



|                 |                 |                 |
|-----------------|-----------------|-----------------|
| Document Number | Issue Date      | Rev. Date       |
| <b>DPL82058</b> | <b>01/03/96</b> | <b>10/28/19</b> |

## Bronze CM Series Fire Pump Dimensional Drawings

| <b>Basic Pump Dimensions</b><br>(Without Transmission) |     |                 |
|--------------------------------------------------------|-----|-----------------|
| <b>Feature</b>                                         |     | <b>See Page</b> |
| Body Dimensions                                        | CM  | 3               |
|                                                        | CMU | 4               |
| Intake Adapters                                        |     | 5               |
| Tank to Pump Flange Options                            |     | 6               |

Pump and Transmission Dimensions – See Table on Page 2

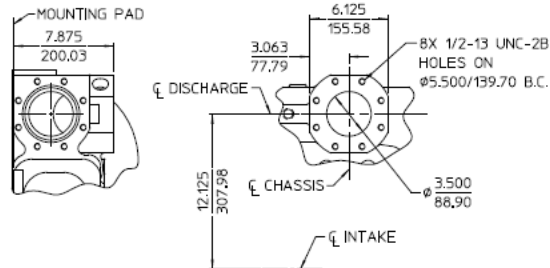
**Note: Pump must be installed in accordance with Waterous Installation Instructions.**

## Bronze CM Series Fire Pump Dimensional Drawings (Continued)

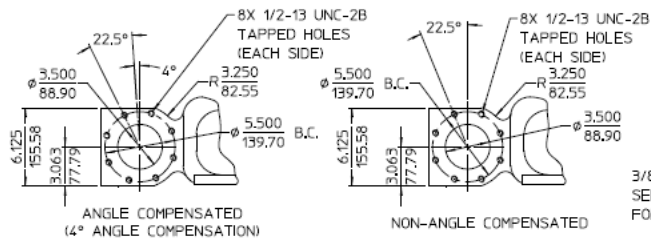
| Pump and Transmission               |              |                                          |                                                 |                 |                                            |                        |                                   |          |
|-------------------------------------|--------------|------------------------------------------|-------------------------------------------------|-----------------|--------------------------------------------|------------------------|-----------------------------------|----------|
| 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<br>CMC20D, CMC20E<br>CMC20F      | 82058           | CW                                         | Input and Output Shaft | No                                | 7, 11    |
|                                     |              |                                          |                                                 |                 |                                            |                        | Yes                               | 8, 11    |
|                                     |              |                                          |                                                 |                 |                                            | Input Shaft Only       | No                                | 9, 11    |
|                                     |              |                                          |                                                 |                 |                                            |                        | Yes                               | 10, 11   |
|                                     |              |                                          | CMUC20B, CMUC20C<br>CMUC20D, CMUC20E<br>CMUC20F | 82060           | CW                                         | Input and Output Shaft | No                                | 7, 11    |
|                                     |              |                                          |                                                 |                 |                                            |                        | Yes                               | 8, 11    |
|                                     |              |                                          |                                                 |                 |                                            | Input Shaft Only       | No                                | 9, 11    |
|                                     |              |                                          |                                                 |                 |                                            |                        | Yes                               | 10, 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                                             | 82058-3         | CW (Front Drive)<br>or<br>CCW (Rear Drive) | -                      | N/A                               | 13       |
|                                     |              |                                          | CMUD                                            | 82060-3         |                                            |                        |                                   |          |
|                                     | PA Series    | PTO Driven, Chain Drive                  | CPA                                             | 82058-4         | CW                                         | -                      | N/A                               | 14       |

**Note:**

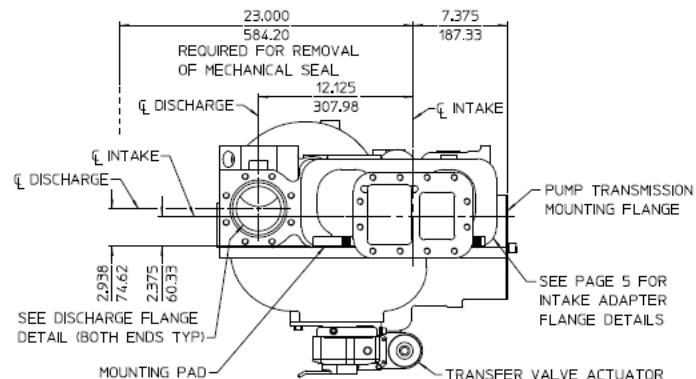
1. Input rotation is viewed looking directly at the transmission input shaft or direct drive end yoke.



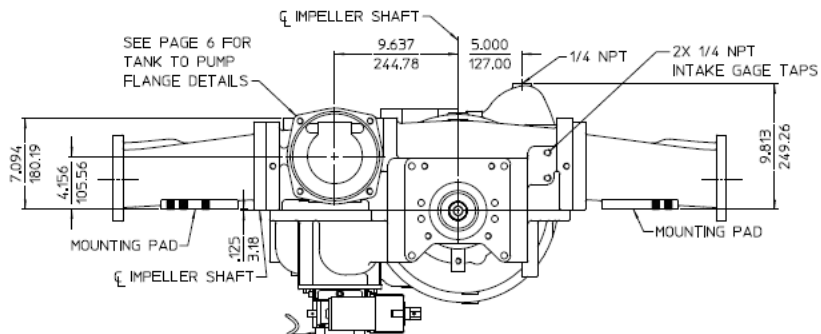
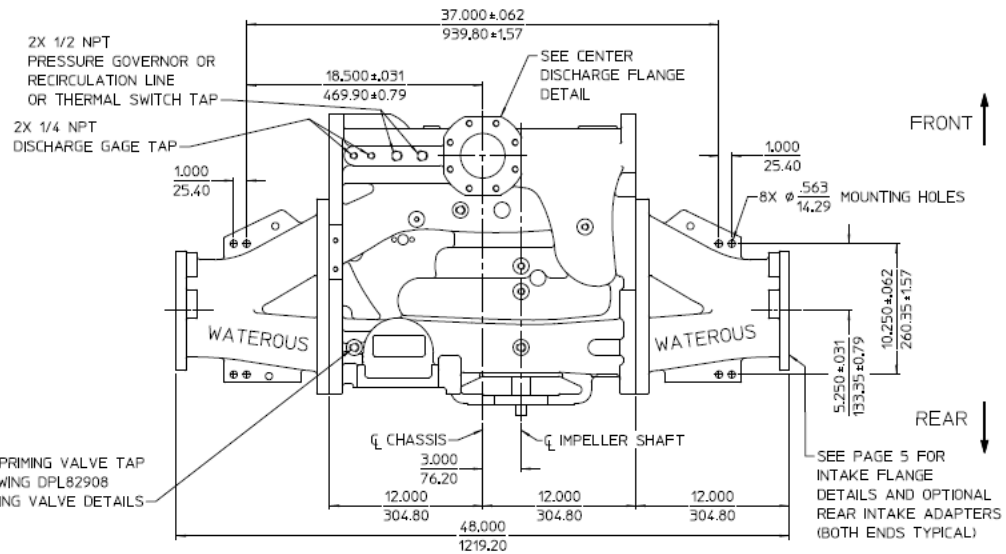
**CENTER DISCHARGE FLANGE**  
SEE DRAWING DPL82089 FOR INFORMATION ON ORDERING DISCHARGE FITTINGS OR SEE WATEROUS 'CENTER DISCHARGE PIPING MANUAL' FOR AVAILABLE EXISTING ARRANGEMENTS



