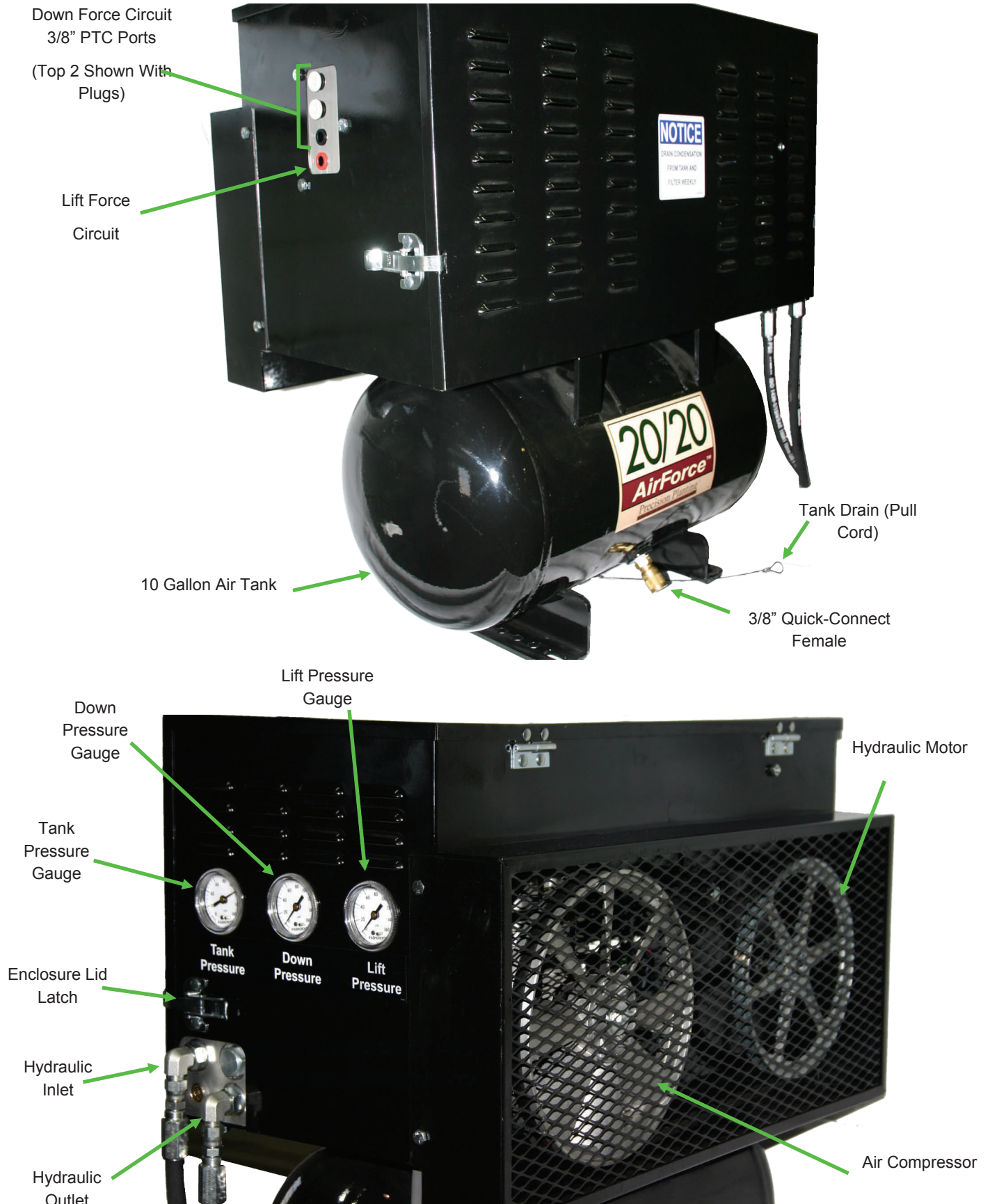
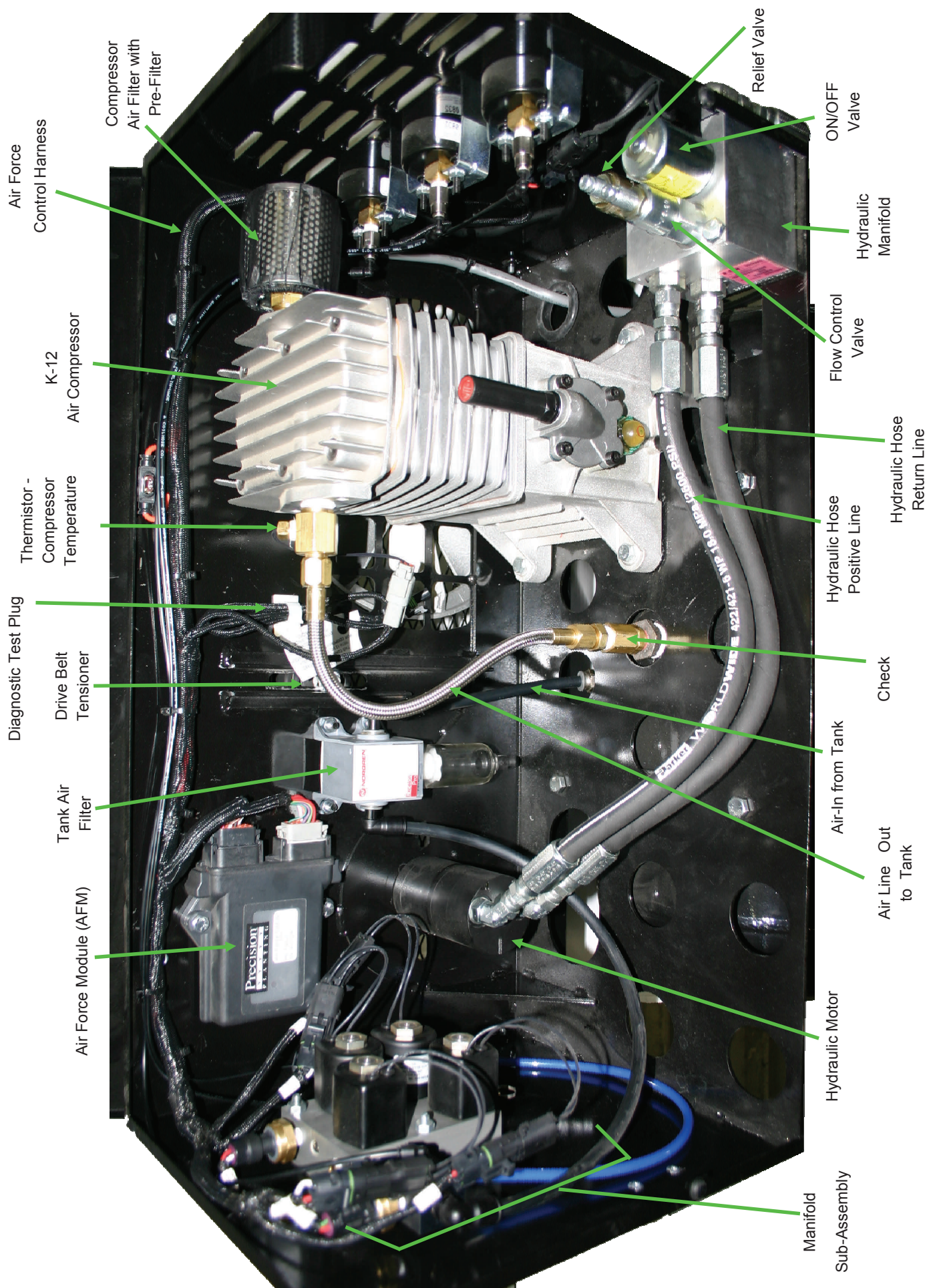
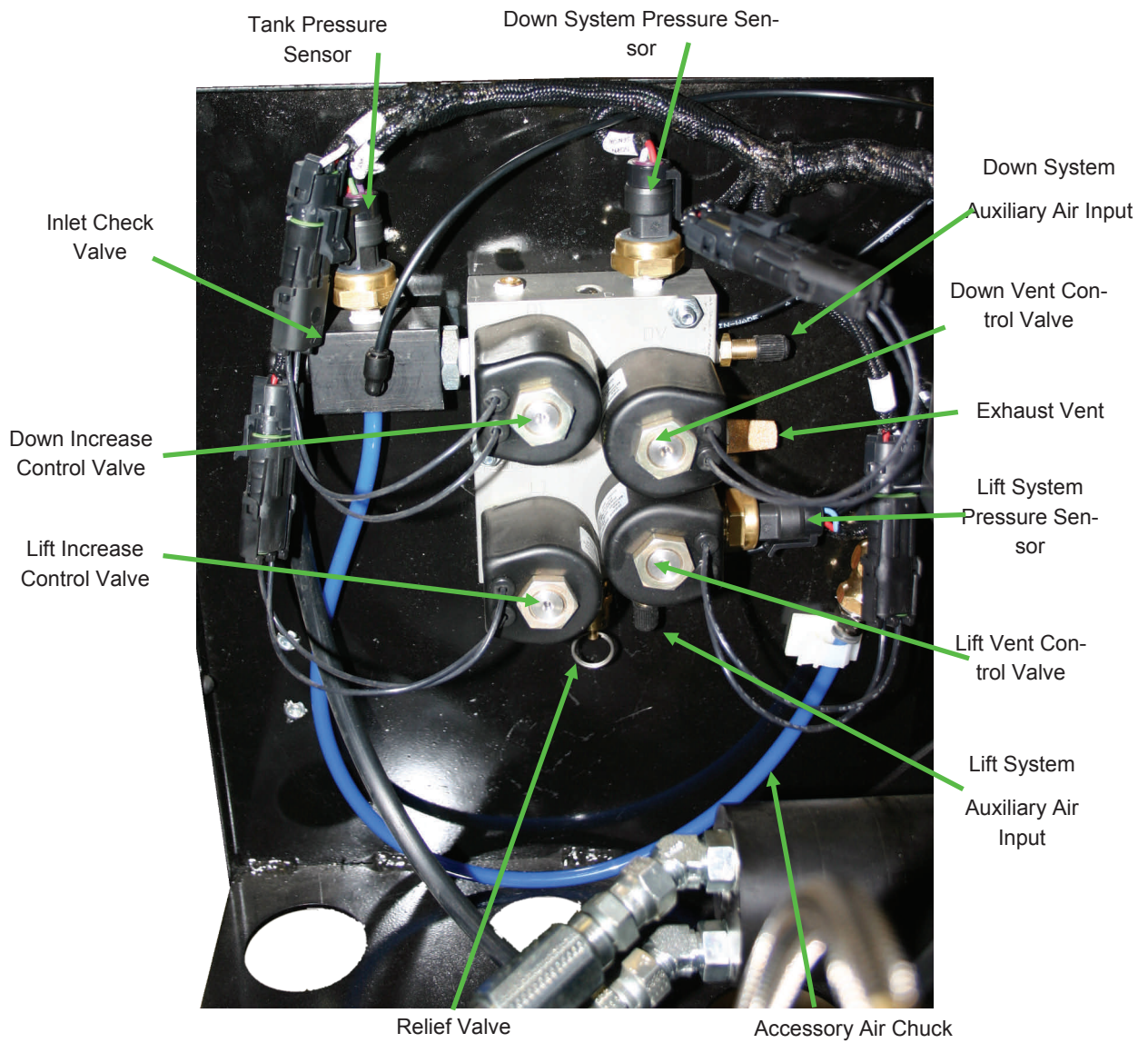


