

Bronze CM Series Fire Pump Dimensional Drawings

Basic Pump Dimensions (Without Transmission)		
Feature		See Page
Body Dimensions	CM	3
	CMU	4
Intake Adapters		5
Tank to Pump Flange Options		6

Pump and Transmission Dimensions – See Table on Page 2

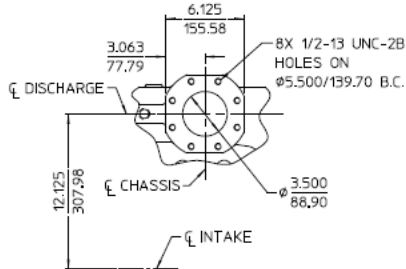
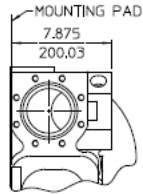
Note: Pump must be installed in accordance with Waterous Installation Instructions.

Bronze CM Series Fire Pump Dimensional Drawings (Continued)

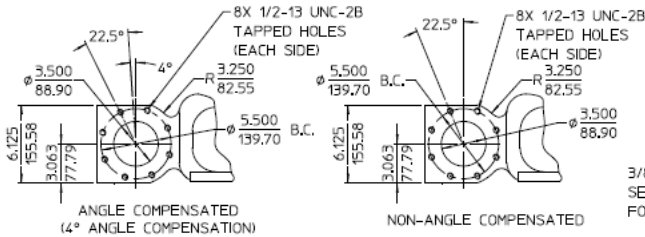
Pump and Transmission								
Pump Type	Transmission		Pump Model	Assembly Number	Drive		Hydraulic Pump Mounting Provision	See Page
	Model	Drive			Input Rotation (1)	Driveline Type		
Two Stage Series/Parallel (CM, CMU)	C20 Series	Split Shaft, Chain Drive	CMC20B, CMC20C CMC20D, CMC20E CMC20F	82058	CW	Input and Output Shaft	No	7, 11
							Yes	8, 11
						Input Shaft Only	No	9, 11
				Yes		10, 11		
			CMUC20B, CMUC20C CMUC20D, CMUC20E CMUC20F	82060		Input and Output Shaft	No	7, 11
							Yes	8, 11
	K Series	Heavy Duty Two Gear Increaser, PTO Drive	CMK	82058-2	CW	-	N/A	12
	D Series	Direct Drive Connection from PTO	CMD CMUD	82058-3 82060-3	CW (Front Drive) or CCW (Rear Drive)	-	N/A	13
PA Series	PTO Driven, Chain Drive	CMPA	82058-4	CW	-	N/A	14	

Note:

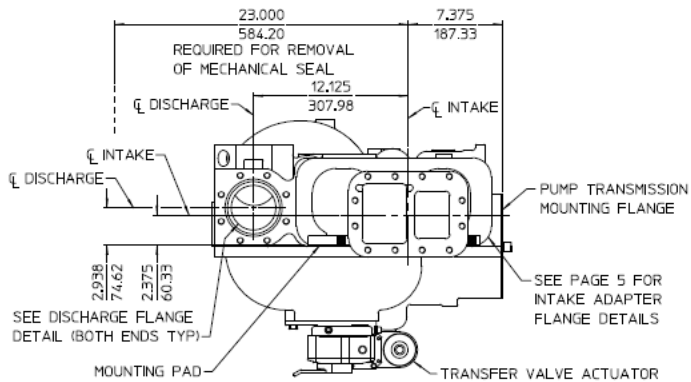
1. Input rotation is viewed looking directly at the transmission input shaft or direct drive end yoke.



CENTER DISCHARGE FLANGE
 SEE DRAWING DPL82089 FOR INFORMATION ON ORDERING DISCHARGE FITTINGS
 OR SEE WATEROUS "CENTER DISCHARGE PIPING MANUAL" FOR AVAILABLE
 EXISTING ARRANGEMENTS

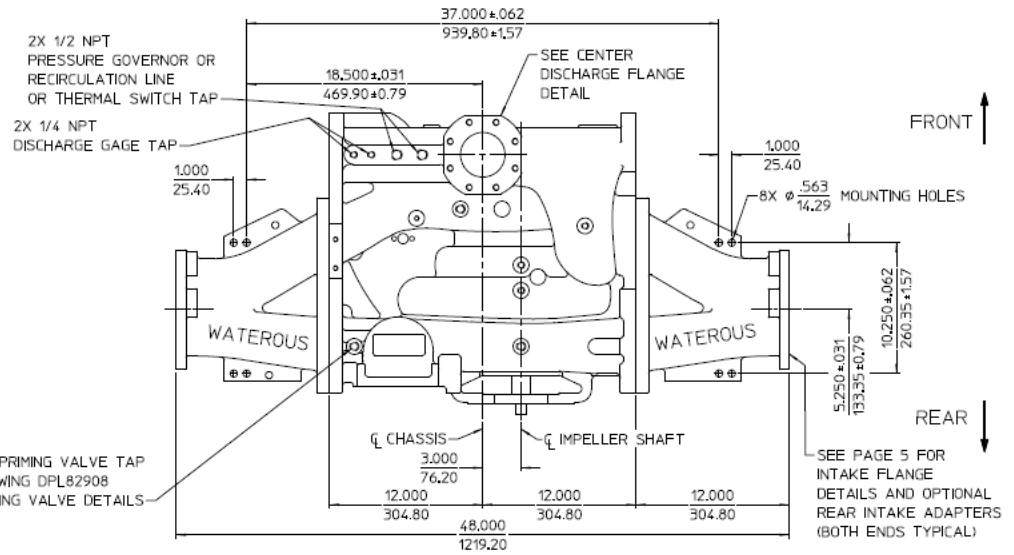


DISCHARGE FLANGE CONFIGURATIONS
 SEE DRAWING DPL82085 FOR INFORMATION
 ON ORDERING DISCHARGES FITTING AND VALVES

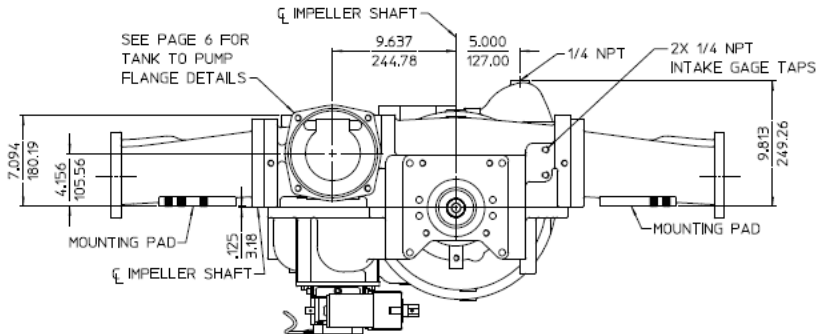


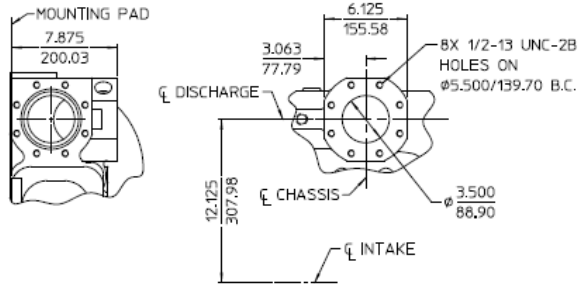
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
 (INCH / MILLIMETER)

