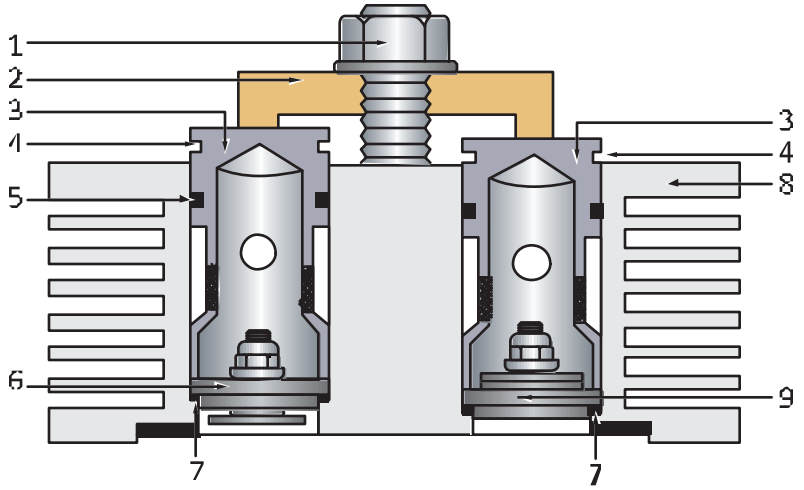
4. Screw on hex nut (1) and tighten with a torque wrench to the torque value listed in the Appendix.

3.1.6.6 Changing the 3rd Stage Valves

See Figure 3-15

Figure 3-16 3rd Stage Valve Head and Valves



1. Hex Nut	4. Extraction Groove	7. Valve Gaskets
2. Cap Holder	5. O-Rings	8. Valve Head
3. Valve Caps	6. Inlet Valve	9. Discharge Valve

3.1.6.6.1 Removal Procedure

1. Unscrew and remove hex nut (1).
2. Remove cap holder (2).
3. Insert two screwdrivers into the extraction grooves (4) of the valve caps (3) and lift out the valve caps with O-Rings (5).
4. Check and replace O-Rings if required.
5. Take out valves (6 & 9).
6. Check the valve gaskets (7) and replace if required.

3.1.6.6.2 Installation Procedure

1. Fit valves(6 & 9) with gaskets (7) and replace.
2. Fit valve caps (3) with O-Rings (5) and replace.
3. Replace cap holder (2) in the proper position.

CAUTION

The valve cap for the inlet valve protrudes 0.98 in (2.5 mm) out of the valve head more than the valve cap for the discharge valve. The cap holder is designed accordingly.

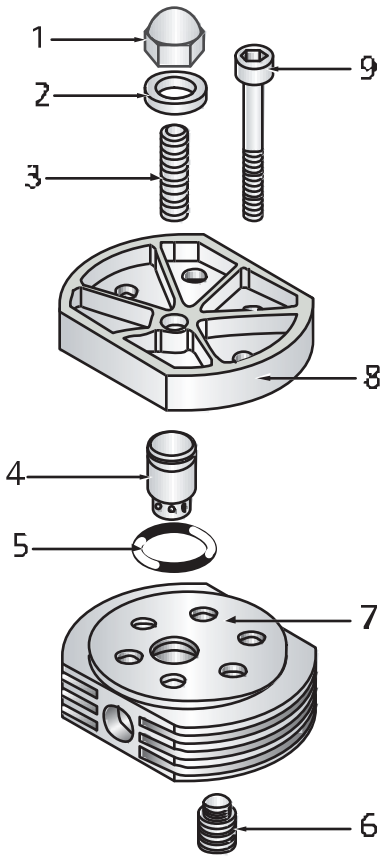
4. Screw on hex nut (1) and tighten with a torque wrench to the torque value listed in the Appendix.

3.1.6.7 Changing the 4th 5th Stage Valves.

CAUTION

Always change the intake and discharge valves of the 4th stage at the same time.

Figure 3-17 4th/5th Stage Valve and Head



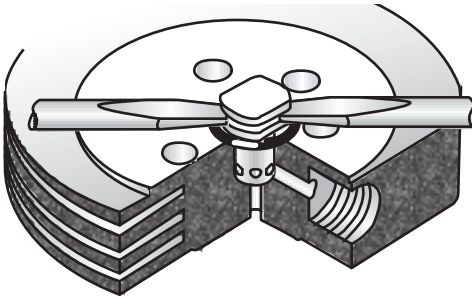
1. Acorn Nut	4. Discharge Valve	7. Valve Head
2. Gasket	5. O-ring	8. Valve Cover
3. Stud	6. Inlet Valve	9. Allen Screw

3.1.6.7.1 Discharge Valve Removal Procedure
See Figure 3-17

1. Remove piping connected to the Valve Head.
2. Remove Acorn Nut (1) and unscrew Stud (3) three or four turns.
3. Remove the Socket Head Screws (9) and remove the Valve Cover (8).
4. Loosen the Discharge Valve (5) first by turning it with a 13 mm wrench on the flat surfaces.
5. Put two screwdrivers into the groove of the Discharge Valve body. See Figure 3-18.