Hydraulic Compressor Module







Connecting Power to the Compressor

For Hydraulic Compressor Modules, the compressor is belt driven from an hydraulic motor within the enclosure.



Hydraulic Hose Kit

726400*	726405+	726410^	Part Number	Part Name	Description	Note
2	-	-	726401	TEE	-8 STOR TEE	A
4	2	2	726402	ELBOW	-8 STOR X -6 JIC 90 DEG ELBOW	B
-	-	2	726404	ADAPTER	-8 STOR X -6 JIC	C
2	2	2	726406	HOSE AS	ENCLOSURE TO TRACTOR	D
-	2	-	726421	REDUCER	-8 JIC X '6 JIC REDUCER	E
-	1	-	726424	ELBOW	-6 JIC 90 DEG SWIVEL ELBOW	E
-	2	-	726427	TEE	-8 JIC RUN TEE	E
-	-	2	726439	COUPLER	PIONEER COUPLING - POPPET STYLE	C

* THIS KIT IS INTENDED FOR INSTALLING IN CCS CIRCUIT OF DEERE PLANTERS

+ THIS KIT IS INTENDED FOR INSTALLING IN CCS CIRCUIT OF DB PLANTERS

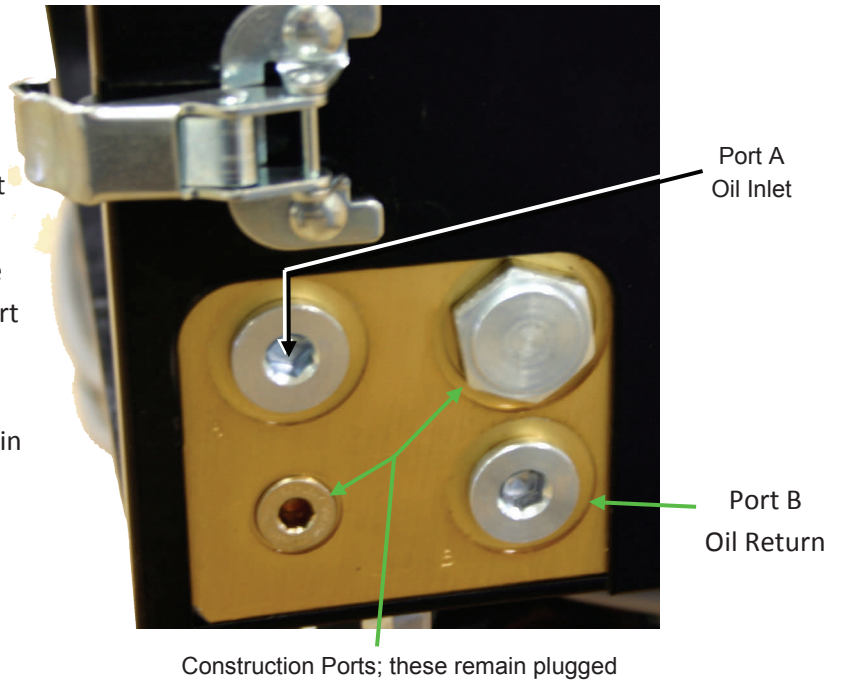
^ THIS KIT INTENDED WHEN USING A SEPARATE DEDICATED CIRCUIT FOR AIRFORCE COMPRESSOR

Note:	
A	Install between Pioneer quick couplers and existing hoses of planter
B	2 get installed at manifold on enclosure, 2 install into Tee's at hydraulic coupler
C	Install at end of hose which plugs into tractor
D	Enclosure to Tractor, approx. 10' lengths
E	Install at bulkhead fittings on planter hitch
E	
E	
C	

Standard Installation:

Compressor Module mounted on Draft Bar at the front of the planter
Plumbing to CCS Circuit / Planter Raise-Lower Circuit

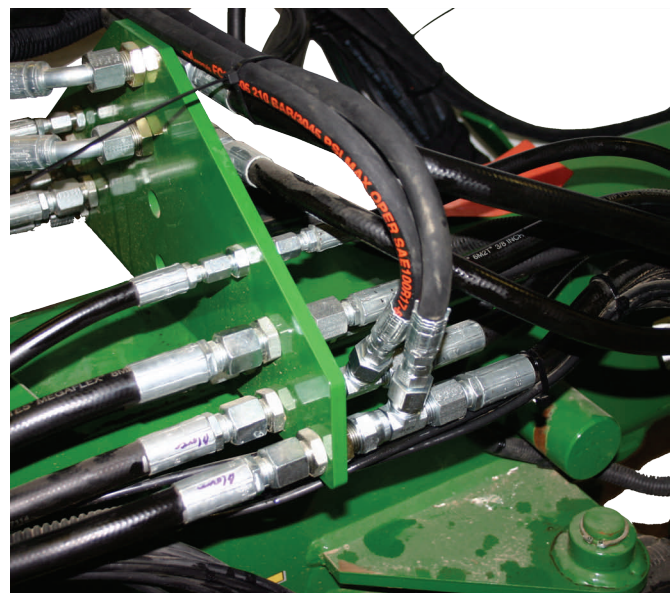
Hydraulic Connections will be made to the front of the compressor module to the gold colored manifold in the lower left corner. Port A will be the oil inlet port - requires oil supplied to it. Port B will be the oil return port - oil is plumbed to return to the tractor. The lower left and top right ports are construction ports and will remain plugged.



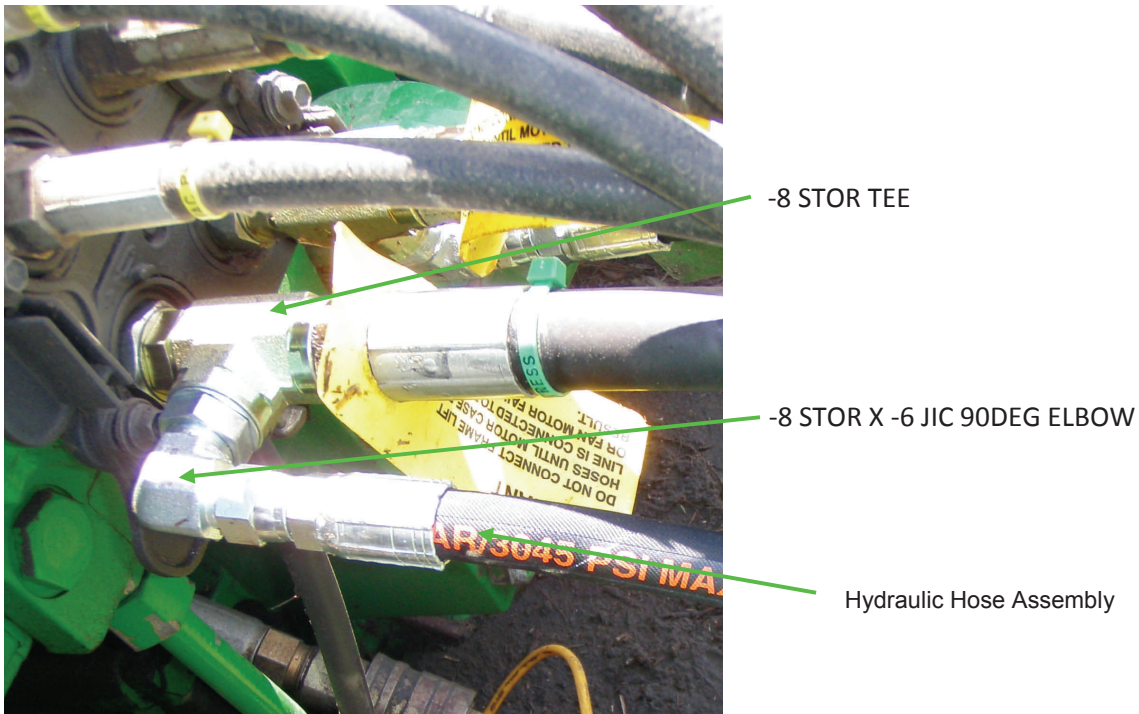
Locate the hydraulic circuit on the planter marked Frame or Lift. This should be the largest set of hoses leading to the planter and is the circuit responsible for raising and lowering the planter. Most planter manufacturers label these hoses with a colored cable in the context of '**Raising**' the planter; such as "Pressure" and "Return". The compressor module will be plumbed in reverse of this condition; or requires flow when '**Lowering**' the planter.

