A1 INSTALLATION DRAWING

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FIRST ANGLE PROJECTION

AP RACING
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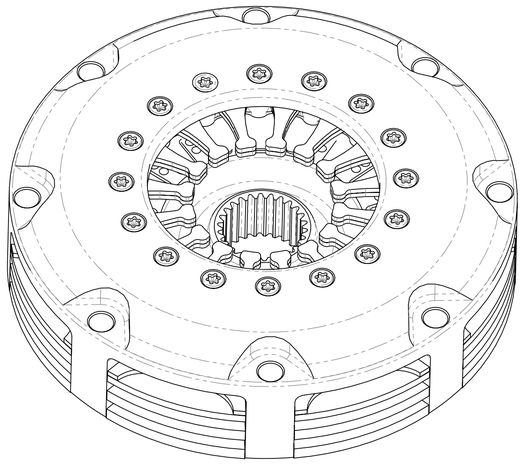
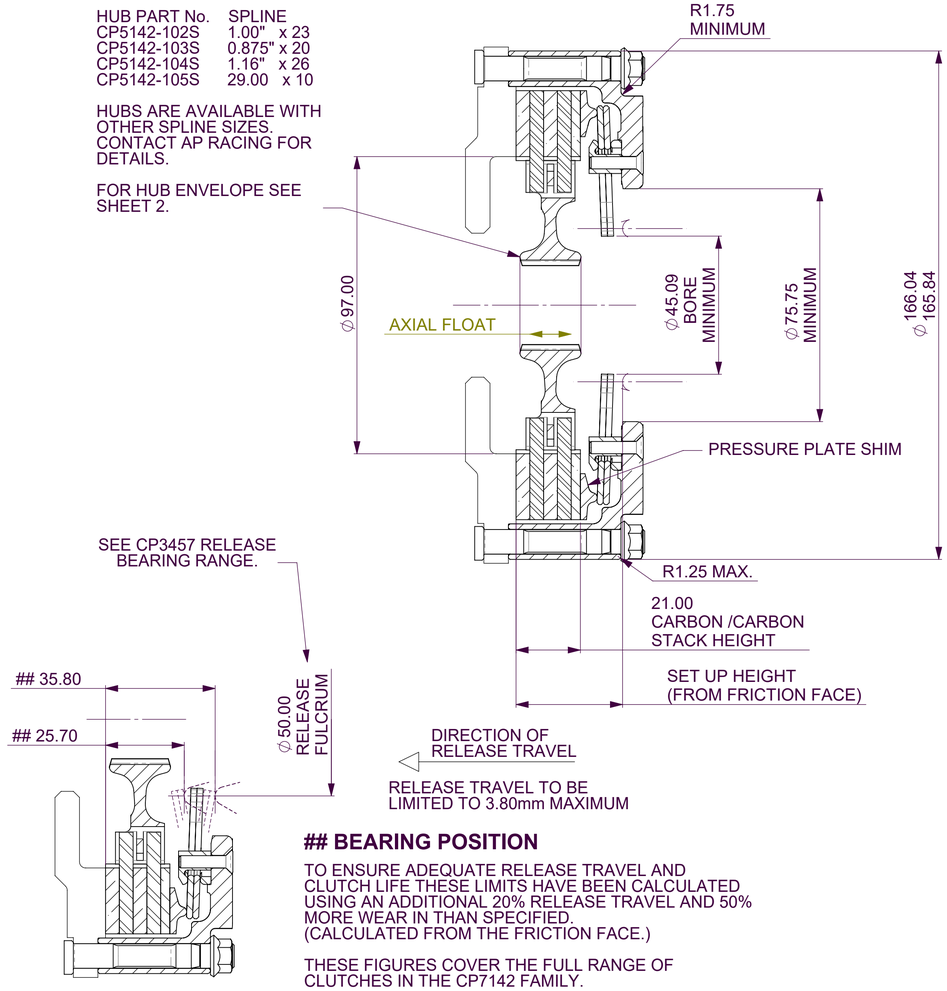
CP7142 Ø140mm (5.5") CARBON / CARBON CLUTCH ASSEMBLY INCLUDING AN OPTIONAL CUSHION FLYWHEEL SYSTEM (CFS)



HUB PART No.	SPLINE
CP5142-102S	1.00" x 23
CP5142-103S	0.875" x 20
CP5142-104S	1.16" x 26
CP5142-105S	29.00 x 10

HUBS ARE AVAILABLE WITH OTHER SPLINE SIZES. CONTACT AP RACING FOR DETAILS.

