



Document Number	Issue Date	Rev. Date
DPL82994	02/06/09	2/2/22

Dimensional Drawings for C20 Series Transmission

As used with CM, CS, CG and CX Series Pump Models

Index:

Pump Model	Transmission Mounting on Pump	Pump Mounting on Transmission	See Page							
			Transmission			Optional Items				Mounting Bracket Attachment Locations
			Input and Output Shaft	Input Shaft Only	Ratio and Drop Dimensions	End Yokes and Companion Flanges	Electronic Tachometer	Hydraulic Pump Mounting Provision	Oil Cooler	
CM and CS Series	Rear of Pump	-	2	3	8	9	9	10	13	-
	Front of Pump	-	4	5	8	9	9	-	-	-
CG Series	-	Front (Input Shaft) Side	2	3	8	9	9	-	-	11
CX Series	-	Front (Input Shaft) Side	2	3	8	9	9	-	-	11
		Rear (Output Shaft) Side	6	7	8	9	9	-	-	12

TABLE 1 - AVAILABLE DRIVELINE / MODELS								
DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS, SEE DETAIL C ON PAGE 9				MODEL	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		
			SPICER SERIES	PART NUMBER		SPICER SERIES	PART NUMBER	
EXTRA HEAVY DUTY	2.35 INCH	2.350-46T INVOLUTE	1710	V 2837	V 2839	1480/1610	V 3719	C20B
			1810	V 2838	V 2840	1650/1710	V 3619	C20C
			SPL140	V 3388	V 3389	ISO 8667	63714	C20E
			1810 HR	V 4102	--	--	--	C20F

TABLE 2 - C20 SERIES TRANSMISSION AVAILABLE FOR:		
PUMP MODEL	IMPELLER SHAFT TYPE	TRANSMISSION MODEL
CM, CMU, CM/CGV, CS, CSU CGV, CGVG, CXV, CXS	SEPARABLE ONE-PIECE	C20B, C20C, C20D, C20E, C20F

2. C20B MODEL NOT AVAILABLE ON CXV AND CXS PUMP MODELS.

C20 MODEL S

FRONT VIEW:

- CLOCKWISE INPUT FROM THIS END
- DRAIN VALVE MOUNTING PAD SEE DRAWING DPL82087 FOR DETAILS
- 2X 3/8-16 UNC-2B X .563/14.3 DEEP TORQUE TO 31 LB-FT
- 1.500 38.10
- 2.249 57.12
- 5.373 136.48
- CL DRIVELINE

SIDE VIEW:

- PUMP MOUNTING FLANGE
- LOCATION OF OPTIONAL ELECTRONIC TACHOMETER CONNECTION. SEE DETAIL B ON PAGE 9
- SEE DETAIL D ON PAGE 9
- PRIMING PUMP MOUNTING PADS SEE DRAWING DPL82082 FOR DETAILS
- 12.290 312.17
- 7.177 182.30
- 3.249 82.51
- 1.031 26.19
- 2X
- SEE DETAIL C ON PAGE 9 FOR OPTIONAL END YOKES
- OUTPUT END
- PUMP SHIFT MOUNTING PAD SEE DRAWING DPL82086 FOR DETAILS
- DRIVELINE, SEE TABLE 1 (SPLINE TYP BOTH ENDS)
- 3.257 82.73
- 12.717 323.01
- INPUT END

REAR VIEW:

- SEE PAGE 10 FOR OPTIONAL HYDRAULIC PUMP MOUNTING PROVISION
- 9.894 251.31
- 8.892 225.86
- 7.367 187.12
- CL DRIVELINE
- A (SEE TABLE 3 ON PAGE 8)
- CL DRIVELINE
- OIL FILL AND LEVEL
- 7.849 199.36
- OIL DRAIN
- 2.393 60.78

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

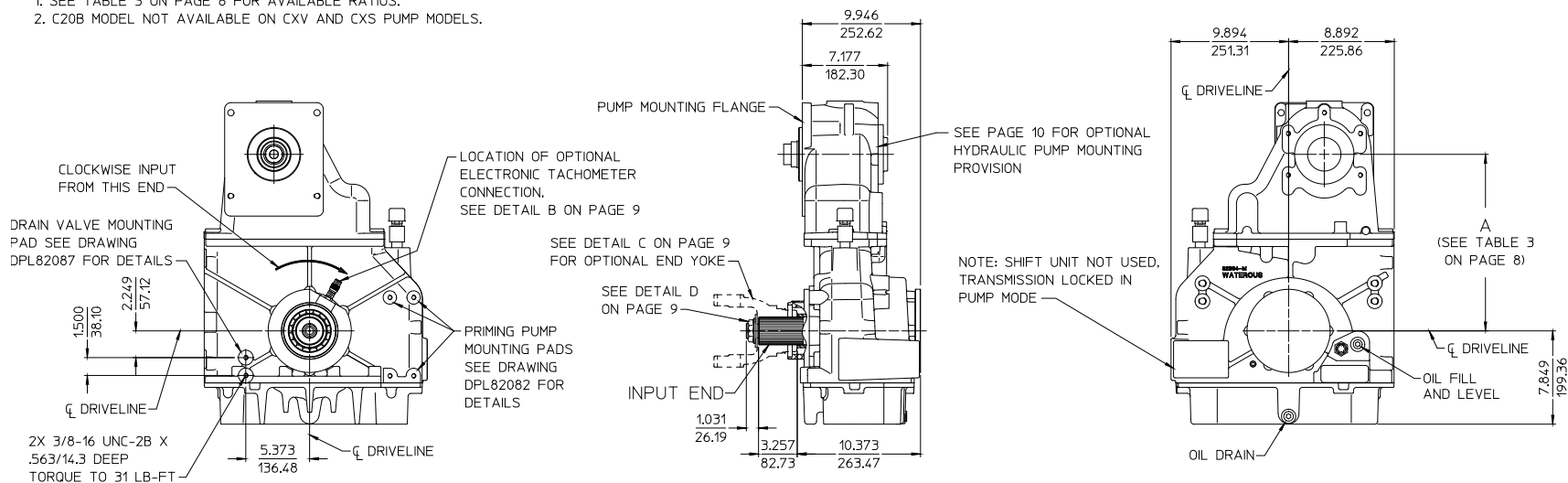
DPL82994
Page 2 of 13

TABLE 1 - AVAILABLE DRIVELINE / MODELS								
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EXTRA HEAVY DUTY	2.35 INCH	2.350-46T INVOLUTE	SPICER SERIES	PART NUMBER			SPICER SERIES	PART NUMBER
			1710	V 2837	V 2839	1480/1610	V 3719	
			1810	V 2838	V 2840	1650/1710	V 3619	
			SPL140	V 3388	V 3389	ISO 8667	63714	
			1810 HR	V 4102	--	--	--	

