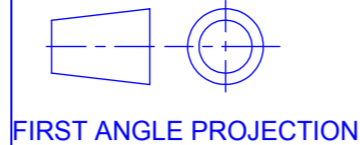


# A2 INSTALLATION DRAWING

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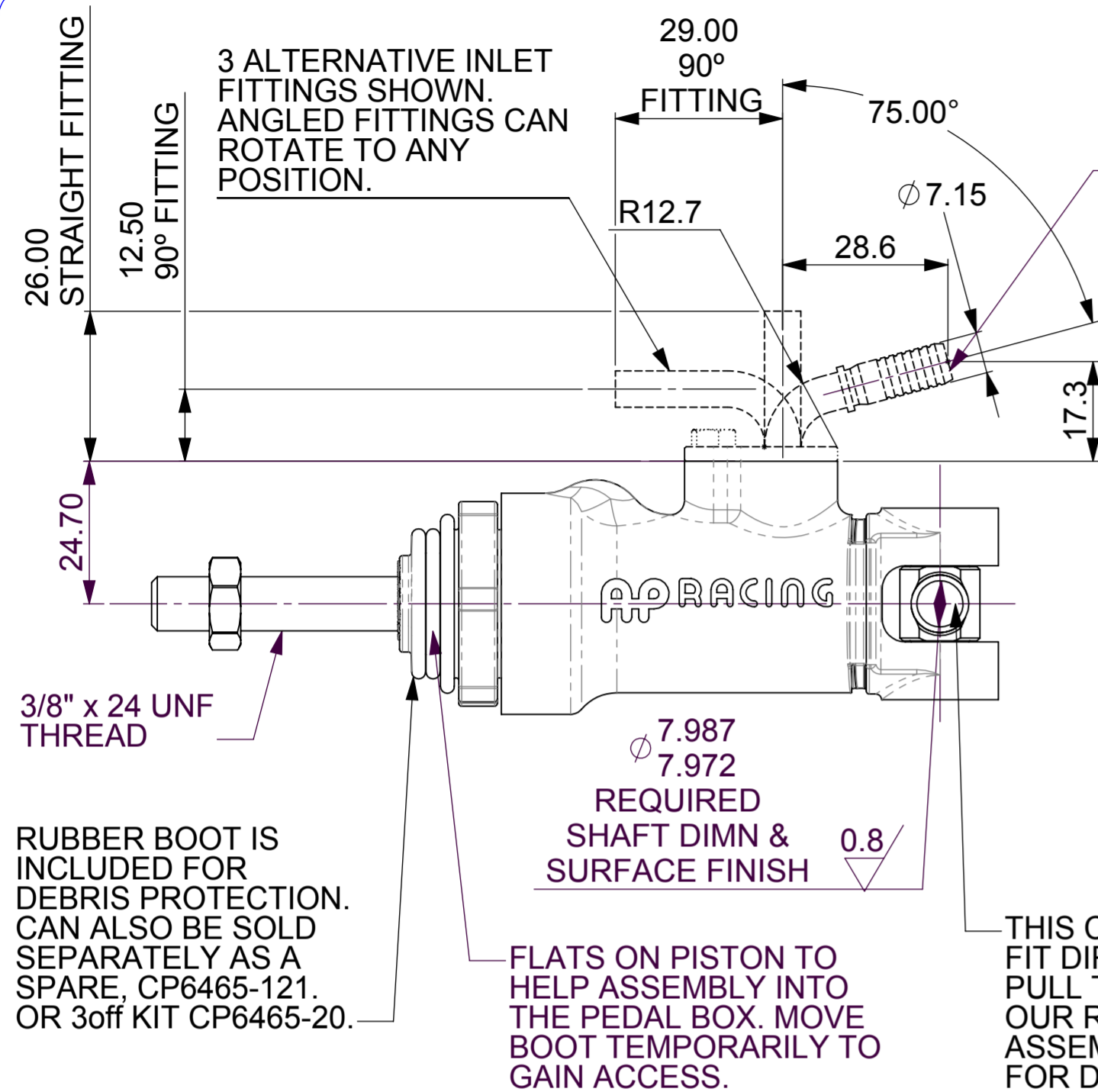


