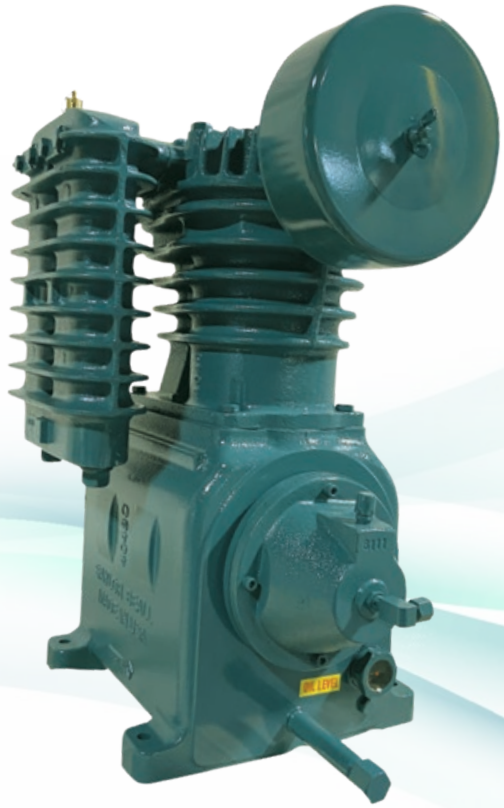
SAYLOR-BEALL
AIR COMPRESSORS

OWNER'S MANUAL



703 & 705

707

MODEL 703 – 705 – 707 PUMPS
TWO STAGE — TWO CYLINDER/FOUR CYLINDER

TABLE OF CONTENTS

INSTALLATION AND OPERATING INSTRUCTIONS

Read all instructions carefully before starting compressor.

UNPACKING INSTRUCTIONS

The two-stage compressor was inspected at the factory and packaged to protect against shipping damage. When you unpack your unit, inspect for damage or missing parts. If there is any damage or missing parts, the transportation company's agent should make a notation to the effect on the Bill of Lading. Claims should be settled directly with the transportation company.

PIPING

If a pipe line is necessary, use the same size as the tank valve since too small piping restricts the flow of air. If over 100 feet long, use the next larger size. Bury underground lines below the frost line and avoid pockets where condensation can gather and freeze. Make certain all pipe joints are free from leaks. Apply pressure before underground lines are covered.

WIRING

Have a certified electrician connect the service wires to the magnetic starter. Check the following:

1. The electric box is large enough. Service adequate ampere rating.
2. The supply line has the same electrical characteristics (voltage, cycles and phase) as the motor.
3. The line wire is the proper size and that no other equipment is operated from the same line. See diagram on page 21 for minimum recommended wire sizes for compressor installations. For longer lines use the next larger size wiring.

Various national and local codes and standards have been set up covering electrical apparatus and wiring. These should be consulted and local ordinances observed. Our recommended wire sizes may be larger than the minimum set up by local ordinances. If so, the larger size wire should be used to prevent excessive line voltage drop. The additional wire cost is very small compared with the cost of repairing or replacing a motor electrically "starved" by the use of too small supply wires.

BELT GUARD

OSHA requires installation of a totally enclosed belt guard covering the flywheel, belts and motor pulley.

⚠ WARNINGS

1. Compressed air systems are complex and can be dangerous. **Use an experienced compressed air systems person when connecting this air**.
2. Electric motor driven compressors use electricity. **Use only a certified electrician to connect to the power source**. To **avoid risk of electrocution**, do not touch or come in contact with any part of the compressor or power lines while it is connected to a power source. Prior to performance of any service or maintenance, disconnect and lock out any source of electricity.
3. **Electricity can cause a fire or explosion when directly exposed to flammable chemicals, liquids or gases**. Do not locate the compressor near any dangerous material.
4. **Air pressure can cause an explosion**. Do not fill compressed air into any container beyond its rated air capacity. Do not exceed the pressure rating of any container. Containers may include cylinders, tires, air tools, air tanks, piping and other items that use compressed air in their normal operation. These items may have a pressure capacity that is lower than the pressure output of this air compressor. Check the manufacturer of any container for its pressure rating prior to inflation.
5. **Compressed air can cause injury to the eyes, ears or body parts**. Compressed air is a powerful source of energy that escapes rapidly from devices such as tools, nozzles, hoses and equipment that are connected to the compressed air. Do not allow any part of your body to come in contact directly near compressed air or where compressed air is escaping the system, tools or equipment.
6. **Compressed air may contain carbon monoxide and other impurities**. Do not use compressed air as a source of breathing air, or it may cause **illness or death**.
7. Compressed air can disturb the normal source of breathing air by mixing dust, paint, sand blasting debris, or other impurities into the nearby atmosphere. Always use a breathing filter of adequate capacity when your breathing air has been altered.
8. **The air compressor has moving parts** that are protected by an enclosed belt guard at the time of manufacture. Do not remove the belt guard, except when performing maintenance. Electric power should be disconnected and locked out as noted in item 2 prior to removal of the guard. To avoid injury, do not touch or come in contact with the air compressor while the power is connected. **The unit may start unexpectedly** at any time power is connected.
9. Compressed air, the air compressor, and the compressed air system will be hot while operating. **Do not touch any component while in operation to avoid risk of burns**.
10. **Do not modify or repair an air tank**. Welding, drilling or other modifications may weaken the tank resulting in risk of an explosion. Always replace cracked or leaking air tanks.
11. **Never install a shutoff valve between the compressor pump and air tank**. This is extremely important for base mounted configurations, but also may apply if a tank-mounted configuration is modified. Personal injury or equipment damage may occur.
12. This air compressor is designed to compress air only. **Do not compress any gas** other than air, as an unknown result could occur, included but not limited to the equipment or explosion.

MODEL 703 - 705 - 707 PUMPS — TWO STAGE

INSTALLATION AND STARTING

INSPECTION: Check for possible damage in transit. All basic pumps are shipped with flywheel unmounted! Do not force flywheel on crankshaft. Use wedge in "slot" provided for easy assembly. Belt alignment and tension must be checked carefully!

MOUNTING: Install in a clean, dry, well ventilated location away from any source of heat such as a boiler or radiator. If a unit is to be fastened to a foundation, all four feet must be firmly supported and shimmed to remove all stress from unit. Pump flywheel should be mounted toward wall with minimum clearance of 18" to allow for circulation of air and additional clearance if required for servicing.

LUBRICATION: Fill crankcase to level mark on oil gauge with an industrial compressor oil grade ISO 150 or ASTM 700.

Ambient Temp.	Viscosity at 100° SSU	ISO Viscosity CS+	SAE No.
0° - 40°	250-350	46-68	20
41° - 80°	450-550	100	30
81° - 120°	650-750	150	40
Under 0° Over 120°	Consult Factory		

MAINTENANCE, OPERATION AND CARE

CAUTION: Turn power off before servicing.

PRESSURE AND SPEED: Never operate pump at pressures or speeds in excess of those recommended by factory. Every compressor assembly must have a safety valve installed and should be set at either the maximum tank working pressure or 25 P.S.I. over the actual pressure of the pump whichever is less.

OPERATING GUIDELINES: Maximum Operating Speed, 703 @ 2 HP, 510 RPM; 705 @ 5HP, 845 RPM; 707 @ 10 HP, 845 RPM. Minimum operating speed, all pumps, 400 RPM. Intermittent Operation, maximum 70%. Consult dealer for applications outside these guidelines.

DAILY: Check for unusual noise, failure to compress, overheating, oil leaks, and vibration. Correct before serious damage develops. Drain all condensate from receiver and traps.

WEEKLY: Examine intake filter elements and if dirty, remove and clean or replace. Check oil level and add if necessary. Do not fill over level mark on sight glass! Keep compressor clean for efficient operation and appearance.

MONTHLY: Check and tighten all bolts and nuts as required (refer to torque chart). Check air connections for air leaks – tighten as required. Check belt tension. NOTE: This is a standard maintenance procedure which warranty does not cover.

QUARTERLY: Inspect valves, clean if necessary. NOTE: This is a standard maintenance procedure which warranty does not cover.

CHANGE OIL REGULARLY
MINIMUM — ONCE EVERY THREE MONTHS

703 = 4 Pints
705 = 4 Pints
707 = 4 Pints

RECOMMENDED TORQUE READINGS
Foot-Pounds

7/16 Head bolts	50-55
Valve retainer	80-90
3/8 Rod bolts	30
3/8 Crankcase bolts	30-40
5/16 Side cover bolts	15-20
5/16 Front and rear cover bolts	15-20
5/16 Manifold bolts	30-40
5/8 Flywheel bolts	50-60
5/16 Intercooler bolts	15-20

MAINTENANCE – TROUBLE SHOOTING – REPAIRS

SLOW PUMPING OR INSUFFICIENT PRESSURE

1. Clogged filter element — clean or replace
2. Leaks in air lines — retighten or replace
3. Insufficient air capacity — add compressor capacity — consult dealer
4. Head valves — clean or replace
5. Slipping belts — adjust or replace

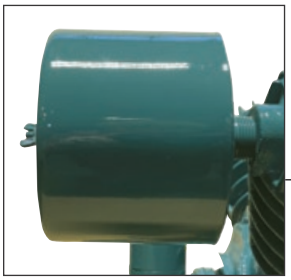
EXCESSIVE OIL CONSUMPTION

1. Too much oil — drain out excess to level mark on sight glass
2. Worn rings — replace rings
3. Clogged air intake filters — clean or replace
4. Improper oil — consult oil chart
5. Oil leaks — check and tighten all bolts and nuts. Replace gaskets if necessary. See "monthly" under "operation and care"