TABLE 2 - C20 SERIES TRANSMISSION AVAILABLE FOR:		
PUMP MODEL	IMPELLER SHAFT TYPE	TRANSMISSION MODEL
CM, CMU, CM/CGV, CS, CSU	SEPARABLE	C20B, C20C, C20D, C20E, C20F
CGV, CGVG, CXV, CXS	ONE-PIECE	

NOTES:

- SEE TABLE 3 ON PAGE 8 FOR AVAILABLE RATIOS.
- C20B MODEL NOT AVAILABLE ON CXV AND CXS PUMP MODELS.



**C20 MODELS
INPUT SHAFT ONLY**

REAR MOUNTED TRANSMISSION ON PUMP OR
FRONT (INPUT SHAFT) SIDE MOUNTED PUMP ON TRANSMISSION
CLOCKWISE INPUT
(C20D 2.27 RATIO SHOWN)

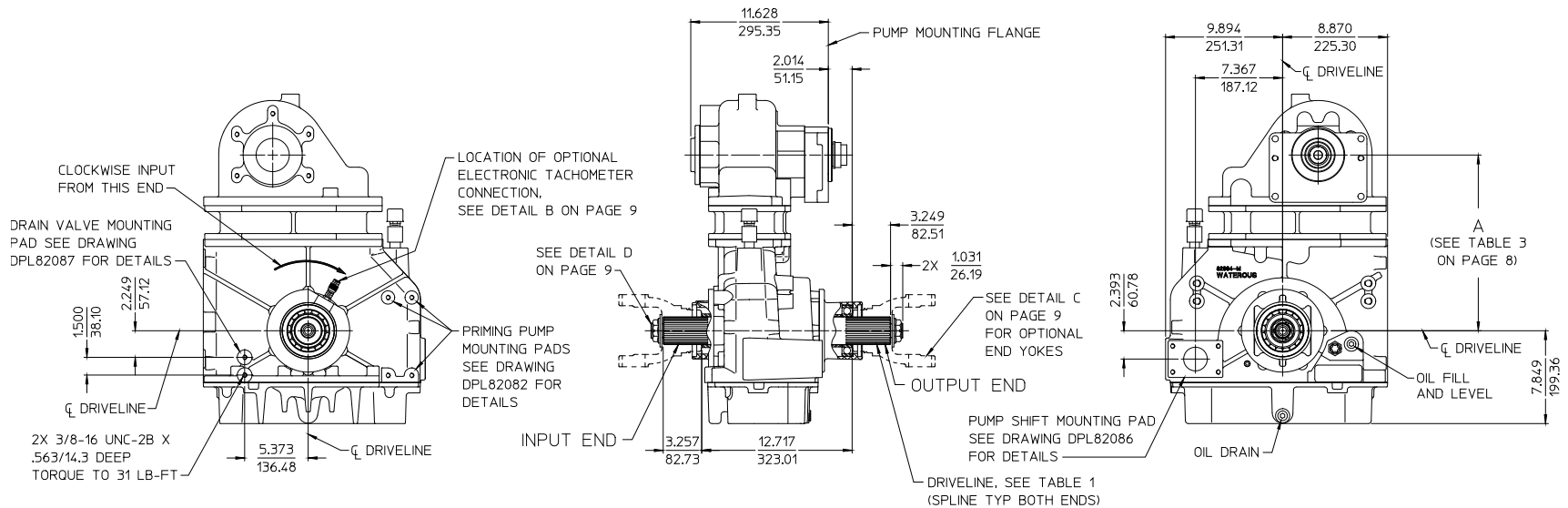
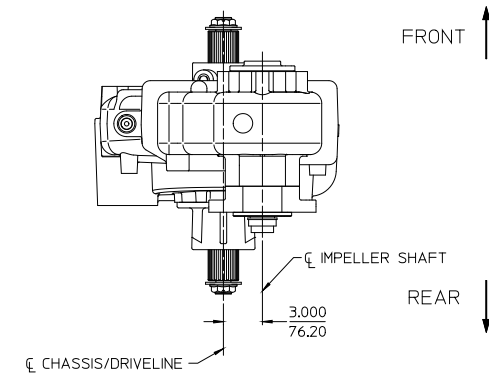
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(
INCH
MILLIMETER

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PUMP MODEL	IMPELLER SHAFT TYPE	TRANSMISSION MODEL
CM, CMU, CS, CSU	SEPARABLE	C20B, C20C, C20D, C20E, C20F

NOTE:

1. SEE TABLE 3 ON PAGE 8 FOR AVAILABLE RATIOS.



ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(INCH
MILLIMETER)