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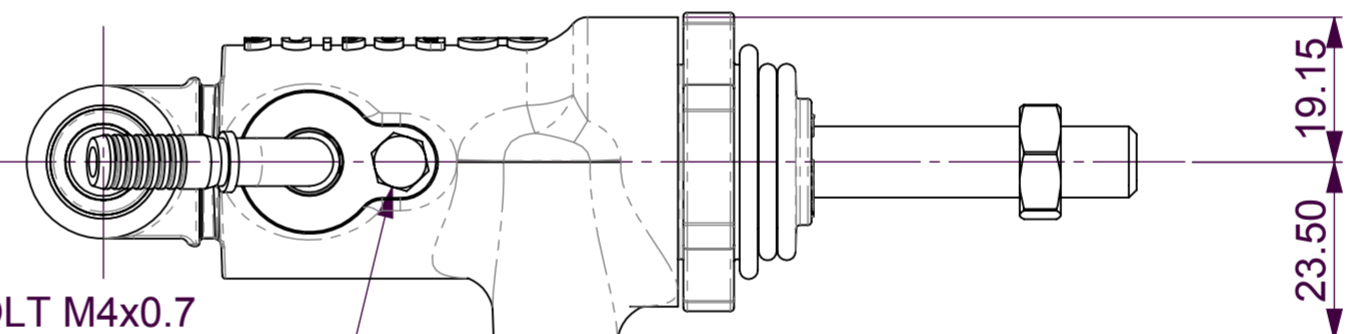
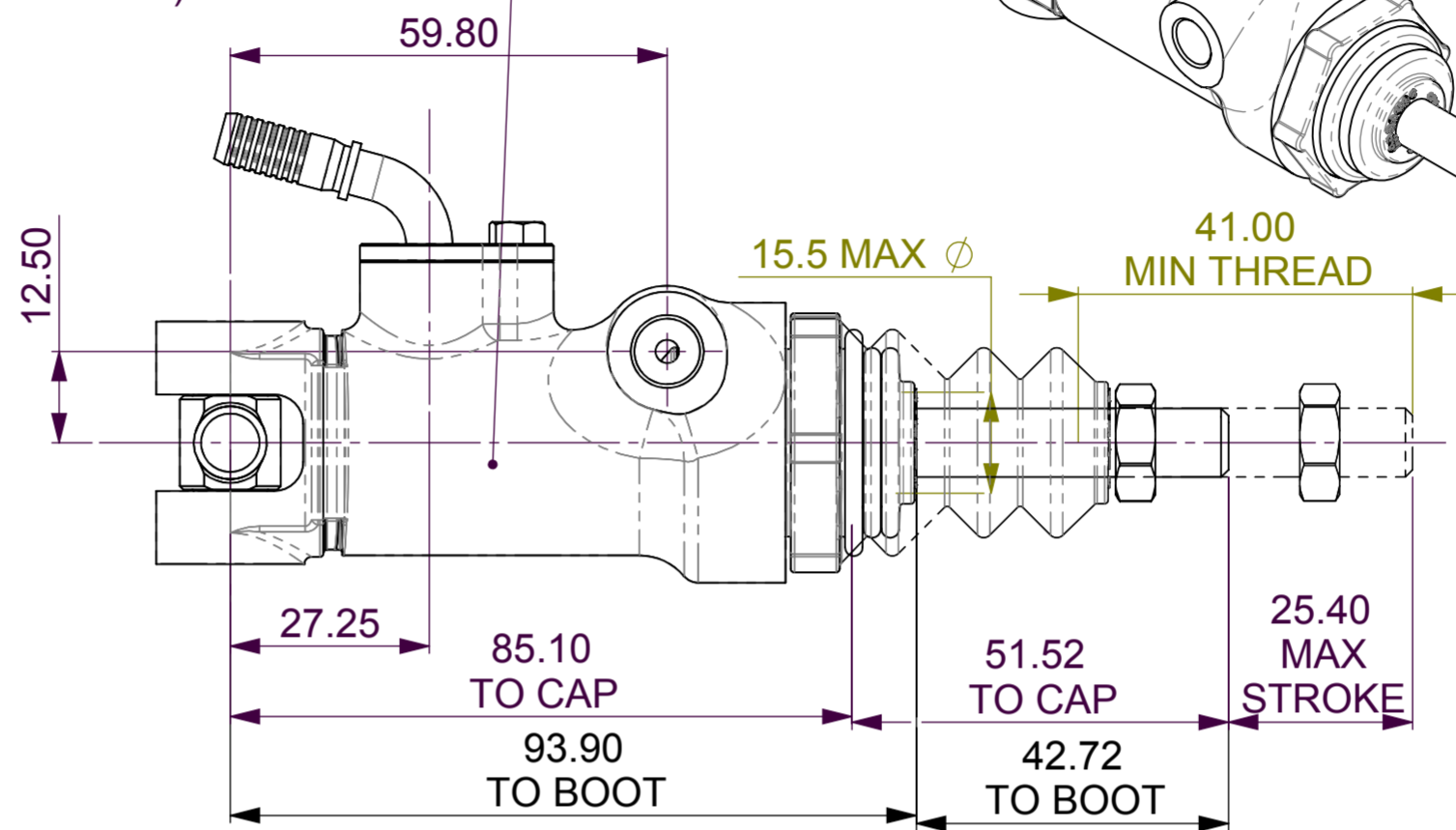
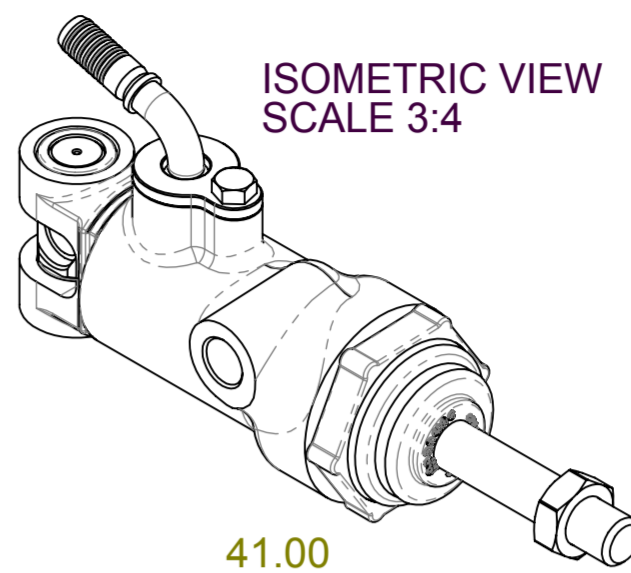
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e-mail: sales@ap racing.co.uk  
Web site: http://www.ap racing.com



