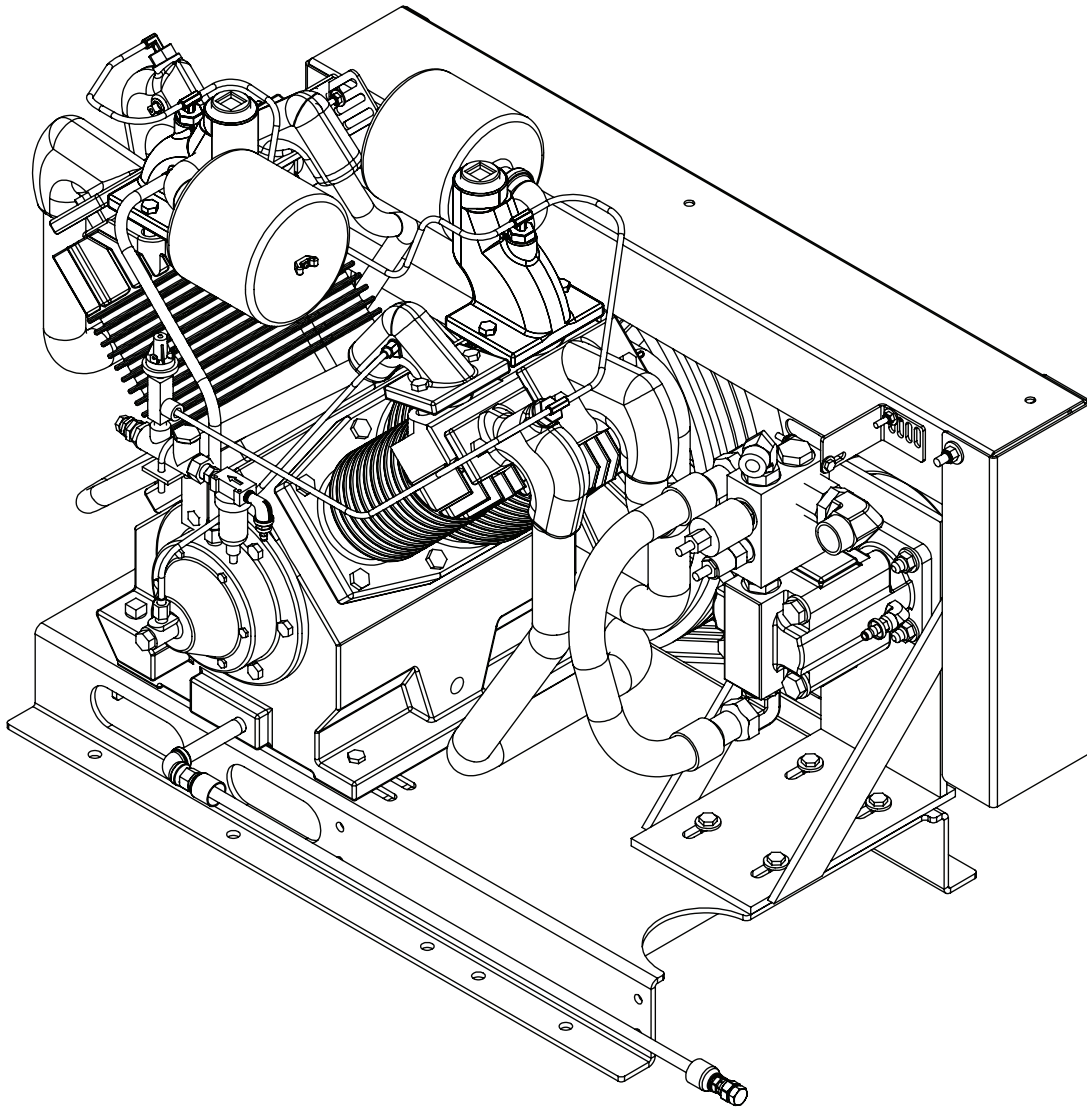




Model 110P Two-Stage Piston Compressor Manual

Specifications • Installation • Assembly



Stellar Industries, Inc.
740 North State Street
PO Box 169
Garner, IA 50438
800-392-3015
www.stellarindustries.com

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Rev 1
PN 92627

P65 Warning / Serial Tag / Cold Weather

WARNING

Operating, maintaining, and servicing a Stellar product may expose you to chemicals including, but not limited to, engine exhaust, carbon monoxide, phthalates, and lead. These chemicals are known to the State of California to cause cancer and birth defects (or other reproductive harm). To keep your exposure to a minimum, be sure to avoid breathing exhaust and service your Stellar product in a well-ventilated area while wearing gloves or washing your hands frequently. For more information, go to www.P65Warnings.ca.gov/passenger-vehicle.



www.p65warnings.ca.gov

NOTICE

Cold Weather Performance

Although clear data on cold weather performance from every steel manufacturer is not available for all types and thicknesses of steel, Stellar Industries is confident that the weldments on our products will operate to 100% of their intended purpose to temperatures down to -40° F / C.

It is recommended if Stellar manufactured equipment needs to be used in temperatures below -40° F / C, the operator should pull the unit into a climate-controlled area and allow the weldments to warm up to and then maintain a temperature above this level.


	MODEL <input type="text"/>
SERIAL NO. <input type="text"/>	
PATENT / IP INFORMATION: www.stellarindustries.com/ip	DATE <input type="text"/>
MADE IN THE USA by the Employee Owners of Stellar Industries PN 112060	

Table of Contents

Introduction	iv
Chapter 1 - Specifications	1
Chapter 2 - Installation.....	3
Component Installation.....	3
110P Electrical Schematic	4
Hydraulic System.....	5
Air System	5
Head Unloading System.....	6
Typical Hydraulic Circuit for Single-Section Pump	7
Typical Hydraulic Circuit for Tandem (Two Part) Pump	8
Typical Hydraulic Circuit for Compressor with Auxiliary Cooler	9
Chapter 3 - Assembly Drawings.....	11
110P Assembly - PN 10647	11
Crankcase, Flywheel, Cylinders, & Centrifugal Unloader.....	13
Crankshaft, Rod, & Piston	14
Valve, Manifold, & Filter	15
Tubing Assembly	16

For Technical Questions, Information, Parts, or Warranty, Call Toll-Free at

800-321-3741

Hours: Monday - Friday, 8:00 a.m. - 5:00 p.m. CST

Or email at the following addresses:

Technical Questions, and Information:

service@stellarindustries.com

Order Parts:

parts@stellarindustries.com

Warranty Information:

warranty@stellarindustries.com

Introduction

Stellar Industries® Air Compressors are designed to provide safe and dependable service for a variety of operations. With proper use and maintenance, these air compressors will operate at peak performance for many years.

To promote this longevity, carefully study the information contained in this manual before putting the equipment into service. Though it is not intended to be a training manual for beginners, this manual should provide solid guidelines for the safe and proper usage of the air compressor.

Once you feel comfortable with the material contained in this manual, strive to exercise your knowledge as you safely operate and maintain the air compressor. This process is vital to the proper use of the unit.

A few notes on this manual:

A copy of this manual is provided with every air compressor and can be found in the hard plastic manual case that is installed on the chassis. A copy of this manual shall remain with the air compressor at all times.

Throughout the manual, three signal words will be used to bring attention to important items:

A NOTICE signal word indicates a practice not related to physical injury.