C20 MODELS INPUT AND OUTPUT SHAFT

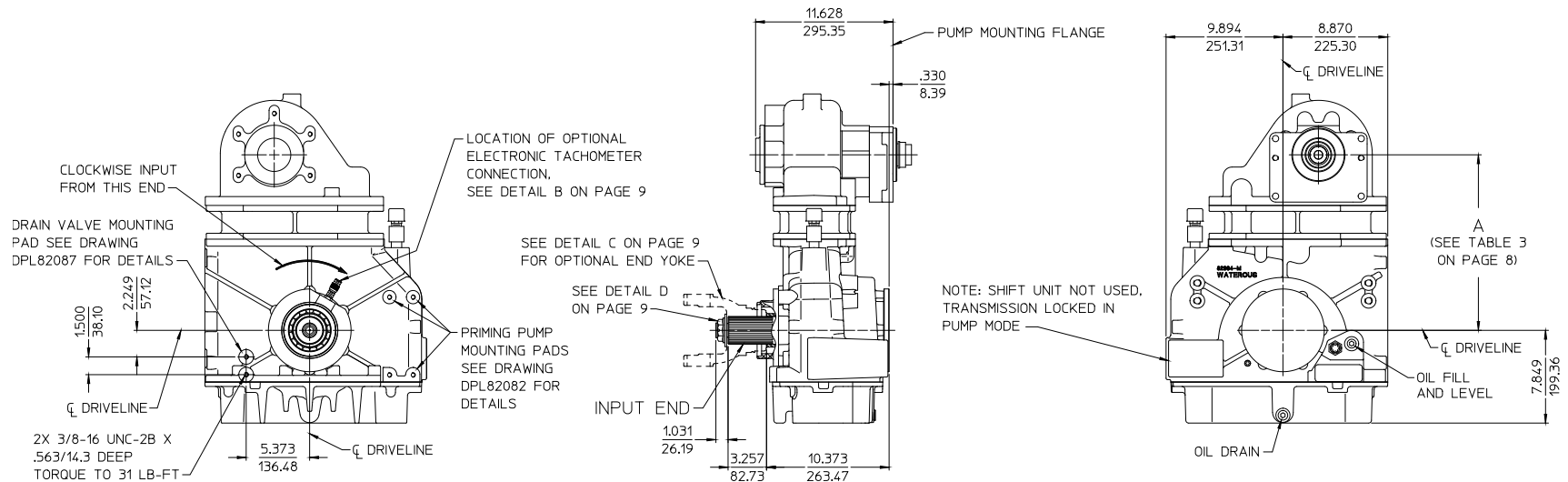
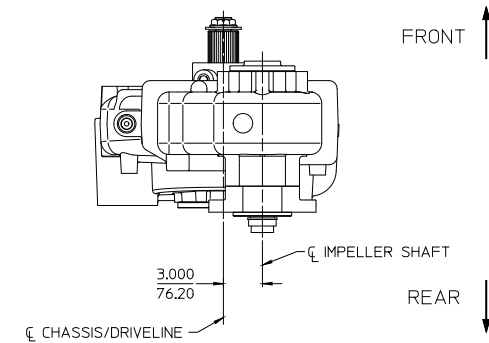
FRONT MOUNTED TRANSMISSION ON PUMP
SPLIT SHAFT DRIVE, CLOCKWISE INPUT
(C20D 2.27 RATIO SHOWN)

TABLE 1 - AVAILABLE DRIVELINE / MODELS								
DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS, SEE DETAIL C ON PAGE 9				MODEL	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		
EXTRA HEAVY DUTY	2.35 INCH	2.350-46T INVOLUTE	SPICER SERIES	PART NUMBER		V 2839	SPICER SERIES	PART NUMBER
			1710	V 2837	1480/1610		V 3719	
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ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(INCH
MILLIMETER)

C20 MODELS INPUT SHAFT ONLY

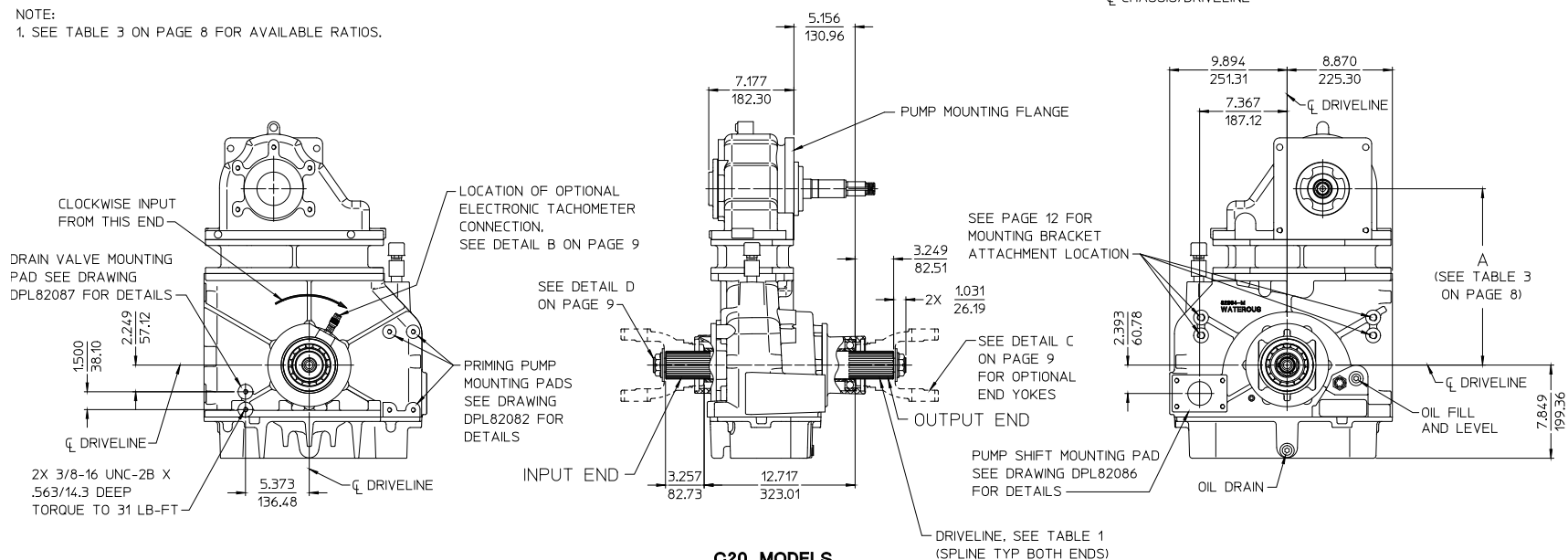
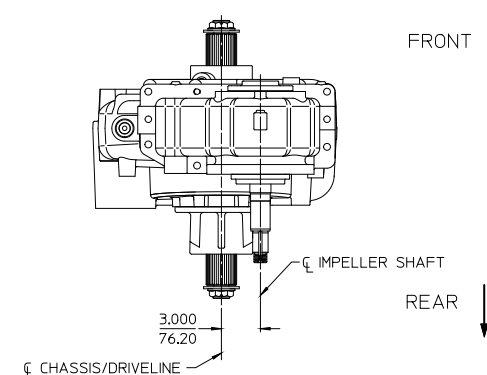
FRONT MOUNTED TRANSMISSION ON PUMP
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DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS, SEE DETAIL C ON PAGE 9				MODEL	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		C20B C20C C20D C20E C20F
			SPICER SERIES	PART NUMBER		SPICER SERIES	PART NUMBER	
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TABLE 2 - C20 SERIES TRANSMISSION AVAILABLE FOR:		
PUMP MODEL	IMPELLER SHAFT TYPE	TRANSMISSION MODEL
CXV, CXS	ONE-PIECE	C20B, C20C, C20D, C20E, C20F

