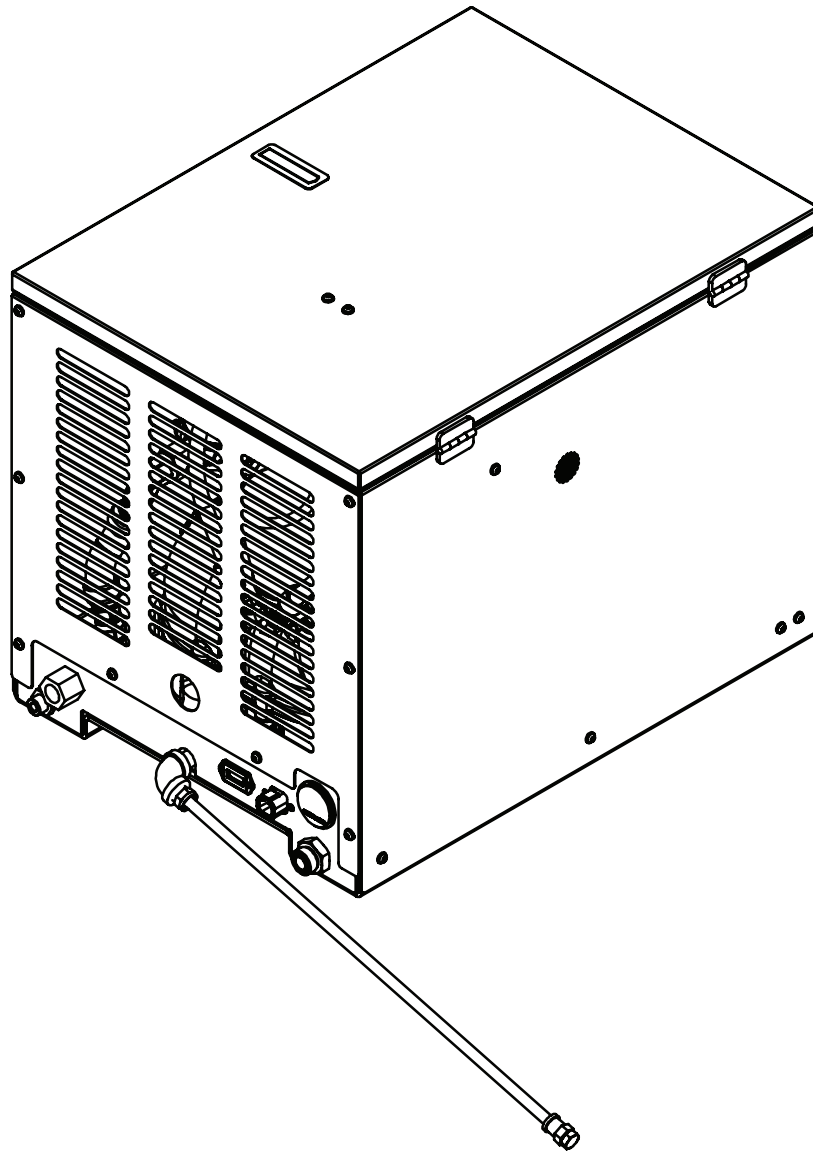


# Model 45R Rotary Screw Compressor Manual

Specifications • Installation • Assembly



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# Model 45R Manual Revisions

Date of Revision	Section Revised	Description of Revision



**MODEL**

**SERIAL NO.**

**DATE**

**PATENT / IP INFORMATION:**  
[www.stellarindustries.com/ip](http://www.stellarindustries.com/ip)

**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
45R Electrical Schematic.....	4
Hydraulic System.....	5
Air System .....	5
Compressor Pressure Switch .....	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
45R Case Assembly - PN 101835 .....	11
45R Assembly Drawing - PN 101189 .....	12
45R Assembly Bill - PN 101189 .....	13
Chapter 4 - Replacement Parts .....	15

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](mailto:service@stellarindustries.com)

Order Parts:

[parts@stellarindustries.com](mailto:parts@stellarindustries.com)

Warranty Information:

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# 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:

## **NOTICE**

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

## **⚠ WARNING**

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

## **⚠ DANGER**

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

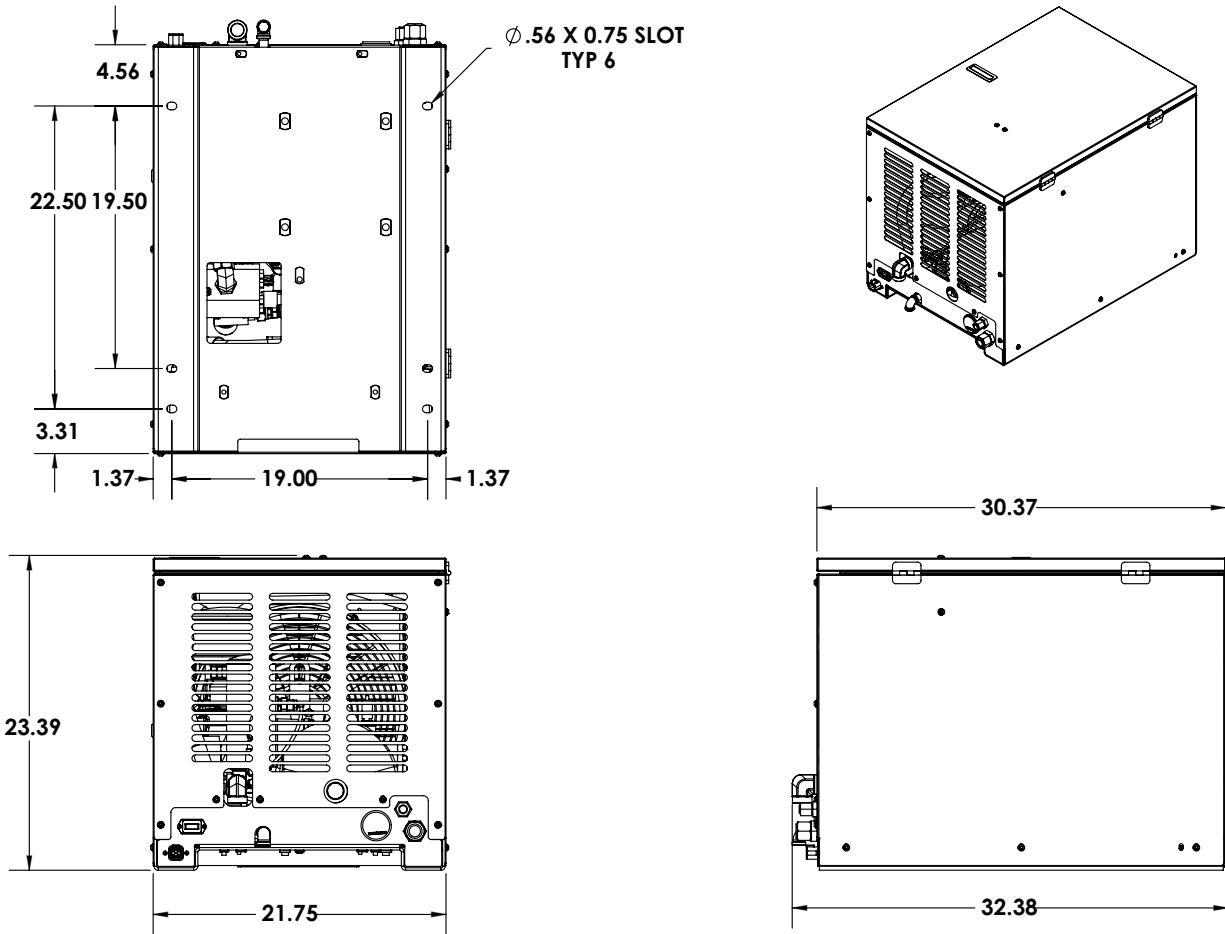
Information contained within this manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations. Please be aware that some sections of this manual contain information pertaining to Stellar Industries® manufactured air compressors in general and may or may 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](mailto:service@stellarindustries.com).