INLET FITTINGS SHOWN ARE NOT SUPPLIED WITH THE CYLINDER. THESE FITTINGS ARE DESIGNED TO SUIT THE GOODRIDGE G-LINE RANGE OF FITTINGS AND HOSES. AP RACING RECOMMENDS THE 910 SERIES HOSES. ALT.V. INLETS:- (AVAILABLE FROM AP RACING) CP6465-10 (75° BEND AS SHOWN) CP6465-11 (STRAIGHT) CP6465-12 (90° BEND)

EACH PART WILL BE LASER ETCHED WITH THE SIZE, PART No. AND A SERIAL NO.



HEX HEAD BOLT M4x0.7 THREAD, RECOMMENDED TIGHTENING TORQUE 3.0 - 3.5Nm (2.2-2.5 lbft), WE ALSO RECOMMEND THE USE OF LOCTITE 243 THREAD LOCKER.

OUTLET M10x1.00 THREAD, 8.00 MIN THREAD DEPTH, SEE FITTING OPTIONS.

RUBBER BOOT IS INCLUDED FOR DEBRIS PROTECTION. CAN ALSO BE SOLD SEPARATELY AS A SPARE, CP6465-121. OR 3off KIT CP6465-20.

FLATS ON PISTON TO HELP ASSEMBLY INTO THE PEDAL BOX. MOVE BOOT TEMPORARILY TO GAIN ACCESS.

