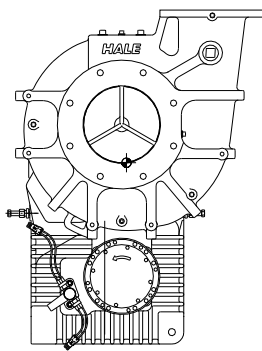
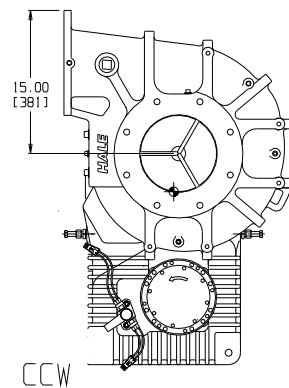


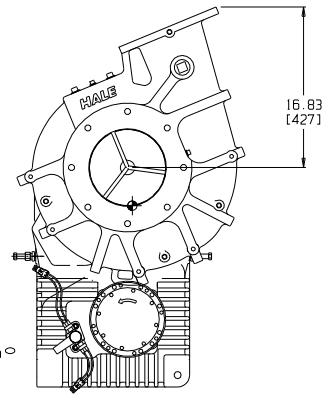
POSITION #1



POSITION #13



POSITION #16



VOLUTE POSITIONS

WARNING

EXCEEDING THESE LIMITS OR FAILURE TO FOLLOW THE RECOMMENDATIONS OUTLINED IN THIS DRAWING COULD DAMAGE THE GEARBOX AND RESULT IN PERSONAL INJURY. MAXIMUM TORQUE ON PUMP SHAFT = 2300 LBS-FT (3118 N-m) MAXIMUM GEARBOX SHAFT TORQUE (ROAD) = 16,000 LBS-FT (21,693 N-m)

Table with 2 columns: PUMP MODEL, MAX GEARBOX INPUT RPM. Rows include 8FGR-28R, 8FGR-25R, 8FGR-23R, 8FGR-21R, 8FGR-19R.

HALE TYPE 8FGR MODEL IDENTIFICATION

THE HALE TYPE 8FGR PUMP IS AVAILABLE WITH FIVE DRIVE RATIOS TO ADAPT THE 8FGR TO A WIDE VARIETY OF APPLICATIONS (SEE RATIO CHART). THE RATING, RATIO, AND DRIVE UNIT TYPE DETERMINE THE MODEL NUMBER. FOR EXAMPLE, THE FULL MODEL NUMBER FOR AN 8FGR RATED AT 3000 GPM WITH A 2.83 : 1 DRIVE RATIO AND HALE "X" TYPE DRIVE UNIT WOULD BE:

8FGR-3000-28 X

PUMP TYPE

CAPACITY IN U.S. GALLONS PER MINUTE

DRIVE RATIO (28 = 1 : 2.83)

INPUT RPM X RATIO = IMPELLER RPM

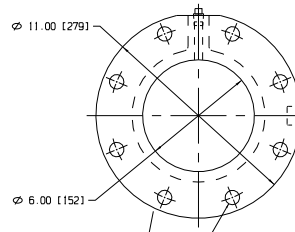
BE SURE TO INCLUDE THE MODEL NUMBER AND SERIAL NUMBER WHEN ORDERING PARTS OR REQUESTING INFORMATION. THE MODEL / SERIAL NUMBER PLATE IS LOCATED ON BOTTOM OF GEAR DRIVE AS SHOWN IN DRAWING.

Table with 3 columns: PUMP MODEL, GEAR RATIO, 'X' DIMENSION. Rows include 8FGR-28X, 8FGR-25X, 8FGR-23X, 8FGR-21X, 8FGR-19X.