# Chapter 1 - Specifications



SPECIFICATIONS	45R
Hydraulic System	10-12 GPM @ 2600 PSI
Compressor RPM	5500-6000 RPM
System Pressure	2600 PSI
Hydraulic Relief	3500 PSI
Max Air Pressure	150 PSI
Air Relief	165 PSI
Delivery (At Max Speed)	40-45 CFM @ 100 PSI
Weight	325 lbs.
Dimensions (Length)	32.38"
Dimensions (Width)	21.75"
Dimensions (Height)	23.39"
Electrical	12 VDC
Crankcase Oil Capacity	6 Quarts
Plumbing/Fittings	Steel W/JIC Fittings
Cooler Fan	2024 CFM, 12 Volt
Drive	Belt Drive
Manifold	6061 Aluminum
Control Valve	12 VDC Solenoid

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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:

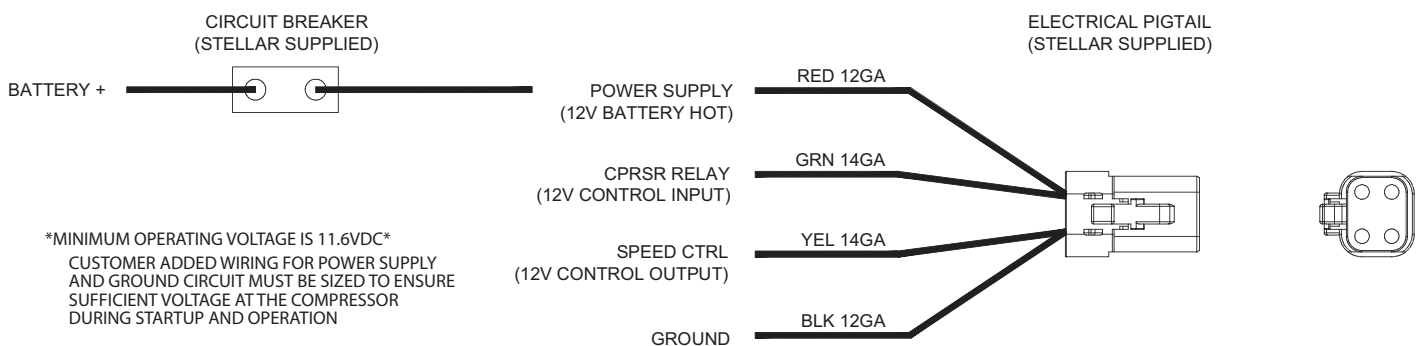
Check with the PTO manufacturer's representative for specific instructions regarding your particular make, model, and year of vehicle. As some trucks may require modification of the transmission cross member and the exhaust system, the manufacturer's instructions should be followed to ensure proper installation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

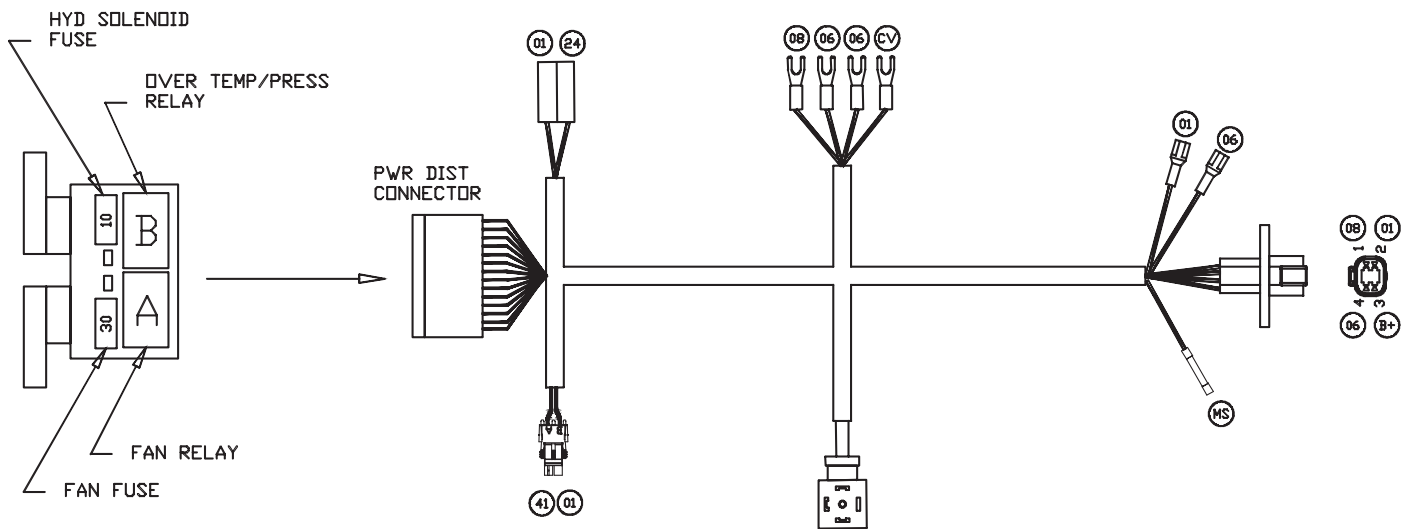
An optional electric or electronic speed control must be used to maintain proper operating speed of the air compressor. The engine speed control will automatically increase from idle to preset speed when engaged and decrease when disengaged.