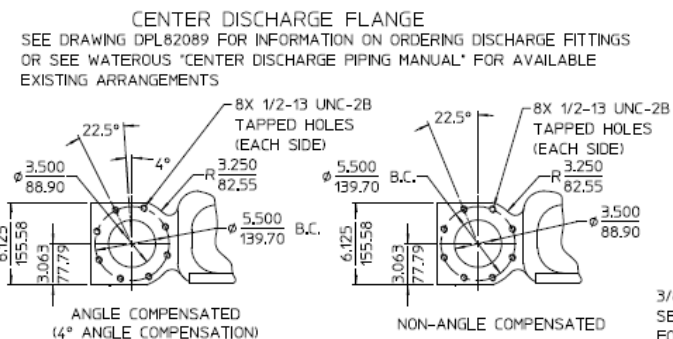
**DISCHARGE FLANGE CONFIGURATIONS**  
SEE DRAWING DPL82085 FOR INFORMATION ON ORDERING DISCHARGES FITTING AND VALVES



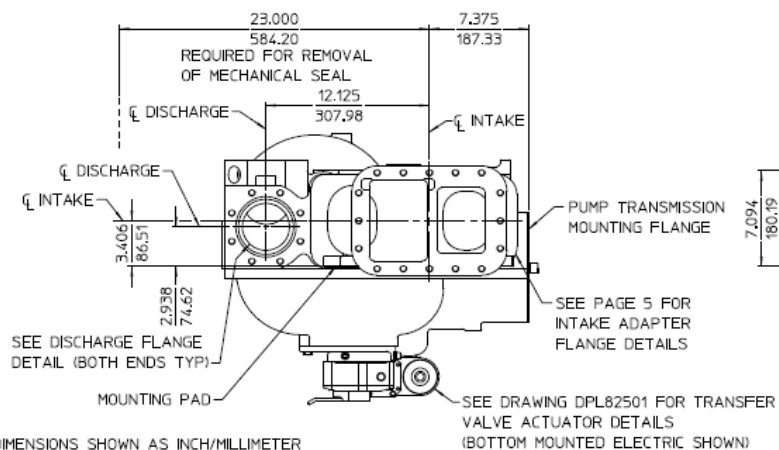
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
(INCH  
MILLIMETER)



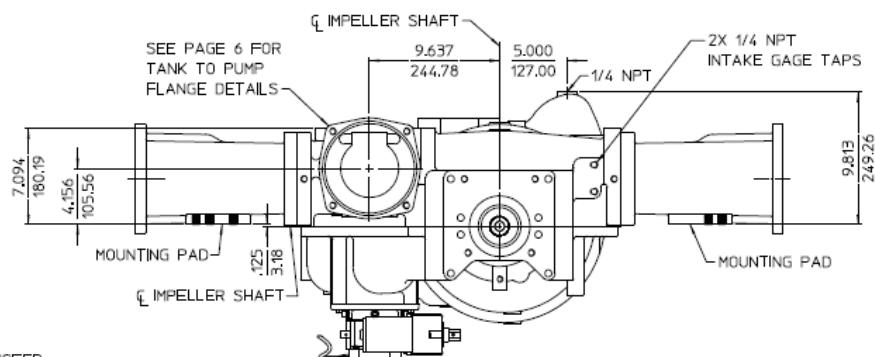
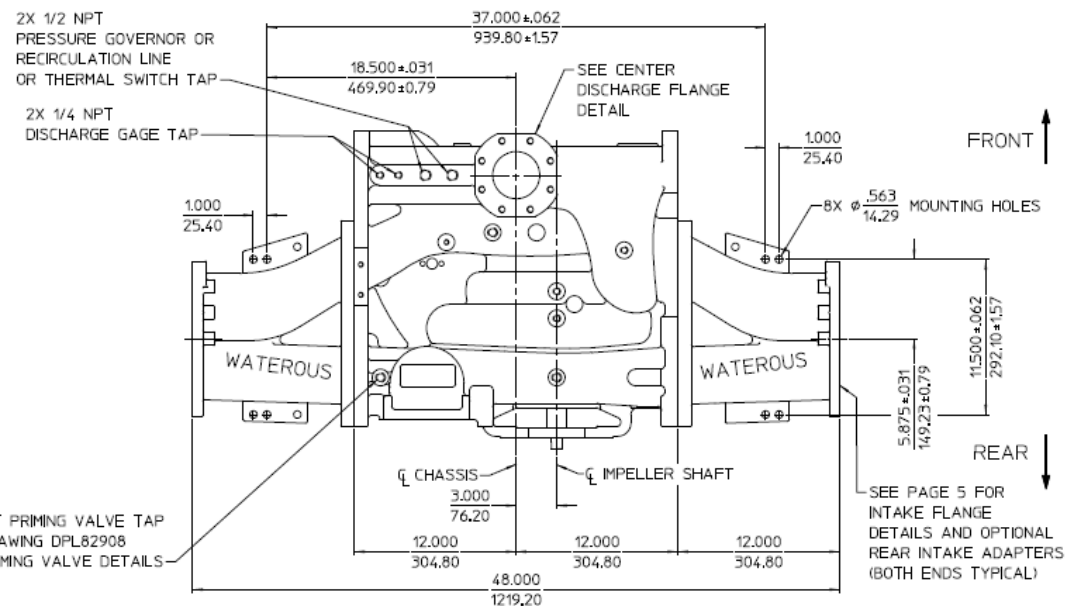
**CM BODY DIMENSIONS**



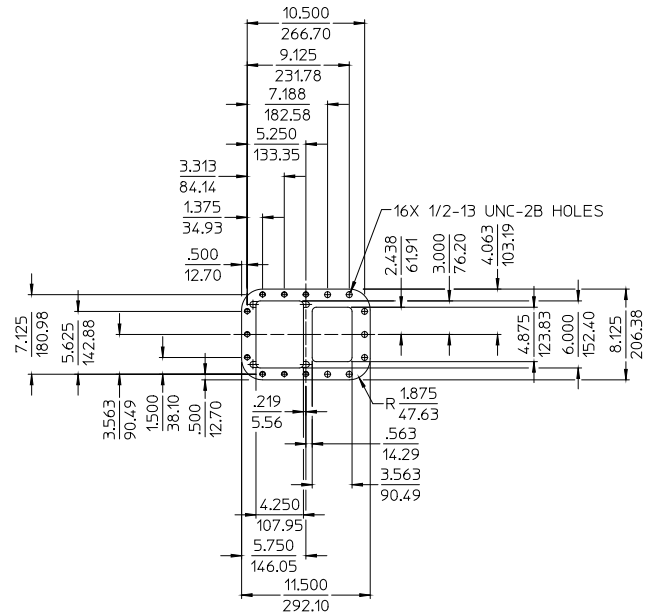
DISCHARGE FLANGE CONFIGURATIONS  
SEE DRAWING DPL82085 FOR INFORMATION  
ON ORDERING DISCHARGES FITTING AND VALVES