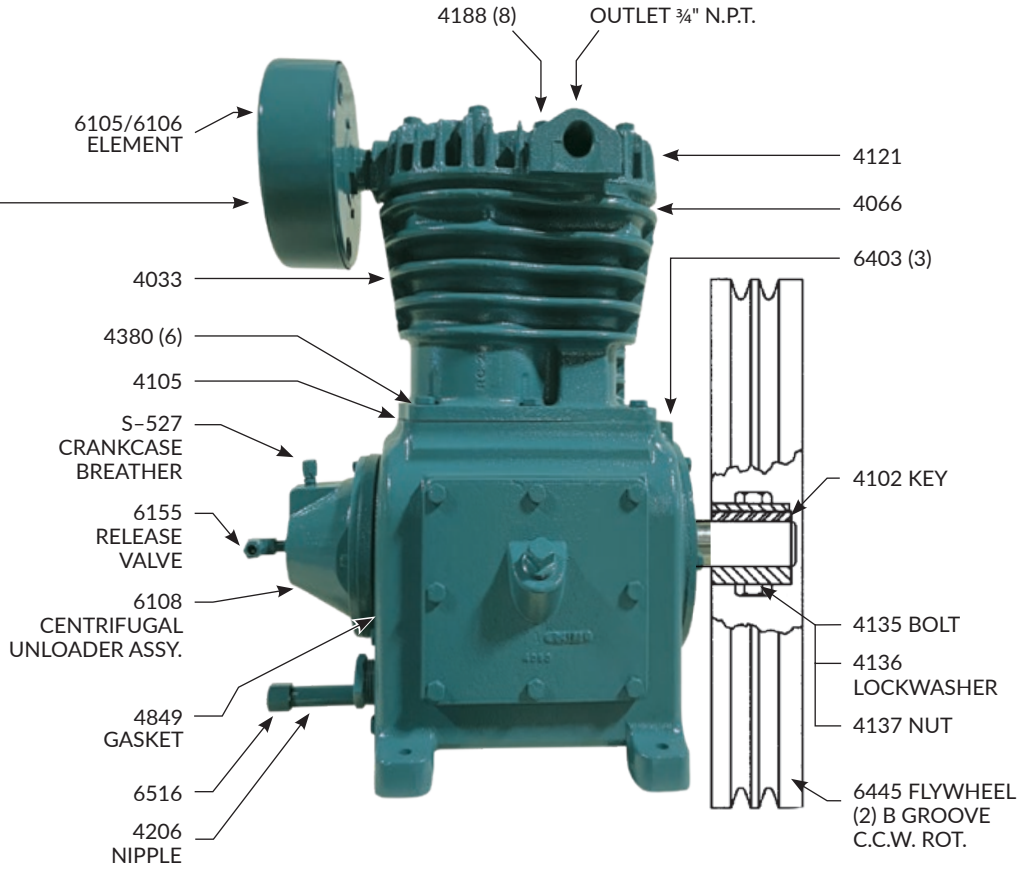
OVERHEATING

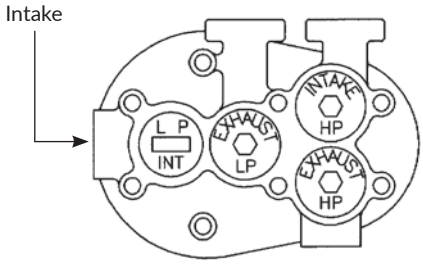
1. Pump running backwards — reverse rotation, must be CCW facing flywheel
2. Inadequate ventilation — pipe intakes to outside and install filters to protect against weather and foreign objects
3. High ambient — same as #2
4. Restricted air intakes — clean or replace
5. Loose or restricted valves — retighten, clean or replace
6. Incorrect installation — allow 18" minimum between wall and flywheel
7. Insufficient air capacity or excessive duty cycle

Figure 1 — Model 703 Compressor



6105-QF and
6106-QF ELEMENT





Valve Arrangement

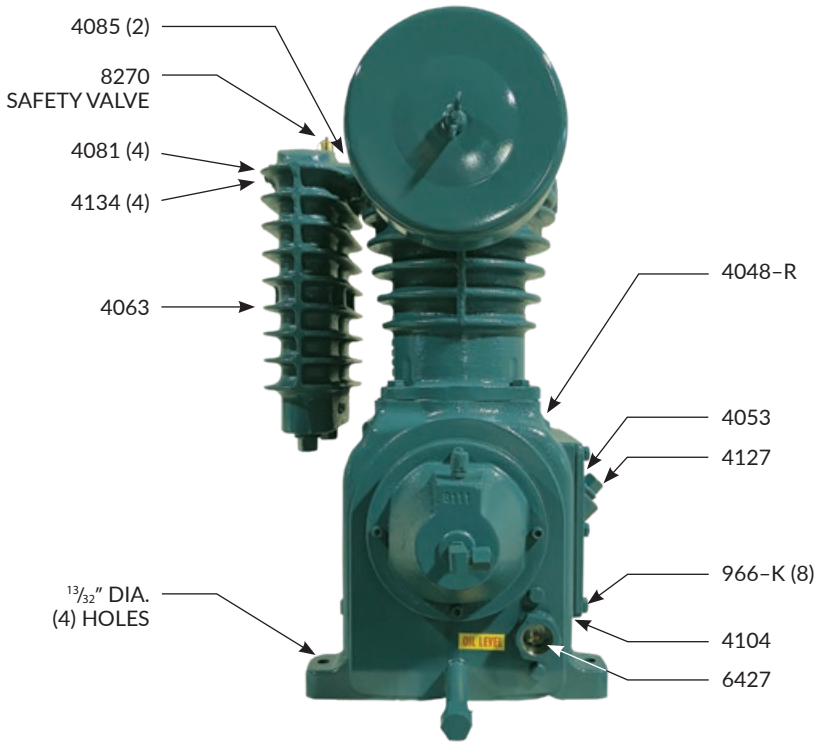
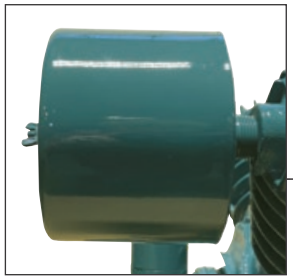
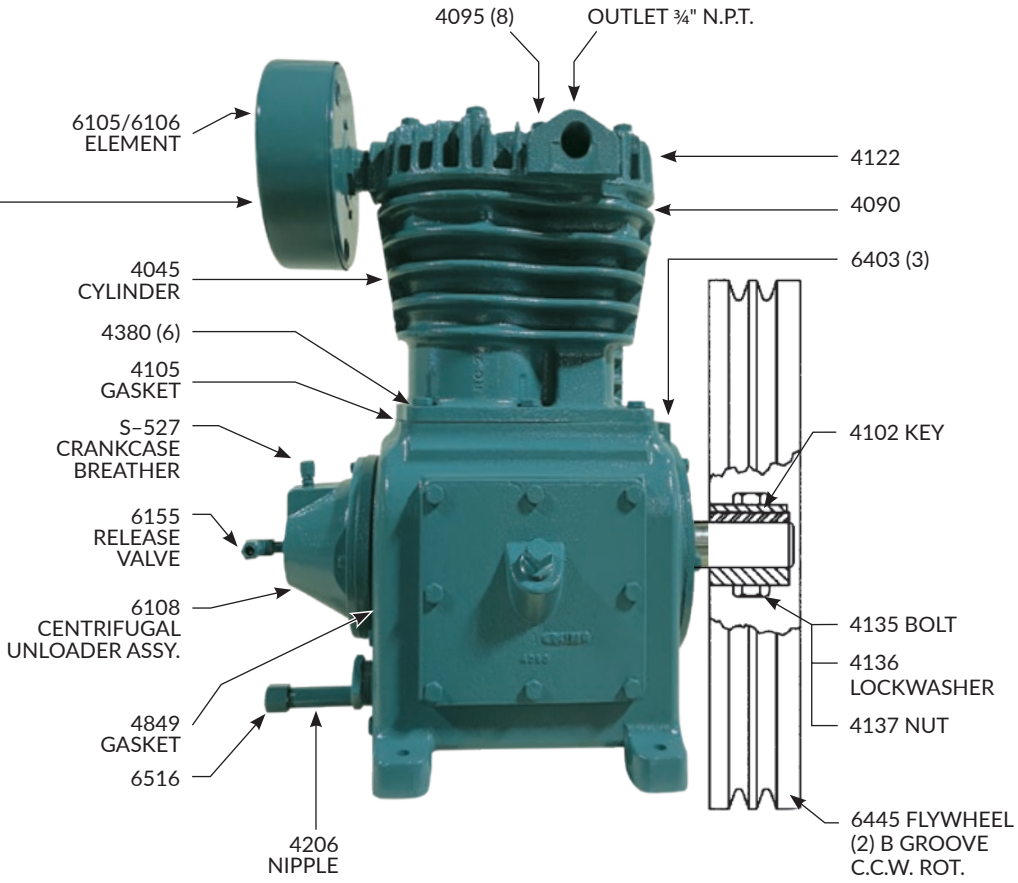
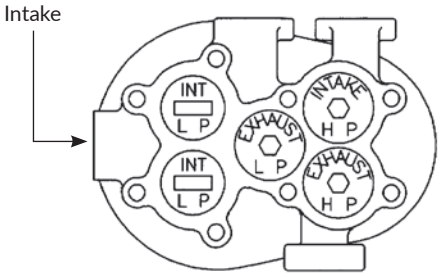