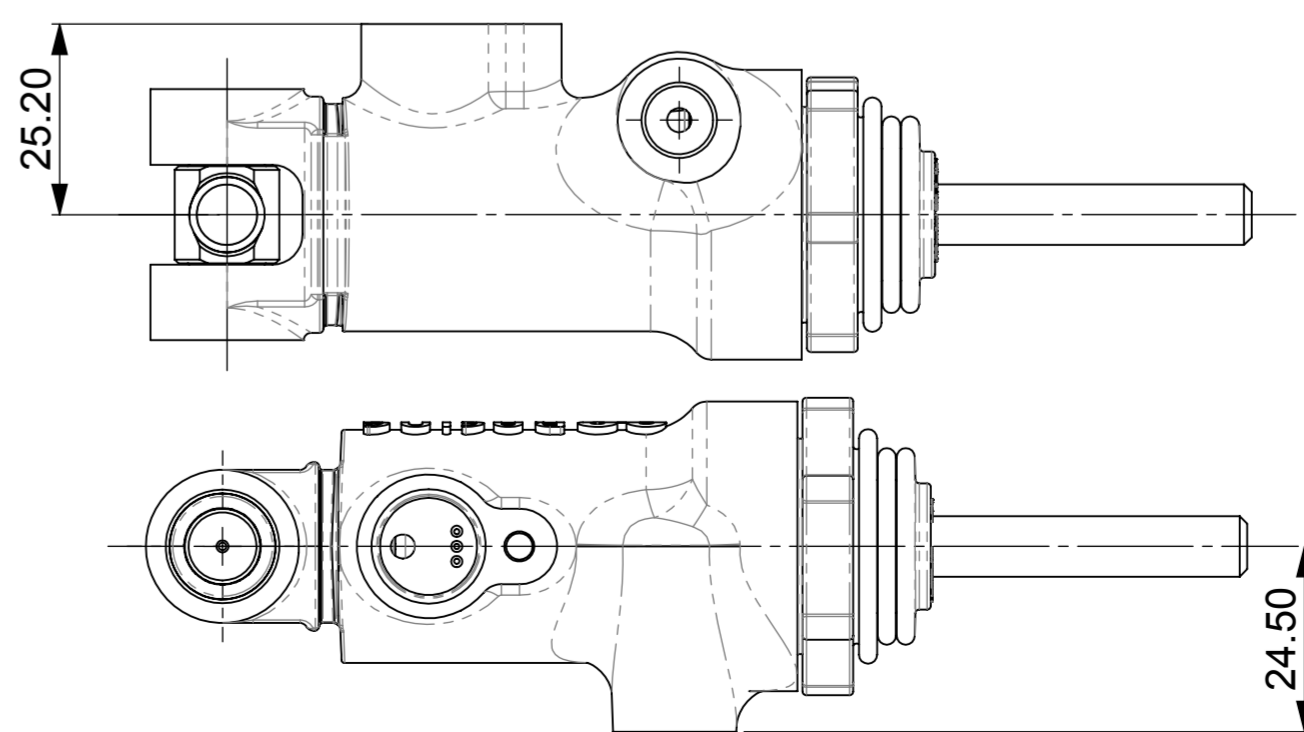
THIS CYLINDER IS DESIGNED TO FIT DIRECT TO OUR RANGE OF PULL TYPE PEDAL BOXES, AND OUR RANGE OF BALANCE BAR ASSEMBLIES. SEE CATALOGUE FOR DETAILS.

## GENERAL DESCRIPTION

THIS PULL TYPE MASTER CYLINDER HAS BEEN DESIGNED TO BE MORE EFFICIENT THAN NORMAL MASTER CYLINDERS. THIS IS DUE TO THE COMPACT NATURE, THERE IS LESS CHANCE OF UNWANTED SIDE LOADING. DESIGNED INTO THE BACK OF THE CYLINDER IS NEEDLE ROLLER BEARING CLEVIS. THIS HAS BEEN DESIGNED TO FIT INTO OUR HIGH EFFICIENCY AND LOW HYSTERESIS BALANCE BAR. THE SPECIAL INLET FITTING AND 90Deg OUTLET ALLOWS THE CYLINDER TO SIT LOW BUT WITHOUT TRAPPING AIR. OUR SELECTION OF RECOMMEND OUTLETS ARE SHOWN ON SHEET 2. APPROX. WEIGHTS RANGE FROM 230grams TO 270grams.

## IMPORTANT NOTE

THE CP6461-237PRTE MASTER CYLINDER HAS SOME DIFFERENCES WITH VARIOUS INSTALLATION DIMENSIONS, ARE ARE SHOWN BELOW.



