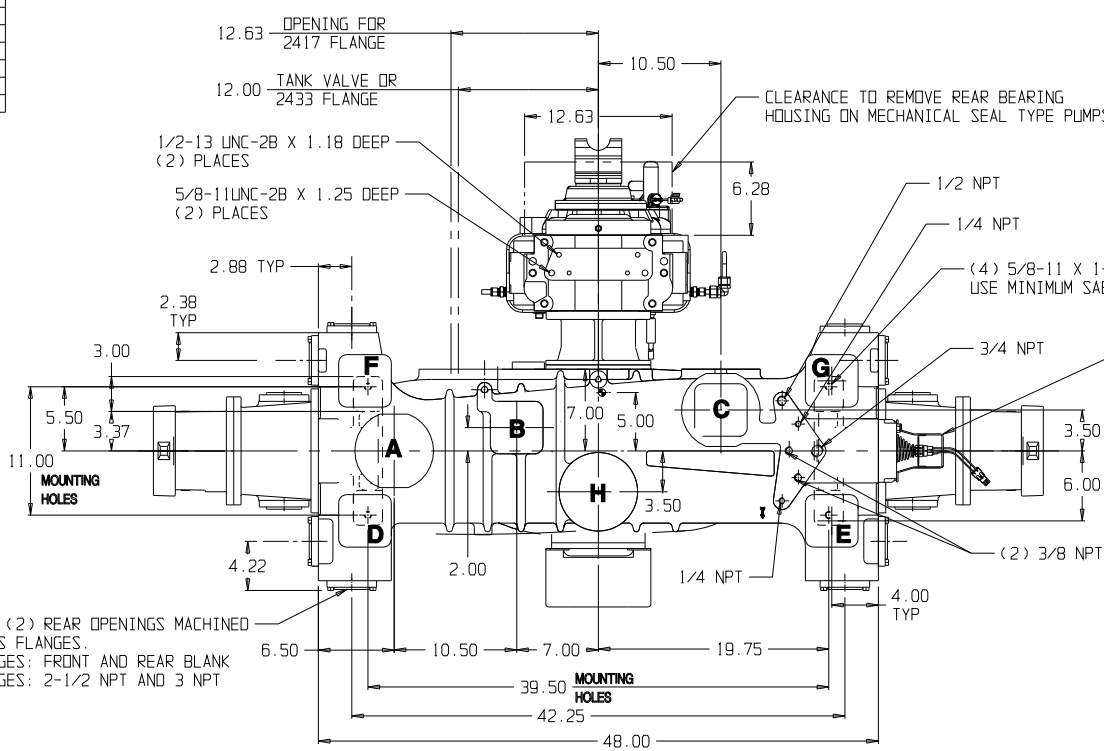
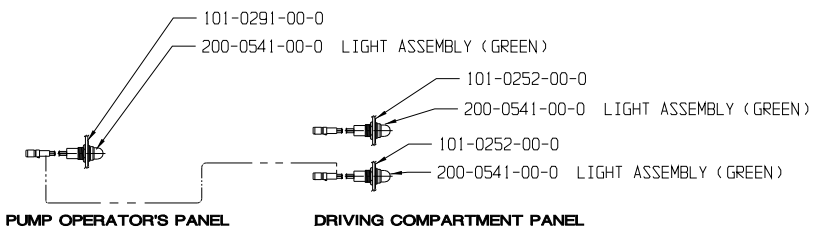


THIS PRODUCT AND ITS COMPONENTS MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS AND OTHER PATENTS PENDING:
 4,337,830 5,018,665
 4,587,862 5,139,393
 4,653,978

OPTIONAL DISCHARGE FLANGES			
STANDARD	OPTIONAL	STD. CAST HOLE	
A	BLANK	2-1/2, 3 & 4 NPT	4
B	BLANK	1-1/4, 2, 2-1/2 & 3 NPT	3
C	BLANK	2-1/2, 3 & 4 NPT	3
D		2-1/2 & 3 NPT	CAST SOLID
E		2-1/2 & 3 NPT	CAST SOLID
F		2-1/2 & 3 NPT	CAST SOLID
G		2-1/2 & 3 NPT	CAST SOLID
H	BLANK	2-1/2, 3 & 4 NPT	3