Figure 2 — Model 705 Compressor



6105-QF and
6106-QF ELEMENT





Valve Arrangement

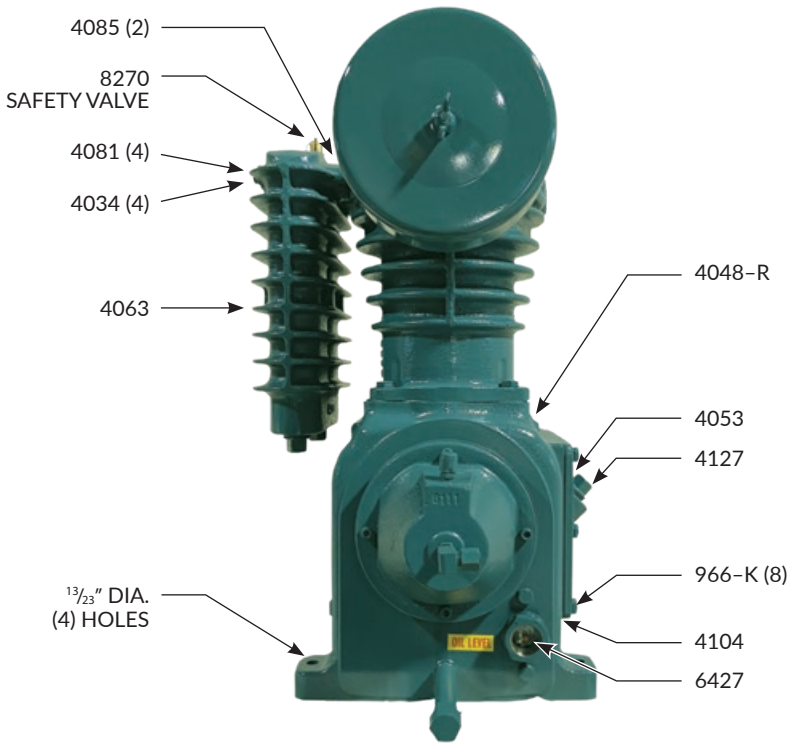
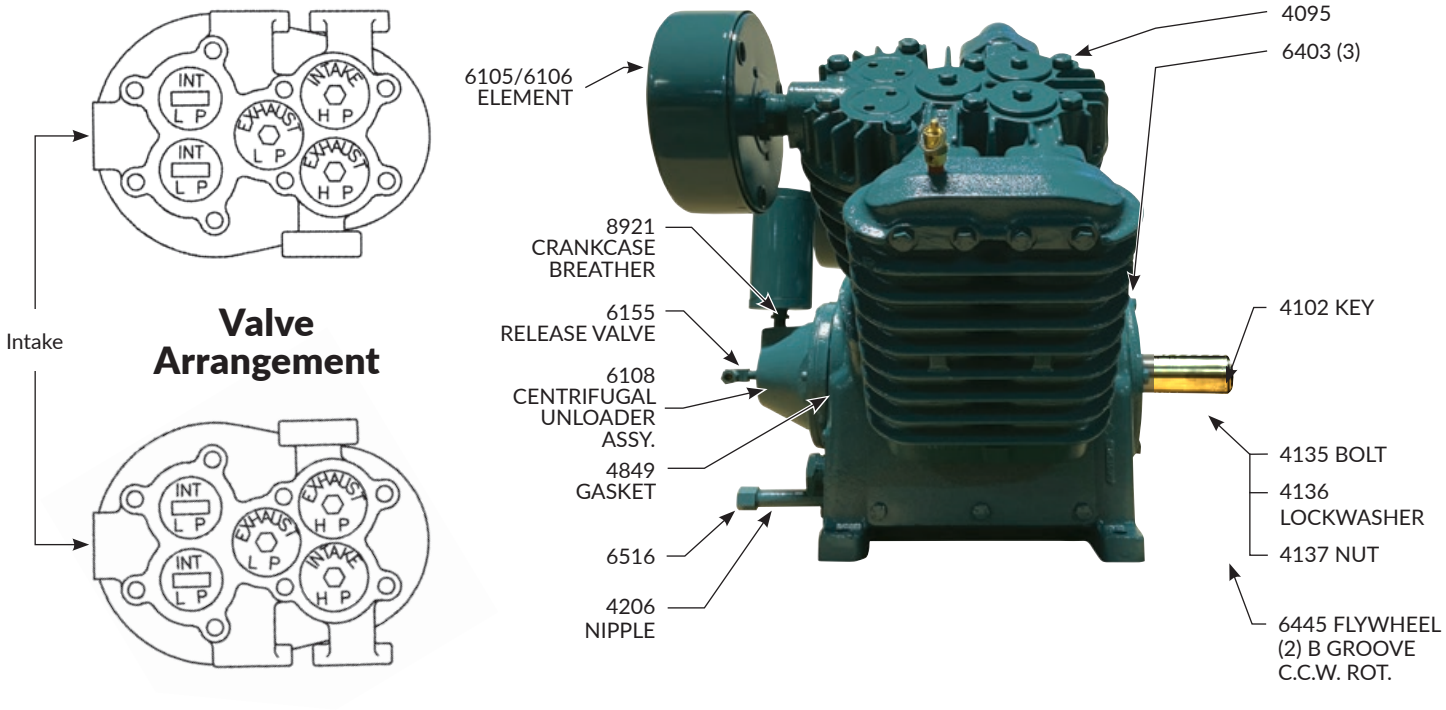


Figure 3 — Model 707 Compressor



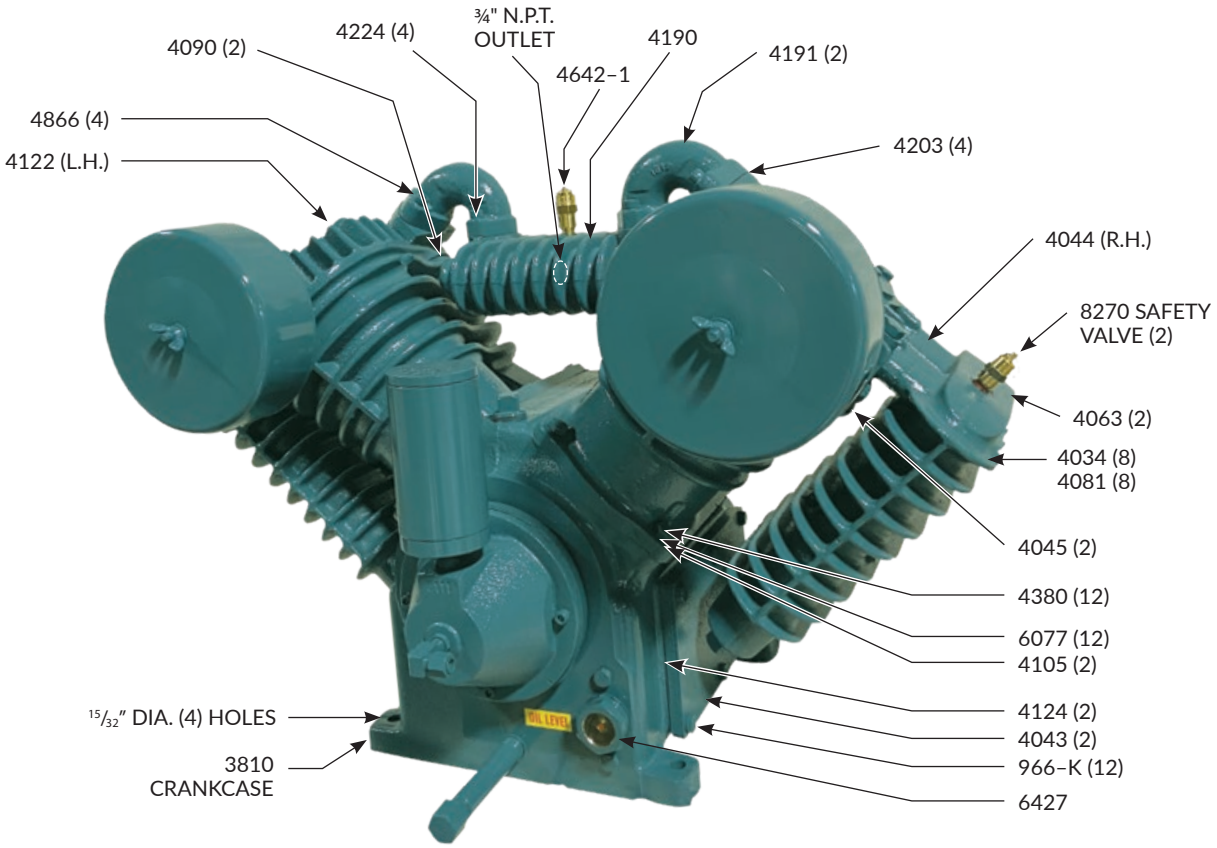


FIGURE 1, 2, 3 — PARTS LISTS

MODEL 703
Figure 1

Part Name	Part No.	No Req.
Crankcase Assembly	4539	1
Crankcase	4048-R	1
Oil Sight Glass	6427	1
Cylinder	4033	1
Cylinder Head	4121	1
Intercooler Assembly	4536	1
Intercooler	4063	1
Pipe Plug	4127	1
Safety Valve	8270	1
Side Cover	4053	1
Gasket – Cylinder Head	4066	1
Gasket – Cylinder to Crankcase	4105	1
Shims – Front Cover	6403	3
Gasket – Side Cover	4104	1
Gasket – Intercooler	4085	2
Gasket Set	4310	1
Crankcase Breather	S-527	1

MODEL 705
Figure 2

Part Name	Part No.	No Req.
Crankcase Assembly	4539	1
Crankcase	4048-R	1
Oil Sight Glass	6427	1
Cylinder	4045	1
Cylinder Head	4122	1
Intercooler Assembly	4536	1
Intercooler	4063	1
Pipe Plug	4127	2
Safety Valve	8270	1
Side Cover	4053	1
Gasket – Cylinder Head	4090	1
Gasket – Cylinder to Crankcase	4105	1
Shims – Front Cover	6403	3
Gasket – Side Cover	4104	1
Gasket – Intercooler	4085	2
Gasket Set	4311	1
Crankcase Breather	S-527	1