FOR HUB ENVELOPE SEE SHEET 2.



V-V

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.
(CALCULATED FROM THE FRICTION FACE.)

THESE FIGURES COVER THE FULL RANGE OF CLUTCHES IN THE CP7142 FAMILY.

CP7142 CLUTCH FAMILY

MAXIMUM DYNAMIC TORQUE CAPACITY						
(Nm)	741	589	537	426	421	315
(ft.lb)	547	434	396	314	310	232
Spec No.	S069	S067	S063	S061	S066	S060
RELEASE LOAD						
Max. Peak Worn (N)	5600	5400	4000	4000	5400	4000
Max Peak New (N)	3600	3600	3100	2900	3600	3100
WEAR IN (See Note)	0.5	0.5	0.5	0.5	1.0	0.75
Set Up Height New	32.21 30.93	31.87 30.78	31.73 30.47	31.39 30.32	31.72 30.76	31.20 30.24
Set Up Height Worn	34.58	33.62	34.10	33.14	34.40	33.21
(Set Up Height is caluclated from the flywheel friction face.)						
Release Ratio	4.48	3.44	4.48	3.44	2.64	2.64

Estimated Assembly Mass (Inc. Hub with Steel Main Pressure Plate) = 1.92 Kg
Estimated Assembly Inertia (Inc. Hub with Steel Main Pressure Plate) = 0.00646 Kgm²
Estimated Driven Plate and Hub Inertia = 0.00089 Kgm²

PERFORMANCE SUFFIX	CM	CE	OM	OE	CH	OH
For Reference						
Diaphragm Spring Rate	CRV	CRV	ORA	ORA	CRV	ORA
Clutch Ratio	MHR	EHR	MHR	EHR	HiR	HiR

MATERIAL SUFFIX	COVER MATERIAL	PRESSURE PLATE MATERIAL	CARBON / CARBON TYPE
28	ALUMINIUM	STEEL	STANDARD DUTY
02	ALUMINIUM	STEEL	HEAVY DUTY

FLYWHEEL TYPE	SUFFIX	COMMENTS
STANDARD FLAT FLYWHEEL	FN	FOR INSTALLATION DATA SEE SHEET 2
STANDARD STEPPED FLYWHEEL	SN	FOR INSTALLATION DATA SEE SHEET 2
FLAT FLYWHEEL WITH CFS	FC	FOR INSTALLATION DATA SEE SHEET 2 AND FLYWHEEL DETAILS SEE SHEET 3
STEPPED FLYWHEEL WITH CFS	SC	FOR INSTALLATION DATA SEE SHEET 2 AND FLYWHEEL DETAILS SEE SHEET 3

Sample AP Racing Part No. **CP7142-CE28-SC**

WEAR IN

THIS CLUTCH HAS BEEN DESIGNED FOR THE WEAR IN INDICATED ABOVE, WHICH MUST BE COMPENSATED FOR BY USING PRESSURE PLATE "SHIMS" FROM THE KITS DETAILED BELOW.
THE MAXIMUM CARBON STACK WEAR FOR THIS ASSEMBLY IS 4.00mm

	CM & OM	CE & OE	CH & OH
STANDARD KIT 0.50 - 3.50 IN 0.50 STEPS	CP4502-13	CP5253-5	CP4972-4
INTERMEDIATE KIT 0.25 - 3.25 IN 0.50 STEPS	CP4502-14	CP5253-4	CP4972-3