NOTE:

1. SEE TABLE 3 ON PAGE 8 FOR AVAILABLE RATIOS.



C20 MODELS INPUT AND OUTPUT SHAFT

REAR (OUTPUT SHAFT) SIDE PUMP MOUNTING ON TRANSMISSION
SPLIT SHAFT DRIVE, CLOCKWISE INPUT
(C20D 2.27 RATIO SHOWN)

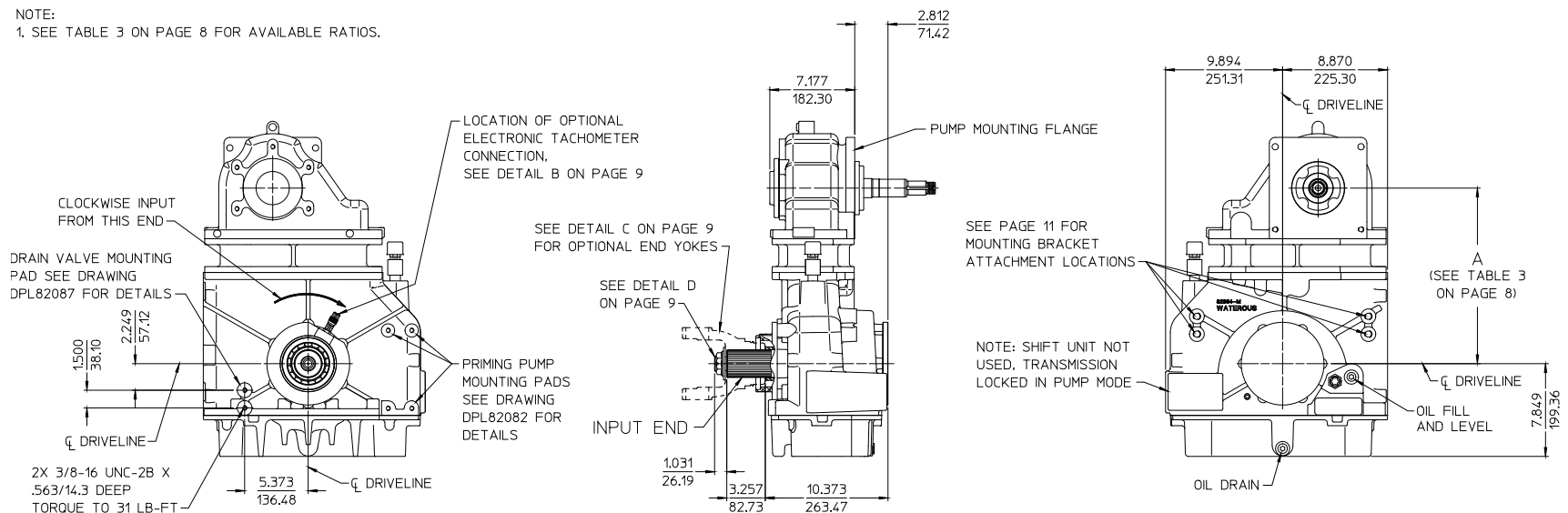
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

(
INCH
MILLIMETER
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DRIVELINE			OPTIONAL END YOKES AND COMPANION FLANGES AVAILABLE FROM WATEROUS, SEE DETAIL C ON PAGE 9				MODEL	
TYPE	SIZE	SPLINE	YOKE		CROSS AND BEARING KIT	COMPANION FLANGE		C20B C20C C20D C20E C20F
			SPICER SERIES	PART NUMBER		SPICER SERIES	PART NUMBER	
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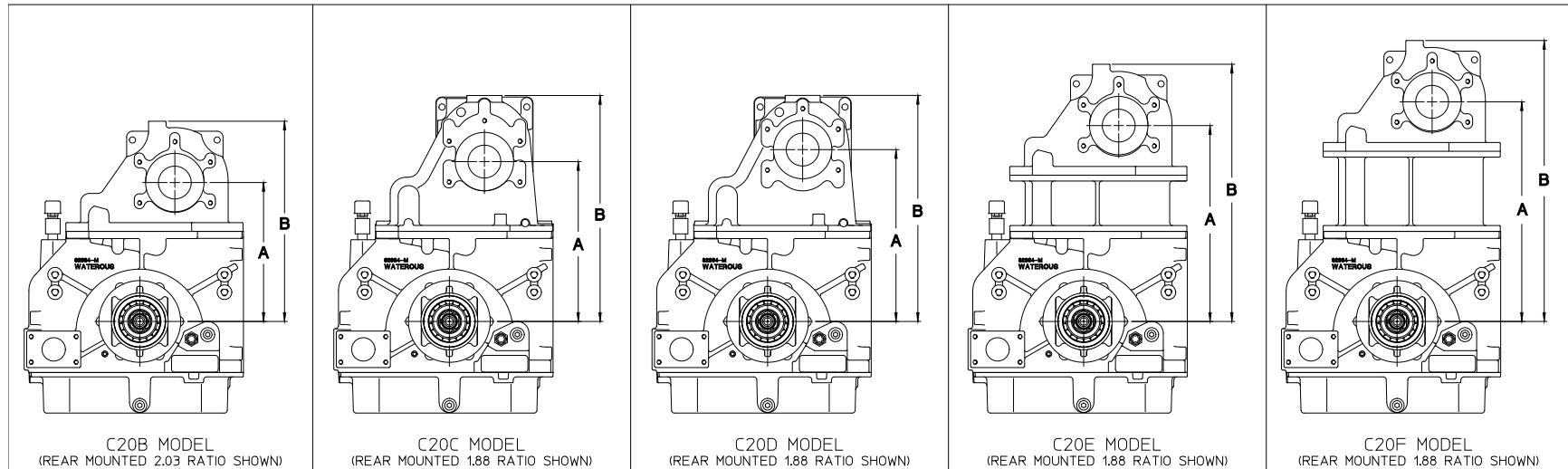
NOTE:
1. SEE TABLE 3 ON PAGE 8 FOR AVAILABLE RATIOS.