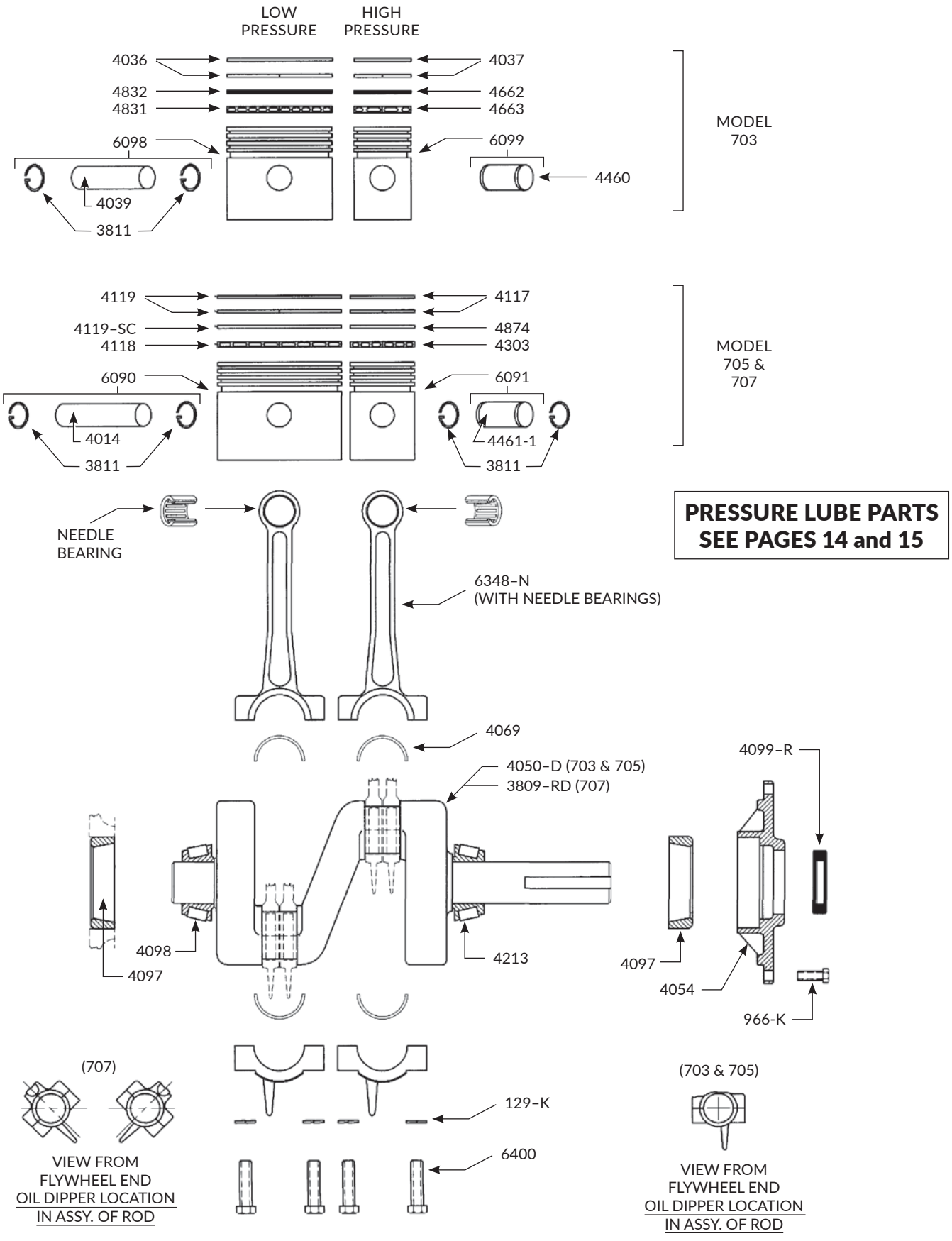
MODEL 707
Figure 3

Part Name	Part No.	No Req.
Crankcase Assembly	4547	1
Crankcase	4810	1
Oil Sight Glass	6427	1
Cylinder	4045	2
Cylinder Head – R.H.	4055	1
Cylinder Head – L.H.	4122	1
Intercooler Assembly	4536	2
Intercooler	4063	2
Pipe Plug	4127	2
Safety Valve	8270	2
Side Cover	4043	2
Exhaust Manifold	4190	1
Safety Valve	4642	1
Elbow – Exhaust Manifold	4191	2
Gasket – Cylinder Head	4090	2
Gasket – Cylinder to Crankcase	4105	2
Shims – Front Cover	6403	3
Gasket – Side Cover	4124	2
Gasket – Intercooler	4085	4
Gasket – Exhaust Manifold Set	4203	4
Gasket Set	4312	1
Flat Washer	4316	8
Crankcase Breather	8921	1

MODELS 703, 705, 707
Figures 1, 2 & 3

Part Name	Part No.	No Req. 703	705	707
Air Filter Silencer	6105	1	1	2
Filter Elements (6105)	6106	1	1	2
Centrifugal Unloader Ass'y.	6108	1	1	1
Safety Valve	4642-1	—	—	1
Head Bolts	4188	8	—	—
Head Bolt	4095	—	8	16
Cylinder Bolts	4380	6	6	12
Side Cover Bolts	966-K	8	8	12
Intercooler Bolts	4134	4	4	8
Manifold Bolts	4224	—	—	4
Manifold Bolts	4255	—	—	4
Key – Flywheel	4102	1	1	1
Washer – Copper	4061	10	10	20
Pipe Plug – Oil Fill	4127	1	1	1
Nipple	4206	1	1	1
6110 Spacer Gasket	4849	1	1	1
Flywheel Assembly	6445	1	1	1
Bolt	4135	1	1	1
Lockwasher	4136	1	1	1
Nut	4137	1	1	1

Figure 4 — Piston and Crankshaft Assembly



PRESSURE LUBE PARTS SEE PAGES 14 and 15

FIGURE 4 — PISTON AND CRANKSHAFT ASSEMBLY PARTS LISTS

MODEL 703

Part Name	Part No.	No Req.
Crankcase Assembly		
Crankcase	4050-D	1
Bearing Cone – Front	4213	1
Bearing Cone – Rear	4098	1
Oil Sight Glass	6427	1
Front Bearing Cover Ass'y.	4531	1
Cover	4054	1
Bearing Cup	4097	1
Shaft Seal	4099-R	1
Bolts	966-K	6
Bearing Cup – Rear	4097	1
Connecting Rod Ass'y. (L.P., H.P.)	6381-N	2
Connecting Rod	6348-N	2
Needle Bearing (Wrist Pin)	4126	4
** Bearing Insert (halves)	4069	4
Rod Bolts	6400	4
Lockwashers	129-K	4
Piston and Ring Ass'y. – L.P. (3 ½)	6100	1
Piston	6098	1
Wrist Pin	4039	1
Retaining Pin	3811	2
Compression Ring	4036	2
Compression Ring	4832	1
Oil Ring	4831	1
Piston Ring Ass'y. – H.P. (1 ⅞)	6101	1
Piston	6099	1
Wrist Pin	4460	1
Compression Ring	4037	2
Compression Ring	4662	1
Oil Ring	4663	1
Piston Ring Set	6102	1

MODEL 705

Part Name	Part No.	No Req.
Crankcase Assembly		
Crankcase	4050-D	1
Bearing Cone – Front	4213	1
Bearing Cone – Rear	4098	1
Front Bearing Cover Ass'y.	4531	1
Cover	4054	1
Bearing Cup	4097	1
Shaft Seal	4099-R	1
Bolts	966-K	6
Bearing Cup – Rear	4097	1
Connecting Rod Ass'y (L.P., H.P.)	6381-N	2
Connecting Rod	6348-N	2
** Bearing Insert (halves)	4069	4
Needle Bearing (Wrist Pin)	4126	2
Rod Bolts	6400	4
Lockwashers	129-K	4

MODEL 705 (continued)

Part Name	Part No.	No Req.
Piston and Ring Ass'y. – L.P. (4 ⅛)	6092	1
Piston	6090	1
Wrist Pin	4014	1
Retaining Pin	3811	2
Compression Ring	4119	3
Oil Ring	4118	1
Piston Ring Ass'y. – H.P. (2 ⅛)	6093	1
Piston	6091	1
Wrist Pin	4461	1
Retaining Ring	3811	2
Compression Ring	4117	2
Compression Ring	4874	1
Oil Ring	4303	1
Piston Ring Set	6094	1

MODEL 707

Part Name	Part No.	No Req.
Crankcase	4809-RD	1
Bearing Cone – Front	4213	1
Bearing Cone – Rear	4098	1
Front Bearing Cover Ass'y.	4531	1
Cover	4054	1
Bearing Cup	4097	1
Shaft Seal	4099-R	1
Bolts	966-K	6
Bearing Cup – Rear	4097	1
Connecting Rod Ass'y. (L.P., H.P.)	6381-N	4
Connecting Rod	6348-N	4
Needle Bearing (Wrist Pin)	4126	2
** Bearing Insert (halves)	4069	8
Rod Bolts	6400	8
Lockwashers	129-K	8
Piston and Ring Ass'y. – L.P. (4 ⅛)	6092	2
Piston	6090	2
Wrist Pin	4014	2
Retaining Ring	3811	4
Compression Ring	4119	6
Oil Ring	4118	2
Piston Ring Ass'y. – H.P. (2 ⅛)	6093	2
Piston	6091	2
Wrist Pin	4461-E	2
Retaining Ring	3811	4
Compression Ring	4117	2
Compression Ring	4874	2
Oil Ring	4303	2
Piston Ring Set	6095	1

NOTE: When ordering parts – specify Model No. and Serial No. of pump

** Available in pairs only

FIGURE 5 — START-STOP COMPONENTS PARTS LIST

	Part Name	Part No.	No Req. 703	705	707
	Cylinder Head and Valve Assembly	4471	1	—	—
	Cylinder Head and Valve Assembly	4473	—	1	1
	Cylinder Head and Valve Assembly	4472	—	—	1
(2)	Low Pressure Intake Valve Assembly	4267	1	2	4
(2)	High Pressure Intake Valve Assembly	4265	1	1	2
(2)	Exhaust Valve Assembly (H.P. & L.P.)	4266	2	2	4
(1)(2)	Gasket — All Valves	4087	4	5	10
	Spacer — Exh. Valves	4113-E	2	2	4
	Spacer — Int. Valves	4113	2	3	6
	Retainer — L.P. Intake Valve	4091-R	1	2	4
	Retainer — Exhaust Valve	4093-R	2	2	4
	Retainer — H.P. Intake Valve	4093-R	1	1	2
(1)(2)	Gasket — Valve Cover	4088	3	3	6
	Cover — Valve	4083	3	3	6
(1)(2)	Copper Washer	4081	3	3	6
	Bolt — Valve Cover	966-K	3	3	6
	Valve Repair Kit (703)	4805	1	—	—
	Valve Repair Kit (705)	4806	—	1	—
	Valve Repair Kit (707)	4807	—	—	1
	Valve Replacement Kit (703)	4812	1	—	—
	Valve Replacement Kit (705)	4813	—	1	—
	Valve Replacement Kit (707)	4814	—	—	1