SEE PAGE 5 FOR INTAKE ADAPTER FLANGE DETAILS
 SEE DRAWING DPL82501 FOR DETAILS (BOTTOM MOUNTED ELECTRIC SHOWN)



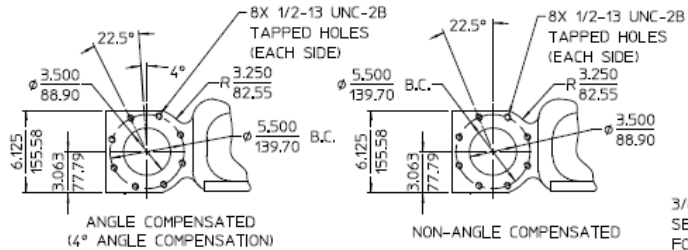
CM BODY DIMENSIONS





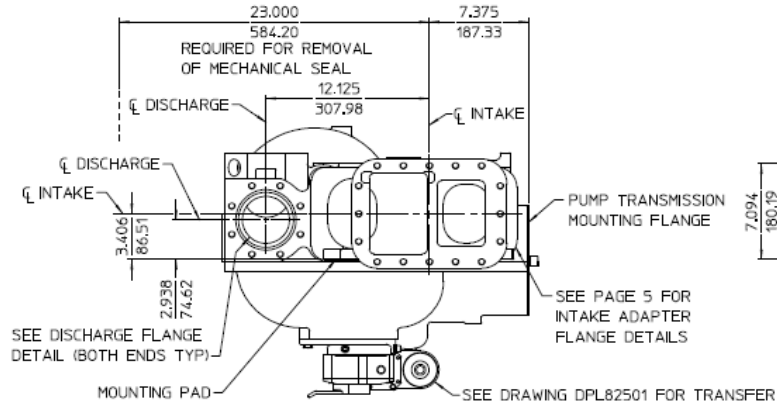
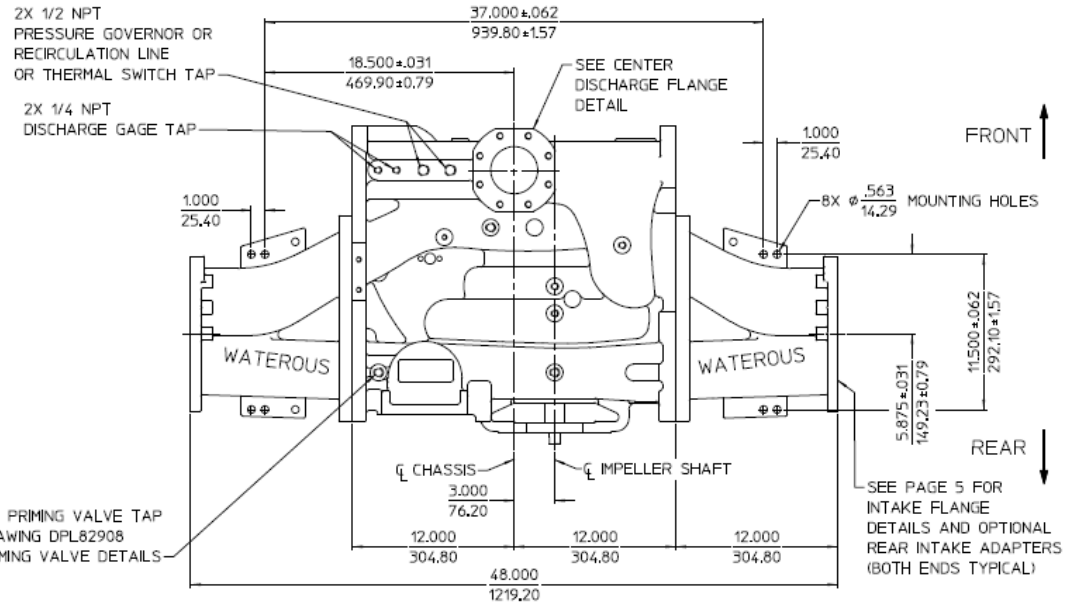
CENTER DISCHARGE FLANGE

SEE DRAWING DPL82089 FOR INFORMATION ON ORDERING DISCHARGE FITTINGS OR SEE WATEROUS "CENTER DISCHARGE PIPING MANUAL" FOR AVAILABLE EXISTING ARRANGEMENTS



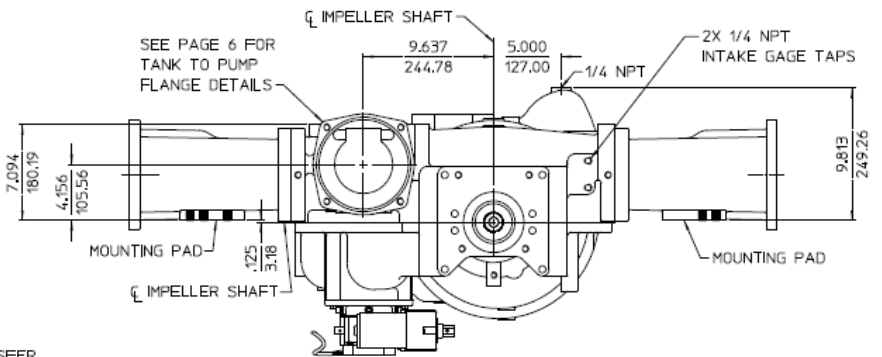
DISCHARGE FLANGE CONFIGURATIONS

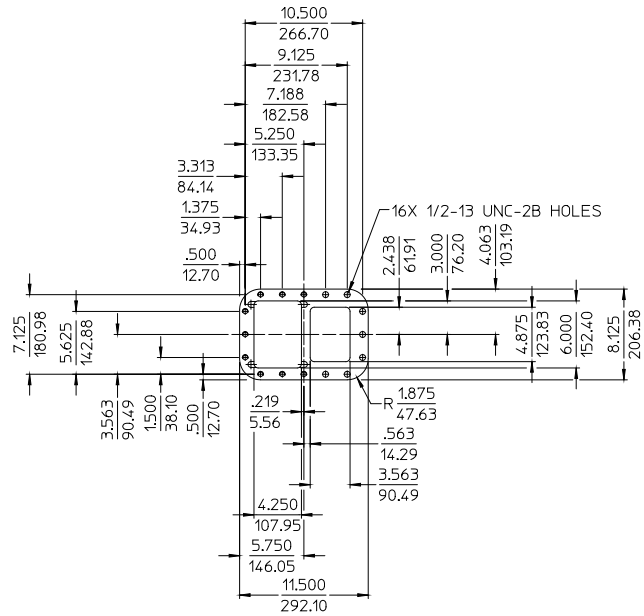
SEE DRAWING DPL82085 FOR INFORMATION ON ORDERING DISCHARGES FITTING AND VALVES



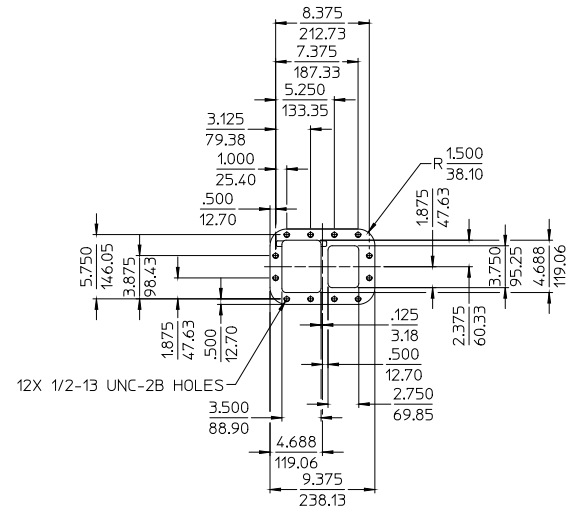
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(INCH / MILLIMETER)