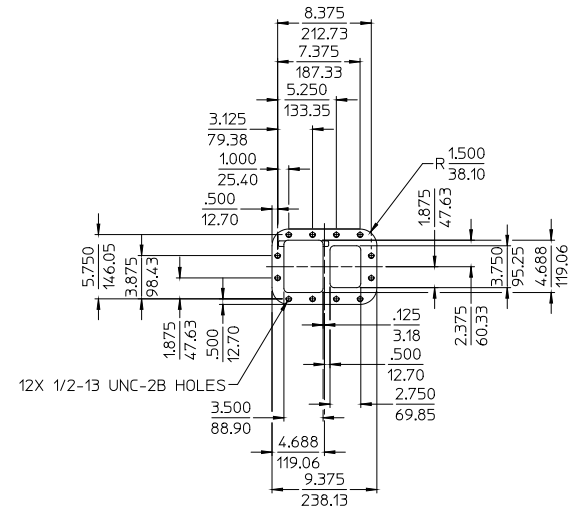
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
( $\frac{\text{INCH}}{\text{MILLIMETER}}$ )



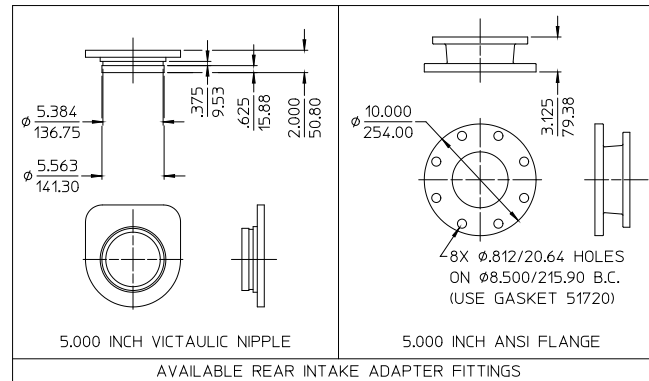
CMU BODY DIMENSIONS



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



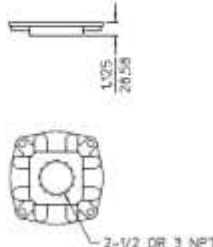
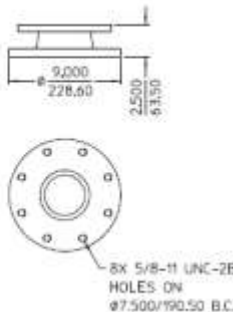
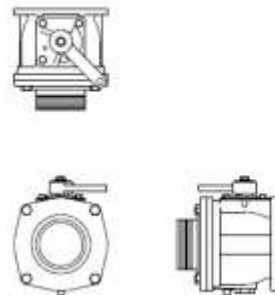
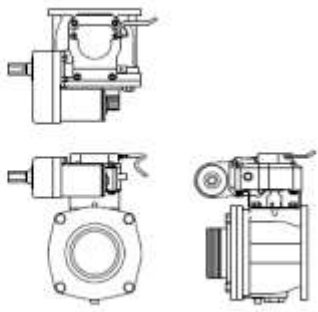
STANDARD INTAKE ADAPTER FLANGE DETAIL  
SPECIFY INTAKE FITTINGS FROM SECTION 1 OF DRAWING DPL81867