(1) Included in Valve Repair Kits
(2) Included in Valve Replacement Kits

Figure 5 — Model 703 One L.P. Intake Valve Only

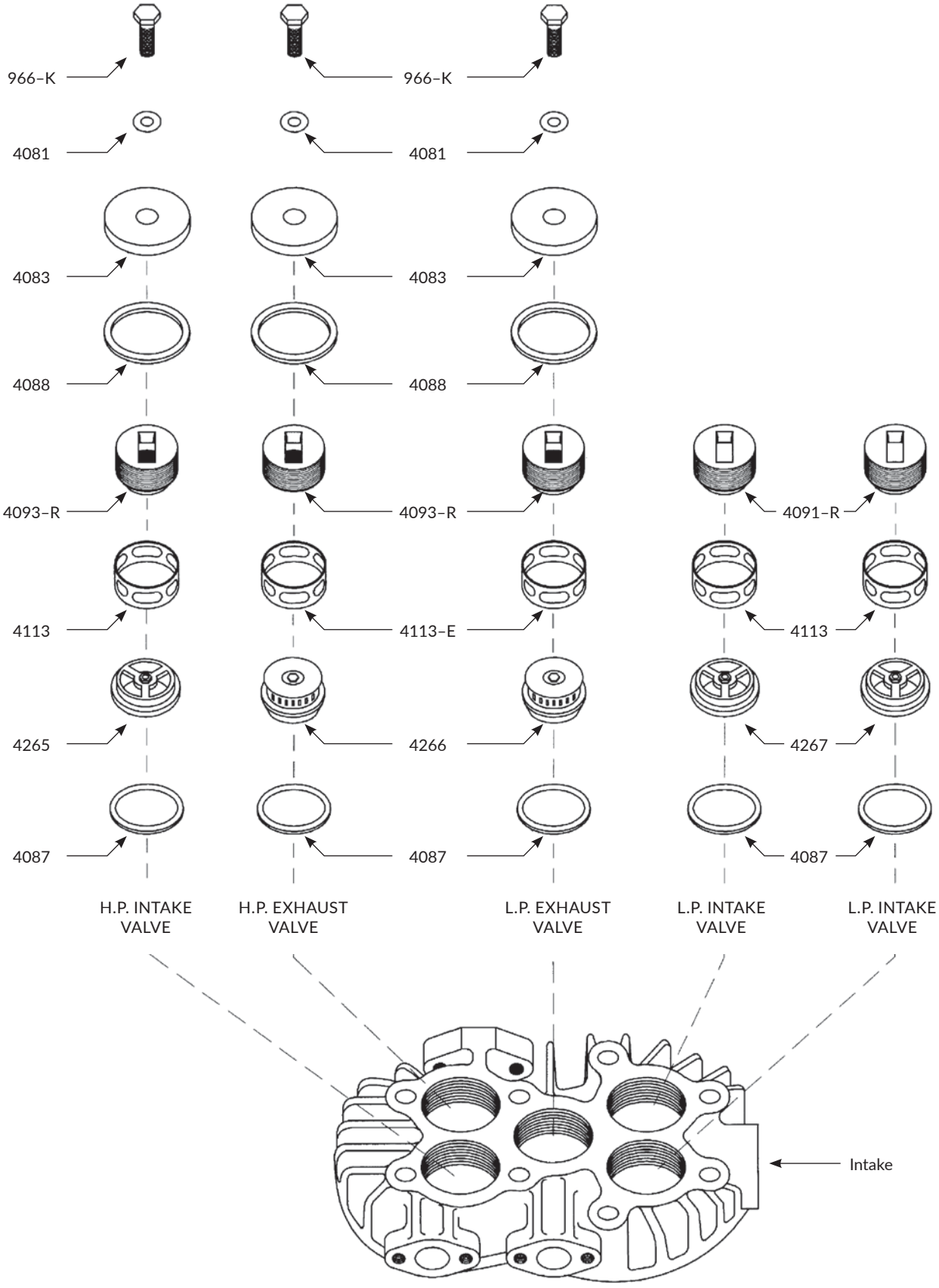
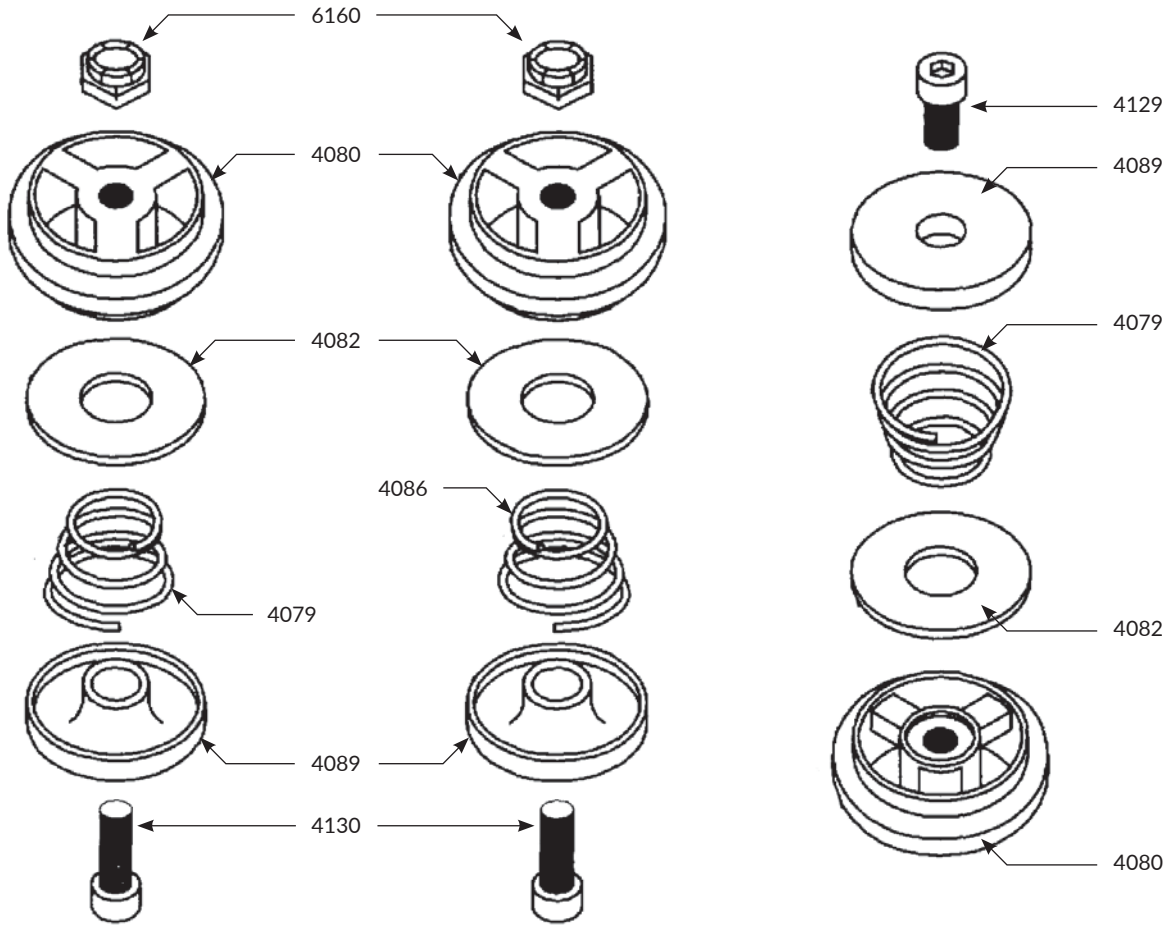


Figure 6 — Valve Components



4265
H.P. INTAKE
VALVE

4267
L.P. INTAKE
VALVE

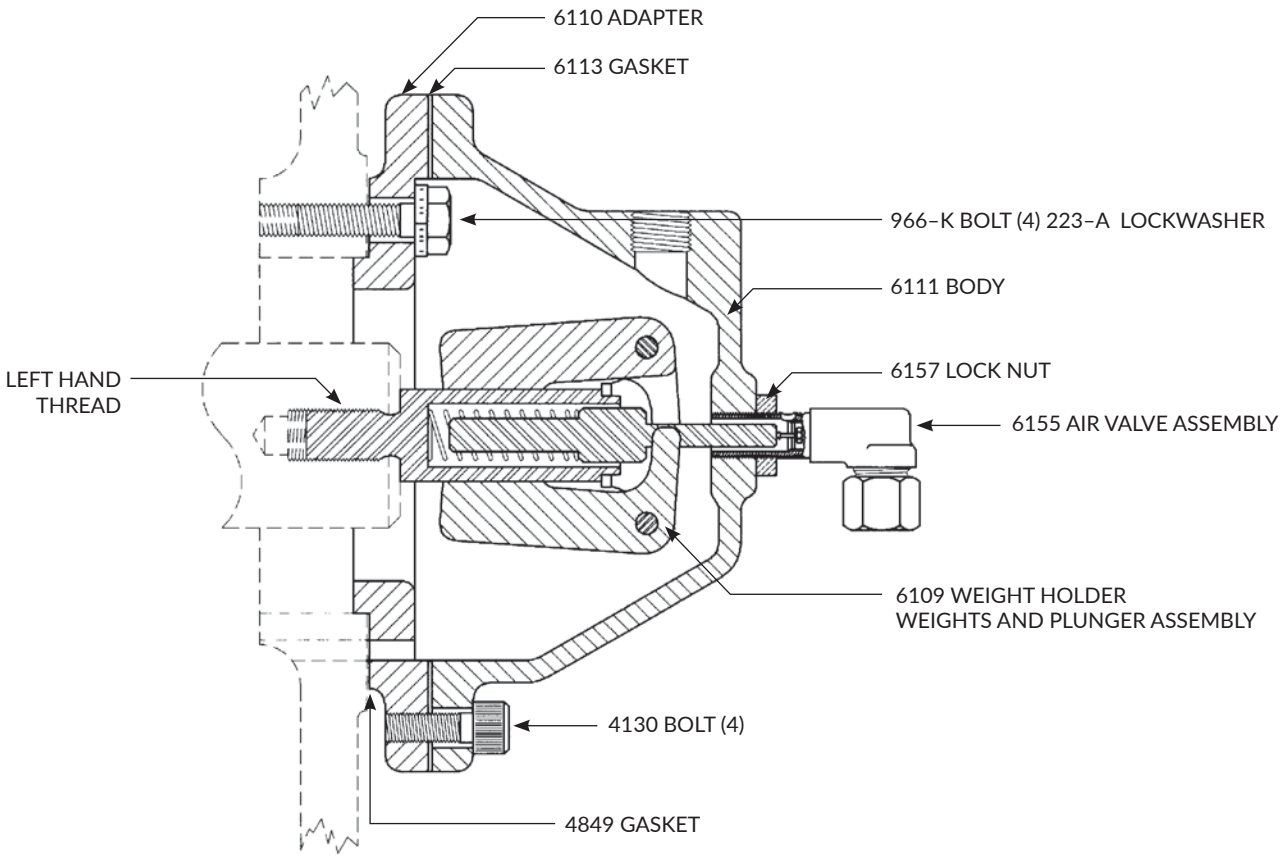
4266
L.P. / H.P.
EXHAUST VALVE

VALVE COMPONENTS

Part Name	Part No.
Nut	6160
(1) Spring	4079
Seat	4080
(1) Valve Plate	4082
(1) Spring	4086
Valve Guide	4089
Allen Screw	4129
Allen Screw	4130

(1) Included in Valve Repair Kits

Figure 7 — 6108 Centrifugal Unloader



6108 CENTRIFUGAL UNLOADER COMPONENTS

Part Name	Part No.	No Req.
Adapter Plate	6110	1
Body	6111	1
Weight Holder, Weights and Plunger Assembly	6109	1
Weights	6117	2
Rivets	6120	2
Plunger	6118	1
Spring	6119	1
Weight Holder	6114	1
Air Valve Assembly	6155	1
Valve Core	6156	1
Lock Nut	6157	1
Gasket	6113	1
Gasket	4849	1
Bolt	966-K	4
Bolt	4130	4
Lockwasher	223-A	4

NOTE: When ordering parts —specify Model No. and Serial No. of pump

DISASSEMBLY

1. Loosen motor – slide toward pump. Remove belts and flywheel. Use wedge in slot of flywheel after loosening bolt. Disconnect aftercooler tube and tube to centrifugal unloader. Remove 4 bolts securing pump to base.

