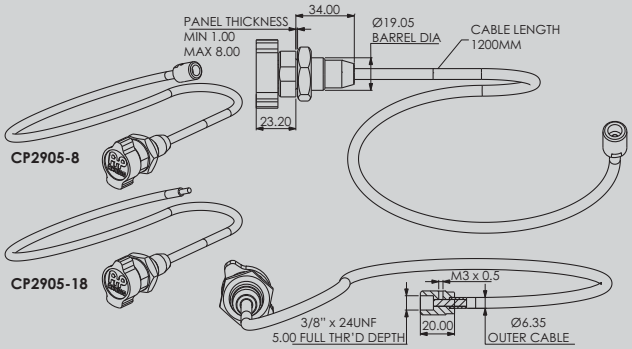
CABLE ADJUSTER. CP2905-8 (WITH END CONNECTOR). CP2905-18 (NO END CONNECTOR).

Is a high quality balance bar cable adjuster ideal for any competition vehicle Anodised aluminium alloy body with ¼ turn click stops for positive vibration proof positioning.
The Ø3.8mm inner steel cable has a polyethylene 'FR' self extinguishing outer tube and is generally stiffer than most adjuster cables on the market to resist 'wind up'.
The adjuster body can easily be fitted through a Ø19mm hole in the dash-board. CP2905-8 or -18in 1200mm lengths with an adjustable end fitting allowing the cable to be cut to the required length, the kit includes cable clips and two directional stickers.

Note:
Adjusters available with the following cable lengths without end connector:
- **CP2905-29** - 900mm of cable.
- **CP2905-33** - 1800mm of cable.

View Installation Drawing

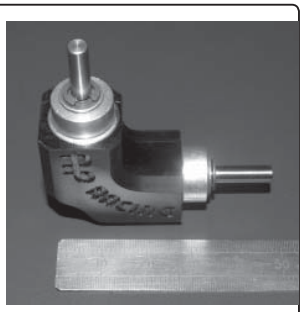


Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

INSTALLATION OF ADJUSTER CABLES.

Ensure that the balance bar is correctly installed and turns freely (see above). The cable should not be installed with any bends of less than 50mm (2") radius otherwise wind-up may occur. For maximum stiffness the outer cable should be securely fastened in place along its complete length using the clips provided. Cut the cable to the required length preferably using an elastic grinding wheel, secure end fitting to balance bar, insert cable and lock in place with grub screw.

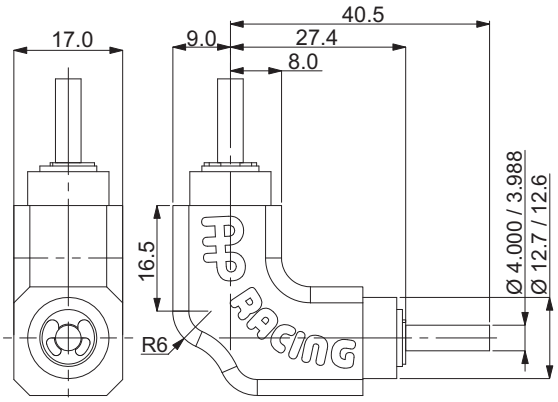
CP5500-66 RIGHT ANGLED DRIVE ASSEMBLY.



This device connects the balance bar cable adjuster CP2905-8 directly to all AP Racing Balance bars as well as others on the market. CP5500-66 improves the installation and keeps the cable out of the way of the clutch / throttle pedals.

Specification:

- Type - 90° Bevel Gearbox. / - Ratio - 1:1 / - Max Torque - 0.68Nm / - Weight - 33g / - Backlah - 2° / - Max Temp - 80°C.



View Installation Drawing

CUSTOMER NOTES

Radi-CAL™ BRAKE FLUIDS

AP Racing's established re-branded range of brake & clutch fluids embrace our Radi-CAL™ philosophy. Following the successful launch of Radi-CAL™ R4 racing fluid, AP Racing chose to re-align its full range of fluids by re-naming PRF660, 600, 551 and Formula Dot 5.1 and changing the bottle and caps (see details below).
NO alterations have been made to the actual brake and clutch fluids themselves.
All AP Racing brake fluids have been developed for use under arduous conditions encountered at all levels of motorsport and performance road environments and are compatible with all AP Racing products, plus conventional hydraulic brake systems designed to conform to S.A.E J1703 & J1704 requirements. Each brake and clutch fluid are supplied in heat sealed 500ml bottles.

Radi-CAL™ R4 BRAKE FLUID.

¤ **Part Number.**
- CP6005-20 (Case of 20x500ml bottles)

¤ **'Typical' Boiling Points**.
- New Dry 340°C
- 'Wet' E.R. 195°C

Radi-CAL™ **R4** has been designed to perform better than any other product at the extremes of heavy duty braking performance in the top levels of racing. **With the highest dry boiling point of any racing brake fluid currently available, at 340°C (644°F)**, R4 stands alone. With outstanding resistance to vapour lock / pedal fade under the most exacting conditions. A higher vapour lock point means a firmer brake pedal at the extremes of brake temperature. Enhanced lubricity, means this fluid is an even better lubricant than R3 itself a market leader. This helps the life of the metal moving parts of the brake system and increases system efficiency.
Note: R4 can be mixed with DOT3 and DOT4 racing brake fluids but for maximum product performance the brake system should be thoroughly purged with R4 fluid.

Radi-CAL™ R3 BRAKE FLUID.

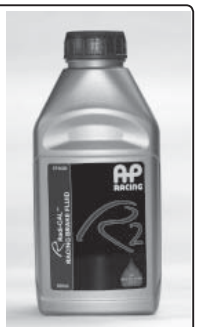
¤ **PRF660**, Re-branded as - Radi-CAL™ R3
- Silver Bottle with Yellow Cap.

¤ **Part Number.**
- CP4660-20 (Case of 20x500ml bottles)

¤ **'Typical' Boiling Points**.
- New Dry 325°C
- 'Wet' E.R. 195°C

AP Racing's R3 has a dry boiling point of 320°C (608°F) and has been developed for racing use only. R3 has advanced moisture resistance properties, low levels of viscosity (for ease of bleeding), low levels of compressibility and meets DOT4 specifications. R3 is suitable for all top levels of motorsport where abnormal temperatures are experienced and with the introduction of an inhibitor can now be used with magnesium components
Note: R3 can be mixed with other DOT4 racing brake fluids but for maximum product performance the brake system should be thoroughly purged with R3 fluid.

Radi-CAL™ R2 BRAKE FLUID.



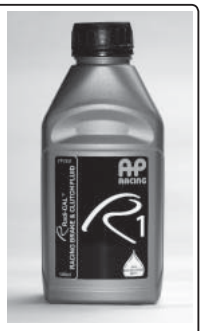
¤ **600**, Re-branded as - Radi-CAL™ R2
- Silver Bottle with Blue Cap.

¤ **Part Number.**
- CP3600-20 (Case of 20x500ml bottles)

¤ **'Typical' Boiling Points.**
- New Dry 312°C
- 'Wet' E.R. 195°C

AP Racing's R2 fluid has a dry boiling point of 312°C and has been specially developed to provide outstanding performance for racing applications where braking systems operate at high temperatures. R2 fluid also conforms to and exceeds DOT4 specifications, but **should not be** used with components made from magnesium.
Note: R2 can be mixed with DOT4 racing brake fluids but for maximum product performance the brake system should be thoroughly purged with R2 fluid.

Radi-CAL™ R1 BRAKE FLUID.



¤ **551**, Re-branded as - Radi-CAL™ R1
- Silver Bottle with Black Cap.

¤ **Part Number.**
- CP7551-20 (Case of 20x500ml bottles)

¤ **'Typical' Boiling Points.**
- New Dry 269°C
- 'Wet' E.R. 140°C

R1 is a brake and clutch fluid suitable for all forms of motorsport and conforms to FMVSS 116 DOT3 specification. R1 is magnesium compatible and has a higher boiling point than normal brake fluids intended for road use.

FACTORY R DOT 5.1 BRAKE FLUID.

¤ **Formula Dot 5.1**, Re-branded as - Factory R Dot 5.1 - Yellow Bottle with Yellow Cap.

¤ **Part Number.**
- CP4510-20 (Case of 20x500ml bottles)

¤ **'Typical' Boiling Points.**
- New Dry 269°C
- 'Wet' E.R. 180°C

Factory R DOT 5.1 is AP Racing's high performance non silicone based brake and clutch fluid. Factory R DOT 5.1 is recommended for use in the hydraulic brake and clutch systems of all cars, for which a non- petroleum based fluid is specified. Suitable for high performance applications including vehicles fitted with ABS and ESP, is suitable for road and track day use.

ANSWERS TO FREQUENT QUESTIONS.

¤ All AP Racing Brake Fluids are Polyalkalene Glycol Ether based, not a silicone based fluid. AP Racing do not sell and do not recommend using a silicone based brake fluid with any of its products.
¤ R1, R2, R3 and R4 brake fluids are intended for competition use only.
¤ AP Racing recommend Factory R Dot 5.1 for road use.
¤ Colour variations may occur in brake fluid due to its manufacturing process. This has no effect on the quality and performance of the product.

WARNINGS.

¤ **Whilst AP Racing race brake fluids are compatible with DOT3 and DOT4 Polyalkalene Glycol Ether based racing fluids it is recommended that only one type of fluid is used in a system. When changing over from one of these fluids types to another a thorough flush through with new fluid is sufficient.**

¤ **DO NOT USE R4 and R2 fluid in contact with any type of magnesium components (e.g. Gearbox / Clutch components) as a chemical reaction is caused resulting in gases being generated. This will prevent the clutch hydraulics from working efficiently and may damage the magnesium components.**

¤ **Note: For high temperature brake applications using magnesium AP Racing recommends R3**

¤ To obtain the best performance from racing brake systems, bleed the system thoroughly, immediately prior to each event using AP Racing brake fluid from a new sealed bottle. This is particularly important in wet or humid conditions or when the brakes are excessively hot. Always use fresh fluid and replace bottle cap when not in use. Never re-use brake fluid. The use of a high temperature fluid should not be used as a substitute for proper brake cooling. Brake temperatures can be determined using AP Racing temperature stickers (CP2650-11) and thermal paints (kit Number, CP2649-1 or -5).
¤ AP Racing brake fluid contains Polyalkalene Glycol Ethers. Keep out of reach of children.
¤ Never transfer to unmarked jars or bottles.
¤ Harmful if swallowed.
¤ Avoid excessive skin contact. Flush affected eyes with water and seek medical aid.
¤ Brake fluids will damage vehicle paint work if spilled.

Visit www.apracing.com for full & up to date product range

‘O’ RING (SEALED) BLEED SCREWS.

‘O’ Ring bleed screws are designed to prevent fluid leakage during bleeding in conjunction with a specially designed bleed screw port. Now standard fitment on all recent AP Racing caliper designs. AP Racing offer two bleed screws and two o-rings in a kit see details opposite.

CP3880-1
M10 x 1.0
Sealed bleed screw-kit. Kit is 2 x CP4970-125 & 2 x CP4970-124.

CP3880-2
3/8” x 24UNF
Sealed bleed screw-kit. Kit is 2 x CP5820-123 & 2 x CP6297-111.

BLEEDSCREWS.

CP3720-107
M10 x 1.0
With lockwire hole.

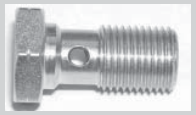
CP3720-173
M10 x 1.0

CP3720-182
3/8” x 24UNF

CP4469-101
M7 x 1.0

BANJO’S.

Single
- **CP2703** - 3/8”x24UNF
- **CP2677** - M10 x 1.0

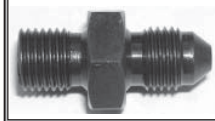


Double
- **CP2673** - 3/8”x24UNF
- **CP2674** - M10 x 1.0

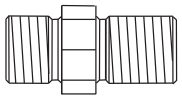
Steel Braided
CP2672 - For -3 Steel braided hose

ADAPTORS & ADAPTOR KITS.

CP2270-16
3/8” x 24UNF flat seat & convex seat adaptor.



CP2451
3/8” x 24UNF flat seat & 1/8” BSP concave seat adaptor.



CP2554-108
M10 x 1.0 flat seat & 3/8” x 24UNF convex seat adaptor.

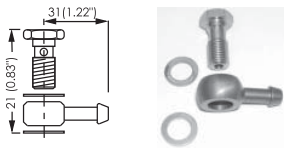
CP6160-107
M10 x 1.0 flat seat & 3/8” x 24UNF convex seat adaptor. For replacing an ‘O’ Ring type bleed screw.

Push-on Adaptor Kit.
- **CP2623-30** - 7/16” UNF
- **CP4623-2** - M12 x 1.0

accepts 7.9mm (5/16”) inside Ø hose

Push-on Banjo Adaptor Kit.
- **CP2623-41** - 7/16” UNF
- **CP4623-6** - M12 x 1.0

accepts 7.9mm (5/16”) inside Ø hose



RESERVOIR ADAPTORS.

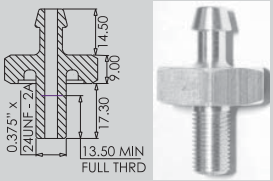
- **CP2623-526**

‘A’ = 7/16” UNF, For CP2709-10/ -15/ -16 & CP2293-141/ -143 Reservoirs.

- **CP4623-107**

‘A’ = M12 x 1.0 ,For CP4623-4/ -5/ -7/ -8 Reservoirs. Use with ‘O’ Ring CP6116-109

Push-on Adaptor CP2623-250



Use with ‘O’ Ring CP6116-109

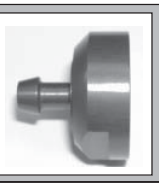
RESERVOIR OUTLETS.

Outlets for CP4709 type fluid reservoirs.

CP4709-105
7/16”UNF
Use with ‘O’ Ring CP4709-104

CP4709-106
M12 x 1.0
Use with ‘O’ Ring CP4709-104.

CP4709-107
Push-on
Use with ‘O’ Ring CP4709-104.



INLET FITTINGS.

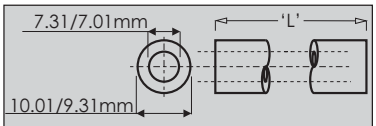
Special inlet fittings for CP6465 Master Cylinder.
Note: These fittings are sold in kits complete with keeper plate, retaining screw & ‘O’ Ring.

CP6465-10
75° Angle Fitting Kit

CP6465-11
Straight Fitting Kit

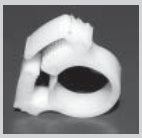
CP6465-12
90° Angle Fitting Kit

REMOTE HOSE AND CLIP.



- **CP6614-106** / ‘L’ = 609mm (24”)
- **CP6614-102** / ‘L’ = 1828mm (72”)
- **CP6614-103** / ‘L’ = 305mm (12”)

CP2020-1
To suit outside Ø9.5mm to 13mm.



COPPER GASKETS.

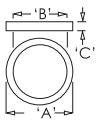
KL44517
‘A’ 14.2 (0.56”)
‘B’ 10.2 (0.40”)
‘C’ 2.0 (0.08”)

KL44518
‘A’ 17.5 (0.69”)
‘B’ 11.1 (0.44”)
‘C’ 1.6 (0.06”)

KL44519
‘A’ 20.3 (0.80”)
‘B’ 12.9 (0.51”)
‘C’ 1.6 (0.06”)

KL44520
‘A’ 17.0 (0.67”)
‘B’ 12.9 (0.51”)
‘C’ 1.22 (.048”)

KL44539
‘A’ 29.5 (1.16”)
‘B’ 24.1 (0.95”)
‘C’ 1.22 (.048”)



DRY BLEED SYSTEM (DRY BREAKS).

An affordable Dry Bleed System has been designed for use with any AP Racing caliper suitable for sealed 'O' Ring or Non 'O' Ring bleed-screws.
The male dry bleed valve is fitted in place of the bleed screw, and once fitted there should be no need to loosen or remove the coupling unless it is being replaced. The male dry bleeder is basically a valve that is opened when the female bleed valve coupling (CP6300-31 or CP6300-32) are connected to it.
The female coupling is connected to a bleed pipe and container allowing brake fluid to be pushed through the system to bleed it. The CP6300-32 bleed coupling are designed for use with standard plastic bleed tubes and incorporates a non return valve for one man bleeding.
Another advantage of the dry bleed system is that it removes the possibility of introducing air into the system via bleed screws when vacuum bleeding. The dry bleed caliper fittings are available with M10 x 1.0mm (CP6300-21) or 3/8" UNF (CP6300-27 or -30) threads. When fitting the dry bleed valve in to the caliper a small amount of Loctite 270 should be applied to the thread and the coupling tightened to a torque of 13Nm. Seal kits are available for the male dry bleed valves. See table below for part numbers.

Important Note:
Fitting the dry bleed system may affect the radial profile of the caliper. It is therefore essential that the clearance between the caliper assembly and wheel is checked carefully prior to running the car.

PART NUMBERS.

Dry Bleed Valves.	Thread.	Material.	Weight.	Repair Kit.	Replaced Bleedscrews.
CP6300-21	M10x1.0	S/Steel.	16g	CP6300-21RK	CP4970-125 CP4970-140 CP4970-136
CP6300-27	3/8" UNF	S/Steel.	16g	CP6300-30RK	CP5820-115 CP6297-112
CP6300-30		Titanium	8g		
CP6300-39		Aluminium	8g		
CP6300-28 (Non 'O' Ring version)	M10x1.0	S/Steel	17g	CP6300-28RK	3846-268 CP3720-173 CP3720-183 CP3720-107 CP3894-138
CP6300-37 (Non 'O' Ring version)	3/8" UNF	S/Steel	17g		3846-227 CP3720-182
Bleed Coupling.					
NB: These coupling are only designed for bleeding the calipers and not for use at high pressure.					
CP6300-31	Threaded for connection to braided brake hose.				
CP6300-32	For connection to plastic bleed pipe. Incorporates non return valve.				
CP6300-36	Short 150° Bleed coupling with non threaded outlet and one way valve fitted.				
SEAL REPAIR KIT **CP6300-32RK** AVAILABLE FOR CP6300-31 / -32 & -36.					

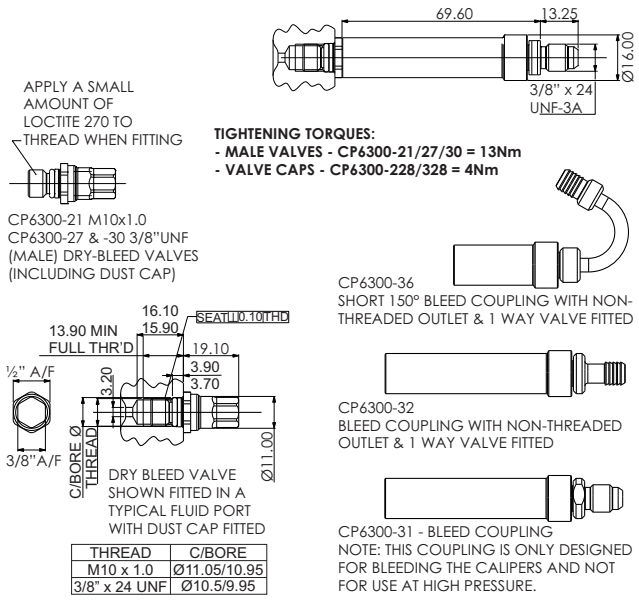
Visit www.apracing.com for full & up to date product range

INSTALLATION DRAWINGS.

- For latest installation drawing please visit www.apracing.com.

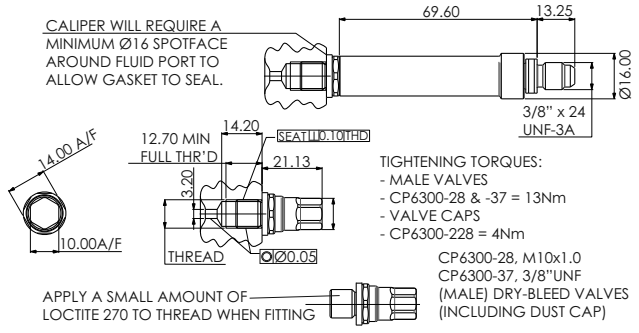
View Installation Drawing

Drawing For CP6300-21 / CP6300-27 & CP6300-30.



THREAD	C/BORE
M10 x 1.0	Ø11.05/10.95
3/8" x 24 UNF	Ø10.5/9.95

Drawing For CP6300-28 & CP6300-37.



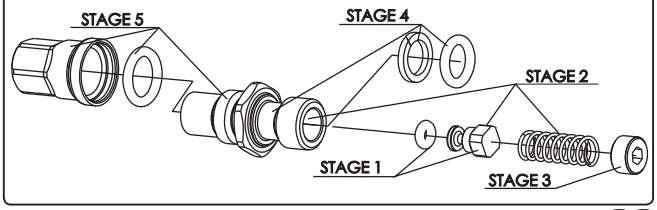
INSTRUCTIONS FOR ASSEMBLY OF CP6300-21, -27, -28, 30 & -37 DRY BLEED VALVES.

- For latest installation drawing please visit www.apracing.com.

Note - Lubricate 'O' Ring Seals with clean new brake fluid.

- **Stage 1** - Fit 'O' Ring seal to plunger.
- **Stage 2** - Slide plunger and spring into bore.
- **Stage 3** - Apply a small amount of loctite 270 to the spring retainer threads & screw until flush with end of bore. Should screw up flush to the end of body. When tightening spring it should push plunger near to flush at the other end of the body.
- **Stage 4** - Fit anti-extrusion ring & 'O' Ring seal to outside of body.
- **Stage 5** - Fit 'O' Ring seal and cap to outside of body.

NOTE:
- For CP6300-21 The 'O' Rings in stage 4 & stage 5 are the same.
- For CP6300-27 & -30. The 'O' Ring for stage 4 is different to stage 5.



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GENERAL DESCRIPTION.

These valves have been specially designed for use in competition vehicles where it is desired to reduce the hydraulic line pressure and therefore braking effort of the rear brakes to compensate for varying road / track conditions or vehicle handling characteristics.

GENERAL INFORMATION.

◘ INSTALLATION

To obtain the best performance using these valves, the brake balance should be biased towards the rear so that with the valve piped into the rear line and set in position 7 or the cap screwed right in (clockwise) where virtually no reduction occurs, the balance is as much to the rear as will ever be needed. Placing the control lever in positions either 6 to 1 (or screwing the cap outwards) will progressively reduce the rear line pressure giving more bias to the front.

◘ WARNING

Due to internal adjustments set by AP Racing, do not strip these assemblies.
- DO NOT attempt any modification of these valves.
- Strictly for competition use only.

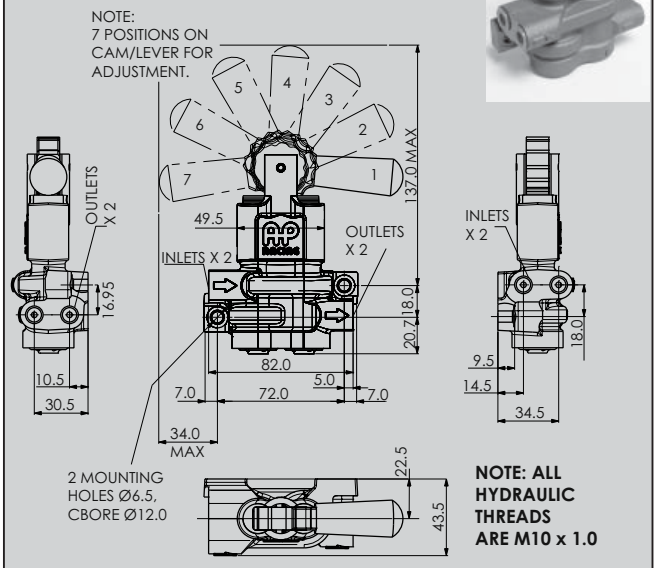
◘ NOTE

These proportioning valves are suitable for use with any brake fluid that conforms to DOT 3, DOT 4 or DOT 5.1 standards, but best all round performance will be achieved with either AP Racing R4,R3 or R2 brake fluids.

CP4550-1 - TWIN BORE LEVER TYPE.

This twin bore lever type, is a 2 in and 2 out valve. This valve enables the user to utilise original fluid pipe runs on Grp 'N' or similar applications where a tandem master cylinder (diagonal split system) is specified. This provides the driver, with seven distinct settings from which to select the most suitable braking ratio.

Basic Installations



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

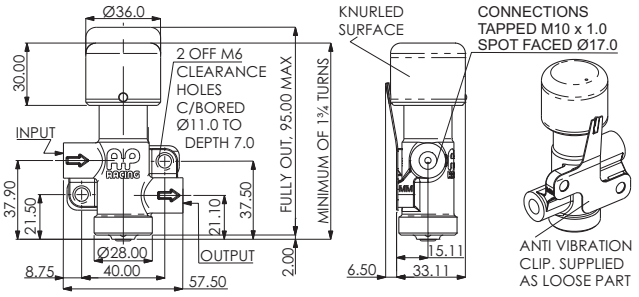
View Installation Drawing

CP3550-14 SCREW TYPE.

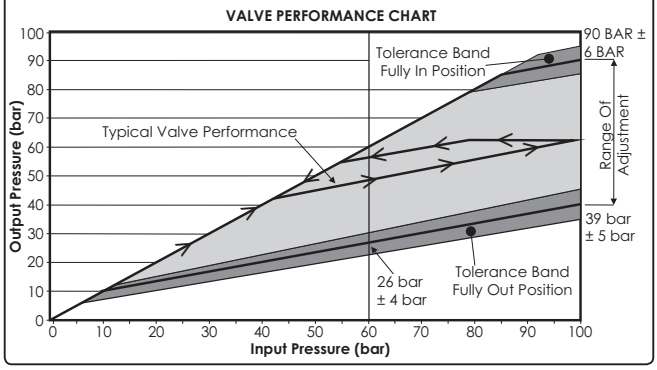
This screw type offers infinite adjustment within the limits of normal brake operation.
With the cap screwed fully in no reduction in output pressure occurs, with the cap screwed fully out output pressure is reduced to approximately 1/3rd of input pressure.

Basic Installations

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com



Performance Details.

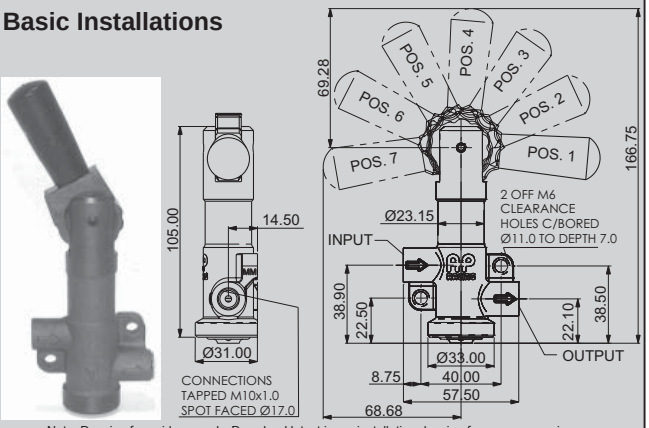


View Installation Drawing

CP3550-13 - 7 POSITION LEVER TYPE.

This lever type valve provides the driver, or the co-driver with seven distinct settings from which to select the most suitable braking ratio.

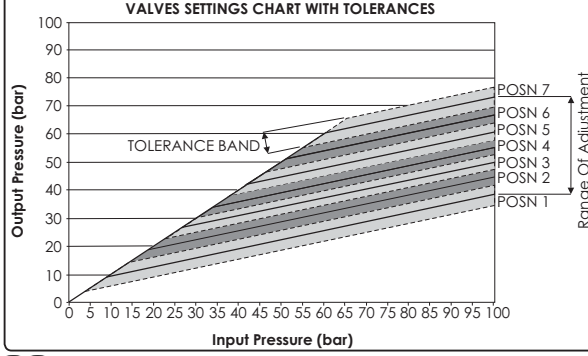
Basic Installations



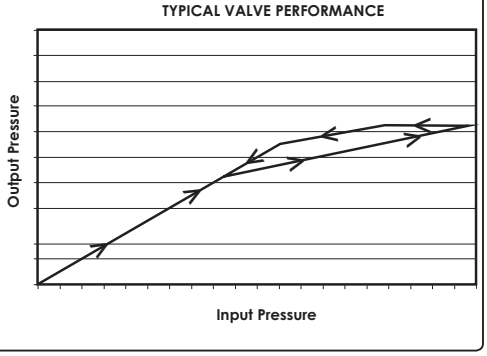
Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

Performance Details For CP4550-1 & CP3550-13 Lever Type.



Output Pressure With 100 bar Input Pressure			
Posn	Nom	Min	Max
1	38.0	34.5	41.5
2	44.5	41.5	47.5
3	50.0	47.5	52.5
4	55.0	52.5	57.5
5	60.5	57.5	63.5
6	66.5	63.5	69.5
7	73.0	69.5	76.5

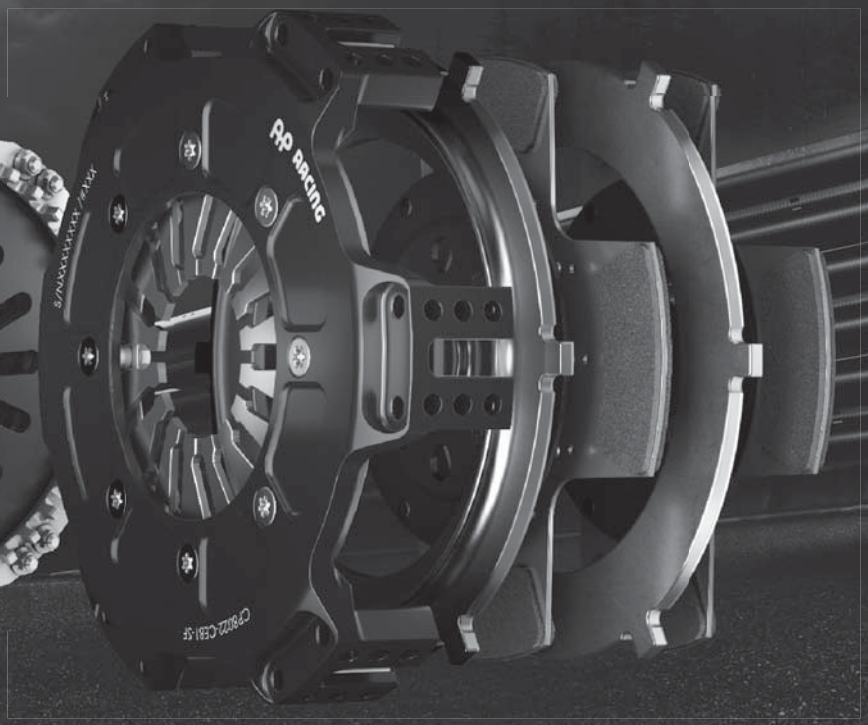


Visit www.apracing.com for full & up to date product range

Carbon/ Carbon Clutches
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CLUTCHES

For many years, AP Racing has been the world leader in the design and manufacture of Race and Performance Road clutch systems, extending the boundaries of clutch technology further each year winning many championships worldwide.
The AP Racing clutch ranges consists of Carbon/Carbon and Metallic (Sintered & Cerametallic) Race types.
Accessories such as Slave Cylinders Release Bearings and Mounting Studs are also available.
Each Section provides relevant technical information regarding each product range as well as individual components, if you require further details please contact AP Racing Technical Section.



- CARBON / CARBON CLUTCHES.
- METALLIC (SINTERED & CERAMETALLIC) RACE CLUTCHES.
- HYDRAULIC SLAVE CYLINDERS.
- RELEASE BEARINGS.
- CLUTCH MOUNTING STUDS.

Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

INTRODUCTION & RANGE DETAILS.

AP Racing is the world leader in the design and manufacture of competition clutch systems, and for many years have been extending the boundaries of clutch design further each year.
For the 2018 F1 Season AP Racing supplied every team with their individual clutch requirements and at last race in Abu Dhabi, AP Racing celebrated its 818th Grand Prix Clutch win spanning 50 years.

THE RANGE.

The AP Racing range of carbon/carbon clutches has been developed over the last 35 years, from experience's gained supplying over 800 Grand Prix Victories making AP Racing the world leading carbon/carbon clutch manufacturer.
During these years AP Racing has pushed the boundaries of clutch design and brought many new technology's to the carbon clutch market enabling every form of motorsport to benefit from the advantages of a carbon/carbon clutch.

AP Racing's entire carbon/carbon clutch range encompasses 'push' and 'pull' type designs with twin, triple and four plate units from Ø115mm to Ø200mm diameters, all benefiting from the latest Formula One technology.
The carbon/carbon clutches detailed in this catalogue are selected from the extensive range produced by AP Racing, however not all are included, visit www.apracing.com to find up to date information or contact AP Racing Technical Department for advice.
Included on pages 100 to 103 is information on, operating instructions for carbon clutches, an explanation of a typical clutch plot, whilst below is an explanation of the our part numbering system.

STANDARD CARBON CLUTCH FEATURES.

- **One piece cover and lug design.** - machined from solid billet.- for rigidity and strength.
- **Long life.**
- **Durable and abuse resistant.** - if maintained correctly life expectancy can be 10 times that of a sintered race clutch.
- **Factory reconditioning service available.**

CARBON / CARBON CLUTCH RANGE - Note: For smaller diameter clutches please contact AP Racing.

Clutch Dia.	Clutch Actuation	Carbon/Carbon Clutch Part No.	No. of Carbon Driven Plates.	Flywheel Details.	Main Pressure Plate Ratio.	Typical Application.	Comments.
115mm	Push	CP8153-SE02-SN	3	10 Bolt fixing. Stepped Flywheel	EHR	- Single Seater.	- Standard Ø115mm Push Type. - Interchangeable with CP6074 Sintered Race Clutch.
	Pull	CP8273-DE03-SP	3		EHR	-Single Seater	- Pull type lug drive clutches. Offer increased efficiency over conventional push type designs. Optional Slave Cylinder assembly.
138mm	Push	CP8662-NH01-SP	2	8 Bolt fixing. Stepped Flywheel.	HiR	- F3. - Single Seater.	- High temperature diaphragm spring version of CP7142. Cushion pressure plate fitted.
140mm	Push.	CP7142-CM01-SN	2	8 Bolt fixing. Stepped Flywheel.	MHR	- General Use.	- Standard Ø140mm lug drive clutches. - Standard height. - CP7142 & CP7143 are not suitable for GT applications due to rstricted wear in.
		CP7143-CM01-SN	3		MHR		
	Pull.	CP7223-OH02-FC	3	10 Bolt fixing. Flat Flywheel.	HiR	- Endurance Racing. - GT.	- Pull type lug drive clutches. - Offer increased efficiency over conventional push type designs. - Optional Slave Cylinder assembly.
	Push.	CP6913-OH02-FN	3	10 Bolt fixing. Flat Flywheel.	HiR	- Endurance. - GT.	- Push type versions of CP7223.
		CP6914-OH02-FN	4		HiR		
184mm	Push	CP8792-OV22-SP	2	6 Bolt fixing. Stepped Flywheel	VHR	- WTC	- Cushion pressure plate system fitted.
		CP8039-OV02-SP	2	12 Bolt fixing. Stepped Flywheel.	VHR	- Touting Car - WRC	- CP8039 replaced CP8032. - Cushion pressure plate system fitted.
200mm	Push.	CP7213-CL01-FN	3	12 Bolt fixing. Flat Flywheel.	LoR	- Grp 'A' Rally. - GT Race.	High torque clutch. 1.00mm "Wear In". Steel pressure plate fitted as standard. CP7213 (4WD) applications. CP7212 (2WD) applications.
		CP7212-CH01-FN	2		HiR		
		CP7213-CH01-FN	3		HiR		

PART NUMBERING EXPLANATION.

The table below provides an explanation for the make-up of a Carbon/Carbon Clutch part number. However not all variants are listed.

Clutch Family Part Number — CP8153-SE02-SN

Diaphragm Spring Type.	Ratio.	Material Code.	Flywheel Type.
C = CRV. (Double Grey).	**M** = MHR. (Mega High Ratio).	**01** = Aluminium Cover / Steel Pressure Plate / Carbon Type = S1.	FN = Standard Flat.
O = ORA. (Orange).	**E** = EHR. (Extra High Ratio).	**02** = Aluminium Cover / Steel Pressure Plate / Carbon Type = S3.	SN = Standard Stepped.
N = GRN. (Green).	**L** = LoR. (Low Ratio).	**03** = Steel Cover / Steel Pressure Plate / Carbon Type = S3.	FC = Flat with CFS.
G - GRY. (Grey).	**V** = VHR. (Very High Ratio).	**06** = Titanium Cover / Titanium Pressure Plate / Carbon Type = S3.	SC = Stepped with CFS.
T = TGY. (Triple Grey).	**S** = SHR. (Super High Ratio).	**22** = Aluminium Cover / Steel Pressure Plate / Carbon Type = S6.	FP = Flat with Cushion P/Plate.
S = SLV. (Silver).	**U** = UHR. (Ultra High Ratio).	**28** = Aluminium Cover / Steel Pressure Plate / Carbon Type = S9.	SP = Stepped with Cushion P/Plate.
D = GLD. (Gold).	**H** = HiR. (High Ratio).		

Carbon/ Carbon Clutch Home Page
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP8153.

Ø115mm, Heavy Duty, Push Type.

TYPICAL APPLICATION.

- **Single Seater.**

Steel Cover Pictured

FEATURES.

- **10 Bolt, One piece cover and lugs.**
- **Heavy duty carbon.**
- **Clutch ratio**
- EHR (Extra High)
- **Push type.**
- **Interchangeable with CP6074 Sintered Race Clutch.**
- **Heavy duty option available CP8253 Family**

AVAILABLE OPTIONS.

- Two diaphragm spring variants:-
- **S** (SLV) .
- **D** (GLD).
- Two cover & pressure plate material variants:-
- **(02)** Aluminium & Steel .
- **(03)** Steel & Steel.
- Flywheel options:-
- **FN**, Standard Flat.
- **SN**, Standard Stepped.
- Two Carbon/Carbon duty materials:-
- Standard
- Heavy.

SAMPLE PART NUMBER.

- **3 Plate, Stepped Flywheel.**
- CP8153-SE02-SN

- **3 Plate, Flat Flywheel.**
- CP8153-DE02-FN

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP8153-SE02-SN ONLY.

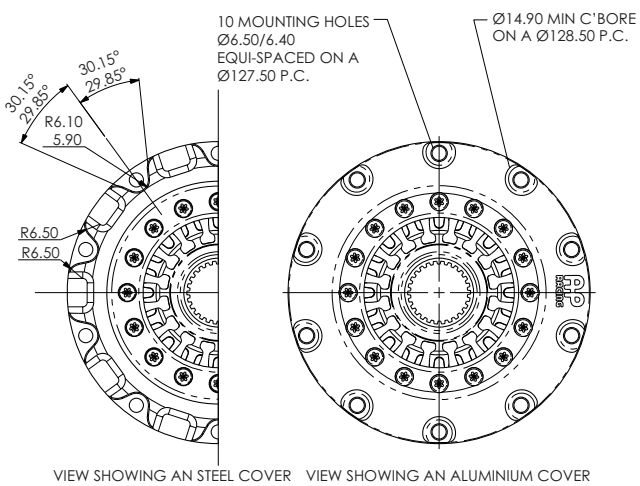
Torque Capacity.	758Nm (559lbft)	
"Wear In" between P/Plate changes.		0.50mm
Total allowable carbon stack wear.		4.0mm
Release Loads.	Max peak new	4950N
	Max peak worn	4050N
Set-up Height. (New)		39.74mm
Set-up Height. (Worn)		42.09mm
Weight.		1.59Kg
Complete Assy Inertia.		0.00365Kgm²
Driven Plate & Hub Inertia.		0.000691Kgm²

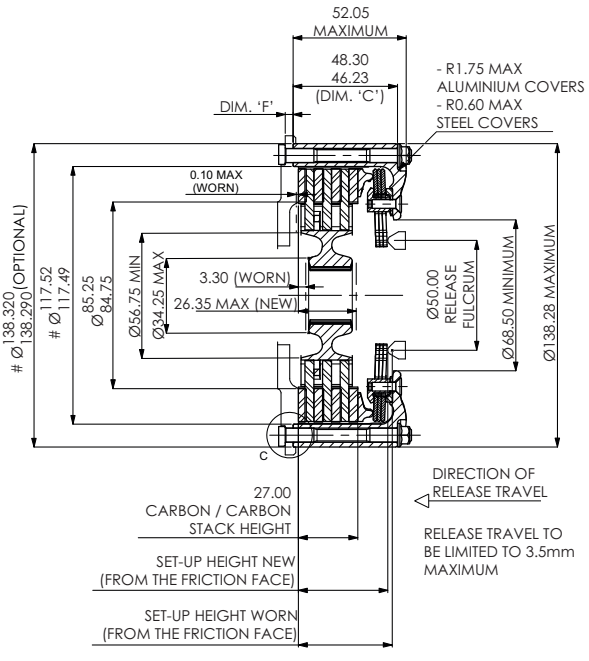
MAIN PRESSURE PLATES.	
Ratio.	EHR
Material.	Stainless Steel
Pressure Plate Kits.	.5mm to 3.5mm (0.5mm Steps) = **CP8153-9SS** .25mm to 3.25mm (0.5mm Steps) = **CP8153-10SS**

HUB OPTIONS.	
Material.	Steel
1.16" x 26T	CP5323-110S
More hubs are available with other spline sizes, contact AP Racing.	

RELEASE BEARING OPTIONS.	
Outer Race Rotates.	CP3457-1 or CP3457-24
Inner Race Rotates.	CP3457-11

CP8153-SE02-SN INSTALLATION DRAWING

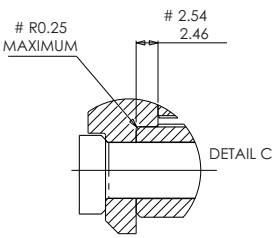




RECOMMENDED CLUTCH MOUNTING:
(FOR ALL TYPES OF ASSEMBLY)
¼" UNF, Cp4703 FAMILY STUD AND
K-LOCK NUT.
TIGHTENING TORQUE: 10Nm (7.5 ft.lb)

LENGTH OF STUD REQUIRED TO BE
CALCULATED THUS:
STUD LENGTH = DIMN'S 'C' + 'F' + NUT

THIS CALCULATED LENGTH TO BE ROUNDED
UP TO THE NEXT AVAILABLE STANDARD STUD
LENGTH



View Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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Carbon/ Carbon Clutch Home Page
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP8273.

Ø115mm, 3 Plate, Pull Type.

TYPICAL APPLICATION.

- **Single Seater.**

FEATURES.

- **10 Bolt, One piece cover & lugs.**
- **Clutch ratio**
- EHR (Extra High)
- **Pull type configuration.**
- increased efficiency in terms of clamp and release loads.
- **Heavy duty carbon.**
- **Pull type version of CP8153.**

Steel Cover Shown

AVAILABLE OPTIONS.

- Two diaphragm spring variants:-
C (CRV) and **D** (Gold).
- Two Cover & Pressure plate material variants:-
- **(02)** Aluminium & Steel .
- **(03)** Steel & Steel.
- Flywheel options:-
- **FN**, Standard Flat.
- **FP**, Flat with CPS, (Cushion Pressure Plate System).
- **SN**, Standard Stepped.
- **SP**, Stepped with CPS, (Cushion Pressure Plate System).

Note: Standard options utilise Pressure plates not fulcrum rings, please contact AP Racing for Part Number details.

SAMPLE PART NUMBERS.

- **3 Plate, Flat Flywheel with CPS** - CP8273-DE03-FP.
- **3 Plate, Stepped Flywheel with CPS** - CP8273-DE03-SP.

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP8273-DE03-SP ONLY.

Torque Capacity.	1092Nm (805lbft)	
"Wear In" between P/Plate changes.		1.1mm
Total allowable carbon stack wear.		6.0mm
Release Loads.	Max peak worn	6700N
	Max peak new.	4100N
Set-up Height. (New)		38.14 / 36.71mm
Set-up Height. (Worn)		30.63mm
Weight.		1.89Kg
Complete Steel Assy Inertia.		0.005084Kgm²
Driven Plate & Hub Inertia.		0.0007842Kgm²

FULCRUM RING SHIMS.