PART NUMBER	CORRECTED BORE SIZES FOR CALCULATIONS	REFERENCE DIMS		
		BORE Ø (mm)	PISTON Ø (mm)	AREA (mm)
CP6461-149PRTE	14,9 (0.587")	19.05	12.00	174
CP6461-162PRTE	16,2 (0.638")	19.05	10.00	208
CP6461-173PRTE	17,3 (0.681")	22.23	14.00	236
CP6461-188PRTE	18,8 (0.740")	22.23	12.00	277
CP6461-202PRTE	20,2 (0.795")	25.40	15.40	322
CP6461-212PRTE	21,2 (0.835")	25.40	14.00	355
CP6461-218PRTE	21,8 (0.858")	25.40	13.00	376
CP6461-224PRTE	22,4 (0.882")	25.40	12.00	395
CP6461-237PRTE	23,7 (0.933")	27.00	13.00	441

FOR SEAL REPAIR KIT INFORMATION, SEE SHEET 2.

NOTE: OPTIMUM PULL TYPE CYLINDER DESIGN MEANS THAT TO USE STANDARDS SEAL SIZES AND BORE SIZES, THERE WOULD BE A SLIGHT VARIATION FROM STANDARD CYLINDERS. THE SIZES WERE ALSO ADJUSTED TO GIVE EQUAL STEPS BETWEEN THE DIFFERENT SIZES.

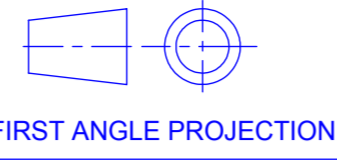
THE TABLE SHOWS THE MASTER CYLINDER PART NUMBERS AND A BORE SIZE THAT WOULD REFLECT A PUSH TYPE CYLINDER, THE CORRECTED BORE SIZE. THE PART NUMBER ALSO REFLECTS THE CYLINDER SIZE.

Issue No.	Date & No.	Alterations		Zone	Initials
		Particulars			
1	16/05/19 B8073	FIRST ISSUE		#	BAT
2	23/05/19 B8075_01	ADDED 173, 188, 212, 218, 224, 237 SIZES TO TABLE		#	BAT
3	12/06/19 B8075_10	CP6461-237 NOTE ADDED ADDED 20.2 SIZE TO TABLE 15.5 WAS 14.00 41 THREAD WAS 43 SHEET 2 20.2 REPAIR KIT ADDED TO TABLE 12.00 WAS 11.90 IN TABLE		C7 8F 9F	BAT

SCALE 1:1	SHEET 1 OF 2
DRAWN	B TUFFREY
APPROVED	
DERIVED FROM	
TITLE	PULL TYPE MASTER CYLINDER
DRG NO.	CP6461-1CD

# A2 INSTALLATION DRAWING

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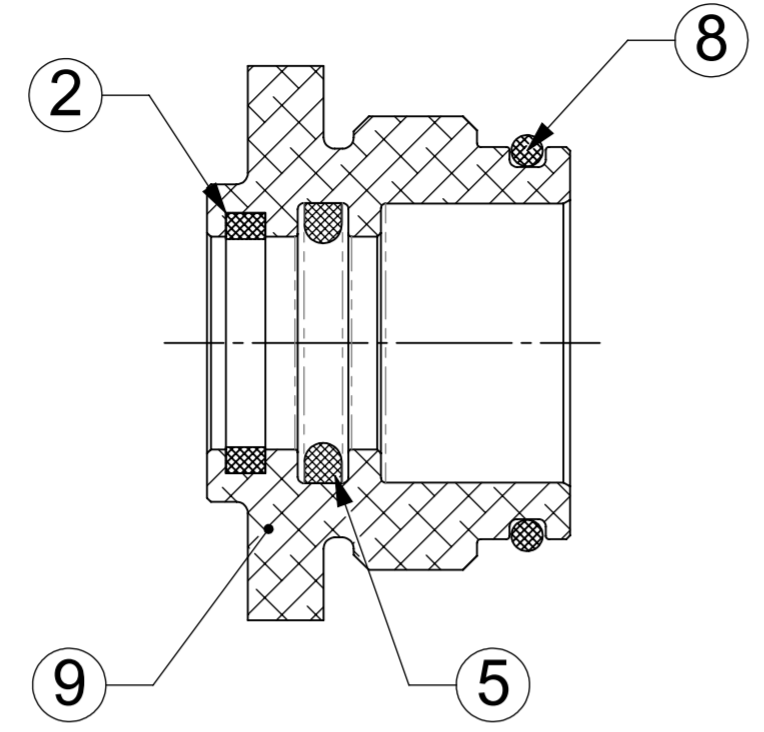
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Web site: http://www.ap racing.com