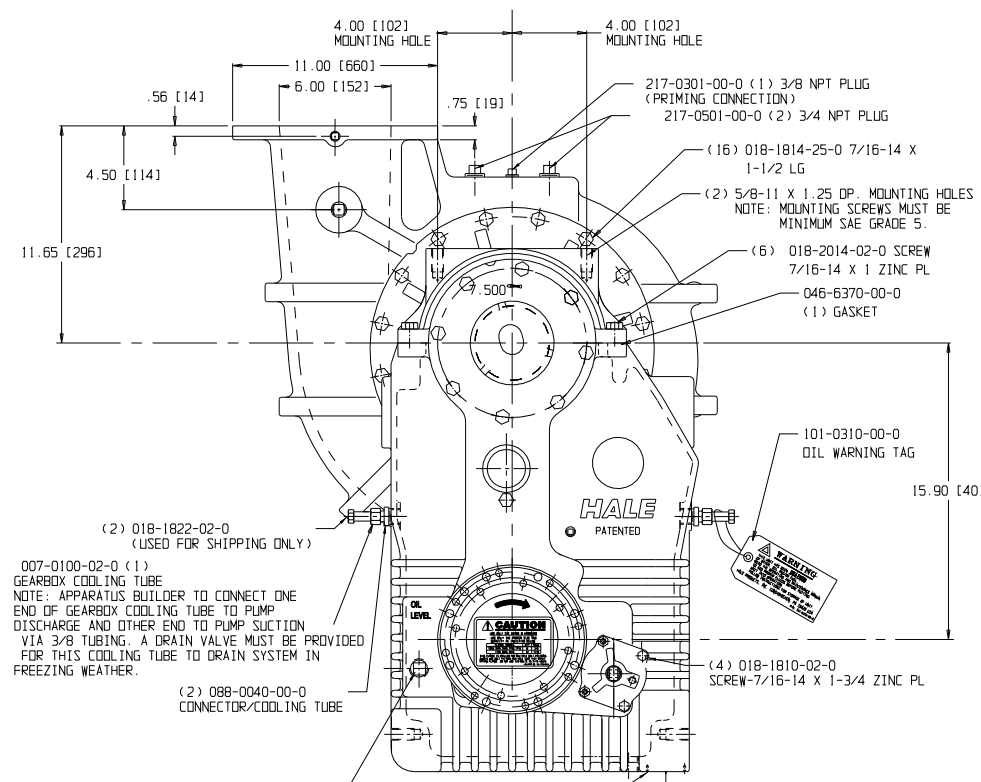
WARNING ALL WIRING AND INSTALLATION DETAILS MUST CONFORM TO ALL APPLICABLE NFPA AND SAE STANDARDS. VERIFY OPERATION OF PUMP ENGAGED INDICATOR LIGHTS AND INTERLOCKS BEFORE PLACING APPARATUS IN SERVICE.

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. DRIVELINE SHALL BE INSTALLED PER SAE UNIVERSAL JOINT AND DRIVESHAFT DESIGN MANUAL, PUBLICATION # AE-7. ALL DRIVELINES MUST CONFORM TO HALE BULLETIN #957. U-JOINT ANGLES SHOULD BE NO LESS THAN 1°; THE MAXIMUM ALLOWABLE ANGLE AND TUBE DIAMETER SHOULD BE CONFIRMED WITH THE MANUFACTURER OF THE DRIVELINE FOR THE PARTICULAR APPLICATION.

Table with 2 columns: FLANGE, FLANGE BOLT PATTERN ON VOLUTE BODY. Rows include A, B, C with details on hole spacing and diameters.