- ⇒ Connect port **A** to the hose marked "Return"
- ⇒ Connect port **B** to the hose marked "Pressure"

The image at right shows this connection made to the rear of the fixed plate on the front of **John Deere DB series** planters. Verify on your planter which hose is Pressure and which is Return.



For non-DB series planters, this connection should be made just behind the Pioneer couplers that plug into the tractor remotes. The images below show examples of this connection.

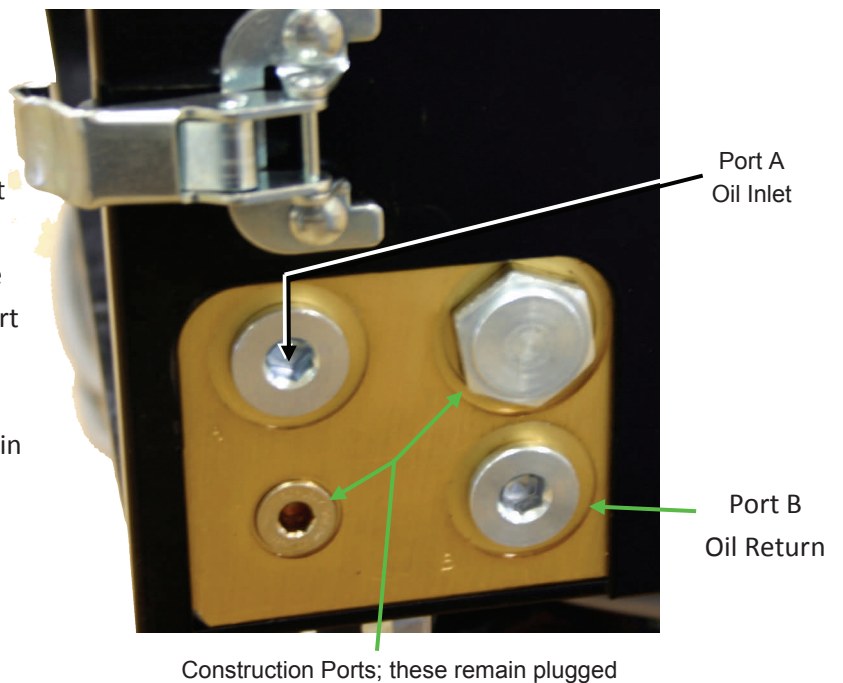


Non-Standard Installation:

Compressor Module installed at rear of planter

Plumbing to CCS Circuit / Planter Raise-Lower Circuit

Hydraulic Connections will be made to the front of the compressor module to the gold colored manifold in the lower left corner. Port A will be the oil inlet port - requires oil supplied to it. Port B will be the oil return port - oil is plumbed to return to the tractor. The lower left and top right ports are construction ports and will remain plugged.



When installing the Compressor Module at the rear of the planter (most often on the tongue of the planter in front of the CCS blower or Refuge tank) hydraulic oil will need to be supplied from the planter's main hydraulic line or manifold. This is usually located at the center of the planter, under the CCS tanks or catwalks. You will need to locate the Frame/Planter 'Raise' and 'Lower' circuit lines or trace backwards from the CCS blower motor to the manifold to find the appropriate ports to tie into.

We **strongly discourage** getting the oil supply for the Compressor Module directly from the CCS blower hoses, This will add restriction to the line and could negatively affect CCS blower operation if done incorrectly.

Once the correct ports/hoses have been identified, you can 'T' into the lines just as with a standard installation. The required fittings for this installation may vary, but the most common fittings required are listed below. These may be obtained locally or through Precision Planting using the part numbers referenced.

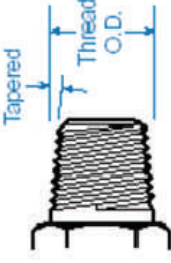
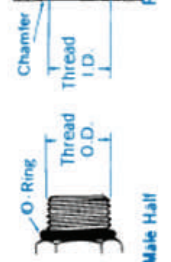
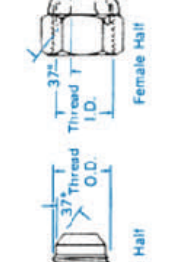
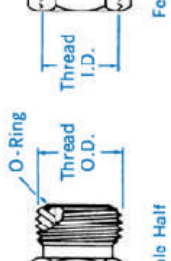
Quantity	Part Number	Description
2	726428	-10 JIC TEE
2	726422	-10 JIC X -6 JIC REDUCER
2	726402	-8 SAE X -6 JIC ELBOW
2	726430	HYD HOSE (approx. 100" long)
2	726440	-6 JIC Straight Coupling (for use with 726430 hose only)

Quick Checks for Hydraulic Compressors

Common reasons Hydraulic Compressor will not operate:

- ⇒ Planter must be lowered
- ⇒ Hydraulic Circuit must be connected **and** engaged
- ⇒ Tank Pressure is within 25psi of target (ie; target tank pressure is 150psi, actual tank pressure must be <125psi before compressor will engage)
- ⇒ Verify that circuit is plumbed correctly: the hose into Port **A** should visibly pulse when the circuit is energized.
- ⇒ AirForce System must be "Enabled" within the 20/20 SeedSense monitor.
- ⇒ To test the system, the AirForce system must be in 'Manual' mode (selected on the monitor through the AirForce Control Center) . Automatic modes require the planter to be lowered, the hydraulic circuit energized, moving forward, **and to be planting**.

Chart for identifying size and type of common hydraulic system threads

																		
			NPTF				SAE ORB				JIC 37 Deg FLARE				ORFS			
Nominal Size	Dash Size		Nominal Thread	Male Thd OD	Female Thd ID	Nominal Thread	Male Thd OD	Female Thd ID	Nominal Thread	Male Thd OD	Female Thd ID	Nominal Thread	Male Thd OD	Female Thd ID	Nominal Thread	Male Thd OD	Female Thd ID	
1/8	02		1/8-27	0.41	0.38	5/16-24	0.31	0.27	5/16-24	0.31	0.27	5/16-24	0.31	0.27	N/A	N/A		
3/16	03			N/A		3/8-24	0.38	0.34	3/8-24	0.38	0.34	3/8-24	0.38	0.34	N/A	N/A		
1/4	04		1/4-18	0.54	0.49	7/16-20	0.44	0.39	7/16-20	0.44	0.39	7/16-20	0.44	0.39	9/16-18	0.56	0.51	
5/16	05			N/A		1/2-20	0.50	0.45	1/2-20	0.50	0.45	1/2-20	0.50	0.45		N/A		
3/8	06		3/8-18	0.68	0.63	9/16-18	0.56	0.51	9/16-18	0.56	0.51	9/16-18	0.56	0.51	11/16-16	0.69	0.63	
1/2	08		1/2-14	0.84	0.77	3/4-16	0.75	0.69	3/4-16	0.75	0.69	3/4-16	0.75	0.69	13/16-16	0.82	0.75	
5/8	10			N/A		7/8-14	0.88	0.81	7/8-14	0.88	0.81	7/8-14	0.88	0.81	1-14	1.00	0.93	
3/4	12		3/4-14	1.05	0.98	1 1/16-12	1.06	0.98	1 1/16-12	1.06	0.98	1 1/16-12	1.06	0.98	1 3/16-12	1.19	1.11	
7/8	14			N/A		1 13/16-12	1.19	1.10	1 13/16-12	1.19	1.10	1 13/16-12	1.19	1.10		N/A		
1	16		1 - 11 1/2	1.32	1.24	1 5/16-12	1.31	1.23	1 5/16-12	1.31	1.23	1 5/16-12	1.31	1.23	1 7/16-12	1.44	1.36	
1 1/4	20		1 1/4 - 11 1/2	1.66	1.58	1 5/8-12	1.63	1.54	1 5/8-12	1.63	1.54	1 5/8-12	1.63	1.54	1 11/16-12	1.69	1.61	
1 1/2	24		1 1/2 - 11 1/2	1.90	1.82	1 7/8-12	1.88	1.79	1 7/8-12	1.88	1.79	1 7/8-12	1.88	1.79	2-12	2.00	1.92	
2	36		2 - 11 1/2	2.38	2.30	2 1/2-12	2.50	2.42	2 1/2-12	2.50	2.42	2 1/2-12	2.50	2.42		N/A		

These four different types of threads can often be mismatched due to common threads but will not seal properly and may result in dangerous leaks.