# 45R 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.



## PN 76364

CIRCUIT #	CIRCUIT	WIRE COLOR
01	GROUND	BLACK WITH WHITE TEXT
06	COMPRESSOR	GREEN WITH BLACK TEXT
24	FAN	GREEN WITH BLACK TEXT
B+	BAT POS	RED WITH BLACK TEXT
08	SPEED CNTRL	GREEN WITH BLACK TEXT
41	HYDRAULIC SOLENOID	GREEN WITH BLACK TEXT
CV	CPRSR VALVE	GREEN WITH BLACK TEXT
MS	MURPHY SWITCH	GREEN WITH BLACK TEXT

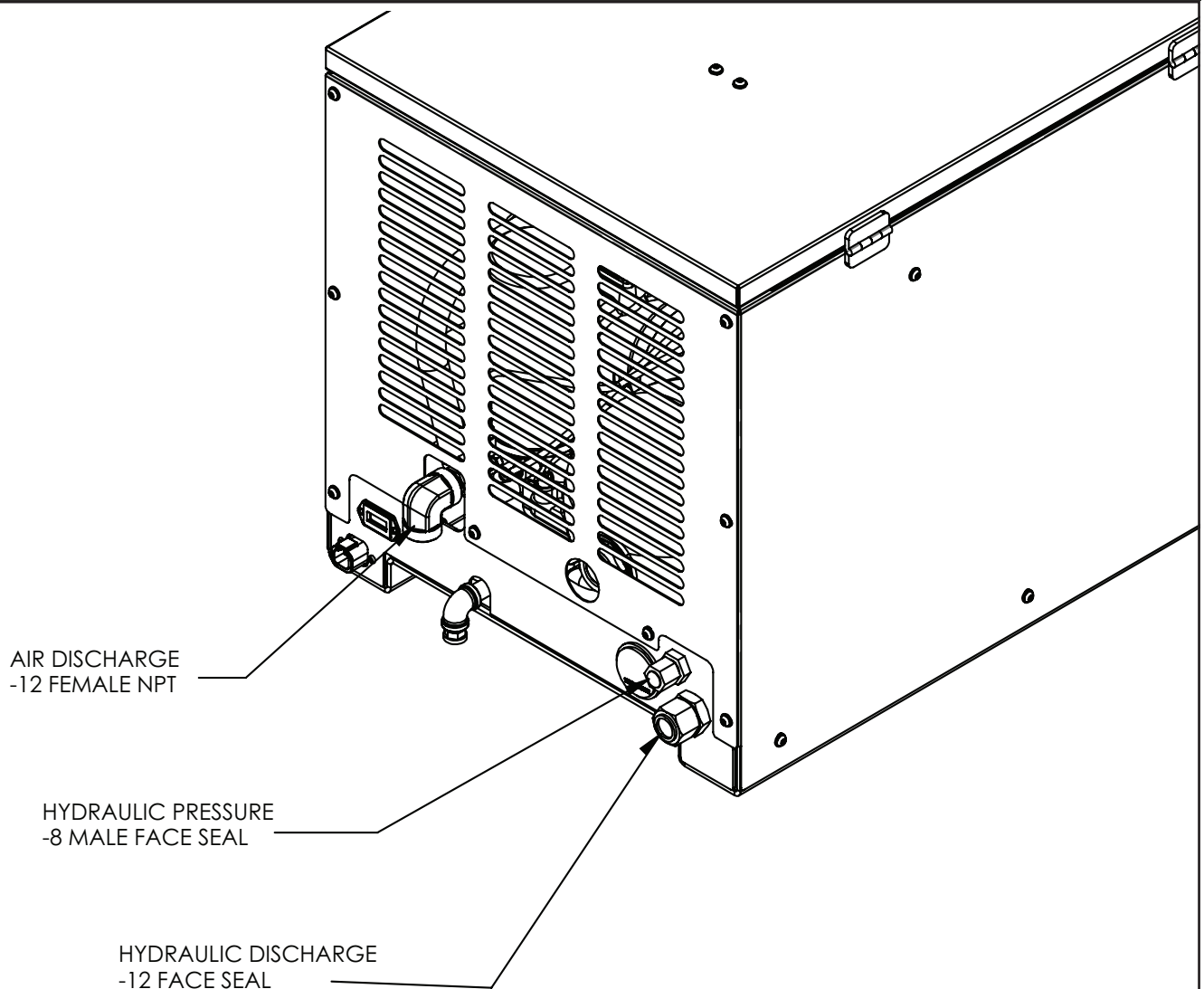


# Hydraulic System

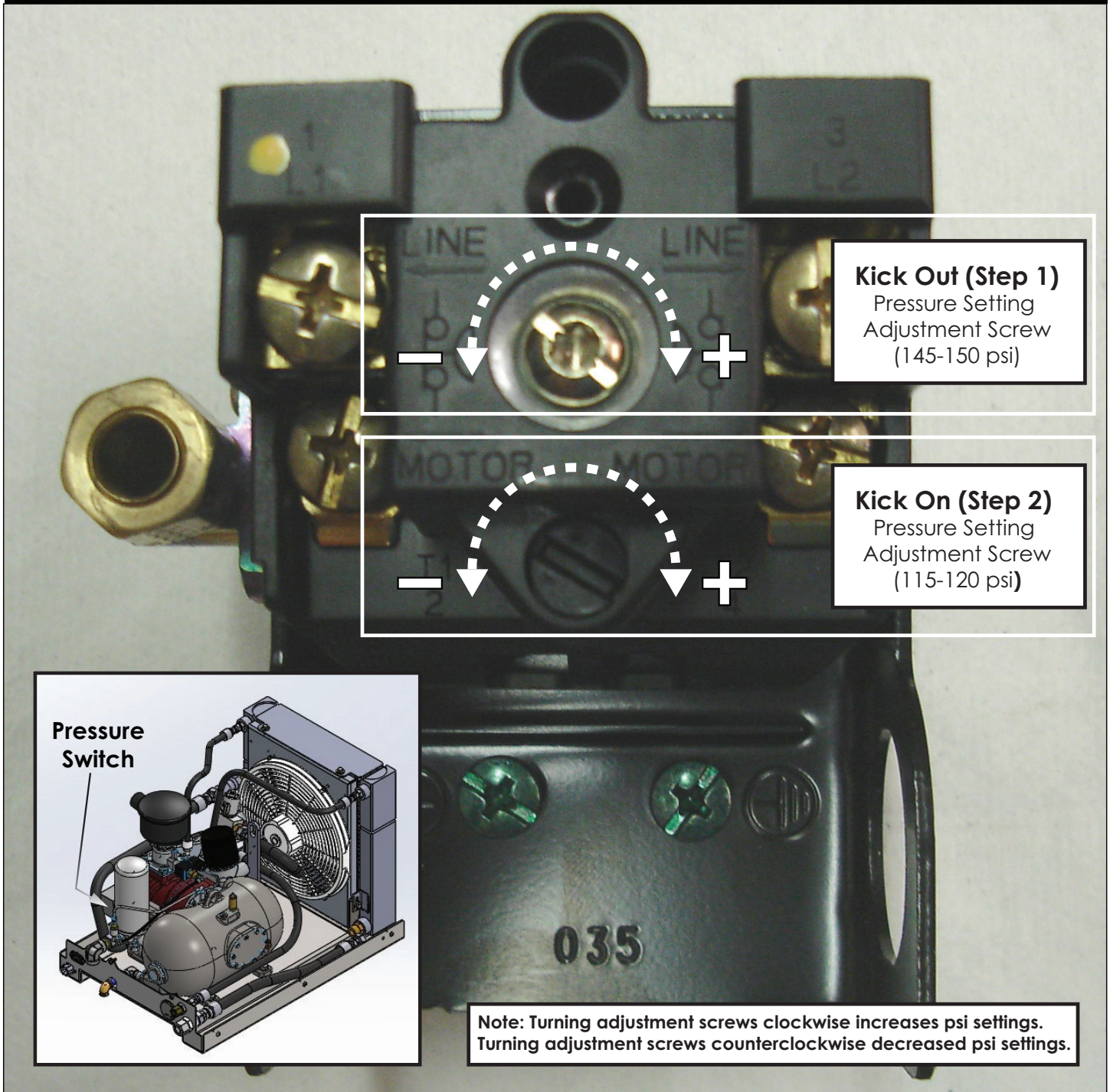
The hydraulic system consists of the pump, oil reservoir, filters and hoses. Installed on the compressor is a valve block assembly that controls the flow to the hydraulic motor. To this block, a 1/2" high-pressure hose must be attached. This hose comes from the pressure side of the hydraulic pump. A 3/4" minimum low-pressure return line is connected to the oil cooler outlet and is routed to the oil reservoir. Stellar Industries recommends a sufficient sized reservoir be provided that 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

The airline is routed using a 3/4" (200 psi) air hose. This delivery line should be free from all obstructions. Note: There should be no check valve installed between the compressor and the air tank. Stellar Industries recommends the installation of a ten gallon air tank (minimum) to maintain proper operation of the air compressor.