2. Remove exhaust manifold (707), cylinder heads and intercooler.

3. Mark top of pistons for reassembling in same position.

4. Remove side plates.

5. To remove connecting rod – remove rod bolts, noting position of the identification marks on one side of each so that connecting rods are re-installed in original position. **DO NOT INTERCHANGE ROD CAPS!**

6. Remove connecting rod and piston assembly thru bottom of cylinder. Cylinder must be removed from crankcase.

7. To remove pistons from connecting rod – remove two retaining rings, one on each end of wrist pin – L. P. piston only. "Tap" wrist pin out of piston.

8. To remove crankshaft – remove key from flywheel and burrs or foreign matter to prevent damage to shaft seal. Remove bolts from front cover and remove cover being careful not to let crankshaft drop. *Remove centrifugal unloader, attached to rear end of crankshaft. Slide crankshaft out thru front cover.

9. To remove valves from cylinder head – remove (3) valve cover plates (H.P. intake and exhaust valves.) Remove threaded plugs and spacers atop each valve. Lift valves out thru openings. DO NOT INTERCHANGE VALVES!

*Centrifugal unloader is assembled and disassembled by screwing the entire assembly into the end of the crankshaft. This assembly is provided with a **LEFT-HAND THREAD** and must be firmly tightened. **CAUTION**: Incorrect rotation of compressor unit will unscrew this assembly! Rotation must be CCW facing flywheel end.

Cylinder 703
- High Pressure 1.8750–1.8760
- Low Pressure 3.4995-3.5005

Cylinder 705/707
- High Pressure 2.1245-2.1255
- Low Pressure 4.1245-4.1255

Crankshaft Rod Journal Diameter..... 1.5610/1.5620
Wrist Pin Diameter 0.7501/.7497

CAUTION: Wrist pins are a "tap fit" into pistons! **DO NOT USE FORCE!** Forcing will remove "cam" from L.P. Pistons, resulting in "galling" of piston.

Oversize Bearing Inserts, Piston and Piston Rings **NOT AVAILABLE**.

REASSEMBLY

1. Crankshaft — install crankshaft into crankcase thru front cover hole. Install front cover over crankshaft being careful not to tear shaft seal. Install bolts and tighten. Crankshaft end play is determined by inserting or removing "shims" under rear adapter plate. Shims are provided in three thicknesses and the proper combinations must be selected so the crankshaft may be turned freely in bearings without "end play."

2. Cylinder — scored cylinders should be replaced. Break glaze in cylinders if used cylinders are reinstalled. Piston, rings and connecting rod assembly must be assembled in cylinder bores before assembling cylinders. Align rods with crankshaft throws, remove rod caps (DO NOT INTERCHANGE ROD CAPS!), set cylinder on crankcase and install bolts and copper washers – tighten per torque chart.

3. Pistons — clean ring grooves and oil return holes. Assemble connecting rod in piston and push wrist pin thru – use "tap fit" on wrist pin – using "force" will remove "cam" from low pressure piston resulting in galling. If wrist pin is slightly tight – heat piston slightly before "tapping" wrist pin in. Install retaining rings on L.P. piston pins. Rings – install oil ring in bottom groove, followed by stepped scraper ring and then two compression rings. Stagger ring gaps a minimum of 90° from each other. See Figure 4.

4. Connecting Rod — install the bearing inserts into the rod and cap, fitting the locating projections into grooves provided. Assemble rod cap (after oiling both halves of insert bearing) and tighten. Tap rod cap and rod to "seat" bearing inserts. Never file rod cap or use shims to adjust bearing clearance.

   Install connecting rod into piston per step 3 and piston and rod assembly into cylinder per step 2. When inserting piston and rod assembly into cylinder bore, compress rings to prevent breaking and scoring of cylinder wall.

5. Cylinder Head — install valves and components (as shown on pages 10 and 11) being careful not to interchange valves – tighten per torque chart. Install cylinder head assembly on cylinder, install bolts and tighten.

   Install intercooler and exhaust manifold (707).

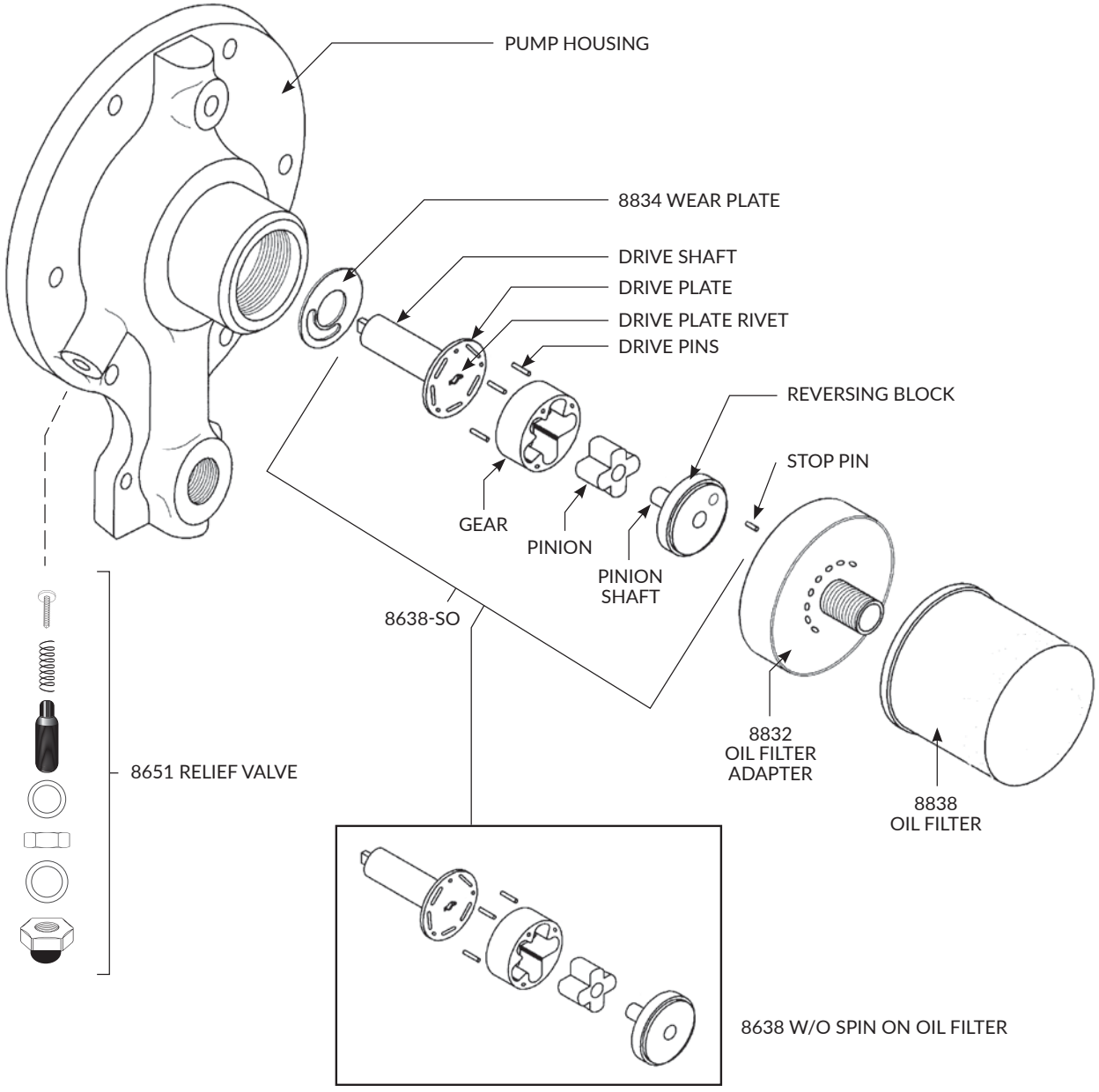
6. Turn pump over by "hand" before starting. It is recommended that the pump be "run in" a few hours.

MODEL PL-703 / PL-705 / PL-707 PRESSURE LUBRICATED PARTS LIST

(OTHERWISE SAME AS SPLASH LUBRICATED)

	PART NAME	PART NO.	NO. REQUIRED PL-703	PL-705	PL-707
	OIL PUMP ASSEMBLY	6407	1	1	1
	Housing	6402	1	1	1
ONE UNIT	Gear, Pinion & Reversing Block	8638	1	1	1
ONE UNIT	Drive Shaft Assembly		1	1	1
ONE UNIT	O-Ring – Drive Shaft		1	1	1
ONE UNIT	Key				
ONE UNIT	Gear, Pinion & Reversing Block with Drilled Hole	8638-SO	1	1	1
ONE UNIT	Drive Shaft Assembly		1	1	1
ONE UNIT	O-Ring – Drive Shaft		1	1	1
ONE UNIT	Key		1	1	1
ONE UNIT	Spring – Relief Valve	8651	1	1	1
ONE UNIT	Plunger – Relief Valve		1	1	1
ONE UNIT	Gasket – Relief Valve		2	2	2
ONE UNIT	Locknut – Relief Valve		1	1	1
ONE UNIT	Acorn Nut – Relief Valve		1	1	1
	Bushing	8650	1	1	1
ONE UNIT	OIL SUMP ASSEMBLY	8604	1	1	1
ONE UNIT	Plug		1	1	1
ONE UNIT	Screen		1	1	1
ONE UNIT	Snap Ring		1	1	1
ONE UNIT	O-Ring		1	1	1
ONE UNIT	Gasket		1	1	1
	GASKET – OIL PUMP TO CRANKCASE	6404	1	1	1
	SHIM – FRONT COVER – END PLAY ADJ.	6403	3	3	3
	CRANKSHAFT ASSEMBLY	3809-P	–	–	1
	Bearing Cone – Rear	4098	–	–	1
	Bearing Cone	4213	–	–	1
	Drive Pin	6120	–	–	1
	Pipe Plug	6413	–	–	2
	CRANKSHAFT ASSEMBLY	4050-P	1	1	–
	Bearing Cone – Rear	4098	1	1	–
	Bearing Cone – Front	4213	1	1	–
	Drive Pin	6120	1	1	–
	Pipe Plug	6413	1	1	–
	CRANKCASE	3810-P	–	–	1
	CRANKCASE	4048-P	1	1	–
	FRONT COVER	4054-P	1	1	1
	Bearing Cup	4097	1	1	1
	CONNECTING ROD	6348-P	2	2	4
	OIL PRESSURE GAUGE	8614	1	1	1
	BOLTS – BOTTOM PLUG HOUSING	4130	2	2	2
703 / 705	ST. ELL – ¼" BRASS – CRANKCASE BREATHER	3888-K	1	1	–
703 / 705	NIPPLE – ¼" X 2" – CRANKCASE BREATHER	483-K	2	2	–
703 / 705	ELBOW – ¼" – CRANKCASE BREATHER	487-K	2	2	–
703 / 705	BREATHER ASSEMBLY – CRANKCASE (Front Cover)	8921	1	1	1
707	NIPPLE – ¾" X 2"	4178-G	–	–	1
707	TEE – ¾"	4430	–	–	1
707	ST. ELL – ¾"	4529	–	–	1
707	REDUCER BUSHING – ¾" X ¼"	4128	–	–	1