NOTICE

A WARNING signal word indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ WARNING

A DANGER signal word indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ DANGER

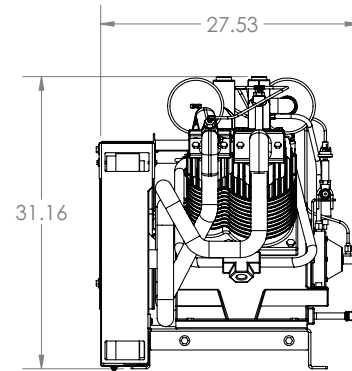
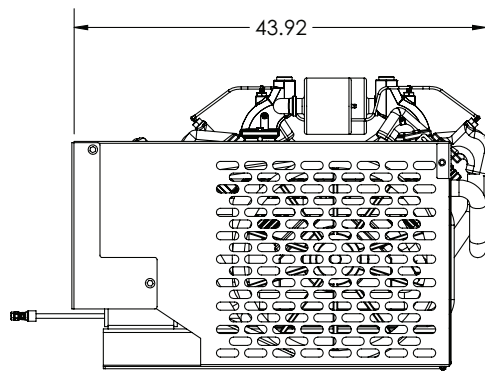
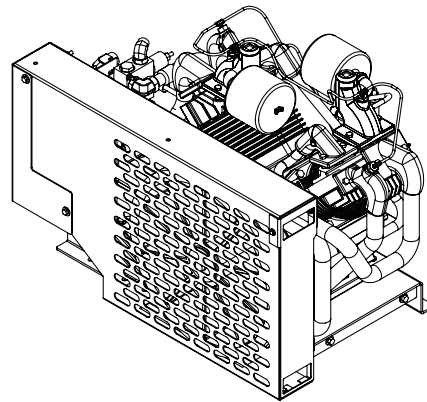
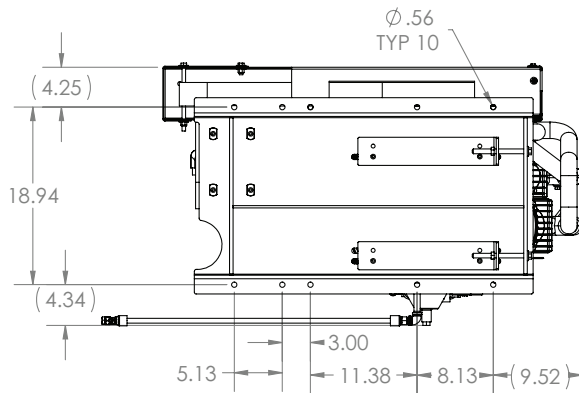
Information contained within this manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations. Please be aware that some sections of this manual contain information pertaining to Stellar Industries® manufactured air compressors in general and may or may not apply to your specific model.

This manual is not binding. Stellar Industries reserves the right to change, at any time, any or all of the items, components, and parts deemed necessary for product improvement or commercial/production purposes. This right is kept with no requirement or obligation for immediate mandatory updating of this manual.

In closing:

If more information is required or technical assistance is needed, or if you feel that any part of this manual is unclear or incorrect, please contact the Stellar Industries Customer Service Department by phone at 800-392-3015 or email at service@stellarindustries.com.

Chapter 1 - Specifications



SPECIFICATIONS	110P
Hydraulic System	24-25 GPM @ 2300 PSI
Max Compressor Speed	900 RPM
Hydraulic Operating Pressure	2300 PSI
Hydraulic Relief Pressure	3500 PSI
Max Working Pressure	175 PSI
Air Relief Valve	200 PSI
Air Delivery (At Max Speed)	110 CFM @ 100 PSI
Weight (Hydraulic Driven Asm)	750 lbs.
Weight (Air Pump Only)	570 lbs.
Dimensions (Length)	43.92"
Dimensions (Width)	27.53"
Dimensions (Height)	31.18"
Electrical	12V DC
Crankcase Oil Capacity	5 Quarts
Cooler Fan	12 Volt (Pull)
Drive Type	Belt Driven

NOTICE

Duty cycle on Piston Compressors is 50:50 over 10 minutes.

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Chapter 2 - Installation

Component Installation

This section pertains to the installation of the air compressor, PTO, pump and other related items. The instructions are intended as a guide to assist you with particular installation. These instructions will provide only general information.

Pump Assembly:

The pump assembly may either be installed directly on the PTO or as an optional method, may be driven by a driveline from the PTO. Pump manufacturers provide specific installation information for their products and should be consulted if questions arise. Note: A dual or tandem hydraulic pump is recommended when additional hydraulically operated equipment are added to the hydraulic system.

PTO Assembly:

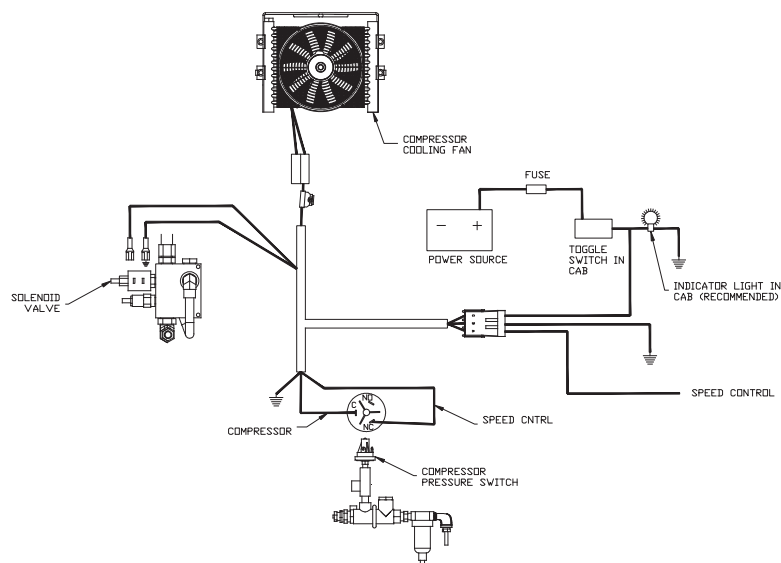
Check with the PTO manufacturer's representative for specific instructions regarding your particular make, model, and year of vehicle. As some trucks may require modification of the transmission cross member and the exhaust system, the manufacturer's instructions should be followed to ensure proper installation of the PTO.

Compressor Assembly:

Prepare the mounting location of the compressor by locating and drilling four (4) holes, 1/2" diameter as per the mounting pattern of the air compressor base. Using four (4) 3/8" x 1.25 GR-5 cap screws, 3/8" flat washer, and 3/8" nyloc nut, secure the compressor in place. The compressor is air cooled, and must have a clean supply of cooling air to the fan with minimum restrictions. Adequate space must be provided for proper circulation of air.

Electric Speed Control:

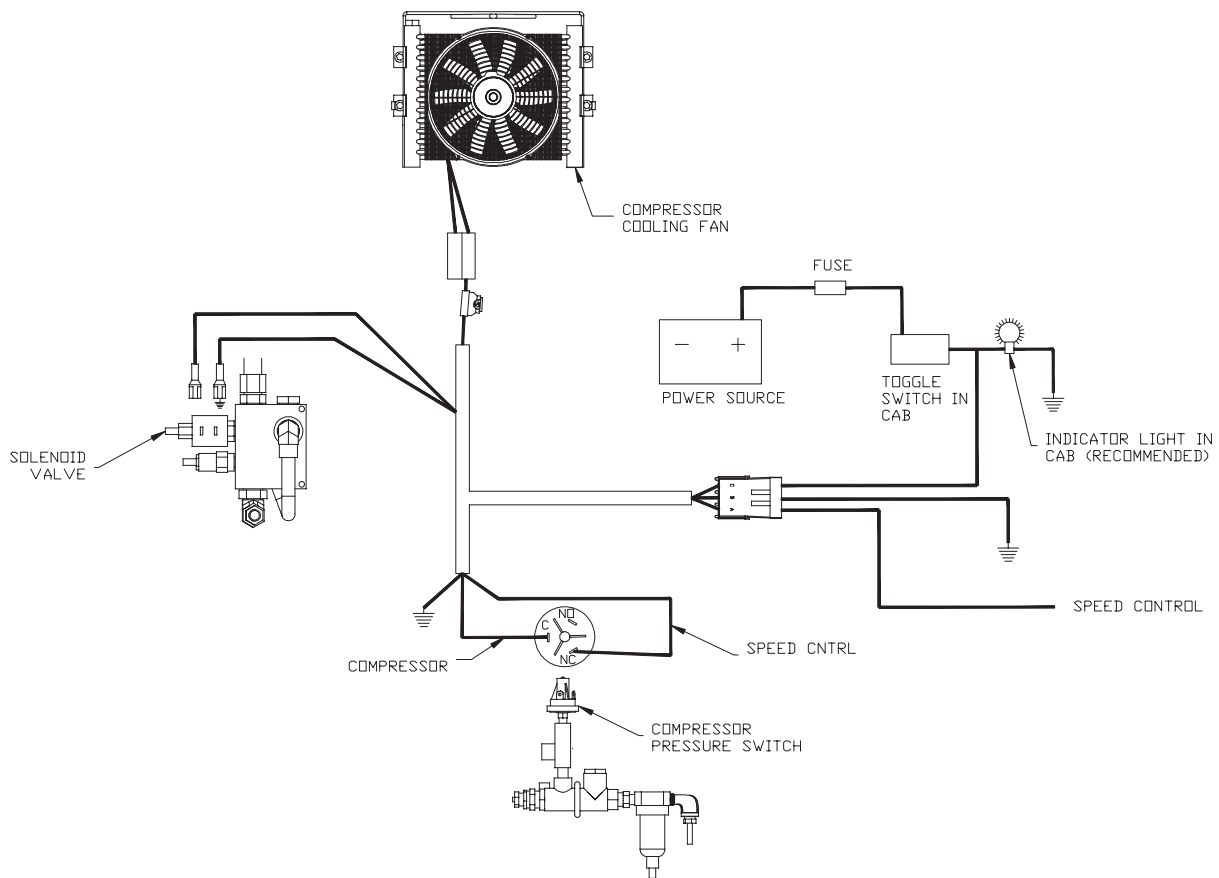
An optional electric or electronic speed control must be used to maintain proper operating speed of the air compressor. The engine speed control will automatically increase from idle to preset speed when engaged and decrease when disengaged.