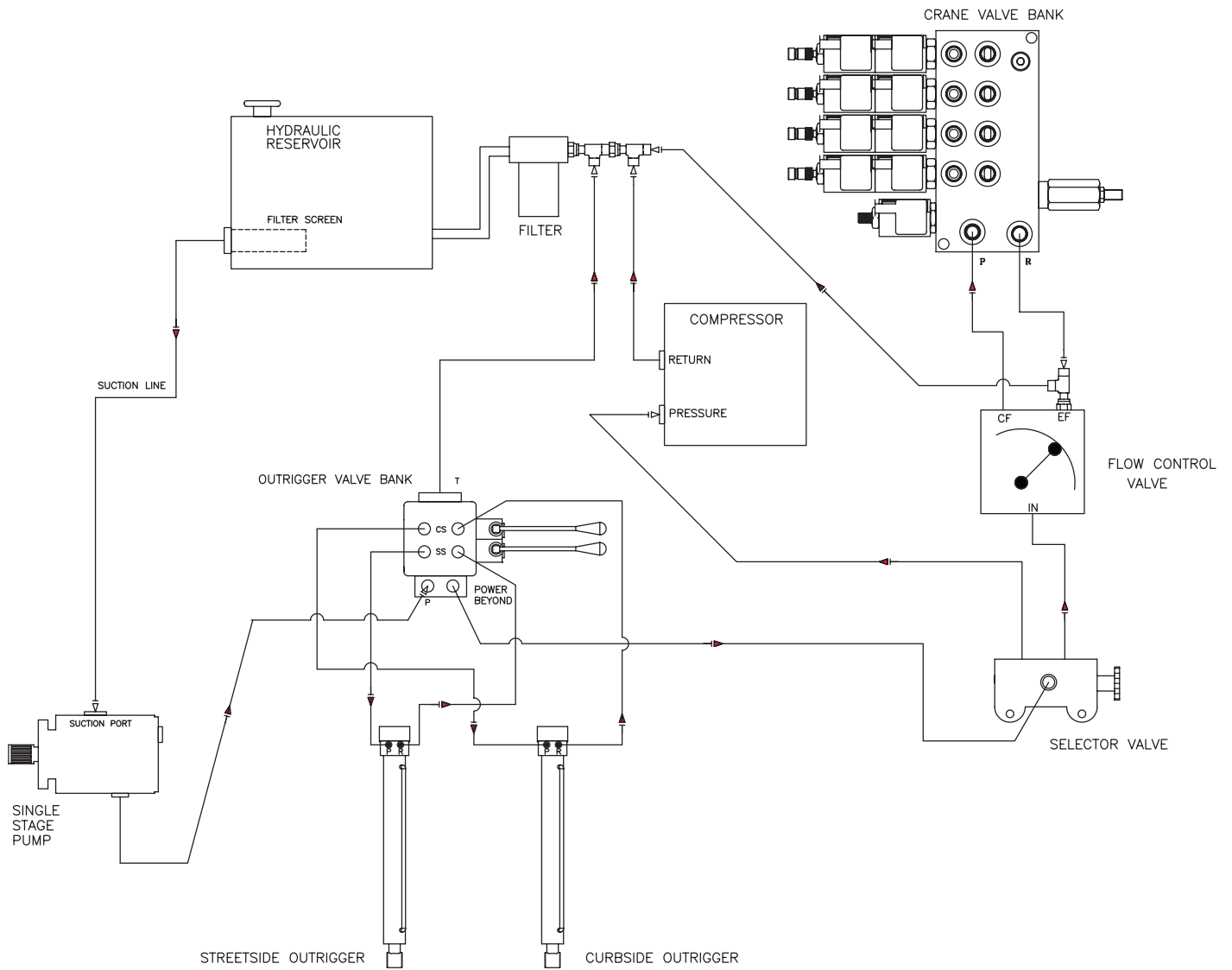
# Compressor Pressure Switch



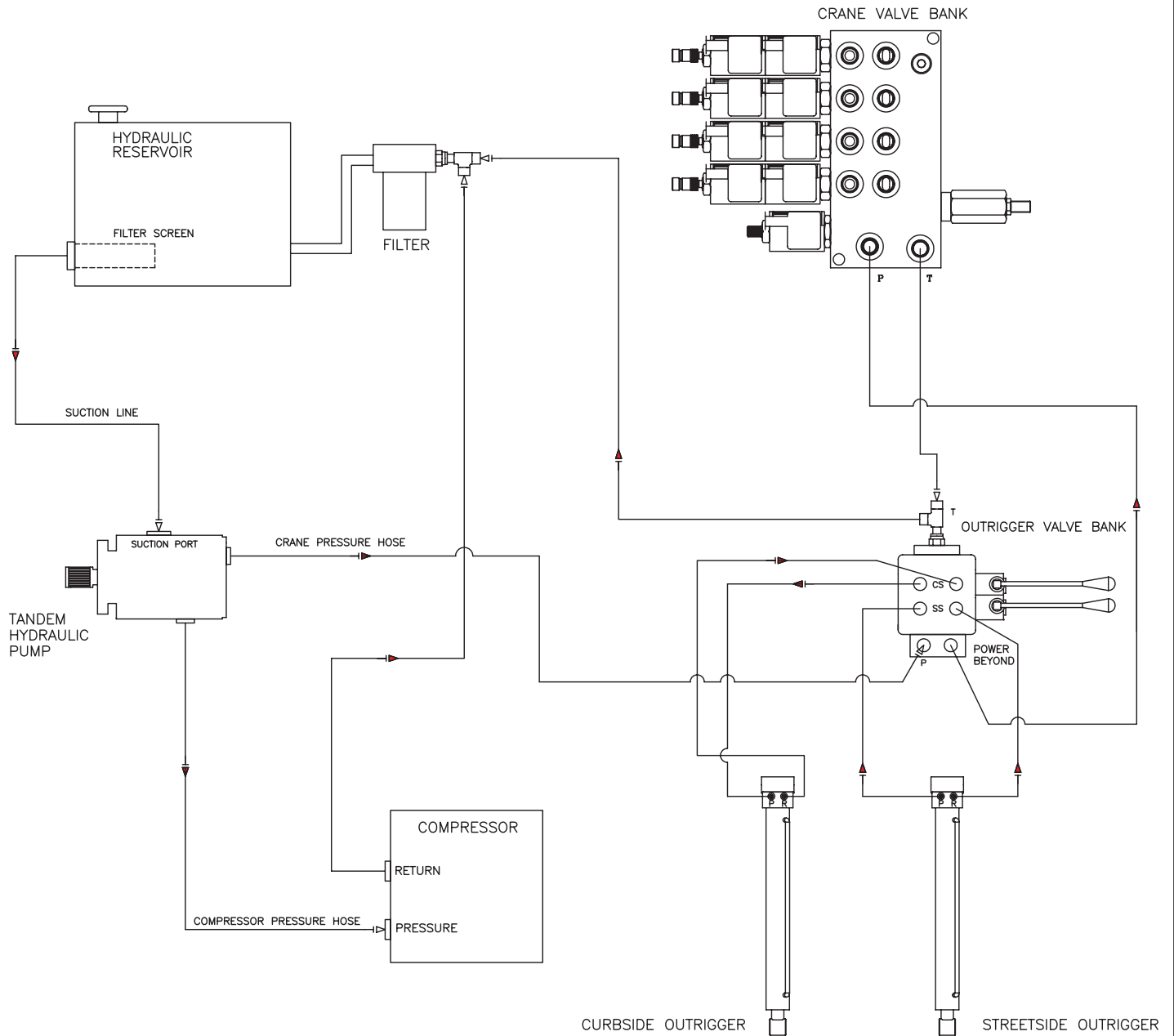
## Pressure Setting Instructions:

1. Always set the kick out pressure setting first. Adjust the kick out screw setting to 145 psi minimum/150 psi maximum.
2. After kick out pressure is set, adjust the kick on screw setting to 115 psi minimum/120 psi maximum.
3. Cycle compressor to verify correct settings.
4. For questions about this procedure, please contact Stellar Industries Customer Service at 800-321-3741.

