

THIS PRODUCT AND ITS COMPONENTS MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS AND OTHER PATENTS PENDING: 4,089,345, 4,209,282, 4,311,440, 4,337,830 4,587,862, 4,653,978, 5,018,665, 5,139,393

SAE REGULAR DRIVE CONNECTION
.205 - .210 ROUND DRIVE 7/8-18 THREAD

007-0040-00-0 - SPEED COUNTER DRIVE ADAPTER
REPLACED WITH PLUG 217-3007-00-0 (NOT SHOWN)
WHEN SPEED COUNTER OPTION IS NOT ORDERED

031-0170-00-0 SPEED COUNTER GEAR

NOT SHOWN

SPEED COUNTER DRIVEN GEAR BUSHING - 048-0070-00-0
SUPPORTS END OF DRIVEN GEAR IN FRONT BEARING CAP

STANDARD FRONT BEARING CAP

MATING CONNECTOR NOT PROVIDED BY HALE
TERMINAL A CONNECTS TO BATTERY & TERMINAL B CONNECTS TO SOLENOID

(REF) PUMP BODY

010-0040-00-0 VALVE STRAINER

040-2260-00-0 SEAL RING

005-0010-00-0 3/4 NPT PLATE

012-0160-00-0 T-HANDLE

3/4 NPT

PVG PRIMING VALVE

SEE PLATE NO. 480 FOR
INSTALLATION DETAILS

ESP PRIMING PUMP

SEE PLATE NO. 821 FOR
INSTALLATION DETAILS

STANDARD:
(1) 115-0010-00-0 BLANK FLANGE
(1) 046-0060-00-0 GASKET
(8) 018-1812-02-0
7/16-14 X 1-1/4 LG SCREW

OPTIONAL:
2-1/2 NPT FLG (115-0020-00-0)
3 NPT FLANGE (115-0030-00-0)
4 NPT FLANGE (115-0040-00-0)
3" SVS VALVE OR 4" SVS VALVE
and/or CHECK VALVE

(8) 018-1812-02-0
7/16-14 X 1-1/4 LG SCREW

115-0010-00-0 FLANGE

046-0060-00-0 GASKET

PRESSURE TAPS
(2) 1/4 NPT PLUG
217-0201-00-0
(2) 3/8 NPT PLUG
217-0301-00-0
(1) 1/2 NPT PLUG
217-0401-00-0
(1) 3/4 NPT PLUG
217-0501-00-0

VACUUM TAPS
(2) 1/4 NPT PLUG
217-0201-00-0
(1) 1/2 NPT PLUG
217-0401-00-0
(1) 3/4 NPT PLUG
217-0501-00-0

(10) 018-2012-02-0
1/2-13 X 1-1/4 LG SCREW
(4) 018-2012-02-0
1/2-13 X 1-1/4 LG SCREW

046-0030-00-0 GASKET

178-0063-00-0 (STANDARD) SHOWN
SEE PLATE 831 FOR OPTIONAL
ACCESSORIES

046-0040-00-0 GASKET

007-0010-00-0 4 1/2" NST SUCTION TUBE
007-0020-00-0 5" NST SUCTION TUBE
007-0030-00-0 6" NST SUCTION TUBE

008-0010-00-0 4 1/2" CHROME NST SUCTION CAP
008-0020-00-0 5" CHROME NST SUCTION CAP
008-0030-00-0 6" CHROME NST SUCTION CAP

048-0090-00-0 DRIVE SLEEVE PROVIDES TAKE-OFF
POINT FOR USE WITH HAND HELD TACHOMETER

SAE LIGHT DUTY DRIVE CONNECTION
.104 - .101 SQUARE DRIVE: 5/8-18 THREAD

013-0010-00-0 - FLEXIBLE SHAFT ASSEMBLY
54.00 (FLEXIBLE SHAFT CASE LENGTH)
55.56 (FLEXIBLE SHAFT CORE LENGTH)
WITH NO END CONNECTIONS AS NOTED

MULTIPLY MEASURED SPEED AT TAKE-OFF POINT
BY 10 FOR ACTUAL GEARBOX INPUT SPEED.

OPTIONAL SPEED COUNTER DETAILS

FOR INSTALLATION INSTRUCTIONS AND
PARTS LIST SEE PL910

THROTTLE INDICATOR LIGHT

SEE PLATE NO. 746
FOR WIRING INSTRUCTIONS

TO GROUND

TO SWITCH

PM CONTROL VALVE
& PILOT LIGHT

PUMP OPERATORS PANEL

101-0381-00-0 OPERATOR PANEL PLATE

048-0090-00-0 ADAPTER

OPTIONAL SPEED COUNTER
ATTACHMENT (10 TO 1 RATIO)

008-0070-00-0 CAP

178-0063-01-0 (OPTIONAL) SHOWN
SEE PLATE 831 FOR OPTIONAL
ACCESSORIES

DUST CAP (SUPPLIED WITH DRIVE SLEEVE)
AVAILABLE SEPARATELY AS 008-0070-00-0

(1) HOLE .688 DIA.

.654
.658

(1) HOLE .188 DIA.