CMU BODY DIMENSIONS

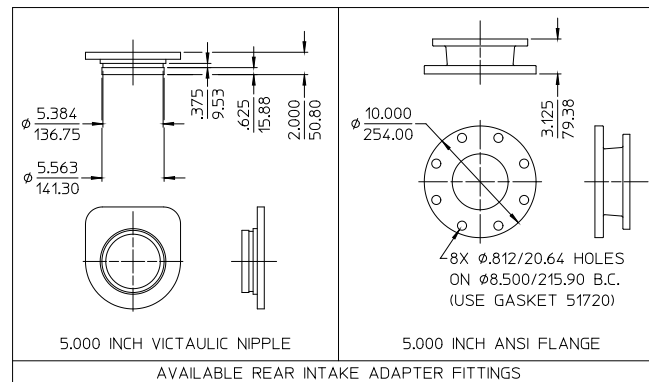




LARGE INTAKE ADAPTER FLANGE DETAIL
SPECIFY INTAKE FITTINGS FROM SECTION 2 OF DRAWING DPL81867



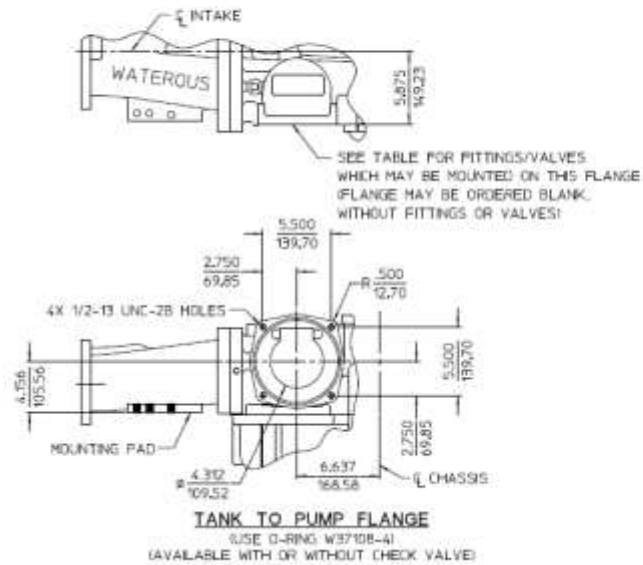
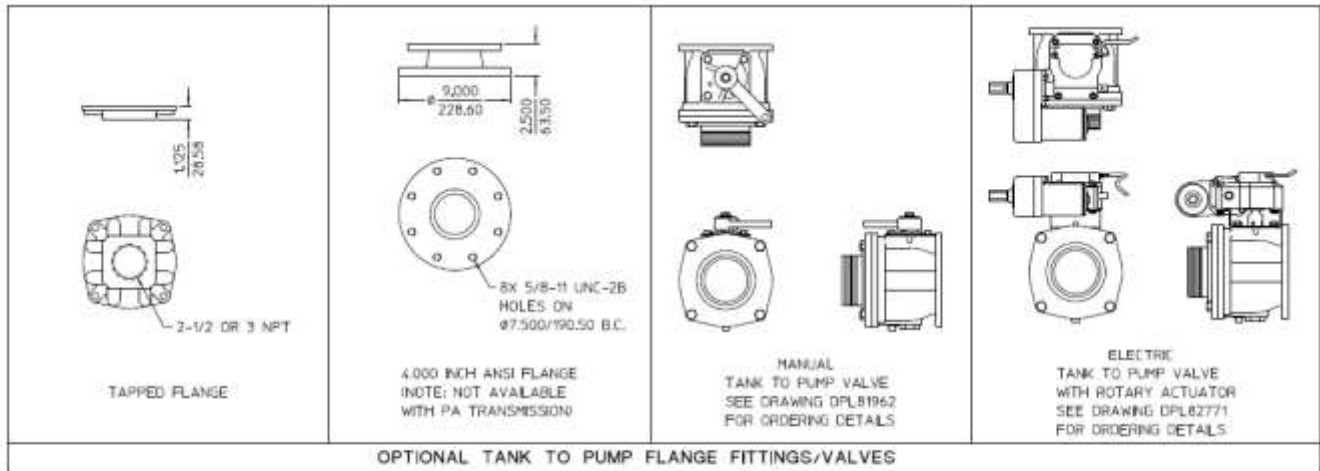
STANDARD INTAKE ADAPTER FLANGE DETAIL
SPECIFY INTAKE FITTINGS FROM SECTION 1 OF DRAWING DPL81867