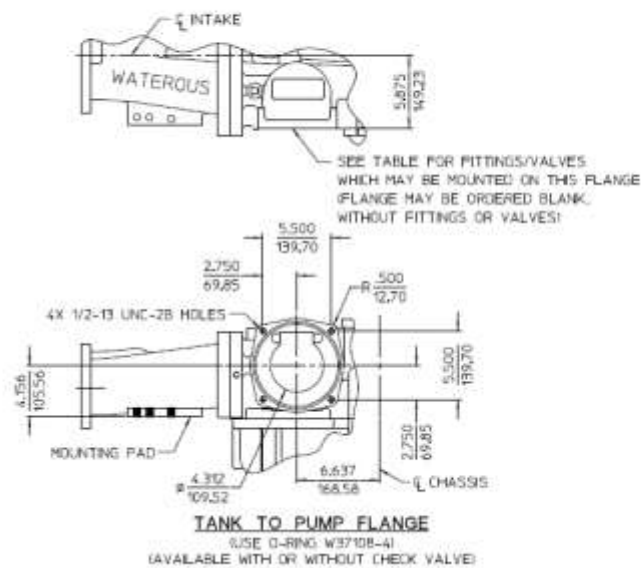


AVAILABLE REAR INTAKE ADAPTER FITTINGS

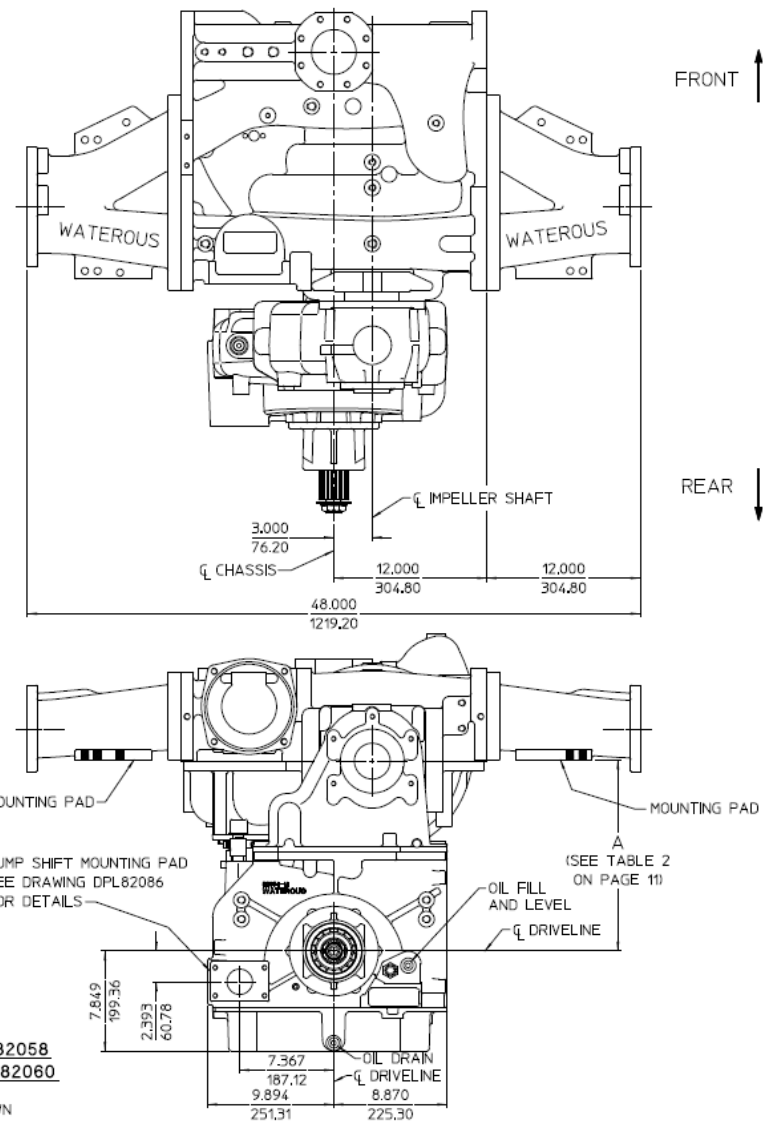
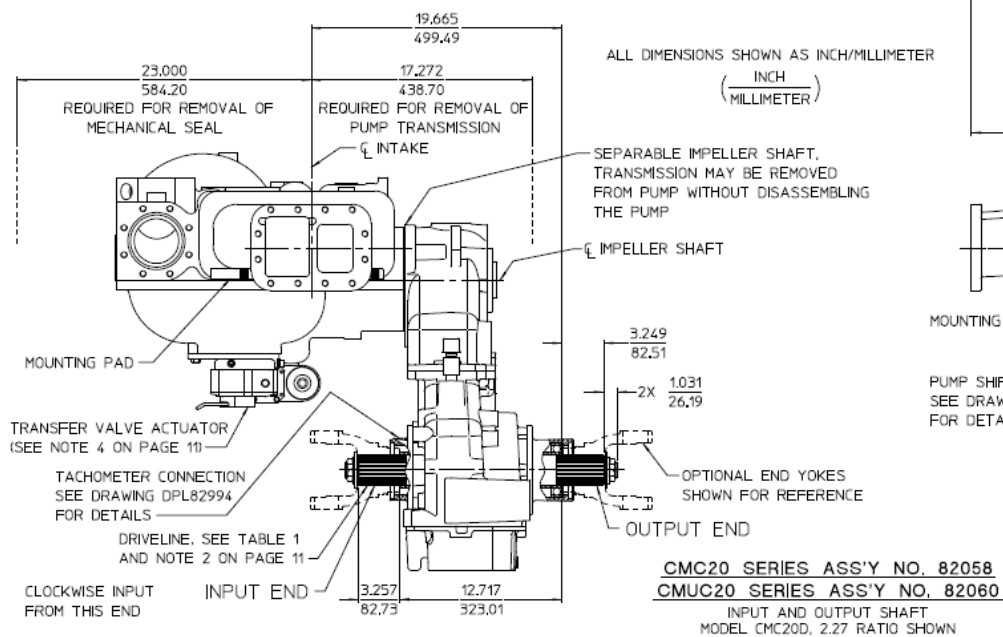
## INTAKE ADAPTERS

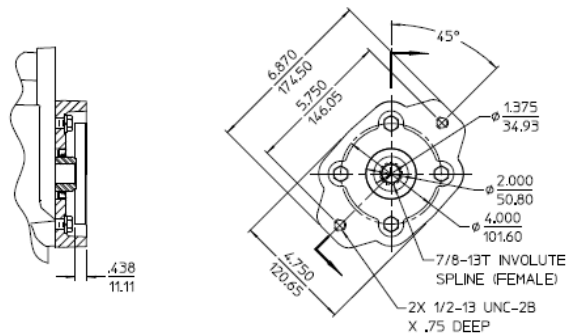
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
( $\frac{\text{INCH}}{\text{MILLIMETER}}$ )

|                                                                                                        |                                                                                                                                                                 |                                                                                                                                                                            |                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>TAPPED FLANGE</p> |  <p>4.000 INCH ANSI FLANGE<br/>(NOTE: NOT AVAILABLE WITH PA TRANSMISSION)</p> |  <p>MANUAL<br/>TANK TO PUMP VALVE<br/>SEE DRAWING DPL81962<br/>FOR ORDERING DETAILS</p> |  <p>ELECTRIC<br/>TANK TO PUMP VALVE<br/>WITH ROTARY ACTUATOR<br/>SEE DRAWING DPL82771<br/>FOR ORDERING DETAILS</p> |
| <p>OPTIONAL TANK TO PUMP FLANGE FITTINGS/VALVES</p>                                                    |                                                                                                                                                                 |                                                                                                                                                                            |                                                                                                                                                                                                       |