HOLE SIZES FOR PANEL MOUNTING

ROTATION

1.031

048-0150-00-0 SHIM

077-2120-01-0 RETAINING RING

296-2090-00-0 OIL SEAL

046-1640-00-0 GASKET

016-1051-00-0 IMPELLER 10.25

296-5210-03-0 MECHANICAL SEAL

001-0891-00-0 PUMP BODY

321-0041-00-0 CLEARANCE RING

017-0110-00-0 KEY

017-0110-00-0 KEY

(B) 016-1080-00-0 INDUCER (5000L)

(B) 037-2300-00-0 SHAFT/PUMP (5000L)

064-5070-01-0 COTTER PIN (USED FOR BOTH CONFIGURATIONS)

037-5140-00-0 SHAFT/PUMP

110-7040-00-0 (USED FOR BOTH CONFIGURATIONS)

1/4 NPT DRAIN (BOTH SIDES)

321-0040-00-0 CLEARANCE RING

(12) 018-1814-25-0 7/16-14 X 1-1/2 LG. (GRADE 8) SCREW

(8) 018-1812-02-0 7/16-14 X 1-1/4 LG. SCREW

BEARING HSG NO.	LG GEARBOX	XG GEARBOX
062-0770-00-0	Qflo Plus-23L & Qflo Plus-15L	Qflo Plus-28X & Qflo Plus-19X
062-0770-01-0	Qflo Plus-21L & Qflo Plus-17L	Qflo Plus-25X & Qflo Plus-21X
062-0770-02-0	Qflo Plus-19L	Qflo Plus-23X

046-6020-00-0 GSKT

(2) 250-0211-20-0 BEARING 211W

NO. OF TEETH	GEAR PART NO.	PUMP MODEL	PUMP MODEL
18	031-0920-00-0	Qflo Plus-23L	Qflo Plus-28X
20	031-0930-00-0	Qflo Plus-21L	Qflo Plus-25X
22	031-0940-00-0	Qflo Plus-19L	Qflo Plus-23X
24	031-0950-00-0	Qflo Plus-17L	Qflo Plus-21X
26	031-0960-00-0	Qflo Plus-15L	Qflo Plus-19X

048-0170-00-0 SHIM AS REQUIRED*

044-0260-00-0 AIR VENT

250-0409-00-0 409K BEARING

017-0300-00-0 KEY

097-0830-01-0 WASHER

GEARBOX HOUSING ASSY	LG	XG
504-0340-00-0	504-0510-00-0	
SCREW	018-2014-02-0	018-2014-02-0
GASKET	046-6370-01-0	046-6370-01-0

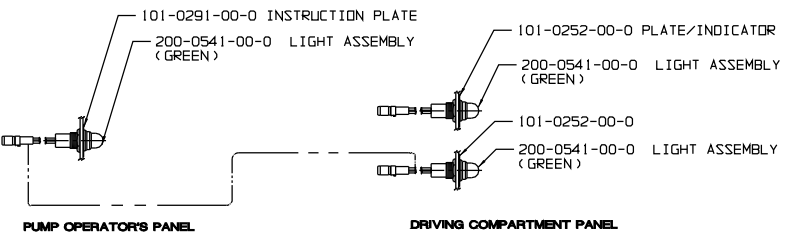
(1) 018-2412-02-0 5/8-11 X 1-1/4 LG SCREW

* USING .005 INCH FEELER GAUGE,
CHECK PUMP SHAFT FLOAT BETWEEN
409 BEARING AND GEARBOX HOUSING.
IF FLOAT IS LESS THAN .005 INCH,
SHIM MUST BE REMOVED AS FOLLOWS:

- 1) REMOVE 7/16-14 X 1-1/4 CAP SCREWS THAT HOLD IMPELLER ASSEMBLY TO GEARBOX.
- 2) REMOVE 5/8-11 X 1-1/4 CAP SCREW AND WASHER.
- 3) REMOVE 409 BEARING AND SHIM.
- 4) RE-INSTALL 409 BEARING ONTO SHAFT AND SECURE IN PLACE USING 5/8-11 X 1-1/4 CAP SCREW AND WASHER. TIGHTEN TO 160 LB-FT.
- 5) RE-INSTALL 7/16-14 X 1-1/4 CAP SCREWS.

FOR WIRING SCHEMATIC
SEE PLATE NO. 746

SEE PLATE NO. 914 FOR "G" SERIES GEARBOX



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

NOTES:

1. SEE LIMIT CHART, HALE DOCUMENT F-72 FOR MAXIMUM ALLOWABLE PUMP PRESSURE, ENGINE HORSEPOWER AND TORQUE LIMITS FOR HALE CENTRIFUGAL PUMPS.
2. APPLY LOCTITE # 246 HIGH TEMPERATURE THREAD LOCKER OR EQUIVALENT TO SCREW THREADS AND TORQUE SCREWS PER HALE ENGINEERING STANDARD ES018-002

HALE TYPE Qflo Plus SERIES PUMP WITH "G" SERIES GEARBOX

0548	D	ADDED SHIM INSTRUCTIONS	JRP	06-16-08	MAL
0176	C	WAS 13 FLANGES	ERB	08-08-05	MAL
04-246	B	ADDED B1 AND B2 FOR 5000L PUMP	FAS	12-13-04	MAL
04-256	A	RELEASE FOR PRODUCTION	FAS	10-15-04	MAL
ECO NO	REV	CHANGED FROM	BY	DATE	APVD



HALE PRODUCTS, INC.
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COPYRIGHT ©	DRAWN	FAS	DATE	10-15-04	SIZE	SCALE	: .25
NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY.	CHECKED	MAL					

PLATE NO. 1053AD