110P Electrical Schematic

Electrical Connections:

From the air pressure switch there are two (2) wires, red and black, running to the outside of the compressor housing. Connect the black wire to the vehicle frame or other suitable ground. Mount a single throw toggle switch in a convenient location and connect the red wire from the compressor to this switch. Connect the other switch terminal to a fuse holder and then to a 12- volt power supply. A third wire is required from the air compressor switch when connecting the speed control into the system.

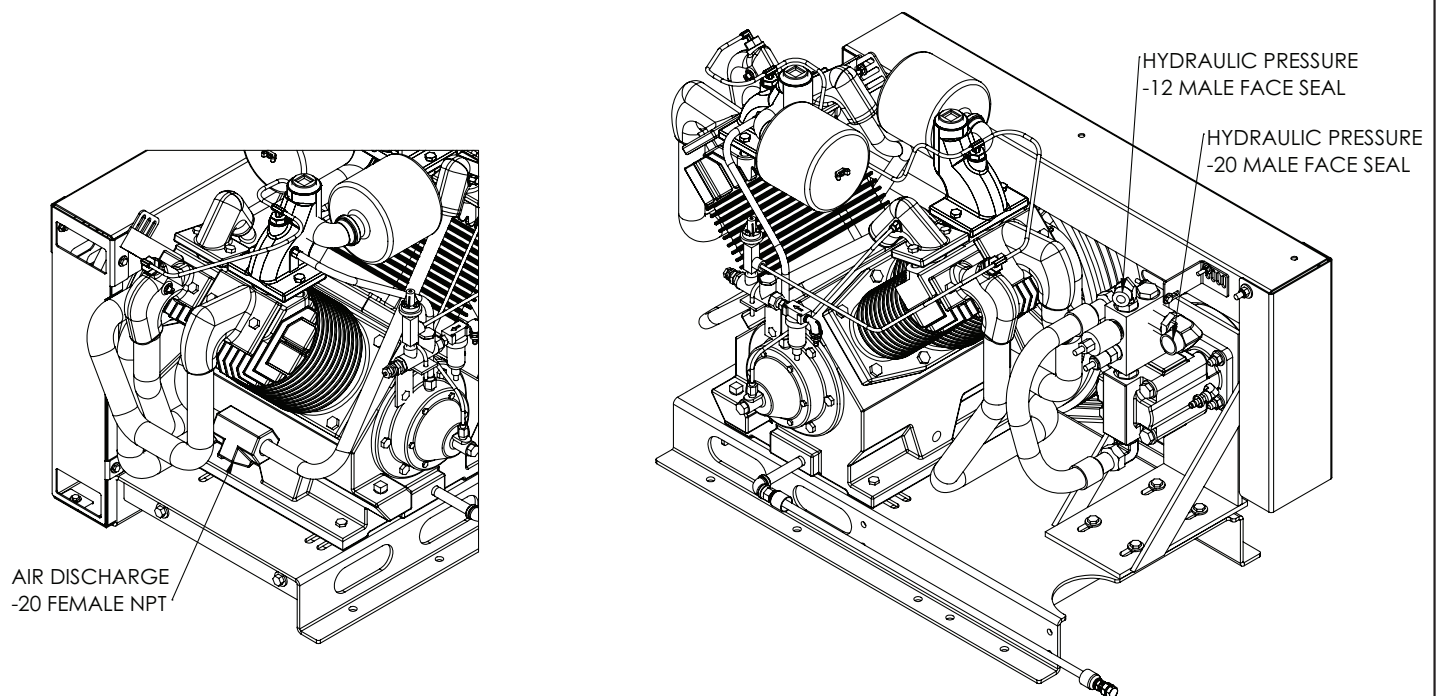


Hydraulic System

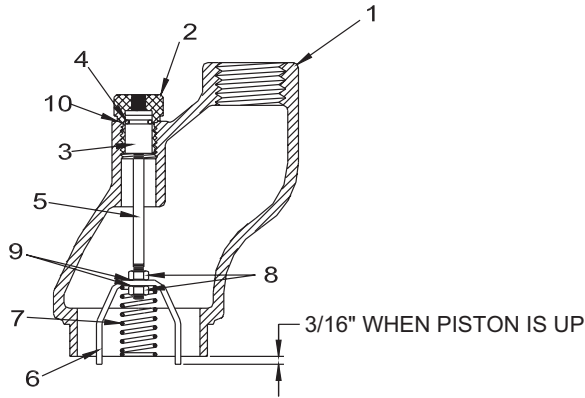
Installed on the compressor is a valve block assembly that controls the flow to the hydraulic motor. To this block, a 1/2" high-pressure hose must be attached. This hose comes from the hydraulic pumps pressure side. A 1-1/4" hydraulic suction hose must be installed from the hydraulic reservoir to the hydraulic pump. (See drawing above) Note: For compressors purchased without a reservoir a 3/4" minimum low-pressure return line is connected to the oil cooler outlet and is routed to the oil reservoir. The case drain line from the hydraulic motor is also routed to the oil reservoir. Stellar Industries recommends a sufficient sized reservoir be provided which includes the proper suction and return filters. The cooler on the compressor is designed and sized to cool the air compressor efficiently. An auxiliary oil cooler is required when additional hydraulically operated equipment are added to the hydraulic system. Pressure on the return line exceeding 200 PSI can and will cause damage to the filter, cooler, and components of the compressor hydraulic system.

Air System

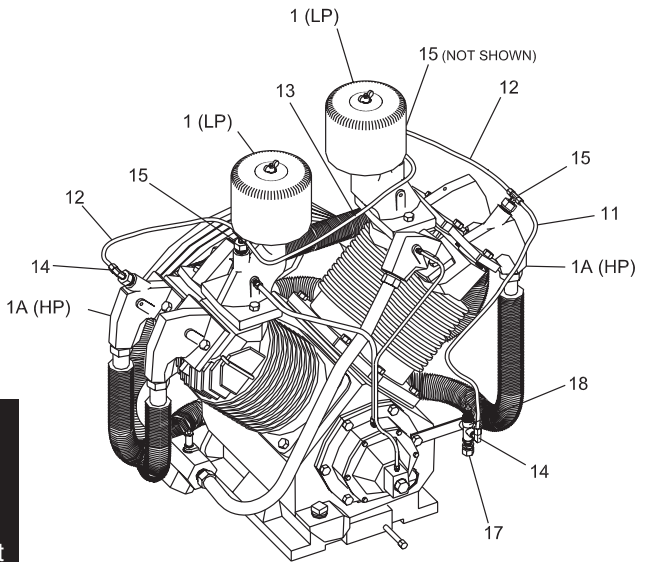
Two (2) airlines must be routed to the air tank for proper installation. The main airline is routed from the check valve to the air tank using a 3/4"(200psi) air hose. This is the main delivery line and should be free from all obstructions. A 1/4" line is routed from the air pressure valve to the air tank. This line senses the pressure in the tank and will engage and disengage the compressor automatically.



Head Unloading System



CAUTION
 When re-installing head unloader the actuating claw (Ref. No. 6) protrudes 3/16" below the bottom of the manifold (Ref. No. 1) as shown. Claw must be position so that it will enter three slots in the compressor valve. Failure to follow this procedure will result in an inoperative head unloader.



ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	26804	LOW PRESSURE INTAKE MANIFOLD R70	2	9	0521	WASHER 0.25 LOCK	12
1A	26807	HIGH PRESSURE INTAKE MANIFOLD R70	2	10	7493	GASKET UNLOADER VALVE R70	2
2	7481	CYLINDER UNLOADER VALVE R70	4	11	26821	ACTUATING TUBE R70	1
3	26812	UNLOADER PISTON R70	4	12	26822	MANIFOLD TUBE RB/LB R70	1
4	7483	O'RING UNLOADER VALVE R70	4	13	26823	INTERMEDIATE TUBE R70	1
5	13924	PISTON ROD LP UNLOADER VALVE R70	2	14	7475	TUBE FTG R70	2
5A	13925	PISTON ROD HP UNLOADER VALVE R70	2	15	7498	CPRSN TEE R70	3
6	4567	CLAW UNLOADER VALVE LP R70	2	16	C5568	UNLOADER VALVE CONRADER	1
6A	13921	CLAW UNLOADER VALVE HP R70	2	17	26824	COMPRESSION FITTING R70	1
7	13922	SPRING UNLOADER VALVE LP R70	2	18	C6064	U BOLT 0.25X1.25X2.25	1
7A	13923	SPRING UNLOADER VALVE HP R70	2	19	13735	UNLOADER VALVE ASM LP R70	2
8	1056	NUT 0.25-28 HH	8	20	13736	UNLOADER VALVE ASM HP R70	2

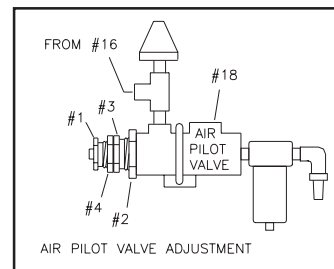
Air Pilot Valve Adjustment

(See Air Pilot Valve Adjustment Detail)

High Pressure Adjustment: Proceed with the following while the compressor is running.

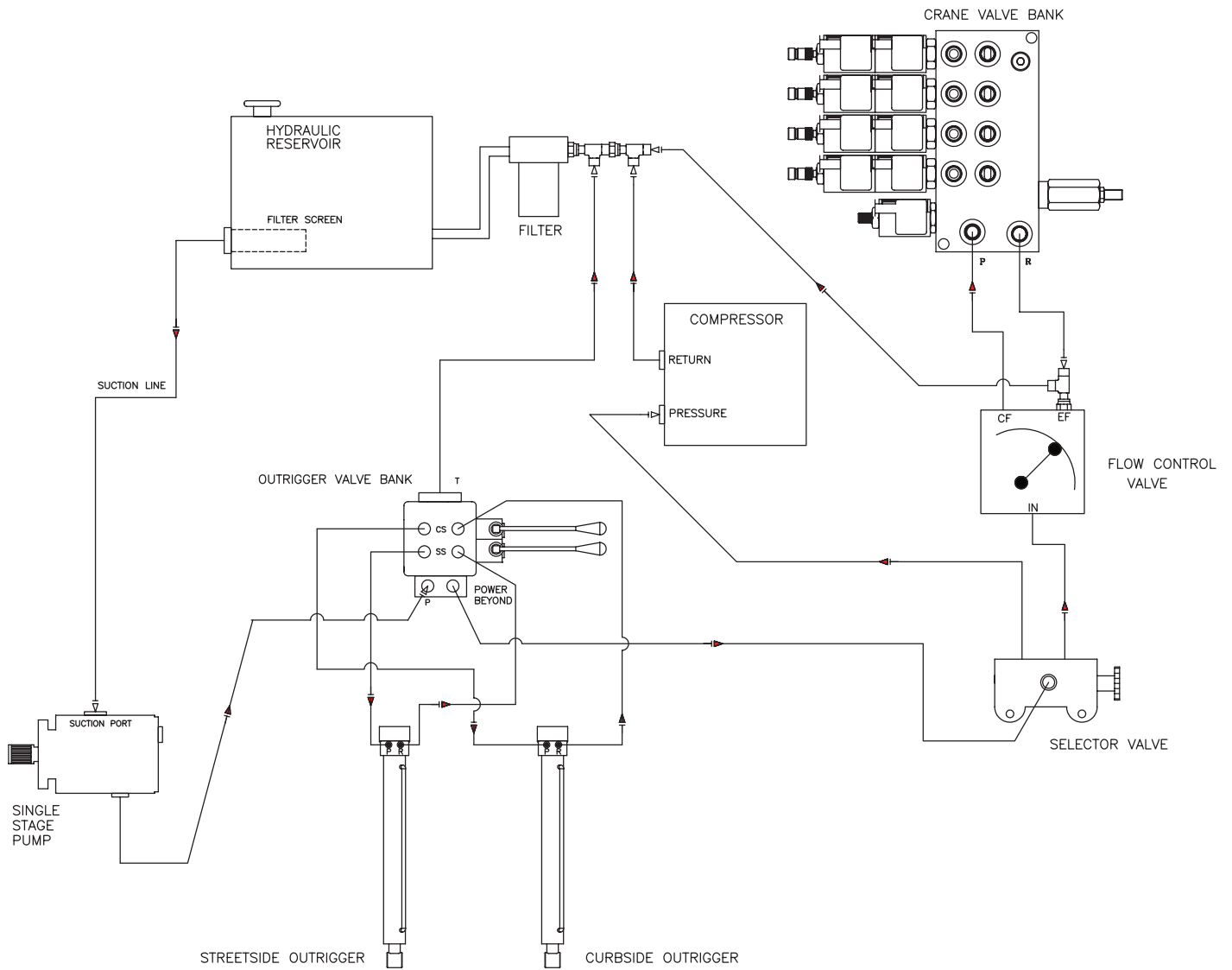
- 1.) Loosen locknut (4) and back off several turns. Do not turn differential adjuster (3).
- 2.) Check reading on the tank pressure gauge. Set the compressor maximum pressure at 175 psi. Over pressurizing compressor will cause damage and void warranty. Turn threaded cap (1) clockwise to increase pressure or counterclockwise to decrease pressure.
- 3.) After pressure is set, tighten locknut
- 4.) Be careful not to move the threaded cap (1).

Differential Pressure Adjustment: Proceed with the following while the compressor is running.