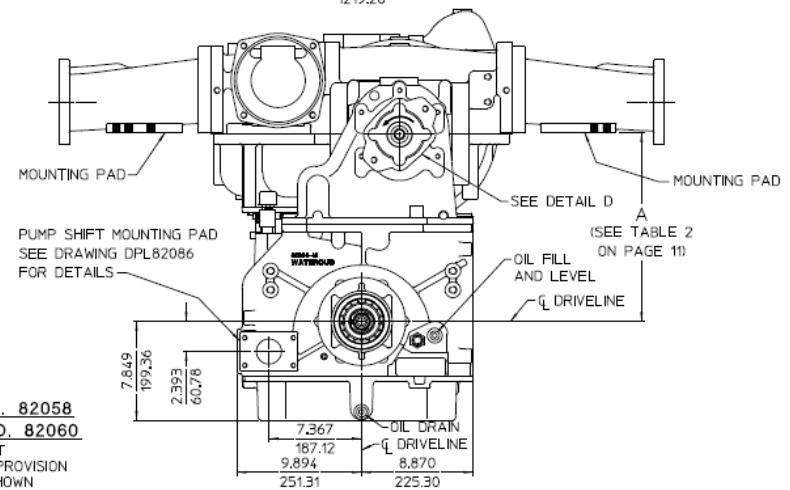
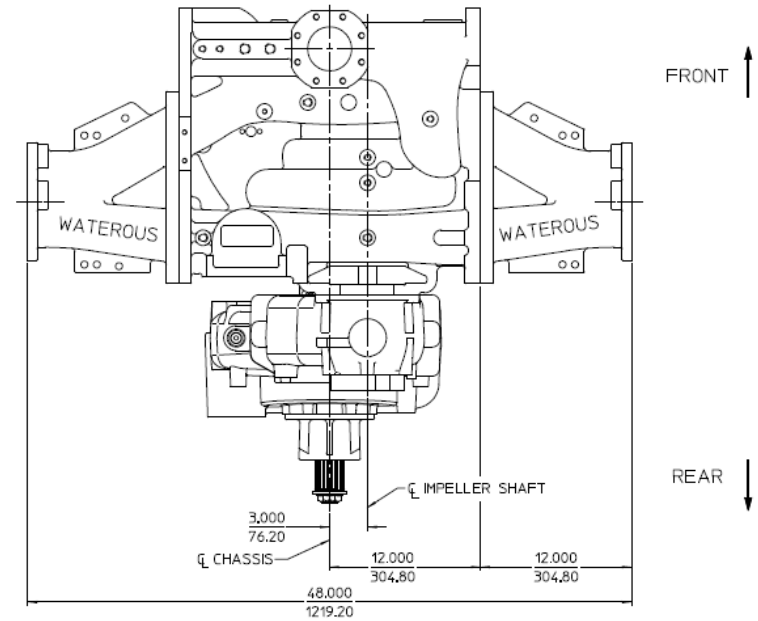
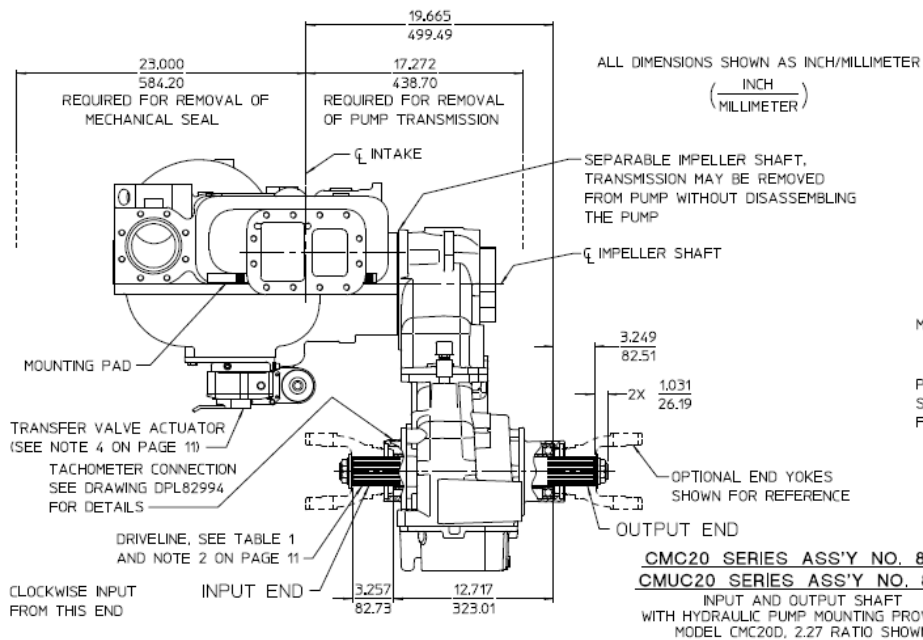


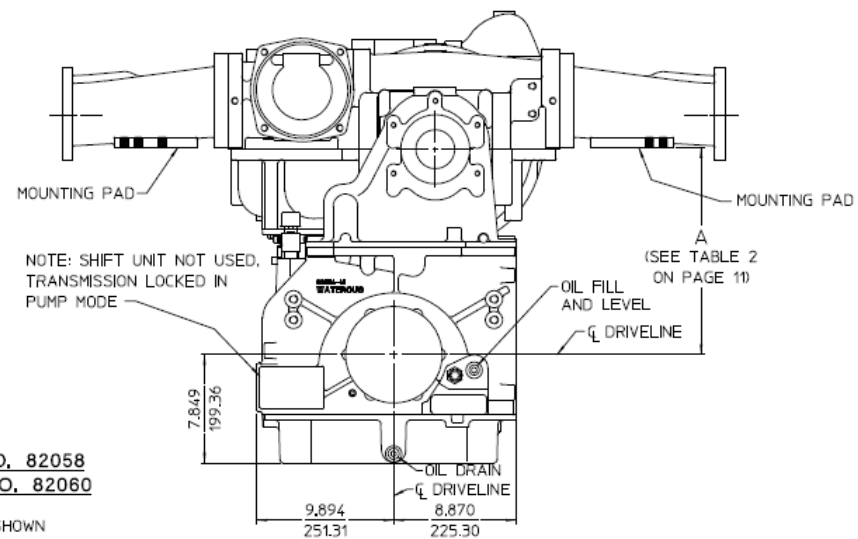
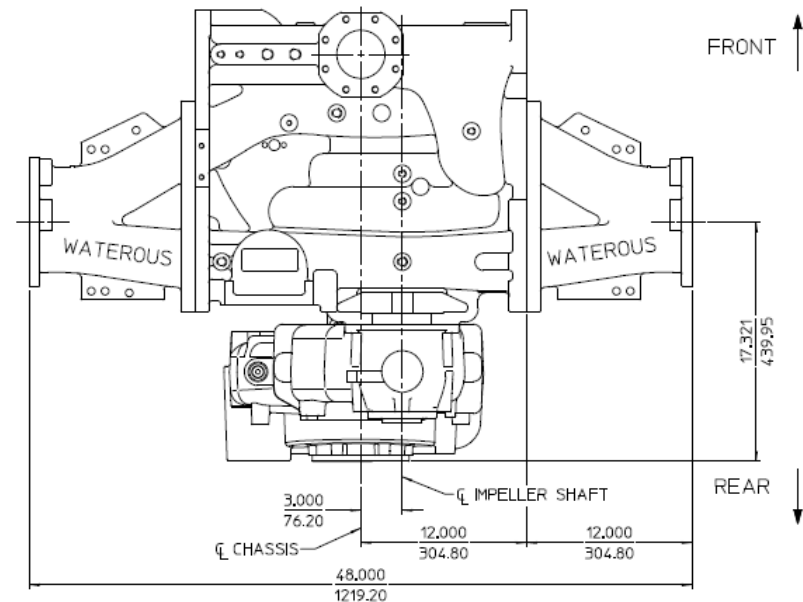
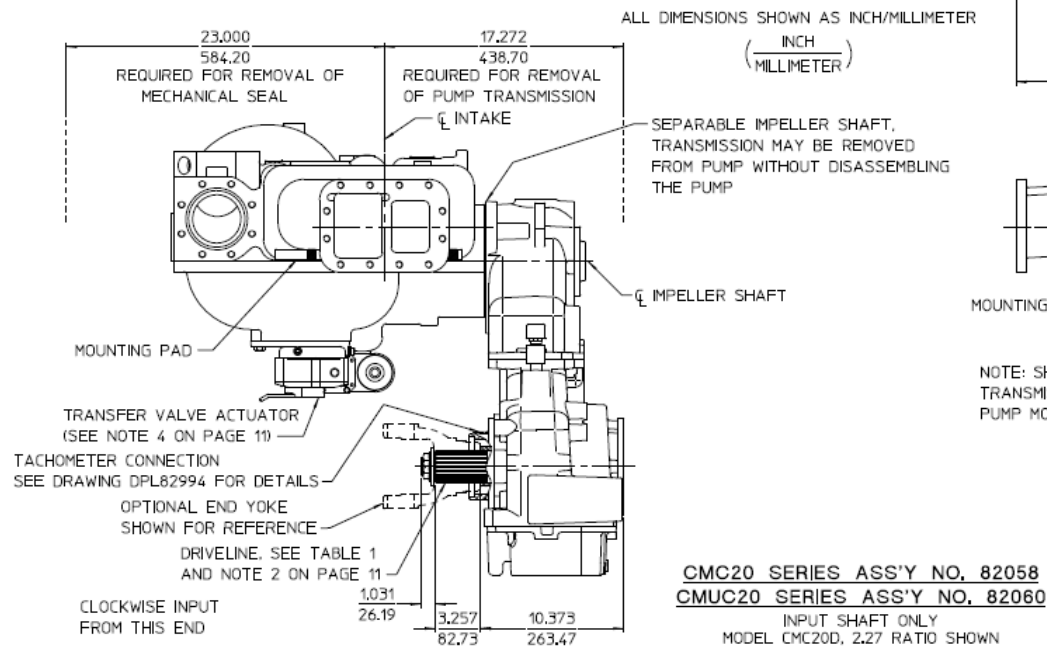
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
(INCH)  
(MILLIMETER)