Ratio.	EHR
Material.	Stainless Steel
Fulcrum Shim Kits.	0.10mm to 2.30mm (0.20mm Steps) = **CP8273-17** 2.50mm to 4.90mm (0.20mm Steps) = **CP8273-18**

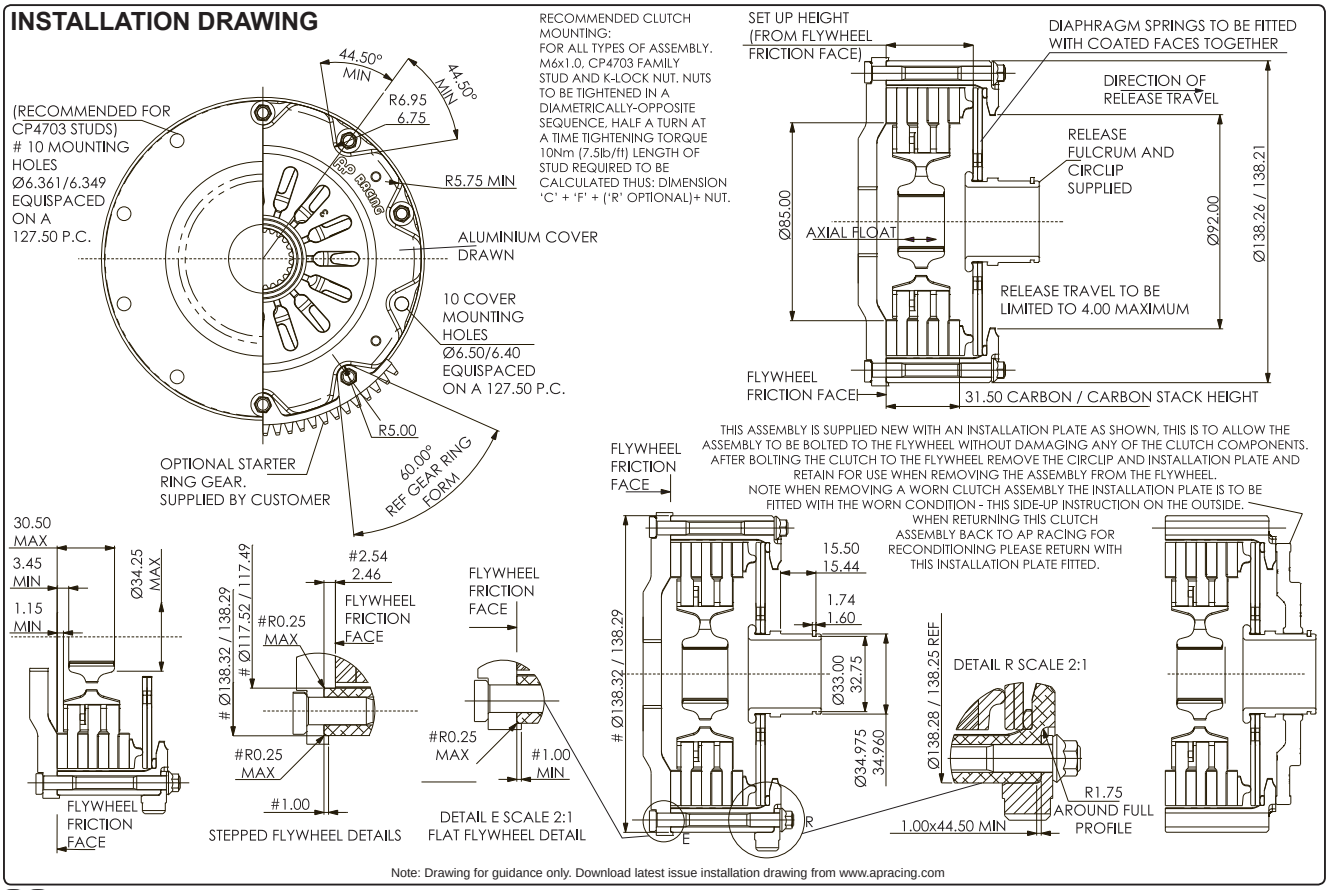
HUB OPTIONS.

Material.	Steel
1.00" x 23T	CP8273-122S
1.16" x 26T	CP8273-121S
More hubs are available with other spline sizes, contact AP Racing.	

SLAVE CYLINDER

Recommended Slave Cylinders	CP8275-2, CP6245-7 or CP6245-8

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Drawing

Carbon/ Carbon Clutch Home Page
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs
View Drawing

CP8662.

Ø138mm, Push Type, Formula 3.

TYPICAL APPLICATIONS.

- **Formula 3.**
- **Single Seater.**

FEATURES.

- **8 Bolt, One piece cover and lugs.**
- **High temperature diaphragm spring.**
- Increased durability.
- Improved resistance to temperature abuse.
- **Normal duty carbon.**
- **Clutch ratio**
- HiR (Extra High)
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.

AVAILABLE OPTIONS.

- Two diaphragm spring variants,:-
- **B** (BUF) .
- **N** (Green).
- Cover / Pressure Plate & Carbon material variants:-
- **(01)** Aluminium / Steel & Normal Duty.
- **(22)** Aluminium / Steel & Medium Duty.

SAMPLE PART NUMBER.

- **2 Plate, Stepped flywheel with cushion pressure plate.**
- CP8662-NH01-SP

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP8662-NH01-SP ONLY.

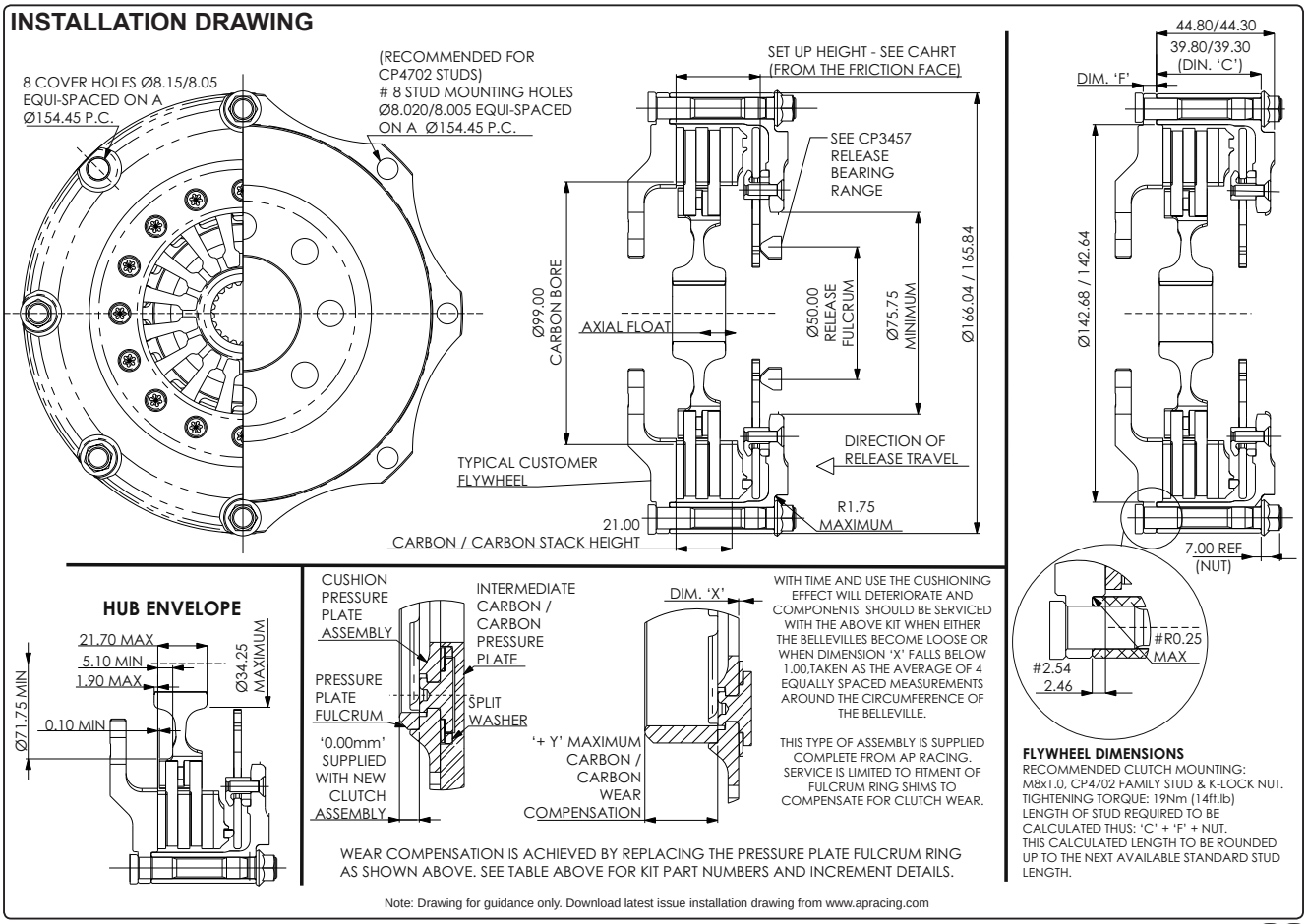
Torque Capacity.	487Nm (359lbft)	
"Wear In" between P/Plate changes.		0.50mm
Total allowable carbon stack wear.		4.0mm
RELEASE LOADS		
Max peak worn.	Ø38mm Fulcrum	450daN
	Ø50mm Fulcrum	550daN
At travel.	Ø38mm Fulcrum	340daN
	Ø50mm Fulcrum	405daN
Set-up Height. (New)	Ø38mm Fulcrum	32.78 / 31.10mm
	Ø50mm Fulcrum	32.57 / 31.05mm
Set-up Height. (Worn)	Ø38mm Fulcrum	34.27mm
	Ø50mm Fulcrum	33.79mm
Weight.		1.81Kg
Complete Assy Inertia.		0.006145Kgm²
Driven Plate & Hub Inertia.		0.008171Kgm²

FULCRUM RING SHIMS	
Ratio.	HiR
Material.	Stainless Steel
Fulcrum Plate Kits.	.5mm to 3.5mm (0.5mm Steps) = **CP8662-6** 25mm to 3.25mm (0.5mm Steps) = **CP8662-7**

HUB OPTIONS.	
Material.	Steel
1.00 x 23T	CP5142-102S
More hubs are available with other spline sizes, contact AP Racing.	

Ø50MM FULCRUM RELEASE BEARING OPTIONS.	
Outer Race Rotates.	CP3457-1 or CP3457-9
Inner Race Rotates.	CP3457-11

INSTALLATION DRAWING



FLYWHEEL DIMENSIONS
RECOMMENDED CLUTCH MOUNTING: M8x1.0, CP4702 FAMILY STUD & K-LOCK NUT. TIGHTENING TORQUE: 19Nm (14ft.lb) LENGTH OF STUD REQUIRED TO BE CALCULATED THUS: 'C' + 'F' + NUT. THIS CALCULATED LENGTH TO BE ROUNDED UP TO THE NEXT AVAILABLE STANDARD STUD LENGTH.

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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Carbon/ Carbon Clutch Home Page
More Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
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Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP7142. / CP7143.

Ø140mm, Standard, Push Type.

TYPICAL APPLICATIONS.

- **Single Seater.**
- **Touring Car.**

FEATURES.

- **8 Bolt, One piece Aluminium cover and lugs.**
- **Push type.**
- **Stepped flywheel fixing.** - inner diameter location.
- **Heavy duty option available with low height and inertia, CP7322 Family.**

AVAILABLE OPTIONS.

- Two diaphragm spring variants: - **C** (CRV). or - **G** (GRY).
- Three ration variants:-
- **E** = (EHR) Extra High
- **H** = (HiR) High
- **M** = (MHR) Mega
- Cover & Pressure plate material variants:-
- CP7142 - **(01)** Aluminium & Steel.
- CP7143 - **(01)** Aluminium & Steel / **(08)** Aluminium & Titanium.
- Two Carbon/Carbon duty materials: Standard or Heavy.
- Flywheel Options:-
- **FN**, Standard flat / SN, Standard stepped.
- **FC**, Flat with CFS (Cushion flywheel system)
- **SC,** Stepped with CFS, (Cushion flywheel system).

SAMPLE PART NUMBERS -

- **2 Plate, Stepped flywheel** - CP7142-CM01-SN
- **3 Plate, Stepped flywheel** - CP7143-CM01-SN
- **3 Plate, Flat flywheel** - CP7143-CM01-FN

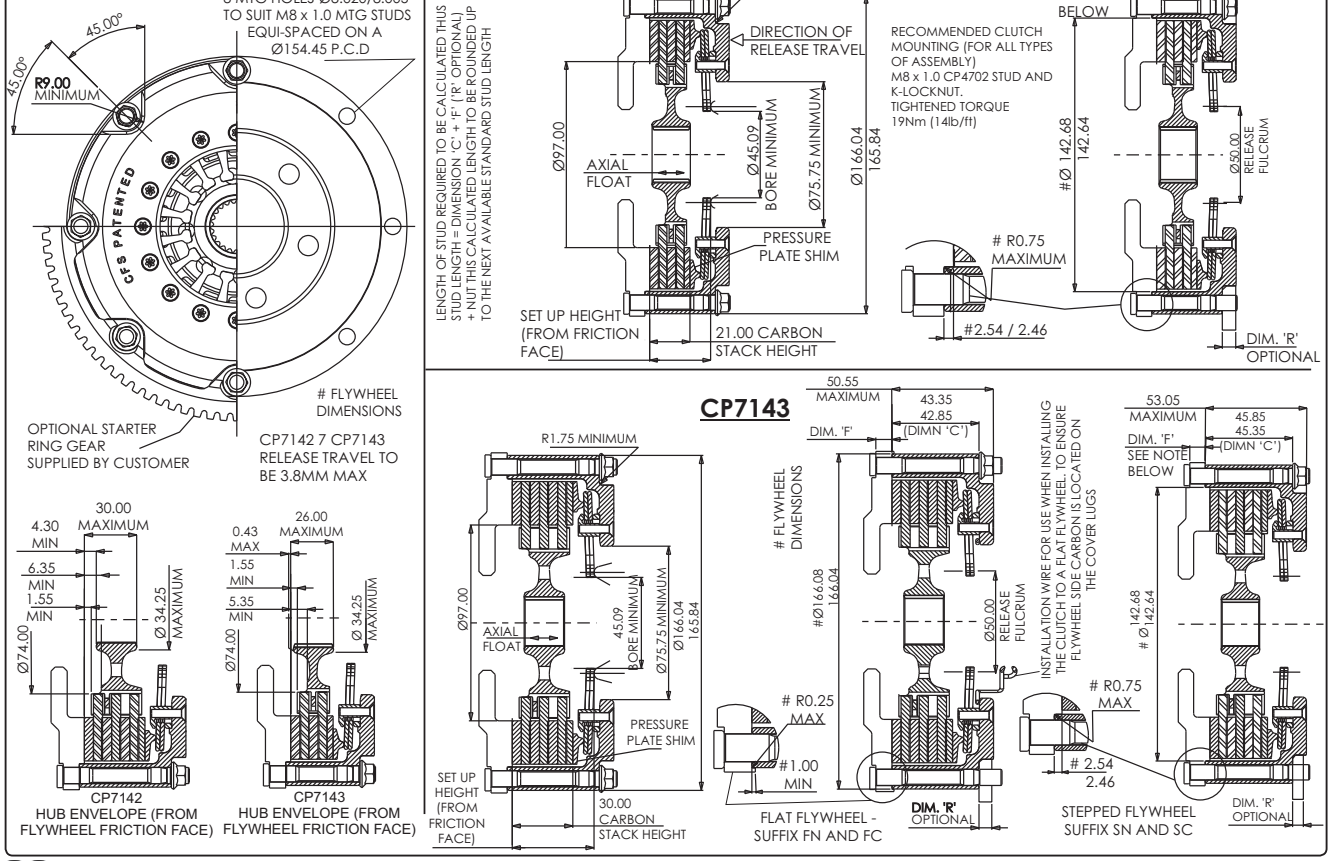
- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP7142-CM01-SN & CP7143-CM01-SN ONLY.

Clutch Part No.	CP7142-CM01-SN	CP7143-CM01-SN
Torque Capacity.	741Nm (547lbft)	1112Nm (851lbft)
"Wear In" between P/ Plate changes.	0.5mm	0.5mm
Total allowable carbon stack wear.	4.0mm	6.0mm
RELEASE LOADS.		
Max peak worn	450daN	450daN
Max peak new	340daN	340daN
Set-up Height. (New)	31.54mm	40.54mm
Set-up Height. (Worn)	34.58mm	43.58mm
Weight.	1.4Kg	2.2Kg
Complete Assy Inertia.	0.0064Kgm²	0.0076Kgm²
Driven Plate & Hub Inertia.	0.00089Kgm²	0.00095Kgm²
MAIN PRESSURE PLATE SHIMS.		
Ratio.	MHR	
Material.	Steel	
Pressure Plate Kits.	.5mm to 3.5mm (0.5mm steps) = CP4502-13 .25mm to 3.25mm (0.5mm steps) = CP4502-14	.5mm to 5.5mm (0.5mm steps) = CP4502-9 .25mm to 5.25mm (0.5mm steps) = CP4502-10
HUB OPTIONS.		
Material.	Steel	Steel
Spline	1.16" x 26	1.16" x 26
Part No.	CP5142-102S	CP5143-102S
More hubs available with other spline sizes, contact AP Racing.		
RELEASE BEARINGS OPTIONS.		
Outer Race Rotates	CP3457-1 pr CP3457-9	
Inner Race Rotates	CP3457-11	

INSTALLATION DRAWING

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com



View Drawing

View Drawing

Carbon/ Carbon Clutch Home Page
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP6913. / CP6914.

Ø140mm, Standard, Push Type.

TYPICAL APPLICATIONS.

- **GT.**
- **Endurance racing.**

FEATURES.

- **10 Bolt, One piece cover and lugs.**
- **3 or 4 Plate.**
- **Push type.**
- **Standard flat flywheel fixing.**
- **Heavy duty carbon.**
- **High (HiR) only.**
- **Push type version of CP7223 family.**

AVAILABLE OPTIONS.

- Two diaphragm spring variants:-
G (GRY) and **O** (ORA).
- Cover material variants:-
- CP6913 - Aluminium, Steel or Titanium.
- CP6914 is only available in Aluminium.
- CP6913 has Cushion Pressure Plate System (CPS) option.

SAMPLE PART NUMBERS.

- **3 Plate, Flat flywheel & Aluminium cover.**
- CP6913-OH02-FN
- **3 Plate, Flat flywheel & Steel cover.**
- CP6913-OH03-FN
- **4 Plate, Flat flywheel & Aluminium cover.**
- CP6914-OH02-FN

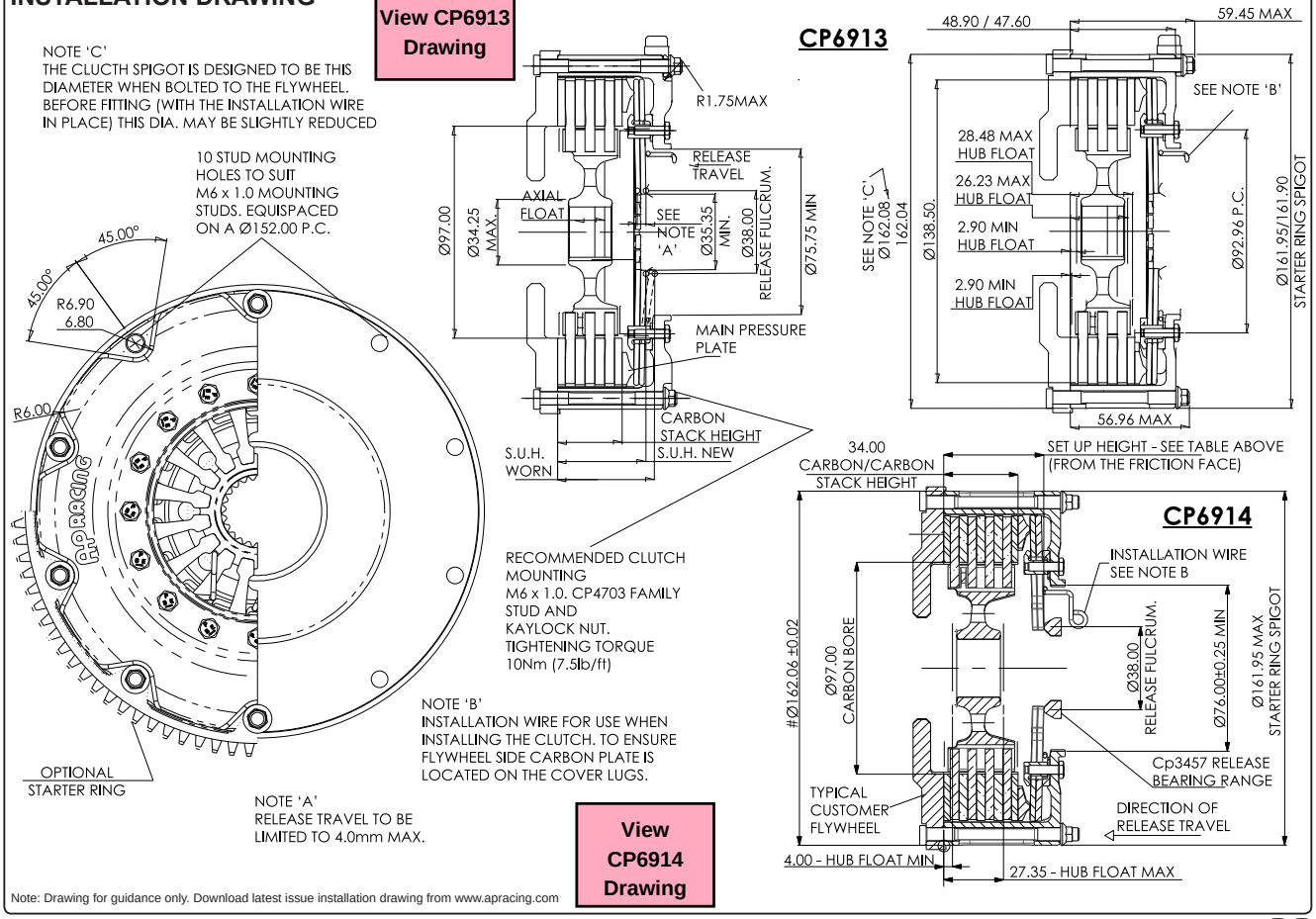
- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP6913-OH02-FN & CP6914-OH02-FN ONLY.

Clutch Part No.	CP6913-OH02-FN	CP6914-OH02-FN
Torque Capacity.	1142Nm (842lbft)	1523Nm (1123lbft)
"Wear In" between P/ Plate changes.	1.25mm	1.25mm
Total allowable carbon stack wear.	6.0mm	6.0mm
RELEASE LOADS.		
Max peak worn	780daN	850daN
Max peak new	580daN	685daN
Set-up Height. (New)	40.75 / 39.80mm	46.34 / 44.54mm
Set-up Height. (Worn)	44.45mm	50.06mm
Weight.	2.25Kg	2.4Kg
Complete Assy Inertia.	0.00756Kgm²	0.007753Kgm²
Driven Plate & Hub Inertia.	0.001214Kgm²	0.001486Kgm²
MAIN PRESSURE PLATES.		
Ratio.	HiR	
Material.	Stainless Steel	
Pressure Plate Kits.	.5mm to 4.5mm (0.5mm Steps) = CP6514-4SS .25mm to 4.25mm (0.5mm Steps) = CP6514-5SS	
HUB OPTIONS.		
Material.	Steel	Steel
Spline	1.16" x 26	1.16" x 26
Part No.	CP5143-104S	CP6904-112S
More hubs available with other spline sizes, contact AP Racing.		
RELEASE BEARINGS OPTIONS.		
Inner Race Rotates	CP3457-16	CP3457-16

INSTALLATION DRAWING

View CP6913 Drawing



View CP6914 Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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Carbon/ Carbon Clutch Home Page
Ø184mm C/C Clutch
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP7223.

Ø140mm, Pull Type.

TYPICAL APPLICATIONS.

- **GT.**
- **Endurance racing.**

FEATURES.

- **10 Bolt, One piece cover and lugs.**
- **Pull type configuration.**

- increased efficiency in terms of clamp and release loads.

- **Flat flywheel fixing.**
- **Heavy duty carbon material.**
- **Heavy duty option available, CP7923 see website for details.**
- **Note:**

4 Plate version available for high torque GT Cars, CP7224-OH03-FC

AVAILABLE OPTIONS.

- Three diaphragm spring variants:-
  B (BUF), **G** (GRY) & **O** (ORA).
- Two ratio variants:-
  - **E** = (EHR) Extra High / **H** = (HiR) High.
- Four Cover & Pressure plate material variants:-
  - **(02)** Aluminium & Steel / - **(03)** Steel & Steel.
  - **(05)** Titanium & Steel / - **(08)** Aluminium & Titanium.
- Flywheel options:-
  - **FN**, Standard flat.
  - **FC**, Flat with CFS, (Cushion Flywheel System).

SAMPLE PART NUMBERS.

- **3 Plate, Flat flywheel** - CP7223-OH02-FN.
- **3 Plate, Flat flywheel with CFS** - CP7223-OH02-FC.

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP7223-OH02-FN ONLY.

Torque Capacity.	1142Nm (842lbft)	
"Wear In" between P/Plate changes.		1.50mm
Total allowable carbon stack wear.		6.0mm
Release Loads.	Max peak worn.	540daN
	At travel.	250daN
Set-up Height. (New)		37.57 / 36.33mm
Set-up Height. (Worn)		29.72mm
Weight.		1.89Kg
Complete Assy Inertia.		0.006438Kgm²
Driven Plate & Hub Inertia.		0.001219Kgm²

MAIN PRESSURE PLATES.

Ratio.	HiR
Material.	Stainless Steel
Pressure Plate Kits.	.5mm to 4.5mm (0.5mm Steps) = **CP6504-7SS** .25mm to 4.25mm (0.5mm Steps) = **CP6504-8SS**

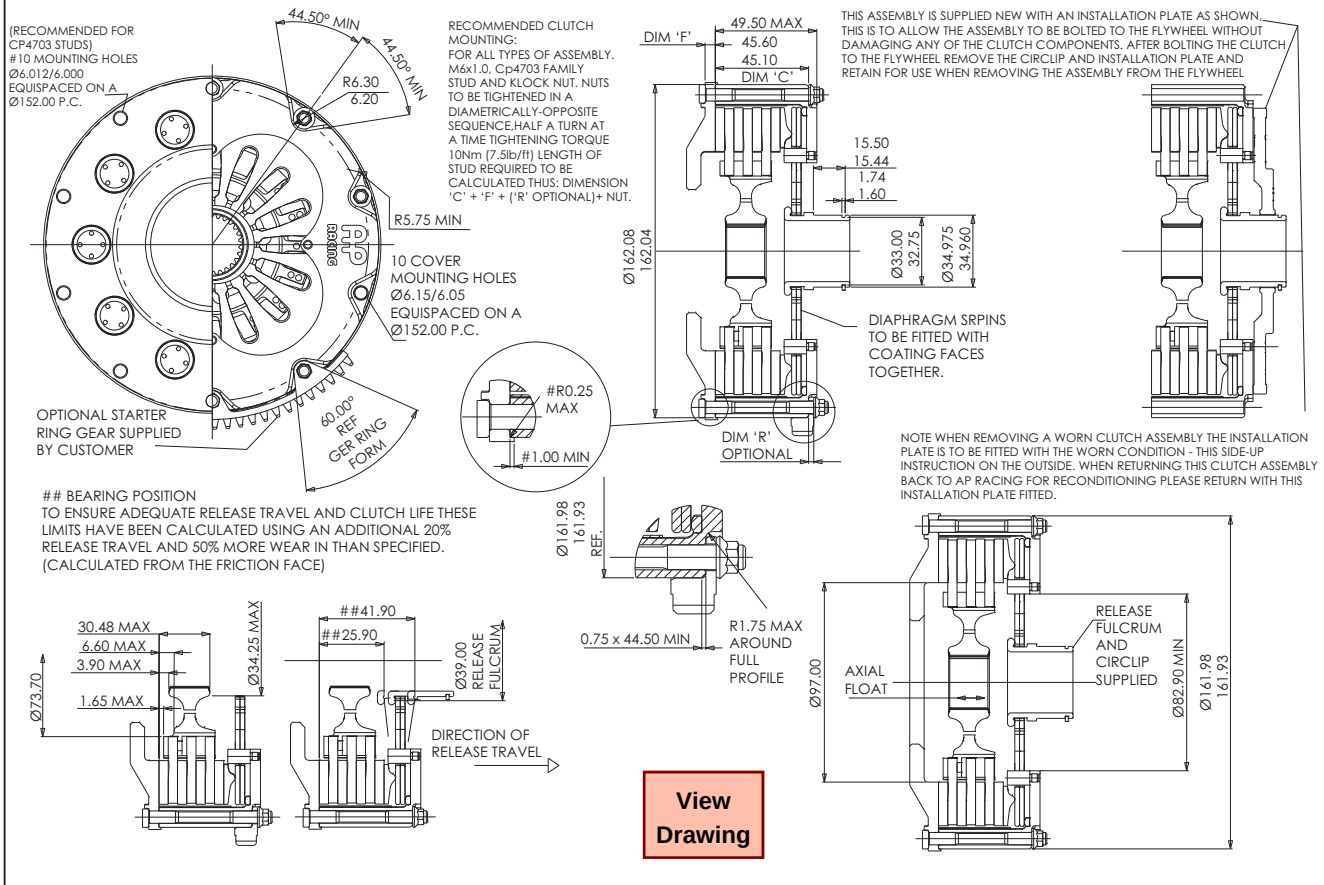
HUB OPTIONS.

Material.	Steel
1.16" x 26	CP5143-104S
1.00" x 23	CP5143-102S
More hubs are available with other spline sizes, contact AP Racing.	

SLAVE CYLINDER

Recommended Slave Cylinders	CP6245-7 or CP6245-8

INSTALLATION DRAWING



View Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Carbon/ Carbon Clutch Home Page
More Ø184mm C/C Clutches
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs
View Drawing

CP8039.

Ø184mm, 12 Bolt, Push Type.

TYPICAL APPLICATIONS.

- **Touring Car.**
- **WRC**

FEATURES.

- **12 Bolt, One piece Aluminium cover and lugs.**
- **Steel pressure plate.**
- **Heavy duty carbon.**
- **Heavy & Normal duty carbon stack options.**
- **Very high ratio (VHR) option only.**
- **Stepped flywheel fixing.**
  - inner diameter location.
- **Cushion pressure plated fitted**
- **Supercedes CP8032 Assemblies.**

AVAILABLE OPTIONS.

- Two diaphragm spring variants:
  - **C** (CRV) or **O** (ORA).
- Three Cover / Pressure plate material & carbon type variants:-
  - **(01)** Aluminium / Steel & normal duty.
  - **(02)** Aluminium / Steel & heavy duty.
  - **(22)** Aluminium / Steel & medium duty.
- Flywheel Options:-
  - **SN**, Standard stepped.
  - **SP**, Stepped with CPS, (Cushion Pressure Plate System).

SAMPLE PART NUMBERS:

- **2 Plate, Stepped flywheel with cushion pressure plate**
  - CP8039-OV02-SP
- **'P'** suffix denotes cushion pressure plate using fulcrum ring type pressure plate.

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP8039-OV02-SP ONLY.

Torque Capacity.	629Nm (463lbft)	
"Wear In" between P/Plate changes.		1.20mm
Total allowable carbon stack wear.		4.0mm
Release Loads.	Max peak worn.	415daN
	At travel.	295daN
Set-up Height. (New)		33.24 / 31.81mm
Set-up Height. (Worn)		37.91mm
Weight.		2.97Kg
Complete Assy Inertia.		0.017689Kgm²
Driven Plate & Hub Inertia.		0.00253Kgm²

FULCRUM RING SHIMS.

Ratio.	VHR
Material.	Stainless Steel
Fulcrum Plate Kits.	.5mm to 2.5mm (0.5mm Steps) = **CP8032-8** .25mm to 2.75mm (0.5mm Steps) = **CP8032-9**

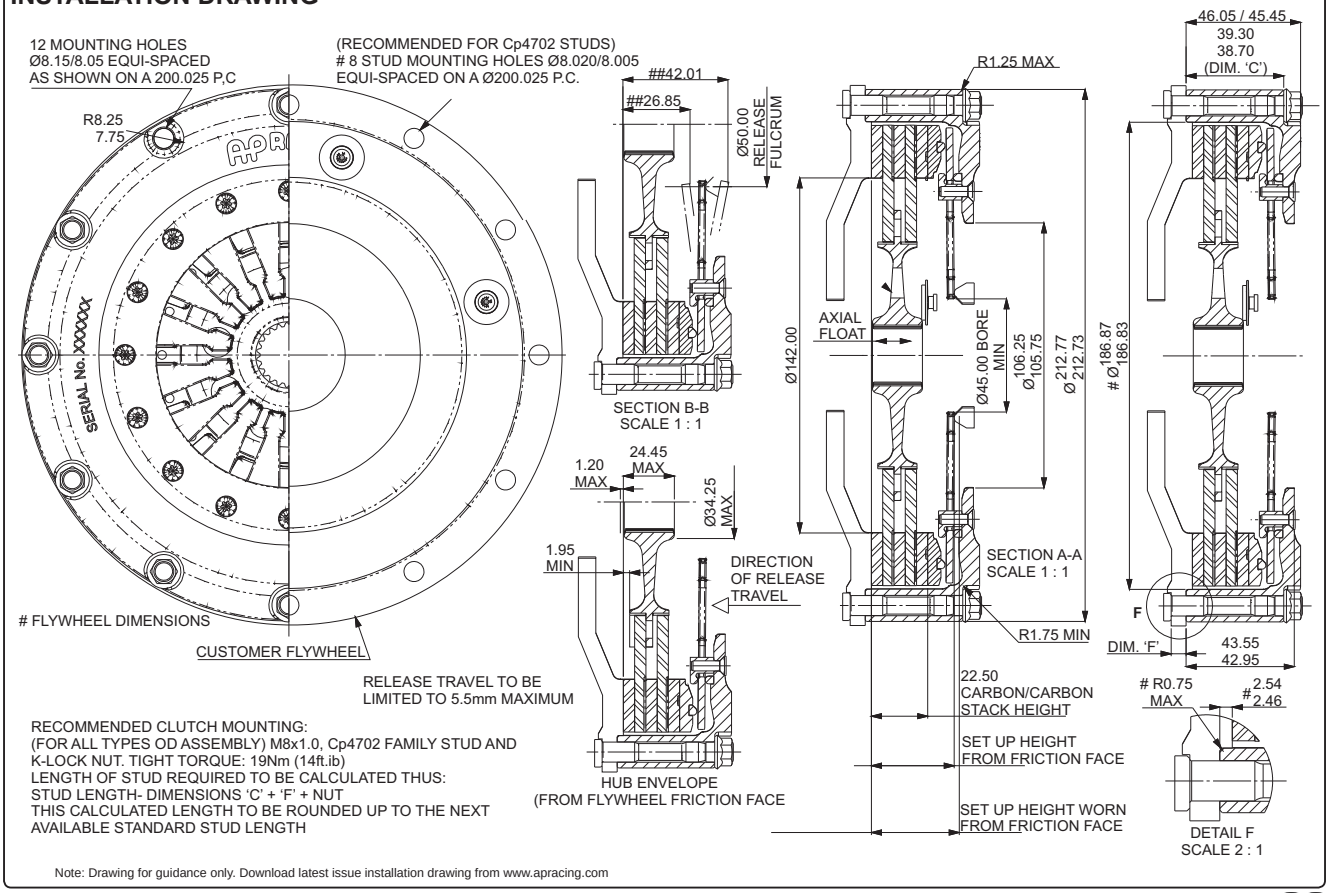
HUB OPTIONS.

Material.	Steel
1.00" x 23	CP7832-120S
25.5" x 25	CP7382-121S
More hubs are available with other spline sizes, contact AP Racing.	

RELEASE BEARING OPTIONS.

Outer Race Rotates	CP3457-19

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Visit www.apracing.com for full & up to date product range

Carbon/ Carbon Clutch Home Page
Ø200mm C/C Clutch
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP8792.

Ø184mm, 6 Bolt, Push Type.

TYPICAL APPLICATIONS.

- **World Touring Car.**

FEATURES.

- **6 Bolt, One piece Aluminium cover and lugs.**
- **Steel pressure plate.**
- **Push type.**
- **Very High Ratio (VHR) option only.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **Cushion pressure plate fitted.**

AVAILABLE OPTIONS.

- Two diaphragm spring variants:-
- **O** (ORA) / **C** (CRV).
- Two Cover / Pressure plate material & carbon type variants:-
- **(01)** Aluminium / Steel & Normal Duty .
- **(22)** Aluminium / Steel & Medium Duty.
- Flywheel options.
- **SN**, Standard stepped.
- **SP**, Stepped with CFS, (Cushion Flywheel System).

SAMPLE PART NUMBER.

- **Single Plate, Stepped flywheel with cushion pressure plate.**
- CP8792-OV22-SP.

- **'P'** Suffix denotes cushion pressure plate using fulcrum ring type pressure plate.

- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP8792-OV22-SP ONLY.

Torque Capacity.	741Nm (546lbft)	
"Wear In" between P/Plate changes.		1.25mm
Total allowable carbon stack wear.		4.0mm
Release Loads.	Max peak worn.	445daN
	Max peak new.	375daN
Set-up Height. (New)		31.57 / 30.04mm
Set-up Height. (Worn)		36.24mm
Weight. (inc hub & Steel Main P/Plate)		2.4Kg
Complete Assy Inertia.		0.01384Kgm²
Driven Plate & Hub Inertia.		0.002215Kgm²

FULCRUM RING SHIMS.

Ratio.	VHR
Material.	Stainless Steel
Fulcrum Plate Kits.	.5mm to 2.5mm (0.5mm Steps) = **CP8032-8** .25mm to 2.75mm (0.5mm Steps) = **CP8032-9**

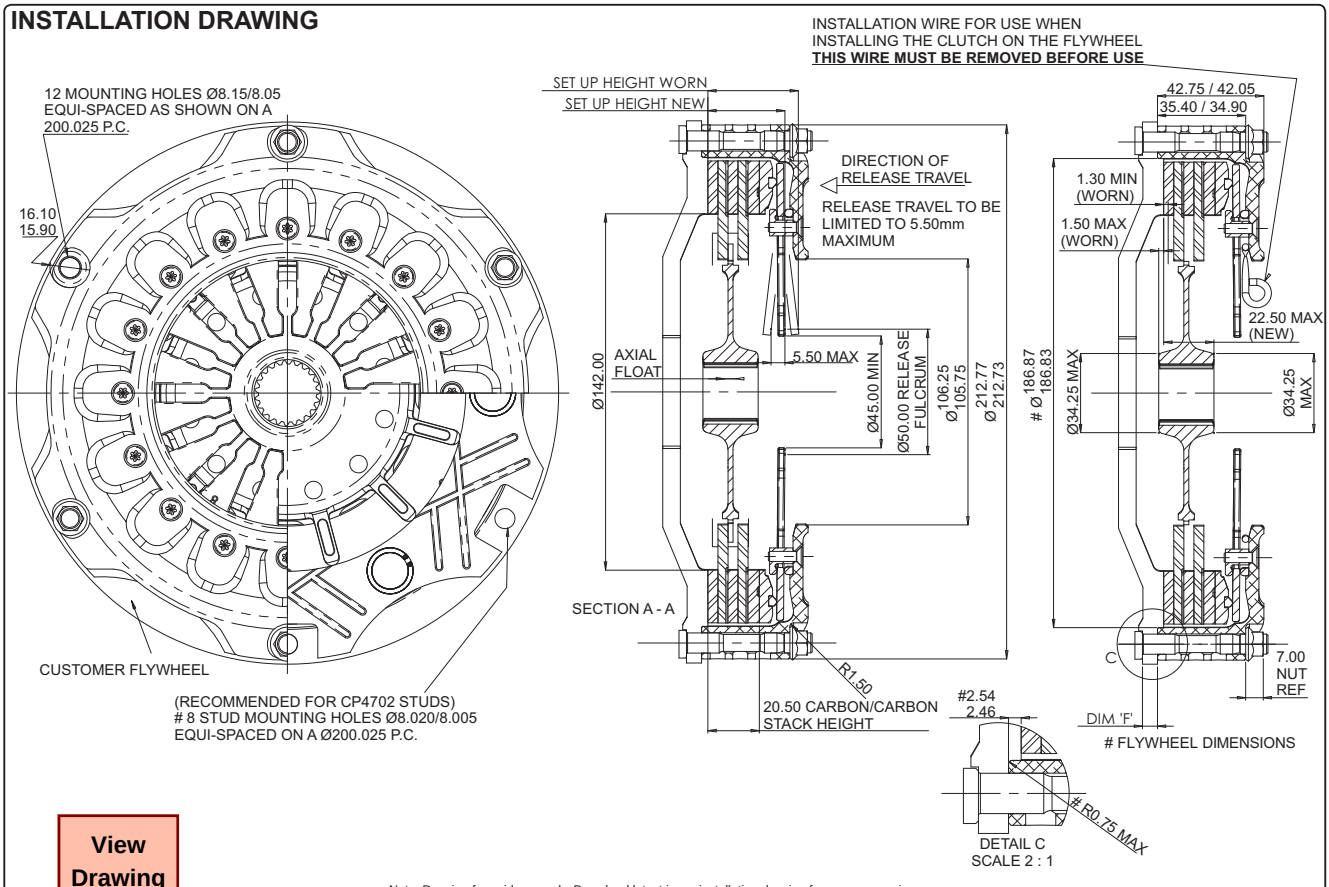
HUB OPTIONS.

Material.	Steel
1.00" x 23	CP8972-105S
25.5mm x 24	CP8792-106S
More hubs are available with other spline sizes, contact AP Racing.	

RELEASE BEARING OPTIONS.

Outer Race Rotates.	CP3457-19

INSTALLATION DRAWING



View Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Carbon/ Carbon Clutch Home Page
General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

CP7212. / CP7213.

Ø200mm, 2 & 3 Plate, Push Types.

TYPICAL APPLICATIONS.

- **WRC.**
- **Rallycross version available CP7313 family, see website for details.**

FEATURES.

- **12 Bolt, One piece Aluminium cover and lugs.**
- **Steel pressure plate.**
- **Push type.**
- **Normal duty carbon material.**
- **(FN) Flat flywheel fixing.**

CP7212

AVAILABLE OPTIONS.

- Diaphragm spring variants:-

- CP7212

C (CRV) or **O** (ORA).

- CP7213

C (CRV), **O** (ORA) or **T** (Triple GRY).

- Ratio variants:-

- CP7212

E = (EHR) Extra High / **H** = (HiR) High.

- CP7213

H = (HiR) High. / **L** = (LoR) Low.

CP7213

SAMPLE PART NUMBERS.