Issue No.	Alterations: Date & No.	Particulars	Zone	Initials
1	08/10/02 C2101	FIRTST ISSUE	#	JG
2	20/11/02	SEE SHEET 2	#	JG
3	04/02/03	SEE SHEET 3	#	JG
4	13/03/03	35.80 WAS 38.80	C1	JG
5	05/10/04	SHEET 1: R1.25 MAX. ADDED. SHEET 2 : 44.50° MIN. WAS 45.00°	D5	JG
6	19/10/04 C2551	COVER MOUNTING DETAIL CLARIFIED.	#	JG
7	10/07/08 C3446	SET UP HEIGHT TOLERANCE ADDED.	#	JG
8	06/02/2019 C5336	TRAVEL LOAD REPLACED BY PEAK NEW LOAD RELEASE LOADS UPDATED	#	TBT
9	21/03/25 WF-003768:01	MATERIAL SUFFIX 28 WAS 01	F10	DN

SCALE 1:1	SHEET 1 OF 3
DRAWN	Jeremy Govan
APPROVED	
DERIVED FROM	

TITLE
Ø140mm TWIN PLATE CARBON / CARBON CLUTCH ASSEMBLY

DRG NO. cp7142cd

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-	-	SEE SHEET 1 FOR ISSUE INFORMATION.	-	-

FLYWHEEL DIMENSIONS

FLAT FLYWHEEL - SUFFIX FN AND FC

(RECOMMENDED FOR CP4702 STUDS)

8 STUD MOUNTING HOLES

Ø8.020/8.005

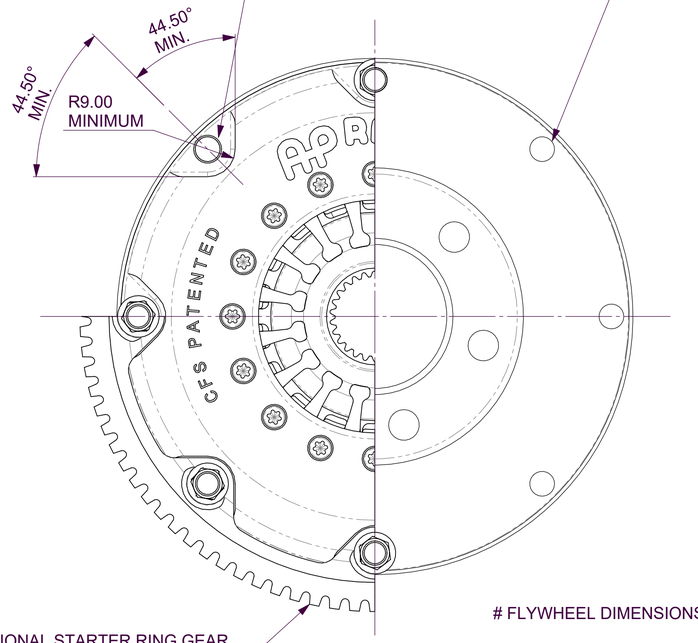
EQUI-SPACED ON A

Ø154.45 P.C.

8 COVER HOLES Ø8.15/8.05

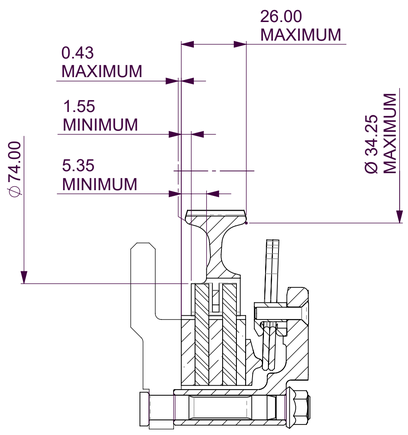
EQUI-SPACED ON A

Ø154.45 P.C.