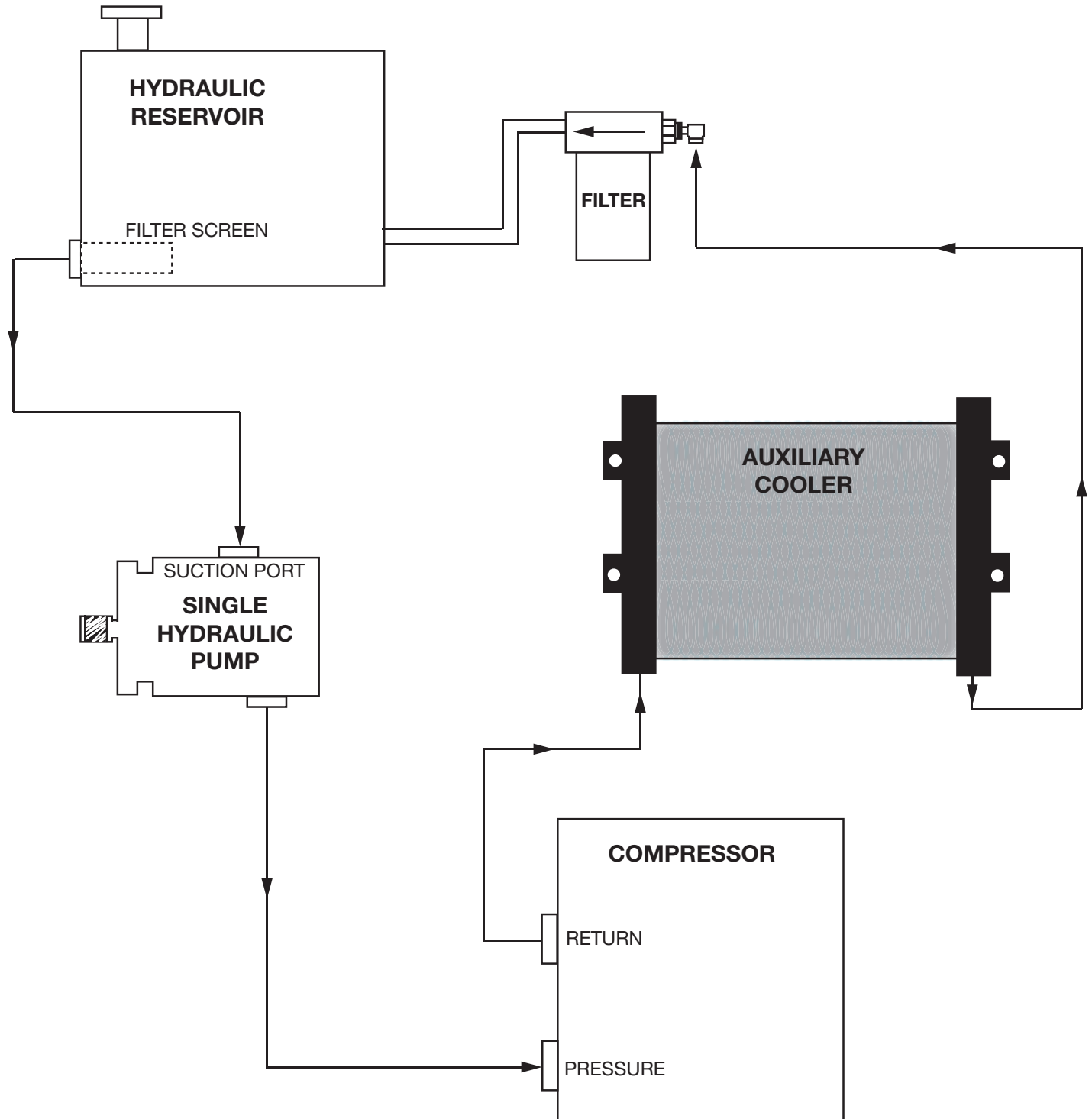
# Typical Hydraulic Circuit for Single-Section Pump



# Typical Hydraulic Circuit for Tandem (Two Part) Pump



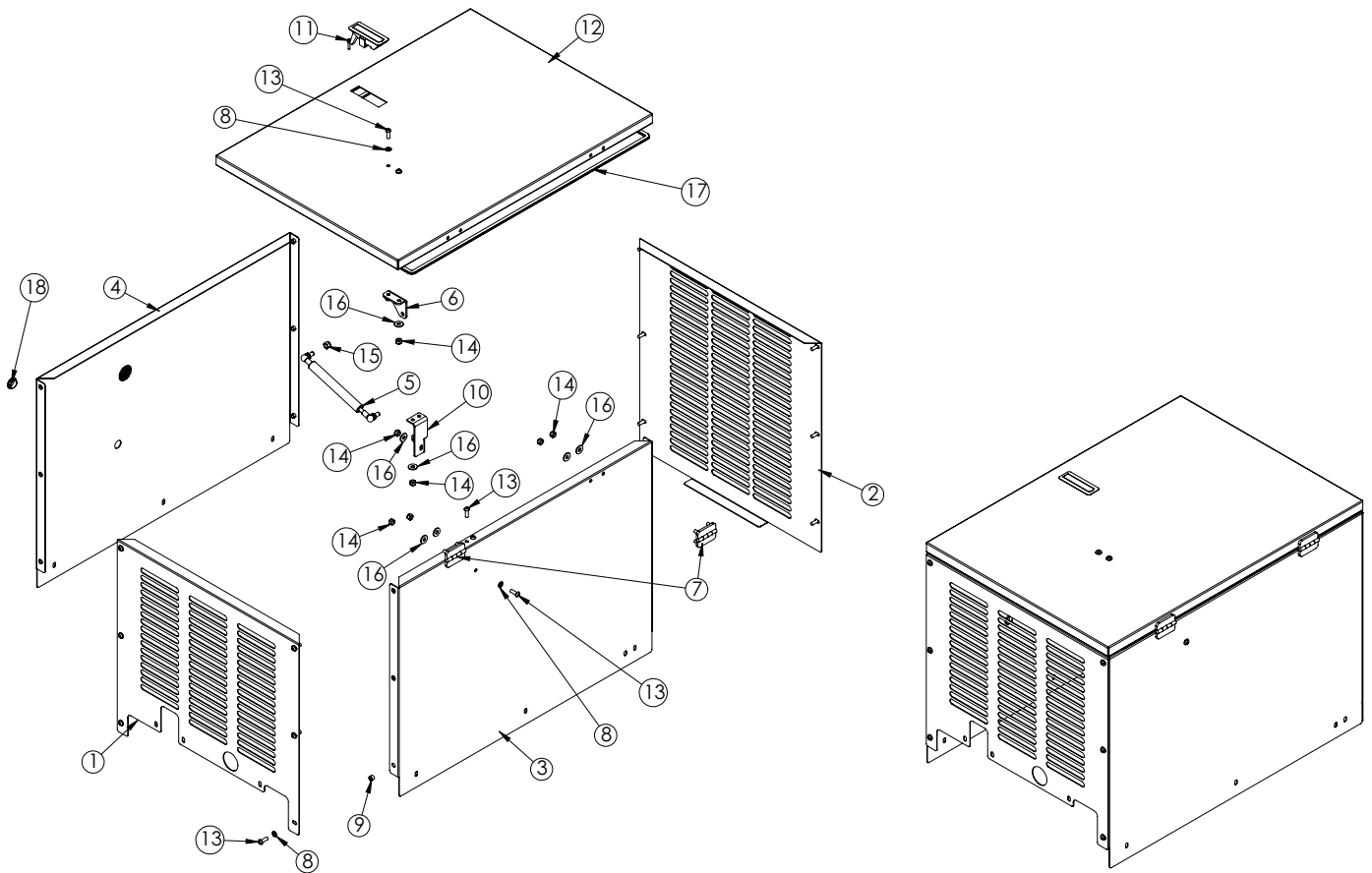
# Typical Hydraulic Circuit for Compressor with Auxiliary Cooler