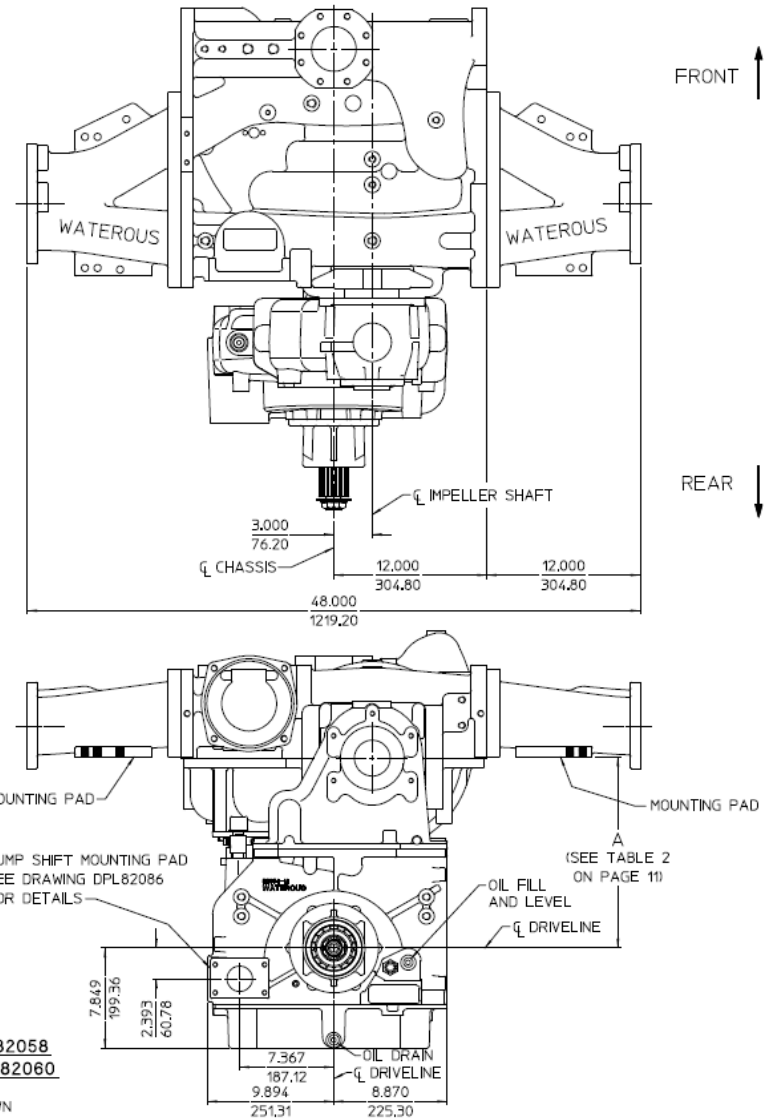
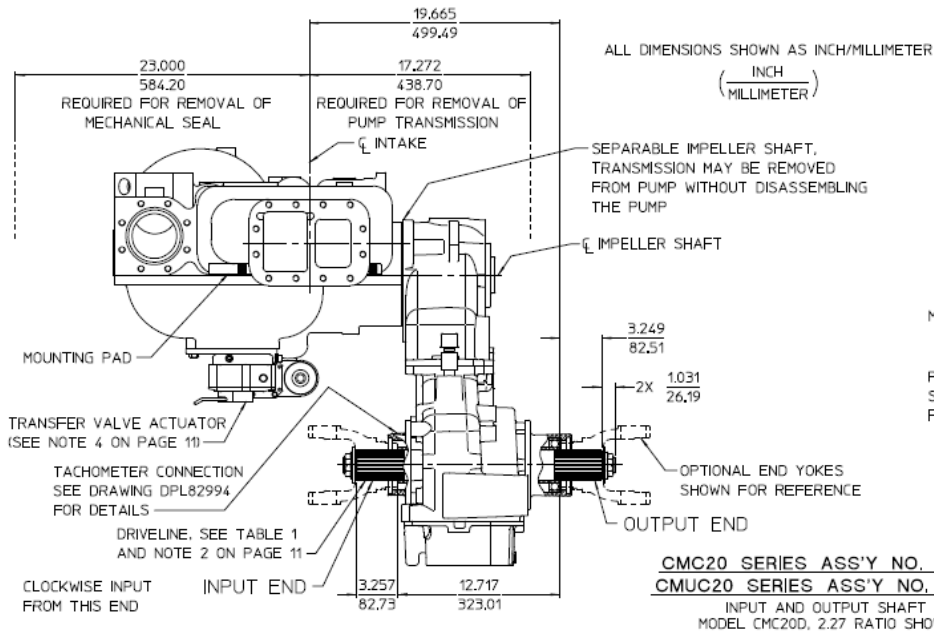
AVAILABLE REAR INTAKE ADAPTER FITTINGS

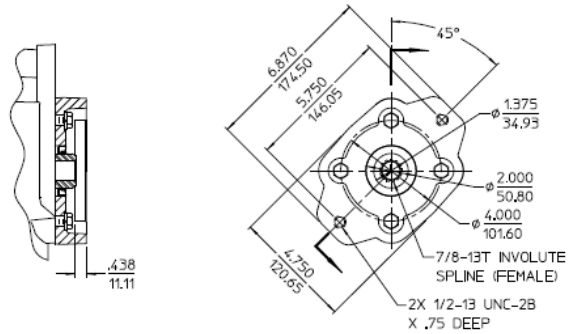
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
($\frac{\text{INCH}}{\text{MILLIMETER}}$)

INTAKE ADAPTERS

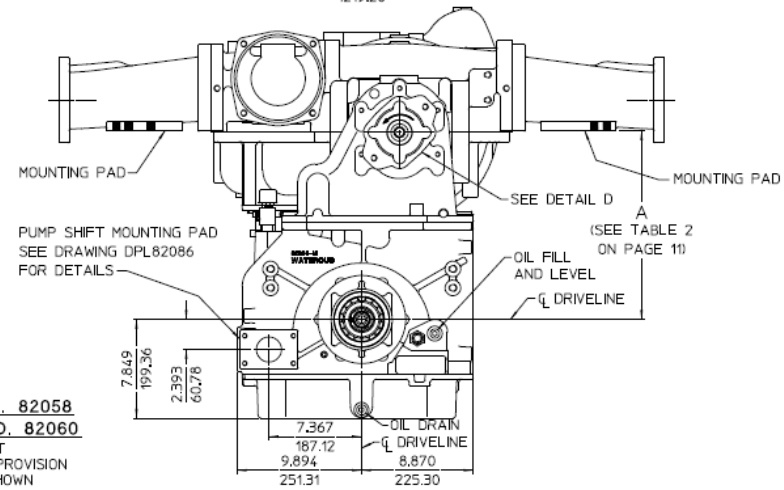
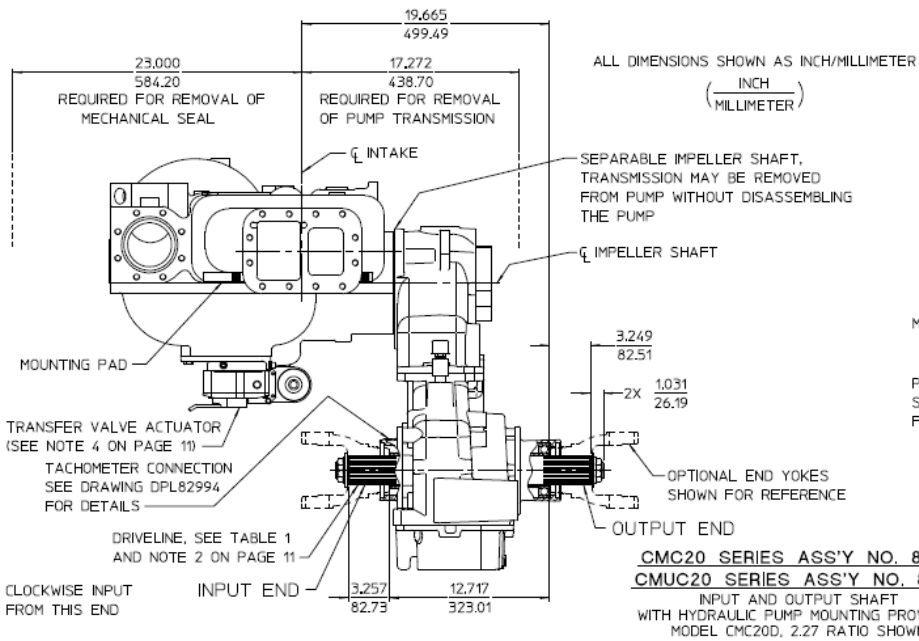
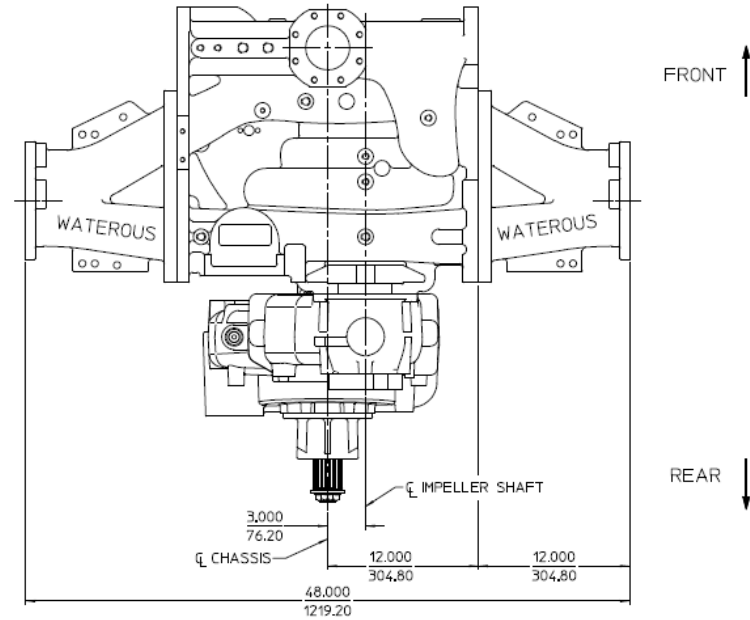


ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
($\frac{\text{INCH}}{\text{MILLIMETER}}$)

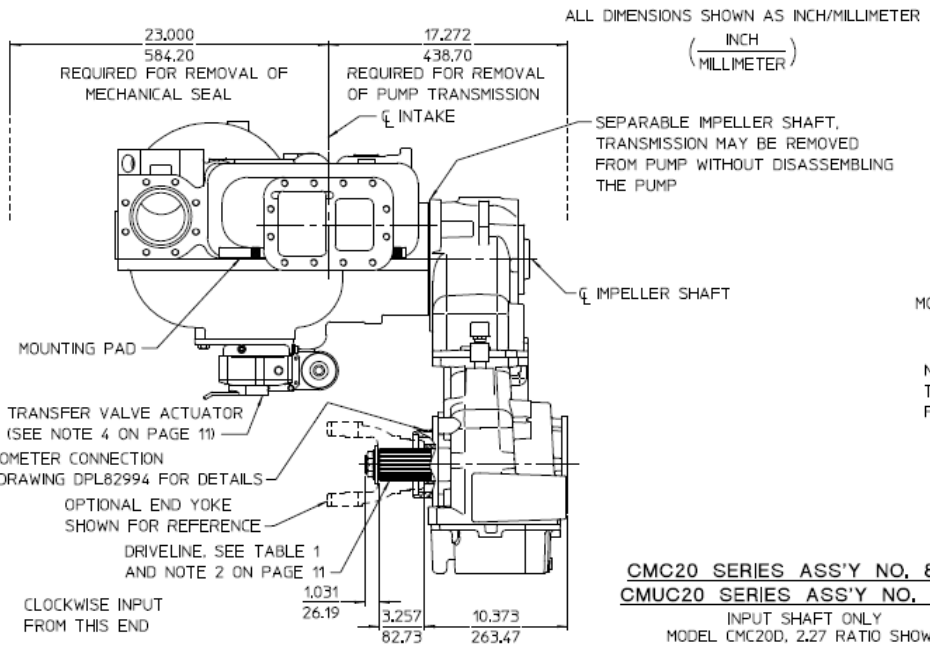




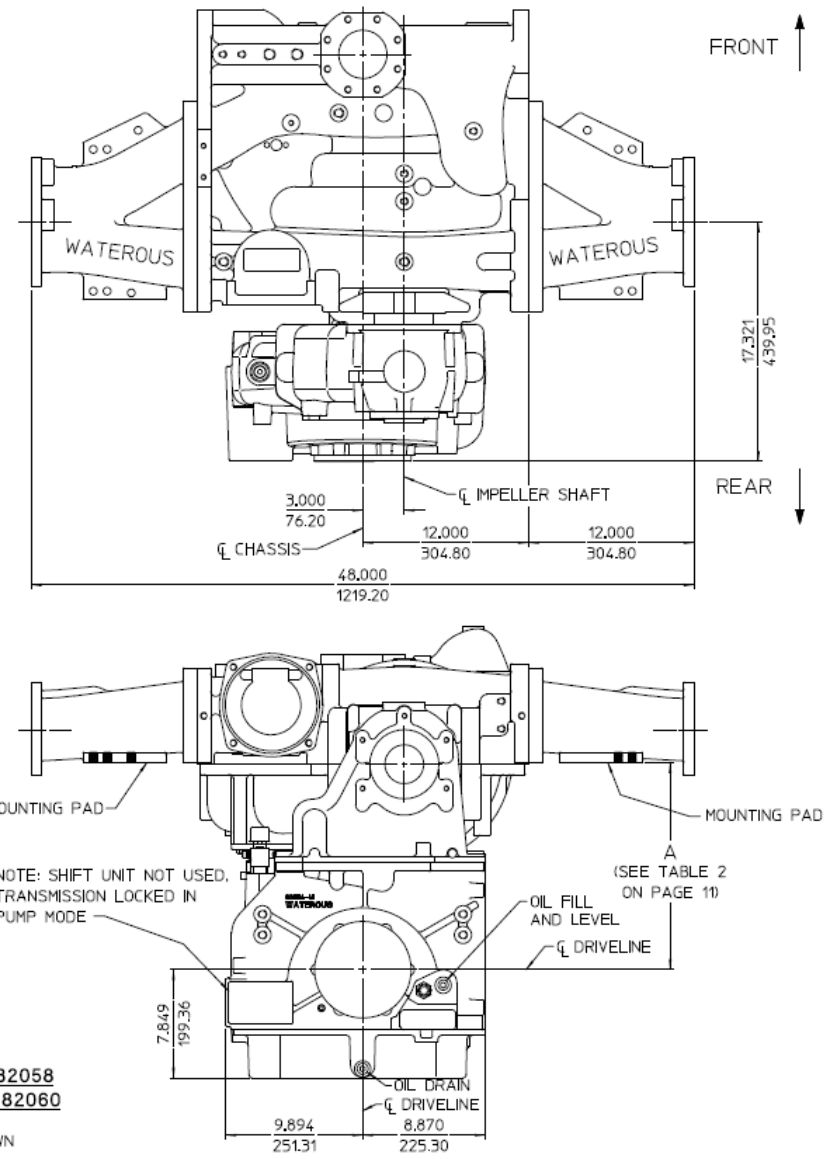
DETAIL D
HYDRAULIC PUMP ADAPTER FLANGE
 USED FOR SAE J744 CLASS B 2-BOLT
 HYDRAULIC PUMP WITH MALE
 7/8-13T 16/32 PITCH INVOLUTE SPLINE