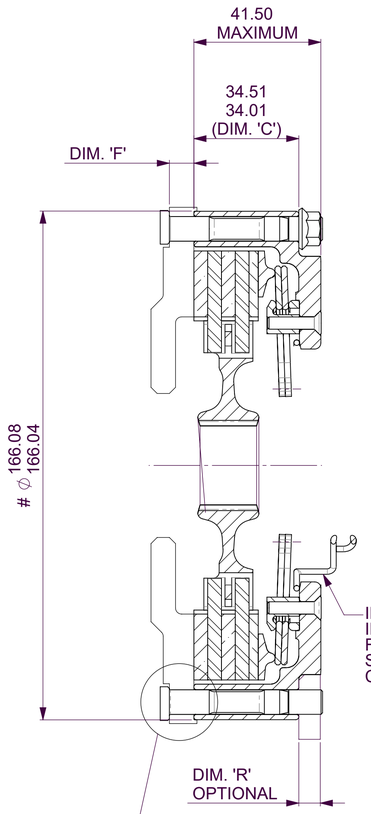


OPTIONAL STARTER RING GEAR SUPPLIED BY CUSTOMER

FLYWHEEL DIMENSIONS

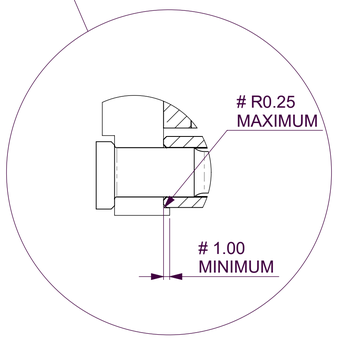


HUB ENVELOPE
(FROM FLYWHEEL FRICTION FACE)



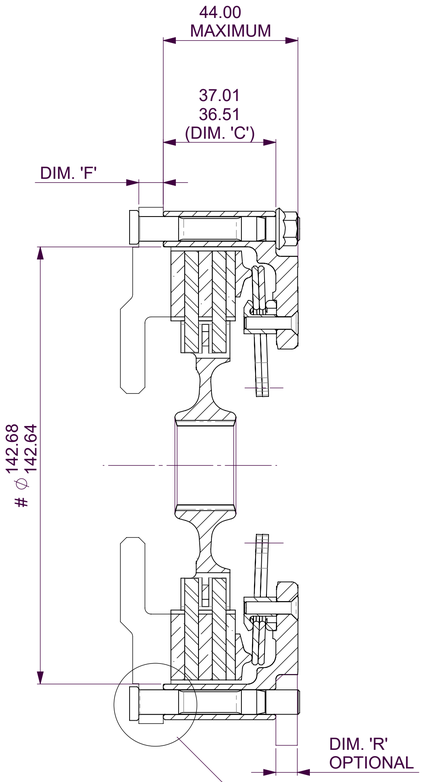
INSTALLATION WIRE FOR USE WHEN INSTALLING THE CLUTCH TO A FLAT FLYWHEEL. TO ENSURE FLYWHEEL SIDE CARBON IS LOCATED ON THE COVER LUGS

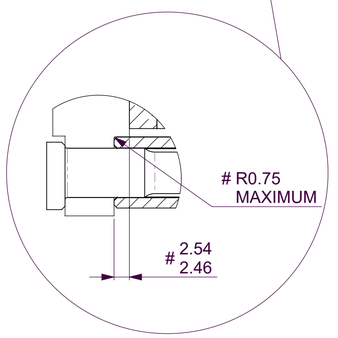
THIS WIRE MUST BE REMOVED BEFORE USE



STEPPED FLYWHEEL SUFFIX SN AND SC

FLYWHEEL DIMENSIONS





RECOMMENDED CLUTCH MOUNTING :
(FOR ALL TYPES OF ASSEMBLY)
M8 x 1.0, CP4702 FAMILY STUD AND K-LOCK NUT.
TIGHTENING TORQUE : 19Nm (14 ft.lb)

LENGTH OF STUD REQUIRED TO BE CALCULATED THUS :

STUD LENGTH =
DIMENSIONS 'C' + 'F' + ('R' OPTIONAL) + NUT

THIS CALCULATED LENGTH TO BE ROUNDED UP TO THE NEXT AVAILABLE STANDARD STUD LENGTH.