When ordering replacement fittings, verify which style and speak in terms of -Dash size to prevent confusion.

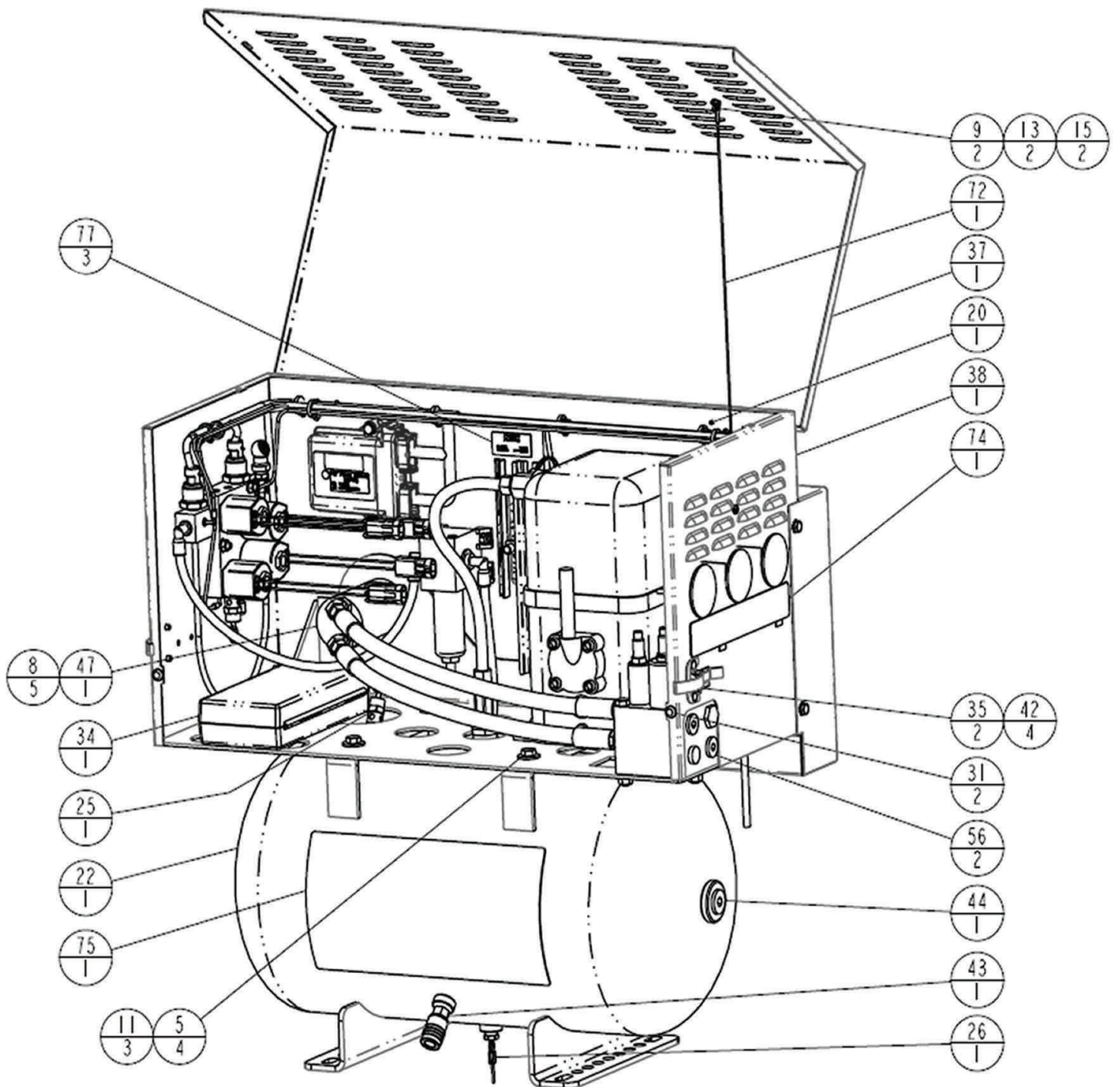
NPTF is easily recognizable and looks like regular pipe threads. It is not recommended for hydraulic systems but does exist on some ag equipment.

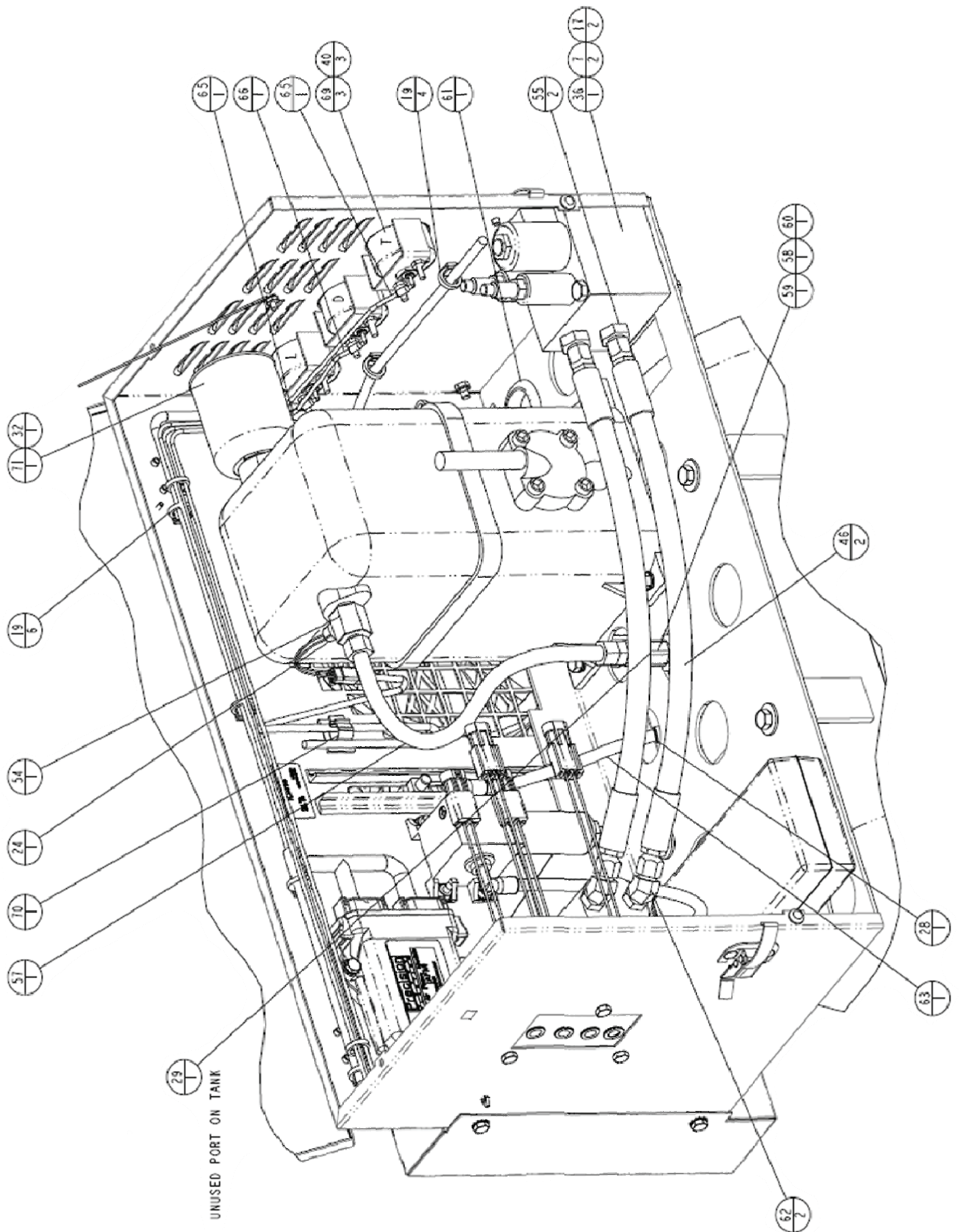
SAE ORB is a common and reliable thread type used in ports on valves, pumps, and cylinders. It utilizes an O-ring for sealing and the port can be recognized by a spot face and nice chamfer at the top of the port.

