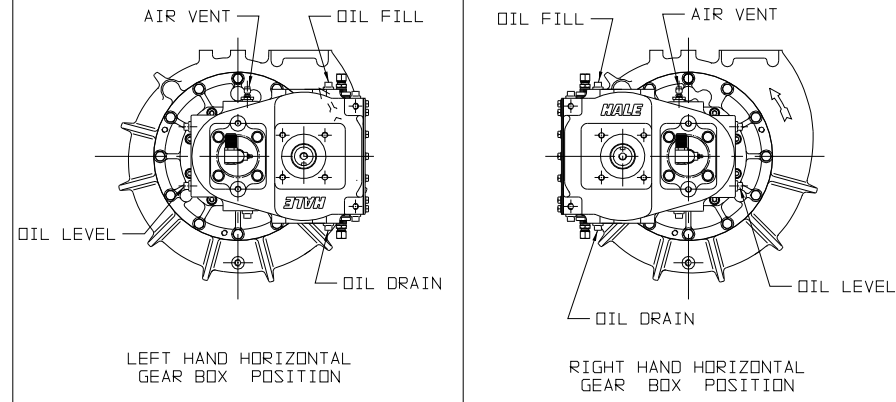


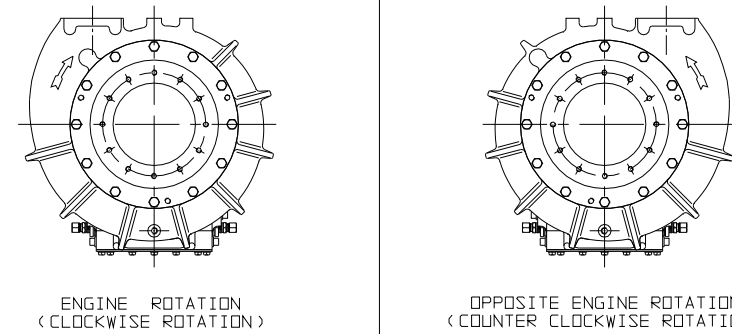
### STANDARD GEAR BOX CONFIGURATIONS

(LEFT OR RIGHT OFFSET AS VIEWED FROM PUMP INLET)



### STANDARD PUMP ROTATION CONFIGURATIONS

(SHOWN WITH STANDARD VERTICAL TRANSMISSION)



PUMP MODEL	GEAR RATIO
SMD*-12A	1.24
SMD*-14A	1.40
SMD*-15A	1.59
SMD*-18A	1.81
SMD*-20A	1.97
SMD*-21A	2.16
SMD*-23A	2.37

THE HALE TYPE SMD PUMP IS AVAILABLE IN 1250 & 1500 GPM NFPA RATINGS. THE COMPLETE PUMP MODEL NUMBER IS FORMED AS FOLLOWS: (SEE NOTE 4)

FOR EXAMPLE, A SMD PUMP IS REQUIRED TO HAVE A 1250 GPM RATING WITH A 2.37 GEAR RATIO. THE PUMP MODEL NUMBER WOULD BE AS SHOWN.

#### WARNING

EXCEEDING THESE LIMITS OR FAILURE TO FOLLOW THE RECOMMENDATIONS OUTLINED ON THIS DRAWING COULD DAMAGE THE PUMP AND RESULT IN PERSONAL INJURY.