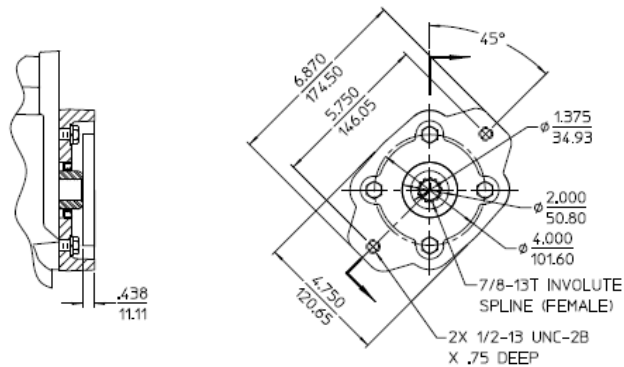




DETAIL D  
HYDRAULIC PUMP ADAPTER FLANGE  
USED FOR SAE J744 CLASS B 2-BOLT  
HYDRAULIC PUMP WITH MALE  
7/8-13T 16/32 PITCH INVOLUTE SPLINE



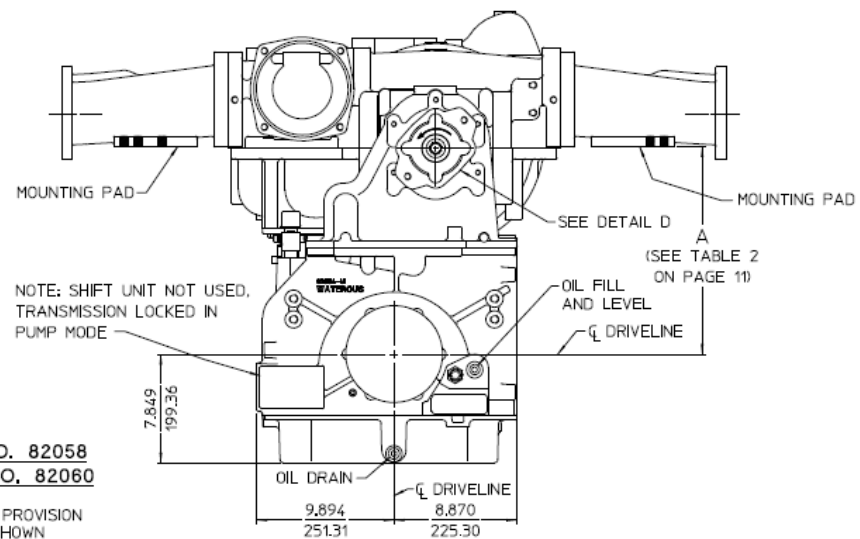
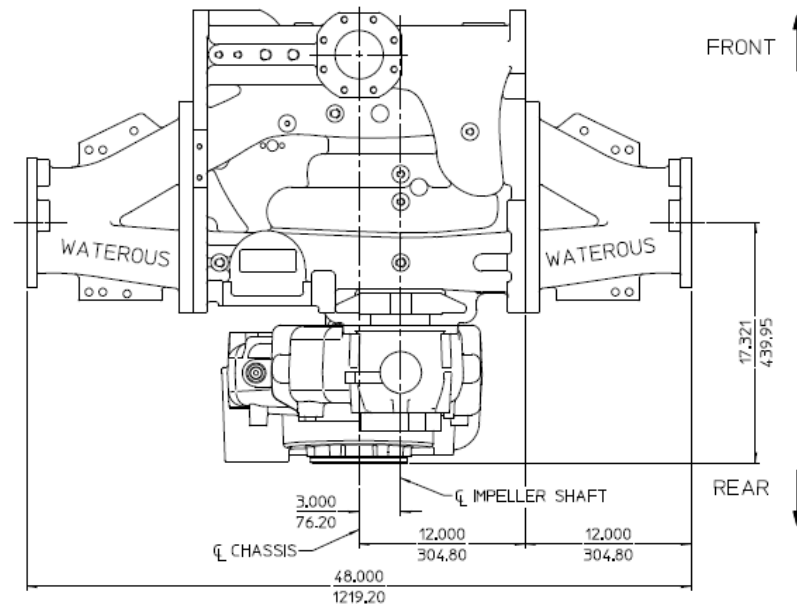
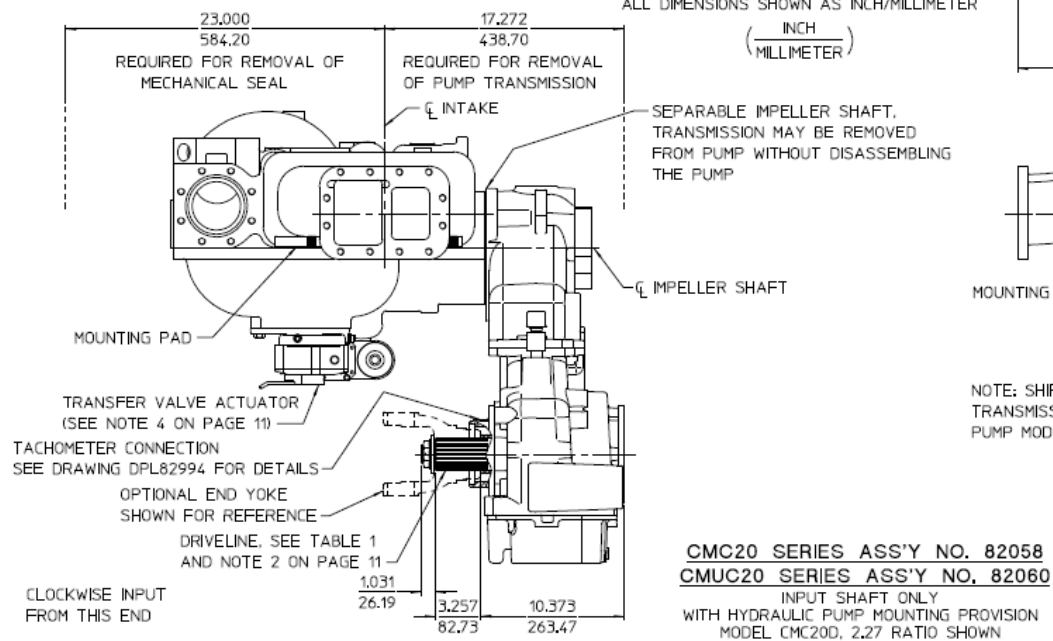