- **2 Plate, Flat flywheel** - CP7212-CH01-FN
- **3 Plate, Flat flywheel** - CP7213-CH01-FN

- **Alternative heavy duty version of CP7213 family. CP7313 is a cushion plate version suitable for Rallycross applications, see website for details**

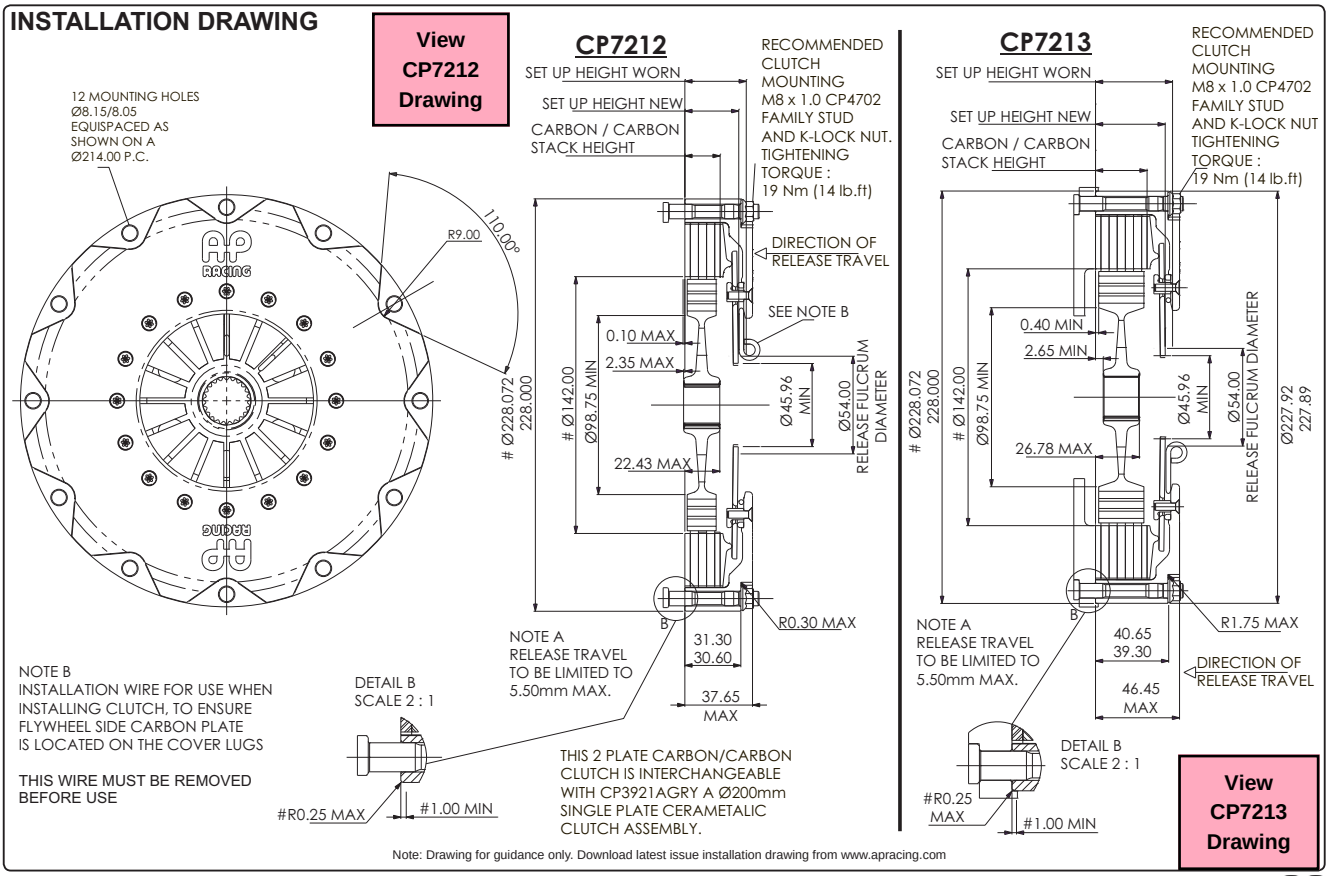
- Other part numbers available please refer to customer installation drawing or contact AP Racing Technical Section.

TECHNICAL SPECIFICATIONS FOR CP7212-CH01-FN & CP7213-CH01-FN ONLY.

Clutch Part No.	CP7212-CH01-FN	CP7213-CH01-FN
Torque Capacity.	700Nm (522lbft)	1050Nm (783lbft)
"Wear In" between P/Plate changes.	1.00mm	1.00mm
Total allowable carbon stack wear.	6.0mm	6.0mm
Release Loads.		
Max Peak worn	375daN	375daN
At Travel	250daN	250daN
Set-up Height. (New)	30.70 / 28.97mm	39.92 / 38.00mm
Set-up Height. (Worn)	34.15mm	43.39mm
Weight.	2.86Kg	3.48Kg
Complete Assy Inertia.	0.01860Kgm²	0.02255Kgm²
Driven Plate & Hub Inertia.	0.003126Kgm²	0.00472Kgm²
MAIN PRESSURE PLATES.		
Ratio.	HiR	HiR
Material.	Steel	
Pressure Plate Kits.	1.0mm to 5.0mm (1.0mm Steps) = **CP4212-4S** .5mm to 4.5mm (1.0mm Steps) = **CP4212-5S**	1.0mm to 5.0mm (1.0mm Steps) = **CP4212-4S** .5mm to 4.5mm (1.0mm Steps) = **CP4212-5S**
HUB OPTIONS.		
Material.	Steel	Steel
Spline	1.00" x 23	1.00" x 23
Part No.	CP4202-122S	CP4203-102S
More hubs available with other spline sizes, contact AP Racing.		
RELEASE BEARINGS OPTIONS.		
Outer Race Rotates	CP3457-2 or CP3457-10	
Inner race Rotates	CP3457-6	

INSTALLATION DRAWING

View CP7212 Drawing



View CP7213 Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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Carbon/ Carbon Clutch Home Page

More General Technical Info

Ø115mm C/C Clutch (Push)

Ø115mm C/C Clutch (Pull)

Ø138mm C/C Clutch

Ø140mm C/C Clutch (Push)

Ø140mm C/C Clutch (Pull)

Ø184mm C/C Clutch

Ø200mm C/C Clutch

Metallic Race Clutches

Slave Cylinders

Release Bearings

Mounting Studs

CLUTCH FUNCTIONALITY / TERMINOLOGY.

- PUSH:- The most popular type of diaphragm spring clutch where the release bearing is pushed against the diaphragm spring fingers (i.e. towards the flywheel) to release the clutch.

- PULL:- This type of clutch has the release bearing fulcrum inside the clutch and requires the diaphragm spring fingers to be pulled (i.e. away from the flywheel) in order to release the clutch. Although generally more complex in terms of release mechanism, pull types are more efficient in terms of clamp and release loads.

OVERHEATING AND ABUSE.

Carbon / Carbon clutches are very durable but not indestructible. The Carbon / Carbon material itself will not be harmed by the heat which can be generated by excessive slipping of the clutch, but aluminium alloy components, which are completely satisfactory under normal conditions, can soften and fail if overheated. For particularly arduous applications special versions can be supplied using alternative materials for covers, baskets, hubs and main pressure plates, but this will result in an increase in the weight and the cost of the unit. Please contact AP Racing for more details.

RELEASE MECHANISM.

As the spring rate and clamp load of the clutch increases so does the release bearing load required to release the clutch. The release bearing used should be a high quality steel caged radius contact ball bearing either 50mm (for Ø140mm and lower) or 54mm (for Ø184mm & Ø200mm). The release mechanism should be arranged so that the bearing is free of the spring fingers when the clutch is fully engaged. The release travel should be limited by means of an external stop to avoid damage to the diaphragm spring. Suitable release bearings are available from AP Racing. See page 139

CLUTCH MOUNTING.

The recommended method of mounting the clutch to the flywheel is with a mounting stud and K-Lock nut. Recommended tightening torques 10Nm (7.5lb/ft) for M6 and 22Nm (16lb/ft) for M8 & 5/16" UNF. AP Racing offer a range of studs for mounting clutches to flywheels. See page 140.

RECONDITIONING AND REPAIR.

User servicing is limited to replacing the main pressure plates when required. Other replacements require the use of specialised computerised test equipment to set up the clutch and the units should be returned to AP Racing to be reconditioned.

CARBON / CARBON CLUTCH OPERATING INSTRUCTIONS.

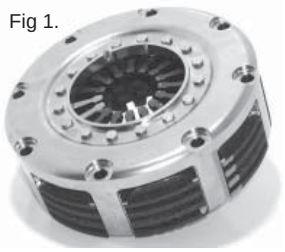
- GENERAL NOTES.

All carbon clutches are capable of achieving a very long life.
AP Racing carbon clutches are bedded during manufacture, this process continues for approximately the first 0.5 mm of wear, after which the wear rate should settle to a consistent and low level. The "Total Allowable Wear" figure quoted on the pressure plate fitment sheet gives total clutch life provided that the clutch remains in good condition and that the axial float of the hub is maintained, this is normally the case provided the wear is evenly distributed across all the carbon rubbing surfaces.
To achieve the full life potential several interventions to compensate for wear are required with most carbon clutch designs. The "Wear In" of a clutch denotes the amount of incremental wear on the carbon faces that can occur before the clamp load and hence torque capacity of the clutch drops below its minimum specified value. Wear compensation then becomes necessary to restore the original characteristics.

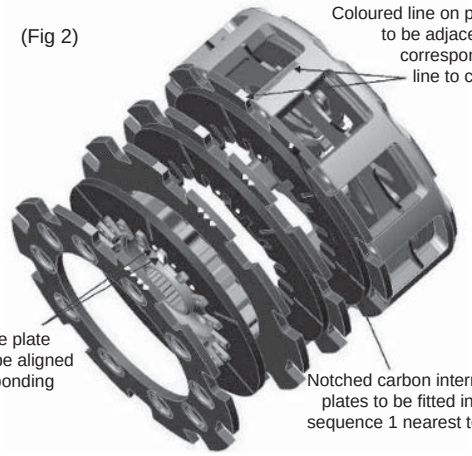
ASSEMBLING AND INSTALLING A PUSH TYPE CARBON / CARBON CLUTCH.

This is the traditional type of diaphragm spring clutch where the release bearing is pushed against the diaphragm spring fingers (towards the flywheel) to release the clutch. (Fig 1.) Before installing the clutch onto the flywheel ensure that the plates are correctly assembled into the clutch in their original positions. First install the main pressure plate into the clutch housing, (see pressure plate service sheet) with the raised fulcrum against the diaphragm spring and the identification mark adjacent to the similar mark on one of the clutch housing lugs.

Fig 1.

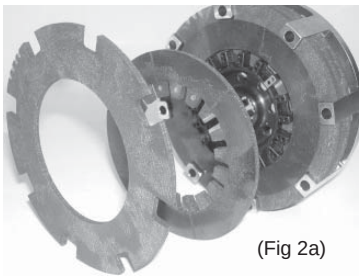


(Fig 2)



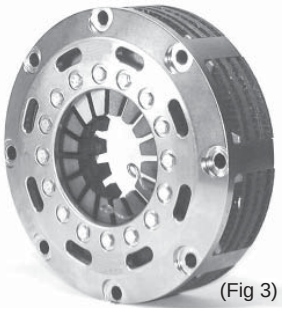
NEXT INSTALL THE CARBON PLATES IN THEIR ORIGINAL POSITIONS AS FOLLOWS:

The carbon Intermediate plates are identified with notches on the outside edge (fig. 2). The plates are not all identical and must be installed in the correct sequence and the correct way up. Install number 1 Intermediate plate (1 notch) next to the Main Pressure Plate with the marking facing away from the Main Pressure Plate and the highest numbered plate (this depends whether it is a 2, 3, or 4 plate) last, against the flywheel.
The intermediate plates also have a paint line marked on the external edge and this should be adjacent to the corresponding line marked on one of the lugs on the Clutch Cover.
The Driven Plates are similarly numbered with dots or notches on the drive lug surfaces (fig. 2). These must be fitted in sequence in the same way as the Intermediates with the number 1 Driven Plate next to the number 1 Intermediate Plate with the marking towards the flywheel. Continue fitting the remaining Carbon Intermediate and Driven Plates in sequence. The Hub must be fitted prior to fitting the last Driven plate and Intermediate with the flywheel bolt relief and the flange / web towards the flywheel (see fig 2a). Ensure the marked Hub drive tooth is engaged with the outlined drive slot(s) in the Carbon plates.



(Fig 2a)

Complete the assembly by fitting the last Intermediate and Driven Plates N.B. Carbon Clutches always have a Carbon Intermediate plate next to the flywheel. Some clutches are supplied with an installation clip fitted between the spring and clutch cover (fig 3).
This clip maintains the clutch in partially released condition to assist the installation and removal of the clutch from the flywheel. It should be used whenever the clutch is installed or removed, failure to use the clip can result in the carbon plate nearest to the flywheel being trapped under the clutch cover lugs, resulting in damage to the carbon plate and other clutch components.



(Fig 3)

Ensure that the bottom carbon intermediate plate is located correctly and install the clutch onto the flywheel, tighten the retaining nuts down progressively in a diagonally opposite pattern to the recommended torque. When the clutch is tightened down the installation clip will become loose, remove the clip before use.
NB The installation clip should be retained for future clutch removal.

Carbon/ Carbon Clutch Home Page

More General Technical Info

Ø115mm C/C Clutch (Push)

Ø115mm C/C Clutch (Pull)

Ø138mm C/C Clutch

Ø140mm C/C Clutch (Push)

Ø140mm C/C Clutch (Pull)

Ø184mm C/C Clutch

Ø200mm C/C Clutch

Metallic Race Clutches

Slave Cylinders

Release Bearings

Mounting Studs

- BASKET TYPE CLUTCHES

"Basket" type clutches have the clutch drive lugs built into the "flywheel" (basket) and the cover is bolted to the top of the lugs. On this type of clutch the assembly sequence is reversed, starting with the highest numbered intermediate plate at the flywheel (basket) end and fitting the main pressure plate last, just before the cover.

- CLUTCH REMOVAL.

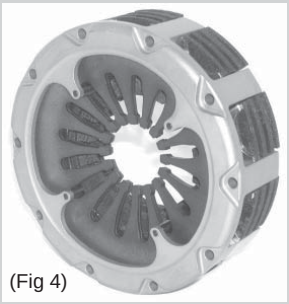
Refit the clutch installation clip. Progressively release clutch cover retaining nuts and remove clutch from flywheel.

- HUBS.

Do not grease the splines in the hub: the grease can be dispersed by centrifugal force outwards towards the Carbon friction faces causing contamination and clutch slip.

ASSEMBLING AND INSTALLING - A PULL TYPE CARBON/CARBON CLUTCH.

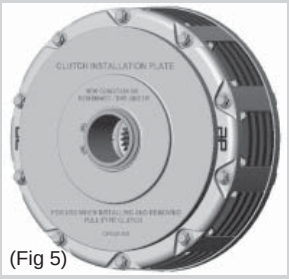
This type of clutch has the release-bearing fulcrum inside the clutch and requires the diaphragm spring fingers to be pulled (away from the flywheel) in order to release the clutch (fig 4).Many pull type clutches are supplied with an installation plate fitted onto the spring (fig 5). This plate maintains the clutch in a partially released condition to assist the installation and removal of the clutch from the flywheel.



(Fig 4)

It should be used whenever the clutch is installed or removed, failure to use the plate can result in the bottom carbon plate being trapped under the clutch cover lugs, resulting in damage to the carbon plate and other clutch components.

Before installing the clutch onto the flywheel ensure that the plates are correctly assembled into the clutch in their original positions.
First install the diaphragm spring into the clutch cover / housing with the convex side towards the flywheel and fit the release fulcrum through the centre of the diaphragm so that the "Mushroom" head sits on the core formed by the tips of the diaphragm spring fingers. N.B. If an installation plate is fitted this will retain the diaphragm and release fulcrum and this step is omitted. Then install the main pressure plate into the clutch housing, (see pressure plate service sheet) with the raised fulcrum against the diaphragm spring and the identification mark adjacent to the similar mark on one of the clutch lugs.



(Fig 5)

Next install the carbon plates in their original positions as follows:

The carbon Intermediate plates are identified with notches on the outside edge (fig. 2). The plates are not all identical and must be installed in the correct sequence and the correct way up. Install number 1 Intermediate plate (1 notch) next to the Main Pressure Plate with the marking facing away from the Main Pressure Plate and the highest numbered plate (this depends whether it is a 2, 3, or 4 plate) last, against the flywheel. The intermediate plates also have a paint line marked on the external edge and this should be adjacent to the corresponding line marked on one of the lugs on the Clutch Cover (sometimes called the Basket). The Driven Plates are similarly numbered with dots or notches on the drive lug surfaces (fig. 2). These must be fitted in sequence in the same way as the Intermediate mates with the number 1 Driven Plate next to the number 1 Intermediate Plate with the marking towards the flywheel. Continue fitting the remaining carbon Intermediate and Driven Plates in sequence. The Hub must be fitted prior to fitting the last Driven plate and Intermediate with the flywheel bolt relief and the flange towards the flywheel (see fig 2a). Ensure the marked Hub drive tooth is engaged with the outlined drive slot(s) in the carbon plates. Complete the assembly by fitting the last Intermediate and Driven Plates N.B. Carbon Clutches always have a Carbon Intermediate plate next to the flywheel. Ensure that the bottom carbon intermediate plate is located correctly and install the clutch onto the flywheel.
Tighten the retaining nuts down progressively in a diagonally opposite pattern to the recommended torque. When the clutch is tightened down the installation plate will become loose, remove the retaining circlip, and remove the installation plate from the release fulcrum.

NB:
The installation plate should be retained for future clutch removal. Prior to fitting the slave cylinder, the piston in the slave cylinder should be pushed out to maximum travel towards the clutch. Ensure that the release fulcrum in the clutch is fitted into slave cylinder piston. With the slave cylinder in place, the release fulcrum should be pulled into contact with the spring fingers, and the circlip refitted into the groove on the release fulcrum.

- BASKET TYPE CLUTCHES.

"Basket" type clutches have the clutch drive lugs built into the "flywheel" (basket) and the cover is bolted to the top of the lugs. On this type of clutch the assembly sequence is reversed, starting with the highest numbered intermediate plate at the flywheel (basket) end and fitting the main pressure plate last, just before the cover.

- CLUTCH REMOVAL.

Remove circlip from release fulcrum, remove slave cylinder, refit the clutch installation plate and circlip.
NB.
The installation plate is machined differently on either face, to accommodate "new / re-shimmed", or "worn" clutches.
Progressively release clutch cover retaining nuts and remove clutch from flywheel.

- HUBS.

Do not grease the splines in the hub; the grease can be dispersed by centrifugal force outwards, towards the carbon friction faces causing contamination and clutch slip.

CUSTOMER NOTES

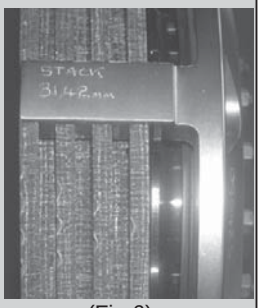
Carbon/ Carbon Clutch Home Page
More General Technical Info
Ø115mm C/C Clutch (Push)
Ø115mm C/C Clutch (Pull)
Ø138mm C/C Clutch
Ø140mm C/C Clutch (Push)
Ø140mm C/C Clutch (Pull)
Ø184mm C/C Clutch
Ø200mm C/C Clutch
Metallic Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs

WEAR COMPENSATION & MAINTENANCE.

- WEAR COMPENSATION.

AP Racing Carbon-Carbon clutch covers are machined to suit the new carbon stack height and spring characteristics of that particular clutch. The clutch is then given its own unique serial number.

NB The Carbon plates must not be switched between clutches and the mating carbon faces must be kept in their original relationship to each other. Never switch complete carbon stacks from cover to cover.



(Fig 6)

The serial number, and the original combined thickness of all the carbon plates when new, called the "Stack Height", are etched onto the cover. (See Fig 6) Each carbon plate is identified with notches to identify the intermediate plate number (Fig 1) and dots or notches to identify the drive plate number (fig 1).

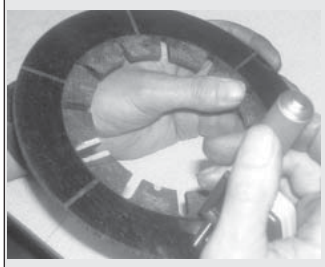
- CARBON MEASUREMENTS.

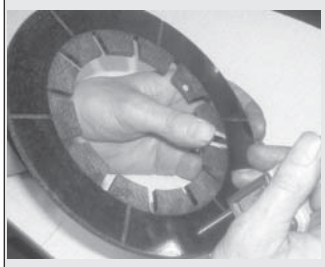
For accuracy when measuring the carbon plates, each individual plate is measured in the centre of the worn surface in 3 positions (approx. every 120° - see fig 7 & 8.) and the mean thickness is then calculated (The measurements can be recorded on the carbon clutch measurement sheet provided). The mean thickness from all plates is added together to obtain the "Present Stack Height" and this is subtracted from the "New Stack Height" etched on the cover (fig 6.). The correct pressure plate should then be selected from the "Pressure plate fitment sheet" which will restore the "Wear In" to approximately its original value. Measurement of the carbon should only be made with a proper micrometer with flat anvils, not a sliding vernier or micrometer with a sharp point.

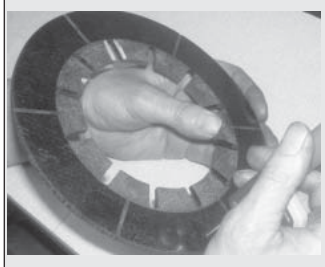
NB The maximum total wear allowed on the carbon stack is indicated on the pressure plate fitment sheet. Under no circumstances should this figure be exceeded. Wear over the total allowed could cause carbon plate failure and no hub axial float.

- PLATE MEASUREMENTS.

DRIVEN PLATES (FIG 7.)





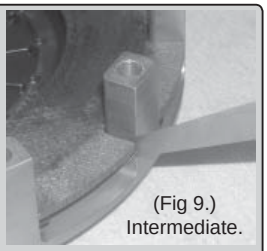


INTERMEDIATE PLATES (FIG 8.)

CARBON DRIVE FACES.

The wear on drive faces (backlash) between the Intermediate Plates and Clutch Cover / Basket and between Driven Plates and Hub should also be monitored.
This is done by placing the intermediate plate into the cover/basket and using feeler (slip) gauges to measure the gap between the drive faces of the carbon plates and cover lug as shown in fig 9.
The drive plate can also be measured in a similar manner by placing the drive plate on to the hub and using feeler (slip) gauges to measure the gap between carbon drive slot and hub tooth. (see fig. 10)

Tolerances as follows:
- Clutches up to Ø115mm = 0.75mm
- Clutches Above Ø115mm = 1.00mm


(Fig 9.)
Intermediate.


(Fig 10.)
Driven Plate.

RELEASE LOADS / DIAPHRAGM SPRING.

All clutches have a set maximum release travel (see clamp/release graph on page 100). **Exceeding this travel will damage the diaphragm spring,** and result in a decrease in clamp load and change the spring characteristics. Wear on the diaphragm spring fingers can indicate release bearing problems, misalignment, or just normal wear over an extended period. If excessive wear is present, or it is known the spring has been over stroked it is advisable to return the unit to AP Racing for fitment of new springs.
Carbon clutches are very durable but not indestructible. Although the carbon material will not be significantly harmed by extreme heat generated by excessive slipping of the clutch, aluminium alloy can soften and distort. The diaphragm springs will also lose clamp load if subjected to prolonged or excessive heat. Excessive slipping is therefore best avoided.
Any clutches that have been subjected to excessive heat should be returned to AP Racing for inspection.

MAINTENANCE & SERVICING.

All clutch components should be examined frequently for signs of damage or abnormal wear. Remove dust with a brush or vacuum cleaner, and any light deposits of oil or grease with a non-oil based solvent. Heavier deposits of oil on the carbon plates are best cleaned in an ultrasonic wash. After cleaning the carbon plates with any fluid, it is recommended that any remaining traces of oil or solvent be removed by baking them for an hour at 300°C minimum in a suitable oven.

WARNING:
NEVER USE BRAKE CLEANER TO CLEAN CARBON. A FILM OF CLEANER WILL REMAIN ON THE CARBON CAUSING THE CLUTCH TO SLIP ON INITIAL USE EVEN IF THE CARBON IS BAKED.

User servicing is limited to replacing the main pressure plate and hubs when required. Other replacements require the use of specialised test equipment to set up the clutch and the unit should be returned to AP Racing for reconditioning.

CUSHIONING SYSTEMS (CFS & CPS).

The cushioning systems available in AP Racing's carbon clutch range either "Cushion Flywheel" CFS or " Cushion Pressure Plate" CPS are designed to give more clutch controllability during engagement and is achieved by a secondary lower spring rate from precise bellville springs inserted into the flywheel or main pressure plate faces.
Although the bellvilles fitted have a high temperature capability excessive clutch temperature can result in loss of cushion when the bellvilles collapse.
If bellville height above flywheel or pressure plate falls below 75% of its original figure, it is recommended that the clutch be returned to AP Racing for reconditioning and replacement of bellvilles.
The split rings in intermediate p/plate #1 or main pressure plates are designed as bearings for the bellville springs and transfer the load into the c/c plates, if these overheat they can loose their retention and fall out when the clutch is disassembled. These can also be replaced during reconditioning.

Carbon/ Carbon Clutch Home Page

Ø115mm C/C Clutch (Push)

Ø115mm C/C Clutch (Pull)

Ø138mm C/C Clutch

Ø140mm C/C Clutch (Push)

Ø140mm C/C Clutch (Pull)

Ø184mm C/C Clutch

Ø200mm C/C Clutch

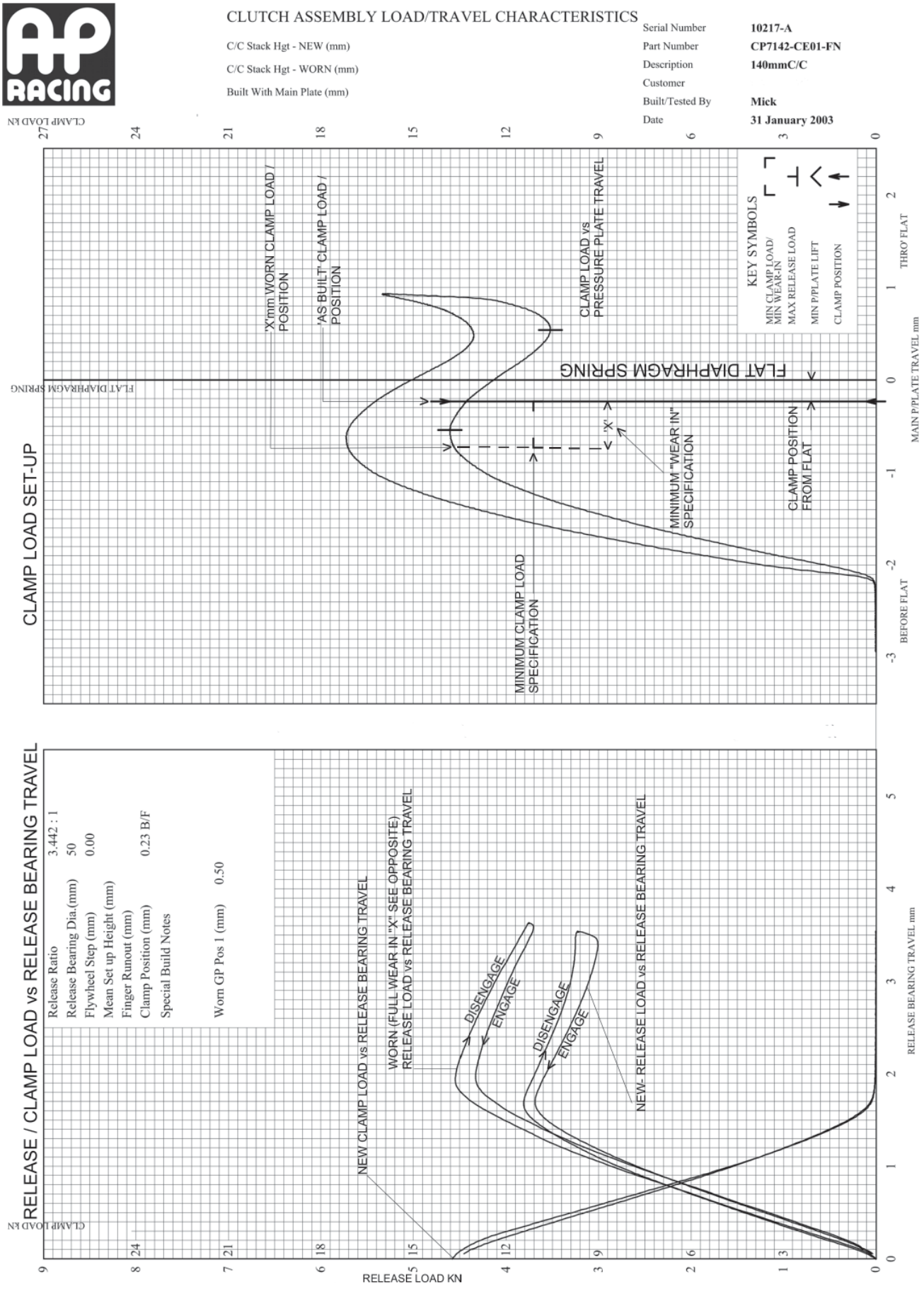
Metallic Race Clutches

Slave Cylinders

Release Bearings

Mounting Studs

EXPLANATION OF TYPICAL CARBON/CARBON CLUTCH PLOT



METALLIC RACE CLUTCH - General Information

More Race Clutch General Info
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Ø215mm Race Clutches
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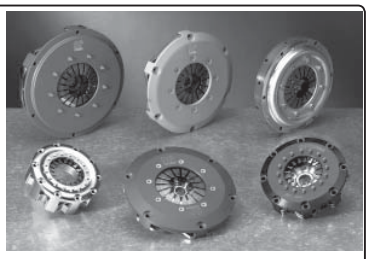
Slave Cylinders
Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

INTRODUCTION.



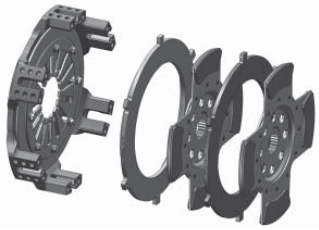
For many years AP Racing has been the world leader in the design and manufacture of competition clutch systems. This section combines all sizes of Sintered and Cerametallic Race Clutches.
The clutches in this section are designated Sintered or Cerametallic, sometimes called “Paddle” clutches, this refers to the type of driven plate that is used in the clutch. Both types of driven plate are available with a comprehensive range of spline sizes to suit a wide range of popular applications. A list of standard spline sizes can be found on page 136. Other splines can also be accommodated, please refer to AP Racing for details. This section also provides guidance & general information on clutch selection, types of driven plate and friction materials, plus basic technical information and installation details for each clutch.

RACE CLUTCH RANGE DETAILS.

The table below provides quick reference information on the range of Race Clutches available from AP Racing. If your clutch requirements fall outside these examples, please contact AP Racing Technical Section who will be pleased to discuss your specific application.

Clutch Series No.	Clutch Description.						
	Clutch Ø (mm)	No. of Driven Plates	Clutch Actuation Type.	Sintered / Cerametallic.	Drive Type.	No. Of Fixing Bolts.	Press/ Plate Ratio.
CP6073	115	3	Push	Sintered	Lug	10	EHR
CP6074	115	4	Push	Sintered	Lug	10	EHR
CP6001	140	1	Push	Sintered	Lug	8	HiR
CP6002	140	2	Push	Sintered	Lug	8	HiR
CP6003	140	3	Push	Sintered	Lug	8	HiR
CP6092	140	2	Push	Bonded	Lug	8	HiR
CP6013	140	3	Push	Sintered	Lug	8	HiR
CP6014	140	4	Push	Sintered	Lug	8	HiR
CP8773	140 (I Drive)	3	Push	Sintered	Lug	12	EHR or HiR
CP8804	140 (I Drive)	4	Pull	Sintered	Lug	12	HiR
CP2116	184	1	Push	Sintered	A Ring	6	HiR
CP7371	184	1	Push	Sintered	Lug	6	EHR
CP7381	184	1	Push	Cerametallic	Lug	6	EHR
CP2125	184	2	Push	Sintered	A Ring	6	HiR
CP2606	184	2	Push	Cerametallic	A Ring	6	HiR
CP7372	184	2	Push	Sintered	Lug	6	EHR
CP7382	184	2	Push	Cerametallic	Lug	6	HiR
CP7392	184	2	Push	Cerametallic	Lug	6	HiR
CP7972	184	2	Push	Cerametallic	Lug	6	HiR
CP2817	184	3	Push	Sintered	A Ring	12	HiR
CP7373	184	3	Push	Sintered	Lug	6	EHR
CP7383	184	3	Push	Sinterd / Organic	Lug	6	HiR
CP8022	184 (I Drive)	2	Push	Sintered	Lug	6	EHR
CP3745	200	1	Push	Cerametallic	Lug	6	HiR
CP3871	200	1	Push	Cerametallic	Lug	6	HiR
CP4560	200	1	Push	Cerametallic	Lug	6	HiR
CP5241	215	1	Push	Cerametallic	Lug	6	LoR
CP5242	215	2	Push	Cerametallic	Lug	6	LoR

‘I’ Drive Clutch System



AP Racing has developed a new design of clutch. Whilst conventional clutch designs typically feature external ‘jaws’ around the outer edges of the steel intermediate and main pressure plates, which can distort trapping the legs of the aluminium cover and cause the clutch to drag.
The **‘I’ Drive** design features drive tenons, which locate into internal jaws in the lightweight aluminium clutch cover, eradicating the onset of clutch drag.
The **‘I’ Drive** design has been proven via a program of extensive dyno tests which assessed durability in challenging conditions. During the test the **‘I’** Drive clutch maintained optimum performance under arduous operating conditions for significantly longer than the conventional clutch design. Our research shows the new clutch design to be five times more durable when subjected to the same test parameters.
With up to 10% less mass than conventional clutches, and with 15% less rotational momentum, **‘I’ Drive** design also features an innovative ‘wear plate’, to combat wear on the drive legs of the lightweight aluminium clutch cover, where they interact with the steel plates. This problem, common to all sintered clutches with aluminium covers, is reduced by the use of thick wear ‘pads’ held captive on the drive faces of each of the aluminium cover drive-legs, which provide robust wear surfaces.
‘I’ Drive is already in competitive use, with Ø184mm (7¼”) units running in WRC and Ø140mm (5½”) units running in endurance and touring car applications. This is part of a programme of continuous improvement for the **‘I’ Drive** design with the aim of introducing different variations in the future.

SINTERED OR CERAMETALLIC ?.

This information will aid the selection process in deciding whether a Sintered or Cerametallic Clutch assembly should be used.
▫ **SINTERED: -** Primary used in race applications. / - Compact installation. / - Low inertia. / - Lightweight.
▫ **CERAMETALLIC:** - Primarily used in rally / off road applications. / - Resistant to high energy input (i.e. long slip) / - Smoother engagement. / - Less prone to judder.
Note: Whilst it is recommended that Sintered Clutches are suitable for Race applications and Cerametallic Clutches for Rally or Off Road applications, both types are often used successfully in other area’s.
▫ **DIAMETER:-** There are five diameters to choose from :- Ø115mm (4½“), Ø140mm (5½“), Ø184mm (7¼“), Ø200mm and Ø215mm (8½“). A larger diameter increases torque capacity & reduces wear but increases inertia.
▫ **MOMENT OF INERTIA:-** Rotating mass around the axis of clutch. Lower moment of inertia will result in faster engine response and gear changes.
▫ **CLUTCH CONFIGURATION: -** There are two basic designs for both the Sintered and Cerametallic clutches, the traditional A-Ring type with an adaptor ring and separate cover or a cover with integral legs (Lug type). The lug drive design allows friction dust to escape and reduces heat build up particularly when used with cerametallic drive plates. Sintered clutches are available in 1, 2, 3 and 4 plate versions, Cerametallics are available in both 1 and 2 plate versions. The dynamic torque capacity of each clutch depends upon the type of friction material, the number of driven plates, which diaphragm spring is fitted and the pressure plate ratio. A choice of springs is available, suitable for engine torques ranging from 148Nm (109lbs/ft) to 1272Nm (938lbs/ft) and for breakaway torque up to 1610Nm (1187lbs/ft).

▫ COVERS

- LUG TYPE:- The Lug Drive Sintered Clutch range utilises a one piece Aluminium Alloy cover and lug design which has a , low moment of inertia and runs cooler. All Ø115mm, Ø140mm and Ø200mm clutch covers are machined from billet. Ø184mm Clutch covers are machined form a high quality aluminium alloy casting.
- ‘A’ RING TYPE:- The ‘A’ Ring Clutch type is only available in Ø184mm diameter. Push types are available with either a steel or aluminium alloy cover (functionally there is no difference between the steel and aluminium alloy cover) however, the aluminium alloy cover assembly gives a weight saving of approximately 300g over the steel version and has lower inertia.
▫ **NUMBER OF DRIVEN PLATES:-** The number of plates required for an application will depend on engine torque, clutch diameter and clamp load. Generally a smaller diameter clutch will require more plates than a larger diameter unit. A Comprehensive range of splines is available to suit most transmission input shafts. Details on page 136. If the spline required is not in this table please contact AP Racing Technical Section.

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CLUTCH FUNCTIONALITY / TERMINOLOGY

- **CLAMP LOAD:-** Force applied by the diaphragm spring, on driven plates via main and intermediate pressure plates. Clamp load will vary depending on the diaphragm spring and pressure plate ratio used.
- **RELEASE LOAD:-** Force required on the diaphragm spring fingers to disengage the clutch.
- **PRESSURE PLATES:-** The main pressure plate provides the fulcrum point at which clamp load is transmitted, through its own friction face into the clutch. The pressure plates positioned between drive plates are known as intermediate pressure plates.
- **PUSH TYPE:-**The conventional and most popular type of diaphragm spring clutch where the release bearing is pushed against the diaphragm spring fingers (i.e. towards the flywheel) to release the clutch.
- **PULL TYPE:-**This type of clutch has the release bearing fulcrum inside the clutch and requires the diaphragm spring fingers to be pulled (i.e. away from the flywheel) in order to release the clutch. Although generally more complex in terms of release mechanism, pull types are more efficient in terms of clamp and release loads.
- **DIAPHRAGM SPRING:-** Belleville (or disc) spring with a series of integral release fingers on the inside diameter.

TECHNICAL SPECIFICATIONS

- TORQUE CAPACITY:- The torque capacity of the clutch is dependent upon the clutch diameter, the number and type of driven plates used, the load rating of the diaphragm spring and the pressure plate ratio (normally predetermined by AP Racing during the design process). The table below gives the recommended maximum engine torque capacity for all the available combinations of these factors for both conventional push type clutches and pull type clutches. The number of driven plates used in the clutch will to a large extent be determined by the torque capacity the clutch will be required to accommodate, but operational requirements must be taken into consideration. Increasing the number of driven plates decreases the wear rate and hence the interval before the driven plates will require replacing, but will also increase the overall height, weight and the moment of inertia of the clutch package.

Clutch Type.			Diaphragm Spring Load Rating Nm (lbft)					
			GLD / D (Gold).	SLV / S (Silver).	CRV / C (Double Grey.	ORA / O (Orange).	GRN / N (Green).	GRY / G (Grey).
CONVENTIONAL PUSH	SINTERED	Ø115mm/3 Plate	878 (647)	664 (490)	499 (368)			
		Ø115mm/4 Plate	1014 (747)	882 (651)	676 (498)	588 (434)		
		Ø140mm Single Plate			210 (155)	157 (116)		
		Ø140mm/2 Plate			420 (310)	314 (232)		
		Ø140mm/3 Plate			630 (465)	471 (348)		
		Ø140mm 3 Plate 'I' Drive		870 (641)				
		Ø140mm/4 Plate			840 (620)	628 (464)		
		Ø184mm Single Plate A-Ring			424 (313)	266 (196)	164 (121)	
		Ø184mm Single Plate			424 (313)	266 (196)	164 (121)	
		Ø184mm 2 Plate A-Ring			848 (625)	532 (392)	327 (241)	
		Ø184mm 2 Plate			848 (625)	532 (392)	327 (241)	
		Ø140mm 2 Plate 'I' Drive			636 (469)			
		Ø184mm 3 Plate A-Ring			978 (721)	631 (465)	394 (291)	
		Ø184mm 3 Plate			1272 (938)	798 (588)	491 (362)	
	CERAMETALLIC	Ø140mm 2 Plate			398 (294	298 (220)		
		Ø184mm Single Plate			413 (305)	259 (191)	160 (118)	
		Ø184mm 2 Plate A-Ring			636 (469)	421 (310)	263 (194)	
		Ø184mm 2 Plate 'I' Drive			636 (469)			
		Ø184mm 2 Plate			636 (469)	421 (310)	263 (194)	
		Ø184mm 3 Plate			1257 (926)	789 (581)	485 (358)	
		Ø200mm Single Plate			343 (253)			301 (222)
		Ø215mm Single Plate			580 (427)			425 (314)
		Ø215mm 2 Plate			842 (621)			564 (416)
Pull		Ø140mm / 4 Plate 'I' Drive		1410 (1039)				

MAINTENANCE

Regular inspection and maintenance is essential to maintain optimum clutch performance. Excessive heat generation (often witnessed by discolouration of steel pressure plates) due to prolonged or repeated slip can result in loss of diaphragm spring load as well as driven plate damage. In such cases the clutch should be replaced or reconditioned. Pressure plate working faces should be checked for flatness using a straight edge and feeler gauge. 'Out of flat' pressure plates or driven plates can result in difficulties releasing the clutch and consequently drag. Pressure plates should be replaced when worn, or more than 0.10mm (0.004") out of flat. Replace driven plates if there are signs of damage or when thickness has been reduced to the figures given in the technical information for each individual clutch.

PART NUMBERS

A new part numbering system has been introduced on some of the clutch series in this catalogue. The table below provides a brief explanation of the make up of the numbers.

Clutch series No.

CP7372 - O E 90 - SF

Diaphragm Spring.	Ratio.	Driven Plate Type.	Flywheel Type.
D = (gold).	**E** = EHR (Extra High Ratio).	**80** = Cerametallic Style Assemblies 7.11mm Thick.	**SF** = Stepped Flywheel.
S = (Silver).			
C = CRV (Double grey).			
O = ORA (Orange).	**H** = HiR (High Ratio).	**90** = Sintered Style Assemblies 2.63mm Thick.	**FF** = Flat Flywheel.
N = GRN (Green).			
G = GRY (Grey).			

ORDERING

When ordering an AP Racing Clutch please quote the correct part number for the assembly required wherever possible.
The driven plate(s) must be ordered separately under their own part number. The types of driven plate design suitable for that particular race clutch assembly are detailed on pages 106 to 133.
However not all popular spline variations are listed in these sections, please refer to page 136, where a more comprehensive list of driven plate spline sizes can be found.
If the spline size you require does not appear in this list please contact AP Racing for information.

Examples & Explanation of Part Numbers:-

The Clutch Family Part No. — **CP2125** **A** **CRV** — Diaphragm Spring Rating

'A' appears only when an Aluminium Alloy cover is required
For a Steel cover no letter is required e.g. CP2125CRV

Visit www.apracing.com for full & up to date product range

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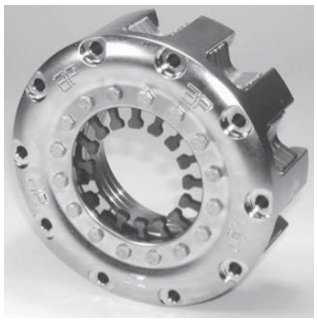
CP6073.

Ø115mm, 3 Plate, Sintered.



APPLICATIONS.

- **Indycar Series.**

FEATURES.

- **3 Plate.**
- **Push type.**
- **Stepped flywheel fixing.** - inner diameter location, with optional external spigot location.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Heavy duty.** - suitable for very high rpm engines.
- **Lightweight and durable.**
- **Low wear rate.**
- **Individually tested.** - match machined, balanced and clutch load and function.
- **CP4703 mounting studs available.**
- **Interchangeable with CP8153 Carbon/Carbon Clutch**

PART NUMBERS.

- CP6073-CE90-SF.
- CP6073-DS90-SF.
- CP6073-SE90-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP6073-DS90-SF	878Nm (647lbft)
	CP6073-SE90-SF	664Nm (490lbft)
	CP6073-CE90-SF	499Nm (368lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6073-DS90-SF	550daN	400daN
CP6073-SE90-SF	470daN	340daN
CP6073-CE90-SF	367daN	268daN
Set-up Height. (New)		
CP6073-DS90-SF	33.52mm / 32.38mm	
CP6073-SE90-SF	33.69mm / 32.11mm	
CP6073-CE90-SF	31.87mm / 30.63mm	
Set-up Height. (Worn)		
CP6073-DS90-SF	36.08mm	
CP6073-SE90-SF	35.93mm	
CP6073-CE90-SF	34.50mm	
Clutch "Wear In".		0.50mm
Weight. (including driven plates)		2.62Kg
Complete Assy Inertia.		0.0055Kgm²
Driven Plate & Hub Inertia.		0.0001Kgm²
Recommended Release Bearing.		CP3457-11

DRIVEN PLATES.