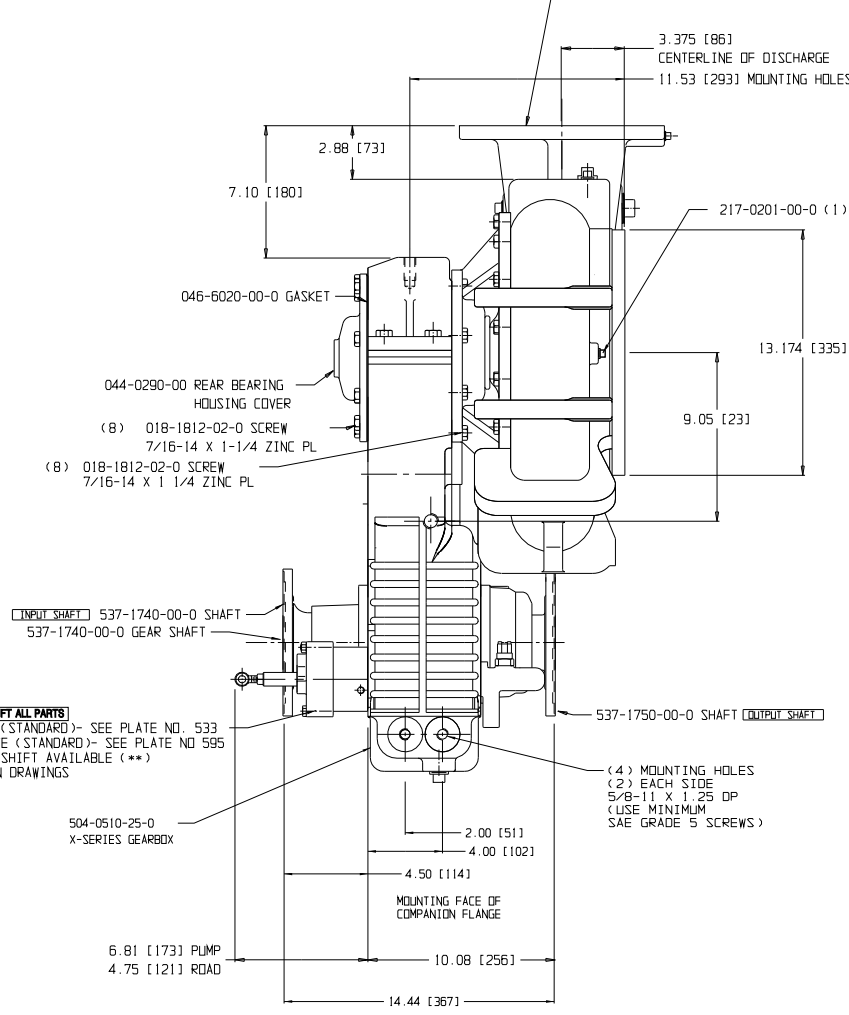
DISCHARGE FLANGE CONNECTION - (8) HOLES DRILLED THRU .781 EQUALLY SPACED ON 9.50 DIA. BOLT CIRCLE AND SYMMETRIC ABOUT CENTERLINES AS SHOWN (STANDARD 6" CLASS 125 PIPE FLANGE) MATING 6" NPT FLANGE AVAILABLE (FLANGE "B" - SEE TABLE)



007-0100-02-0 (1) GEARBOX COOLING TUBE NOTE: APPARATUS BUILDER TO CONNECT ONE END OF GEARBOX COOLING TUBE TO PUMP DISCHARGE AND OTHER END TO PUMP SUCTION VIA 3/8 TUBING. A DRAIN VALVE MUST BE PROVIDED FOR THIS COOLING TUBE TO DRAIN SYSTEM IN FREEZING WEATHER. (2) 018-1822-02-0 (USED FOR SHIPPING ONLY) (4) 018-1810-02-0 SCREW-7/16-14 X 1-3/4 ZINC PL (1) 018-0940-00-0 #4 X 1/4 LG RD HD ZINC PL DRIVE SCREW (1) 018-0940-00-0 #4 X 1/4 LG RD HD ZINC PL DRIVE SCREW (1) 018-0940-00-0 #4 X 1/4 LG RD HD ZINC PL DRIVE SCREW (1) 018-0940-00-0 #4 X 1/4 LG RD HD ZINC PL DRIVE SCREW