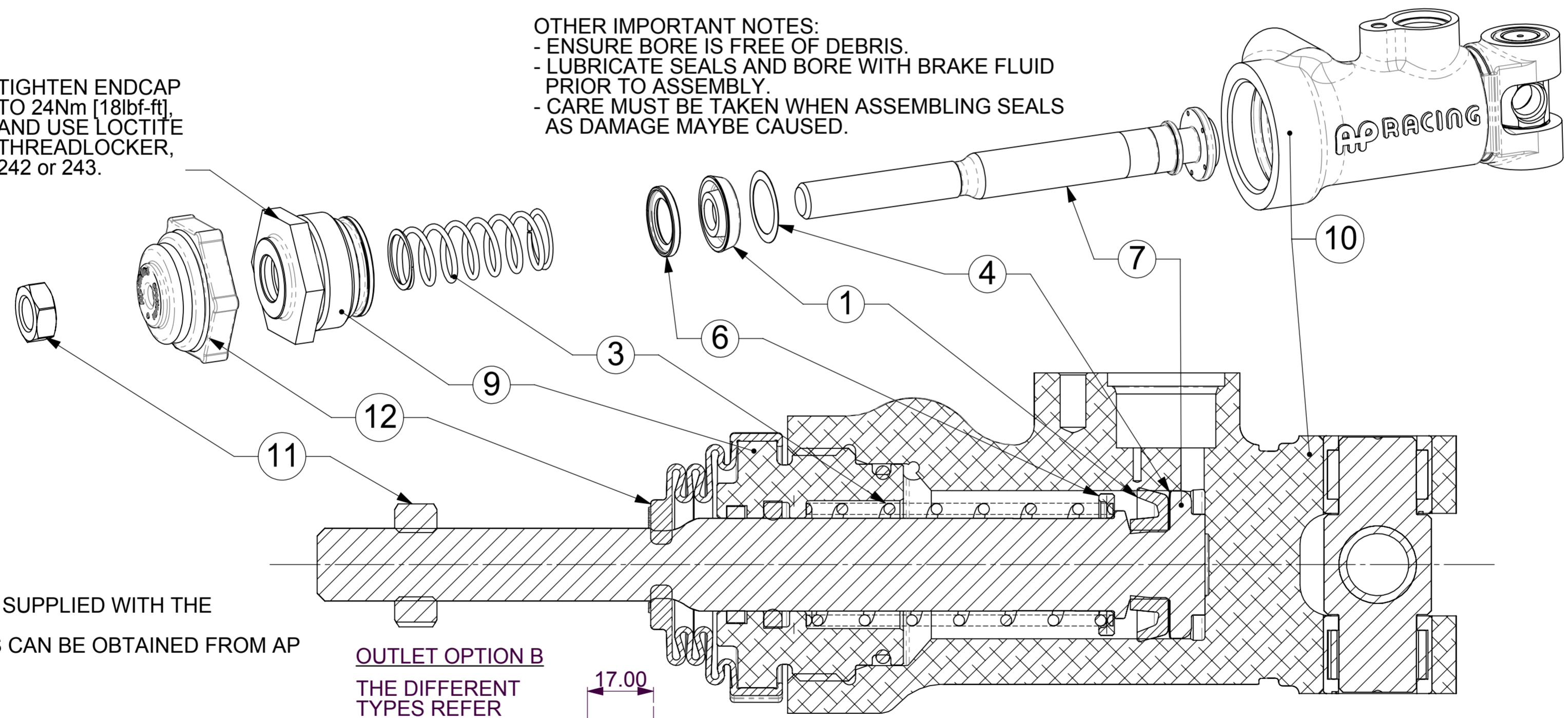
REF	DESCRIPTION	INCLUDED WITH REPAIR KIT
1	PRIMARY CUP SEAL	YES
2	SLYDRING BEARING	YES
3	M/CYL RETURN SPRING	
4	PISTON WASHER	YES
5	D-RING PISTON SEAL	YES
6	PISTON STOP	
7	PISTON	
8	O-RING CAP SEAL	YES
9	ENCAP	
10	BODY	
11	LOCKNUT 3/8" UNF	
12	BOOT	