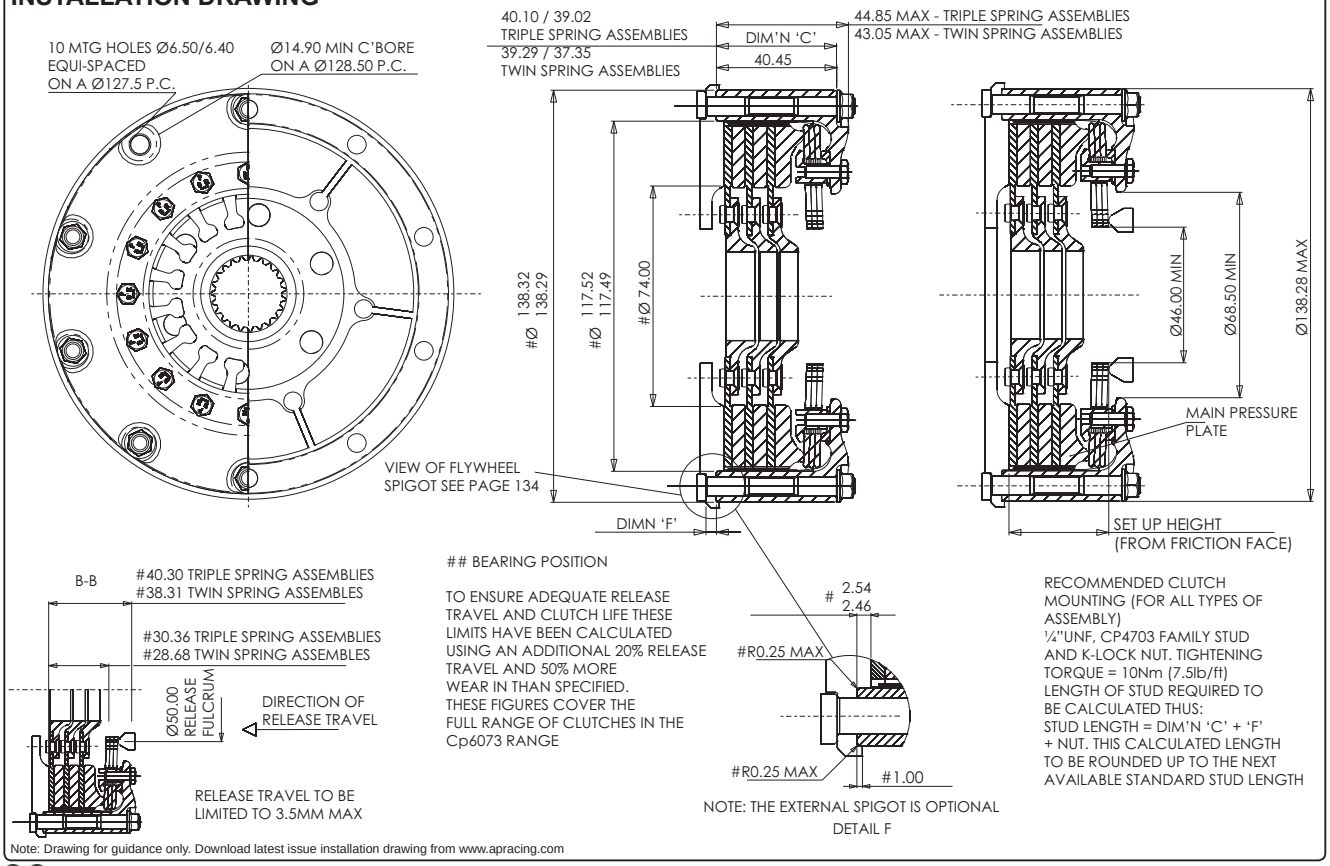
Thickness.	New = 2.63mm	Worn = 2.38mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP5004-6FM4 x 3	7/8" x 20
	CP5004-8FM4 x 3	1.16" x 26
Nested (Longer spline length)	CP6074-18 FM4 x 2 (offset hub).	1.16" x 26
	CP6074-19 FM4 x 1 (Flywheel side hub).	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP5303-102
Main Pressure Plate.	CP6074-125
Intermediate Pressure Plates.	CP6074-124

INSTALLATION DRAWING

View Drawing



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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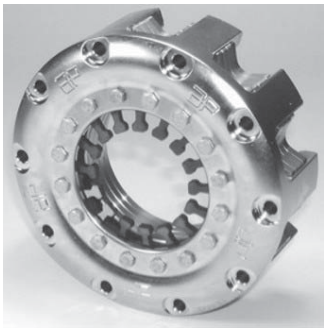
CP6074.

Ø115mm, 4 Plate, Sintered.



APPLICATIONS.

- **Indycar Series.**

FEATURES.

- **4 Plate.**
- **Push Type.**
- **Stepped flywheel fixing.** - inner diameter location, with optional external spigot location.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Heavy Duty.** - suitable for very high rpm engines.
- **Lightweight and durable.**
- **Low wear rate.**
- **Individually tested.** - match machined, balanced and clutch load and function.
- **CP4703 mounting studs available.**

PART NUMBERS.

- CP6074-CE90-SF.
- CP6074-DE90-SF.
- CP6074-SE90-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP6074-DE90-SF	1014Nm (747lbft)
	CP6074-SE90-SF	882Nm (651lbft)
	CP6074-CE90-SF	676Nm (498lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6074-DE90-SF	550daN	400daN
CP6074-SE90-SF	470daN	340daN
CP6074-CE90-SF	367daN	268daN
Set-up Height. (New)		
CP6074-DE90-SF	40.94mm / 39.56mm	
CP6074-SE90-SF	40.64mm / 39.25mm	
CP6074-CE90-SF	39.13mm / 37.78mm	
Set-up Height. (Worn)		
CP6074-DE90-SF	43.54mm	
CP6074-SE90-SF	43.25mm	
CP6074-CE90-SF	41.72mm	
Clutch "Wear In".		0.50mm
Weight. (including driven plates)		2.75Kg
Complete Assy Inertia.		0.0065Kgm²
Driven Plate & Hub Inertia.		0.00013Kgm²
Recommended Release Bearing.		CP3457-11

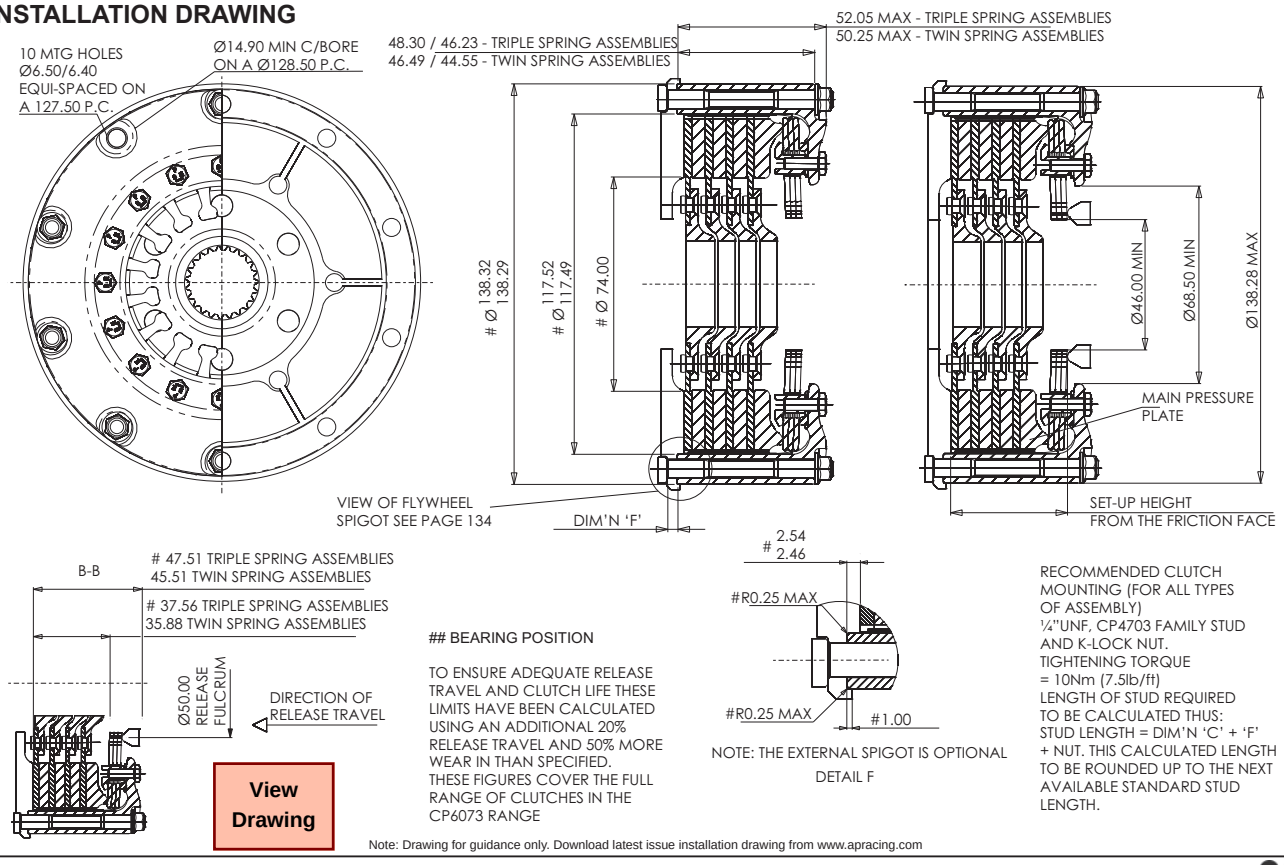
DRIVEN PLATES.

Thickness.	New = 2.63mm	Worn = 2.44mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP5004-6FM4 x 4	7/8" x 20
	CP5004-8FM4 x 4	1.16" x 26
Nested (Longer spline length)	CP6074-18 FM4 x 3 (offset hub).	1.16" x 26
	CP6074-19 FM4 x 1 (Flywheel side hub).	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP5304-104
Main Pressure Plate.	CP6074-125
Intermediate Pressure Plates.	CP6074-124

INSTALLATION DRAWING



View Drawing

BEARING POSITION

TO ENSURE ADEQUATE RELEASE TRAVEL AND CLUTCH LIFE THESE LIMITS HAVE BEEN CALCULATED USING AN ADDITIONAL 20% RELEASE TRAVEL AND 50% MORE WEAR IN THAN SPECIFIED. THESE FIGURES COVER THE FULL RANGE OF CLUTCHES IN THE CP6073 RANGE

RECOMMENDED CLUTCH MOUNTING (FOR ALL TYPES OF ASSEMBLY) ¼"UNF, CP4703 FAMILY STUD AND K-LOCK NUT. TIGHTENING TORQUE = 10Nm (7.5lb/ft) LENGTH OF STUD REQUIRED TO BE CALCULATED THUS: STUD LENGTH = DIM'N 'C' + 'F' + NUT. THIS CALCULATED LENGTH TO BE ROUNDED UP TO THE NEXT AVAILABLE STANDARD STUD LENGTH.

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Carbon/ Carbon Clutches

CP6001.

Ø140mm, Single Plate, Sintered.

APPLICATIONS.

- **General Use.**

FEATURES.

- **Single plate.**
- **Stepped or flat flywheel fixing.** - stepped is inner diameter location, with optional external spigot location.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**- match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**

PART NUMBERS.

- **For Stepped Flywheels.**
- CP6001-CH90-SF.
- CP6001-OH90-SF.
- **For Flat Flywheels.**
- CP6001-CH90-FF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP6001-CH90-SF	210Nm (155lbft)	
	CP6001-OH90-SF	157Nm (116lbft)	
Release Loads.		**Max peak worn.**	**At travel.**
CP6001-CH90-SF		450daN	300daN
CP6001-OH90-SF		375daN	250daN
Set-up Height. (New)	CP6001-CH90-SF	21.63mm	
	CP6001-OH90-SF	21.37mm	
Set-up Height. (Worn)	CP6001-CH90-SF	24.35mm	
	CP6001-OH90-SF	24.13mm	
Clutch "Wear In".		0.75mm	
Weight. (including driven plates)		1.8Kg	
Complete Assy Inertia.		0.00615Kgm²	
Driven Plate & Hub Inertia.		0.00065Kgm²	
Recommended Release Bearings.	Outer race rotates	CP3457-1 or -9	
	Inner race rotates	CP3457-11	

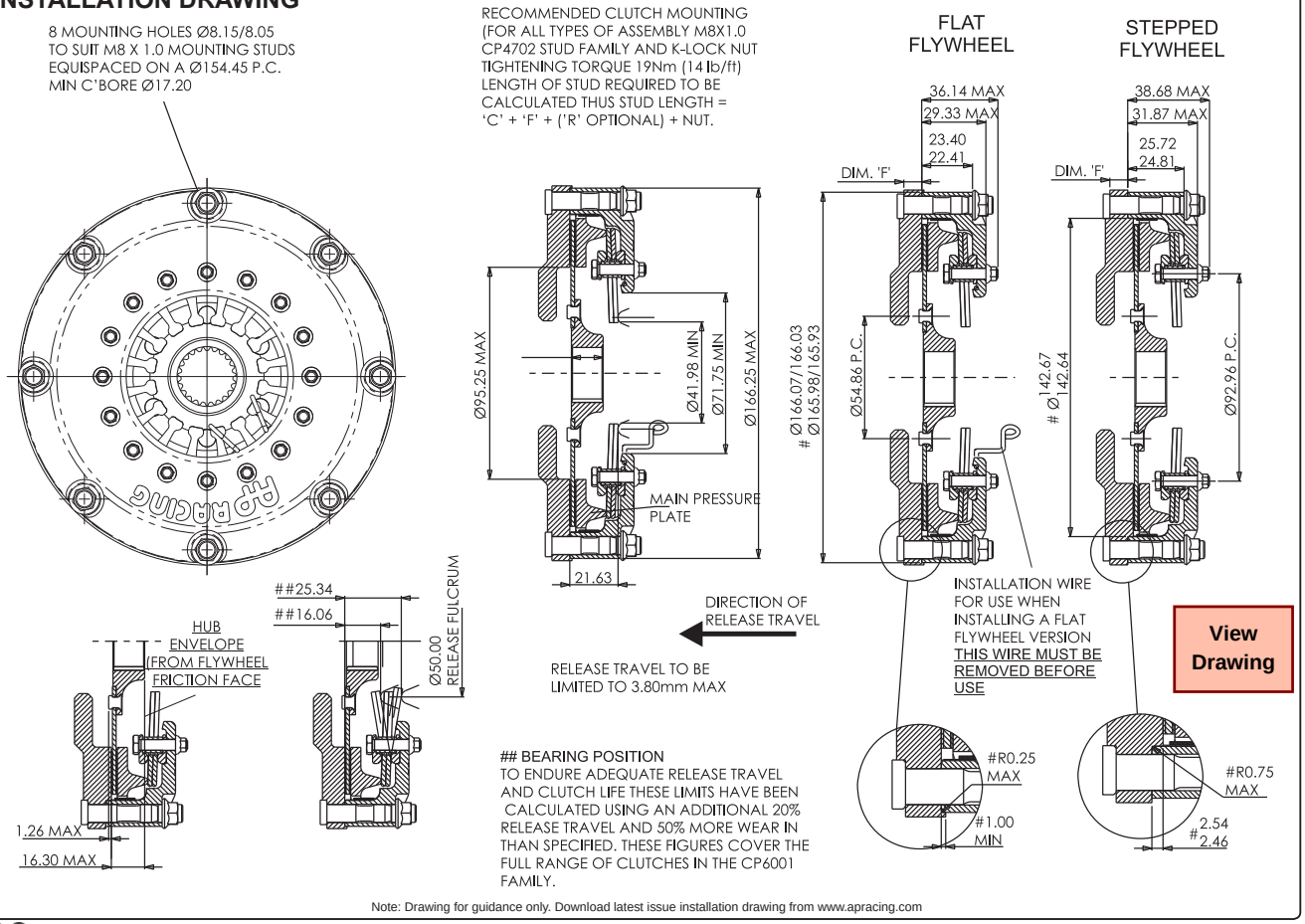
DRIVEN PLATES.

Thickness.	New = 2.63mm	Worn = 1.84mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back. Extended nose length.	CP3407-36FM3 x 1	1.00" x 23
	CP3407-26FM3 x 1	7/8" x 20
	CP3407-8FM3 x 1	29.0mm x 10
	CP3407-40FM3 x 1	1.16" x 26
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP6001-102
Main Pressure Plate.	CP4124-103

INSTALLATION DRAWING



View Drawing

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CP6002.

Ø140mm, 2 Plate, Sintered.

APPLICATIONS.

- **General Use.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Stepped or flat flywheel fixing.** - stepped is inner diameter location, with optional external spigot location.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.** - match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**

PART NUMBERS.

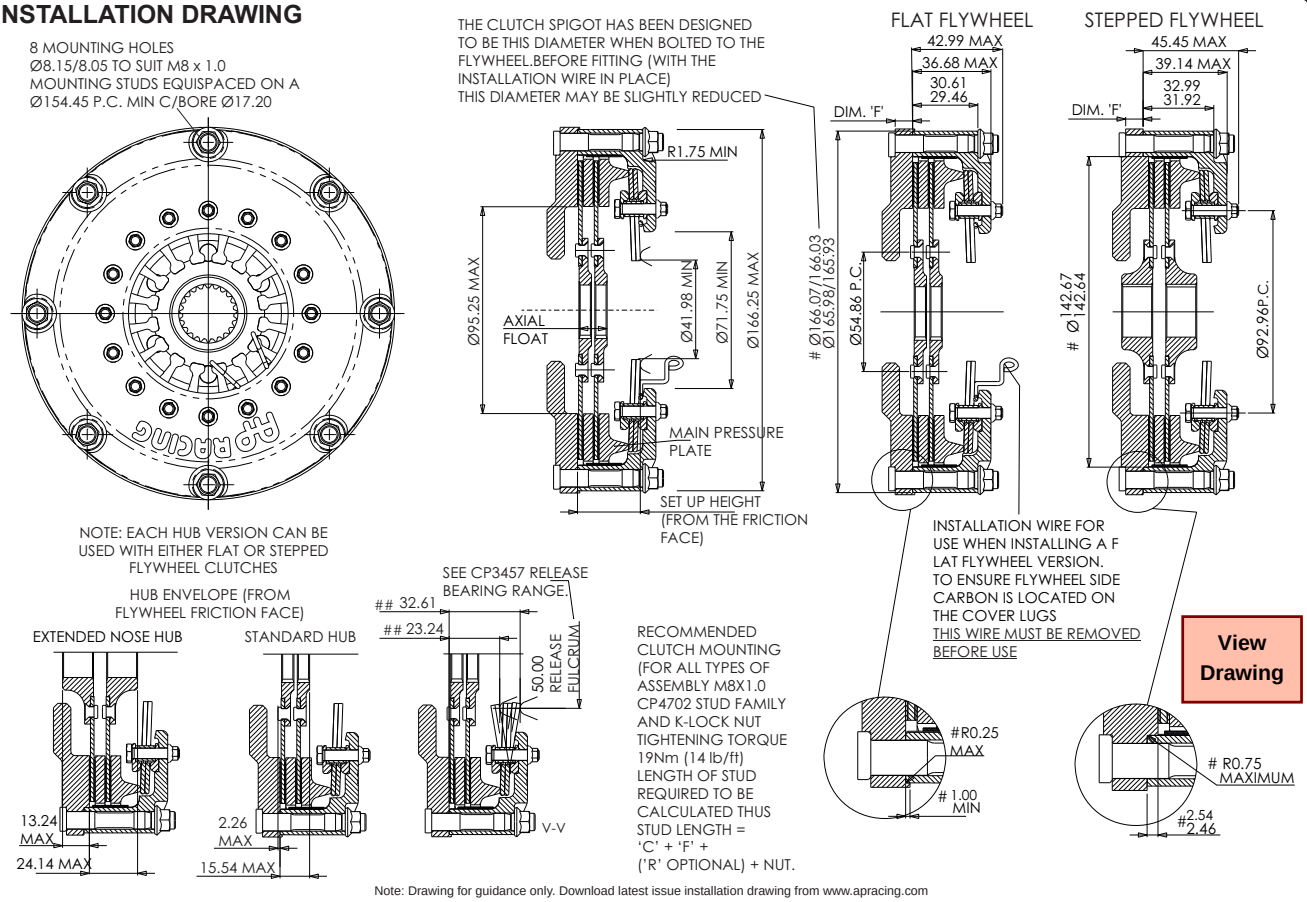
- **For Stepped Flywheels.**
- CP6002-CH90-SF.
- CP6002-OH90-SF.
- CP6002-BH90-SF.
- **For Flat Flywheels.**
- CP6002-CH90-FF.

TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP6002-CH90-SF	420Nm (310lbft)
	CP6002-OH90-SF	314Nm (232lbft)
	CP6002-BH90-SF	218Nm (161lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6002-CH90-SF	450daN	300daN
CP6002-OH90-SF	375daN	250daN
CP6002-BH90-SF	210daN	140daN
Set-up Height. (New)		
CP6002-CH90-SF	28.83mm	
CP6002-OH90-SF	28.57mm	
CP6002-BH90-SF	26.80mm	
Set-up Height. (Worn)		
CP6002-CH90-SF	31.58mm	
CP6002-OH90-SF	31.32mm	
CP6002-BH90-SF	29.56mm	
Clutch "Wear In".		0.75mm
Weight. (including driven plates)		2.50Kg
Complete Assy Inertia.		0.0086Kgm²
Driven Plate & Hub Inertia.		0.00013Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-1 or -9
	Inner race rotates	CP3457-11

DRIVEN PLATES.		
Thickness.	New = 2.63mm	Worn = 2.21mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP3414-18FM3 x 2	7/8" x 20
	CP3414-10FM3 x 2	1.00" x 23
Back to Back (Extended nose length)	CP3407-26FM3 x 2	7/8" x 20
	CP3407-36FM3 x 2	1.00" x 23
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Clips.	CP6002-102
Main Pressure Plate.	CP4124-103
Intermediate Pressure Plates.	CP4124-102

INSTALLATION DRAWING



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METALLIC RACE CLUTCH - Ø140mm - CP6003

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CP6003.

Ø140mm, 3 Plate, Sintered.

APPLICATIONS.

- **General Use.**

FEATURES.

- **3 Plate.**
- **Push type.**
- **Stepped or flat flywheel fixing.** - stepped is inner diameter location, with optional external spigot location.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.** - match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**

PART NUMBERS.

- **For Stepped Flywheels.**

- CP6003-CH90-SF.
- CP6003-OH90-SF.

- **For Flat Flywheels.**

- CP6003-CH90-FF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP6003-CH90-SF	630Nm (465lbft)
	CP6003-OH90-SF	471Nm (348lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6003-CH90-SF	450daN	300daN
CP6003-OH90-SF	375daN	250daN
Set-up Height. (New)	CP6003-CH90-SF	36.04mm
	CP6003-OH90-SF	35.78mm
Set-up Height. (Worn)	CP6003-CH90-SF	38.85mm
	CP6003-OH90-SF	38.59mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)		3.3Kg
Complete Assy Inertia.		0.0102Kgm²
Driven Plate & Hub Inertia.		0.00196Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-1 or -9
	Inner race rotates	CP3457-11

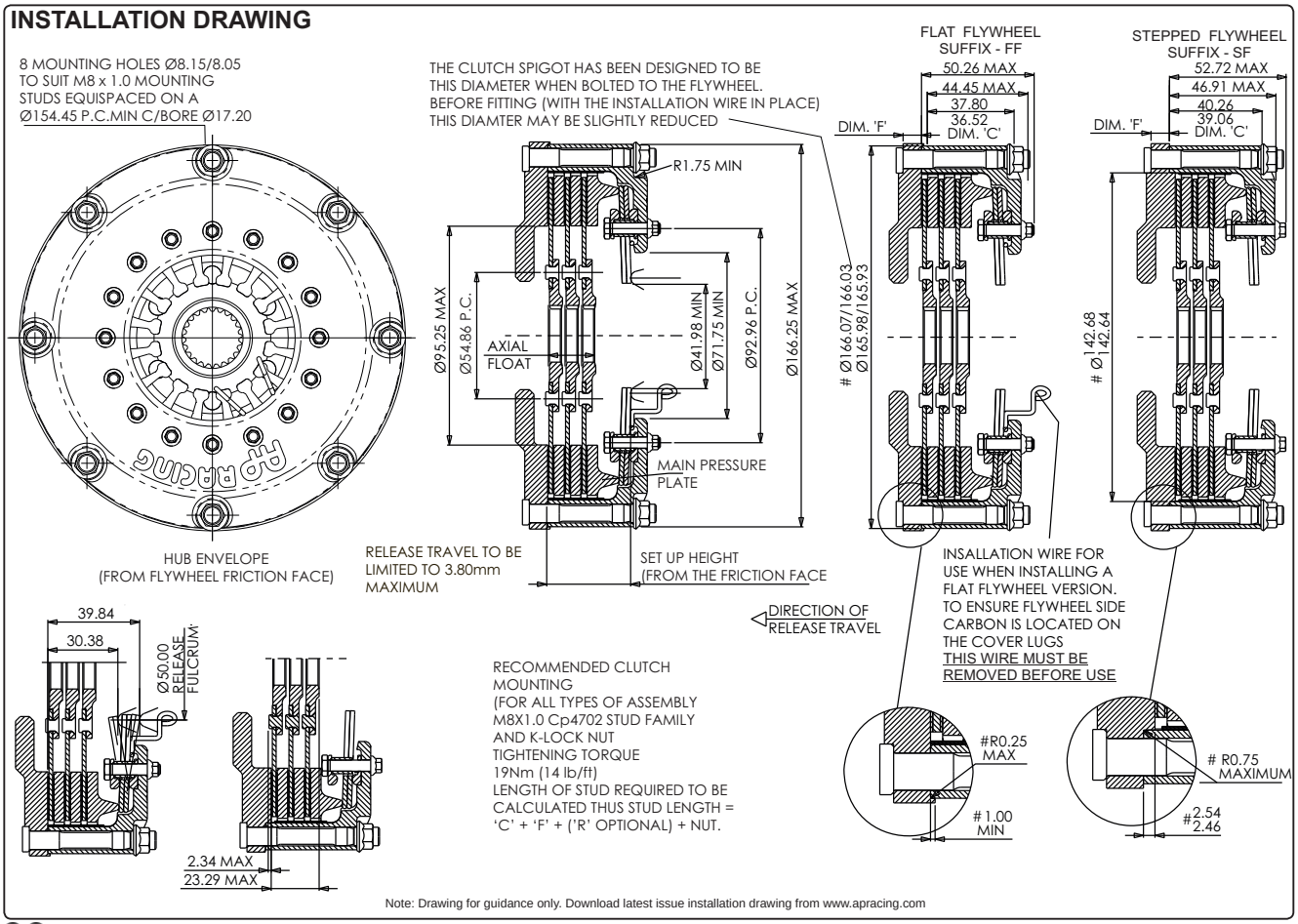
DRIVEN PLATES.

Thickness.	New = 2.63mm	Worn = 2.34mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP3414-10FM3 x 3	1.00" x 23
	CP3414-18FM3 x 3	7/8" x 20
	CP3414-19FM3 x 3	1.16" x 26
	CP3414-37FM3 x 3	1.25" x 10
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP4073-123
Main Pressure Plate.	CP4124-103
Intermediate Pressure Plates.	CP4124-102

INSTALLATION DRAWING



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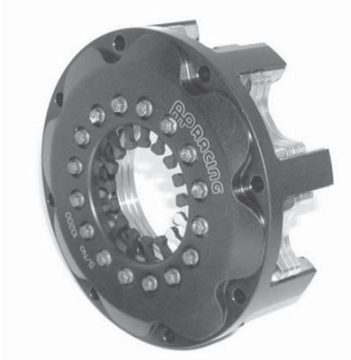
CP6013.

Ø140mm, 3 Plate, Sintered.



APPLICATIONS.

- **Endurance.**

FEATURES.

- **3 Plate.**
- **Push type.**
- **Stepped flywheel fixing.** - inner diameter location, with optional external spigot location.
- **Heavy duty.** - large area facings.
- **One piece cover and lugs.** - machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.
- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.** - match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**
- **Supercedes CP4123 & CP4073 clutch families.**

Note - 'I' Drive option available as a direct replacement for CP6013 under CP8333 part number family.

PART NUMBERS.

- **3 Plate Clutch Stepped flywheel.**

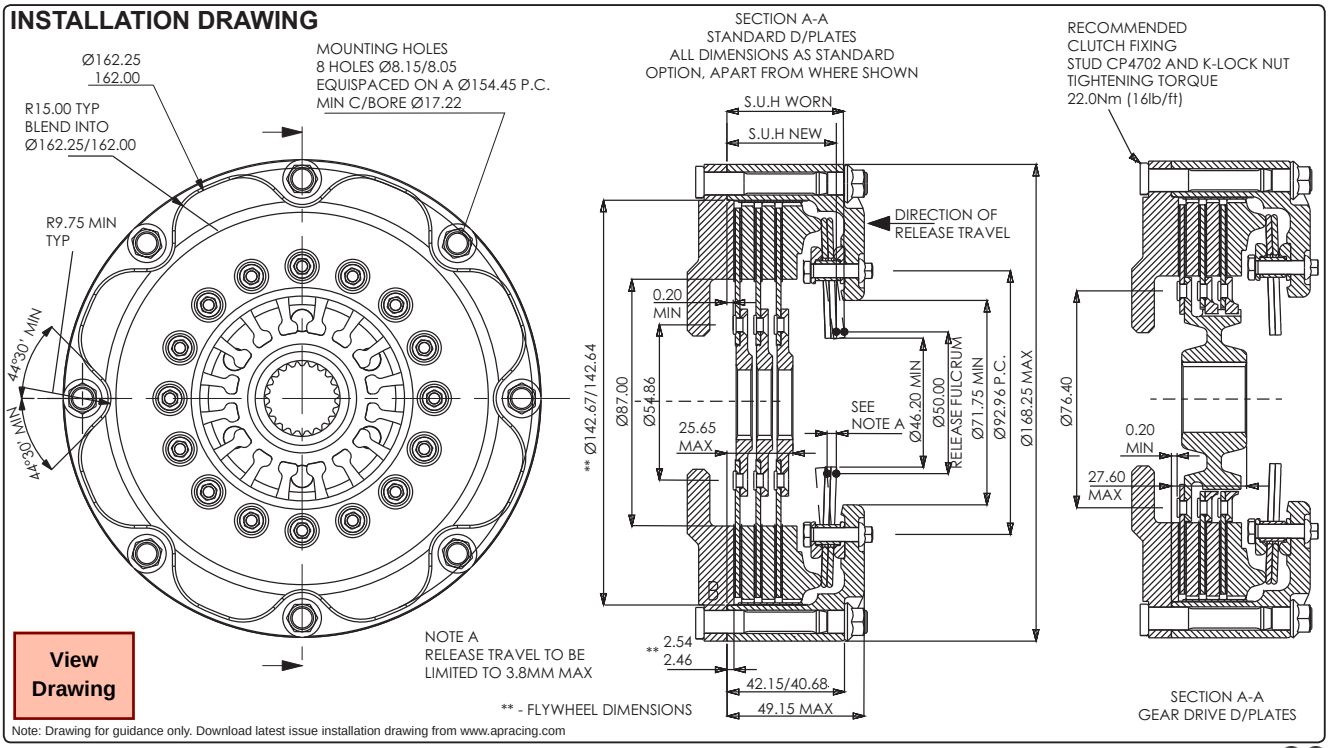
- CP6013-CH90-SF.
- CP6013-OH90-SF.

TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP6013-CH90-SF	603Nm (444bft)
	CP6013-OH90-SF	450Nm (322lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6013-CH90-SF	540daN	300daN
CP6013-OH90-SF	400daN	250daN
Set-up Height. (New)	CP6013-CH90-SF	39.37 / 37.70mm
	CP6013-OH90-SF	39.11 / 37.44mm
Set-up Height. (Worn)	CP6013-CH90-SF	42.01mm
	CP6013-OH90-SF	41.75mm
Clutch "Wear In" - CP6013-CH		1.00mm
Clutch "Wear In" - CP6013-OH		0.75mm
Weight. (including driven plates)	Back to Back	3.63Kg
	Gear Driven	3.78Kg
Complete Assy Inertia.	Back to Back	0.01264Kgm²
	Gear Driven	0.01287Kgm²
Driven Plate & Hub Inertia.	Back to Back	0.0020Kgm²
	Gear Driven	0.0022Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-1
	Inner race rotates	CP3457-11

DRIVEN PLATES.		
Thickness - For 1mm 'Wear In'	New = 2.63mm	Worn = 2.29mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back. (Large area)	CP3683-3FM3 x 3	1.00" x 23
	CP3683-4FM3 x 3	7/8" x 20
Back to Back. (Longer spline length)	CP6014-9 FM3 x 2 (offset hub).	1.16" x 26
	CP6014-10 FM3 x 1 (Flywheel side hub).	
Gear Driven.	CP4073-4FM3 x 1 (hub)	1.00" x 23
	CP4074-6FM3 x 2 Slider plates.	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Clips.	CP4073-123
Main Pressure Plate.	CP4074-104
Intermediate Pressure Plates.	CP4074-103

INSTALLATION DRAWING



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CP6014.

Ø140mm, 4 Plate, Sintered.

APPLICATIONS.

- **Endurance.**

FEATURES.

- **4 Plate.**
- **Push type.**
- **Stepped flywheel fixing.**

- inner diameter location, with optional external spigot location.

- **Heavy duty.**

- large area facings.

- **One piece cover and lugs.**

- machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.

- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**

- match machined, balanced and clutch load and function.

- **CP4702 mounting studs available.**
- **Supercedes CP4124 & CP4074 clutch families.**

PART NUMBERS.

- **3 Plate Clutch Stepped flywheel.**

- CP6014-CH90-SF.
- CP6014-OH90-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP6014-CH90-SF	804Nm (592lbft)
	CP6014-OH90-SF	600Nm (442lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6014-CH90-SF	540daN	300daN
CP6014-OH90-SF	400daN	250daN
Set-up Height. (New)	CP6014-CH90-SF	46.64 / 44.84mm
	CP6014-OH90-SF	46.38 / 44.58mm
Set-up Height. (Worn)	CP6014-CH90-SF	49.28mm
	CP6014-OH90-SF	49.02mm
Clutch "Wear In" - CP6014-CH		1.00mm
Clutch "Wear In" - CP6014-OH		0.75mm
Weight. (including driven plates)	Back to Back	4.4Kg
	Gear Driven	4.7Kg
Complete Assy Inertia.	Back to Back	0.015112Kgm²
	Gear Driven	0.015745Kgm²
Driven Plate & Hub Inertia.	Back to Back	0.002615Kgm²
	Gear Driven	0.002930Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-1 or -9
	Inner race rotates	CP3457-11

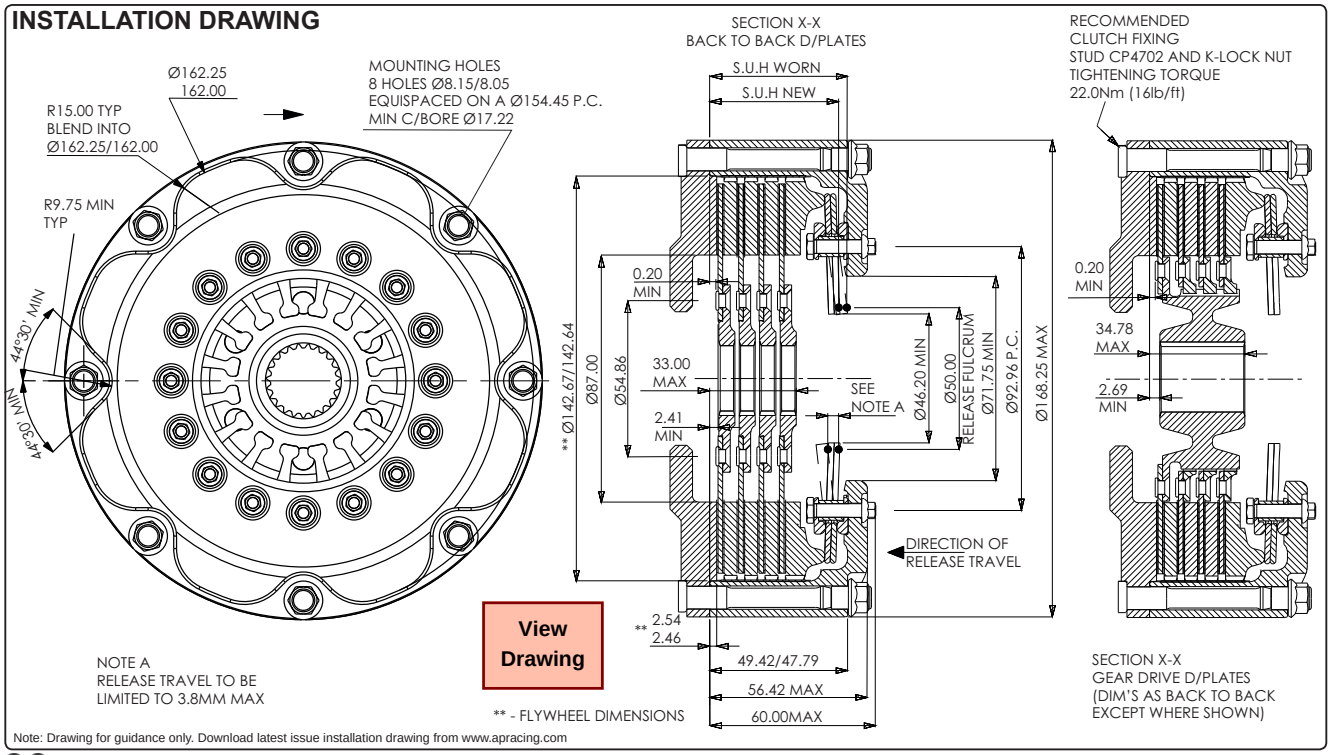
DRIVEN PLATES.

Thickness - For 1mm 'Wear In'	New = 2.63mm	Worn = 2.38mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back. (Large area)	CP3683-3FM3 x 4	1.00" x 23
	CP3683-4FM3 x 4	7/8" x 20
Back to Back. (Longer spline length)	CP6014-9 FM3 x 3 (offset hub).	1.16" x 26
	CP6014-10 FM3 x 1 (Flywheel side hub).	
Gear Driven.	CP4074-2FM3 x 1 (hub)	1.00" x 23
	CP4074-6FM3 x 3 Slider plates.	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP4074-129
Main Pressure Plate.	CP4074-104
Intermediate Pressure Plates.	CP4074-103

INSTALLATION DRAWING



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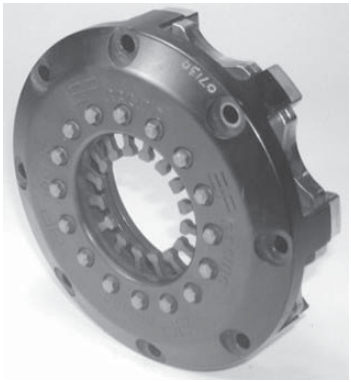
CP6092.

Ø140mm, 2 Plate, Cerametallic Paddle.



APPLICATIONS.

- **Rally.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Flat flywheel fixing.**

- outer diameter location.

- **One piece cover and lugs.**

- machined from billet. Provides rigidity and strength and cooler running, allows dust and debris to escape.

- **Heavy duty.**

- 3 paddle sintered driven plates, 6.25mm thick.

- **Black hard anodised.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**

- match machined, balanced and clutch load and function.

- **CP4702 mounting studs available.**
- **Replaces CP5682 series.**
- **Note: Step flywheel fixing option available under Part Number, CP6092-CH83-SF.**

PART NUMBERS.

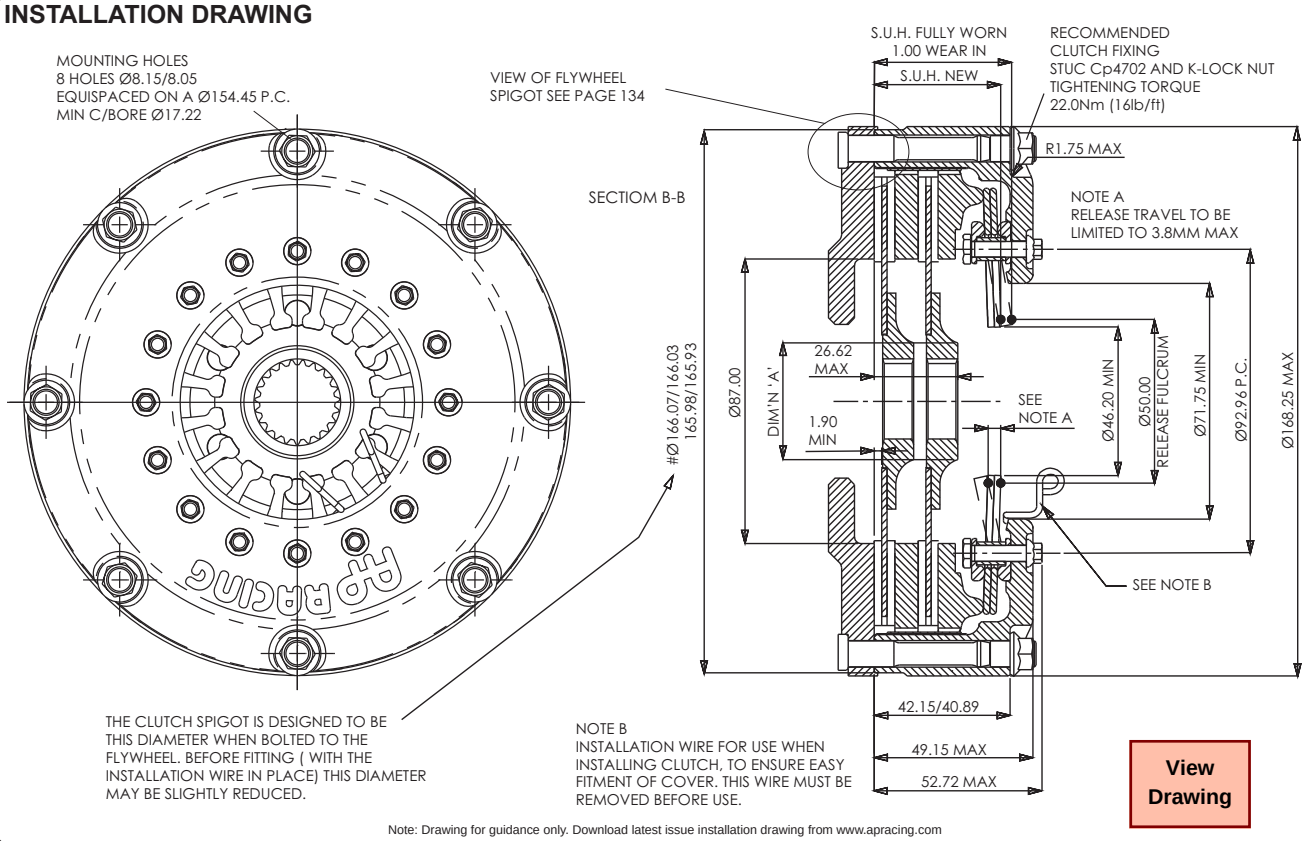
- CP6092ACRV.
- CP6092AORA.

TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP6092ACRV	398Nm (294lbft)
	CP6092AORA	298Nm (220lbft)
Release Loads.	**Max peak worn.**	**At travel.**
CP6092ACRV	450daN	300daN
CP6092AORA	375daN	250daN
Set-up Height. (New)		
CP6092ACRV	39.37mm / 37.91mm	
CP6092AORA	39.11mm / 37.65mm	
Set-up Height. (Worn)		
CP6092ACRV	42.01mm	
CP6092AORA	41.75mm	
Clutch "Wear In".		1.00mm
Weight. (including driven plates)		3.3Kg
Complete Assy Inertia.		0.01155Kgm²
Driven Plate & Hub Inertia.		0.00180Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-1 or -9
	Inner race rotates	CP3457-11

DRIVEN PLATES.		
Thickness.	New = 6.25mm	Worn = 5.71mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP4581-4 x 2	1.00" x 23
	CP4581-5 x 2	7/8" x 20
	CP4581-3 x 2	1.16" x 26
	CP4581-6 x 2	29.0mm x 10
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Clips.	CP4073-123
Main Pressure Plate.	CP4074-104
Intermediate Pressure Plates.	CP6092-102

INSTALLATION DRAWING



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CP8773.