C20 MODELS INPUT SHAFT ONLY

REAR (OUTPUT SHAFT) SIDE PUMP MOUNTING ON TRANSMISSION
CLOCKWISE INPUT
(C20D 2.27 RATIO SHOWN)

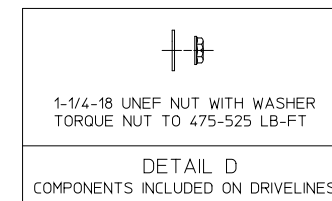
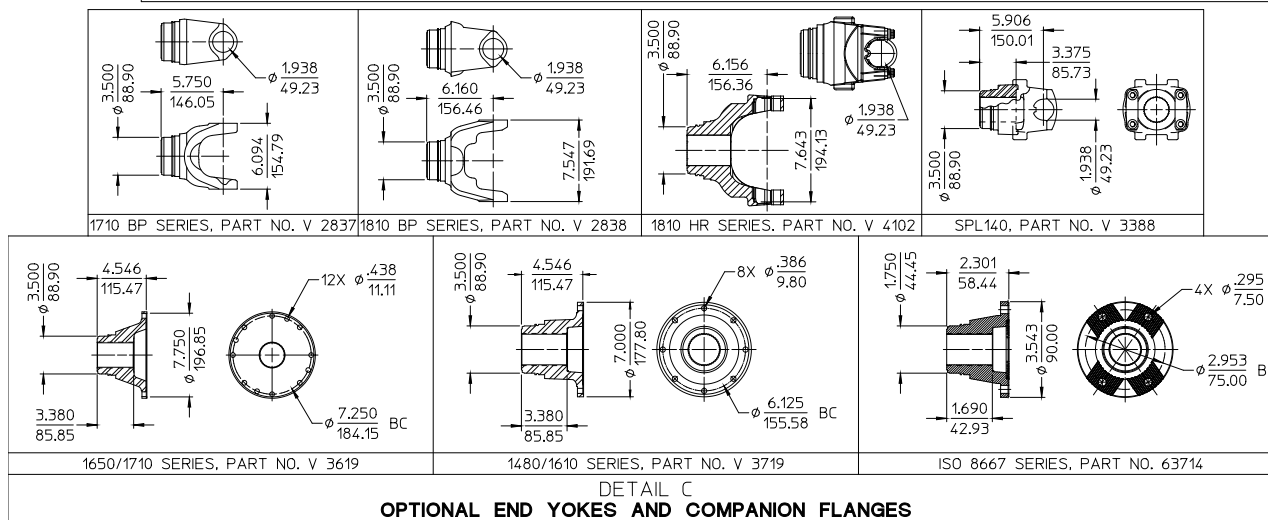
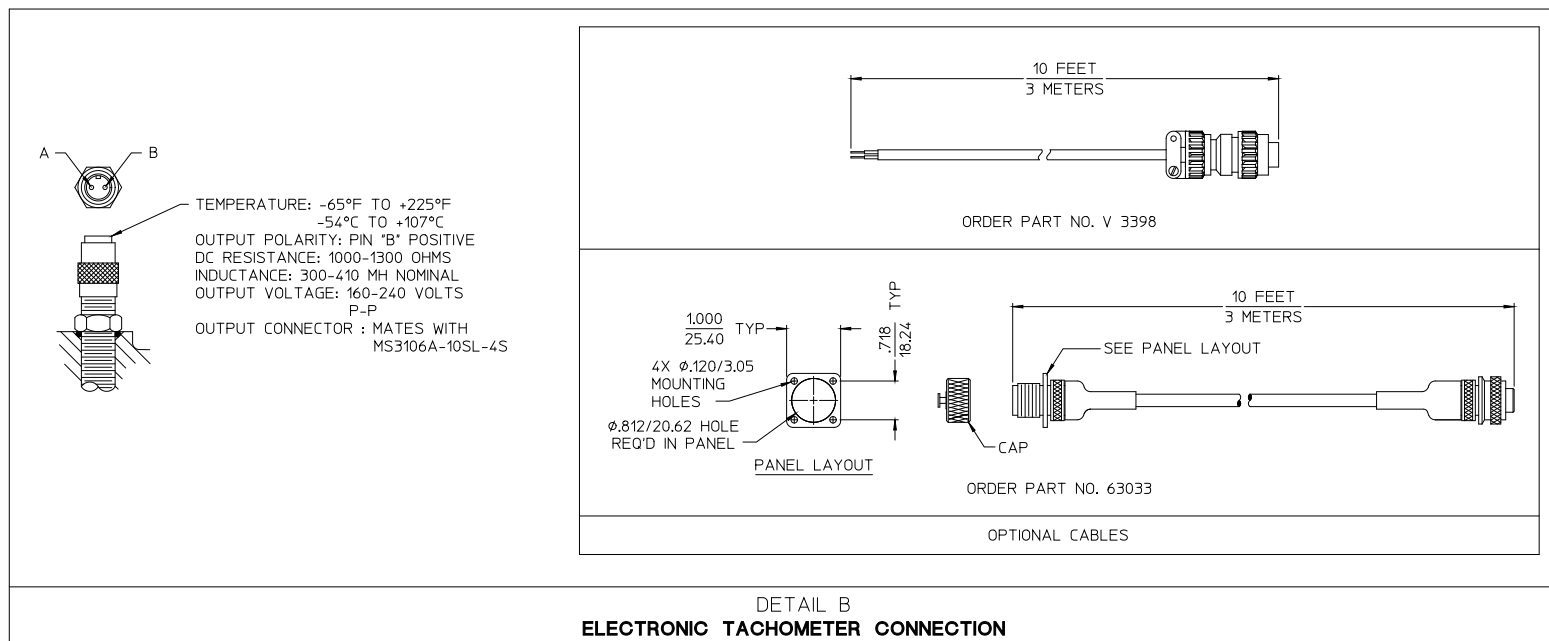
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH / MILLIMETER)