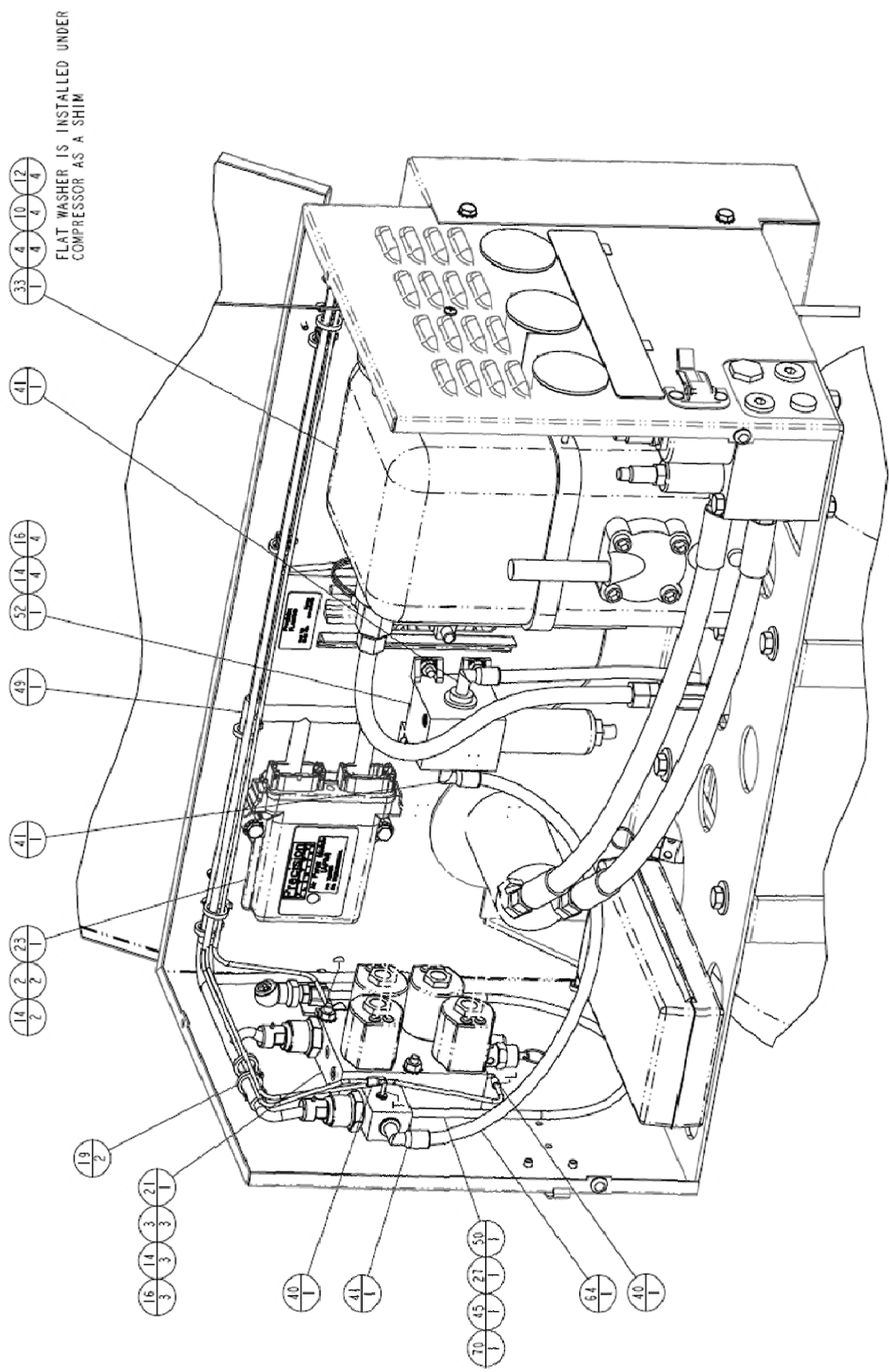
JIC 37 Deg FLARE is the common thread type used on hoses. The fitting has a taper on the end and the coupling of the hose has an internal taper. The taper is the sealing surface.

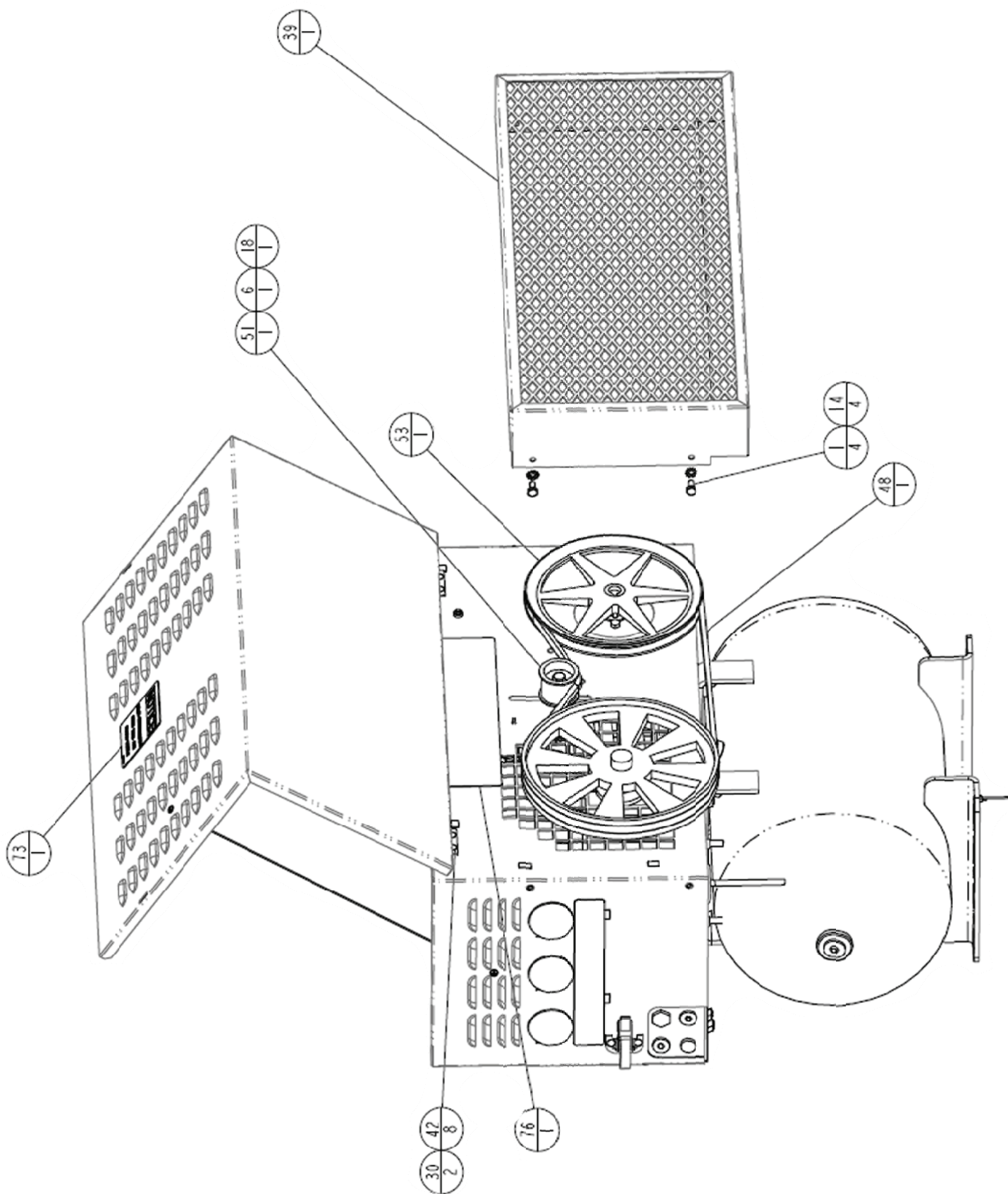
ORFS (O-Ring Face Seal) is a newer style of fitting used on hoses. It uses an O-ring at the face of the seal instead of relying on a metal-to-metal seal on the taper.