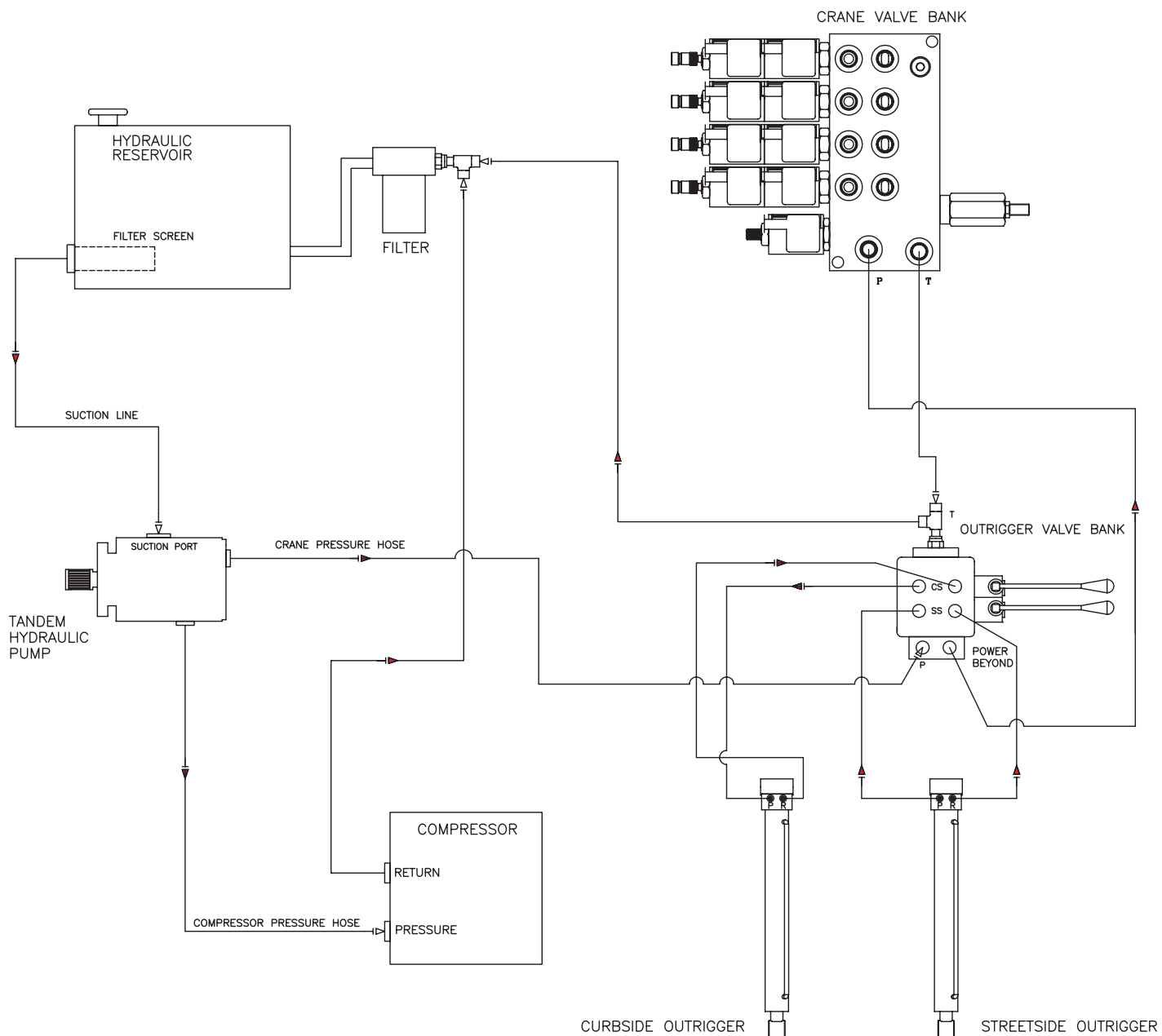


- 1.) Loosen locknut (2) and back off several turns.
- 2.) Check reading on the tank pressure gauge. Set the pressure to 30 psi differential (unload at 175 psi, reload at 145 psi). Turn nut (3) clockwise to increase differential pressure or counterclockwise to decrease differential pressure.
- 3.) After pressure is set, tighten locknut (2). Be careful not to move nut (3)

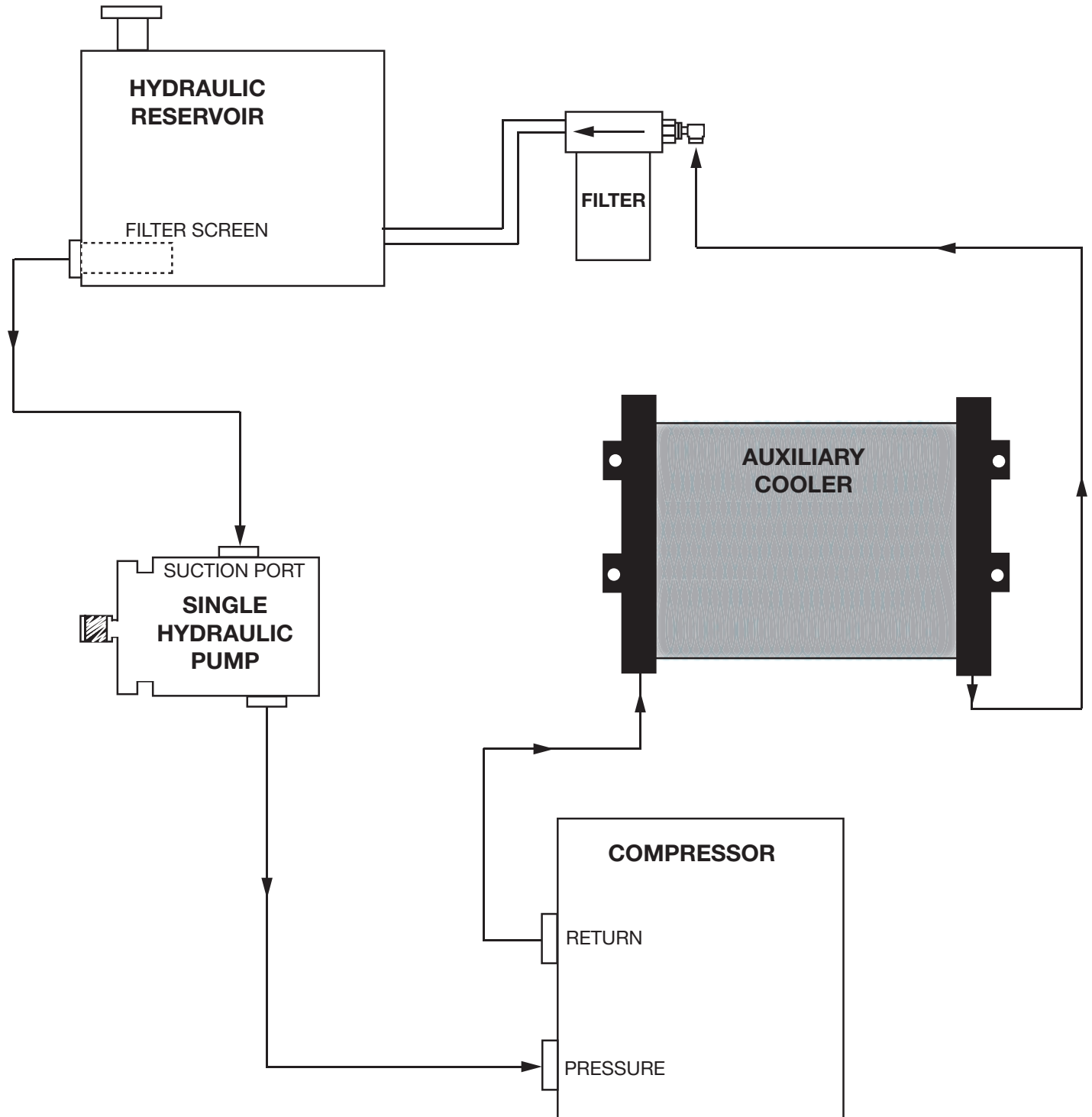
Typical Hydraulic Circuit for Single-Section Pump



Typical Hydraulic Circuit for Tandem (Two Part) Pump



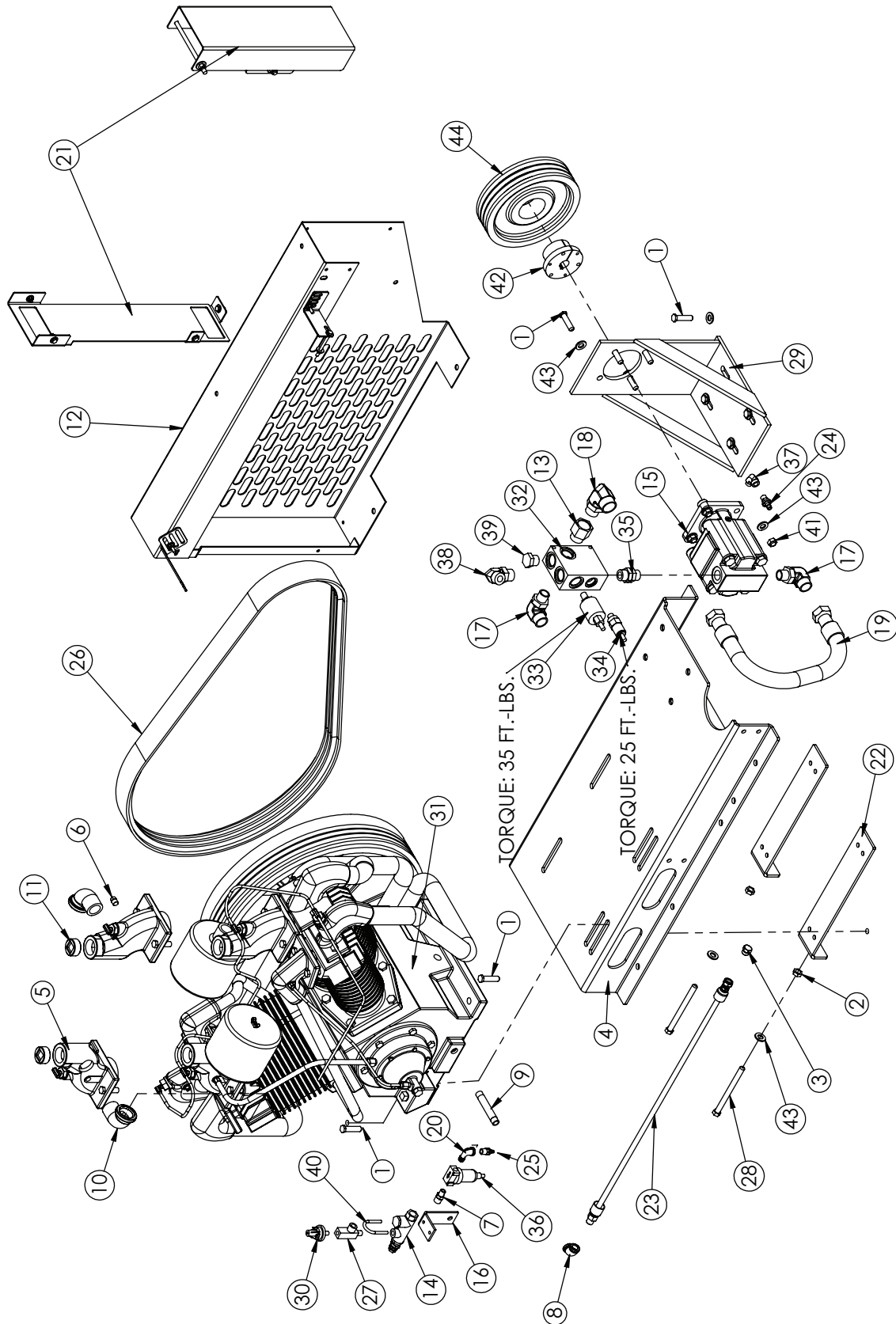
Typical Hydraulic Circuit for Compressor with Auxiliary Cooler