Ø140mm, 'I' Drive, 12 Bolt, Push Type.

APPLICATIONS.

- **Endurance**

FEATURES.

- **Asymmetric designed cover.**
  - offers 10% reduction in weight and increased stiffness compared to the more conventional cover designs.
- **Benefits from a drive system, featuring drive tenons, which locate into internal jaws of the lugs.**
  - five times more durable than conventional clutch design when subjected to the same test parameters.
  - eradicates distorting of pressure plates trapping on lugs.
- **Push type.**
- **Stepped flywheel fixing.**
  - Inner diameter location.
- **12 bolt, one piece forged cover and lugs.**
  - machined from Aluminium alloy. Allows dust and debris to escape.
- **Black hard anodised.**
- **Innovative wear plate design fitted.**
  - combats wear on the drive lugs.
- **Very low wear rate.**
- **Individually tested**
- **Match machined, balanced and clutch load recorded**
  - Mounting studs available, CP4703.

Note: Alternative 'I' Drive Clutch.

Non preferred 6 bolt 'I' Drive clutch available CP8333 family. Interchangeable with CP6013 standard lug type clutch.

PART NUMBERS.

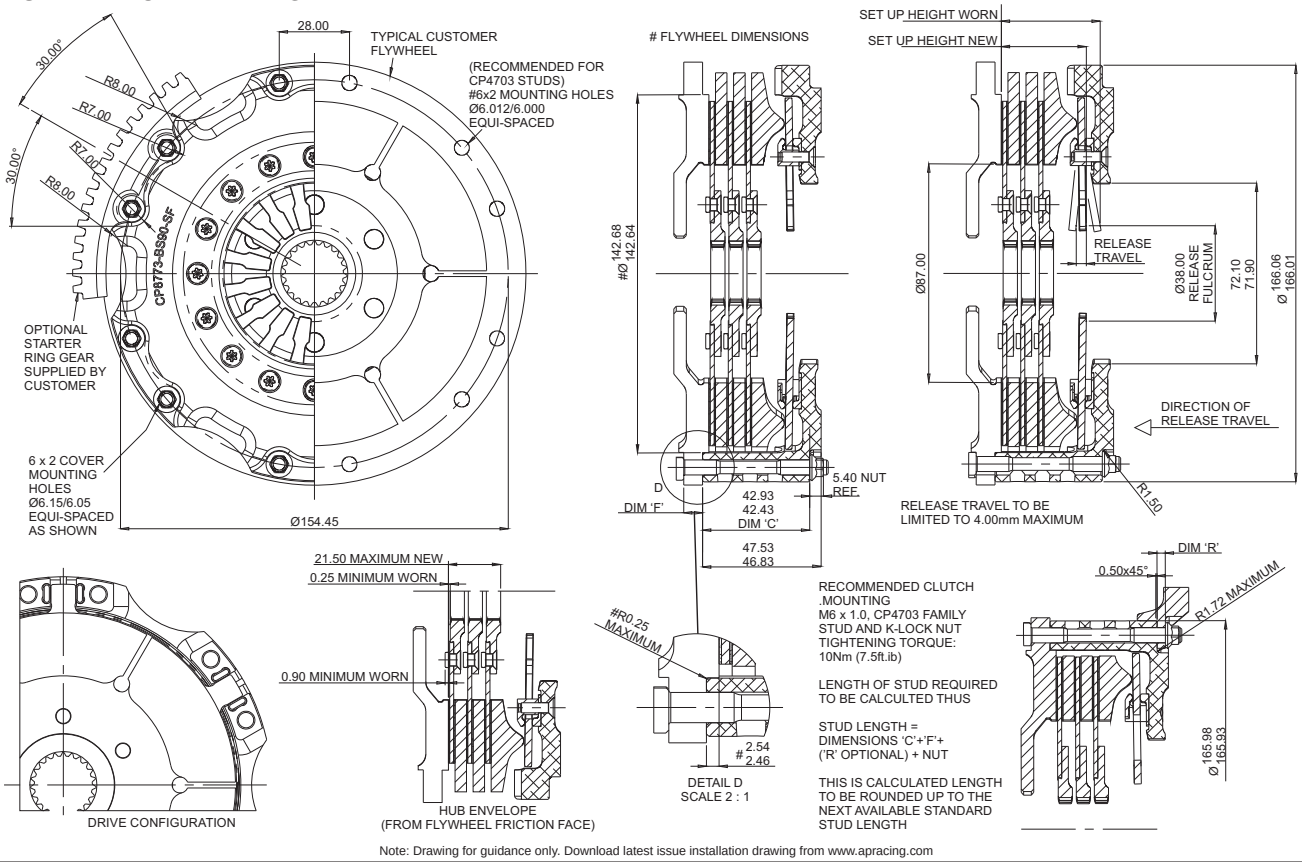
- CP8773-BS90-SF

TECHNICAL SPECIFICATIONS		
Torque Capacity.		870Nm (641lbft)
Release Loads.		
Max peak worn.		450daN
At travel.		360daN
Set-up Height. (New)		35.93 / 32.37mm
Set-up Height. (Worn)		39.50mm
Clutch "Wear In".		0.75mm
Release Ratio		4.58
Estimated Weight. (including driven plates)		3.05Kg
Estimated Assembly Inertia.		0.009877Kgm²
Estimated Driven Plate & Hub Inertia.		0.0020Kgm²
Recommended High Speed Release Bearings.	Inner race rotates	CP3457-16

DRIVEN PLATES.		
Thickness.	New = 2.63mm	Worn = 2.21mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Sintered Back to Back.	CP3683-3FM3 x 3	1.00" x 23
	CP3683-4FM3 x 3	7/8" x 20
	CP3683-12FM3 x 3	1.16" x 26
	CP3683-13FM3 x 3	29.0mm x 10
	CP3683-5FM3 x 3	1.125" x 10
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Plates x 12.	CP8493-109
Main Pressure Plate.	CP8773-102
Intermediate Pressure Plates.	CP8773-103

INSTALLATION DRAWING



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CP8804.

Ø140mm, 'I' Drive, 12 Bolt, Pull Type.

APPLICATIONS.

- **Endurance**

FEATURES.

- **4 Plate.**
- **Asymmetric designed cover.**
  - offers 10% reduction in weight and increased stiffness compared to the more conventional cover designs.
- **Benefits from a drive system, featuring drive tenons, which locate into internal jaws of the lugs.**
  - five times more durable than conventional clutch design when subjected to the same test parameters.
  - eradicates distorting of pressure plates trapping on lugs.
- **Pull type configuration.**
  - Increased efficiency in terms of clamp and release loads.
- **Flat flywheel fixing.**
  - outer diameter location.
- **12 bolt, one piece cover and lugs.**
  - machined from Steel. Allows dust and debris to escape.
- **Black hard anodised.**
- **Innovative wear plate design fitted.**
  - combats wear on the drive lugs.
- **Very low wear rate.**
- **Individually tested**
- **Match machined, balanced and clutch load recorded**
  - Mounting studs available, CP4703.
- **3 Plate assembly available under part number family CP8803.**

PART NUMBERS.

- CP8804-OH90-FF

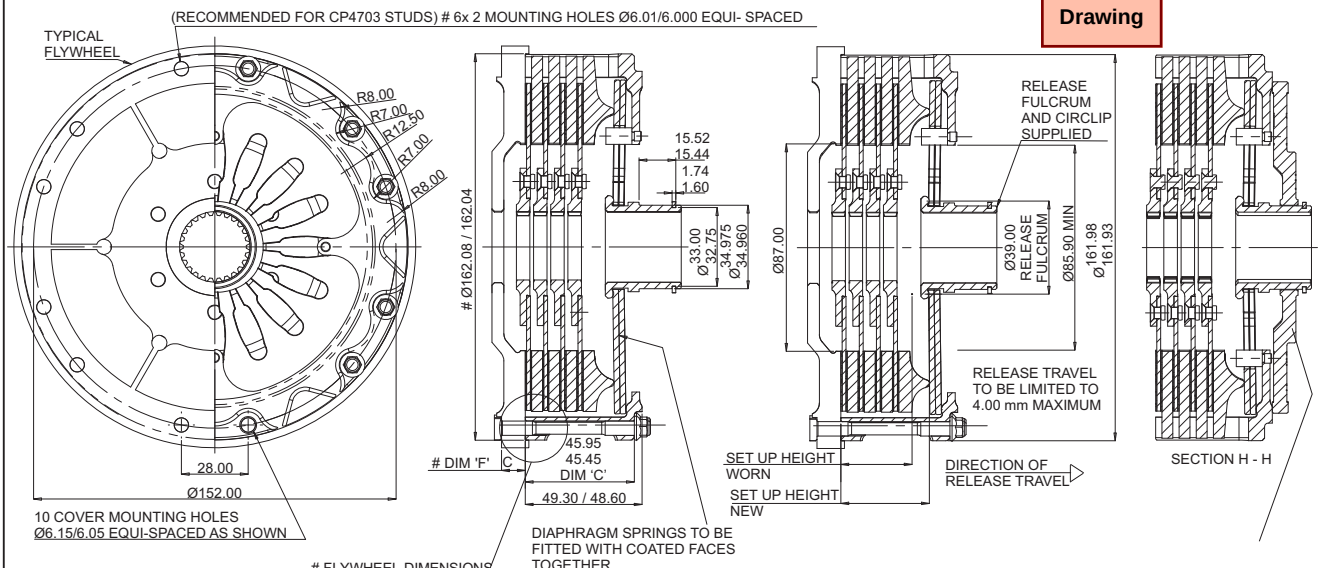
TECHNICAL SPECIFICATIONS	
Torque Capacity.	1410Nm (1039lbft)
Release Loads.	
Max peak worn.	570daN
At travel.	400daN
Set-up Height. (New)	39.19 / 35.95mm
Set-up Height. (Worn)	29.33mm
Clutch "Wear In".	1.50mm
Release Ratio	4.41
Estimated Weight. (including driven plates)	4.00Kg
Estimated Assembly Inertia.	0.0013353Kgm²
Estimated Driven Plate & Hub Inertia.	0.0024175Kgm²
Optional Slave Cylinder.	CP6245-7

DRIVEN PLATES.		
Thickness.	New = 2.63mm	Worn = 2.26mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Sintered Back to Back.	CP3683-3FM3 x 4	1.00" x 23
	CP3683-4FM3 x 4	7/8" x 20
	CP3683-12FM3 x 4	1.16" x 26
	CP3683-13FM3 x 4	29.0mm x 10
	CP3683-5FM3 x 4	1.125" x 10
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Main Pressure Plate.	CP8803-102
Intermediate Pressure Plates.	CP8773-103

INSTALLATION DRAWING

View Drawing



RECOMMENDED CLUTCH MOUNTING M6 x 1.0, CP4703 FAMILY STUD AND K-LOCK NUT TIGHTENING TORQUE: 10Nm (7.5ft.ib)

LENGTH OF STUD REQUIRED TO BE CALCULTED THUS

STUD LENGTH = DIMENSIONS 'C'+'F'+ ('R' OPTIONAL) + NUT

THIS IS CALCULATED LENGTHTO BE ROUNDED UP TO THE NEXT AVAILABLE STANDARD STUD LENGTH

THIS ASSEMBLY IS SUPPLIED NEW WITH AN INSTALLATION PLATE AS SHOWN. THIS IS TO ALLOW THE ASSEMBLY TO BOLTED TO THE FLYWHEEL WITHOUT DAMAGING ANY OF THE CLUTCH COMPONENTS.

AFTER BOLTING THE CLUTCH TO THE FLYWHEEL REMOVE THE CIRCLIP AND INSTALLATION PLATE AND RETAIN FOR USE WHEN REMOVING THE ASSEMBLYFROM THE FLYWHEEL.

NOTE WHEN REMOVING A WORN CLUTCH ASSEMBLY THE INSTALLATION PLATE IS TO BE FITTED WITH THE 'WORN CONDITION - THIS SIDE UP' INSTRUCTION ON THE OUTSIDE

WHEN RETURNING THIS CLUTCH ASSEMBLY BACK TO AP RACING FOR RECONDITIONING PLEASE RETURN WITH INSTALLATION PLATE FITTED.

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Carbon/ Carbon Clutches

CP2116.

Ø184mm, Single Plate, A-Ring Sintered.

APPLICATIONS.

- **Rally.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Adaptor ring clutch.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **6 bolt cover.**
- Steel or Aluminium alloy options.
- **For high torque applications use CP4429 sintered plate.**
- **for other applications use CP2012 sintered plate.**
- **Normal duty.**
- **Durable.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 14000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- **Aluminium alloy cover.**
- CP2116ACRV.
- CP2116AORA.
- CP2116AGRN.
- **Steel cover.**
- CP2116CRV.
- CP2116ORA.
- CP2116GRN.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP2116ACRV	424Nm (313lbft)
	CP2116AORA	266Nm (196lbft)
	CP2116AGRN	164Nm (121lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP2116ACRV	350daN	440daN
CP2116AORA	240daN	330daN
CP2116AGRN	160daN	220daN
Set-up Height. (New)	CP2116ACRV	23.21 / 20.82mm
	CP2116AORA	23.46 / 21.06mm
	CP2116AGRN	22.63 / 20.25mm
Set-up Height. (Worn)	CP2116ACRV	25.72mm
	CP2116AORA	25.97mm
	CP2116AGRN	25.15mm
Clutch "Wear In".		1.00mm
Weight. (including driven plates)	Aluminium cover	2.77Kg
	Steel cover	3.07Kg
Complete Assy Inertia.	Aluminium cover	0.016Kgm²
	Steel cover	0.018Kgm²
Driven Plate & Hub Inertia.		0.0018Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

Thickness.	New = 2.63mm	Worn = 1.88mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Sintered.	CP2012-165FM3 x 1	1.00" x 23
	CP2012-166FM3 x 1	7/8" x 20
Sintered Paddle	CP4429-4FM3 x 1	1.00" x 23
	CP4429-3FM3 x 1	7/8" x 20

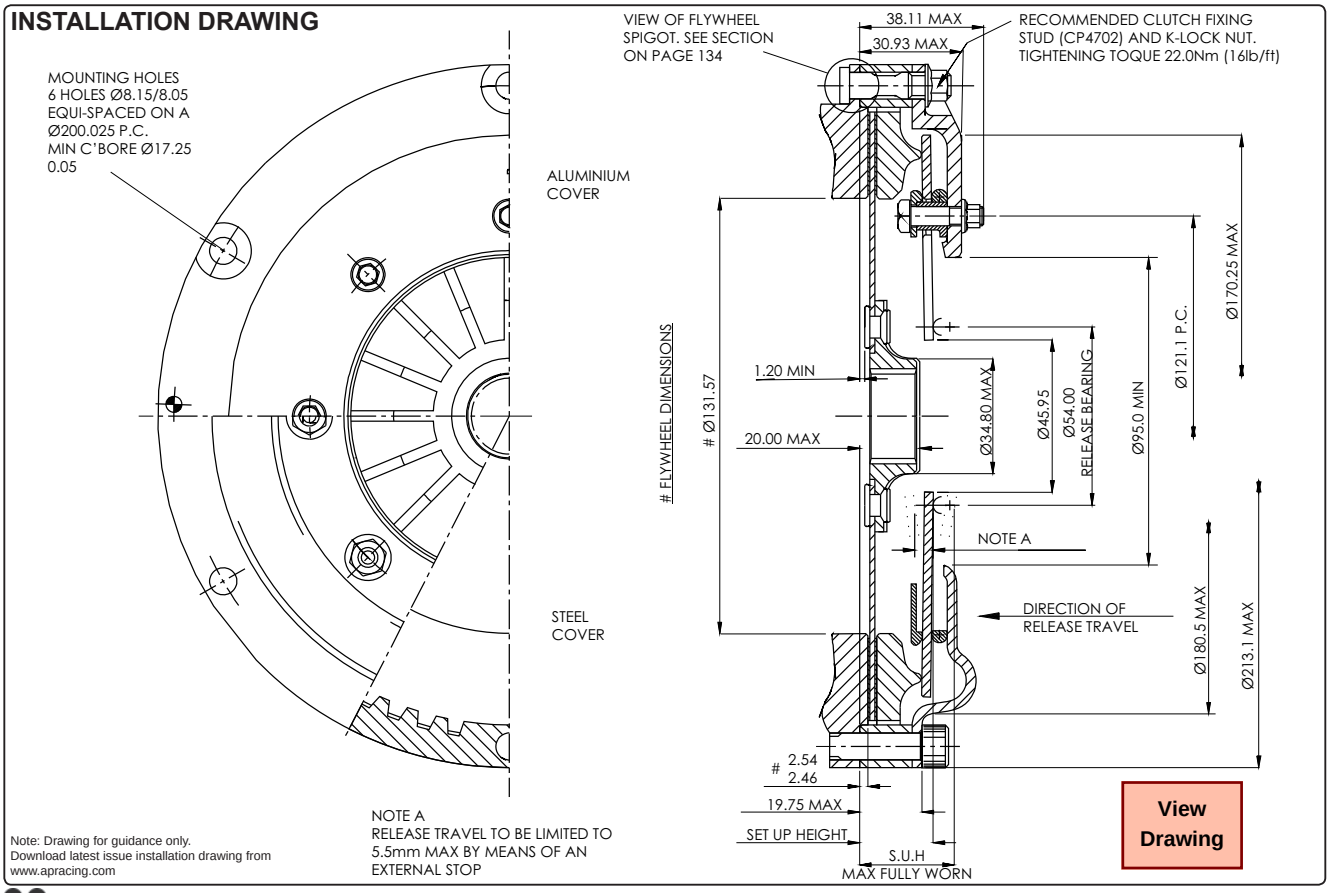
Other splines available see page 136.

Note: Clutch supplied less driven plates. Order Separately.

SPARE PARTS.

A-Ring Assembly.	CP2011-62
Main Pressure Plate.	CP2616-103

INSTALLATION DRAWING



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Release Bearings
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Carbon/ Carbon Clutches

CP7371.

Ø184mm, Single Plate, Sintered.

APPLICATIONS.

- **Race.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **For high torque applications use CP4429 sintered plate.**
- **for other applications use CP2012 sintered plate.**
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP7371-CE90-SF.
- CP7371-OE90-SF.
- CP7371-NE90-SF.

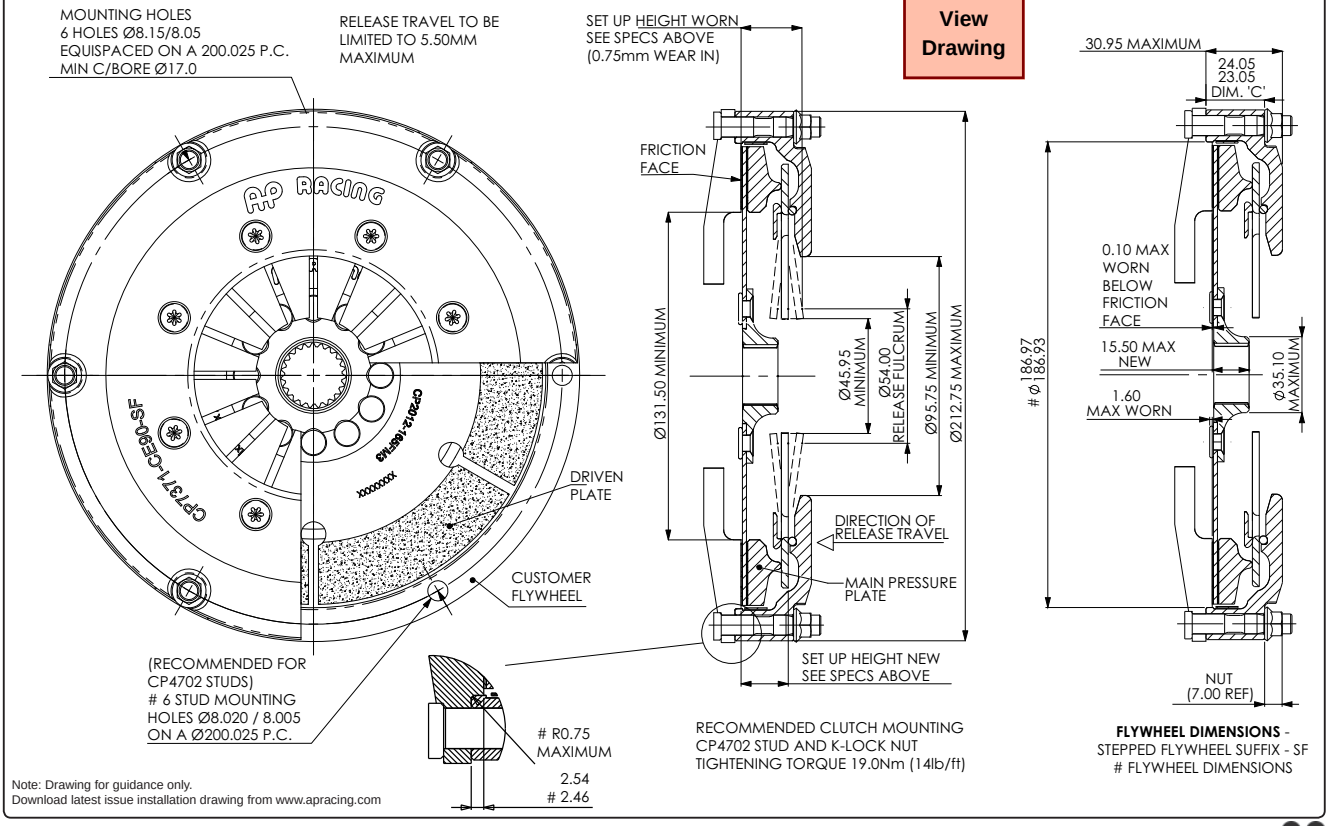
TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP7371-CE90-SF	424Nm (313lbft)
	CP7371-OE90-SF	266Nm (196lbft)
	CP7371-NE90-SF	164Nm (121lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7371-CE90-SF	350daN	440daN
CP7371-OE90-SF	240daN	330daN
CP7371-NE90-SF	160daN	220daN
Set-up Height. (New)		
CP7371-CE90-SF	21.30mm / 19.05mm	
CP7371-OE90-SF	22.10mm / 19.81mm	
CP7371-NE90-SF	21.28mm / 19.01mm	
Set-up Height. (Worn)		
CP7371-CE90-SF	24.52mm	
CP7371-OE90-SF	25.31mm	
CP7371-NE90-SF	24.50mm	
Clutch "Wear In".		0.75mm
Weight. (excluding driven plates)		2.16Kg
Assembly Inertia.(excl. driven plates)		0.0135Kgm²
CP2012 Type - Driven Plate & Hub Inertia.		0.0018Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 2.63mm	Worn = 1.88mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Sintered.	CP2012-165FM3 x 1	1.00" x 23
	CP2012-166FM3 x 1	7/8" x 20
Sintered Paddle.	CP4429-4FM3 x 1	1.00" x 23
	CP4429-3FM3 x 1	7/8" x 20
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Clips.	CP3911-102
Main Pressure Plate.	CP3021-101

INSTALLATION DRAWING

View Drawing



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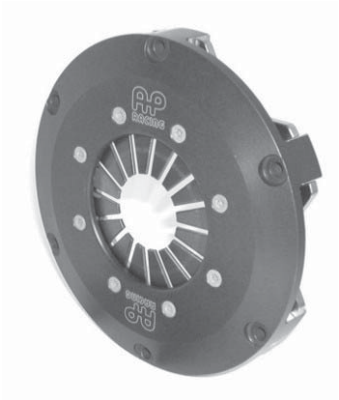
CP7381.

Ø184mm, Single Plate, Cerametallic Paddle or Organic.



APPLICATIONS.

- **Race.**
- **Hillclimb.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**
- **Organic Driven Plate option available CP5386 Family.**

PART NUMBERS.

- CP7381-CE80-SF.
- CP7381-OE80-SF.
- CP7381-NE80-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7381-CE80-SF	413Nm (305lbft)
	CP7381-OE80-SF	259Nm (191lbft)
	CP7381-NE80-SF	160Nm (118lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7381-CE80-SF	350daN	440daN
CP7381-OE80-SF	240daN	330daN
CP7381-NE80-SF	160daN	220daN
Set-up Height. (New)	CP7381-CE80-SF	26.92 / 24.64mm
	CP7381-OE80-SF	27.71 / 25.40mm
	CP7381-NE80-SF	26.89 / 24.60mm
Set-up Height. (Worn)	CP7381-CE80-SF	30.65mm
	CP7381-OE80-SF	30.92mm
	CP7381-NE80-SF	30.11mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		2.24Kg
Assembly Inertia. (Excluding driven plates)		0.014Kgm²
CP8300 Type - Driven Plate & Hub Inertia.		0.0016Kgm²
Recommended Release Bearing.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

Thickness.	New = 7.08mm	Worn = 6.29mm
D/Plate Types.	**Part Number.**	**Spline Details.**
3 Paddle.	CP8300-A036H x 1	1.00" x 23
4 Paddle.	CP8400-A026H x 1	7/8" x 20
6 Paddle.	CP8600A036 x 1	1.00" x 23
Organic Faced	CP5386-10 x 1	1.00" x 23

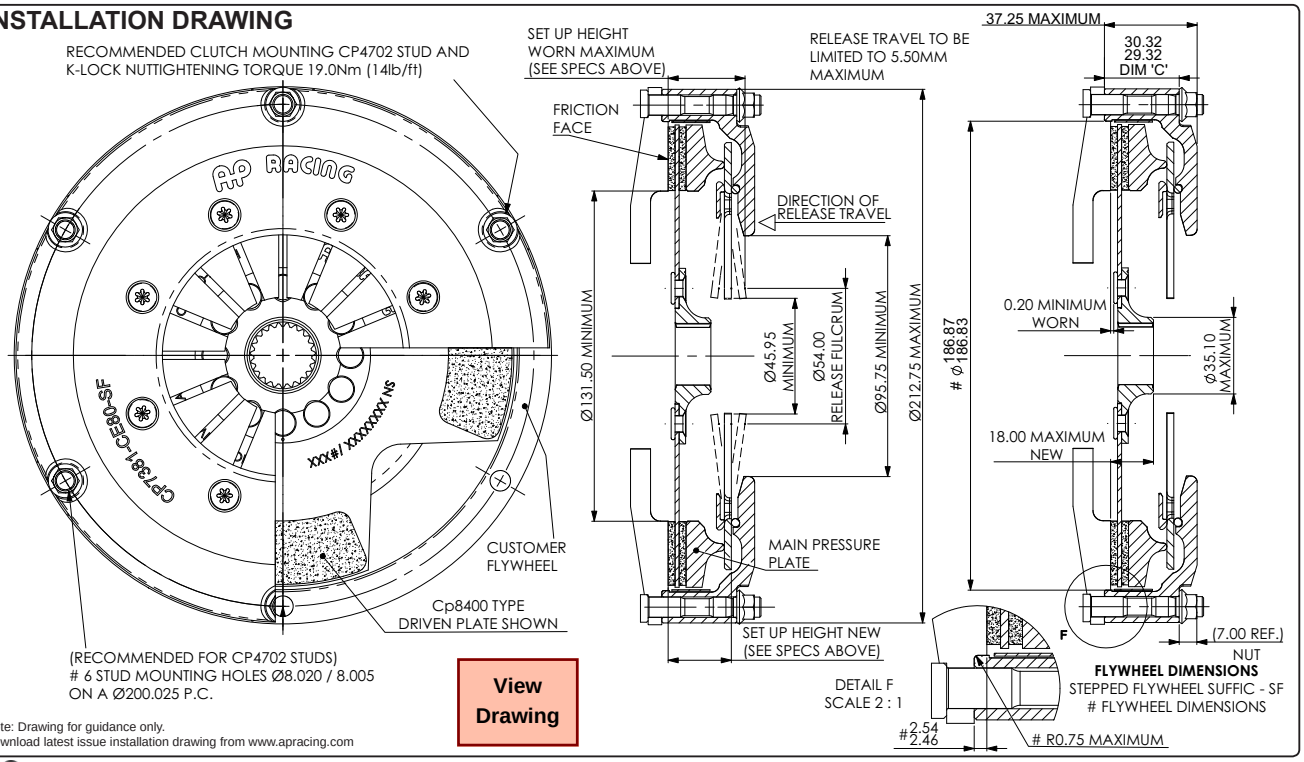
Other splines available see page 136.

Note: Clutch supplied less driven plates. Order Separately.

SPARE PARTS.

Main Pressure Plate.	CP3108-103
Wear Clips.	CP4111-102

INSTALLATION DRAWING



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CP2125.

Ø184mm, 2 Plate, A-Ring Sintered.

APPLICATIONS.

- **Race.**
- **Rally.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Adaptor ring clutch.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **6 bolt cover.**
- Steel or Aluminium alloy options
- **Normal duty.**
- **Durable.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 14000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- **Aluminium alloy cover.**
- CP2125ACRV.
- CP2125AORA.
- CP2125AGRN.
- **Steel cover.**
- CP2125CRV.
- CP2125GRN.
- CP2125ORA.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP2125ACRV	848Nm (625lbft)
	CP2125AORA	532Nm (392lbft)
	CP2125AGRN	327Nm (241lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP2125ACRV	350daN	440daN
CP2125AORA	240daN	330daN
CP2125AGRN	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP2125ACRV	30.59 / 27.97mm	33.10mm
CP2125AORA	30.92 / 28.01mm	33.44mm
CP2125AGRN	29.97 / 27.07mm	32.48mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)	Aluminium Cover	Steel Cover
Back to Back	3.85Kg	4.15Kg
Nested	3.92Kg	4.22Kg
Gear driven	4.40Kg	4.70Kg
Complete Assy Inertia.	Aluminium Cover	Steel Cover
B to B & Nested	0.023Kgm²	0.025Kgm²
Gear driven	0.024Kgm²	0.026Kgm²
Driven Plate & Hub Inertia.	Back to Back	0.0037Kgm²
	Nested	0.0038Kgm²
	Gear driven	0.0040Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

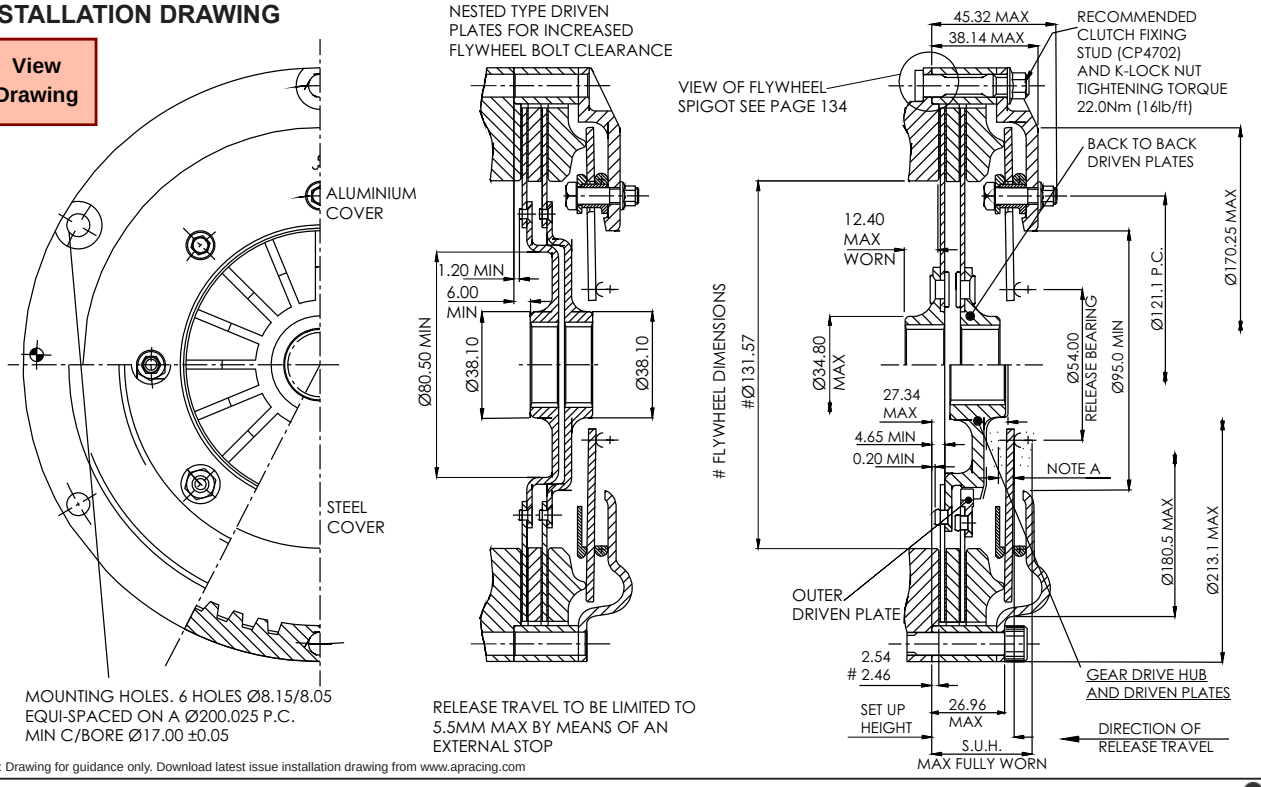
Thickness.	New = 2.63mm	Worn = 2.25mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP2012-165FM3 x 2	1.00" x 23
Nested. (Offset)	CP2567-7FM3 x 1	7/8" x 20
Nested. (Flywheel)	CP2567-8FM3 x 1	
Gear Driven.	CP3822-10FM3 x 1	1.00" x 23
	CP2822-31FM3 x 1 slider plate	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

A-Ring Assembly.	CP2012-162
Main Pressure Plate.	CP2616-103
Intermediate Pressure Plate	CP2613-103

INSTALLATION DRAWING

View Drawing



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CP2606.

Ø184mm, 2 Plate, A-Ring Cerametallic Paddle or Organic.

APPLICATIONS.

- **Race.**
- **Rally.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Adaptor ring clutch.**
- **Stepped flywheel fixing.**

- inner diameter location.

- **6 bolt cover.**

- Steel or Aluminium alloy options.

- **Normal duty.**
- **Durable.**
- **Low wear rate.**
- **Individually tested.**

- match machined, balanced and clutch load and function.

- **Suitable for engine speeds of 14000 rpm.**
- **CP4702 mounting studs available.**
- **Organic Driven Plate option available CP5386 Family.**

PART NUMBERS.

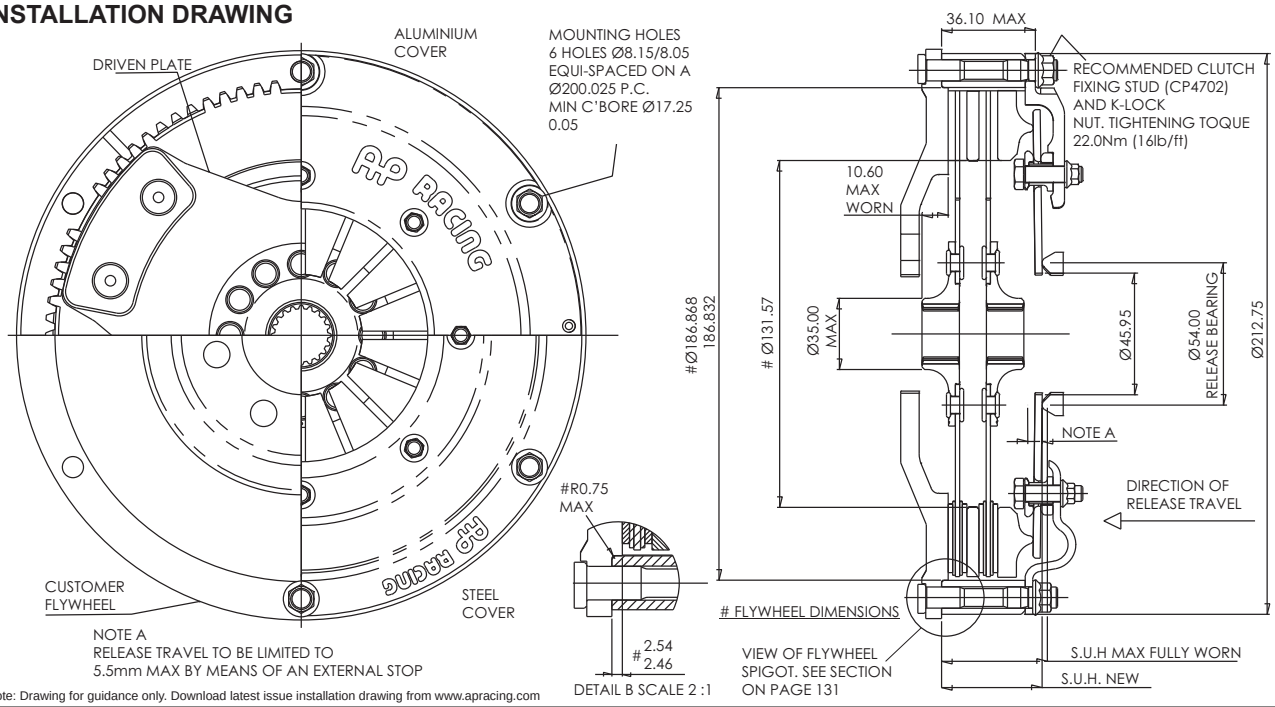
- **Aluminium alloy cover.**
- CP2606ACRV.
- CP2606AORA.
- CP2606AGRN.
- **Steel cover.**
- CP2606CRV.
- CP2606GRN.
- CP2606ORA.

TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP2606ACRV	636Nm (469lbft)
	CP2606AORA	421Nm (310lbft)
	CP2606AGRN	263Nm (194lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP2606ACRV	350daN	440daN
CP2606AORA	240daN	330daN
CP2606AGRN	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP2606ACRV	39.57 / 36.81mm	42.09mm
CP2606AORA	39.80 / 37.02mm	42.32mm
CP2606AGRN	39.00 / 36.23mm	41.52mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)	Aluminium Cover	Steel Cover
3 Paddle	4.036Kg	4.286Kg
4 Paddle	4.246Kg	4.496Kg
6 Paddle	4.588Kg	4.836Kg
Complete Assy Inertia.	Aluminium Cover	Steel Cover
3 Paddle	0.0246Kgm²	0.0260Kgm²
4 Paddle	0.0257Kgm²	0.0271Kgm²
6 Paddle	0.0279Kgm²	0.0293Kgm²
Driven Plate & Hub Inertia.	3 Paddle	0.00364Kgm²
	4 Paddle	0.00474Kgm²
	6 Paddle	0.00694Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 7.08mm	Worn = 6.68mm
D/Plate Types.	**Part Number.**	**Spline Details.**
3 Paddle	CP8300-A036H x 2	1.00" x 23
4 Paddle	CP8400-A036H x 2	1.00" x 23
6 Paddle	CP8600-A036 x 2	1.00" x 23
Organic Faced	CP5386-10 x 2	1.00" x 23
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
A-Ring Assembly.	CP2606-125
Main Pressure Plate.	CP2616-103
Intermediate Pressure Plate	CP2613-103

INSTALLATION DRAWING



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CP7372.

Ø184mm, 2 Plate, Sintered.

APPLICATIONS.

- **Race.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP7372-CE90-SF.
- CP7372-OE90-SF.
- CP7372-NE90-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7372-CE90-SF	848Nm (625lbft)
	CP7372-OE90-SF	532Nm (392lbft)
	CP7372-NE90-SF	327Nm (241lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7372-CE90-SF	350daN	440daN
CP7372-OE90-SF	240daN	330daN
CP7372-NE90-SF	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP7372-CE90-SF	28.76 / 26.00mm	31.97mm
CP7372-OE90-SF	29.55 / 26.77mm	32.76mm
CP7372-NE90-SF	28.73 / 25.97mm	31.95mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		2.75Kg
Assembly Inertia. (Excluding driven plates).		0.0177Kgm²
CP2012 Type - Driven Plate & Hub Inertia.		0.0024Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

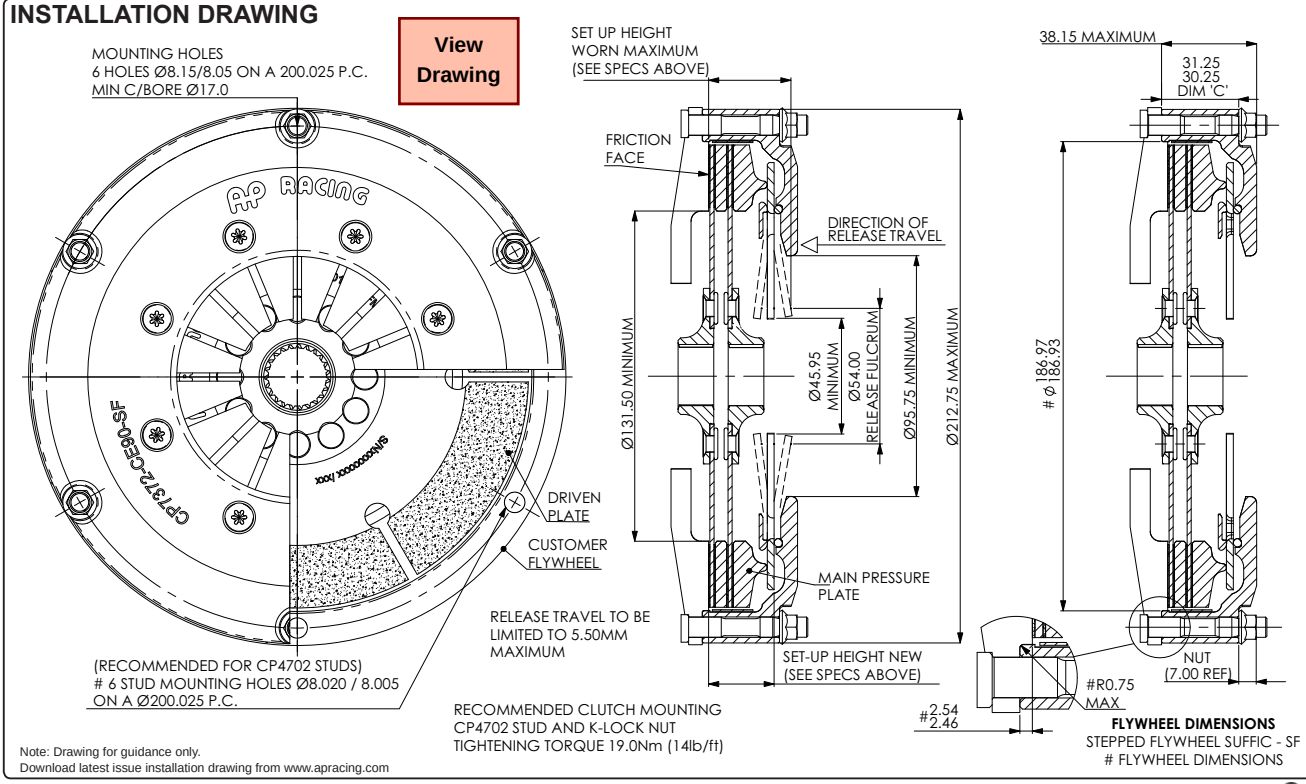
Thickness.	New = 2.63mm	Worn = 2.22mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP2012-165FM3 x 2	1.00" x 23
Nested. (Offset)	CP2567-7FM3 x 1	7/8" x 20
Nested. (Flywheel)	CP2567-8FM3 x 1	
Gear Driven.	CP3822-10FM3 x 1	1.00" x 23
	CP2822-31FM3 x 1 slider plate	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP3912-102
Main Pressure Plate.	CP3021-101
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING

View Drawing



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Slave Cylinders
Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

CP7382.

Ø184mm, 2 Plate, Cerametallic Paddle or Organic.

APPLICATIONS.

- **Race.**
- **Hillclimb.**
- **Alternative CP8642 suitable Ford BDA engine.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**
- **Organic Driven Plate option available CP5386 Family.**

Note: Alternative Heavy Duty 'I' Drive Clutch CP8642.