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# Chapter 3 - Assembly Drawings

## 45R Case Assembly - PN 101835

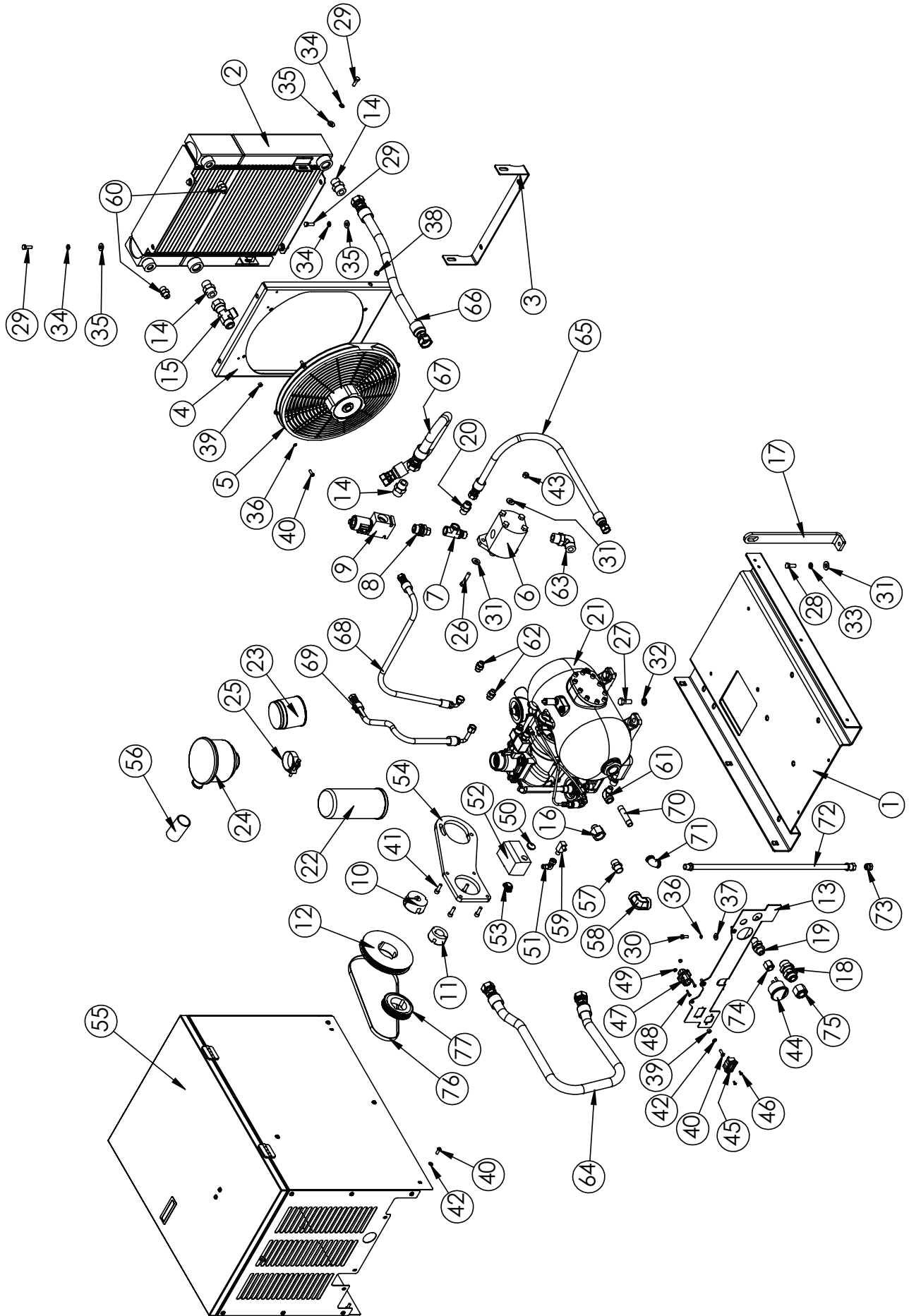


### PN 101835

ITEM	PART No.	DESCRIPTION	QTY.
1	101836	PANEL FRONT CPRSR 45R/65R SHROUD PC WHITE V2	1
2	75586	PANEL BACK CPRSR 45R/65R SHROUD PC WHITE	1
3	101837	PANEL SIDE RH 45R/65R SHROUD PC WHITE V2	1
4	101838	PANEL SIDE LH 45R/65R SHROUD PC WHITE V2	1
5	69103	GAS SPRING 7.50-12.00 30# FORCE	1
6	73654	BRKT LID GASPROP CPRSR SHROUD V2 PC BLACK	1
7	70379	HINGE ZINC BLK FLUSH SURFACE MNT DC-50-P8	2
8	19592	WASHER 0.25 FLAT NYLON	15
9	19589	NUT SERT 0.25-20X0.38 OD	12
10	73653	BRKT LOWER GASPROP CPRSR SHROUD V2 PC BLACK	1
11	69101	LATCH SWING LEVER FLUSH TRIGGER 0.91-1.81	1
12	102402	PANEL LID CPRSR 45R/65R SHROUD PC WHITE V2	1
13	C6021	CAP SCR 0.25-20X0.75 BTNHD SS	17
14	0333	NUT 0.25-20 HHGR5 NYLOC	13
15	0342	NUT 0.31-18 HHGR5 NYLOC	2
16	D0917	WASHER 0.25 FLAT SS	13
17	75877	WEATHERSTRIP RIBBED 0.38X0.13X98.00	1
18	C4760	PLUG PLASTIC 0.75 HOLE	1