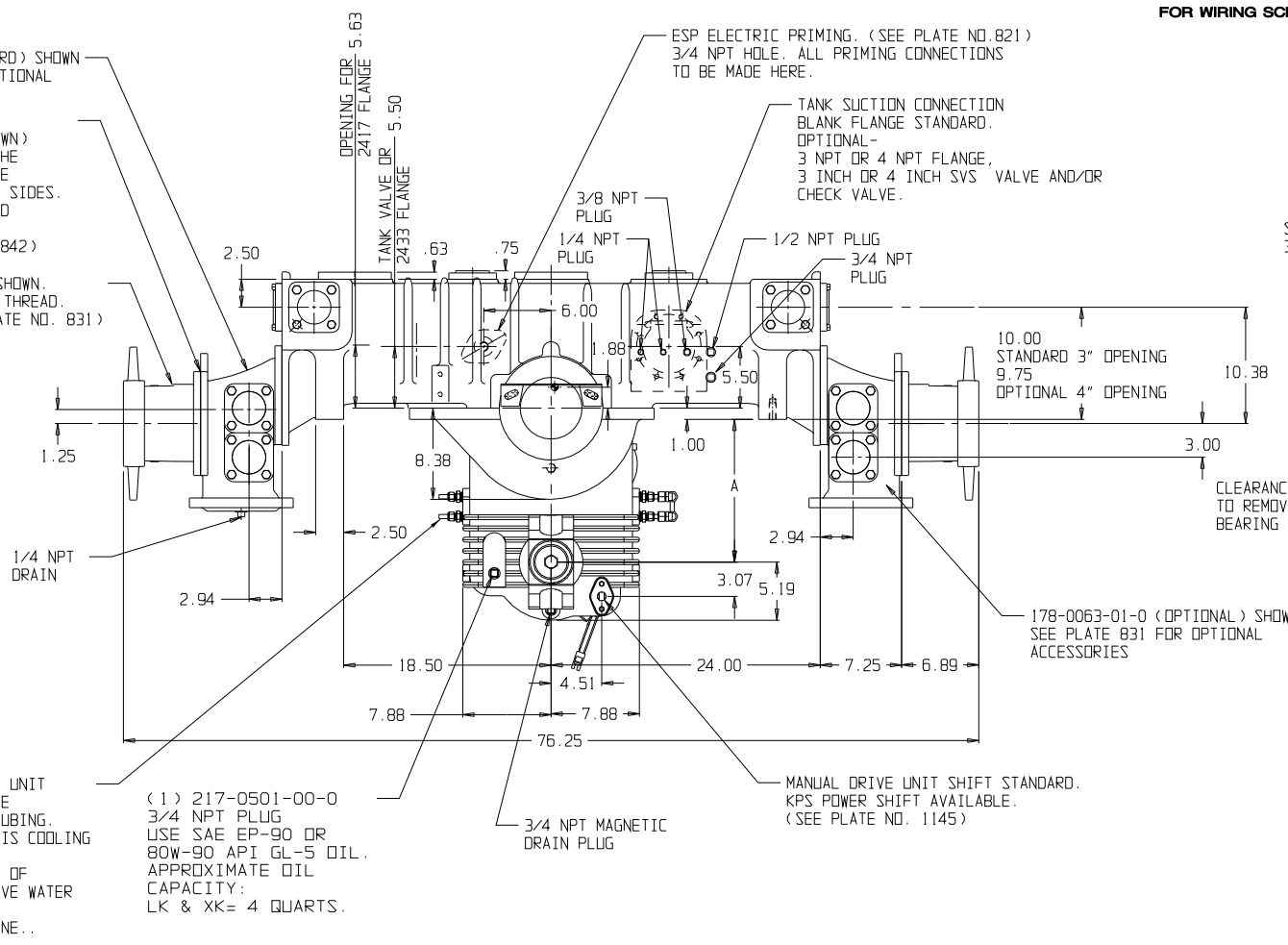


(2) FRONT AND (2) REAR OPENINGS MACHINED FOR 115 SERIES FLANGES.
 STANDARD FLANGES: FRONT AND REAR BLANK
 OPTIONAL FLANGES: 2-1/2 NPT AND 3 NPT