Hydraulic Compressor Module





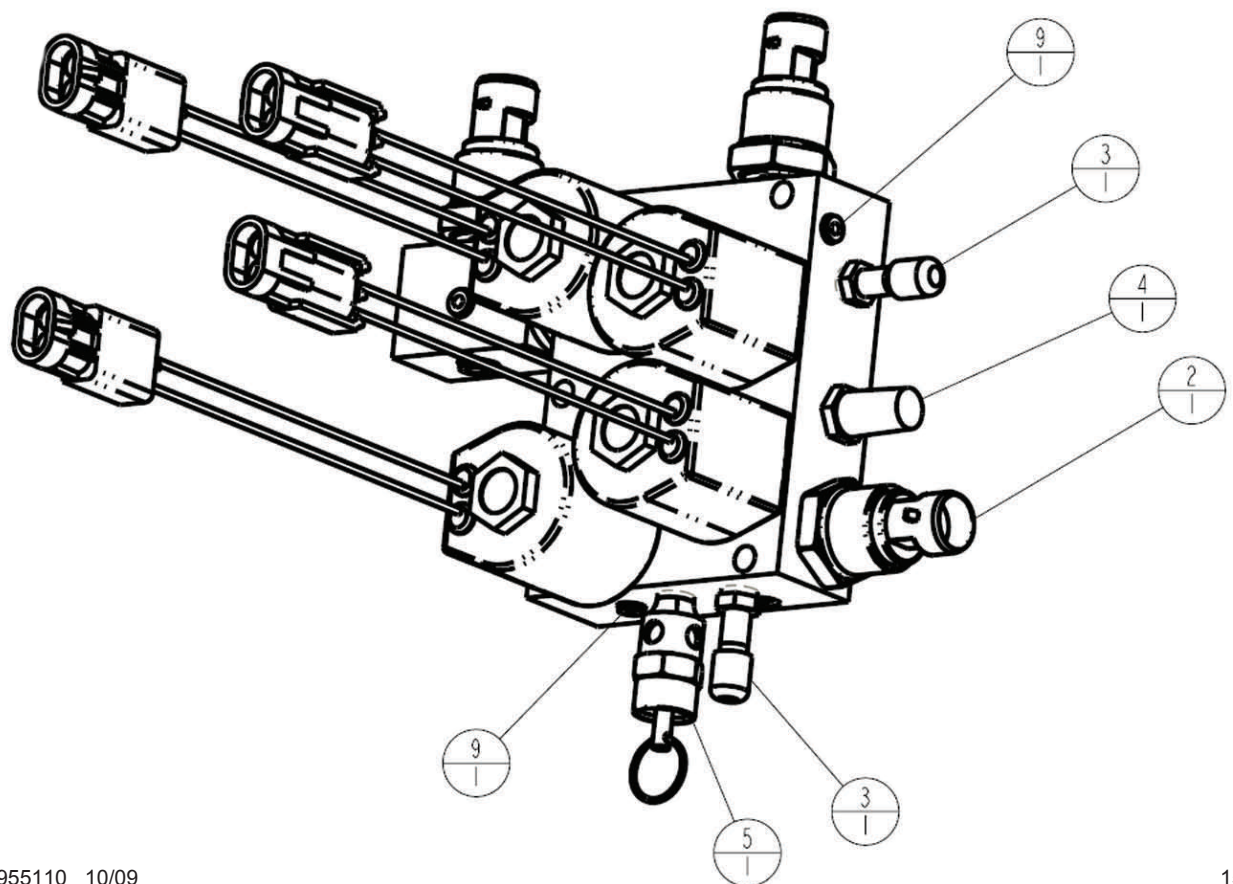
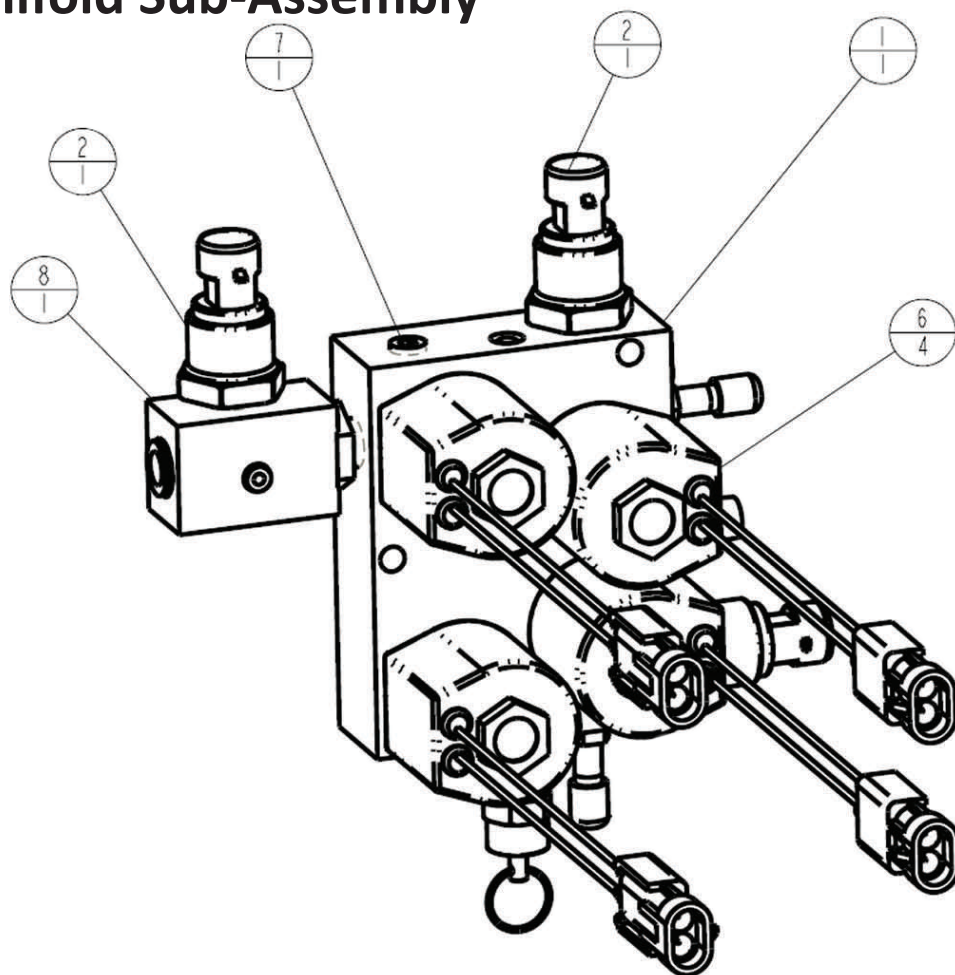


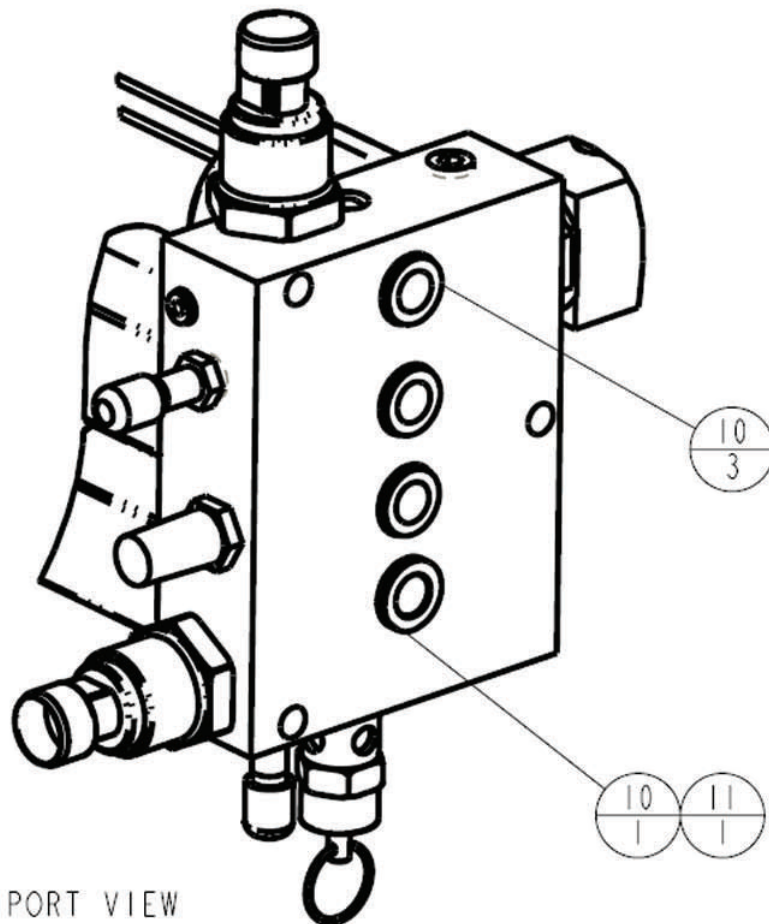


Item	Quantity	Part Number	Part Name	Description
1	4	13002	Bolt	1/4-20 X 5/8" GRD5 Zinc
2	2	13005	Bolt	1/4-20 X 1 GRD5 Zinc
3	3	13010	Bolt	1/4X1.75 HCS
4	4	13059	Bolt	5/16X1.5 GRD5 Zinc
5	4	13103	Bolt	3/8-16X2 GRD5 Zinc
6	1	13111	Bolt	3/8-16 X 2 HHCS GRD5 Zinc
7	2	13117	Bolt	3/8-16 X 3.5 HCS
8	5	17002	Bolt	1/4-28 X 5/8 LG GRD5 ZN
9	2	28957	Screw	10-24 X 1/2 Pan Phillips m/s steel Zinc
10	4	33006	Washer	5/16 USS Flat
11	3	33008	Washer	3/8 USS Flat ZN
12	4	33620	Lock Washer	
13	2	33735	Washer	#10 External Tooth Lock
14	13	33737	Washer	1/4" External Tooth Lock
15	2	36028	Nut	10-24 Zinc Hex Nut
16	7	36302	Nut	1/4-20 GRD5 Zinc Hex Nut
17	2	36306	Nut	3/8-16 Z5 Hex Nut
18	1	37624	Nut	3/8-16 Square STL Zinc
19	12	63124	Cable Tie	6" UV Black Cable Tie 30# Tensile
20	1	720068	Screw	6-32 X 5/16" Pan Phillips T/F Zinc
21	1	726033	Manifold Group	Pneumatic Down and Lift
22	1	726037	Air Tank	10 Gallon Air Tank Assembly
23	1	726085	Control Module	AirForce Module
24	1	726093	Sensor	Thermistor, Compressor Temperature Sensor
25	1	726095	Valve	Relief Valve (175psi)
26	1	726096	Drain Cock	Tank Condensate Drain
27	1	726107	Fitting	1/4"NPT X 1/4" PTC Straight Male Fitting
28	1	726108	Fitting	1/4"NPT X 3/8" PTC Straight Male Fitting
29	1	726176	Fitting	1/4"NPT Brass Plug
30	2	726194	Hinge	Enclosure Lid Hinge
31	2	726196	Bumper	Rubber Enclosure Lid
32	1	726198	Filter	Compressor Pre-Filter
33	1	726209	Compressor	Hydraulic Compressor Assembly
34	1	726214	Service Kit	Service Kit Assembly
35	2	726231	Latch	Enclosure Lid Latch
36	1	726235	Manifold	Hydraulic Manifold
37	1	726254	Cover	Hydraulic Enclosure
38	1	726255	Enclosure	Hydraulic Enclosure Assembly