PART NUMBER	CORRECTED BORE SIZES FOR CALCULATIONS	REFERENCE DIMS			REPAIR KITS
		BORE Ø (mm)	PISTON Ø (mm)	AREA (mm)	
CP6461-149PRTE	14,9 (0.587")	19.05	12.00	174	CP6465-149RK
CP6461-162PRTE	16,2 (0.638")	19.05	10.00	208	CP6465-162RK
CP6461-173PRTE	17,3 (0.681")	22.23	14.00	236	CP6465-173RK
CP6461-188PRTE	18,8 (0.740")	22.23	12.00	277	CP6465-188RK
CP6461-202PRTE	20,2 (0.795")	20.20	15.50	322	CP6461-202RK
CP6461-212PRTE	21,2 (0.835")	25.40	14.00	355	CP6465-212RK
CP6461-218PRTE	21,8 (0.858")	25.40	13.00	376	CP6465-218RK
CP6461-224PRTE	22,4 (0.882")	25.40	12.00	395	CP6465-224RK
CP6461-237PRTE	23,7 (0.933")	27.00	13.00	441	CP6461-237RK

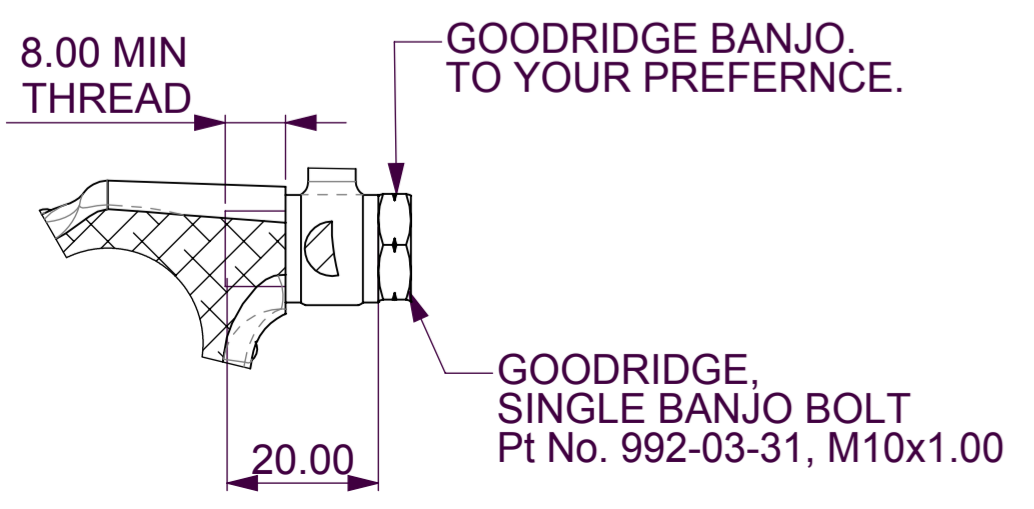
**OTHER IMPORTANT NOTES:**  
 - ENSURE BORE IS FREE OF DEBRIS.  
 - LUBRICATE SEALS AND BORE WITH BRAKE FLUID PRIOR TO ASSEMBLY.  
 - CARE MUST BE TAKEN WHEN ASSEMBLING SEALS AS DAMAGE MAYBE CAUSED.

TIGHTEN ENDCAP TO 24Nm [18lbf-ft], AND USE LOCTITE THREADLOCKER, 242 or 243.