# 45R Assembly Drawing - PN 101189





# 45R Assembly Bill - PN 101189

ITEM	PART No.	DESCRIPTION	QTY.
1	101185	BASE WLDMT 45R/65R CPRSR V2	1
2	76503	COOLER OIL SRS65 W/SHROUD MNT	1
3	78008	BRKT COOLER 45R/65R PC BLACK	1
4	76586	SHROUD SRS65 FAN MNT W/AGK CLR W/SIDE MNT	1
5	34541	FAN 16.00 PULL 12 VOLT 30102049	1
6	77397	MOTOR HYD 20.14D0-49S1-LOC/OD-N-EL-C	1
7	76709	FIG 10-10-10 MAORB-FORB-FORB TEE	1
8	76710	FIG 12-10 MAORB-ORB STRAIGHT	1
9	70472	MANIFOLD ASM SVRV10-12SAE 3500PSI ALUM BODY	1
10	125835	BUSHING 0.75 TL	1
11	125836	BUSHING 28MM TL	1
12	125838	SPROCKET 63T-8P-12W-TL	1
13	101187	PANEL BULKHEAD 45R/65R CPRSR V2 PC BLACK	1
14	C2142	FIG 12-12 MFS-MORB STRAIGHT	3
15	D0525	FIG 12-12-12 MFS-FFSS-MFS RUN TEE	1
16	76363	FIG 12-8 FP-MBSPP	1
17	76717	BRKT LIFTING BAR 45R/65R PC BLACK	1
18	65025	FIG 12-12 MFS-MFS BULKHEAD UNION	1
19	D1318	FIG 8-8 MFS-MFS BULKHEAD UNION	1
20	C2252	FIG 8-10 MFS-MORB STRAIGHT	1
21	101188	VMC PSV75C AIR END 45R/65R CPRSR	1
22	76583	FILTER SEPARATOR 30R/45R/65R	1
23	76369	FILTER OIL 30R/45R/65R	1
24	76582	FILTER AIR HOUSING W/ FILTER 45R/65R R20E	1
25	76714	HOSE CLAMP 2.16-2.31IDX0.78	1
26	C0944	CAP SCR 0.38-1.6X1.75 HHGR5	2
27	0498	CAP SCR 0.50-1.3X1.25 HHGR5	4
28	0351	CAP SCR 0.38-1.6X1.00 HHGR5	1
29	C0922	CAP SCR 0.31-1.8X1.00 HHGR5	6
30	0479	CAP SCR 0.25-20X0.75 HHGR5	2
31	0346	WASHER 0.38 USS FLAT	5
32	0525	WASHER 0.50 LOCK	4
33	0523	WASHER 0.38 LOCK	1
34	0522	WASHER 0.31 LOCK	6
35	0343	WASHER 0.31 USS FLAT	6
36	0521	WASHER 0.25 LOCK	6
37	0340	WASHER 0.25 USS FLAT	2
38	5735	NUT SERT 0.31-1.8X0.50 OD	4
39	19589	NUT SERT 0.25-20X0.38 OD	7

ITEM	PART No.	DESCRIPTION	QTY.
40	C6021	CAP SCR 0.25-20X0.75 BTNHD SS	13
41	22162	CAP SCR 8MMX25MM SH	4
42	19592	WASHER 0.25 FLAT NYLON	9
43	0347	NUT 0.38-16 HHGR5 NYLOC	2
44	21650	GAUGE OIL TEMP TSB20TVD3006125SR240	1
45	28855	HOUR METER 12VDC TST 180-1911	1
46	18611	SCREW #6-32X0.38 HH MACH SELF TAP	2
47	76364-1	WIRE HARNESS 30R/45R/65R CPRSR	1
48	22183	CAP SCR #8-32X0.75 BTNHD SS	2
49	22186	NUT #8-32 HH NYLOC SS	2
50	73652	PLUG NICKEL PLATED BUTTON 0.88	1
51	76360	G 4-4 MP-FFS 90	1
52	C0863	SWITCH PRES COMPRESSOR	1
53	C5616	CLAMP ROMEX 0.50	1
54	101184	BRKT MOTOR MOUNT 45R CPRSR V2	1
55	101835	SHROUD ASM 45R/65R CPRSR V2	1
56	76704	HOSE AIR INTAKE 45R/65R 3'CL	1
57	C6162	FIG 12-12 MP-MP HEX NIPPLE STRAIGHT	1
58	C6175	FIG 12-12 FP-FP 90	1
59	8276	FIG 4-2 MP-MP 90	1
60	C1854	FIG 6-8 MFS-MORB STRAIGHT	2
61	0553	FIG 6-6 MP-FP STREET ELBOW 90	1
62	65587	FIG 6-6 MFS-MBSPP STRAIGHT	2
63	C5968	FIG 12-12 MFS-MAORB 90	1
64	102406	HOSE 0.75(3000PSI)-12FFSS SHORT-12FFSS SHORT-38CL	1
65	55897	HOSE 0.50(3000PSI)-8FFSS SHORT-8FFSS SHORT-26CL	1
66	102408	HOSE 0.75(200PSI)-12FFSS SHORT-12FFSS SHORT-19.00CL	1
67	102407	HOSE 0.75(3000PSI)-12FFSS SHORT-12FFSS SHORT-23CL	1
68	102405	HOSE 0.38(3000PSI)-6FFSS SHORT-6FFSS 90 SHORT-25CL	1
69	14638	HOSE 0.38(3000PSI)-6FFSS SHORT-6FFSS 90 LONG-16CL	1
70	20458	FIG 6-6X3.00 MP-MP NIPPLE STRAIGHT BRASS	1
71	20452	FIG 6-6 FP-FP ELBOW 90 BRASS	1
72	78190	HOSE 0.38(200PSI)-6PL SHORT-6PL STRAIGHT-23.5CL	1
73	0560	FIG 6 MFS PLUG	1
74	2772	CAP 8FNL-S	1
75	C4934	FIG 12 FFSS CAP	1
76	125834	BELT SYNCHRONOUS 8P-896T-12W	1
77	125837	SPROCKET 36T-8P-12W-TL	1

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# Chapter 4 - Replacement Parts

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PN	Description
Hydraulic Components/Drive Parts	
109617	Intake Valve Kit RH38E
109618	Intake Seal (Large O-Ring)
109619	Intake Seal (Small O-Ring)
70472	Valve Block Assembly - Includes Manifold, Solenoid Valve and Relief Valve
77397	Hydraulic Motor
125838	Sprocket (Hyd Motor)
125837	Sprocket (Compressor)
125834	Belt
76503	Oil Cooler
Electrical/Air Pressure Component	
C0863	Pressure Switch
76364	Wire Harness
21650	Oil Temperature Gauge
34541	Fan
Air/Oil Filter Components	
78394	Air Filter
76369	Oil Filter
76583	Separator Filter
95179	Synthetic Compressor Oil
76913	Service Kit (Includes Items Above)



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