SCALE 1:1	SHEET 2 OF 3
DRAWN	Jeremy Govan
APPROVED	
DERIVED FROM	

TITLE

Ø140mm TWIN PLATE CARBON / CARBON CLUTCH ASSEMBLY

DRG NO. cp7142cd

N:\SolidWorks\Customer\cp7142cd.slddrw

Last Saved: Darren.Nicholl on 20 March 2025 14:55:55

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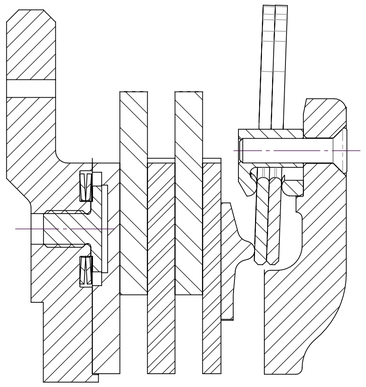
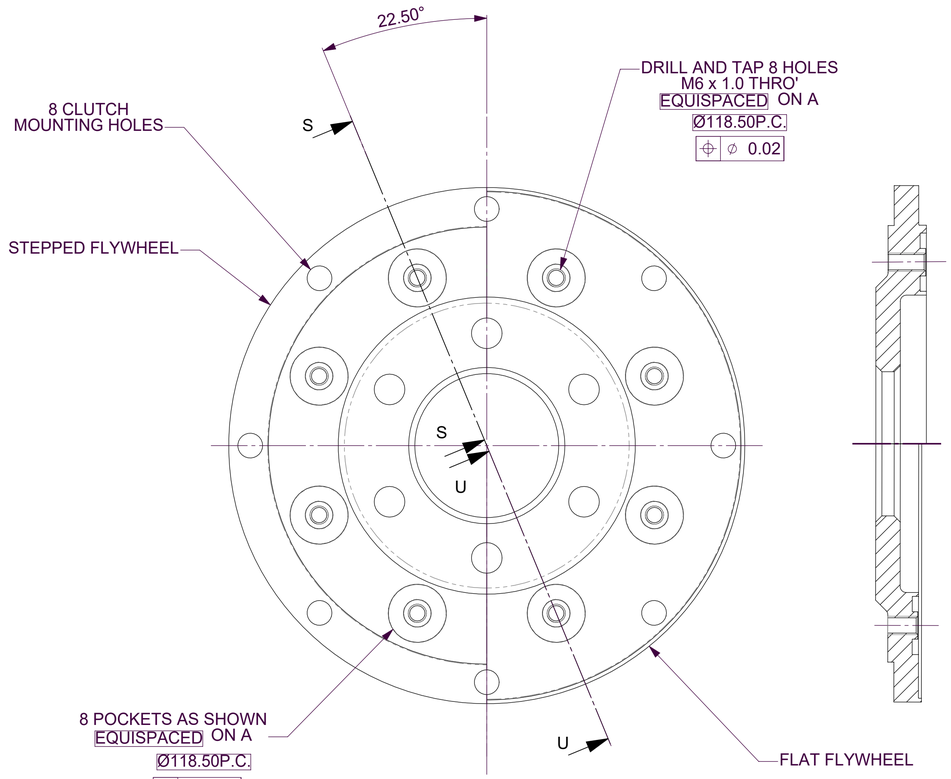
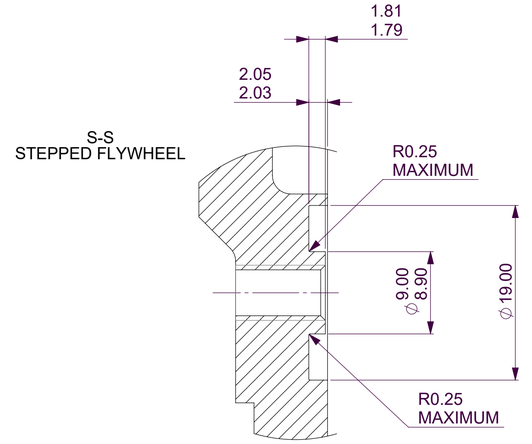
-	-	SEE SHEET 1 FOR ISSUE INFORMATION.	-	-