Item	Quantity	Part Number	Part Name	Description
1	4	13002	Bolt	1/4-20 X 5/8" GRD5 Zinc
39	1	726256	Guard	Hydraulic Assembly
40	5	726271	Fitting	1/8"PTC 90degree Elbow
41	3	726273	Fitting	3/8"PTC 90degree Elbow
42	12	726276	Rivet	7/32" Tubular Rivet
43	1	726301	Fitting	1/4" NPT Coupler - Quick Disconnect
44	1	726302	Fitting	3/4" NPT Plug
45	1	726307	Chuck	Air Chuck
46	2	726362	Hose Assembly	Hydraulic Motor, Hose Assembly
47	1	726364	Motor	Hydraulic Motor
48	1	726366	V Belt	Drive Belt (A-57)
49	1	726367	Harness	Hydraulic Control Harness
50	1	726372	Hose Assembly	Accessory Hose
51	1	726373	Idler	Flat Idler
52	1	726382	Filter	Tank Filter (Hydraulic)
53	1	726383	Sheave	
54	1	726387	Adapter	Compressor Outlet
55	2	726404	Adapter	-8 SAEBoss X -6 JIC Straight Adapter
56	2	726417	Plug	-8 JIC Plug
57	1	726454	Hose Assembly	Hydraulic Compressor
58	1	726456	Bushing	3/4"NPT X 3/8"NPT
59	1	726457	Valve	Unloading Check Valve
60	1	726458	Adapter	3/8"NPT X 3/8" JIC
61	1	726459	Grommet	Wire Harness Grommet
62	2	726461	Fitting	-6SAE Boss X -6JIC 45degree Elbow
63	1	726462	Tubing	3/8" Tank to Filter
64	1	726463	Tubing	3/8" Filter to Manifold
65	2	726464	Tubing	1/8" Sensor to Guage (Tank & Lift)
66	1	726466	Tubing	1/8" Sensor to Guage (Down)
67	0.13	726467	Oil (gal)	Compressor 20WT
68	0.13	726468	Oil (gal)	Hydraulic 10WT
69	3	726572	Gauge	160 psi Panel Mount
70	2	726573	Clamp	Push Mount 2-Stage Lock
71	1	726579	Filter	Compressor Inlet
72	1	726598	Lanyard	Enclosure Lid
73	1	956047	Label	"Drain Condensation"
74	1	956048	Label	Guages'
75	1	956049	Label	Tank and Enclosure'
76	1	956050	Label	Hydraulic Enclosure AirForce
77	3	956054	Label	Serial Number

Manifold Sub-Assembly

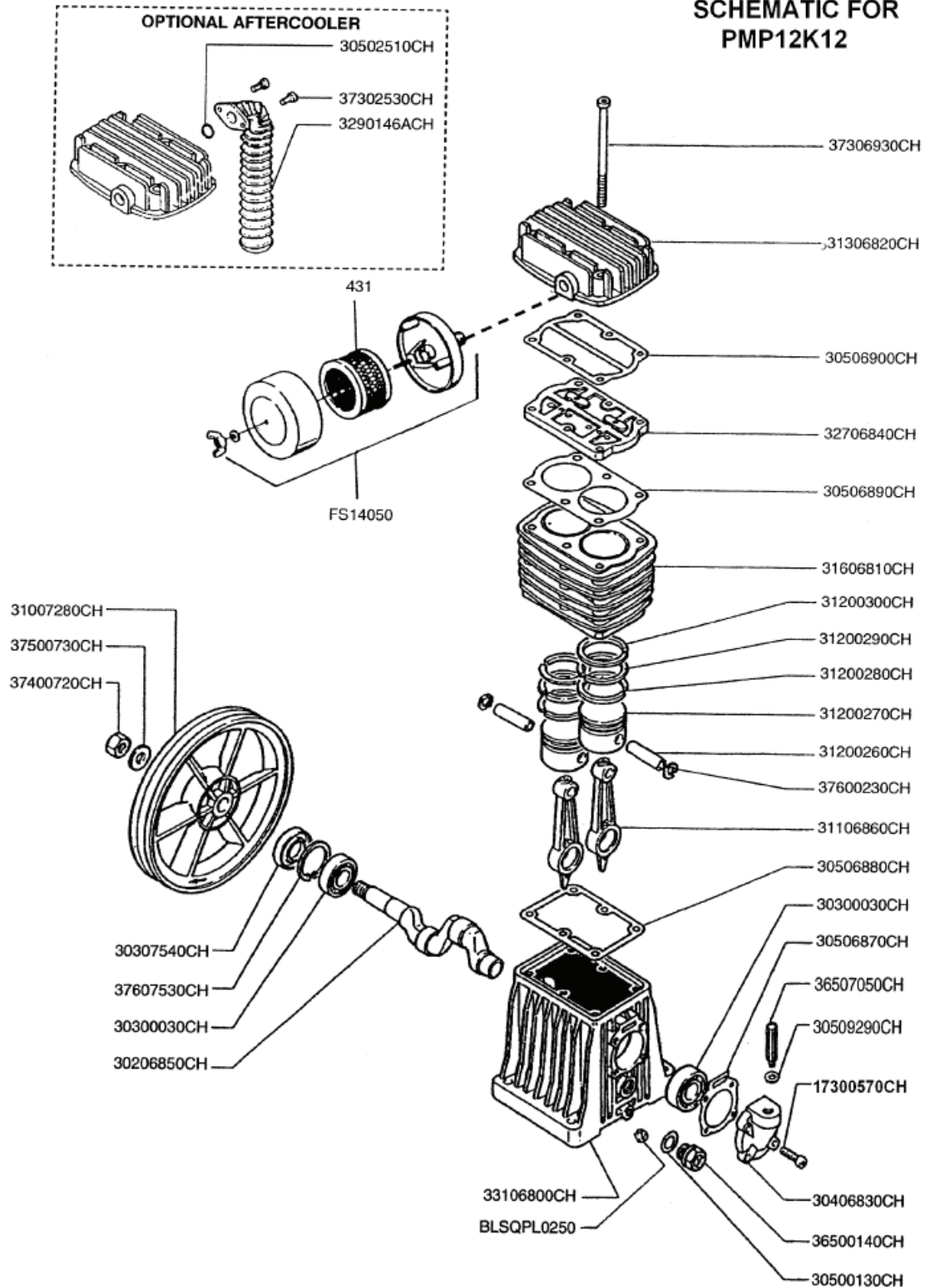




Item	Quantity	Part Number	Part Name	Description
1	1	726032	Manifold Assembly	Machined Cast Aluminum Manifold Block
2	3	726077	Sensor	Pressure
3	2	726079	Valve	Schrader
4	1	726080	Vent	Exhaust Vent
5	1	726081	Valve	Relief Valve
6	4	726162	Valve Assembly	
7	1	726175	Fitting	1/8"NPT Plug
8	1	726245	Valve Assembly	Inlet Check
9	2	726268	Fitting	1/8" PTC Cartridge
10	4	726270	Fitting	3/8" PTC Cartridge
11	1	726274	Cap	Red 3/8 PTC

Compressor Sub-Assembly

ROLAIR
SCHEMATIC FOR
PMP12K12





ROLAIR SYSTEMS

606 S. Lake Street, P.O. Box 346
Hustisford Wisconsin 53034-0346
Phone: 920-349-3281
Sales Fax: 920.349.3691
Service Fax: 920.349.8861
www.rolair.com

PARTS LIST FOR PMP12K12

Description	Part #	Qty.
Crankshaft	30206850CH	1
Bearing	30300030CH	2
Oil Seal	30307540CH	1
Bearing Carrier	30406830CH	1
Gasket	30500130CH	1
Gasket	30506870CH	1
Gasket	30501910CH	1
Gasket	30506890CH	1
Gasket	30506900CH	1
O-Ring	30509290CH	1
Flywheel	31007280CH	1
Connecting Rod w/Upper Bushing	31106860CH	2
Piston Pin	31200260CH	2
Piston	31200270CH	2
Ring	31200280CH	2
Ring	31200290CH	2
Ring	31200300CH	2
Head	31306820CH	1
Cylinder	31606810CH	1
Valve Plate Assembly	32706840CH	1
Crankcase	33106800CH	1
Sight Gauge	36500140CH	1
3/8" Breather/Oil Fill Plug	36507050CH	1
Bolt	17300570CH	4
Bolt	37306930CH	6
Nut	37400720CH	1
Washer	37500730CH	1
Snap Ring	37600230CH	4
Snap Ring	37607530CH	1
Plug	BLSQPL0250	1
Ring Set	K12RINGS	1
Gasket Set	K12GASKETS	1
Silencer/Filter Assembly	FS14050	1
Filter Element	431	1
OPTIONS- O-Ring	30502510CH	1
Aftercooler	3290146ACH	1
Bolt	37302530CH	2
NOTE: Gasket for "old-style" option	30501490CH	1

Hydraulic Compressor Maintenance Guidelines

LUBRICATION

The compressor has been filled with 20 WT oil at the factory. Before beginning operation, check that the oil level is still correct. The oil sight gauge should be filled $\frac{3}{4}$ full. You should be able to see a small bubble at the top of the sight gauge. Be sure not to fill above the indicated level.