Figure 8 — Oil Pump Assembly



8604 OI L SUMP ASSY.

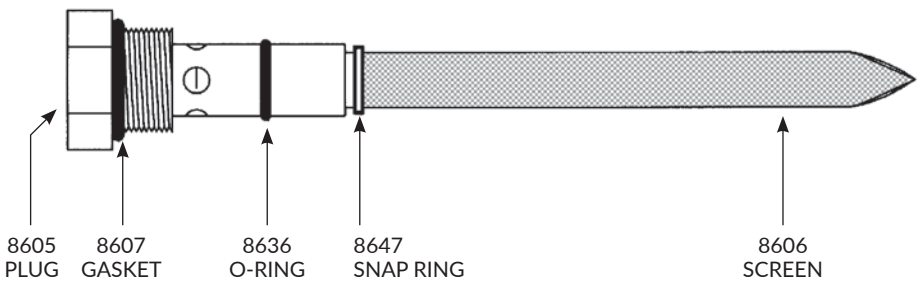
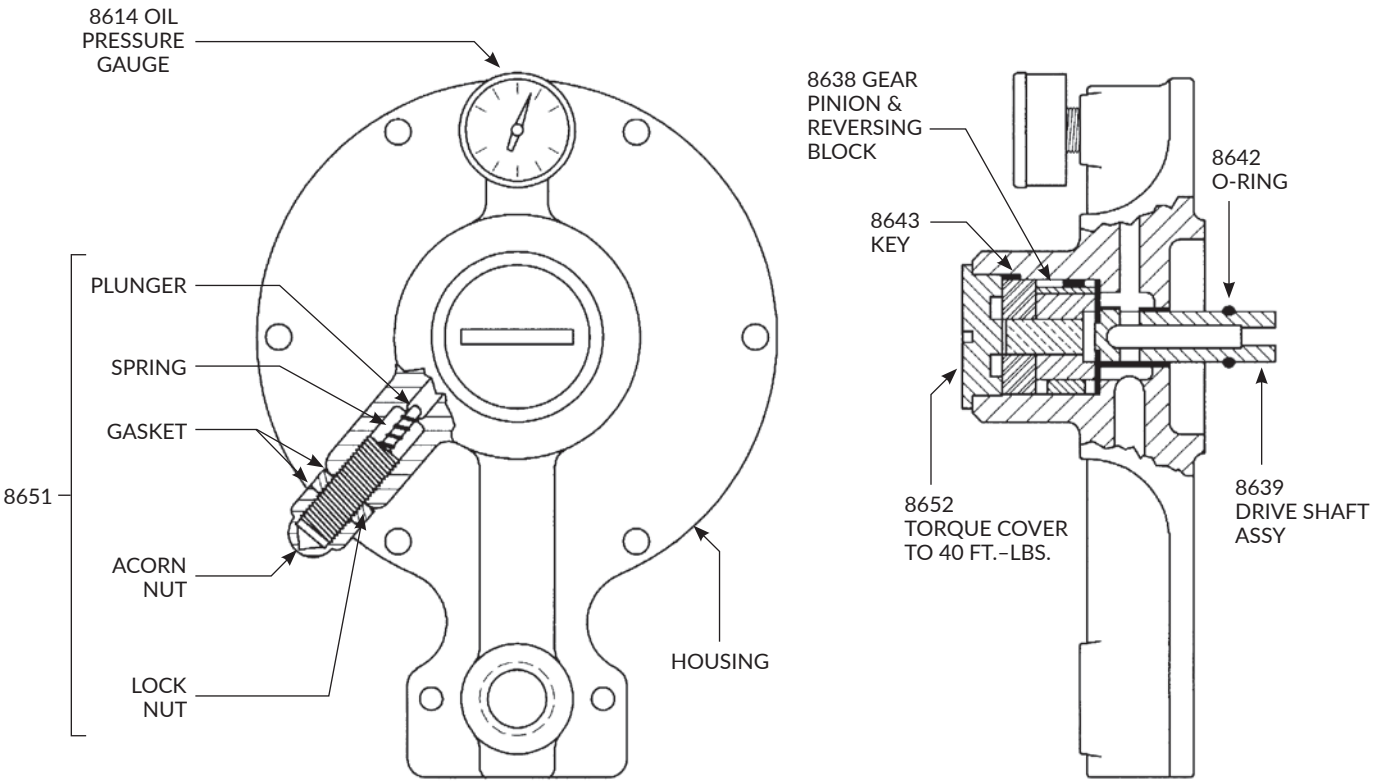


Figure 9 — Pressure Lubricated Oil Pump

6407 OIL PUMP



PUMP DISASSEMBLY

1. Remove 8642 O-Ring from pump shaft.
2. Remove pump cover 8652 Torque Cover by turning counterclockwise.
3. Remove 8643 Stop Pin with magnet.
4. By pushing on end of pump shaft the entire assembly can be removed.

REASSEMBLY

1. Reverse the above procedure making sure the drive pins in the gear are properly aligned with the drive plate, and the stop pin is positioned in the short slot in the pump housing.
2. Turn pump shaft a few times to ensure proper assembly.
3. Prime the pump before initial start-up.

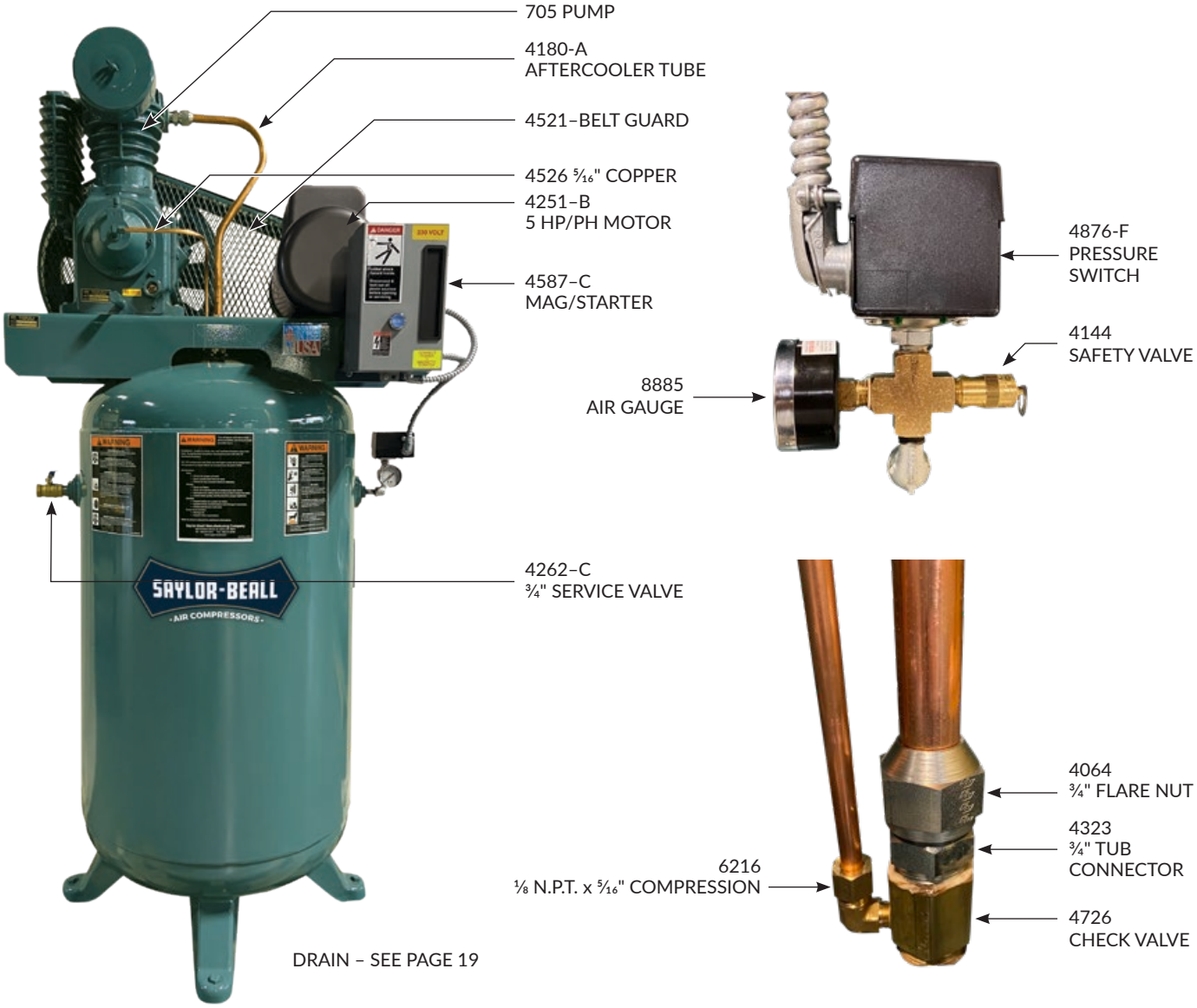
OIL PRESSURE ADJUSTMENT

Note: Before adjusting the oil pressure make sure the oil sump assy. is cleaned out of any debris.

1. Remove acorn nut.
2. Loosen locknut.
3. With a screwdriver turn the plunger clockwise to increase pressure and counterclockwise to decrease the pressure.
4. Reassemble.