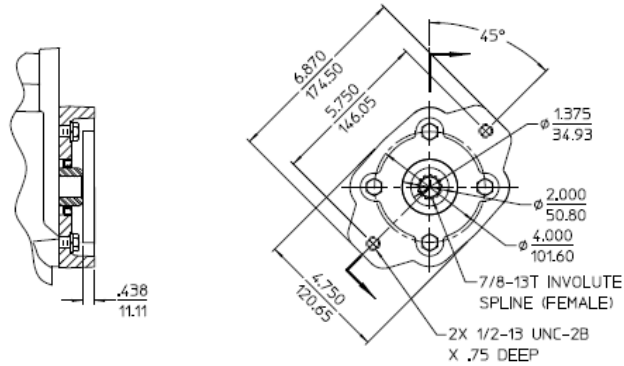


CMC20 SERIES ASS'Y NO. 82058
CMUC20 SERIES ASS'Y NO. 82060
 INPUT AND OUTPUT SHAFT
 WITH HYDRAULIC PUMP MOUNTING PROVISION
 MODEL CMC20D, 2.27 RATIO SHOWN

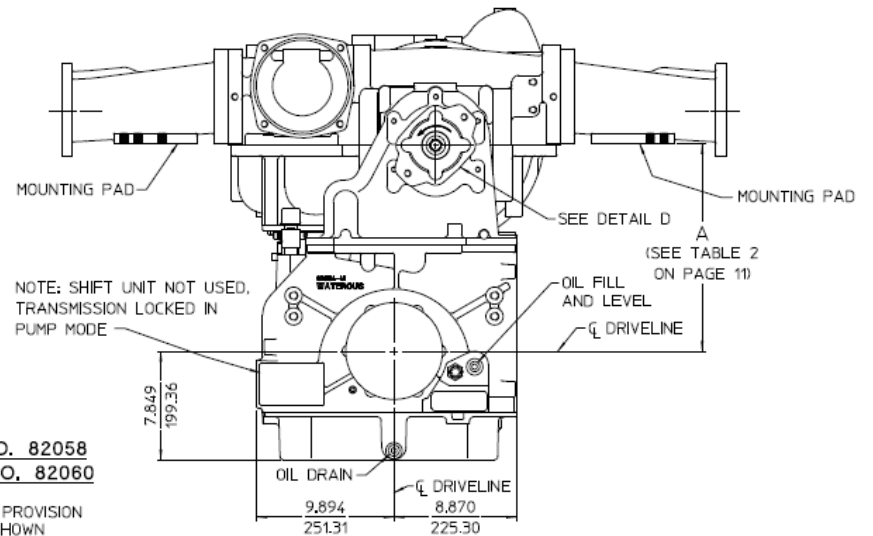
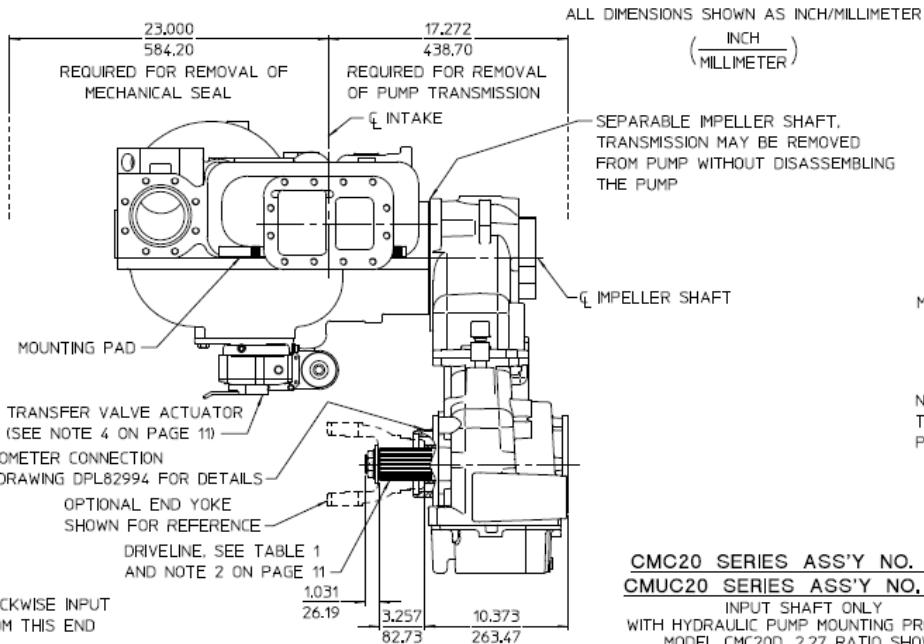
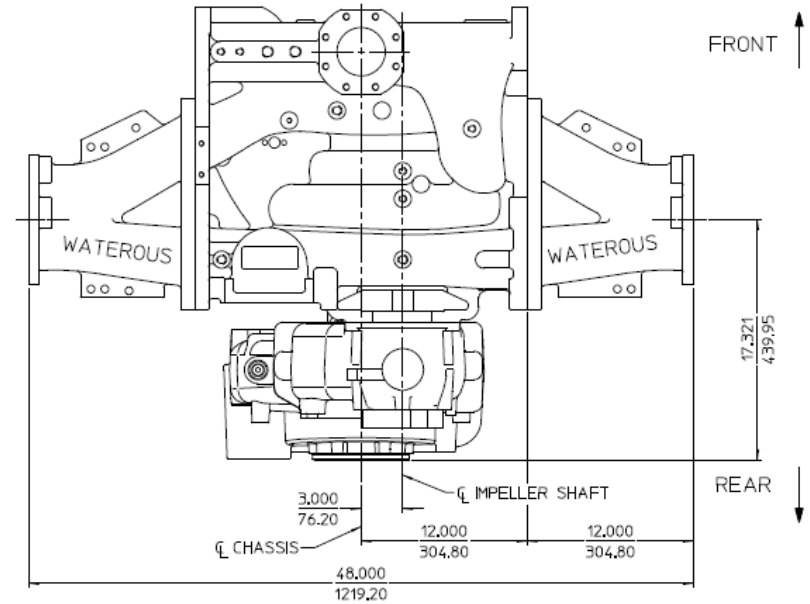


CMC20 SERIES ASS'Y NO. 82058
CMUC20 SERIES ASS'Y NO. 82060
 INPUT SHAFT ONLY
 MODEL CMC20D, 2.27 RATIO SHOWN





DETAIL D
HYDRAULIC PUMP ADAPTER FLANGE
 USED FOR SAE J744 CLASS B 2-BOLT
 HYDRAULIC PUMP WITH MALE
 7/8-13T 16/32 PITCH INVOLUTE SPLINE



CMC20 SERIES ASS'Y NO. 82058
CMUC20 SERIES ASS'Y NO. 82060
 INPUT SHAFT ONLY
 WITH HYDRAULIC PUMP MOUNTING PROVISION
 MODEL CMC20D, 2.27 RATIO SHOWN

TABLE 1 - AVAILABLE DRIVELINES / MODELS									
DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS					PUMP MODELS	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		CMC20 SERIES	CMUC20 SERIES
			SPICER SERIES	PART NUMBER		SPICER SERIES	PART NUMBER		
EXTRA HEAVY DUTY	2.35 INCH	2.35-46T INVOLUTE	1710 BP	V 2837	V 2839	1480/1610	V 3719	CMC20B, CMC20C, CMC20D, CMC20E, CMC20F	CMUC20B, CMUC20C, CMUC20D, CMUC20E, CMUC20F
			1810 BP	V 2838	V 2840				
			1710 HR	V 4101	-	1650/1710	V 3619		
			1810 HR	V 4102	-				
			SPL140	V 3388	V 3389	-	-		