**DETAIL D**  
**HYDRAULIC PUMP ADAPTER FLANGE**  
 USED FOR SAE J744 CLASS B 2-BOLT  
 HYDRAULIC PUMP WITH MALE  
 7/8-13T 16/32 PITCH INVOLUTE SPLINE

ALL DIMENSIONS SHOWN AS INCH/MILLIMETER

( INCH )  
 ( MILLIMETER )



| TABLE 1 - AVAILABLE DRIVELINES / MODELS |           |                   |                                                                     |                |                          |                  |                |                                              |                                                   |
|-----------------------------------------|-----------|-------------------|---------------------------------------------------------------------|----------------|--------------------------|------------------|----------------|----------------------------------------------|---------------------------------------------------|
| DRIVELINE                               |           |                   | OPTIONAL END YOKES AND COMPANION FLANGES<br>AVAILABLE FROM WATEROUS |                |                          |                  | PUMP MODELS    |                                              |                                                   |
| TYPE                                    | SIZE      | SPLINE            | YOKE                                                                |                | CROSS AND<br>BEARING KIT | COMPANION FLANGE |                | CMC20 SERIES                                 | CMUC20 SERIES                                     |
|                                         |           |                   | SPIKER<br>SERIES                                                    | PART<br>NUMBER |                          | SPIKER<br>SERIES | PART<br>NUMBER |                                              |                                                   |
| EXTRA HEAVY<br>DUTY                     | 2.35 INCH | 2.35-46T INVOLUTE | 1710 BP                                                             | V 2837         | V 2839                   | 1480/1610        | V 3719         | CMC20B, CMC20C,<br>CMC20D, CMC20E,<br>CMC20F | CMUC20B, CMUC20C,<br>CMUC20D, CMUC20E,<br>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<br>DRIVEN<br>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.

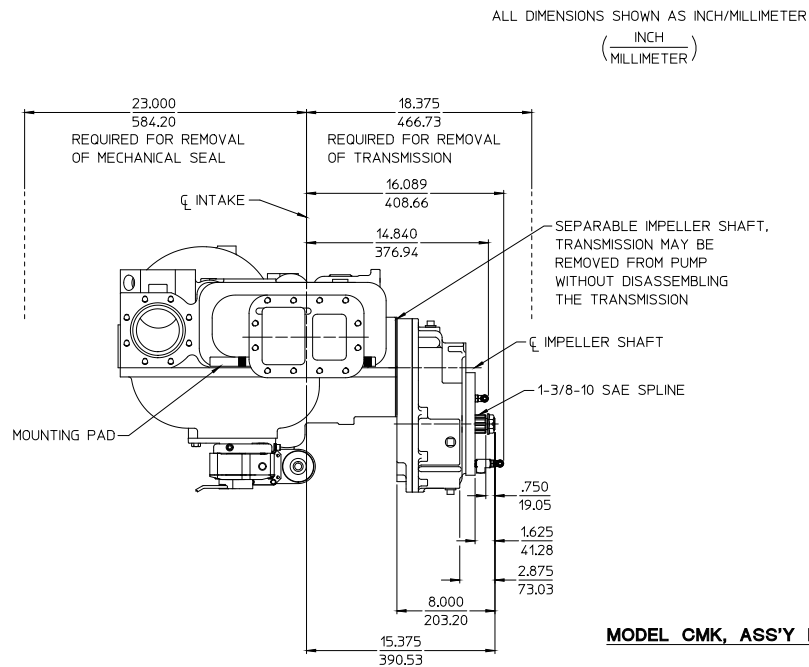
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
 $\left( \frac{\text{INCH}}{\text{MILLIMETER}} \right)$

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

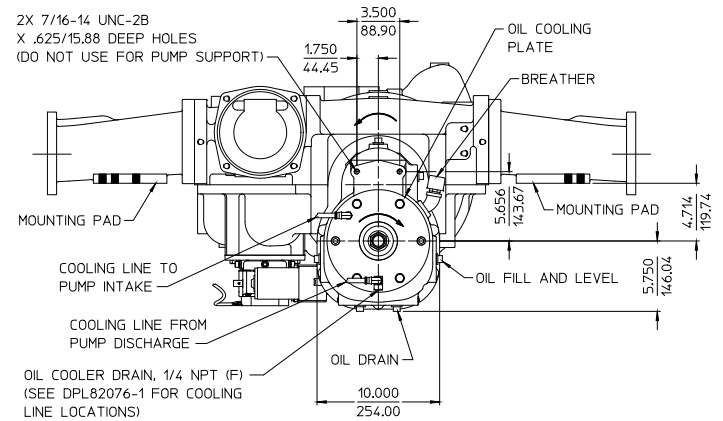
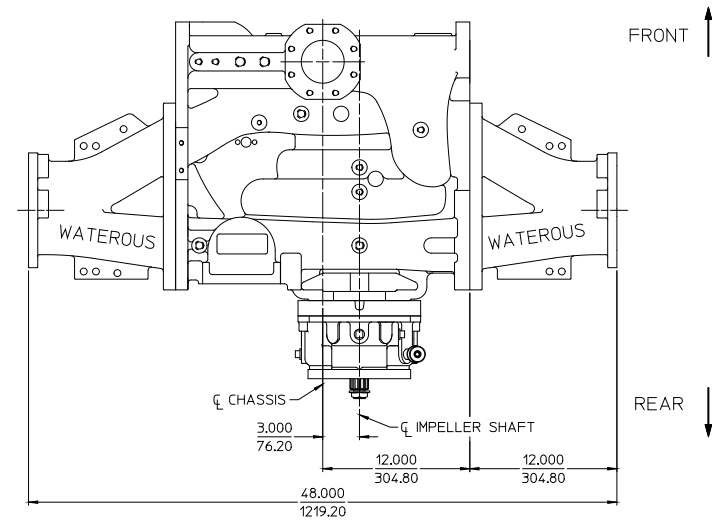
| MODEL CSK AVAILABLE AS FOLLOWS |           |          |          |                                                            |
|--------------------------------|-----------|----------|----------|------------------------------------------------------------|
| TRANSMISSION                   |           |          |          |                                                            |
| MODEL                          | INPUT     | LOCATION | MOUNTING | AVAILABLE RATIOS                                           |
| HEAVY DUTY K                   | CLOCKWISE | REAR     | VERTICAL | 1.16, 1.30, 1.38,<br>1.56, 1.65, 1.88,<br>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.