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Chapter 3 - Assembly Drawings

110P Assembly - PN 10647

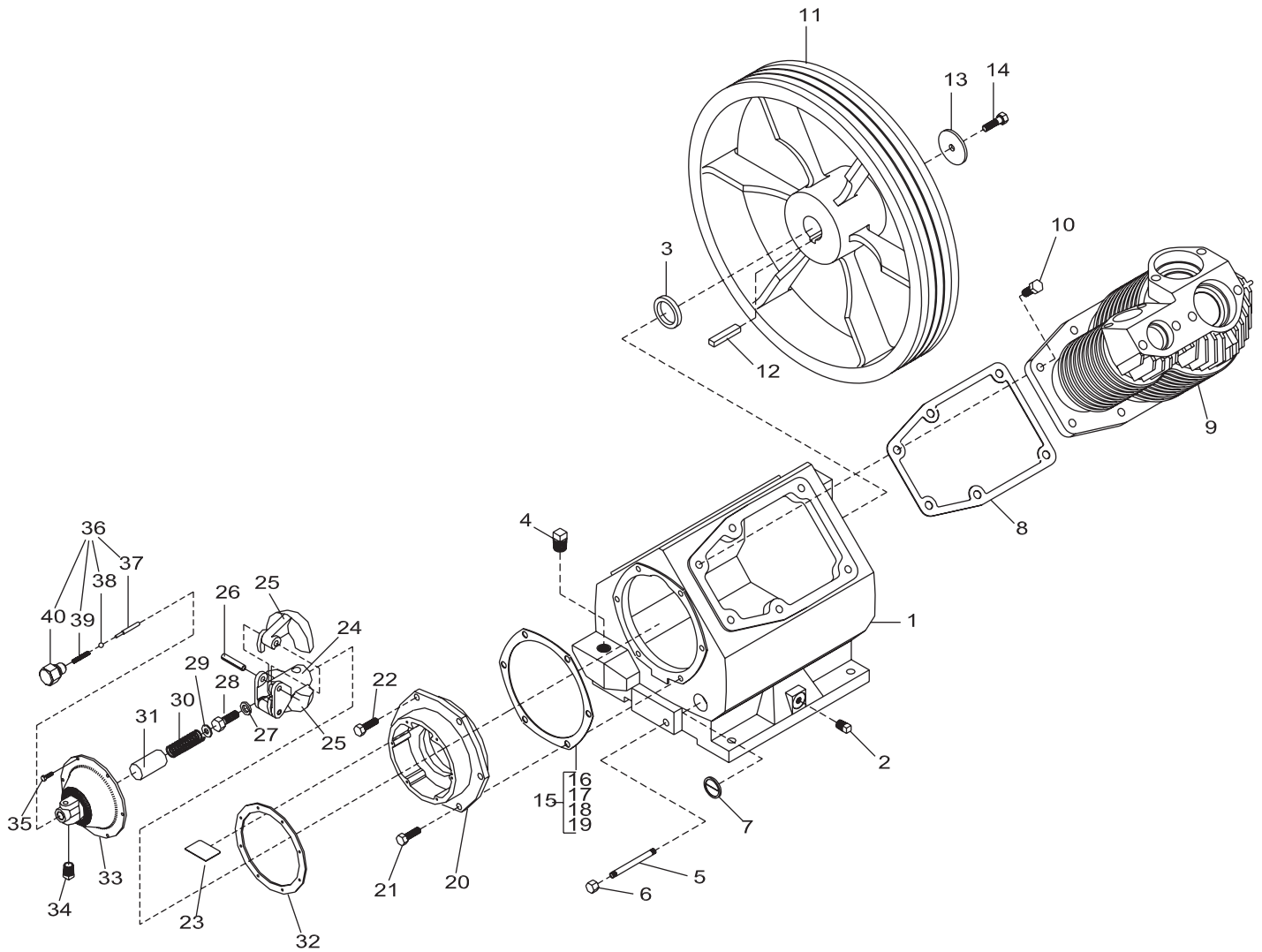


110P Assembly Bill - PN 10647

ITEM	PART	DESCRIPTION	QTY.
1	0501	CAP SCR 0.50-13X2.00 HHGR5	12
2	0537	NUT 0.50-13 HH	2
3	0560	FTG 6 MFS PLUG	1
4	10642	BASE WLDMT CPRSR R40/R70 TOP MOUNT PC BLACK	1
5	11768	INTAKE LEFT R70 CPRSR	2
6	20326	PLUG 0.25 NPT SQ HD BRASS	2
7	20330	FTG 0.38-0.25 FF HEX NIPPLE	1
8	20452	FTG 6-6 FP-FP ELBOW 90 BRASS	1
9	20456	FTG 6-6X4.00 MP-MP NIPPLE STRAIGHT BRASS	1
10	20463	FTG 20-20 MP-FP STREET ELBOW BRASS	2
11	22825	PLUG 1.25 NPT SQ HD BRASS	2
12	28007	COVER KIT 110P & 60P	1
13	37591	FTG 12-16 MORB-FORB STRAIGHT REDUCER	1
14	3853	VALVE PILOT 145/175 PSI RCL-S	1
15	4570	MOTOR HYD M3000A731SPLZA15-32	1
16	4703	BRKT UNLOADER VALVE MNT SHD66DD	1
17	51274	FTG 16-12 MFS-MAORB 90	2
18	51275	FTG 20-16 MFS-MAORB 90	1
19	51279	HOSE 1.00(881-JC-JC-16-16-16-24.00)	1
20	5418	ST EL 0.25 90 DEG BRASS 44-161	1
21	58868	PANEL BELT COVER KIT CPRSR SHD245 (R70) TOP MNT	1