SECTION SHOWING A FLAT FLYWHEEL WITH CFS (CUSHION FLYWHEEL SYSTEM) PART NUMBER SUFFIX - FC



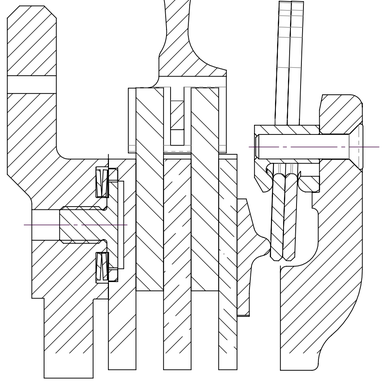


U-U
FLAT FLYWHEEL

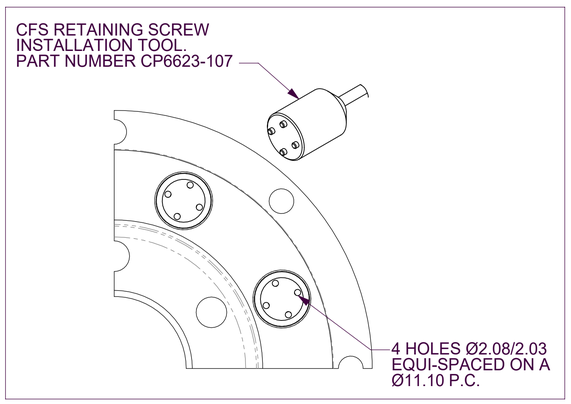
MODIFICATION REQUIRED TO FLAT AND STEPPED FLYWHEELS. (3 : 1)

DIMENSIONS FOR A STEEL FLYWHEEL ONLY WHEN AN ALUMINIUM FLYWHEEL IS USED SEE DRAWING CP7142-3CD FOR ALTERNATIVE DIMENSIONS AND CFS KIT.

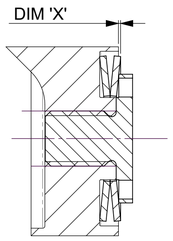
FLYWHEEL MODIFICATIONS REQUIRED TO ENABLE THE USE OF CFS PART NUMBER SUFFIX -SC AND -FC



SECTION SHOWING A STEPPED FLYWHEEL WITH CFS (CUSHION FLYWHEEL SYSTEM) PART NUMBER SUFFIX - SC

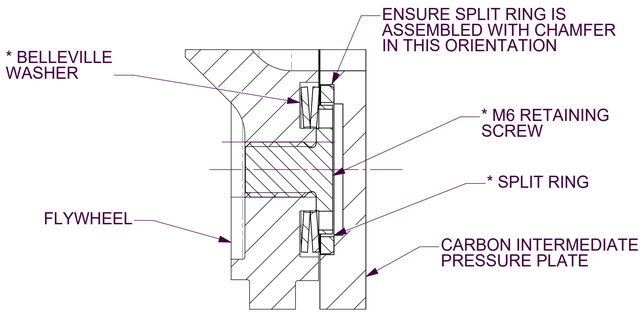


CUSHIONING REPLACEMENT CRITERIA



P-P (3 : 1)

WITH TIME AND USE THE CUSHIONING EFFECT WILL DETERIORATE AND COMPONENTS SHOULD BE SERVICED WITH THE ABOVE KIT WHEN EITHER THE BELLEVILLES BECOME LOOSE OR WHEN DIMENSION 'X' FALLS BELOW 0.2, TAKEN AS THE AVERAGE OF 4 EQUALLY SPACED MEASUREMENTS AROUND THE CIRCUMFERENCE OF THE BELLEVILLE.



*** CUSHION FLYWHEEL COMPONENTS AVAILABLE IN KIT FORM.**

PART No. CP6323-4

CP6323-4 Cushion Flywheel Kit Installation

1. Machine 8 equispaced pockets and M6 x 1.0 tapped holes into the friction surface of the flywheel, to the size and position shown on opposite.
2. Place the two Belleville washers supplied into each pocket in the orientation shown below.
3. Apply Loctite 620 to threads and tighten the M6 x 1.0 screws onto the Belleville washers to a torque of 4Nm.
4. Compress split washers using pliers and fit into recesses in bottom carbon/carbon pressure plate. Ensure split washers are flush with the friction face

SCALE 1:1	SHEET 3 OF 3
DRAWN	Jeremy Govan
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TITLE

Ø140mm TWIN PLATE CARBON / CARBON CLUTCH ASSEMBLY

DRG NO. cp7142cd