PUMP SHIFT INDICATOR LIGHTS FOR WIRING SCHEMATIC SEE PLATE NO. 746

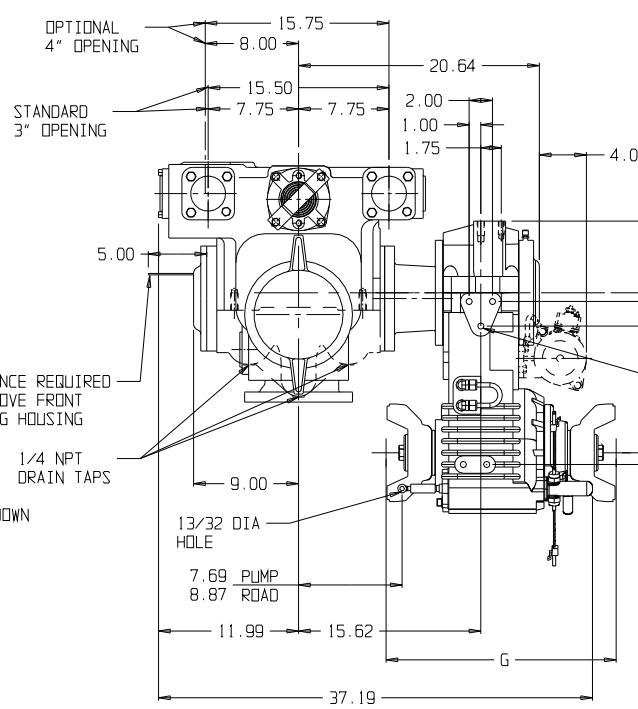
OPTIONAL MIV MASTER INTAKE VALVE (NOT SHOWN) AVAILABLE FOR MOUNTING BETWEEN THE SUCTION TUBE AND MIV SUCTION TUBE EXTENSION ON LEFT, RIGHT OR BOTH SIDES. ALSO AVAILABLE ON FRONT, REAR AND BOTTOM FLANGED OPENINGS. (SEE PLATE NOS. 814, 815, 841 & 842)
 STANDARD LENGTH SUCTION TUBES SHOWN. AVAILABLE IN 4-1/2, 5 AND 6 NS THREAD. 9" LONG TUBES OPTIONAL. (SEE PLATE NO. 831)



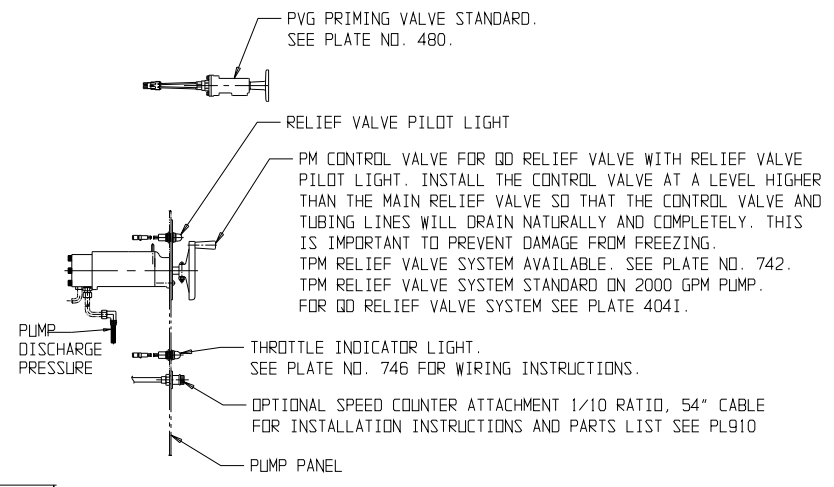
INSTALLER TO CONNECT ONE END OF DRIVE UNIT COOLING TUBE TO PUMP DISCHARGE AND THE OTHER END TO PUMP SUCTION WITH 3/8 TUBING. A DRAIN VALVE MUST BE PROVIDED FOR THIS COOLING TUBE TO DRAIN IN FREEZING WEATHER. FOR OPTIONAL PUMP COOLING CONNECT END OF COOLING TUBE BACK TO BOOSTER TANK ABOVE WATER LEVEL USING 3/8" TUBING. A CHECK VALVE IS REQUIRED FOR THIS LINE.

(1) 217-0501-00-0
 3/4 NPT PLUG
 USE SAE EP-90 OR
 80W-90 API GL-5 OIL.
 APPROXIMATE OIL
 CAPACITY:
 LK & XK = 4 QUARTS.