TABLE 2 - AVAILABLE RATIOS					
DRIVE TO DRIVEN RATIO	C20B	C20C	C20D	C20E	C20F
	DIMENSION A	DIMENSION A	DIMENSION A	DIMENSION A	DIMENSION A
1.27	12.375/314.33	14.437/366.70	14.950/379.73	16.986/431.44	19.017/483.03
1.41	11.965/303.91	14.024/356.21	15.056/382.42	17.096/434.24	19.127/485.83
1.48	12.451/316.26	14.003/355.68	15.032/381.81	17.076/433.73	19.106/485.29
1.58	12.330/313.18	13.881/352.58	14.913/378.79	16.955/430.66	18.986/482.24
1.69	12.415/315.34	13.964/354.69	15.001/381.03	17.048/433.02	19.086/484.78
1.79	12.083/306.91	14.170/359.92	15.197/386.00	17.252/438.20	19.293/490.04
1.88	12.254/311.25	13.815/350.90	14.842/376.99	16.898/429.21	18.934/480.92
1.97	12.431/315.75	13.995/355.47	15.037/381.94	17.095/434.21	19.137/486.08
2.03	12.021/305.33	14.109/358.37	15.153/384.89	17.211/437.16	19.257/489.13
2.27	12.365/314.07	13.936/353.97	14.981/380.52	17.045/432.94	19.096/485.04
2.46	12.066/306.48	14.167/359.84	15.212/386.38	17.279/438.89	19.330/490.98
2.68	12.294/312.27	13.871/352.32	14.918/378.92	16.990/431.55	19.048/483.82

NOTES:

1. SEE DRAWINGS DPL82084-1, DPL82084-2 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.
2. DRIVELINE, SPLINE TYPICAL ON BOTH ENDS, OPTIONAL END YOKES AVAILABLE.
3. SEE DRAWING DPL82994 FOR ADDITIONAL DETAILS OF C20 SERIES TRANSMISSION.
4. BOTTOM MOUNTED ELECTRIC TRANSFER VALVE ACTUATOR IS NOT AVAILABLE WITH C20B TRANSMISSION. THE DRIVELINE END YOKE WILL INTERFERE WITH ELECTRIC MOTOR.

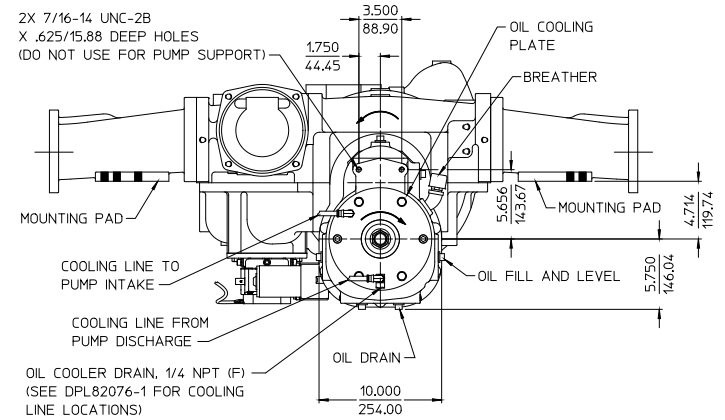
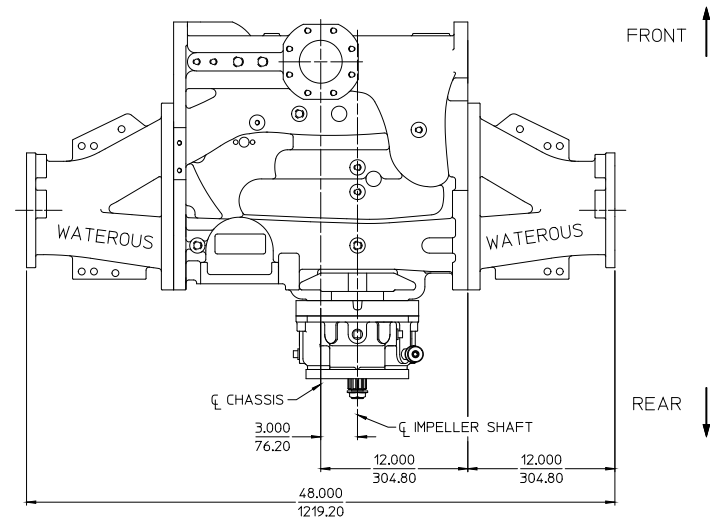
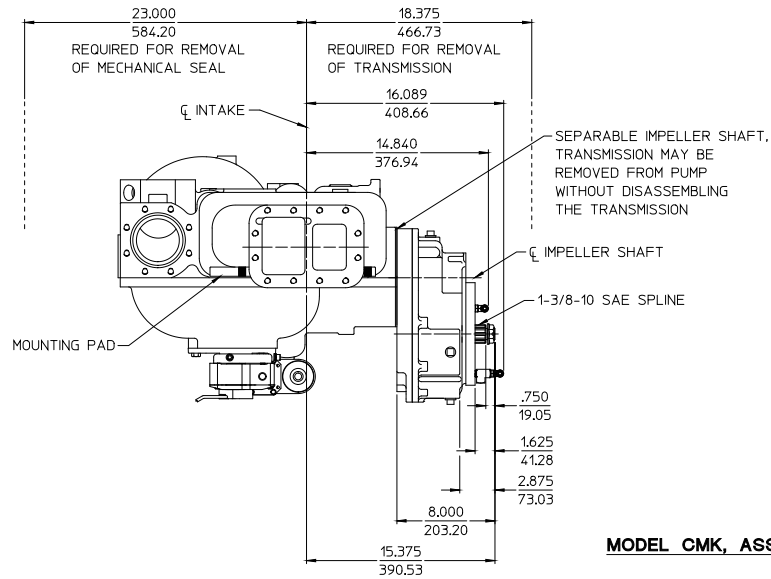
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
 $\left(\frac{\text{INCH}}{\text{MILLIMETER}} \right)$

CMC20 SERIES ASS'Y NO. 82058
CMUC20 SERIES ASS'Y NO. 82060

MODEL CSK AVAILABLE AS FOLLOWS				
TRANSMISSION				
MODEL	INPUT	LOCATION	MOUNTING	AVAILABLE RATIOS
HEAVY DUTY K	CLOCKWISE	REAR	VERTICAL	1.16, 1.30, 1.38, 1.56, 1.65, 1.88, 2.14, 2.45, 2.83

- NOTES:
 1. SEE DRAWING DPL82076-1 FOR ADDITIONAL TRANSMISSION DETAILS
 2. SEE DRAWINGS DPL82084-1 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.