OIL PUMP PRESSURE SHOULD BE AT 12-15 P.S.I.G. (OIL WARM)

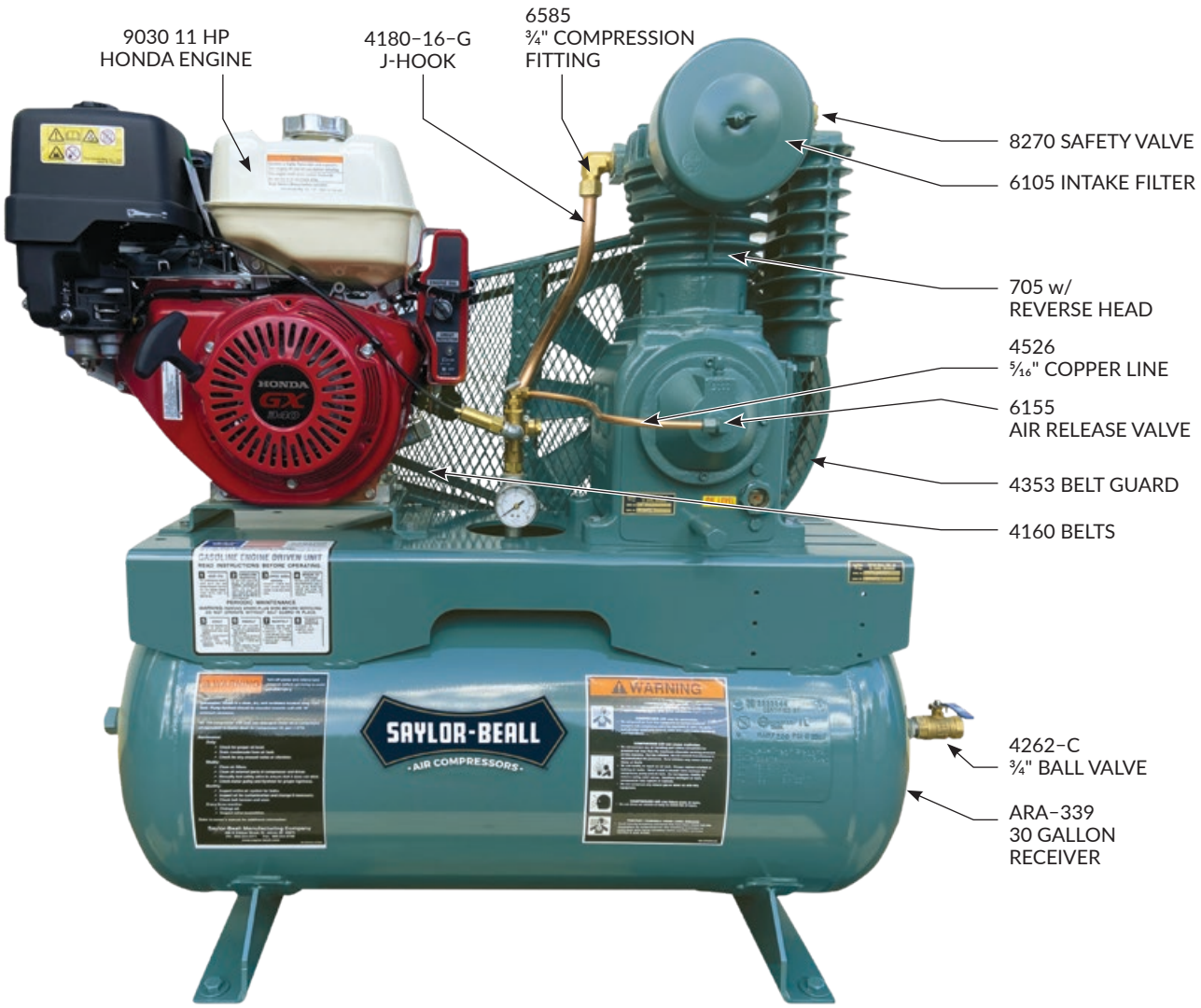
Figure 10 — VT-735



MOTOR H.P.	PRESSURE SWITCH	AIR GAUGE	SAFETY VALVE	CHECK VALVE	SERVICE VALVE	AFTERCOOLER TUBE	MANUAL DRAIN	PUMP REF.
1 ½ & 2 H.P.	4876-F*	8885	4144	4726	4262	4180-A	S-554	703
3 & 5 H.P.	4876-F*	8885	4144	4726	4262	4180-A	S-554	705
7 ½ & 10 H.P.	4876-F*	8885	4144	4726	4262	4180-6	S-554	707
14 H.P. GAS	—	8885	4144	4726	4262	4180-16-G	S-554	705
18 H.P. GAS	—	8885	4144	4726	4262	4180-10	S-554	707

*Pressure lube models require pressure switch 4876-FR.

Figure 11 — Gas Unit



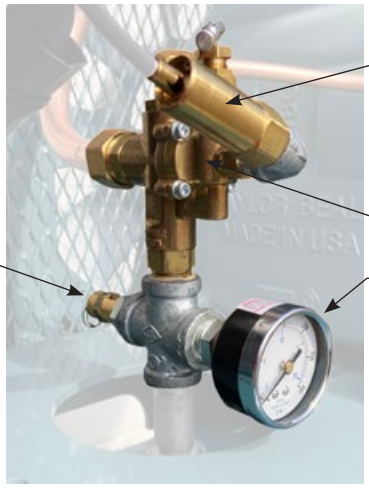


Figure 12 — Drains

S-554 Drain Cock

1007 Float Drain

4906-E

4906 & 6532 Auto Tank Drain

Figure 13 — Model X-735-80-3-IC

705 PUMP

4185-B 5H.P.
3 PHASE MOTOR

4521 BELT GUARD

321-2 ALTERNATING
CONTROL PANEL

3780-K PRESSURE
SWITCH WITH 1/4"
BLEEDERS

ARA-867 80 GALLON
DUPLEX TANK

DRAIN
(SEE PAGE 19 FOR
DIFFERENT STYLES)

8885 0-300psi
GAUGE

10400
TRANSFORMER

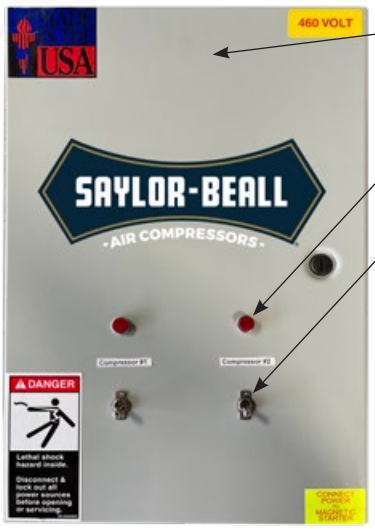
MAG/STARTER

10111
4AMP FUSE

OVERLOADS

10416 ALTERNATOR
(120V)
10417 ALTERNATOR
(240V)

10150
TERMINAL STRIP



10012 18x12x6
ENCLOSURE

10450 LIGHT

4205 SPADE STYLE
TOGGLE SWITCH

FIGURE 13 — DUPLEX PANEL SIZING AND PARTS

Single Phase

H.P.	VOLTS	AMPS (per motor)	WIRE SIZE	PANEL #	OVERLOADS	ALTERNATOR #	STARTER #
1 ½	115	21	10 AWG	321-1	2013	10416	4891-C1
	208/230	11/10.5	12 AWG	321-1	2011	10417	4891-C
2	115	24	10 AWG	321-1	2013	10416	4891-C1
	208/230	12.6/12	12 AWG	321-1	2011	10417	4891-C
3	115	32	8 AWG	321-1	2015	10416	4891-C1
	208/230	16.8/16	12 AWG	321-1	2012	10417	4891-C
5	208/230	22.7/20.6	10 AWG	321-1	2013	10417	4891-C
7 ½	208/230	33.8/32.2	8 AWG	321-5	2014	10417	8924-C
10	230	40.8	6 AWG	321-5	2016	10417	4894-C1

3 Phase

H.P.	VOLTS	AMPS (per motor)	WIRE SIZE	PANEL #	OVERLOADS	ALTERNATOR #	STARTER #
1 ½	208/230	5.2/4.8	12 AWG	321-1	2009	10417	4891-C
	460	2.4	12 AWG	321-2	2007	10416	4891-C1
2	208/230	6/5.8	12 AWG	321-1	2009	10417	4891-C
	460	2.9	12 AWG	321-2	2007	10416	4891-C1
3	208/230	8.5/8.4	12 AWG	321-1	2010	10417	4891-C
	460	4.2	12 AWG	321-2	2008	10416	4891-C1
5	208/230	14/13.2	12 AWG	321-1	2012	10417	4891-C
	460	6.3	12 AWG	321-2	2010	10416	4891-C1
7 ½	208/230	21.3/20.4	10 AWG	321-1	2013	10417	4891-C
	460	10.6	10 AWG	321-2	2011	10416	4891-C1
10	208/230	28.2/25	10 AWG	321-3	2014	10417	8924-C
	460	12.5	10 AWG	321-2	2012	10416	4891-C1

DUPLEX COMPRESSOR SEQUENCE OF OPERATIONS

1. The lead pressure switch closes, energizing the alternator relay and first air compressor.
2. The pressure rises opening the lead pressure switch, de-energizing the alternator relay and the first air compressor.
3. The alternator will then alternate from the first air compressor to the second air compressor, ready for the next need for compressed air.
4. The next phase is the same as steps 1-3, except that the second air compressor will run.
5. When the need for compressed air becomes greater than the operating compressor can produce and the pressure continues to drop after the lead pressure switch closes, the lag pressure switch will close, starting the second air compressor.
6. As the pressure rises, the second air compressor will shut off and then the first air compressor will shut off.

CAUTION: Do not adjust switch. Doing so may result in starter burnout!

NOTES:

1. Pressure switches are pre-set and identified.
2. Lead pressure switch controls the alternator. This switch must close first (on decreasing pressure) and open last (on rising pressure).
3. Lead pressure is factory pre-set at 140-175 P.S.I.
4. Lag pressure is factory pre-set at 130-165 P.S.I.

WARRANTY

Saylor-Beall Manufacturing Co. warrants its compressors and parts when properly installed, lubricated and maintained as recommended and in accordance with good industry practice to be free from defects in material and workmanship under normal use and service. The responsibility of the Company under this warranty is limited to repair or replacement, at the Company's factory, any compressor or part thereof, which shall, within one year after date of shipment to the original purchaser, be returned to the company and which, upon examination, shall be found to be defective to the satisfaction of the Company.

This warranty shall not apply to compressors or parts which have been subjected to misapplication, misuse, negligence or accident, to compressors or parts which have been repaired or tampered with outside of the Company's factory when in the judgment of the Company, it appears that the reliability or stability of the compressor or part has been effected. Ordinary maintenance, such as adjustment and cleaning of equipment or components is the responsibility of the owner. All transportation and shipping charges shall be paid by purchaser.

This warranty does not apply to electric motors or gasoline engines. These are covered by the Original Manufacturer's Warranty and should be returned by the purchaser to their authorized station for service.

This warranty is expressly in lieu of all other warranties (except of title) expressed or implied and of any other obligations or liability on the part of the Company. There are not warranties of merchantability or of fitness for a particular purpose.

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