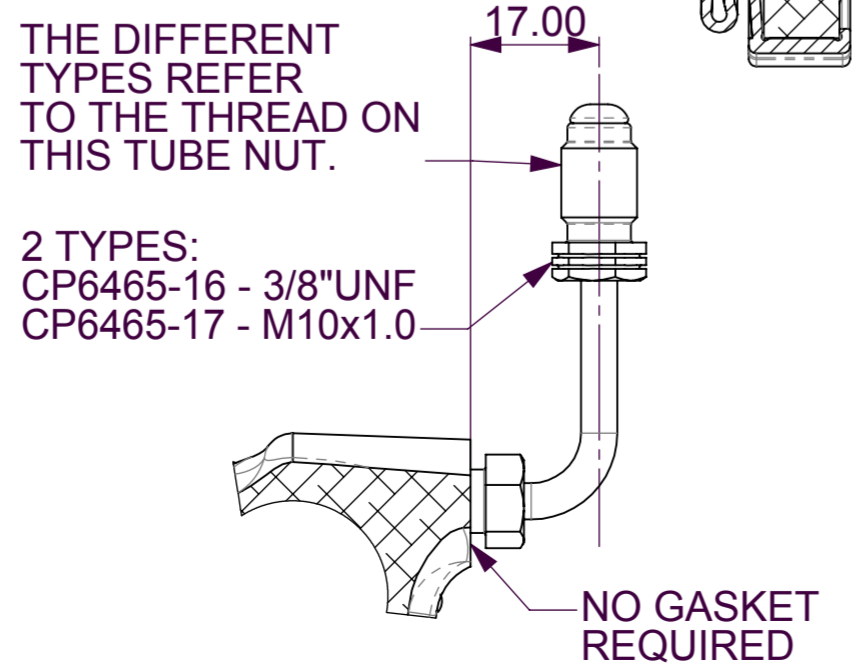


OUTLET FITTINGS NOT SUPPLIED WITH THE CYLINDER. ONLY OPTION B PARTS CAN BE OBTAINED FROM AP RACING.

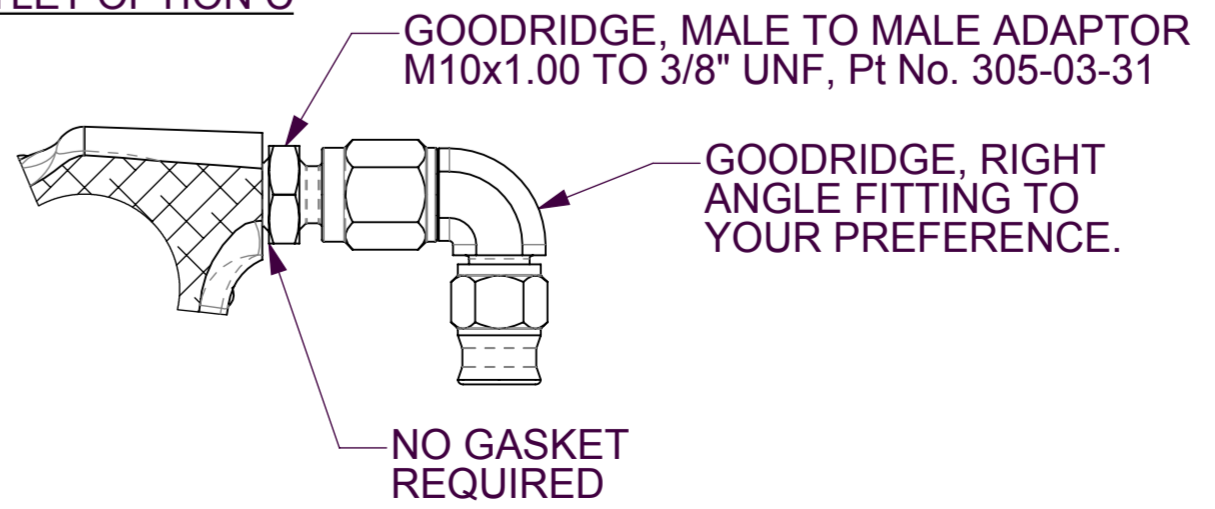
**OUTLET OPTION A**



**OUTLET OPTION B**



**OUTLET OPTION C**



Issue No.	Date & No.	Alterations		Zone	Initials
		Particulars			
		SEE SHEET1 FOR ISSUE LEVEL			

SCALE 1:1	SHEET 2 OF 2
DRAWN	B TUFFREY
APPROVED	
DERIVED FROM	
TITLE PULL TYPE MASTER CYLINDER	
DRG NO.	CP6461-1CD