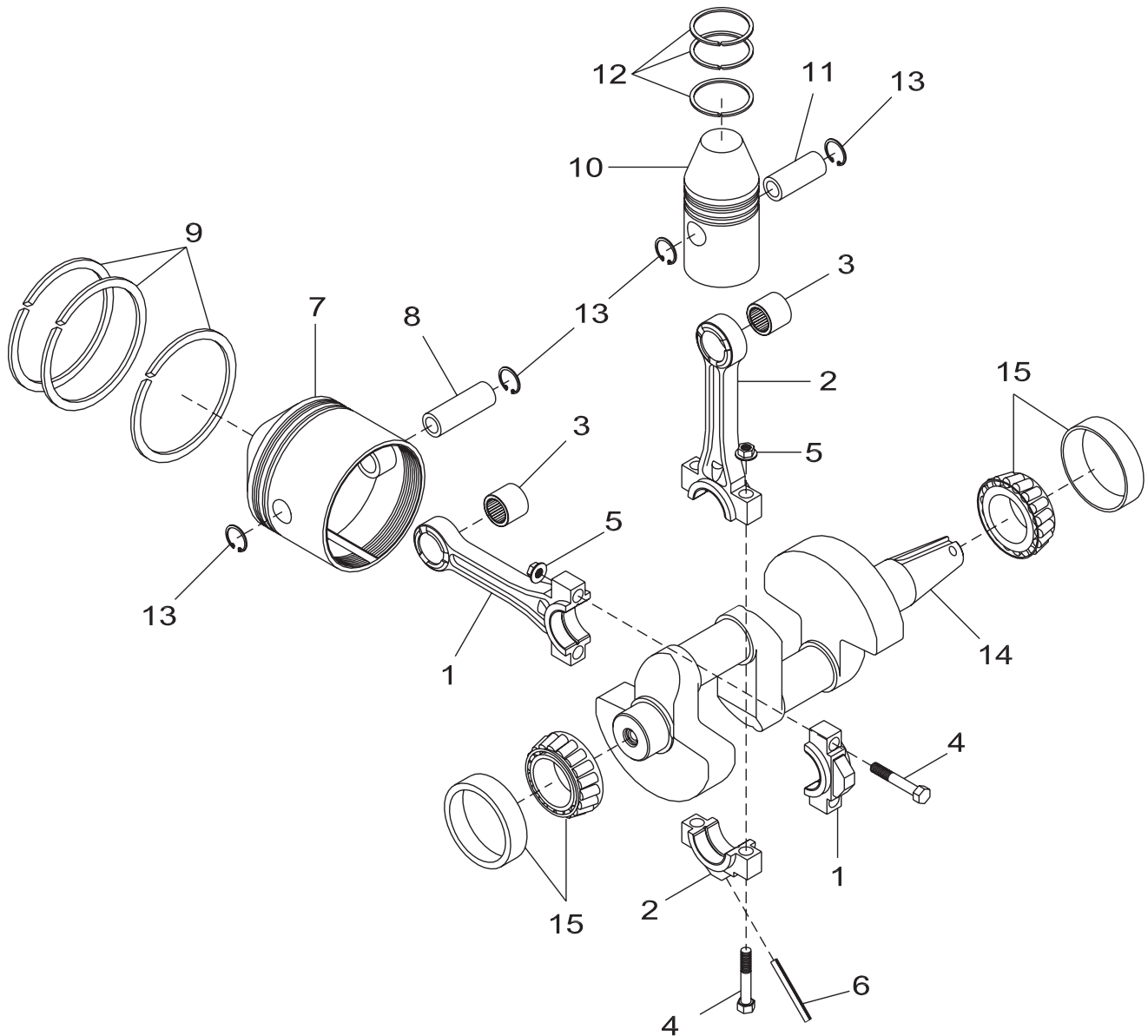
ITEM	PART	DESCRIPTION	QTY.
22	65464	FORMED ANGLE 0.25 R70 THRD CPRSR MNT PC BLACK	2
23	69690	HOSE 0.38(471TC-JC-01-6-6-6-52)	1
24	71403	FTG HOSE 6-4 PL-MP STRAIGHT BRASS	1
25	71406	FTG HOSE 4-4 PL-MP STRAIGHT BRASS	1
26	76312	BELT 3B90 GATES (DAYCO RBP90-3)	1
27	8277	FTG ST L 0.25 MNPT/0.125 FNPT SPL	1
28	8697	CAP SCR 0.50-13X6.00 ALL THREAD GR5	2
29	B0179	BRKT HYD MOTOR MOUNT CPRSR PC BLACK	1
30	C0864	SWITCH PRES HOBBS	1
31	C1089	CHAMPION R70A-HU COMPRESSOR	1
32	C3075	BLOCK AL CPRSR SHD 66	1
33	C4913	VALVE SOLND	1
34	C4914	VALVE RELIEF CP-200-1-B-0-A-C	1
35	C5549	FTG 12-12 MAORB-ORB STRAIGHT	1
36	C5662	FILTER METAL BOWL 0.25	1
37	C5908	FTG 4-4 MP-FP 90 STREET ELBOW	1
38	C5968	FTG 12-12 MFS-MAORB 90	1
39	C6015	FTG 0.75 PLUG 12-P5ON	1
40	C6064	U BOLT 0.25X1.25X2.25	1
41	C6106	NUT 0.50-13 HHGR5 NYLOC	4
42	C6188	BUSHING 1.00	1
43	D0790	WASHER 0.50 FLAT GR8	14
44	D1303	PULLEY SHEAVE 3 GROOVE 3B 94SK	1

Crankcase, Flywheel, Cylinders, & Centrifugal Unloader



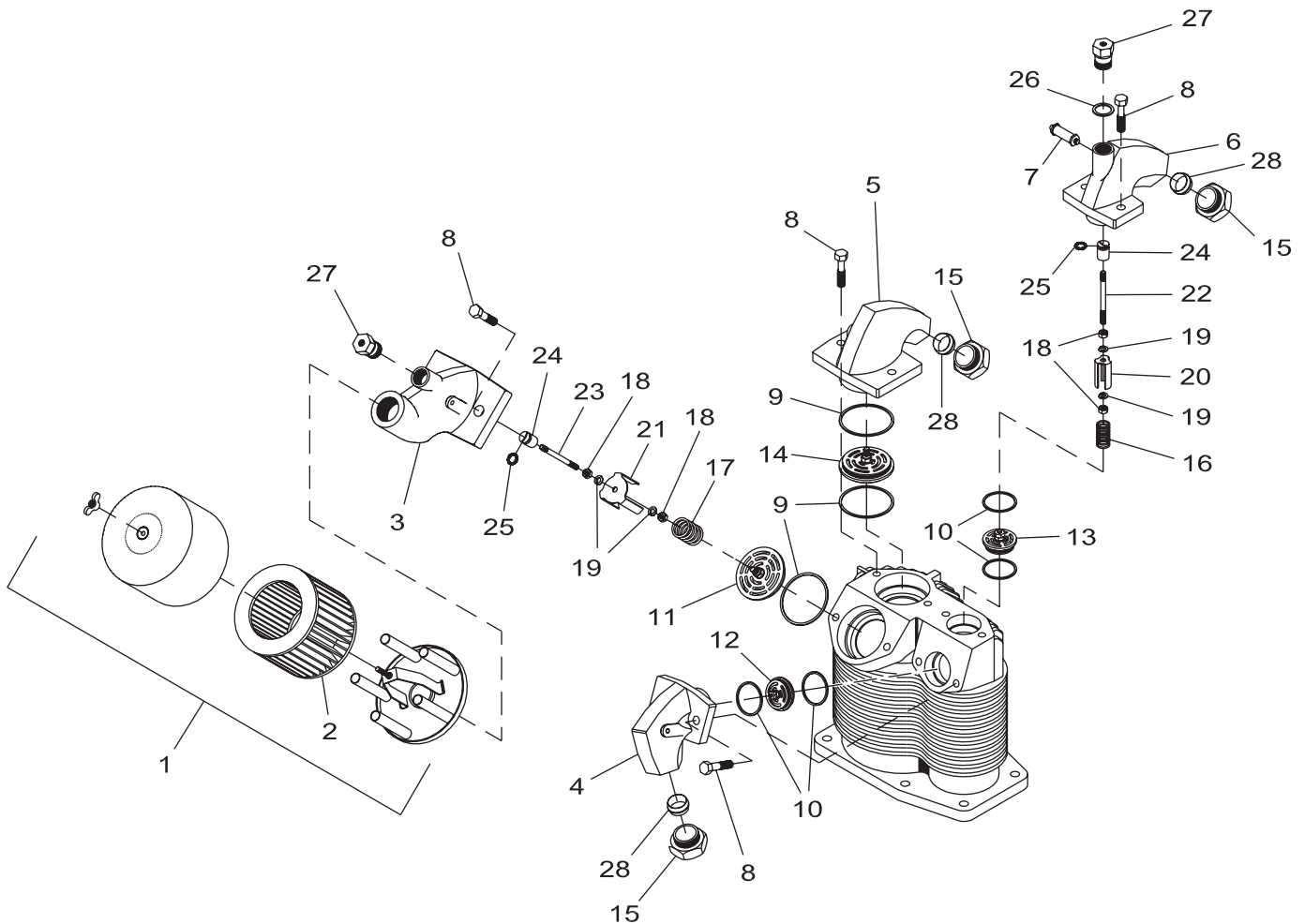
ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	26490	CRANKCASE R-70	1	21	26782	CAP SCR 0.44-20X1.25 HHGR5	4
2	20326	PLUG 0.25 NPT SQ HD BRASS	1	22	26783	CAP SCR 0.44-20X1.00 HHGR5	2
3	26491	OIL SEAL R70	1	23	26778	GOVERNOR BAFFLE PLATE R70	1
4	C4845	PLUG 0.75 NPT SQ HD BLK	1	24	6096	SPINDLE GOV WEIGHT R30/R70	1
5	20456	NIPPLE 0.38X4.00 BRASS	1	25	6097	GOVERNOR WEIGHT R30/R70	2
6	D1254	CAP 0.38 PIPE HEX 5406-6	1	26	6098	PIN GOV WEIGHT R30/R70	2
7	4561	OIL LEVEL GAUGE RE714	1	27	0524	WASHER 0.44 LOCK	1
8	26493	CYLINDER FLANGE GASKET R70	2	28	26782	CAP SCR 0.44-20X1.25 HHGR5	1
9	26494	CYLINDER R70	2	29	0343	WASHER 0.31 USS FLAT ZINC	1
10	0359	CAP SCR 0.50-13X1.50 HHGR5	12	30	7414	SPRING GOV MAIN R30/R70	1
11	26495	FLYWHEEL R70	1	31	7415	SLEEVE SPRING R30/R70	1
12	26780	MACHINERY KEY R70	1	32	6094	GASKET GOV HSG COVER R30/R70	1
13	26496	FLYWHEEL RETAINER WASHER R70	1	33	26779	GOVERNOR HOUSING COVER R70	1
14	26781	CAP SCR 0.44-20X2.00 HHGR5	1	34	17246	MUFFLER ASM UNLOADER R15/R70	1
15	26497	GOVERNOR HOUSING GASKET R70	1	35	26784	CAP SCR #10-32X0.63 HHGR5	6
16	26498	GASKET 0.031 R70	1	36	C0896	VALVE KIT REL	1
17	26499	GASKET 0.015 R70	1	37	7419	PLUNGER RELEASE VALVE R30/R70	1
18	26500	GASKET 0.010 R70	1	38	7423	BALL RELEASE VALVE R30/R70	1
19	26776	GASKET 0.006 R70	1	39	7424	SPRING RELEASE VALVE R30/R70	1
20	26777	GOVERNOR HOUSING R70	1	40	17248	BODY RELEASE VALVE R15/R70	1