Non preferred Heavy duty 6 bolt 'I' Drive clutch available CP8642 family. Suitable for Ford BDA engine applications.

PART NUMBERS.

- CP7382-CH80-SF.
- CP7382-OH80-SF.
- CP7382-NH80-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7382-CH80-SF	636Nm (469lbft)
	CP7382-OH80-SF	421Nm (310lbft)
	CP7382-NH80-SF	263Nm (194lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7382-CH80-SF	350daN	440daN
CP7382-OH80-SF	240daN	330daN
CP7382-NH80-SF	160daN	220daN
Set-up Height. (New)	CP7382-CH80-SF	37.01 / 34.64mm
	CP7382-OH80-SF	37.66 / 35.29mm
	CP7382-NH80-SF	36.92 / 34.55mm
Set-up Height. (Worn)	CP7382-CH80-SF	39.68mm
	CP7382-OH80-SF	40.34mm
	CP7382-NH80-SF	39.59mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		2.80Kg
Assembly Inertia. (Excluding driven plates).		0.0182Kgm²
CP8300 Type - Driven Plate & Hub Inertia.		0.0032Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

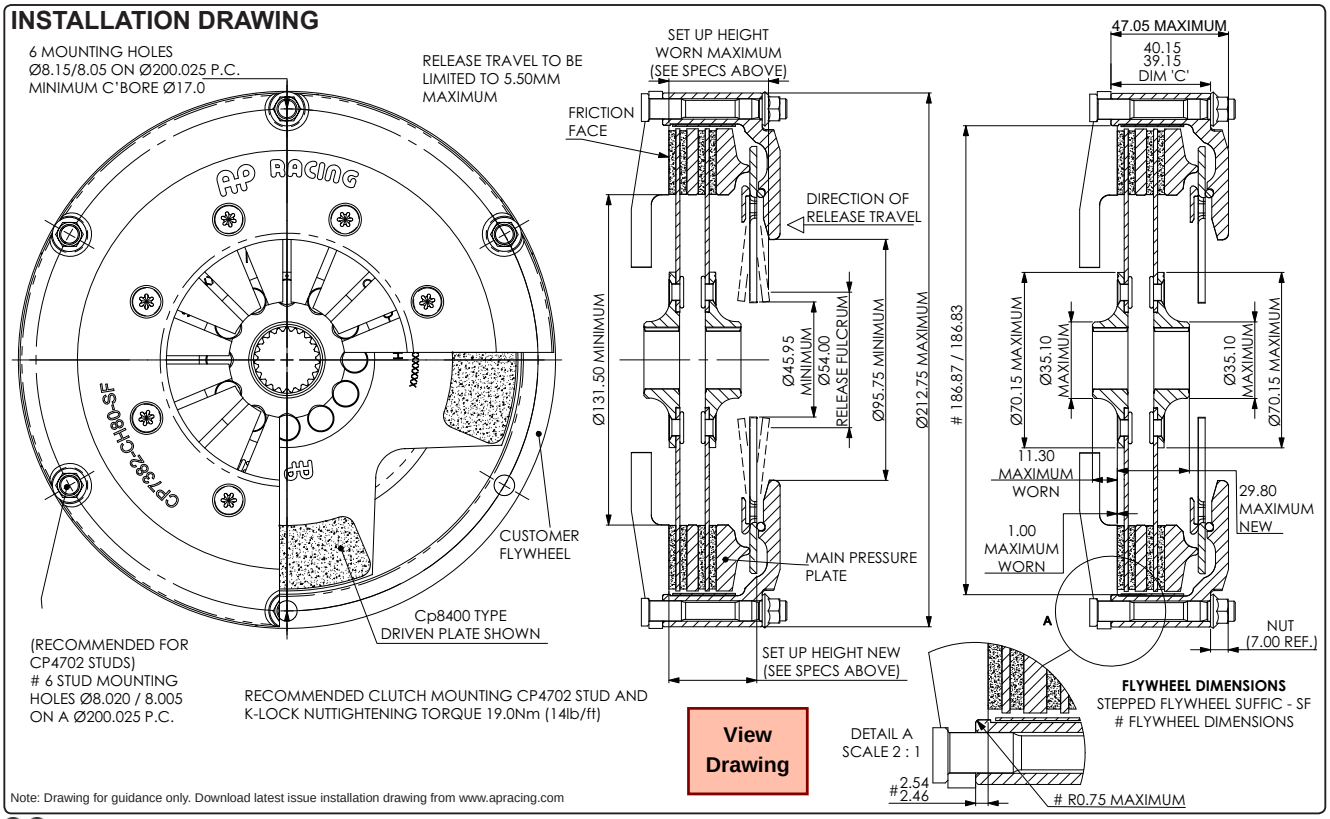
DRIVEN PLATES.

Thickness.	New = 7.08mm	Worn = 6.67mm
D/Plate Types.	**Part Number.**	**Spline Details.**
3 Paddle.	CP8300-A036H x 2	1.00" x 23
4 Paddle.	CP8400-A026H x 2	7/8" x 20
6 Paddle.	CP8600-A036 x 2	1.00" x 23
Organic Faced	CP5386-10 x 2	1.00" x 23
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP4112-102
Main Pressure Plate.	CP3021-102
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING



View Drawing

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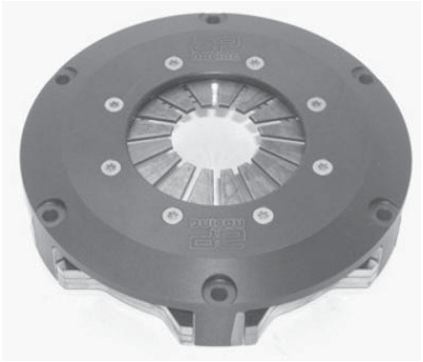
Slave Cylinders
Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

CP7392.

Ø184mm, 2 Plate, Cerametallic Paddle for Large Bore Flywheels.



APPLICATIONS.

- **Race.**
- **Hillclimb.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Extra pressure plate.**
- for small internal diameter flywheels.
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low maintenance.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP7392-CH80-SF.
- CP7392-OH80-SF.
- CP7392-NH80-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7392-CH80-SF	644Nm (475lbft)
	CP7392-OH80-SF	426Nm (314lbft)
	CP7392-NH80-SF	266Nm (196lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7392-CH80-SF	350daN	440daN
CP7392-OH80-SF	240daN	330daN
CP7392-NH80-SF	160daN	220daN
Set-up Height. (New)	CP7392-CH80-SF	41.65 / 39.11mm
	CP7392-OH80-SF	42.30 / 39.76mm
	CP7392-NH80-SF	41.56 / 39.02mm
Set-up Height. (Worn)	CP7392-CH80-SF	44.32mm
	CP7392-OH80-SF	44.98mm
	CP7392-NH80-SF	44.23mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		3.37Kg
Assembly Inertia. (Excluding driven plates).		0.0222Kgm²
CP8300 Type - Driven Plate & Hub Inertia.		0.0032Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

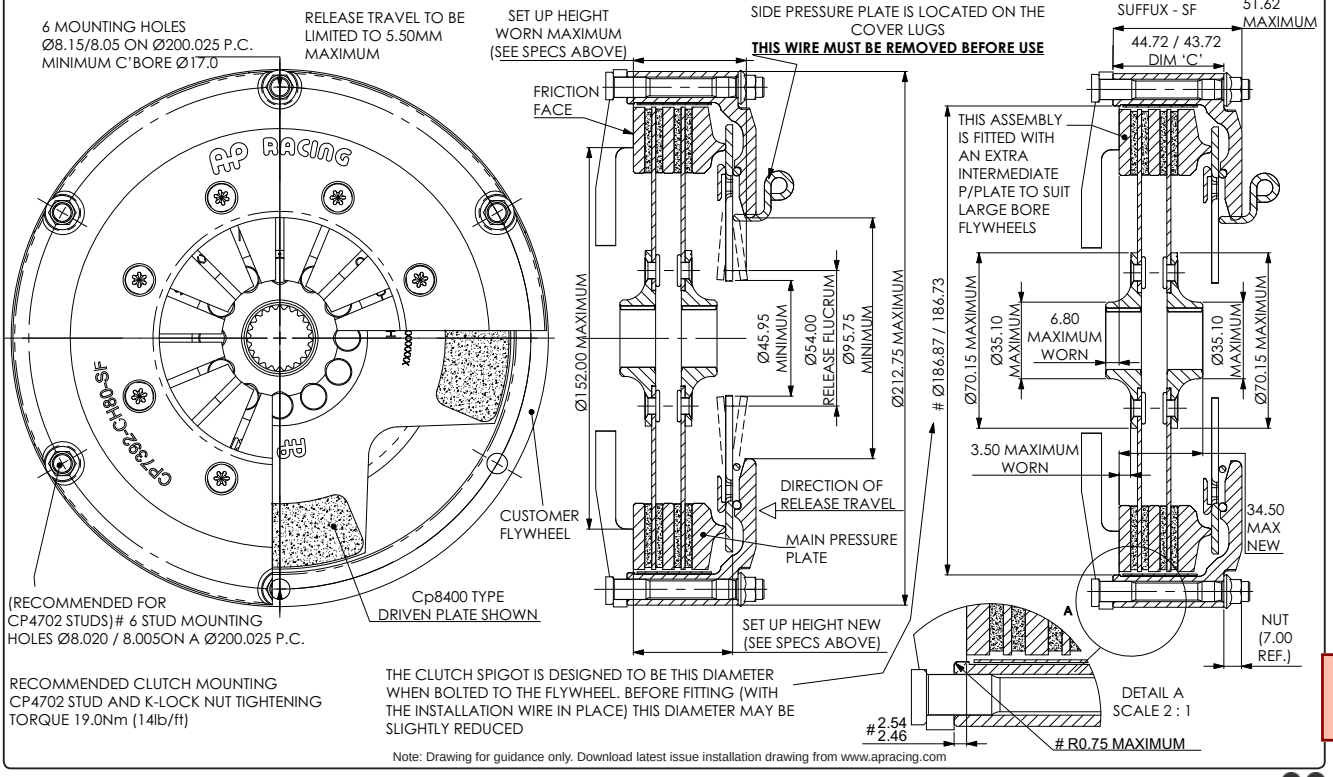
DRIVEN PLATES.

Thickness.	New = 7.08mm	Worn = 6.67mm
D/Plate Types.	**Part Number.**	**Spline Details.**
3 Paddle.	CP8300-A036H x 2	1.00" x 23
4 Paddle.	CP8400-A026H x 2	7/8" x 20
6 Paddle.	CP8600-A036 x 2	1.00" x 23
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP4242-102
Main Pressure Plate.	CP3021-102
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING



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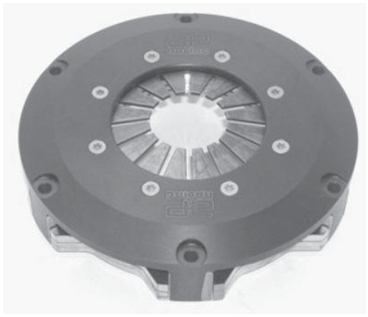
Carbon/ Carbon Clutches

CP7972.

Ø184mm, 2 Plate,Cerametallic Paddle. Low Height.



APPLICATIONS.

- **S2000, with naturally aspirated engine.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Low height**
- Uses 6mm driven plates.
- **Flat flywheel fixing.**
- outer diameter location.
- **One piece cover and lugs.** - machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low maintenance.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **12 Bolt version available for S2000+ for Turbo charged engine. Part Number CP8372 family.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- **Flat Flywheels.**
- CP7972-CH81-FF.
- CP7972-OH81-FF.
- CP7972-NH81-FF.
- **Stepped Flywheel option also available.**

TECHNICAL SPECIFICATIONS.

Torque Capacity.	CP7972-CH81-FF	636Nm (469lbft)
	CP7972-OH81-FF	421Nm (310lbft)
	CP7972-NH81-FF	263Nm (194lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7972-CH81-FF	350daN	440daN
CP7972-OH81-FF	240daN	330daN
CP7972-NH81-FF	160daN	220daN
Set-up Height. (New)	CP7972-CH81-FF	33.49 / 30.95mm
	CP7972-OH81-FF	34.12 / 31.57mm
	CP7972-NH81-FF	33.29 / 30.93mm
Set-up Height. (Worn)	CP7972-CH81-FF	36.05mm
	CP7972-OH81-FF	36.72mm
	CP7972-NH81-FF	35.84mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)	4 Paddle	3.55Kg
Complete Assy Inertia.	4 Paddle	0.02009Kgm²
Driven Plate & Hub Inertia.	4 Paddle	0.003567Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

Thickness.	New = 6.00mm	Worn = 5.63mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle. Back to back	CP8401-A036H x 2	1.00" x 23
	CP8401-A029H x 2	7/8" x 20
4 Paddlle Nested	CP7972-A036H x 2	1.00" x 23
6 Paddle. Back to back	CP8601-A036H x 2	1.00" x 23

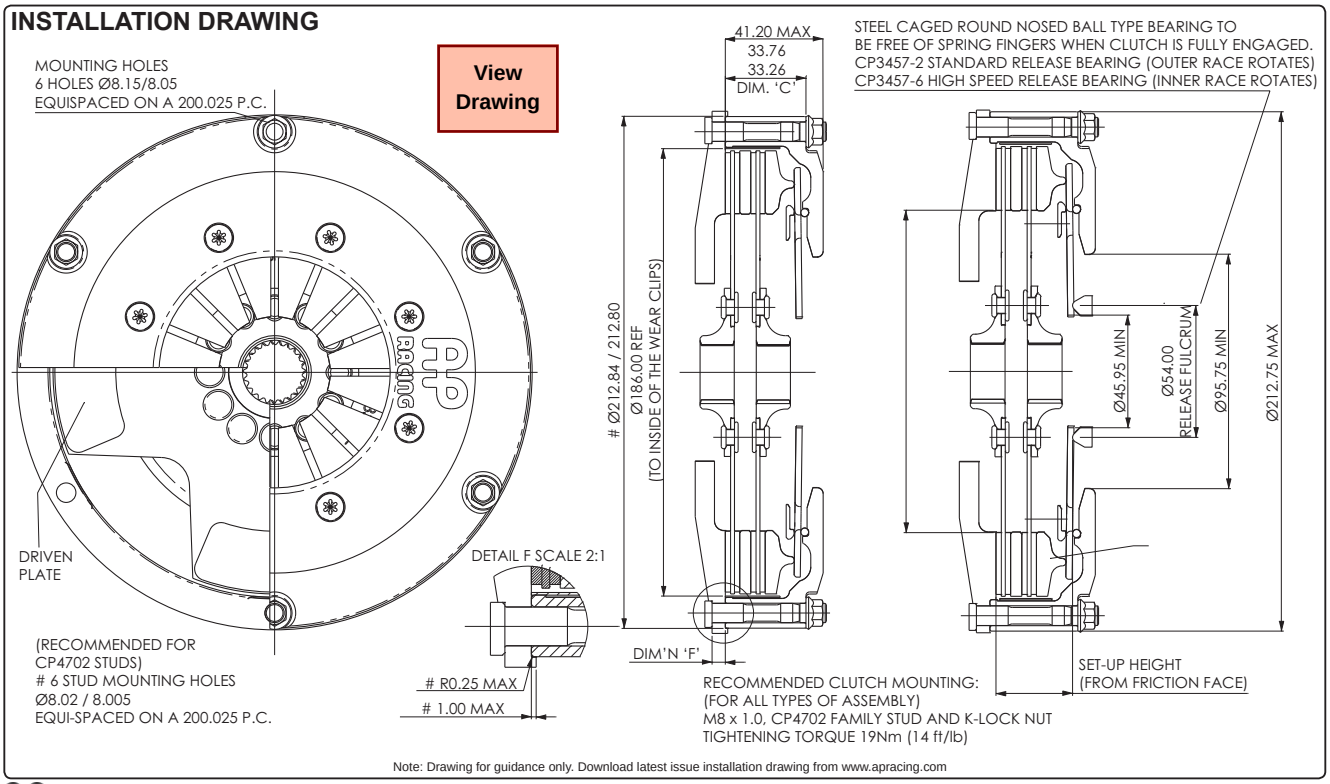
Other splines available see page 136.

Note: Clutch supplied less driven plates. Order Separately.

SPARE PARTS.

Wear Clips.	CP7972-104
Main Pressure Plate.	CP7972-105
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING



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CP8022.

Ø184mm, 'I' Drive, 2 Plate, Paddle.

APPLICATIONS.

- **WRC.**
- **Touring Car.**
- **Alternative CP8642 suitable Ford BDA engine.**

FEATURES

- **Asymmetric designed cover.**
- offers 10% reduction in weight and increased stiffness compared to the more conventional cover designs.
- **Benefits from a new drive system, featuring drive tenons, which locate into internal jaws of the lugs.**
- five times more durable than conventional clutch design when subjected to the same test parameters.
- eradicates distorting of pressure plates trapping on lugs.
- **Push Type.**
- **Stepped flywheel fixing.**
- Inner diameter location.
- **12 bolt, one piece forged cover and lugs.**
- machined from Aluminium alloy. Allows dust and debris to escape.
- **New innovative wear plate design fitted.**
- combats wear on the drive lugs.
- **Very low wear rate.**
- **Individually tested.**
- **Match machined, balanced and clutch load recorded**
- Mounting studs available, CP4703.

Note: Alternative Heavy Duty 'I' Drive Clutch.

Non preferred Heavy duty 6 bolt 'I' Drive clutch available CP8642 family suitable for Ford BDA engine applications. Interchangeable with CP7382 standard lug type clutch.

PART NUMBERS.

- **CP8022-CH81-SF.**
- **CP8022-TH81-SF.**

TECHNICAL SPECIFICATIONS.

Torque Capacity.	CP8022-CH81-SF	636Nm (469lbft)
	CP8022-TH81-SF	636Nm (469lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP8022-CH81-SF	350daN	440daN
CP8022-TH81-SF	400daN	510daN
Set-up Height. (New)	CP8022-CH81-SF	33.22 / 31.88mm
	CP8022-TH81-SF	32.38 / 29.74mm
Set-up Height. (Worn)	CP8022-CH81-SF	35.81mm
	CP8022-TH81-SF	36.65mm
Clutch "Wear In".	**CH = 0.75mm**	**TH = 1.25mm**
Weight. (including driven plates)	4 Paddle	3.31Kg
Complete Assy Inertia.	4 Paddle	0.01802Kgm²
Driven Plate & Hub Inertia.	4 Paddle	0.003567Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

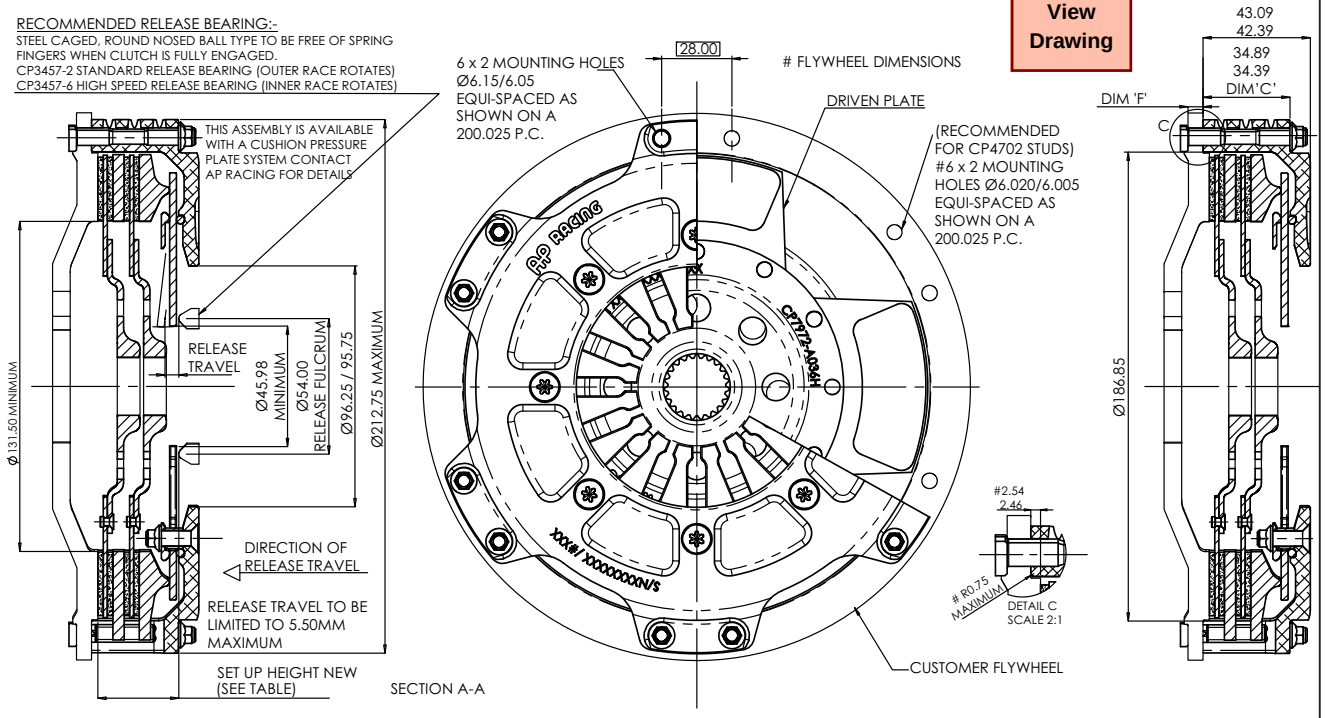
Thickness.	New = 6.00mm	Worn = 5.63mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Bonded 3 Paddle, Back to back	CP8301-A036H x 2	1.00" x 23
	CP8301-A029H x 2	7/8" x 20
Bonded 4 Paddle, Back to back	CP8401-A036H x 2	1.00" x 23
Bonded 6 Paddle, Back to back	CP8601-A036H x 2	1.00" x 23
4 Paddle Nested	CP8405-A036H x 2	1.00" x 23
Alternative Nested, 4 Paddle	CP8172-10FM4 Flywheel side	1.00" x 23
	CP8172-11FM4 Cover side	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Main Pressure Plate.	CP8022-105
Intermediate Pressure Plate	CP8022-102

INSTALLATION DRAWING

View Drawing



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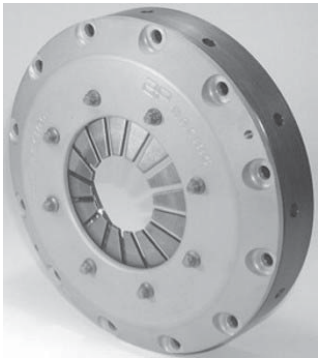
CP2817.

Ø184mm, 3 Plate, A-Ring Sintered.



APPLICATIONS.

- **Hillclimb**
- **Race.**
- **Saloons.**

FEATURES.

- **3 Plate.**
- **Push type.**
- **Adaptor ring clutch.**
- ring machined from Aluminium alloy.
- **Stepped flywheel fixing.**
- inner diameter location.
- **12 bolt Aluminium alloy cover.**
- **Hard anodised.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 14000 rpm.**
- **CP4702 mounting studs available.**
- **6 Bolt cover version also available: Part number CP2572 Family.**

PART NUMBERS.

- CP2817ACRV.
- CP2817AORA.
- CP2817AGRN.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP2817ACRV	978Nm (721lbft)
	CP2817AORA	631Nm (465lbft)
	CP2817AGRN	394Nm (291lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP2817ACRV	350daN	440daN
CP2817AORA	240daN	330daN
CP2817AGRN	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP2817ACRV	39.52 / 36.45mm	42.04mm
CP2817AORA	39.78 / 36.68mm	42.30mm
CP2817AGRN	38.95 / 35.87mm	41.46mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)	Back to Back.	5.23Kg
	Gear Driven.	5.50Kg
Complete Assy Inertia.	Back to Back.	0.030Kgm²
	Gear Driven.	0.032Kgm²
Driven Plate & Hub Inertia		0.0060Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

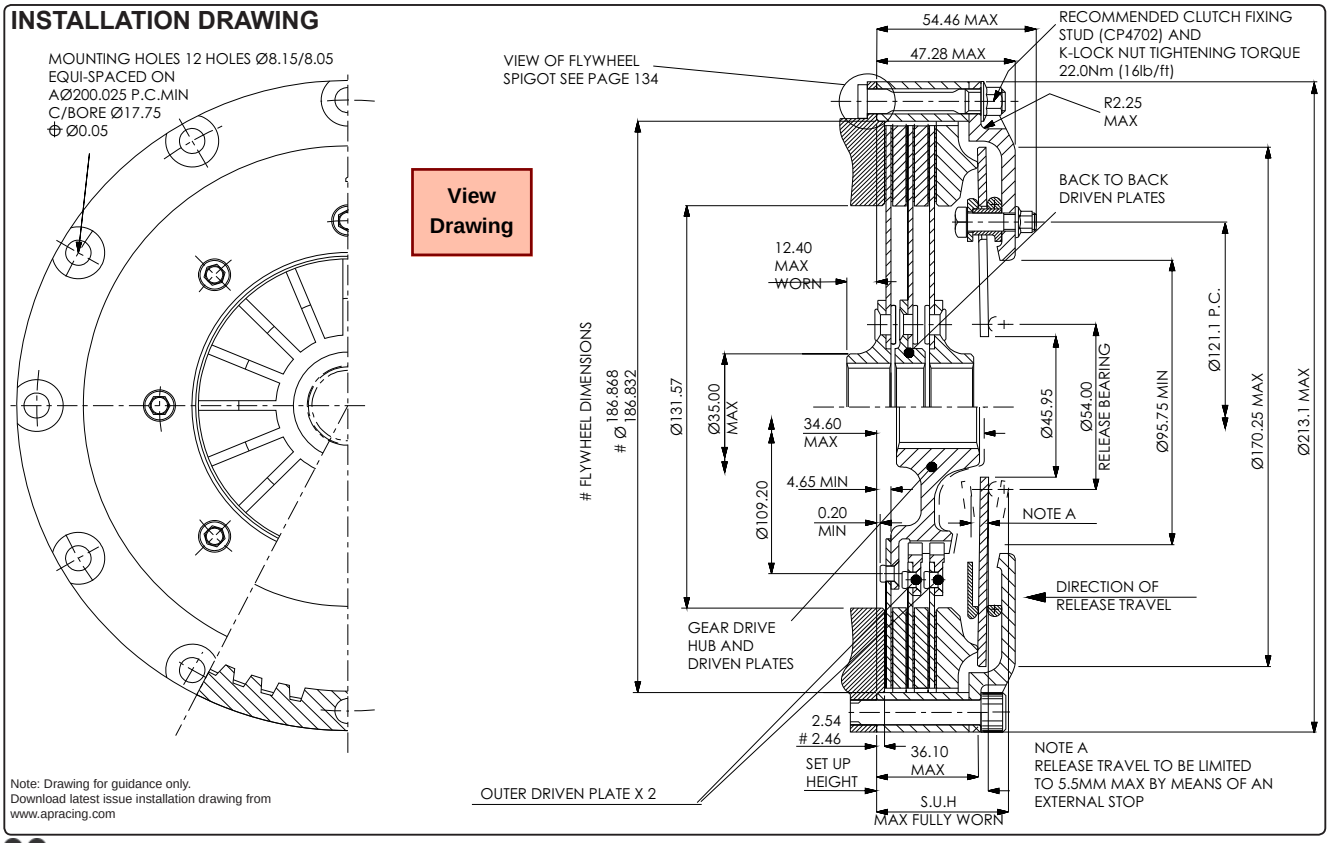
DRIVEN PLATES.

Thickness.	New = 2.63mm	Worn = 2.38mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP2012-166FM3 x 2 (outer plate)	7/8" x 20
	CP2012-179FM3 x 1 (centre plate)	
Gear Driven.	CP2822-23FM3 x 1	1.00" x 23
	CP2822-31FM3 x 2 slider plate	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

A-Ring Assembly.	CP2616-8
Main Pressure Plate.	CP2613-106
Intermediate Pressure Plate	CP2613-103

INSTALLATION DRAWING



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CP7373.

Ø184mm, 3 Plate, Sintered.

APPLICATIONS.

- **High Powered Engines.**

FEATURES.

- **3 Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from Aluminium alloy.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Suitable for engine speeds of 10000 rpm.**
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP7373-CE90-SF.
- CP7373-OE90-SF.
- CP7373-NE90-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7373-CE90-SF	1272Nm (938lbft)
	CP7373-OE90-SF	798Nm (588lbft)
	CP7373-NE90-SF	491Nm (362lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7373-CE90-SF	350daN	440daN
CP7373-OE90-SF	240daN	330daN
CP7373-NE90-SF	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP7373-CE90-SF	36.18 / 32.94mm	39.39mm
CP7373-OE90-SF	36.97 / 33.70mm	40.19mm
CP7373-NE90-SF	36.16 / 32.90mm	39.37mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		3.34Kg
Assembly Inertia. (Excluding driven plates).		0.0218Kgm²
CP2012 Type - Driven Plate & Hub Inertia.		0.0054Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.

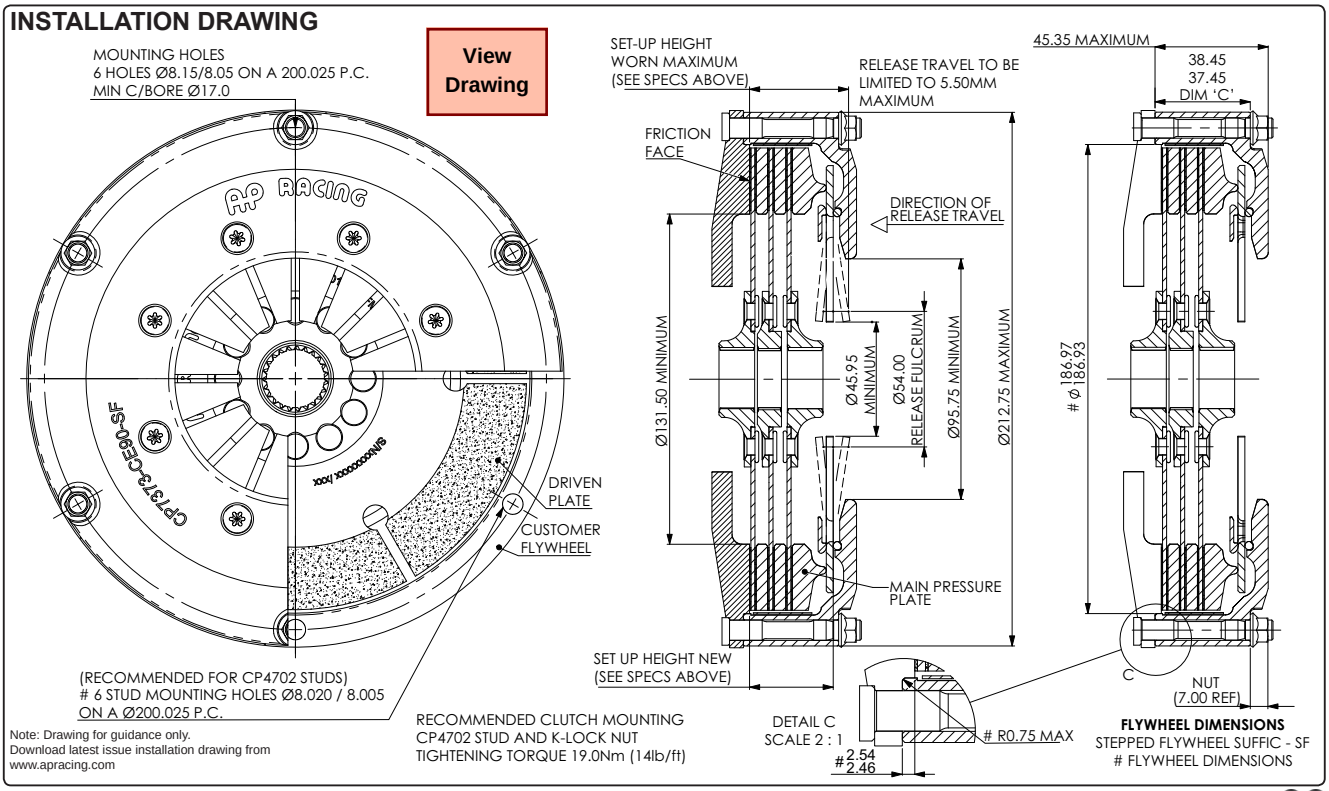
Thickness.	New = 2.63mm	Worn = 2.22mm
D/Plate Types.	**Part Number.**	**Spline Details.**
Back to Back.	CP2012-166FM3 x 2 (outer plate)	7/8" x 20
	CP2012-179FM3 x 1 (centre plate)	
Gear Driven.	CP2822-23FM3 x 1	1.00" x 23
	CP2822-31FM3 x 2 slider plate	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP3913-103
Main Pressure Plate.	CP3021-101
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING

View Drawing



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RECOMMENDED CLUTCH MOUNTING
CP4702 STUD AND K-LOCK NUT
TIGHTENING TORQUE 19.0Nm (14lb/ft)

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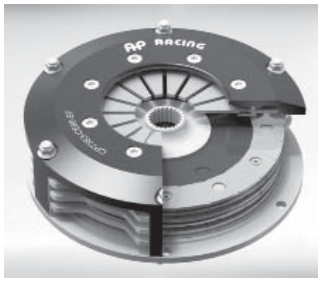
CP7383.

Ø184mm, 3 Plate, Cerametallic Paddle or Organic.



APPLICATIONS.

- Race
- Hillclimb
- Historic's

FEATURES.

- **3 Plate paddle.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **6 bolt, one piece cover and lugs.**
- machined from Aluminium alloy. Allows dust and debris to escape.
- **Black hard anodised cover.**
- **Stainless steel wear clips.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **Organic driven plates option available CP5386 family - Note if used DO NOT EXCEED 7000RPM)**
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP7383-CE80-SF.
- CP7383-OE80-SF.
- CP7383-NE80-SF.
- CP7382-TE80-SF.

TECHNICAL SPECIFICATIONS

Torque Capacity.	CP7383-TE80-SF	1508Nm (1111lbft)
	CP7383-CE80-SF	1257Nm (926lbft)
	CP7383-OE80-SF	789Nm (581lbft)
	CP7383-NE80-SF	485Nm (358lbft)
Release Loads.	**Max peak new.**	**Max peak worn.**
CP7383-TE80-SF	400daN	510daN
CP7383-CE80-SF	350daN	440daN
CP7383-OE80-SF	240daN	330daN
CP7383-NE80-SF	160daN	220daN
Set-up Height.	**(New)**	**(Worn)**
CP7383-TE80-SF	48.06 / 44.71mm	51.27mm
CP7383-CE80-SF	47.81 / 44.46mm	51.02mm
CP7383-OE80-SF	48.60 / 45.22mm	51.81mm
CP7383-NE80-SF	47.78 / 44.42mm	51.00mm
Clutch "Wear In".		0.75mm
Weight. (Excluding driven plates)		3.2Kg
Assembly Inertia. (Excluding driven plates).		0.0211Kgm²
CP8400 Type - Driven Plate & Hub Inertia.		0.0059Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2
	Inner race rotates	CP3457-6

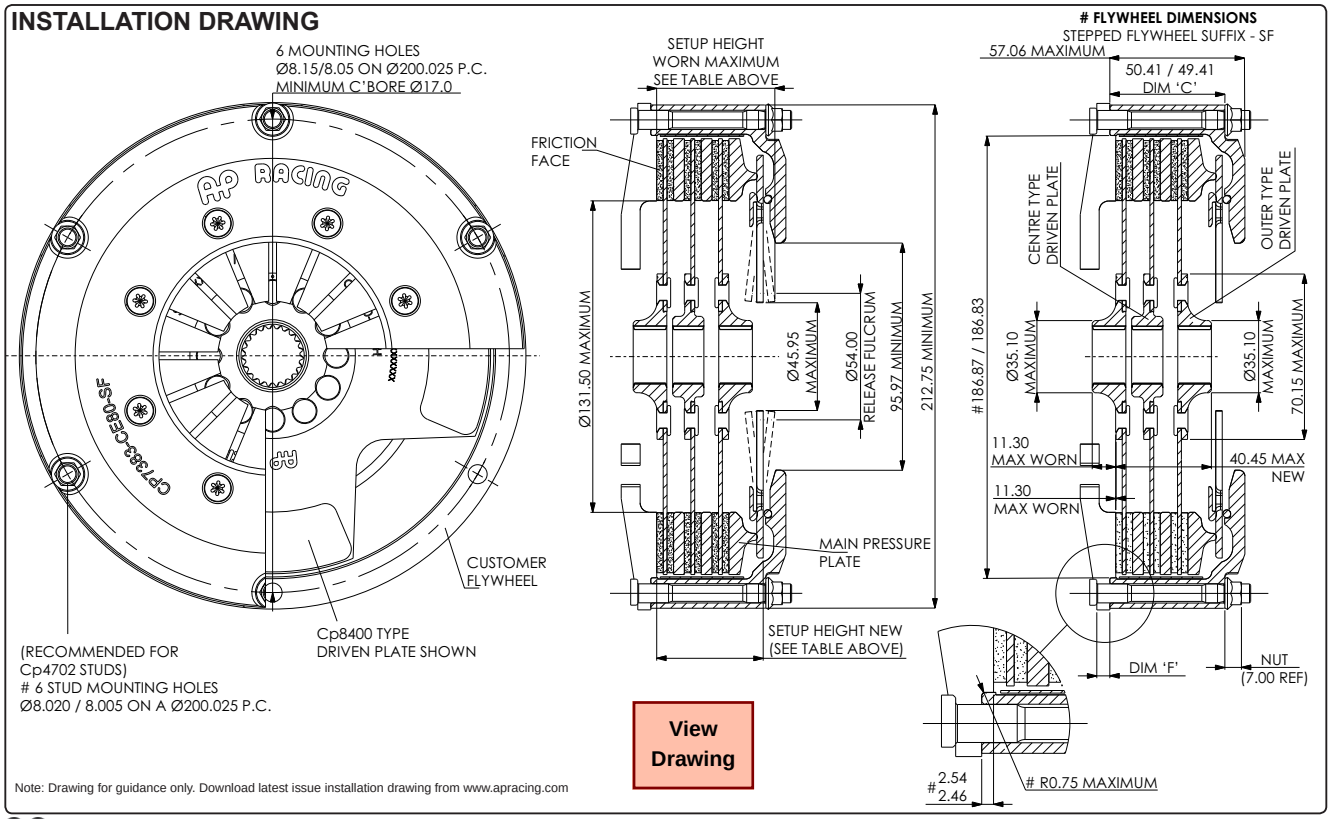
DRIVEN PLATES.

Thickness.	New = 7.11mm	Worn = 6.86mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle - Outer.	CP8400-A026H x 2	7/8" x 20
4 Paddle - Middle.	CP8400-K026H x 1	
6 Paddle - Outer.	CP8600-A036 x 2	1.00" x 23
6 Paddle - Middle.	CP8600-KL036 x 1	
Organic Faced - outer	CP5386-10 x 2	1.00" x 23
Organic Faced - Mid	CP5836-K036H x 1	
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.

Wear Clips.	CP7383-101
Main Pressure Plate.	CP7972-113
Intermediate Pressure Plate	CP3592-106

INSTALLATION DRAWING



View Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

CP3745.

Ø200mm, Single Plate, Cerametallic.

APPLICATIONS.

- **Rally.**
- **Off Road.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Flat flywheel fixing.**
- outer diameter location.
- **One piece cover and lugs.**
- machined from billet.
- provides rigidity and strength and cooler running.
- allows dust and debris to escape.
- **Durable.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**
- **Interchangeable with CP7212 Carbon Clutch.**

PART NUMBERS.

- CP3745ACRV.
- CP3745AGRY.

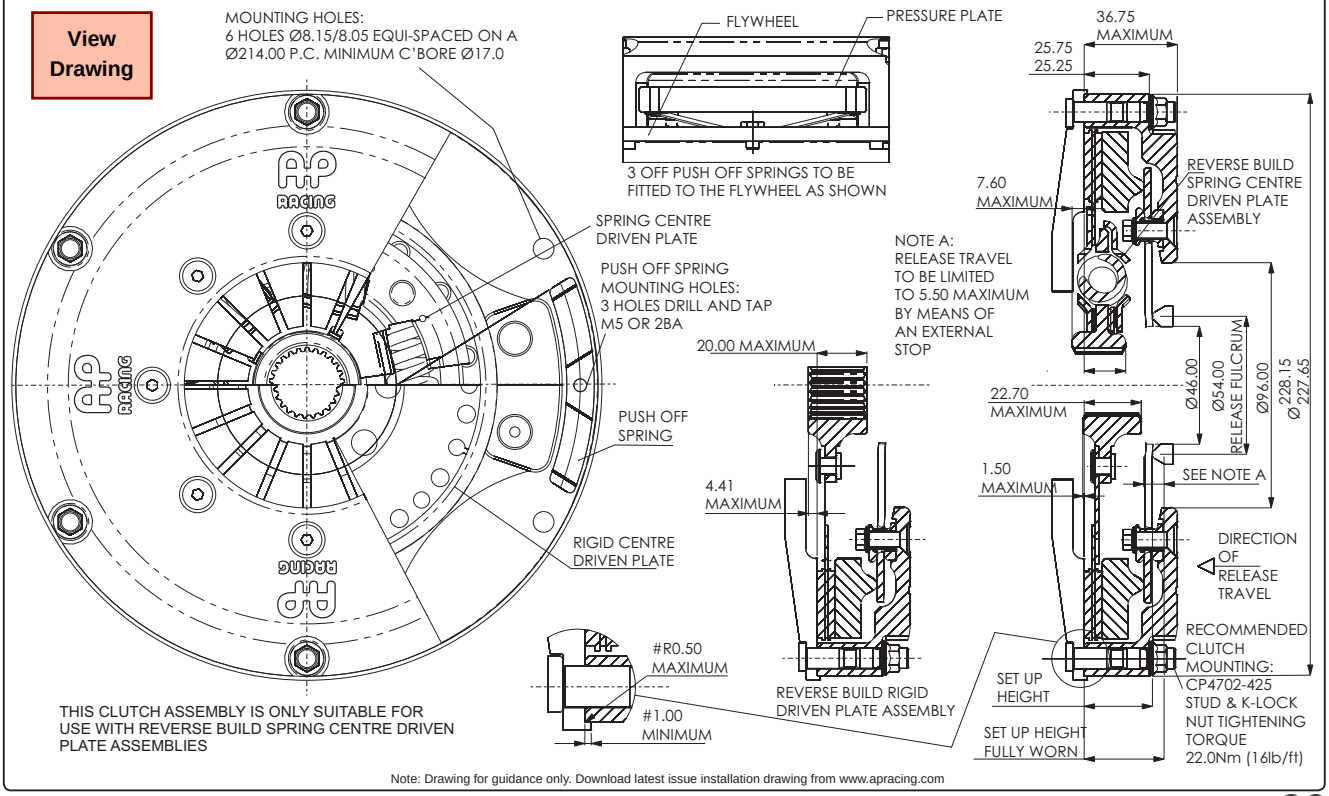
TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP3745ACRV	343Nm (253lbft)
	CP3745AGRY	301Nm (222lbft)
Release Loads.	**Max peak worn.**	
CP3745ACRV	347daN	
CP3745AGRY	289daN	
Set-up Height. (New)	CP3745ACRV	28.23 / 26.95mm
	CP3745AGRY	28.36 / 27.07mm
Set-up Height. (Worn)	CP3745ACRV	30.71mm
	CP3745AGRY	30.85mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)		
Rigid Centre.	4 Paddle	3.90Kg
	6 Paddle	4.28Kg
Sprung Centre.	4 Paddle	4.04Kg
	6 Paddle	4.53Kg
Complete Assy Inertia.		
Rigid Centre.	4 Paddle	0.0253Kgm²
	6 Paddle	0.0262Kgm²
Sprung Centre.	4 Paddle	0.0264Kgm²
	6 Paddle	0.0320Kgm²
Driven Plate & Hub Inertia.		
Rigid Centre.	4 Paddle	0.00330Kgm²
	6 Paddle	0.00421Kgm²
Sprung Centre.	4 Paddle	0.00441Kgm²
	6 Paddle	0.00995Kgm²
Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 7.08mm	Worn = 6.29mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle Rigid.	CP5214-12 x 1	1.00" x 23
4 Paddle Sprung.	CP4814-15 x 1	7/8" x 20
6 Paddle Rigid.	CP5216-15 x 1	1.00" x 23
6 Paddle Sprung.	CP4816-13 x 1	7/8" x 20
Other splines available **see page 136.**		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Main Pressure Plate.	CP4560-101
Push-off Springs x 3.	CP3871-103

INSTALLATION DRAWING

View Drawing



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Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

CP3871.