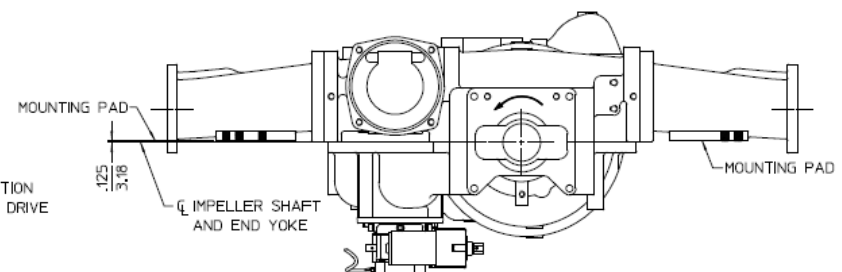
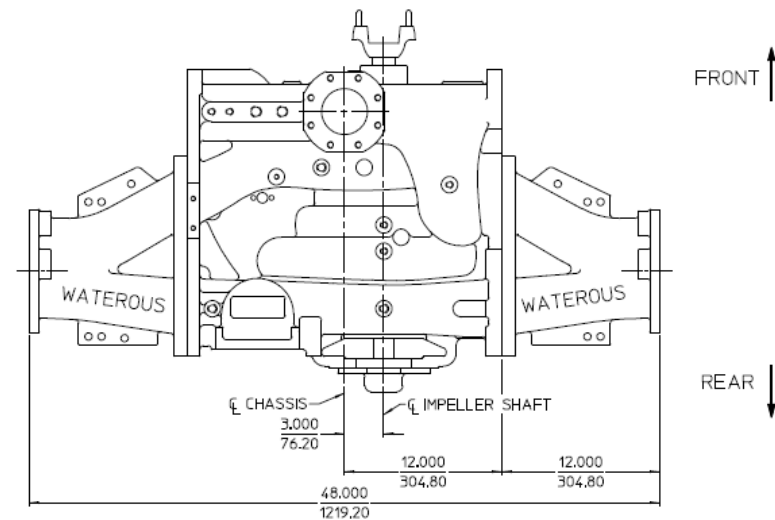
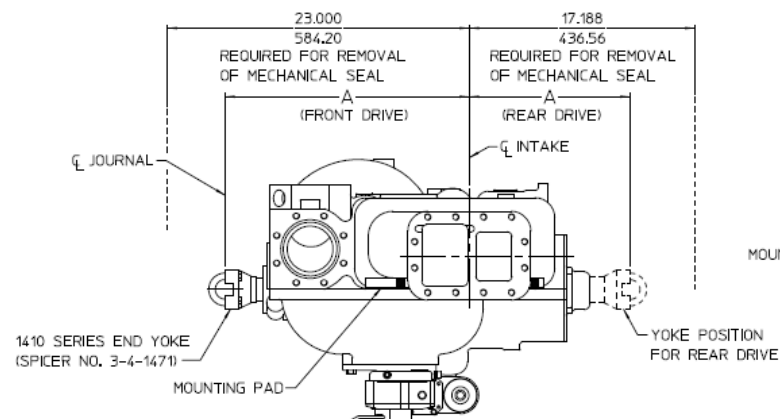
**MODEL CMK, ASS'Y NO. 82058-2**



| AVAILABLE AS FOLLOWS |                  |                       |                                            |
|----------------------|------------------|-----------------------|--------------------------------------------|
| DRIVE LOCATION       | DIMENSION A      |                       | INPUT ROTATION<br>(VIEWED LOOKING AT YOKE) |
|                      | WITH PACKING     | WITH MECHANICAL SEALS |                                            |
| FRONT                | 18,600<br>472.44 | 18,600<br>472.44      | CLOCKWISE                                  |
| REAR                 | 12,250<br>311.15 | 12,250<br>311.15      | COUNTERCLOCKWISE                           |

NOTE:

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



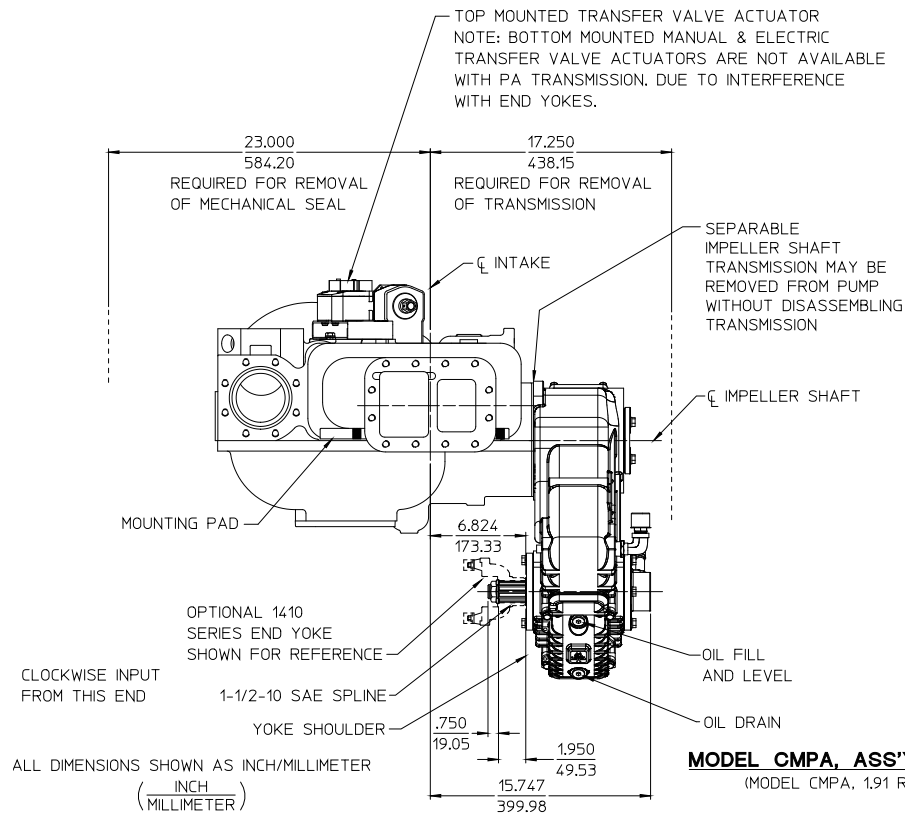
ALL DIMENSIONS SHOWN AS INCH/MILLIMETER  
(INCH  
MILLIMETER)

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                     |                 | RATIO | DIM A         | DIM B         | DIM C        | DIM D        | MODEL |
| SIZE                           | SPLINE          |       |               |               |              |              |       |
| 1-1/2<br>INCH                  | 1-1/2-10<br>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:

1. SEE DRAWING DPL82080 FOR ADDITIONAL DETAILS OF P SERIES TRANSMISSIONS.
2. 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)