Crankshaft, Rod, & Piston



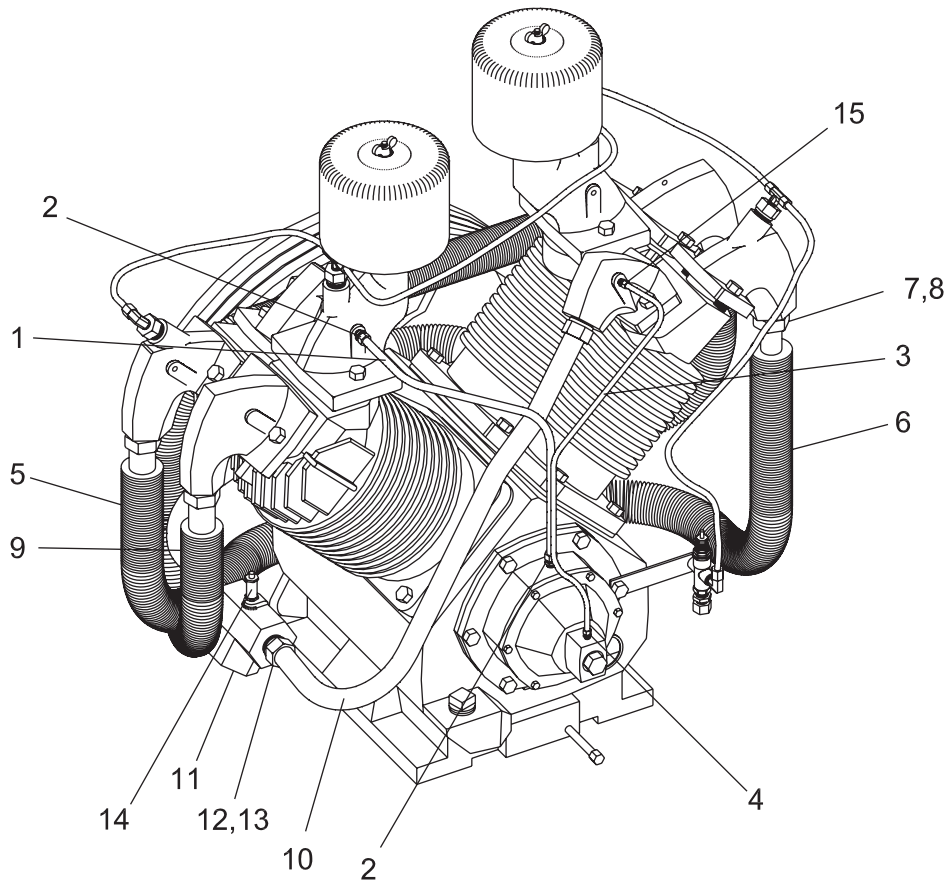
ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	26785	LP CONNECTING ROD ASM R70	2	10	26794	HP PRESSURE PISTON W/PIN R70	2
2	26786	HP CONNECTING ROD ASM R70	2	11	26795	HP PRESSURE PISTON PIN R70	2
3	26787	PISTON PIN BEARING R70	4	12	26796	HP PRESSURE PISTON RING SET R70	2
4	26788	CONNECTING ROD BOLT R70	8	13	26797	PISTON PIN RETAINING RING R70	8
5	26789	CONNECTING ROD NUT R70	8	14	26798	CRANKSHAFT R70	1
6	26790	OIL DIPPER HP ONLY R70	2	15	26799	MAIN BEARING R70	2
7	26791	LP PISTON W/PIN R70	2	16	26800	PUMP RING SET R70	1
8	26792	LP PISTON PIN R70	2	17	26801	LP PISTON ASM R70	2
9	26793	LP PISTON PIN RING SET R70	2	18	26802	HP PISTON ASM R70	2

Valve, Manifold, & Filter



ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	26803	FILTER ASM R70	2	16	13923	SPRING UNLOADER VALVE HP R70	2
2	4562	FILTER ELEMENT R70	2	17	13922	SPRING UNLOADER VALVE LP R70	2
3	26804	LOW PRESSURE INTAKE MANIFOLD R70	2	18	1056	NUT 0.25-28 HH	8
4	26805	HIGH PRESSURE EXHAUST MANIFOLD R70	2	19	0521	WASHER 0.25 LOCK	8
5	26806	LOW PRESSURE EXHAUST MANIFOLD R70	2	20	13921	CLAW UNLOADER VALVE HP R70	2
6	26807	HIGH PRESSURE INTAKE MANIFOLD R70	2	21	4567	CLAW UNLOADER VALVE LP R70	2
7	C1182	VALVE PRESS RELIEF CHAMP	2	22	13925	PISTON ROD HP UNLOADER VALVE R70	2
8	0494	CAP SCR 0.44-14X2.00 HHGR5	16	23	13924	PISTON ROD LP UNLOADER VALVE R70	2
9	26808	LOW PRESSURE VALVE GASKET R70	6	24	26812	UNLOADER PISTON R70	4
10	26809	HIGH PRESSURE VALVE GASKET R70	8	25	7483	O'RING UNLOADER VALVE R70	4
11	13731	VALVE ASM LP INTAKE R70	2	26	7493	GASKET UNLOADER VALVE R70	2
12	13734	VALVE ASM HP EXHAUST R70	2	27	7481	CYLINDER UNLOADER VALVE R70	4
13	13733	VALVE ASM HP INTAKE R70	2	28	26811	COMPRESSION FERRULE R70	6
14	13732	VALVE ASM LP EXHAUST R70	2	29	4565	VALVE SET W/GASKETS (R70) Z614	1
15	26810	COMPRESSION NUT R70	6	30	4566	GASKET SET VALVE Z615	1

Tubing Assembly



ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	26813	BREATHER TUBE 0.38X20.00 W/FITTINGS R70	1	9	26817	RIGHT DISCHARGE TUBE W/FITTINGS R70	1
2	7476	TUBE FTG R70	2	10	26818	LEFT DISCHARGE TUBE W/FITTINGS R70	1
3	26814	UNLOADER VALVE TUBE W/FITTINGS R70	1	11	26819	TEE DISCHARGE TUBE R70	1
4	7473	TUBE FTG R70	1	12	26810	COMPRESSION NUT R70	4
5	26815	INTERCOOLER TUBE W/FITTING LB R70	1	13	26811	COMPRESSION FERRULE R70	1
6	26816	INTERCOOLER TUBE W/FITTING RB R70	1	14	C1183	VALVE PRESS RELIEF CHAMP PO9704A	1
7	26810	COMPRESSION NUT R70	4	15	26820	STRAIGHT COMPRESSION FITTING R70	1
8	26811	COMPRESSION FERRULE R70	4				



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