DO NOT USE A DETERGENT OIL!

All models are splash lubricated by means of dippers on the connecting rods. The pump must be operated in a level position for proper lubrication.

Oil Capacity	15 oz ($<\frac{1}{2}$ quart)	
Oil type	32-55 Deg F ambient	20 WT Non-Detergent
	56 Deg F & above	30 WT Non-Detergent
Always check when cool		

BELTS

Belt tension should be adjusted to allow $\frac{3}{8}$ " to $\frac{1}{2}$ " deflection with normal thumb pressure.

GUARDS

Always ensure that guard is in place before operating the compressor.

FILTER

Monitor the pre-cleaner for blockage. A torn or damaged pre-cleaner should be replaced. In normal use the pre-cleaner will prevent the paper element filter from becoming plugged even in dusty conditions.

MAINTENANCE SCHEDULE

DAILY

Drain condensation from water separator and tank.

Check oil level and fill as needed.

(Change compressor oil after first 50 compressor hours)

SEASONALLY / 200 COMPRESSOR HOURS

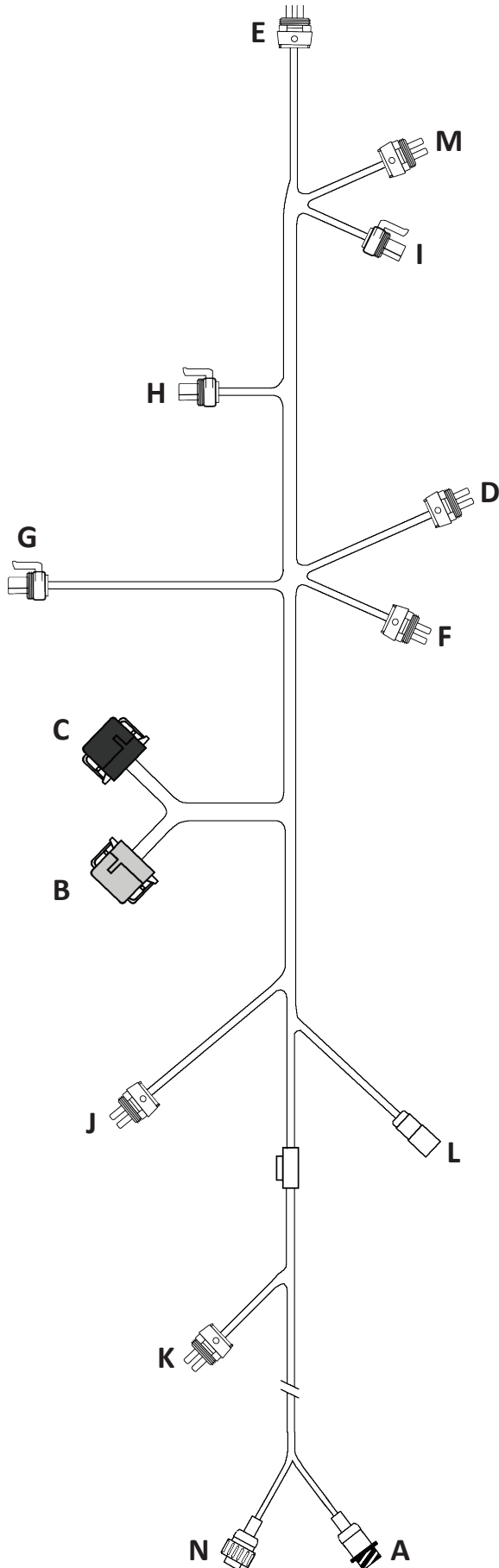
Change compressor oil.

Examine compressor inlet filter and change if dirty.

Check drive belt and adjust if necessary.

Check for air and oil leaks and correct.

Hydraulic Control Harness



Part #

726367

Connector "A" 4 Pin AMP Receptacle From Display

PIN NO.	COLOR	FUNCTION	TO
1	Black	Ground	C4, JB, N1
2	Brown	RS 485 (+)	C7, N2
3	Pink	RS 485(-)	C6, N3
4	Red	12 Volt Power	B8, DB, EB, FB, JA, KA, MB, N4

Connector "B" 12 Pin Deutsch Gray Plug AFM

PIN NO.	COLOR	FUNCTION	TO
1	Green	Compressor Temp (-)	L2
2		Not used	
3	Orange	Compressor Temp (+)	L1
4	White	Down PSI Signal	HC
5	Blue	Lift PSI Signal	GC
6	Red	Analog (+) 5 Volt	GB, HB, IB
7		Not Used	
8	Red	12 Volt Power	A4, DB, EB, FB, JA, KA, MB, N4
9	Green	Sensor Ground	GA, HA, IA
10	Purple	Tank PSI Signal	IC
11		Not Used	
12		Not Used	

Connector "C" 12 Pin Deutsch Black Plug AFM

PIN NO.	COLOR	FUNCTION	TO
1		Not Used	
2		Not Used	
3		Not Used	
4	Black	Ground	A1, JB, N1
5	White	Down Vent (DV)	FA
6	Pink	RS 485(-)	A3, N3
7	Brown	RS 485 (+)	A2, N2
8	White	Down Increase (DI)	MA
9	White	Lift Vent (LV)	DA
10	White	Lift Increase (LI)	EA
11	Black	Compressor (-)	KB
12		Not Used	

Connector "D" 2 Pin Weather Pack Female Lift Vent Solenoid

PIN NO.	COLOR	FUNCTION	FROM
A	White	Lift Vent (LV)	C9
B	Red	Lift Vent (LV) Power	A4, B8, EB, FB, JA, KA, MB, N4

Hydraulic Control Harness (Continued)

Connector "E" 2 Pin Weather Pack Female Lift Increase Solenoid			
PIN NO.	COLOR	FUNCTION	FROM
A	White	Lift Increase (LI)	C10
B	Red	Lift Increase (LI) Power	A4, B8, DB, FB, JA, KA, MB, N4

Connector "F" 2 Pin Weather Pack Female Down Vent Solenoid			
PIN NO.	COLOR	FUNCTION	FROM
A	White	Down Vent (DV)	C5
B	Red	Down Vent (DV) Power	A4, B8, DB, EB, JA, KA, MB, N4

Connector "G" Packard Plug Lift Pressure Sensor			
PIN NO.	COLOR	FUNCTION	FROM
A	Green	Sensor Ground.	C9, HA, IA
B	Red	Analog (+) 5 Volt	B6, HB, IB
C	Blue	Lift PSI Signal	B5

Connector "H" Packard Plug Down Pressure Sensor			
PIN NO.	COLOR	FUNCTION	FROM
A	Green	Sensor Ground	C9, GA, IA
B	Red	Analog (+) 5 Volt	B6, GB, IB
C	White	Down PSI Signal	B4

Connector "I" Packard Plug Tank Pressure Sensor			
PIN NO.	COLOR	FUNCTION	From
A	Green	Sensor Ground	C9, GA, HA
B	Red	Analog (+) 5 Volt	B6, GB, HB
C	Purple	Tank PSI Signal	B10

Connector "J" 2 Pin Weather Pack Female Diagnostic Connector 12 Volt			
PIN NO.	COLOR	FUNCTION	FROM
A	Red	12 Volt Power	A4, B8, DB, E8, FB, KA, MB, N4
B	Black	Ground	A1, C4, N1

Connector "K" 2 Pin Weather Pack Female Compressor Relay			
PIN NO.	COLOR	FUNCTION	FROM
A	Red	Compressor Relay +12	A4, B8, DB, EB, FB, JA, MB, N4
B	Black	Compressor (-)	C11

Connector "L" 2 Pin Deutsch Gray Receptacle Compressor Temperature Sensor			
PIN NO.	COLOR	FUNCTION	FROM
1	Orange	Compressor Temperature (+)	B3
2	Green	Compressor Temperature (-)	B1

Connector "M" 2 Pin Weather Pack Female Down Increase Solenoid			
PIN NO.	COLOR	FUNCTION	FROM
A	White	Down Increase (DI)	C8
B	Red	Down Increase (DI) Power	A4, B8, DB, EB, FB, JA, KA, N4

Connector "N" 4 Pin AMP Plug Auxiliary Power Connector			
PIN NO.	COLOR	FUNCTION	FROM
1	Black	Ground	A1, C4, JB
2	Brown	RS 485 (+)	A2, C7
3	Pink	RS 485 (-)	A3 C6
4	Red	12 Volt Power	A4, B8, DB, EB, FB, JA, KA, MB