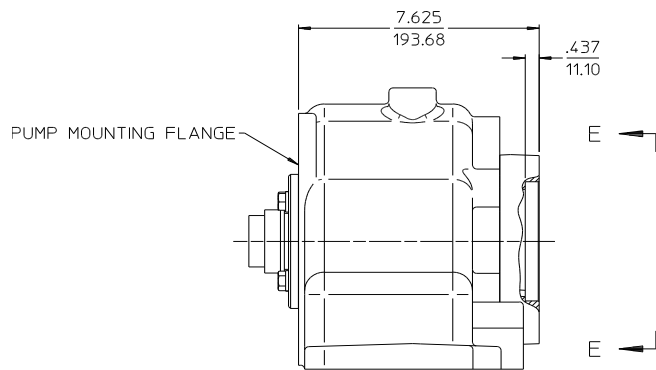
DRIVE TO DRIVEN RATIO	C20B		C20C		C20D		C20E		C20F	
	DIMENSION A	DIMENSION B	DIMENSION A	DIMENSION B	DIMENSION A	DIMENSION B	DIMENSION A	DIMENSION B	DIMENSION A	DIMENSION B
1.27	12.250/311.15	17.194/436.73	14.312/363.52	19.607/498.02	14.825/376.56	19.412/493.06	16.861/428.27	22.011/559.08	18.892/479.86	24.042/610.67
1.41	11.840/300.74	17.149/435.58	13.899/353.03	19.400/492.76	14.931/379.25	19.415/493.14	16.971/431.06	22.011/559.08	19.002/482.65	24.042/610.67
1.48	12.326/313.08	17.270/438.66	13.878/352.50	19.482/494.84	14.907/378.64	19.391/492.53	16.951/430.56	21.991/558.57	18.981/482.12	24.021/610.13
1.58	12.205/310.01	17.149/435.58	13.756/349.40	19.360/491.74	14.788/375.62	19.375/492.13	16.830/427.48	21.980/558.29	18.861/479.07	24.011/609.88
1.69	12.290/312.17	17.234/437.74	13.839/351.51	19.340/491.24	14.876/377.85	19.360/491.74	16.923/429.84	22.073/560.65	18.961/481.61	24.111/612.42
1.79	11.958/303.73	17.211/437.16	14.045/356.74	19.340/491.24	15.072/382.83	19.350/491.49	17.127/435.03	22.071/560.60	19.168/486.87	24.112/612.44
1.88	12.129/308.08	17.169/436.09	13.690/347.73	19.350/491.49	14.717/373.81	19.360/491.74	16.773/426.03	22.026/559.46	18.809/477.75	24.062/611.17
1.97	12.306/312.57	17.250/438.15	13.870/352.30	19.371/492.02	14.912/378.76	19.396/492.66	16.970/431.04	22.010/559.05	19.012/482.90	24.052/610.92
2.03	11.896/302.16	17.149/435.58	13.984/355.19	19.375/492.13	15.028/381.71	19.402/492.81	17.086/433.98	22.030/559.56	19.132/485.95	24.076/611.53
2.27	12.240/310.90	17.184/436.47	13.811/350.80	19.415/493.14	14.856/377.34	19.340/491.24	16.920/429.77	21.960/557.78	18.971/481.86	24.011/609.88
2.46	11.941/303.30	17.194/436.73	14.036/356.51	19.433/493.60	15.087/383.21	19.365/491.87	17.154/435.71	22.098/561.29	19.205/487.81	24.149/613.38
2.68	12.169/309.09	17.209/437.11	13.746/349.15	19.350/491.49	14.793/375.74	19.380/492.25	16.865/428.37	22.015/559.18	18.923/480.64	24.073/611.45

RATIO AND DROP DIMENSIONS

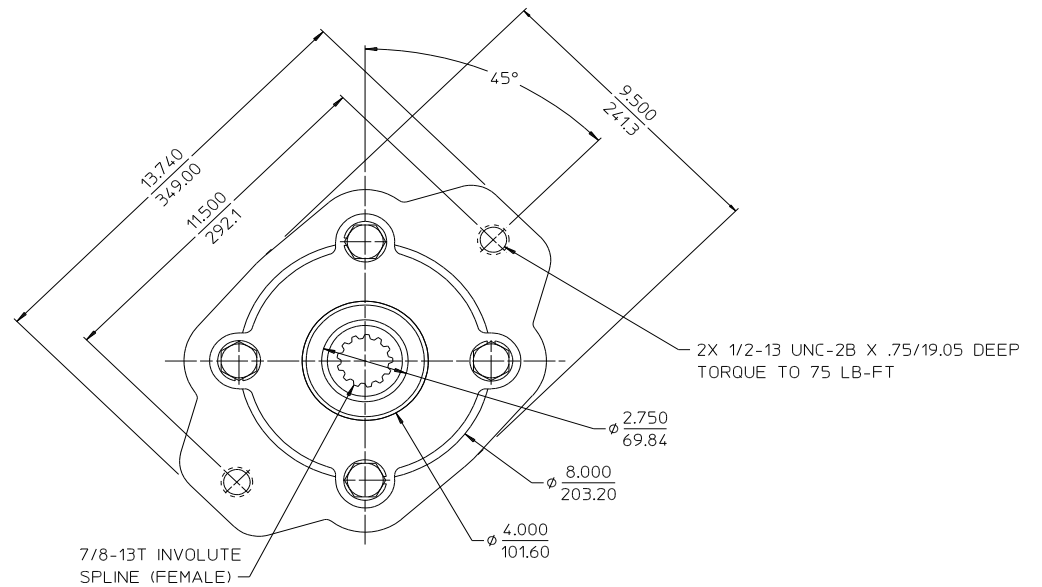
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH)
(MILLIMETER)