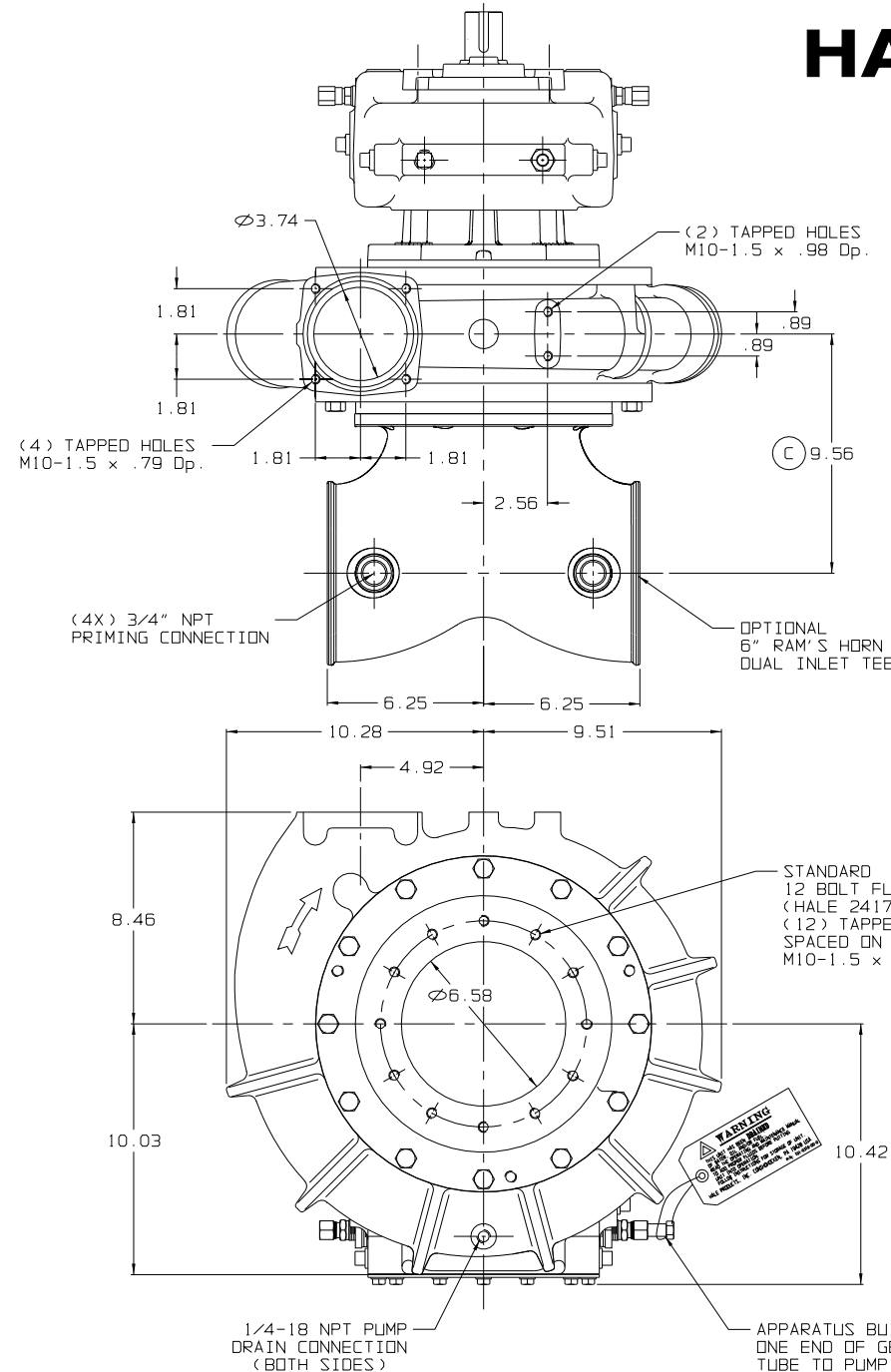
SMD PUMP MAXIMUM HYDROSTATIC PUMP PRESSURE = 600 PSIG  
 SMD PUMP MAXIMUM HYDRODYNAMIC PUMP PRESSURE = 400 PSIG  
 MAXIMUM POWER INPUT FOR PUMPING = 300 HP

PUMP MODEL	MAX GEARBOX INPUT RPM
SMD*-12A	4180
SMD*-14A	3700
SMD*-15A	3270
SMD*-18A	2880
SMD*-20A	2640
SMD*-21A	2410
SMD*-23A	2200

SEE HALE TORQUE LIMIT CHART F-72 FOR ADDITIONAL DATA.

THE PUMPING TORQUE REQUIREMENTS MIGHT EXCEED THE TRUCK'S TRANSMISSION CASE, POWER TAKE-OFF AND DRIVELINE COMPONENT LIMITS. CONTACT THE RESPECTIVE EQUIPMENT MANUFACTURER FOR THEIR APPROVAL OF THE PUMPING APPLICATION.

# HALE TYPE SMD-A SERIES PUMP WITH "A" SERIES GEARBOX



OPTIONAL 6" RAM'S HORN DUAL INLET TEE SEE PLATE 1045 FOR ADDITIONAL INSTALLATION DETAILS

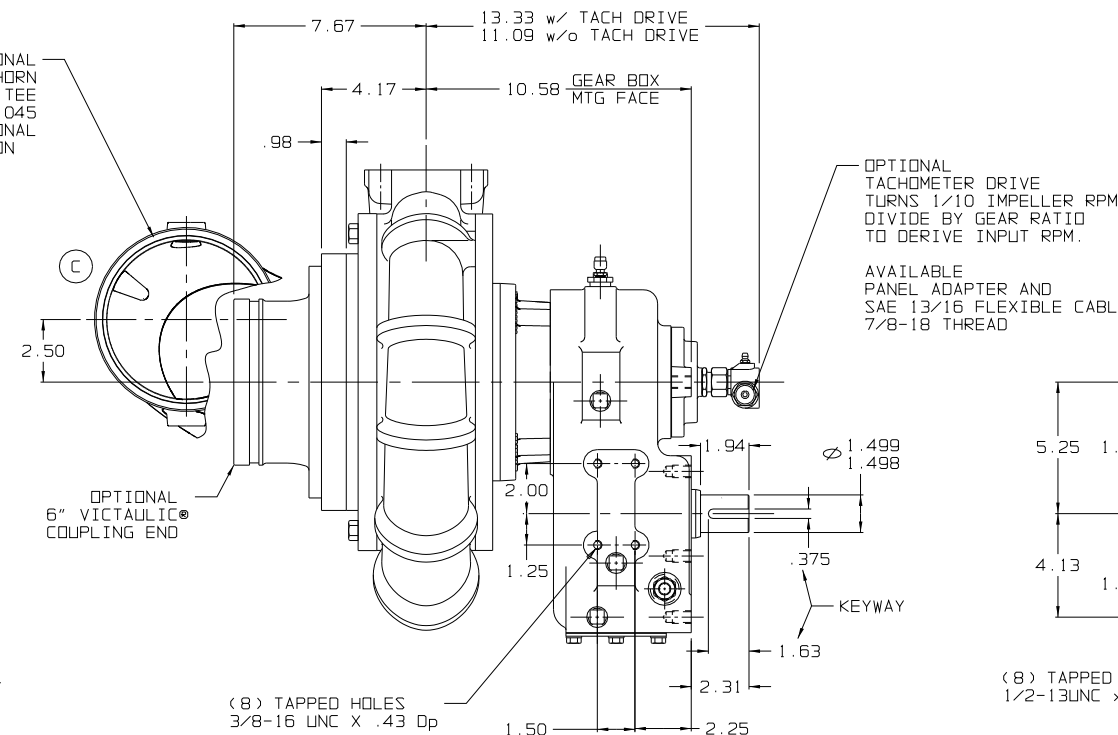
STANDARD 12 BOLT FLANGE (HALE 2417 SERIES) (12) TAPPED HOLES EQUALLY SPACED ON A 8-1/4 B.C. M10-1.5 x .67 Dp.