Ø200mm, Single Plate, Cerametallic.

APPLICATIONS.

- **Rally.**
- **Off Road.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **High torque capacity.**
- clutch load and function.
- **One piece cover and lugs.**
- machined from billet.
- provides rigidity and strength and cooler running.
- allows dust and debris to escape.
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**

PART NUMBERS.

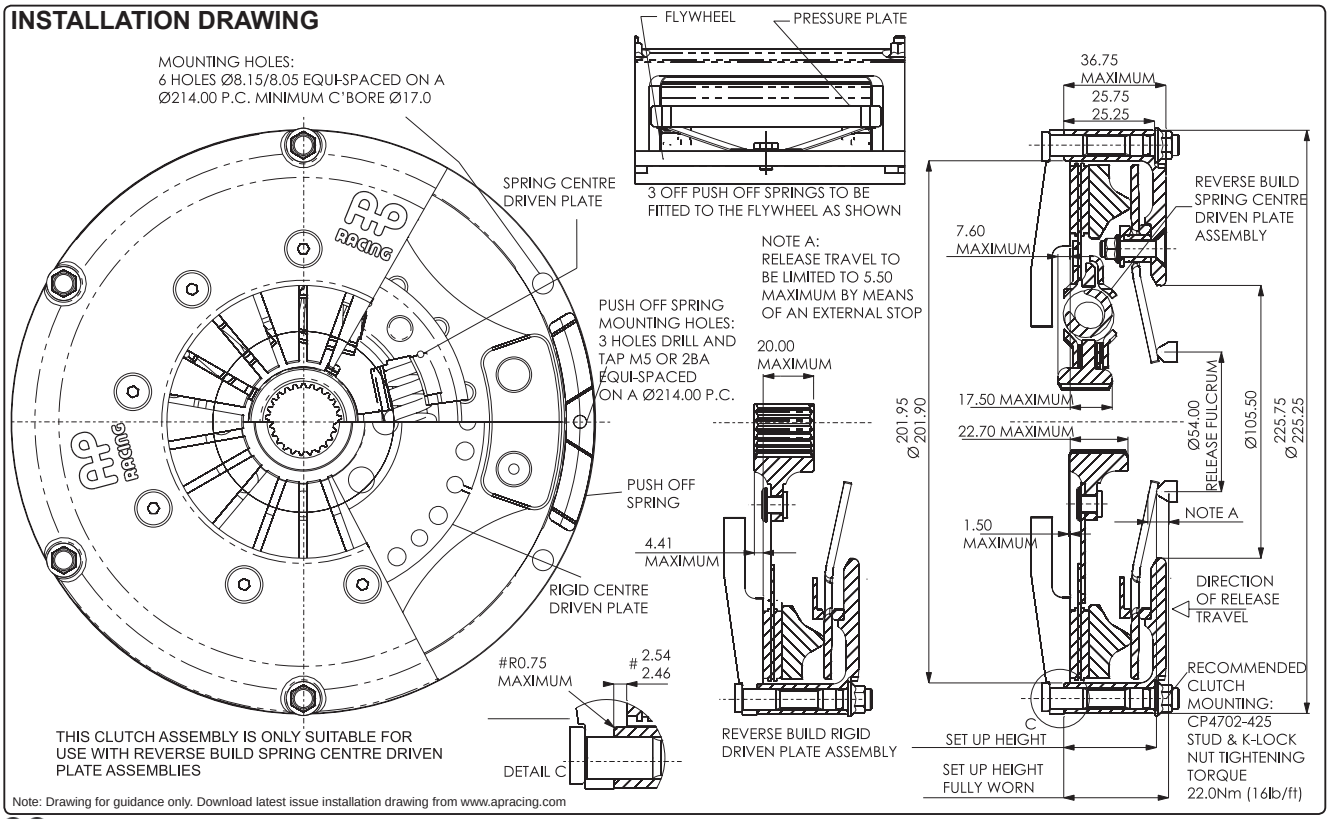
- CP3871ACRV.
- CP3871AGRY.

TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP3871ACRV	525Nm (387lbft)
	CP3871AGRY	420Nm (310lbft)
Release Loads.	**Max peak worn.**	
CP3871ACRV	420daN	
CP3871AGRY	350daN	
Set-up Height. (New)	CP3871ACRV	38.63 / 36.22mm
	CP3871AGRY	38.41 / 36.00mm
Set-up Height. (Worn)	CP3871ACRV	42.32mm
	CP3871AGRY	42.10mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)		
Rigid Centre.	4 Paddle 6 Paddle	3.86Kg 4.28Kg
Sprung Centre.	4 Paddle 6 Paddle	4.00Kg 4.49Kg
Complete Assy Inertia.		
Rigid Centre.	4 Paddle 6 Paddle	0.0248Kgm² 0.0259Kgm²
Sprung Centre.	4 Paddle 6 Paddle	0.0257Kgm² 0.0315Kgm²
Driven Plate & Hub Inertia.		
Rigid Centre.	4 Paddle 6 Paddle	0.00330Kgm² 0.00421Kgm²
Sprung Centre.	4 Paddle 6 Paddle	0.00441Kgm² 0.00995Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 7.08mm	Worn = 6.29mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle Rigid.	CP5214-12 x 1	1.00" x 23
4 Paddle Sprung.	CP4814-15 x 1	7/8" x 20
6 Paddle Rigid.	CP5216-15 x 1	1.00" x 23
6 Paddle Sprung.	CP4816-13 x 1	7/8" x 20
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Main Pressure Plate.	CP3871-111
Push-off Springs x 3.	CP3871-103

INSTALLATION DRAWING



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View Drawing

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Carbon/ Carbon Clutches

CP4560.

Ø200mm, Single Plate, Cerametallic.

APPLICATIONS.

- **Rally.**
- **Off Road.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from billet.
- Provides rigidity and strength and cooler running.
- allows dust and debris to escape.
- **Steel main pressure plate.**
- for applications where clutch speeds exceeds 8000rpm.
- **Durable.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**

PART NUMBERS.

- CP4560ACRV.
- CP4560AGRY.

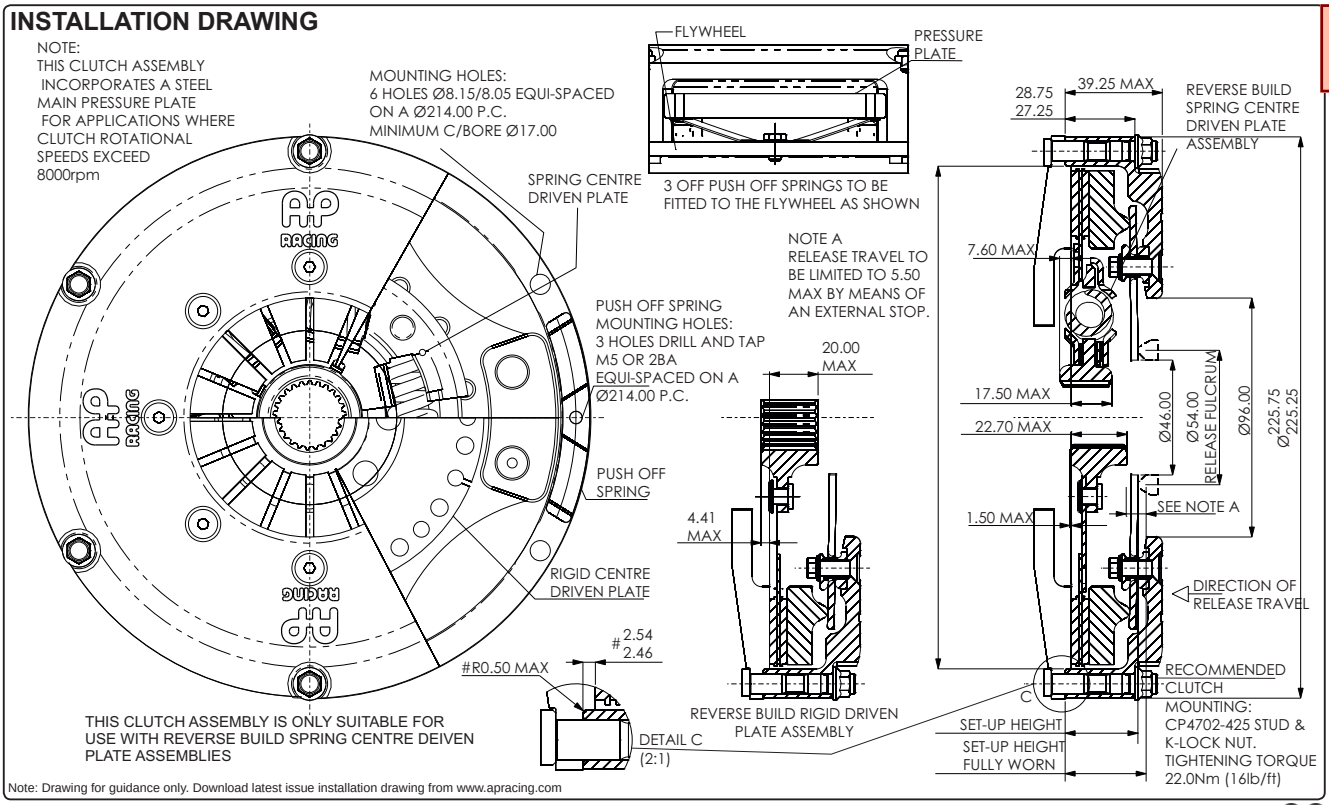
TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP4560ACRV	343Nm (253lbft)
	CP4560AGRY	301Nm (222lbft)
Release Loads.	**Max peak worn.**	
CP4560ACRV	347daN	
CP4560AGRY	289daN	
Set-up Height. (New)	CP4560ACRV	31.11 / 29.16mm
	CP4560AGRY	31.44 / 29.49mm
Set-up Height. (Worn)	CP4560ACRV	33.60mm
	CP4560AGRY	33.93mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)		
Rigid Centre.	4 Paddle	3.86Kg
	6 Paddle	4.28Kg
Sprung Centre.	4 Paddle	4.00Kg
	6 Paddle	4.49Kg
Complete Assy Inertia.		
Rigid Centre.	4 Paddle	0.0248Kgm²
	6 Paddle	0.0259Kgm²
Sprung Centre.	4 Paddle	0.0257Kgm²
	6 Paddle	0.0315Kgm²
Driven Plate & Hub Inertia.		
Rigid Centre.	4 Paddle	0.00330Kgm²
	6 Paddle	0.00421Kgm²
Sprung Centre.	4 Paddle	0.00441Kgm²
	6 Paddle	0.00995Kgm²
Recommended Release Bearing.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 7.08mm	Worn = 6.29mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle Rigid.	CP5214-12 x 1	1.00" x 23
4 Paddle Sprung.	CP4814-15 x 1	7/8" x 20
6 Paddle Rigid.	CP5216-15 x 1	1.00" x 23
6 Paddle Sprung.	CP4816-13 x 1	7/8" x 20
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.		
Cover Assemblies.	CP4560ACRV	CP4560-1CRV
	CP4560AGRY	CP4560-1GRY
Main Pressure Plate.		CP4560-101
Push-off Springs x 3.		CP3871-103

INSTALLATION DRAWING

View Drawing



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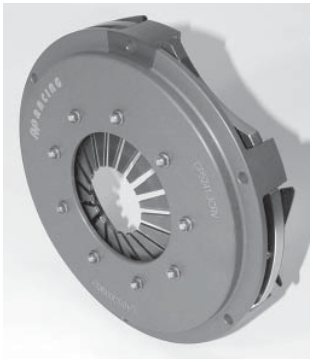
CP5241.

Ø215mm, Single Plate, Cerametallic Paddle.



APPLICATIONS.

- **Race.**
- **Rally.**

FEATURES.

- **Single Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from billet.
- Provides rigidity and strength and cooler running.
- allows dust and debris to escape.
- **Low maintenance.**
- **Low wear rate.**
- **Individually tested.**
- match machined, balanced and clutch load and function.
- **CP4702 mounting studs available.**
- **Supercedes CP2861 Clutch series.**

PART NUMBERS.

- CP5241-3CRV.
- CP5241-3GRY.

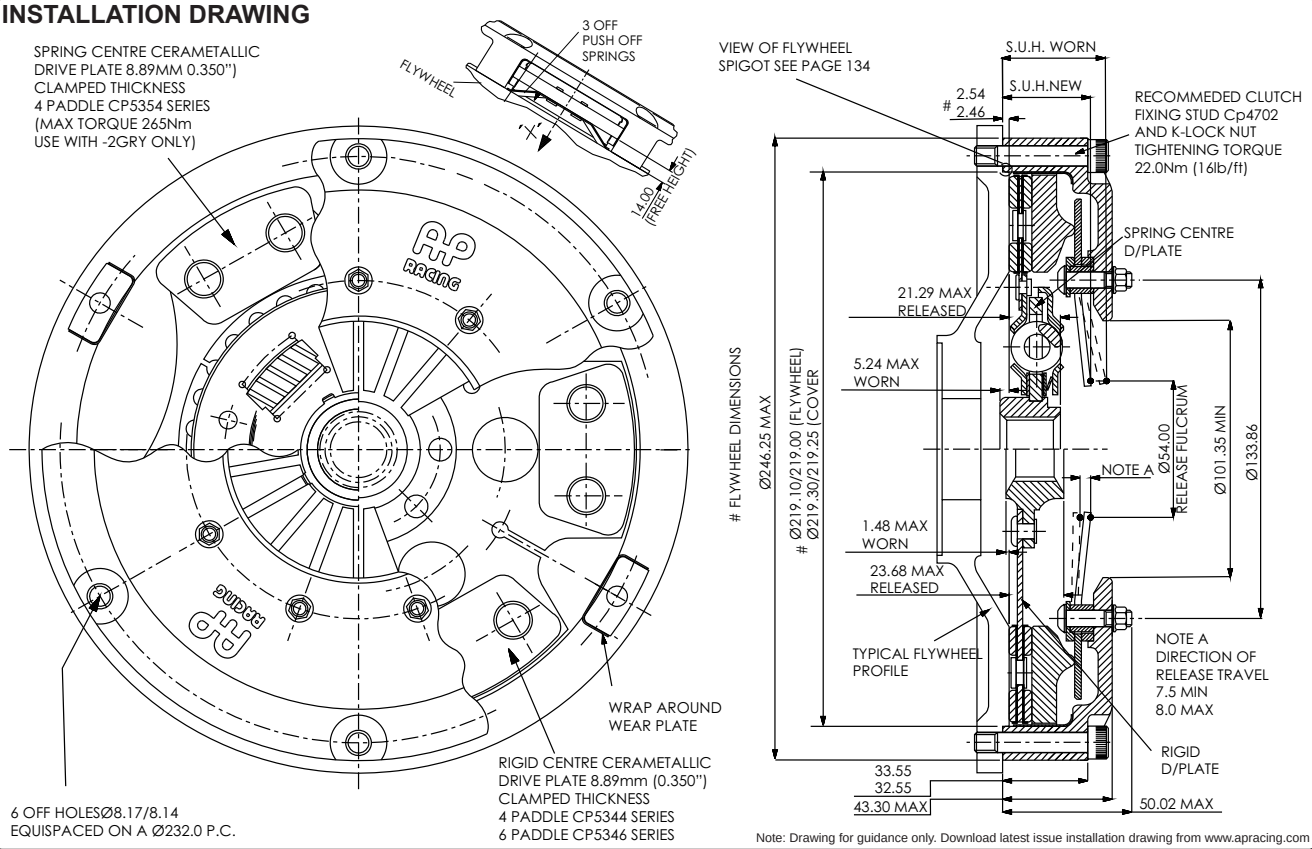
TECHNICAL SPECIFICATIONS		
Torque Capacity.	CP5241-3CRV	580Nm (427lbft)
	CP5241-3GRY	425Nm (314lbft)
Release Loads.	**Max peak worn.**	
CP5241-3CRV	420daN	
CP5241-3GRY	300daN	
Set-up Height. (New)	CP5241-3CRV	40.09 / 38.23mm
	CP5241-3GRY	39.35 / 37.39mm
Set-up Height. (Worn)	CP5241-3CRV	43.86mm
	CP5241-3GRY	43.12mm
Clutch "Wear In".		0.75mm
Weight. (including driven plates)	4 Paddle Sprung	5.20Kg
	4 Paddle Rigid	4.80Kg
	6 Paddle Rigid	5.10Kg
Release Bearings.	Outer race rotates	CP3457-2 or -10
	Inner race rotates	CP3457-6

DRIVEN PLATES.		
Thickness.	New = 8.89mm	Worn = 8.10mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle Rigid.	CP5344-10 x 1	29mm x 10
	CP5344-30 x 1	1.00" x 22
4 Paddle Sprung.	CP5354-17 x 1	1.00" x 23
	CP5354-34 x 1	7/8" x 20
6 Paddle Rigid.	CP5346-12 x 1	1.00" x 23
	CP5346-2 x 1	29mm x 21
Other splines available see page 136.		
Note: Clutch supplied less driven plates. Order Separately.		

SPARE PARTS.	
Wear Clips.	CP5241-104
Main Pressure Plate.	CP5241-5
Push-off Springs x 3.	CP2603-126

INSTALLATION DRAWING

View Drawing



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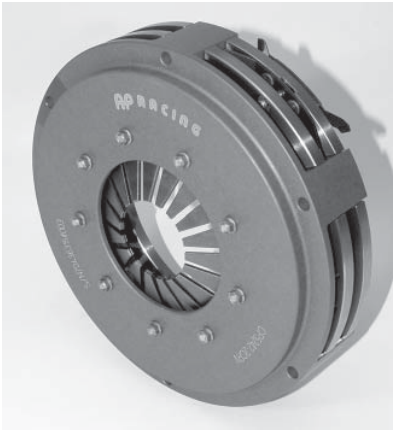
CP5242.

Ø215mm, 2 Plate, Cerametallic Paddle.



APPLICATIONS.

- **Race.**
- **Rally.**

FEATURES.

- **2 Plate.**
- **Push type.**
- **Stepped flywheel fixing.**
- inner diameter location.
- **One piece cover and lugs.**
- machined from billet.
- provides rigidity and strength and cooler running.
- allows dust and debris to escape.
- **Heavy duty.**
- **Low maintenance**
- **Individually tested.**
- match machined, balanced and clutch load and function.

PART NUMBERS.

- CP5242-2CRV.

TECHNICAL SPECIFICATIONS

Torque Capacity.	842Nm (621lbft)	
Release Loads.	**Max peak worn.**	
	420daN	
Set-up Height. (New)	53.84 / 51.91mm	
Set-up Height. (Worn)	57.65mm	
Clutch "Wear In".		1.00mm
Weight. (including driven plates)		7.74Kg
Complete Assembly Inertia	4 Paddle	0.063358Kgm²
Driven Plate & Hub Inertia	4 Paddle	0.005833Kgm²
Recommended Release Bearings.	Outer race rotates	CP3457-2
	Inner race rotates	CP3457-6

DRIVEN PLATES.

Thickness.	New = 7.08mm	Worn = 6.58mm
D/Plate Types.	**Part Number.**	**Spline Details.**
4 Paddle Rigid.	CP6180-1 x 2	1.06" x 10
	CP6180-2 x 2	1.00" x 23
	CP6180-3 x 2	1.00" x 24
	CP6180-4 x 2	1.16" x 26
	CP6180-5 x 2	1.12" x 10

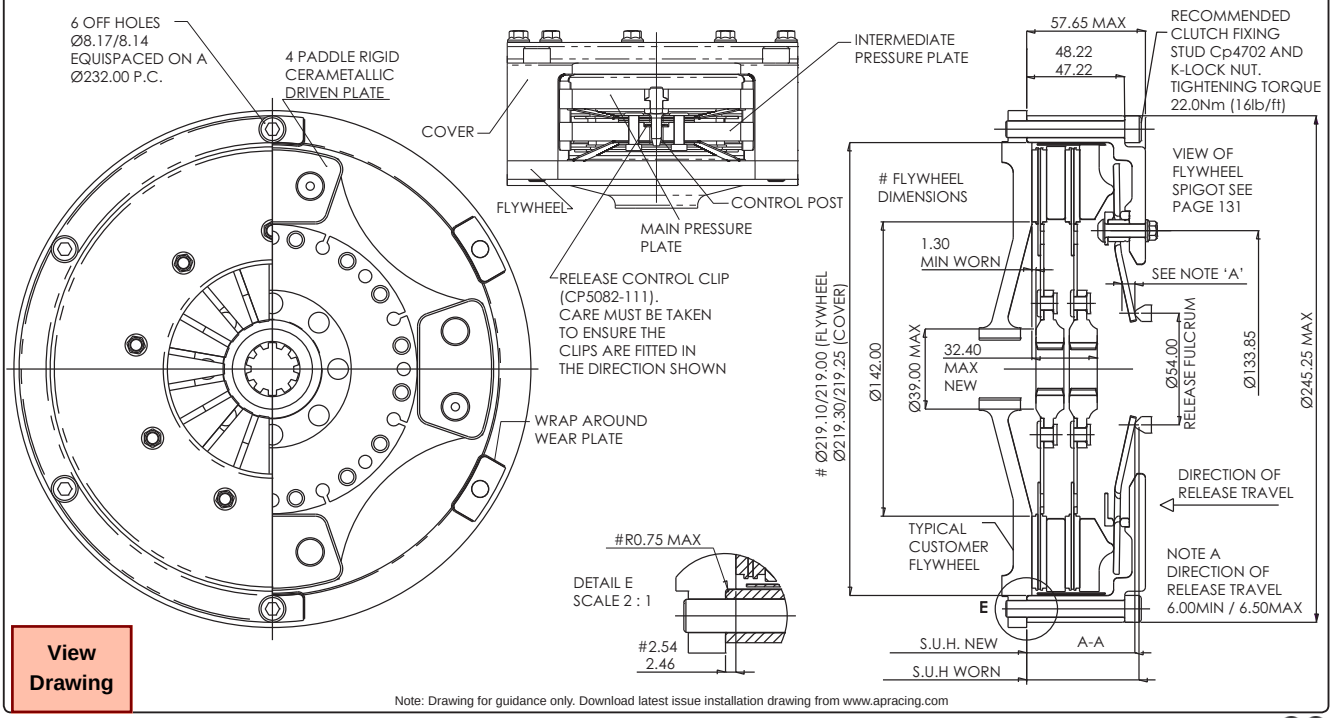
Other splines available see page 136.

Note: Clutch supplied less driven plates. Order Separately.

SPARE PARTS.

Wear Clips.	CP4462-104
Main Pressure Plate.	CP5242-10
Intermediate Pressure Plate.	CP5242-11

INSTALLATION DRAWING



View Drawing

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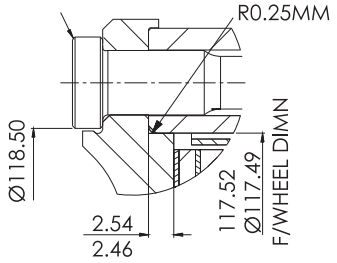
MOUNTING.

The drawings below provide detailed information for all flywheel spigots / mounting for every size of race clutch in the publication.
AP Racing recommend that all their race clutches are mounted to the flywheel by using either CP4703 / CP4702 studs. Mounting hole, P.C.D. and tightening torque details are given for all drawings below.

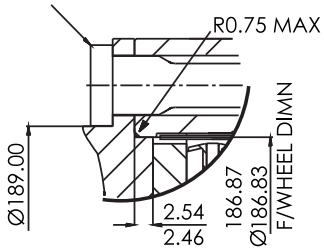
MOUNTING HOLES.
10 HOLES Ø6.50/6.40 EQUI-SPACED
ON A Ø127.50 P.C. / Ø0.05



Recommended Stud & Nut Tightening Torque = 10Nm (7.5lb/ft)

Ø115mm Stepped Flywheel

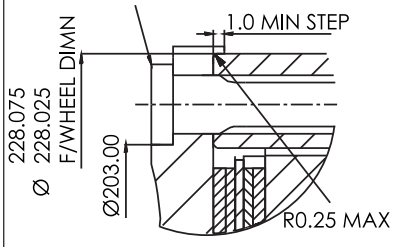
MOUNTING HOLES. 6 / 12 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø200.025 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø184mm Stepped Flywheel

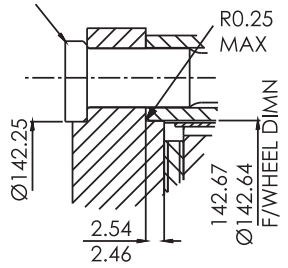
MOUNTING HOLES. 6 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø214.00 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø200mm Flat Flywheel

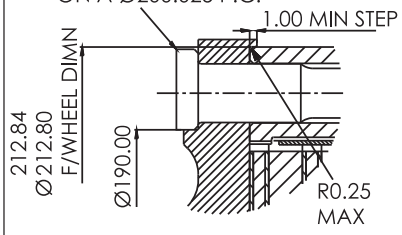
MOUNTING HOLES. 8 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø154.45 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø140mm Stepped Flywheel

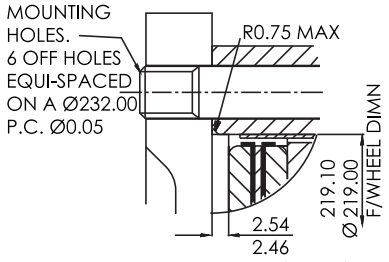
MOUNTING HOLES. 6 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø200.025 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø184mm Flat Flywheel

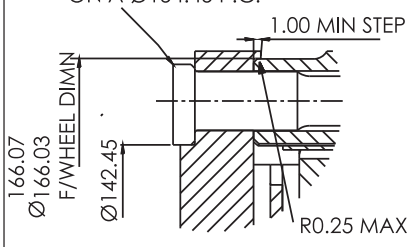
MOUNTING HOLES.
6 OFF HOLES
EQUI-SPACED
ON A Ø232.00
P.C. Ø0.05



Recommended Stud & Nut Tightening Torque = 10Nm (7.5lb/ft)

Ø215mm Stepped Flywheel with Stud Fixing

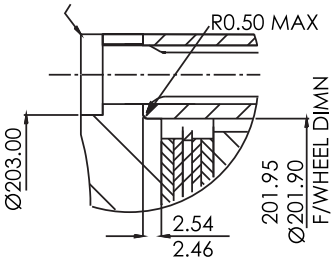
MOUNTING HOLES. 8 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø154.45 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø140mm Flat Flywheel

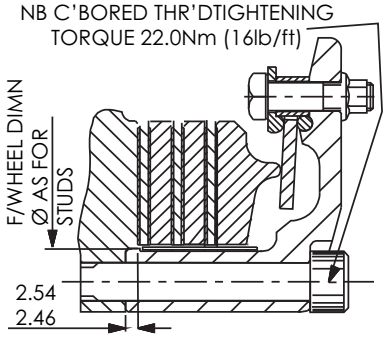
MOUNTING HOLES. 6 HOLES
Ø8.020/8.005 EQUI-SPACED
ON A Ø214.00 P.C.



Recommended Stud & Nut Tightening Torque = 22Nm (16lb/ft)

Ø200mm Stepped Flywheel

6 / 8 MOUNTING HOLES. EQUI-SPACED
ON A P.C.D AS FOR STUDS THREAD
M8 OR 5/16UNF
NB C'BORED THR'DTIGHTENING
TORQUE 22.0Nm (16lb/ft)



ALTERNATIVE FIXING USING BOLT
FOR 140MM - 215MM
STEPPED FLYWHEEL

FIXING / MOUNTING STUDS.

The recommended method of mounting the clutch to the flywheel is with a mounting stud and K-Lock nut.
Recommended tightening torque 22Nm (16lb/ft) for M8 & 5/16" UNF.
AP Racing offer a range of studs for mounting clutches to flywheels (see page 140). These high quality steel mounting studs are available in either M6, M8, 1/4" & 5/16" UNF to suit clutches of Ø115mm and above.
All studs have rolled threads for improved fatigue resistance. The stud design incorporates offset head flats for location, necked down shanks and precision ground location diameters.
All kits come complete with relevant K-lock nuts. See above for flywheel mounting details.

FLYWHEELS.

A purpose machined flywheel is required. The friction face should be a good quality close grained cast iron or steel (0.35 / 0.45 % carbon, hardness 200Hb minimum), with a surface finish of 75µm RA (30 CLA) maximum. Run out when assembled to the crankshaft must not exceed 0.08mm (0.003") maximum at 76mm (3.0") radius. Fixing holes and location spigot to be machined as shown above.
N.B. Cast Iron flywheels should not be used above 10000rpm.

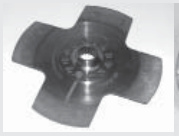
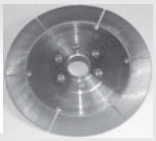
Race Clutch Home Page
Driven Plate Chart
Ø115mm Race Clutches
Ø140mm Race Clutches
Ø184mm Race Clutches
Ø200mm Race Clutches
Ø215mm Race Clutches
Slave Cylinders
Release Bearings
Mounting Studs
Carbon/ Carbon Clutches

DRIVEN PLATE RANGE.

The table below provides a quick reference on the range of driven plates relevant to there clutch assemblies.

Clutch Series No.	Available Driven Plate Types.										
	Sintered.				Bonded / Cerametallic / Paddle.						Organic
	Back To Back	Back to Back Extended hub nose	Nested Types	Gear Driven	3 Paddle	4 Paddle	6 Paddle	6 Paddle Sprung	6 Paddle Rigid	6 Paddle Sprung	
CP2116	CP4429 CP2012										
CP2125	CP4429 CP2012		CP2567	CP3822							
CP2606					CP8300	CP8400	CP8600				CP5386
CP2817				CP2822							
CP3745								CP5216	CP4814	CP4816	
CP3871								CP5216	CP4814	CP4816	
CP4560								CP5216	CP4814	CP4816	
CP5241								CP5346	CP5354		
CP5242						CP6180					
CP6001		CP3407									
CP6002	CP3414	CP3407		CP4122							
CP6003	CP3414			CP4123							
CP6013	CP3683	CP6014		CP4074							
CP6014	CP3683	CP6014		CP4074							
CP6073	CP5004		CP6074	CP6174							
CP6074	CP5004		CP6074	CP6174							
CP6092					CP4581						
CP7371	CP4429 CP2012										
CP7372	CP4429 CP2012		CP2567	CP3822							
CP7373	CP2012			CP2822							
CP7383					CP8300	CP8400	CP8600				CP5386
CP7381					CP8300	CP8400	CP8600				CP5386
CP7382					CP8300	CP8400	CP8600				CP5386
CP7392					CP8300	CP8400	CP8600				
CP7972			CP7972			CP8401	CP8601				
CP8022			CP7972 CP8172		CP8031	CP8401	CP8601				
CP8773	CP3683										
CP8804	CP3683										

DRIVEN PLATE MATERIAL TYPES.

▫ SINTERED:- A thin layer of metallic friction material which is sintered directly onto a steel disc. Normally for circuit use only.

▫ CERAMETALLIC PADDLE:- Cerametallic buttons riveted to a steel disc giving improved heat dissipation. Used mainly for Rally applications where more clutch slip is required in order to modulate the drive.

▫ BONDED PADDLE:- Direct sintered material offering increased friction surface area.

DRIVEN PLATE DESIGNS.


CP3414

▫ SINTERED SOLID BACK TO BACK:- Available in sizes Ø115, Ø140 and Ø184mm. - Ø140mm has a large area plate available **CP3683.**

▫ BACK TO BACK EXTENDED HUB NOSE:- Available in sizes Ø140mm Single or twin plate clutches. Extended nose to increase spline engagement to reduce wear.


CP3407


CP4074

▫ GEAR DRIVEN:- Designed to provide increased flywheel / crankshaft fixing bolt clearance and maximum spline length. Available in Ø140 and Ø184mm in either 2,3 or 4 plate versions. Recommended where a high level of engine vibration or input shaft runout can be expected.

▫ (NESTED) TYPE:- Allows for extra flywheel / crankshaft fixing bolt clearance. Available on Ø115mm & Ø184mm clutches only.

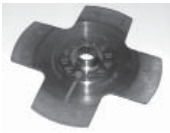

CP2567 P/ Plate Side


CP2567 F/ wheel Side

Visit www.apracing.com for full & up to date product range

▫ RIGID SINTERED PADDLE

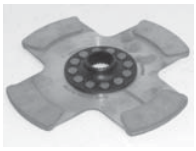
- 4 Paddle Sintered CP4429 available for CP2116 and CP7371 single plate clutches.

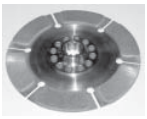


▫ RIGID PADDLE OR CERAMETALLIC PLATES:-


- CP4581, Ø140mm. 3 paddle. 6.25mm Thick.


- CP8300, Ø184mm. 3 Paddle. 7.08mm Thick.


- CP8400, CP8401 Ø184mm. 4 Paddle. 7.08mm/6.00mm Thick.


- CP8600, or **CP8601** Ø184mm. 6 Paddle. 7.08mm/6.0mm Thick.


- CP5214, Ø200mm. 4 paddle. 7.08mm Thick.


- CP5216, Ø200mm.6 paddle. 7.08mm Thick.


- CP5344 / CP6180, Ø215mm. 4 paddle. 8.89mm Thick.


- CP5346, Ø215mm. 6 paddle. 8.89mm Thick.

▫ SPRING CENTRE CERAMETALLIC:-

These plates are available in 4 or 6 paddle configurations but use a sprung centre hub with damper springs to reduce the torsional vibrations in the drive-line. For Ø200mm and 215mm clutches.


CP4814 / CP5354 7.08mm Thick.


CP4816 7.08mm Thick.

BONDED CERAMETALLIC DRIVEN PLATE PART NUMBERING EXPLANATION.

The table below explains the new part numbering system for the new range of Driven Plates. See table overleaf for driven plates.

CP8300 - A 036 H

Family Part Number.	Hub Profile.	Spline Details.	Hub Treatment.
CP8300 3 Paddle, 7.11mm Thick.	**A =** Standard	**001** 0.87" x 10	**H =** Hardened.
CP8301 3 Paddle, 6.00mm Thick.		**026** 0.87" x 20	
CP8400 4 Paddle, 7.11mm Thick.		**036** 1.00" x 23	
CP8401 4 Paddle, 6.0mm Thick.		**040** 1.16" x 26	
CP8600 6 Paddle, 7.11mm Thick.		**004** 1.125" x 10	
CP8601 6 Paddle, 6.0mm Thick.		**036** 1.00" x 23	

DRIVEN PLATE THICKNESS & WEAR IN.

The total allowable driven plate wear will vary according to the "wear in" and the number of driven plates for each particular clutch. e.g for a 3 plate clutch with 0.75mm "wear in" each plate can wear 0.75mm / 3 = 0.25mm from new. The minimum worn driven plate thickness given in this catalogue assume even wear across all plates. However it is permissible to run individual plates below this thickness provided the total wear does not exceed the "wear in" figure.

Race Clutch Home Page
Ø115mm Race Clutches
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Race Clutch Technical Info
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DRIVEN PLATE CHART.

The table below provides information on the most popular of splines available for the race clutch driven plates detailed in this section. AP Racing offer many more driven plates with different thicknesses, so should you require a driven plate or a different spline not given below please contact AP Racing Technical Section for assistance.

		No. of Teeth.	10	10	10	10	10	10	17	18	20	21	21	21	21	22	23	24	24	26	26	Gear drive sliders
		Spline Shaft O.D (in mm) unless stated.	.875"	1"	1.062"	1.125"	1.25"	29	20	21.1	.875"	18.3	.92"	24	29	1"	1"	.8"	1"	22	1.16"	
SINTERED DRIVEN PLATES	115	**CP5004,** back to back.				-10 FM3		-7 FM3			-6 FM4						-5 FM4		-16 FM4		-8 FM4	
		CP6074, Nested.															-22/-23 FM4				-18/-19 FM4	
	140	**CP3407**, Ext hub.	-37 FM3	-57 FM3		-4 FM3		-8 FM3		-53 FM3	-26 FM3			-63 FM3	-61 FM3		-36 FM3	-51 FM3			-40 FM3	
		CP3414, back to back.	-30 FM3			-20 FM3	-37 FM3	-25 FM3	-43 FM3	-36 FM3	-18 FM3		-45 FM3	-21 FM3	-27 FM3	-40 FM3	-10 FM3		-32 FM3	-50 FM3	-19 FM3	
		CP4122, Gear driven.				-7 FM3		-6 FM3		-12 FM3	-4 FM3			-11 FM3			-2 FM3		-3 FM3		-5 FM3	CP4124 -9FM3
		CP4123 gear driven.				-7 FM3				-9 FM3	-4 FM3				-10 FM3		-2 FM3		-3 FM3		-6 FM3	
		CP3683 - Large area back to back.				-5 FM3		-13 FM3			-4 FM3			-6 FM3			-3 FM3				-12 FM3	
		CP6014, Ext hub.																			-9/-10 FM3	
		CP4073, Gear driven.				-10 FM3		-7 FM3			-6 FM3						-4 FM3		-5 FM3		-3 FM3	CP4074 -6FM3
		CP4074, Gear driven.				-14 FM3		-12 FM3			-10 FM3						-2 FM3		-9 FM3		-11 FM3	
	184	**CP2012, Outer** type.	-208 FM3	-164 FM3	-198 FM3	-117 FM3	-174 FM3	-199 FM3	-184 FM3	-205 FM3	-166 FM3	-204 FM3	-188 FM3	-161 FM3	-191 FM3	-192 FM3	-165 FM3	-167 FM3	-154 FM3	-216 FM3	-171 FM3	
		CP2012, Centre type.			-181 FM3	-169 FM3	-172 FM3	-244 FM3			-179 FM3				-240 FM3	-220 FM3	-178 FM3		-210 FM3		-173 FM3	
		CP2567, Nested F/Wheel side.		-35 FM3		-15 FM3		-29 FM3			-7FM3 -L			-33 FM3		-41 FM3	-23 FM3	-37 FM3			-11 FM3	
		CP2567, Nested P/Plate side.		-36 FM3		-16 FM3		-30 FM3			-8FM3 -L			-34 FM3		-42 FM3	-24 FM3	-38 FM3			-12 FM3	
		CP2822, 3 Plate, gear driven.			-39 FM3	-3 FM3	-27 FM3	-29 FM3			-20 FM3			-36 FM3			-23 FM3		-32 FM3		-6 FM3	CP2822 -31 FM3
		CP3822, 2 Plate, gear driven.				-17 FM3		-15 FM3			-11 FM3						-10 FM3	-13 FM3			-14 FM3	
BONDED D/PLATES	140	**CP4581**, 3 Paddle.		-10				-6		-9	-5			-8			-4				-3	
	184	**CP4429,** 4 Paddle, 2.6mm thick.				-6 FM4		-5 FM4		-11 FM4	-3 FM4		-12 FM4			-10 FM4	-4 FM4		-8 FM4	-9 FM4	-14 FM4	
		CP8300, 3 Paddle, 7.1mm thick.	-A 001	-A 002	-A 003	-A 004		-A 008	-A 017	-A 019	-A 026	-A 028	-A 029	-A 030	-A 033	-A 034	-A0 36H	-A 037	-A0 38H	-A 043	-A 040	
		CP8400, 4 Paddle, 7.1mm thick.	-A 001	-A 002		-A 004		-A 008	-A 017	-A 019	-A 026			-A 030		-A 034	-A0 36H	-A 037	-A0 38H		-A 040	
		CP8401, 4 Paddle, 6.0mm thick.															-A0 36H					
		CP8600, 6 Paddle, 7.1mm thick				-A 004		-A 008		-A 019	-A 026						-A0 36H		-A0 38H	-A 043	-A 040	
		CP8601, 6 Paddle, 6.0mm thick.															-A0 36H					
		CP7972, Nested 6 Paddle, 6.0mm thick.															-A0 36H					
		CP8172, Alt, Nested 6 Paddle, 6.0mm thick. F = Flywheel / C = Cover															F-10 C-11 FM4					
CERAMETALLIC DRIVEN PLATES	184	**CP4946,** 6 Paddle rigid.					-17	-12		-2	-6						-7				-9	
	200	**CP5214**, 4 Paddle rigid, **7.1mm**								-18	-14			-35	-16		-12	-15	-13			
		CP5214, 4 Paddle rigid, **7.6mm**									-21			-20			-27					
		CP5214, 4 Paddle rigid, **8.9mm**											-25									
		CP5216, 6 Paddle rigid, **7.1mm**				-22					-14					-11	-15		-13	-26	-23	
		CP5216, 6 Paddle rigid, **7.6mm**															-25					
		CP5216, 6 Paddle rigid, **8.9mm**									-20						-19				-21	
		CP4814, 4 Paddle sprung, **7.1mm**							-11	-14	-15			-38			-21		-13	-12		
		CP4814, 4 Paddle sprung, **7.6mm**								-24					-26		-23			-25		
		CP4814, 4 Paddle sprung, **8.9mm**																	-31			
		CP4816, 6 Paddle sprung **7.1mm**						-11			-13		-16				-12		-23	-26	-17	
		CP4816, 6 Paddle sprung, **8.9mm**														-21	-20					
	215	**CP6180,** 4 Paddle rigid			-1	-5									-7		-2		-3		-4	
		CP5344, 4 Paddle rigid. **7.1mm**			-33	-14			-26		-2			-37		-4	-5		-8	-32		
		CP5344, 4 Paddle rigid. **8.9mm**						-10								-30						
		CP5354, 4 Paddle, sprung, **7.1mm**		-3			-52	-14	-15		-2					-10	-38		-40	-45		
		CP5354, 4 Paddle, sprung, **8.9mm**				-25		-18			-34						-17		-44			
		CP5346, 6 Paddle rigid. **8.9mm**				-19			-11	-21	-6			-4	-2	-8	-12		-14		-15	
Organic 184mm		**CP5386,** 7.08mm.	-14	-13		-11					-12						-10				-A040	

CP6245 Con-centric Type

Power Actuator

Release Bearings

Carbon/ Carbon Clutches

Metallic Race Clutches

Mounting Studs

INTRODUCTION & GENERAL INFORMATION.

AP Racing offer a range concentric slave cylinders suitable for use with most push type racing clutches. These concentric slave cylinders are lightweight hydraulically self-contained units that mount on the transmission casing and operate the clutch directly. The Aluminium alloy bodies are lightweight and compact, the units feature an integral piston support tube, high temperature seals and scraper ring plus a special high tech, low friction coating.

CP6859 & CP3959 are interchangeable with the Saab derived slave cylinders that are in widespread use, but are hydraulically self contained and independent of the gearbox and therefore do not require an oil seal over the input shaft. The slave cylinders are supplied complete with a release bearing in a choice of three fulcrum diameters.

Ensure that the unit is installed in the correct position, with the bleed port uppermost as shown in the installation drawings that follow. All fittings intended to seat at the bottom of the hydraulic ports must have an included angle of 90°.

Details below apply to all slave cylinders within the range:- Body& Piston Material are Aluminium Alloy. / - Effective Area = 920mm² (1.426in²). - Max Pressure = 8.6N/mm² (1250psi). / - Fluid = Radi-CAL™ R4, R3, R2 or other high quality fluids.

CP3959 SLAVE CYLINDER.

The CP3959 series of concentric slave cylinders offer a lightweight die cast Aluminium body and are hydraulically self contained with high temperature seals. Interchange-able with SAAB cylinder part no, 4776308 (8729840).

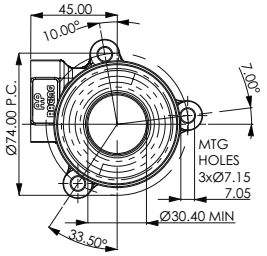
TECHNICAL SPECIFICATION.