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

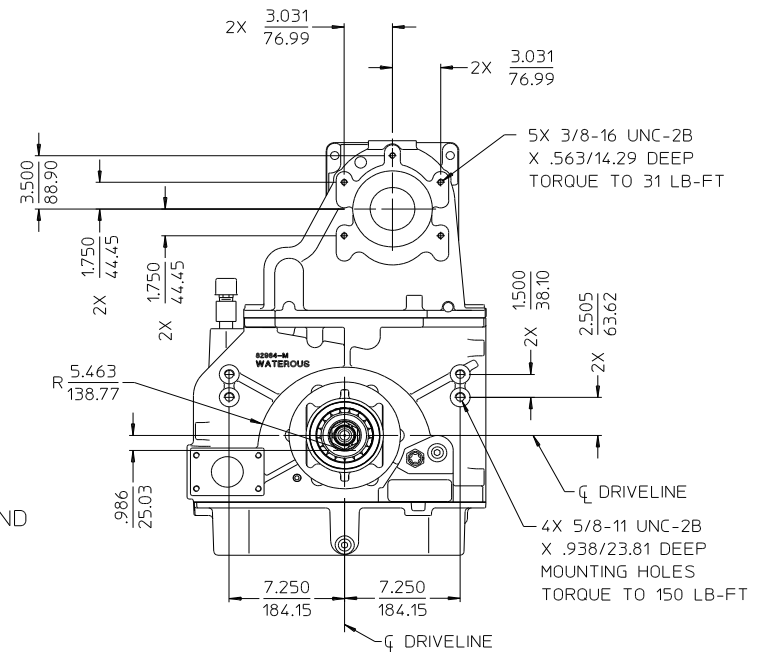
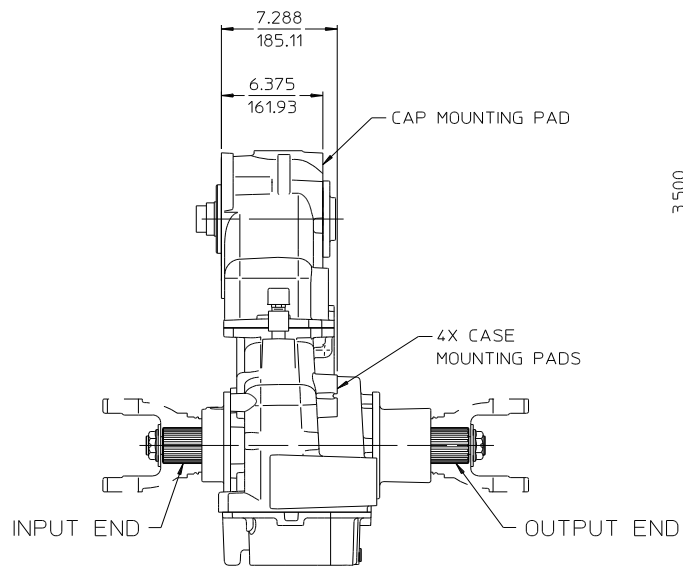
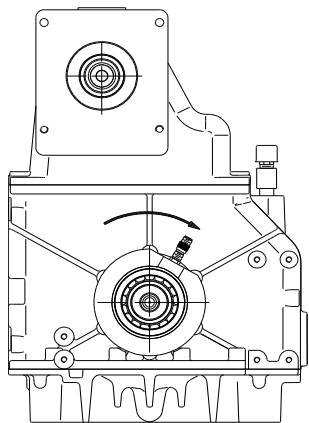


ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(
INCH
MILLIMETER
)



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

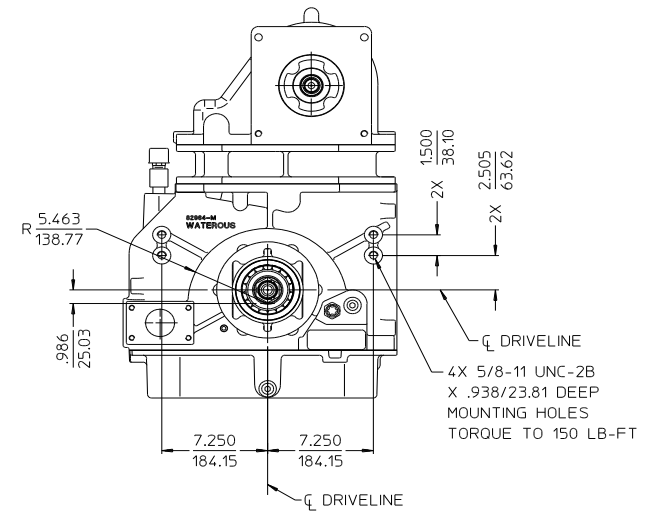
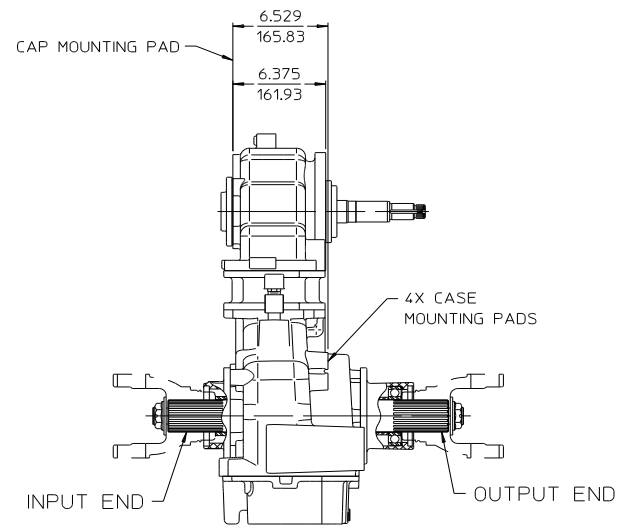
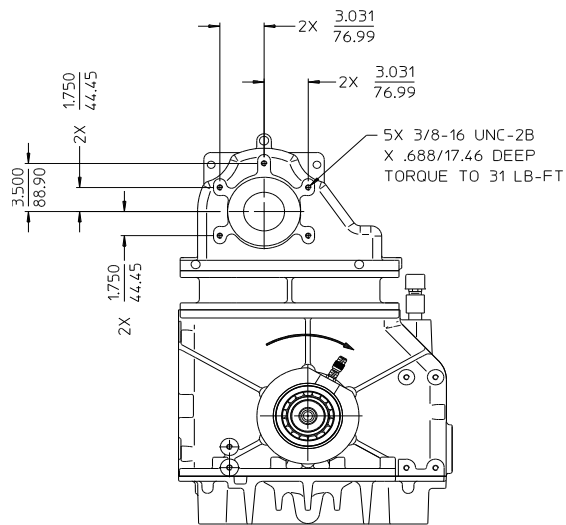
OPTIONAL HYDRAULIC PUMP MOUNTING PROVISION