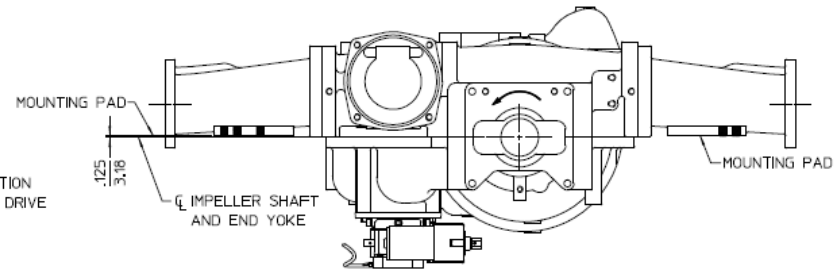
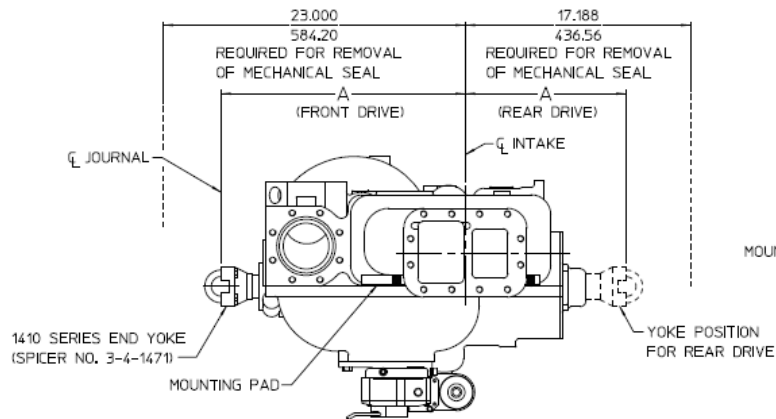
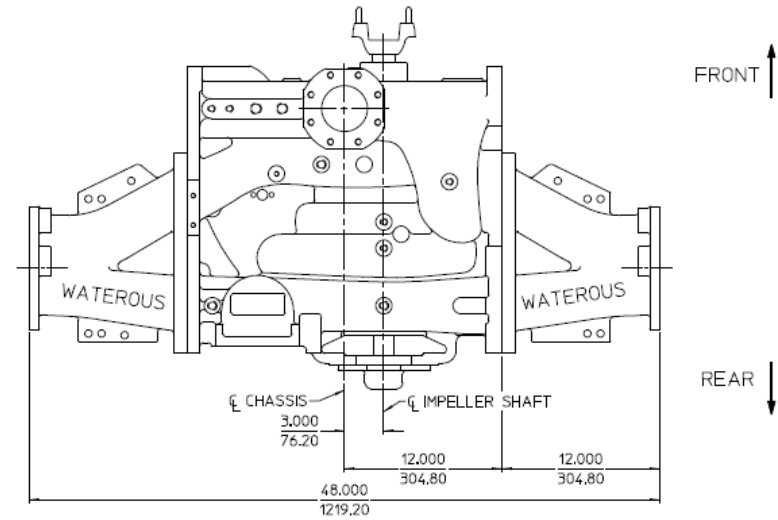
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
 (INCH / MILLIMETER)



MODEL CMK, ASS'Y NO. 82058-2

AVAILABLE AS FOLLOWS			
DRIVE LOCATION	DIMENSION A		INPUT ROTATION (VIEWED LOOKING AT YOKE)
	WITH PACKING	WITH MECHANICAL SEALS	
FRONT	18.600 472.44	18.600 472.44	CLOCKWISE
REAR	12.250 311.15	12.250 311.15	COUNTERCLOCKWISE

NOTE:
1. SEE DRAWINGS DPL82084-1, DPL82084-2 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.



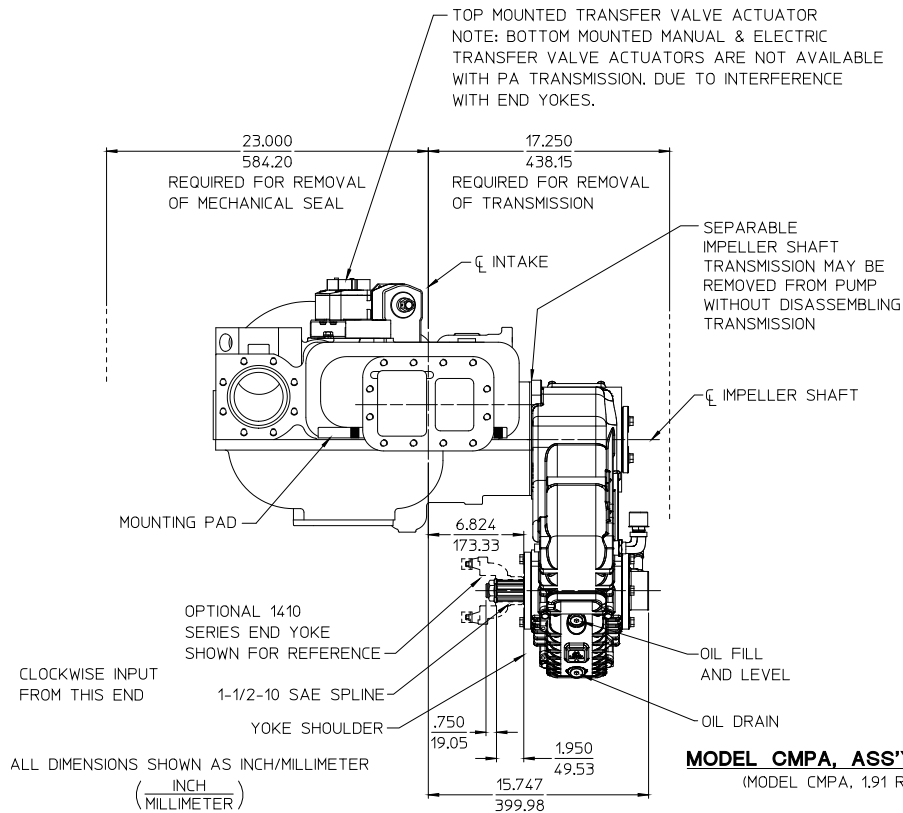
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
($\frac{\text{INCH}}{\text{MILLIMETER}}$)

MODEL CMD, ASS'Y NO. 82058-3
MODEL CMUD, ASS'Y NO. 82060-3
(USED WITH "TC20" SERIES OR OTHER FULL TORQUE P.T.O.)
(MODEL CMD FRONT DRIVE WITH MECHANICAL SEALS SHOWN)

TABLE 1 - AVAILABLE AS FOLLOWS							
DRIVE LINE SIZE	DRIVE LINE SPLINE	RATIO	DIM A	DIM B	DIM C	DIM D	MODEL
1-1/2 INCH	1-1/2-10 SAE	1.70	11.288/286.71	11.068/281.13	6.236/158.39	4.737/120.32	CMPA
		1.90	11.269/286.24	11.049/280.64	6.255/158.88	4.755/120.79	
		2.10	11.239/285.46	11.019/279.88	6.285/159.64	4.786/121.56	

NOTES:

- SEE DRAWING DPL82080 FOR ADDITIONAL DETAILS OF P SERIES TRANSMISSIONS.
- SEE DRAWINGS DPL82084-1, DPL82084-2 AND DPL82084-5 FOR PRESSURE CONTROL SYSTEMS.



MODEL CMPA, ASS'Y NO. 82058-4
(MODEL CMPA, 1.91 RATIO SHOWN)