1/4-18 NPT PUMP DRAIN CONNECTION (BOTH SIDES)

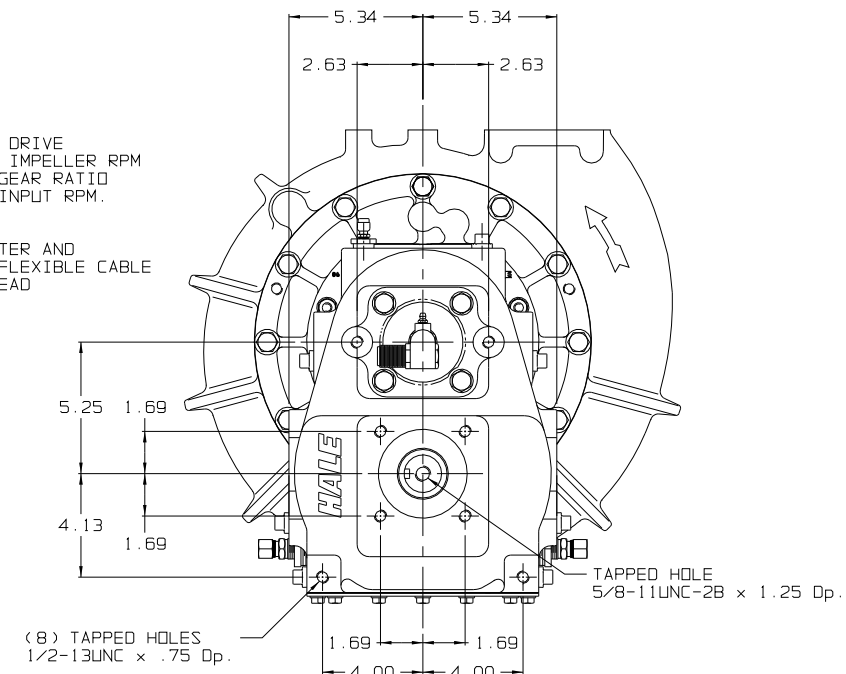
APPARATUS BUILDER TO CONNECT ONE END OF GEARBOX COOLING TUBE TO PUMP DISCHARGE AND OTHER END TO PUMP SUCTION VIA MIN. 3/8 TUBING. A DRAIN VALVE MUST BE PROVIDED FOR THIS COOLING TUBE TO DRAIN SYSTEM IN FREEZING WEATHER.

**WEIGHT: 295 LBS.**



OPTIONAL TACHOMETER DRIVE TURNS 1/10 IMPELLER RPM DIVIDE BY GEAR RATIO TO DERIVE INPUT RPM.  
 AVAILABLE PANEL ADAPTER AND SAE 13/16 FLEXIBLE CABLE 7/8-18 THREAD

RELIEF VALVE MAXIMUM FLOW LIMIT	RELIEF VALVE MODEL
1250 GPM	P35
1500 GPM	TPM/P35 SYSTEM



ECD NO	REV	CHANGED FROM	BY	DATE	APVD
04-103	A	RELEASED	DLM	04-18-04	MAL
04-111	B	ADDED NOTE 4	FAS	05-24-04	MAL
04-288	C	UPDATED RAM'S HORN	MAB	08-27-04	MAL
04-292	D	ADDED MOUNTING PADS	JFG	12-07-04	MAL



HALE PRODUCTS, INC.  
 A Unit of IDEX Corporation  
 Conshohocken, PA 19428 USA

NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY. DRAWN: [ ] DW: [ ] CHECKED: [ ] DATE: 04-12-04 SIZE: F SCALE: 1/3

## PLATE NO. 1043AD