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

MOUNTING BRACKET ATTACHMENT LOCATIONS

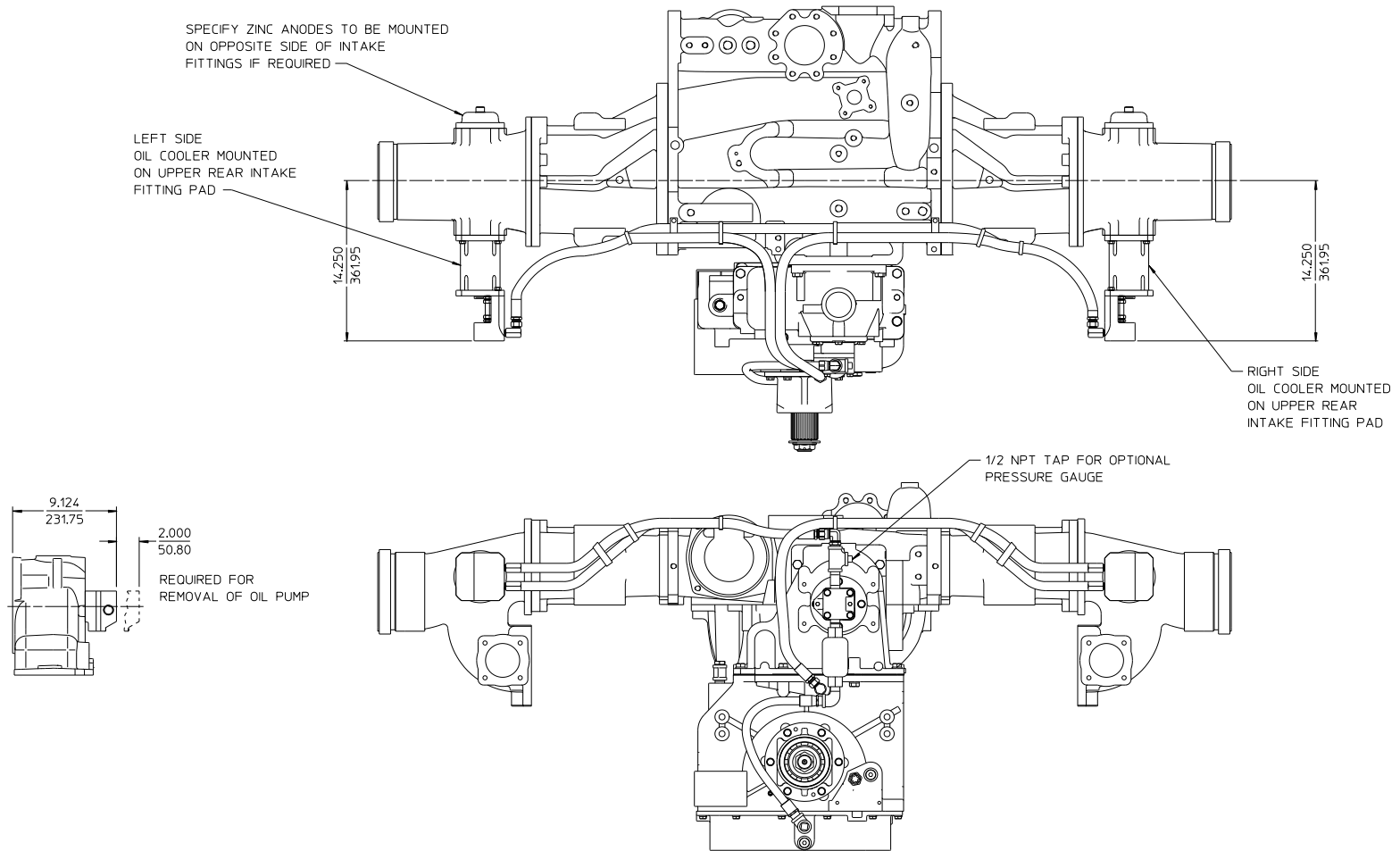
WHEN PUMP IS MOUNTED ON FRONT (INPUT SHAFT) SIDE OF TRANSMISSION



ALL DIMENSIONS SHOWN AS INCH/MILLIMETER
(INCH
MILLIMETER)

MOUNTING BRACKET ATTACHMENT LOCATIONS

WHEN PUMP IS MOUNTED ON REAR (OUTPUT SHAFT) SIDE OF TRANSMISSION



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

OPTIONAL OIL COOLER