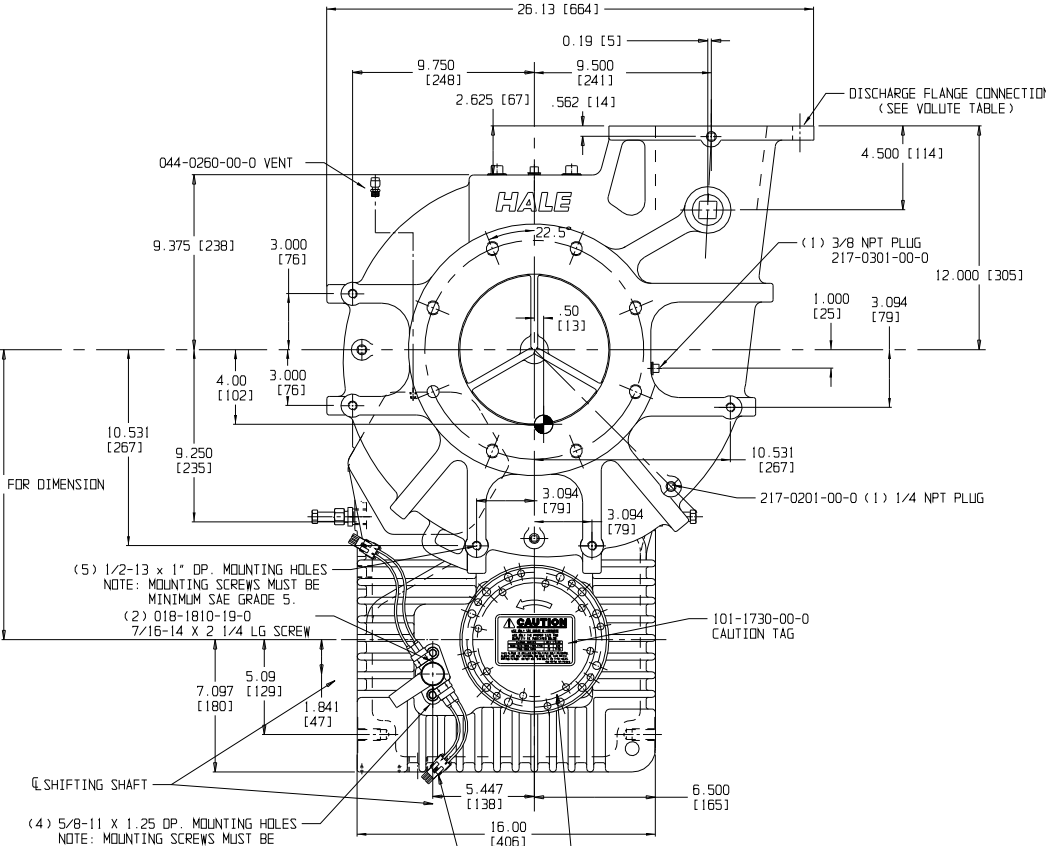
- NOTES: 1) WEIGHT 575 LBS. (261 KG). 2) PRIMING SYSTEM, DISCHARGE & SUCTION VALVES ARE AVAILABLE. 3) OPTIONAL EQUIPMENT INDICATED BY (**). 4) DIMENSIONS ARE IN INCHES & (MILLIMETERS). 5) 101-0940-00-0 (1) INSTRUCTION TAG NOT SHOWN.

PLATE NO. 1104AA



VPS POWER SHIFT ALL PARTS VPS POWER SHIFT (STANDARD) - SEE PLATE NO. 533 VPS CONTROL VALVE (STANDARD) - SEE PLATE NO. 595 OPTIONAL MANUAL SHIFT AVAILABLE (**). SEE INSTALLATION DRAWINGS 101-0850-73-0 101-0850-74-0 FOR DETAILS

504-0510-25-0 X-SERIES GEARBOX 537-1740-00-0 SHAFT 537-1740-00-0 GEAR SHAFT 537-1750-00-0 SHAFT (OUTPUT SHAFT) (4) MOUNTING HOLES (2) EACH SIDE 5/8-11 X 1.25 DP (USE MINIMUM SAE GRADE 5 SCREWS)



FRONT & REAR SPICER SERIES COMBINATION FLANGES TABLE with columns for DIAMETER, QTY, SIZE, DIAMETER. Includes wiring connector and shift indicator light information.

FASTENER NOTE: UNLESS OTHERWISE NOTED FASTENERS TO BE USED ARE GRADE 5. MAKE SURE GRADE 5 FASTENERS ARE USED TO REPLACE BROKEN OR DAMAGED FASTENERS. DURING ASSEMBLY COAT FASTENERS WITH LOCTITE #246 (OR EQUAL) HIGH TEMPERATURE REMOVABLE THREAD LOCKER.

HALE TYPE 8FGR-X SERIES PUMP

Table with 5 columns: ECO NO, REV, CHANGED FROM, BY, DATE, APVD. Row 1: 0271, A, RELEASE FOR PRODUCTION, DBH, 11-29-05, MAL.

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