MANUAL DRIVE UNIT SHIFT STANDARD. KPS POWER SHIFT AVAILABLE. (SEE PLATE NO. 1145)



CLEARANCE REQUIRED TO REMOVE FRONT BEARING HOUSING



- NOTES:
- REFER TO HALE PUMP/ENGINE COMBINATION LIST TO SELECT PROPER RATIO TO MATCH PUMP WITH ENGINE.
 - WEIGHT OF STANDARD QMAX 1500 G.P.M. PUMP AS SHOWN LESS PRIMING PUMP. = 1375 LBS.
 - CG = CENTER OF GRAVITY.
 - IMPELLER SHAFT SEAL - MECHANICAL SEAL. AVAILABLE.

G	DIMENSIONS	
	YOKES	
(538.5) 21.2	17T	115-1450-03-0
	17N	115-1450-04-0
(555.5) 21.9	18T	115-1450-01-0
	18N	115-1450-06-0
(550.7) 20.7	176T	115-1450-02-0
	176N	115-1450-05-0
(525.3) 21.7	RPL25 115-1450-00-0	

PUMP MODEL	GEAR RATIO	GEARBOX TYPE **	DIMENSIONS	
			A (B)	B
QMAX*-25	2.52	LONG (LK)	12.21	19.84
		EXTRA LONG (XK)	14.51	22.14
QMAX*-23	2.30	LONG (LK)	12.28	19.84
		EXTRA LONG (XK)	14.58	22.14
QMAX*-21	2.04	LONG (LK)	12.59	19.84
		EXTRA LONG (XK)	14.89	22.14
QMAX*-19	1.89	LONG (LK)	12.78	19.84
		EXTRA LONG (XK)	15.08	22.14
QMAX*-17	1.71	LONG (LK)	14.96	19.84
		EXTRA LONG (XK)	15.26	22.14
QMAX*-16	1.60	LONG (LK)	13.15	19.84
		EXTRA LONG (XK)	15.45	22.14

* RATED CAPACITY 1000, 1250, 1500, 1750, 2000, 2250 GPM ** THE (LK) GEARBOX IS STANDARD AND WILL BE SUPPLIED UNLESS OTHERWISE SPECIFIED.
 EXAMPLE: THE MODEL NUMBER FOR A 1500 GPM RATED PUMP WITH A 2.30 GEAR RATIO AND A SHORT GEARBOX WOULD BE QMAX150-23LK.

DRIVE LINE RECOMMENDATIONS
 APPARATUS BUILDER SUPPLIED DRIVELINES SHALL BE OF APPROPRIATE SIZE TO MATCH THE CHASSIS AND PUMP REQUIREMENTS WITH INDIVIDUAL JOINT CANCELLATION AND PHASING BEFORE AND AFTER THE PUMP. DRIVE SHAFT BALANCE (INCLUDING YOKES) SHALL NOT EXCEED THE RECOMMENDED LIMIT OF EITHER THE DRIVE SHAFT OR CHASSIS TRANSMISSION MANUFACTURER'S SPECIFICATIONS. DRIVE SHAFT FULL RANGE OPERATING SPEEDS SHALL NOT EXCEED 42% OF ITS CRITICAL SPEED.

WARNING
 EXCEEDING THESE LIMITS OR FAILURE TO FOLLOW THE RECOMMENDATIONS OUTLINED ON THIS DRAWING COULD DAMAGE THE GEARBOX AND RESULT IN PERSONAL INJURY.
 QMAX MIDSHIP MAXIMUM PUMP PRESSURE (HYDROSTATIC & HYDRODYNAMIC) = 600 PSI
 MAXIMUM POWER INPUT FOR PUMPING = 525 HP. MAXIMUM TORQUE ON PUMP SHAFT = 2300 LBS-FT
 MAXIMUM GEARBOX SHAFT TORQUE (ROAD) = 18,500 LBS-FT

PUMP MODEL	QMAX-25 LK	QMAX-25 XK	QMAX-23 LK	QMAX-23 XK	QMAX-21 LK	QMAX-21 XK	QMAX-19 LK	QMAX-19 XK	QMAX-17 LK	QMAX-17 XK	QMAX-16 LK	QMAX-16 XK
MAX GEARBOX INPUT RPM	2280	2530	2780	3030	3280	3480						

SEE HALE TORQUE LIMIT CHART F-72 FOR ADDITIONAL DATA.
 THIS PRODUCT AND ITS COMPONENTS ARE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS AND OTHER PATENTS PENDING:
 950,756 3,159,559 3,726,308 3,859,703 4,089,345 4,311,440 4,587,862
 3,116,694 3,500,961 3,801,224 3,918,681 4,209,282 4,337,830 4,653,978