- Weight. - 425g
- Hydraulic threads.- M12x1.0
- Replacement seal kit. CP3759-3
- Hydraulic fitting kits available for -3 or -4 aeroquip:
  - 7/16" (Aluminium adaptor) for - 4 aeroquip - CP3859-15
  - 3/8" (Steel adaptor) for -3 aeroquip - CP3859-16

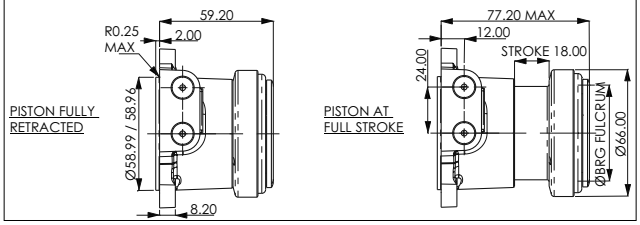
PART NUMBERS

Slave Part Number.	Fulcrum Ø.	Max Stroke.	Bearing.	Bearing Config.
CP3959-38	38.0mm	18.0mm	CP3457-16	1
CP3959-50	50.0mm	18.0mm	CP3457-11	1
CP3959-54	54.0mm	18.0mm	CP3457-6	1
CP3959-1250	50.0mm	12.0mm	CP3457-9	2
CP3959-1254	54.0mm	12.0mm	CP3457-10	2
CP3959-1238-IN	38.0mm	12.0mm	CP3457-16	3

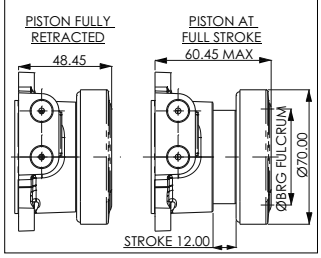
View Installation Drawing



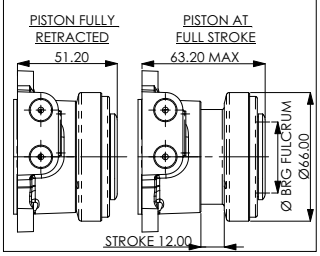
BEARING CONFIGURATION 1: The bearing is housed in the piston via the outer race with the inner race rotating. This is more suitable for high speed applications.



BEARING CONFIGURATION 2: The bearing is housed on the piston via the inner race with the outer race rotating. The stroke has been shortened so as to reduce the overall length.



BEARING CONFIGURATION 3: The bearing is housed in the piston via the outer race with the inner race rotating. The stroke has been shortened so as to reduce the overall length.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP6859 SLAVE CYLINDER.

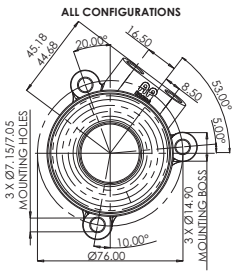
The CP6859 series of concentric slave cylinders offer a lightweight forged Aluminium body and are hydraulically self contained with high temperature seals. .

TECHNICAL SPECIFICATION.

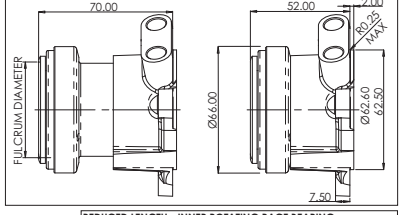
- Weights - CP6859-XX - 361g / -12XX - 257g / -12XX-IN - 346g
- Hydraulic threads.- M10x1.0
- Replacement seal kit. CP3759-3
- Hydraulic fitting kits available for -3 or -4 aeroquip:
  - Hydraulic fitting kit (Steel adaptor 7/16" '-4') CP3759-6.
  - Hydraulic fitting kit (Steel adaptor 3/8" '-3') CP3759-5.

PART NUMBERS

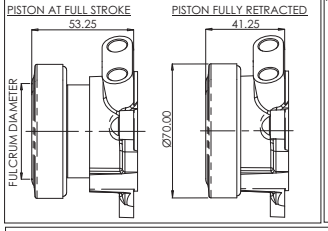
Slave Part Numbers.	Fulcrum Ø.	Max Stroke.	Bearing.	Bearing Config.
CP6859-14	Flat	18.0mm	CP3457-22	4
CP6859-38	38.0mm	18.0mm	CP3457-16	1
CP6859-45-IN	45.0mm	18.0mm	CP3457-19	1
CP6859-50	50.0mm	18.0mm	CP3457-11	1
CP6859-54	54.0mm	18.0mm	CP3457-6	1
CP6859-1245	45.0mm	12.0mm	CP3457-19	2
CP6859-1250	50.0mm	12.0mm	CP3457-9	2
CP6859-1254	54.0mm	12.0mm	CP3457-10	2
CP6859-1238-IN	38.0mm	12.0mm	CP3457-16	3
CP6859-1245-IN	45.0mm	12.0mm	CP3457-26	3
CP6859-1250-IN	50.0mm	12.0mm	CP3457-11	3
CP6859-1254-IN	54.0mm	12.0mm	CP3457-6	3
CP6859-45	45.0mm	18.0mm	CP3457-19	5



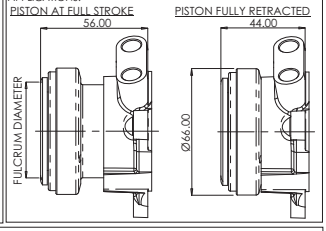
BEARING CONFIGURATION 1: (18MM STROKE) THIS SLAVE CYLINDER FEATURES:THE BEARING IS HOUSED IN THE PISTON VIA THE OUTER RACE THE INNER RACE ROTATES, SUITABLE FOR HIGH SPEED APPLICATIONS.

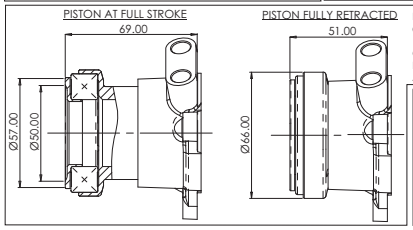


REDUCED LENGTH-OUTER RACE ROTATING.BEARING CONFIGURATION 2 (12MM STROKE) - THIS SLAVE CYLINDER FEATURES: A SHORTENED STROKE SO AS TO REDUCE THE OVERALL LENGTH. THE BEARING HOUSED ON THE PISTON VIA THE INNER RACE WITH THE OUTER RACE ROTATING.



REDUCED LENGTH - INNER ROTATING RACE BEARING CONFIGURATION 3 (12MM STROKE) - THIS SLAVE CYLINDER FEATURES: A SHORTENED STROKE SO AS TO REDUCE THE OVERALL LENGTH. THE BEARING HOUSED IN THE PISTON VIA THE OUTER RACE. THE INNER RACE ROTATES, SUITABLE FOR HIGH SPEED APPLICATIONS.





REDUCED LENGTH - FLAT FULCRUM BEARING CONFIGURATION 4 (18MM STROKE)
THE BEARING HOUSED IN THE PISTON VIA THE OUTER RACE WITH THE INNER RACE ROTATES, SUITABLE FOR HIGH SPEED APPLICATIONS.

CONFIGURATION 5
18MM STROKE - OUTER ROTATING RACE PART NUMBER - CP6859-45
THE BEARING HOUSED ON THE PISTON VIA THE INNER RACE WITH THE OUTER RACE ROTATING.

View Installation Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

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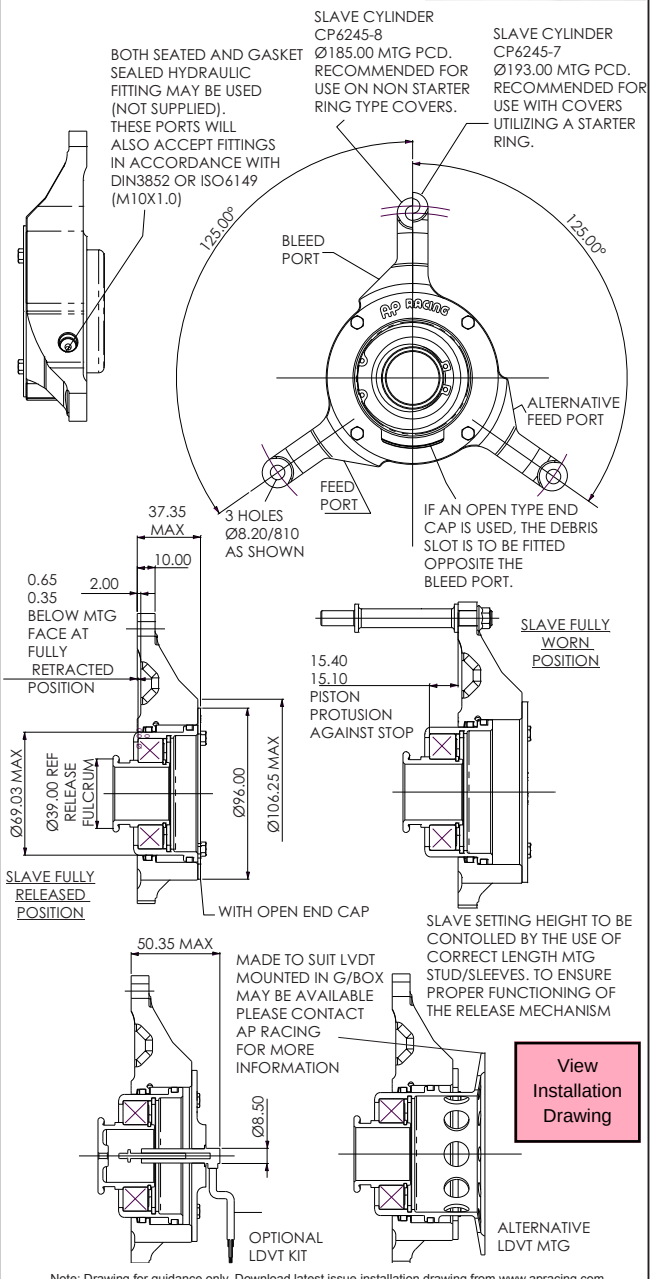
CP6245 CONCENTRIC SLAVE CYLINDER.

The CP6245 cylinder has been designed to mount over the clutch.
The aluminium body has a special hard wearing, low friction coating to minimise seal wear. The seals are resistant to high temperatures and utilise a scrapper ring.

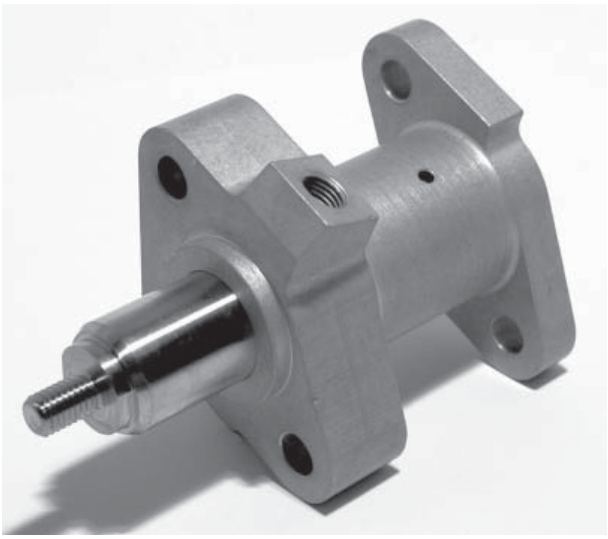


View Installation Drawing

Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

Specifications.	Part Numbers.	
	CP6245-7	CP6245-8
Assembly Mounting PCD.	Ø193.00	Ø185.00
Stroke.	15.70 ±0.25mm	
Weight.	753g	
X-Sectional Area.	910.90mm² (1.411sq²)	
Effective Bore Diameter.	34.06mm (1.341")	
Max Input Pressure.	6.9N/mm² (1000psi)	
Hydraulic Fluid.	AP551	
Hydraulic Threads.	M10 x 1.0	
Slave Cylinder Seal Repair Kit.	CP3749-3	
Replacement Release Bearing.	CP3457-12	
Clutch LDVT Kit.	CP3749-7	
Replacement Sensor	CP3749-6	

CP7950 HYDRAULIC POWER ACTUATOR.



This power actuator is designed to be used in conjunction with an electronic control power hydraulic system (e.g. Paddle Shift) to operate the clutch. It is fitted between the clutch pedal and a standard master cylinder and allows manual operation using the clutch pedal if required.
Note; CP7950 uses mineral oil seals.

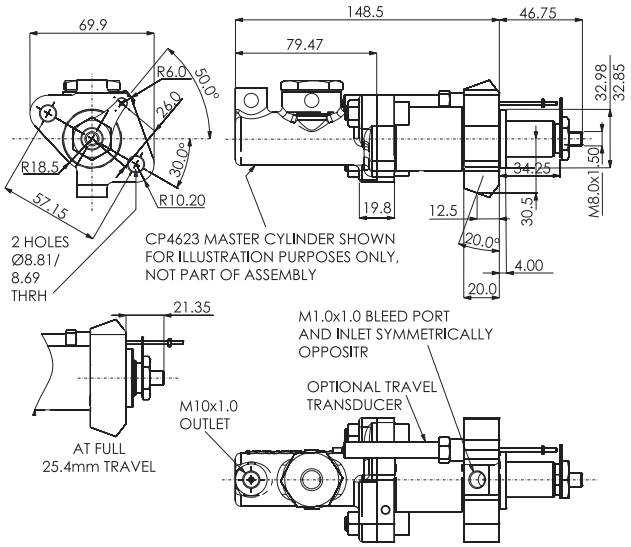
PART NUMBERS.

- CP7950-6 (Without CP4623-88NC Master Cylinder).
- CP7950-5 (With CP4623-88NC Master Cylinder included).

TECHNICAL SPECIFICATION.

Weight.	397g
Full Stroke.	25.4mm (1.0")
Effective Piston Area.	178.0mm²
Hydraulic Threads.	M10x1.0 Inlet M10x1.0 Bleed Port
Body Material.	Aluminium Alloy
Optional Extra Details.	Sensor:
Linear Potentiometer	
Full electrical stroke	30mm
Note: Only approx 26.0mm stroke is utilised in this configuration.	
Resistance	1.2 KOhm
Independent Linearity	0.25%
Applied Voltage	26Vdc.

INSTALLATION DRAWING



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

View Installation Drawing

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RELEASE BEARINGS.

These high quality Release Bearings are designed for use with AP Racing Clutches and are suitable for high loads and continuous high speed high temperature operation. They offer a greater release load capability and superior performance under arduous racing conditions compared to standard production bearings.

The bearings have steel cages and hardened steel shells for durability and are filled with a special high temperature grease. Of the six bearings within the range, Three have a radiused release fulcrum and are suitable for all straight fingered diaphragm spring clutches and are available with either a 38mm, 45mm 50mm or 54mm diameter release fulcrum suitable for all AP Racing Sintered or Cerametallic Racing Clutches. Two have flat faces which are suitable for production type curly fingered diaphragm clutches.

RELEASE MECHANISM.)

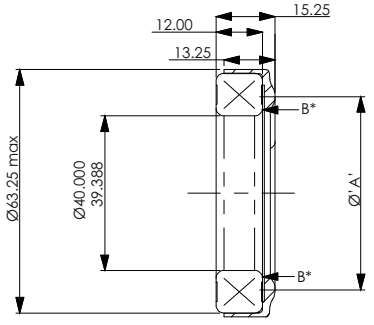
As the spring rate and clamp load of the clutch increases so does the release bearing load required to release the clutch. The release bearing used should be a highquality steel caged radius contact ball bearing either 38mm, 45mm or 50mm (for Ø115mm, Ø127mm, Ø138mm and Ø140mm carbon / race clutches) or 54mm for (Ø184mm, Ø200mm and Ø215mm carbon / race clutches).

The release mechanism should be arranged so that the bearing is free of the spring fingers when the clutch is fully engaged. The release travel should be limited by means of an external stop to avoid damage to the diaphragm spring. Suitable release bearings are available from AP Racing see details opposite and below.

IMPORTANT NOTE / INSTALLATION OF BEARINGS.

To prevent internal damage to ball races when fitting bearings onto release mechanism, use only the minimum force necessary on the surfaces marked 'B' only. The following bearing assemblies are filled with Kluber Asonic HQ72-102 grease, CP3457-1, -2, -6, -11, -16.

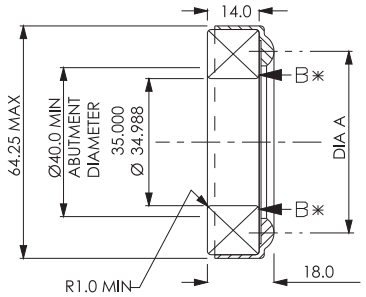
REDUCED THICKNESS BEARING. - OUTER RACE ROTATES.



- CP3457-24

Release Fulcrum Dia 'A' = 50mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

STANDARD RELEASE BEARING. 35MM INNER DIAMETER - OUTER RACE ROTATES.



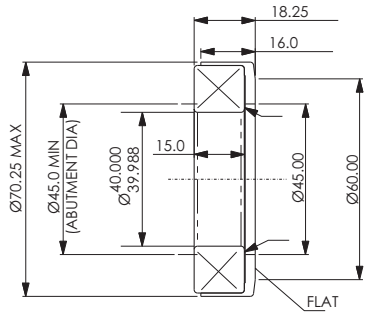
- CP3457-1

Release Fulcrum Dia 'A' = 50mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

- CP3457-2

Release Fulcrum Dia 'A' = 54mm.
This bearing is suitable for use with most Ø184, Ø200 & Ø215mm racing clutches

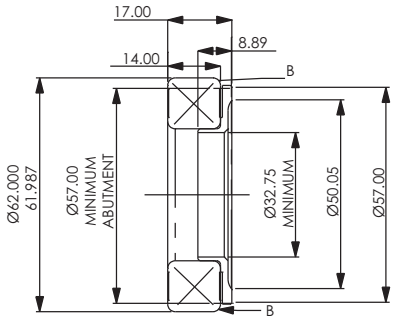
FLAT FACED RELEASE BEARING. 40MM INNER DIAMETER - OUTER RACE ROTATES.



- CP3457-23

Operates on round nose diaphragm spring fingers with a fulcrum diamter between Ø49mm to Ø56mm.

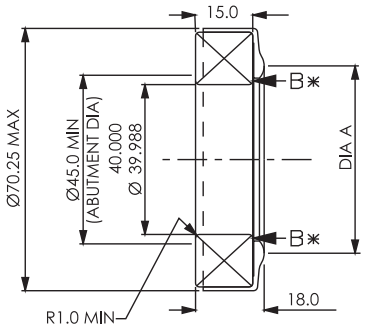
FLAT FACED, HIGH SPEED RELEASE BEARING. - INNER RACE ROTATES.



- CP3457-22

Operates on round nose diaphragm spring fingers with a fulcrum diamter between.
- CP3457-22 for Ø50mm to Ø56mm.

STANDARD RELEASE BEARING. 40MM INNER DIAMETER - OUTER RACE ROTATES.



- CP3457-9

Release Fulcrum Dia 'A' = 50mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

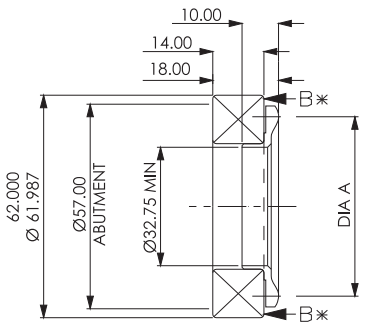
- CP3457-10

Release Fulcrum Dia 'A' = 54mm.
This bearing is suitable for use with most Ø184, Ø200 & Ø215mm racing clutches.

- CP3457-19

Release Fulcrum Dia 'A' = 45mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

HIGH SPEED RELEASE BEARING - INNER RACE ROTATES.



- CP3457-11

Release Fulcrum Dia 'A' = 50mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

- CP3457-6

Release Fulcrum Dia 'A' = 54mm.
This bearing is suitable for use with most Ø184, Ø200 & Ø215mm racing clutches.

- CP3457-16

Release Fulcrum Dia 'A' = 38mm.
This bearing is suitable for some Ø115mm racing clutches, and clutches from other manufacturers.

- CP3457-26

Release Fulcrum Dia 'A' = 45mm.
This bearing is suitable for use with most Ø115, Ø127 & Ø140mm racing clutches.

Note:
Drawings for guidance only. Download latest issue installation drawings from www.apracing.com

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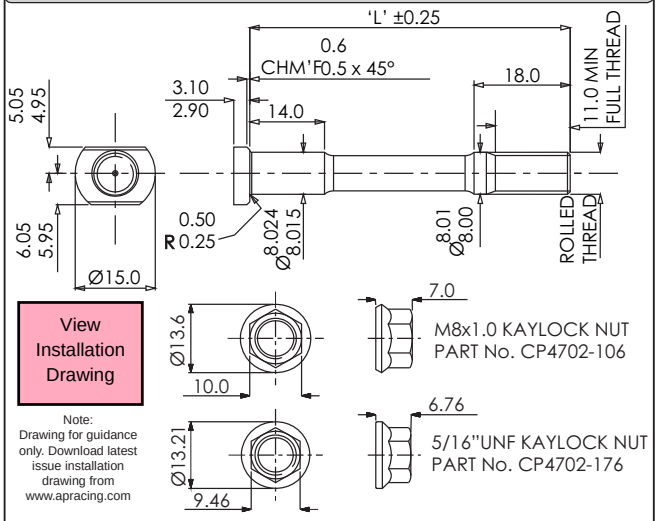
CLUTCH MOUNTING STUD.

AP Racing offer a complete range of clutch mounting studs for all of the Carbon / Carbon and Sintered / Cerametallic Race Clutches.
The stud design incorporates offset head flats for location, necked down shanks and precision ground location diameters. All kits come complete with relevant K-lock nuts.

CP4702
M8 and 5/16"UNF STUD SERIES.



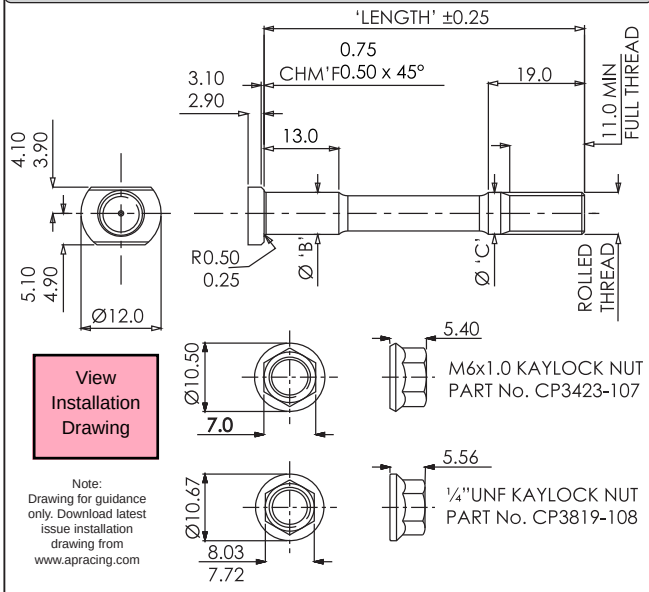
Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

CP4702 - PART NUMBERS.

Stud Length. (Dim'n 'L')	M8 x 1.0 (M Suffix).	5/16" UNF (U Suffix).
40.0mm	CP4702-400M	CP4702-400U
42.5mm	CP4702-425M	CP4702-425U
45.0mm	CP4702-450M	CP4702-450U
47.5mm	CP4702-475M	CP4702-475U
50.0mm	CP4702-500M	CP4702-500U
52.5mm	CP4702-525M	CP4702-525U
55.0mm	CP4702-550M	CP4702-550U
57.5mm	CP4702-575M	CP4702-575U
60.0mm	CP4702-600M	CP4702-600U
62.5mm	CP4702-625M	CP4702-625U
65.0mm	CP4702-650M	CP4702-650U
67.5mm	CP4702-675M	CP4702-675U
70.0mm	CP4702-700M	CP4702-700U
72.5mm	CP4702-725M	CP4702-725U
75.0mm	CP4702-750M	CP4702-750U
77.5mm	CP4702-775M	CP4702-775U

The kits listed above are available containing 6,8 or 12 bolts, add the number of bolts required to the end of the part number.
e.g. CP4702-400MK(12)

CP4703
M6 and 1/4"UNF STUD SERIES.



Note: Drawing for guidance only. Download latest issue installation drawing from www.apracing.com

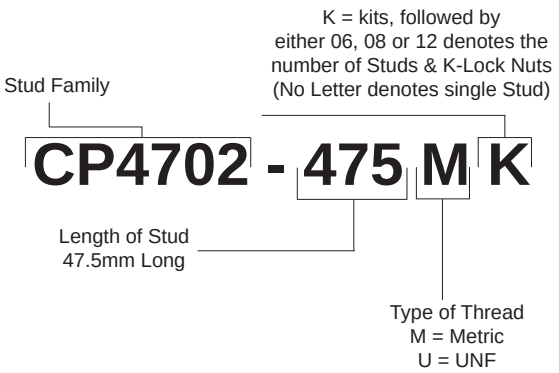
CP4703 - PART NUMBERS.

Stud Length. (Dim'n 'L')	M6 x 1.0 (M Suffix).	1/4" UNF (U Suffix).
Ø 'B'	**6.016 / 6.008mm**	**6.365 / 6.357mm**
Ø 'C'	**5.98 / 5.95mm**	**6.33 / 6.30mm**
40.0mm	CP4703-400M	CP4703-400U
42.5mm	CP4703-425M	CP4703-425U
45.0mm	CP4703-450M	CP4703-450U
47.5mm	CP4703-475M	CP4703-475U
50.0mm	CP4703-500M	CP4703-500U
52.5mm	CP4703-525M	CP4703-525U
55.0mm	CP4703-550M	CP4703-550U
57.5mm	CP4703-575M	CP4703-575U
60.0mm	CP4703-600M	CP4703-600U
62.5mm	CP4703-625M	CP4703-625U
65.0mm	CP4703-650M	CP4703-650U
67.5mm	CP4703-675M	CP4703-675U
70.0mm	CP4703-700M	CP4703-700U
72.5mm	CP4703-725M	CP4703-725U
75.0mm	CP4703-750M	CP4703-750U

The kits listed above are available containing 6,8 or 12 bolts, add the number of bolts required to the end of the part number.
e.g. CP4703-400MK(12)

ORDERING.

When ordering first calculate the required length of stud then by using the listing on the right find that length & quote the part number in either M6, M8, 1/4" UNF or 5/16"UNF.
Example part number breakdown below.



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CP3985 & CP3945 Air Jacks
CP3985 Recon Kit
Air Jack Lance & Connector
Air Jack Props
Exhaust Valve

AIR JACKS

- INTRODUCTION AND GENERAL INFORMATION.
- CP3985 ‘STANDARD DUTY’ AIR JACKS.
- CP3945 ‘HEAVY DUTY’ AIR JACKS.
- AIR JACK LANCE AND CONNECTOR.
- AIR JACK SERVICING KITS.
- SAFETY PROPS.

Air Jack Home Page
CP3985 Recon Kit
Air Jack Lance & Connector
Air Jack Props
Exhaust Valve

INTRODUCTION.

AP Racing Air Jacks are designed to be both lightweight and reliable and are used by many teams and manufactures in Sport Cars / Touring Cars plus many other series around the world.

The two available options are:-
- **CP3985** is the 'standard duty' version with an aluminium foot.
- **CP3945** is the 'heavy duty' version, dimensional identical to CP3985 but with a larger ram section making all variants approximately 30-40g heavier and a stainless steel foot.

- Available with or without a built in exhaust valve which can be throttled to adjust speed of descent. A range of accessories including safety props, lances & connectors are also available.

IMPORTANT NOTE: Do not exceed the recommended operating pressure of 30 Bar.

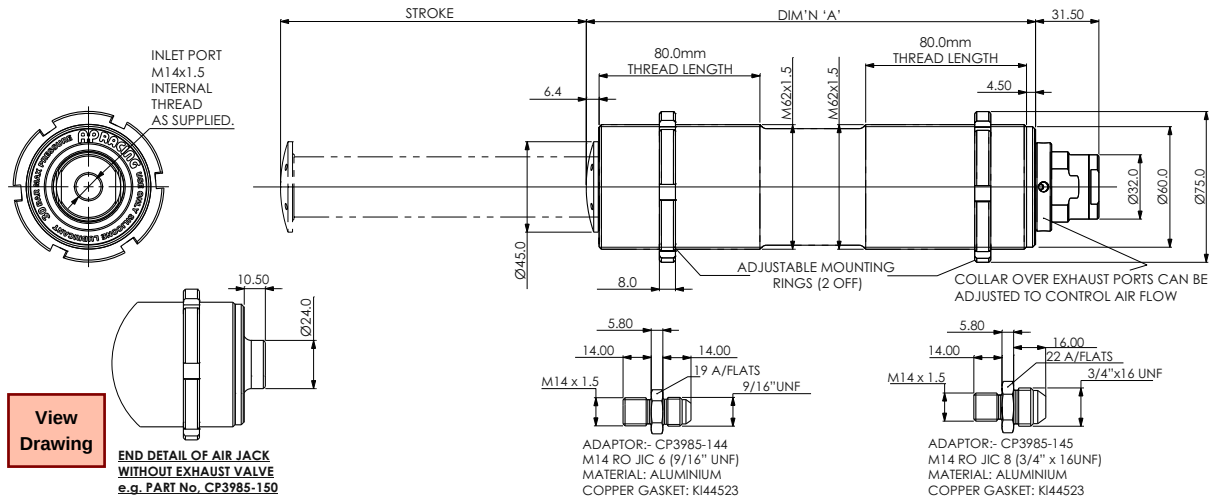
WARNING.

Explosive release of the energy stored in compressed air can be dangerous.
Please read the notes below. Jacks & air connections should be examined regularly for signs of damage.

Note: CP3985/CP3945 families replace CP2985, which is no longer available. Information on CP2985 & CP2995 will remain on our website as a guide only.

CP3985 & CP3945 SERIES - AIR JACKS.

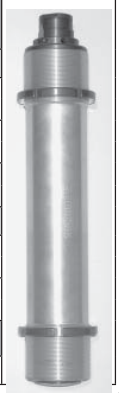
AP Racing range of Aluminium Air Jacks have a compression spring rather than the conventional tension return spring system. This makes the Air Jack faster and more efficient in operation with a lift capacity of 675kg, per air jack at 30 Bar operating pressure.



View Drawing

END DETAIL OF AIR JACK WITHOUT EXHAUST VALVE e.g. PART No. CP3985-150

Part Numbers.	Part Number Description.	Weight.	Dim'n 'A'	Bore Size.	Lift Capacity.	Operating Pressure Maximum.	Safety Prop.
CP3985 STANDARD DUTY AIR JACKS							
CP3985-150	**150mm stroke** - with Aluminium foot	0.83Kg	224mm	54.0mm	675Kg	30 Bar.	CP3985-15
CP3985-150EV	**150mm stroke** - with exhaust valve & Aluminium foot	0.88Kg					
CP3985-230	**230mm stroke** - with Aluminium foot	1.07Kg	325mm				CP3985-23
CP3985-230EV	**230mm stroke** - with exhaust valve & Aluminium foot	1.12Kg					
CP3985-310	**310mm stroke** - with Aluminium foot	1.34Kg	425mm				CP3985-31
CP3985-310EV	**310mm stroke** - with exhaust valve & Aluminium foot	1.39Kg					
CP3945 HEAVY DUTY AIR JACKS							
CP3945-230	**230mm stroke** - with Stainless steel foot	1.28Kg	325mm	54.0	675kg	30 Bar.	CP3985-23
CP3945-230EV	**230mm stroke** - with exhaust valve & Stainless steel foot	1.33Kg					
CP3945-310	**310mm stroke** - with Stainless steel foot	1.60kg	425mm				CP3985-31
CP3945-310EV	**310mm stroke** - with exhaust valve & Stainless steel foot	1.65Kg					
Repair Kits	**CP3985-1RK** - for CP3985 Air jacks.		**CP3985-11RK** - for CP3945 Air jacks.				
Spares	**Note: The mounting ring CP2820-110 are also available to order separately.**						



SAFETY, INSTALLATION & USE.

- Never work under a vehicle supported only by Air Jacks unless safety props are fitted.
- Do not use 'U' bolt type clamps as distortion of the body will cause the Air Jack to stick.
- Do not loosen or remove adaptor. Jacks must be vertical during operation, Mounting brackets or clamps to be fitted to threaded section of body only.
- Do not use petrol or paraffin for cleaning the Air Jacks as this will damage the rubber seals.
- Use an alcohol based cleaning fluid e.g. Methylated spirit.
- Use only silicone spray or silicone grease when internal lubrication is necessary.

NOTE: CP3985 Air Jack have an M14 female inlet and connections

RECONDITIONING.

AP Racing have introduced two tool kits to enable a user to recondition their Air Jacks.
- **CP4985-20** kit contains all tools necessary to recondition all CP3985 & CP3945 Air Jacks. See page 144 for information.
- **CP4985-10** kit contains all tools necessary to recondition all CP2985 style Jacks. Visit our website:

CP6116 AIR JACK LANCE AND CONNECTORS.

To complement the range of Air Jacks, AP Racing offer a new lighter lance design (CP6116-15) used with Connector & Valve (CP6116-3) or Connector (CP6116-4). Designed to have high flow and positive operation. The Connector Valve CP6116-3 has a two position valve to release system pressure.

- Maximum operating pressure 40BAR . N.B. Lance & Connectors are NOT interchangeable with previous CP6006 Series part.

Installation:
1. Attach the connector valve assembly to vehicle and link to Air Jacks.
2. Attach air line to the lance assembly.

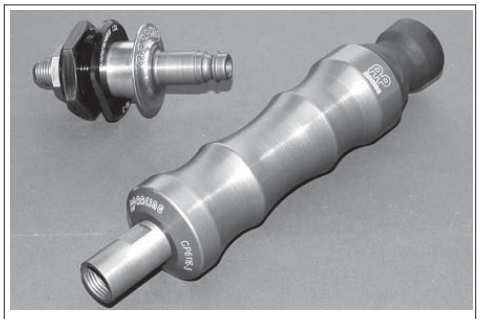
Connecting:
3. With the valve in its open position, offer the lance assembly squarely on to the snap on connector of the valve assembly.
4. Push the lance into place until it latches onto the valve. The valve will close automatically.

Disconnection:
5. Pull the whole lance assembly off the valve. The valve will remain closed and the Air Jacks extended.

Venting The Air Jacks, with CP6116-3 Connector Valve:
6. Open the valve by pulling the operating sleeve fully out.

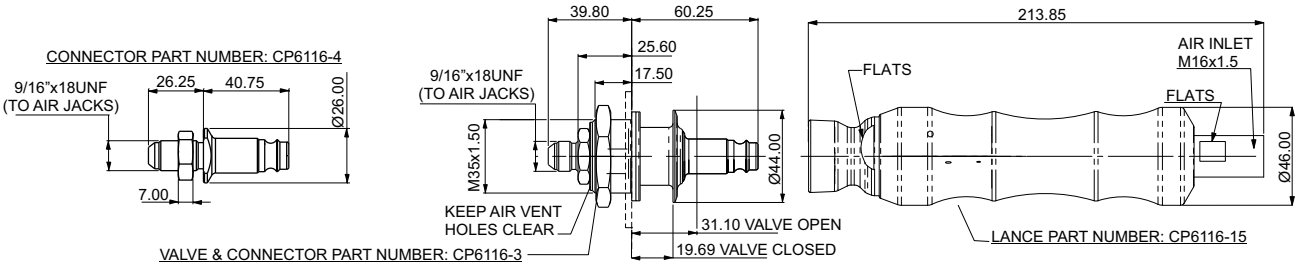
Venting The Air Jacks, with CP6116-4 Connector:
6. As there is no valve, the air will be released as soon as the lance is removed.

Weights - CP6116-15 = 650g / CP6116-3 = 180g / CP6116-4 = 70g.



Maintenance:
To maintain the lance it is recommended to spray silicone separator. Spray down the nose of the lance and then engage the lance onto the connector for 3 or 4 times to work spray in.

View Drawing



CP3985 TYPE SAFETY PROPS.

These one piece machined from billet aluminium safety devices have been designed to be clipped around the ram of the air jack when fully extended to prevent accidental withdrawal of the ram.
The air jack safety prop has an integral billet handle (where specified) and an anodised surface finish for durability.
Handle fitted to all props except CP3985-15.
(Safety Props must be ordered separately)

- **CP3985-31**
For use with CP3985-310, CP3985-310EV, CP3945-310 & CP3945-310EV

- **CP3985-23**
For use with CP3985-230, CP3985-230EV, CP3945-230 & CP3945-230EV

- **CP3985-15**
For use with CP3985-150 & CP3985-150EV

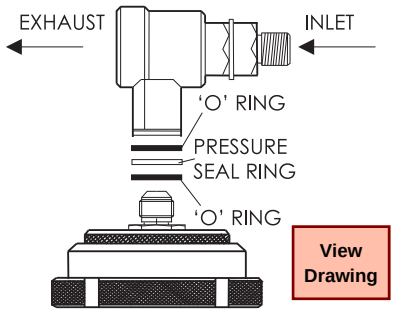
CP2985-7 EXHAUST VALVE.

This exhaust valve was designed for CP2985 and CP2995 Air Jacks types which are no longer available.

CP2985-7 Exhaust Valve is supplied in kit form which can be fitted by the customer and to other makes of Air jacks if required.

IMPORTANT:
Maximum operating limit = 20Bar

The kit is supplied as a single exhaust valve with two rubber seals and a pressure sealing ring for fitting to CP2985 & CP2995 Air Jack types only.
CP3985 and CP3945 Air Jack types have built in exhaust valve available as an option.
Care should be taken so that the rubber seals are located correctly in the pressure sealing ring when the exhaust valve is screwed down on the male adaptor on top of the Air Jack. The Exhaust Valve should be positioned so that the outlet face is not obstructed and also that the pressure flow of air does not damage anything within the car.



View Drawing

CUSTOMER NOTES

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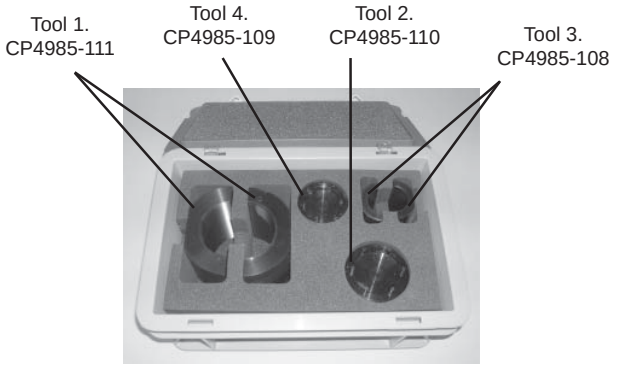
CP3985 & CP3945 AIR JACK SERVICING INSTRUCTIONS. CP4985-20 TOOL KIT FOR USE WITH CP3985-1RK & -11RK REPAIR KITS.



DIS-ASSEMBLY INSTRUCTIONS.

1. Hold the Air Jack in a vice using the pair of threaded Body Clamps (Tool 1). Do not over tighten. **(See Fig 1.)**

2. Locate Pin Tool (Tool 2) into the Bearing Housing holes and unscrew anti-clockwise out of the Air Jack Body using either a Torque spanner and a 21mm socket or using a Tommy bar (not supplied) through the hole in the Pin Tool. **(See Fig 1.)**

Fig 1.

Fig 2.

3. Once the Bearing housing is unscrewed completely from the Body, the Air Jack Piston Assembly can be withdrawn from the Body in one piece. **(See Fig 2.)**

4. If only cleaning and lubrication is to be carried out, then there is no need to dis-assemble the Air Jack further, but if the assembly is to be stripped down for replacement of all Bearings and Seals, then the following instructions apply.

5. Manually slide the Bearing Housing along the Air Jack Ram, compressing the Spring and slip the pair of Ram Clamps (Tool 3) around the Ram and between the Bearing Housing and the foot. Carefully release the Spring load to grip the Clamps.
See Fig 3.)

SAFETY NOTICE:- THE PENT UP SPRING FORCE IS POTENTIALLY HAZARDOUS, SO THIS OPERATION SHOULD BE CARRIED OUT WITH GREAT CARE, TO AVOID ACCIDENTS.

6. Hold the assembly in a vice using the Ram Clamps. Do not over tighten.

Fig 3.

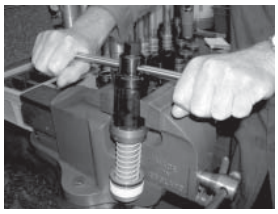


Fig 4.

Fig 5.

7. Using Pin Tool (Tool 4) engaged in the holes in the foot, rotate anti-clockwise to unscrew the foot from the Ram. **(See Fig 4.)**

8. Carefully slacken the vice grip to release the assembly, **(bearing in mind the safety note above in instruction 5)**. The Bearing Housing, small Bearing, Spring and Spacer (If fitted) can now be removed from the Piston Assembly.

9. The End Cap can be removed from the Body if necessary, using the Body Clamps (Tool 1) and a spanner applied to the 30mm flats on the Cap. **(See Fig 5.)**

10. Likewise the Inlet Adaptor can be unscrewed from the Cap using standard spanners to access the Valve Seal.

11. The Air Jack is now sufficiently dis-assembled to clean, lubricate and fit replacement parts.

SERVICING AND RE-ASSEMBLY.

These notes assume that all metal components are in a re-usable condition. If any component is damaged beyond use, then the Air Jack should either be returned to AP Racing for full reconditioning, including replacement of the damaged components, or additional replacement parts will need to be ordered.

1. Remove all 3 O-Rings and the Valve Cup Seal from the Cap, Inlet Adaptor and Piston and remove both plastic Bearings and discard. Make note of the orientation of the Valve Cup Seal, in order to re-assemble correctly later. Thoroughly clean all other metal components. Use an alcohol based cleaning fluid i.e. Methylated Spirit or warm soapy water.
DO NOT USE ANY PETROLEUM BASED CLEANERS AS THESE WILL DAMAGE THE RUBBER SEALS.

2. Use the 3 O-rings, the Valve Seal and the two Bearings contained in Repair Kit CP3985-1RK to replace those parts discarded. In order to install the larger Bearing, it will be necessary to split it as shown in the instructions included in the repair kit. The smaller Bearing need not be split to install.

3. There is an O-Ring bonded into a groove in the foot to act as return stop, if this is missing or damaged, then it can be replaced with one from the repair kit. Use a small amount of Loctite 406 to fix the new O-Ring to the foot.

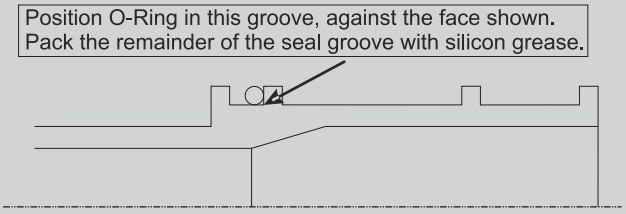


Fig 6.

4. Apply Silicon Spray lubricant to the main Bore of the Body and pack the Main O-Ring groove of the piston with Silicon Grease as shown in **(fig 6.)**. Take care not to allow lubricant onto any of the threads that are to be bonded with Loctite.

5. Re-assembly is the exact reverse of the operations listed above.

6. The Foot is to be bonded to the Ram and the Cap is to be bonded into the Body using Loctite 270.
Ensure threads are clean, apply Loctite Activator 7649 and then apply one complete circumferential ring of Loctite to the first turn only of the Male thread. Do not apply excess Loctite.
With the Activator applied, the Loctite will set quickly, so apply the Loctite activator only just prior to threading any pair of parts together. Quickly screw parts together until fully seated, ensuring that any O-Rings are correctly positioned and are not cut. Using the same tools used for dis-assembly, tighten all parts securely.Use a compressed air supply of 5 Bar maximum to check for leaks.

Customer Services

Introduction
Home Page

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AP Racing have a dedicated Technical and Sales team covering both its Race, Road and Special Vehicle areas, here is a chance to put some faces to the conversations you will have.

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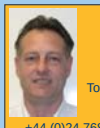

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AP Racing's technical section will be pleased to advise on the most suitable equipment for any particular application, and can provide more detailed information if required.
AP Racing operates a policy of continuous product development and reserve the right to change / withdraw specifications without notice.

All dimensions in millimetres unless stated otherwise.

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