6. Lift out Discharge Valve together with the O-ring (4).

Figure 3-18 Discharge Valve Removal



3.1.6.7.2 Discharge Valve Installation Procedure

1. Check condition of O-ring (4) and replace if necessary
2. Put O-ring (4) into Valve Head (7).
3. Insert Discharge Valve (5) into Valve Head (7).
4. Put on Valve Cover (8).
5. Screw in Socket Head Screws (9) and tighten with a torque wrench.
6. Tighten Stud (3) and replace Gasket (2).
7. Tighten Acorn Nut (1) with a torque wrench to the value listed in the Appendix.

3.1.6.7.3 Inlet Valve Removal and Installation

Figure 3-19 Assembly Tool

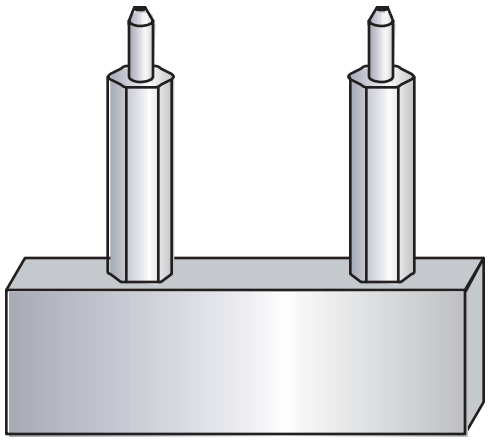
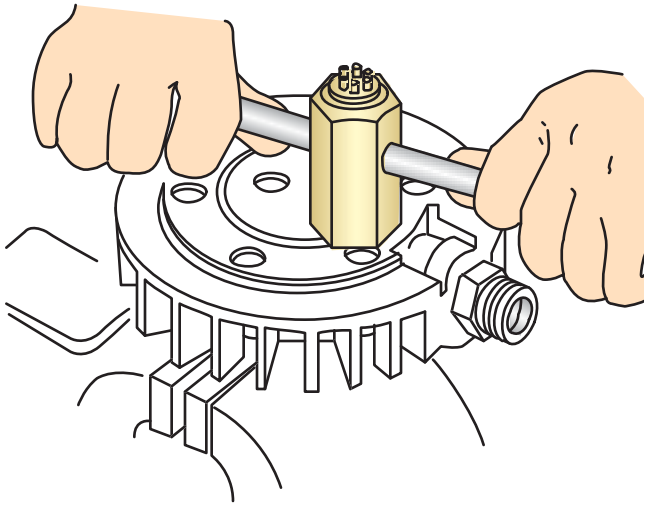


Figure 3-20 Using Special Tool



1. If the assembly tool shown in Figure 3-19 is unavailable, place two 8 mm diameter metal pins of any length in the holes of the Valve Head (7) and secure them in a vise with the Inlet Valve (6) facing up.

2. Unscrew the Inlet Valve (6) from the Valve Head (7) using the special valve tool. See Figure 3-20.

CAUTION

Avoid damaging the special tool or the valve when using the tool, ensure that it is pushed firmly and properly into the sockets in the valve so that it will not tilt when it is turned.

3.1.7 Repair and Troubleshooting

3.1.7.1 Repair

Repair work can be carried out on the compressor block to a certain extent but a certain level of experience and skill is necessary. It should be noted however that no repair should be carried out on the crankshaft nor on the bearings and safety valves are not repaired but always replaced.

3.1.7.2 Troubleshooting

Trouble	Cause	Remedy
No oil pressure	1. Low oil level 2. Air trapped in oil pump. 3. Compressor rotates in the wrong direction	1. Check oil level 2. Vent Oil Pump 3. Reverse two of the three phase leads at the switch box.
Oil foam in crankcase	1. Last stage piston worn 2. Last stage pressure valve defective	1. Operate compressor with final stage valve head removed. If oil flows continuously out of cylinder, replace piston and sleeve. 2. Replace last stage valves.
Compressor output insufficient	1. Condensate drain valves or fittings leaking. 2. Premature opening of final safety valve. 3. Piston rings worn 4. Excessive piston clearance 5. Pipes leaking	1. Tighten and reseal. 2. Clean and adjust final safety valve. 3. Replace 4. Replace 5. Tighten
Safety valves between stages releasing pressure	1. Interstage pressure too high 2. Valves not closing properly	1. Service and clean valves. 2. Service and clean valves.
Compressor running too hot.	1. Insufficient supply of cooling air 2. Intake or outlet valve not closing properly 3. Wrong direction of rotation.	1. Check location for adequate ventilation 2. Check and clean valves, replace as necessary 3. Check arrow on compressor and correct accordingly.
Oil residue in delivered air	1. Improper maintenance of filters, purifier cartridge saturated.	1. Service filters, change purifier cartridge.
Compressor rotates in the wrong direction	Electrical phases not connected properly	Reverse two of the three phase leads at the switch box. Do NOT change the leads at the motor terminal.

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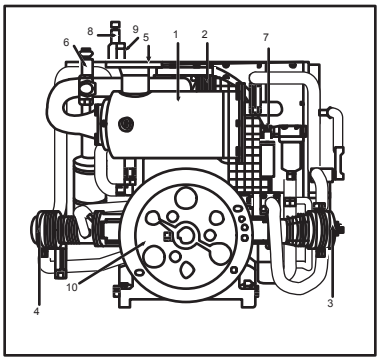
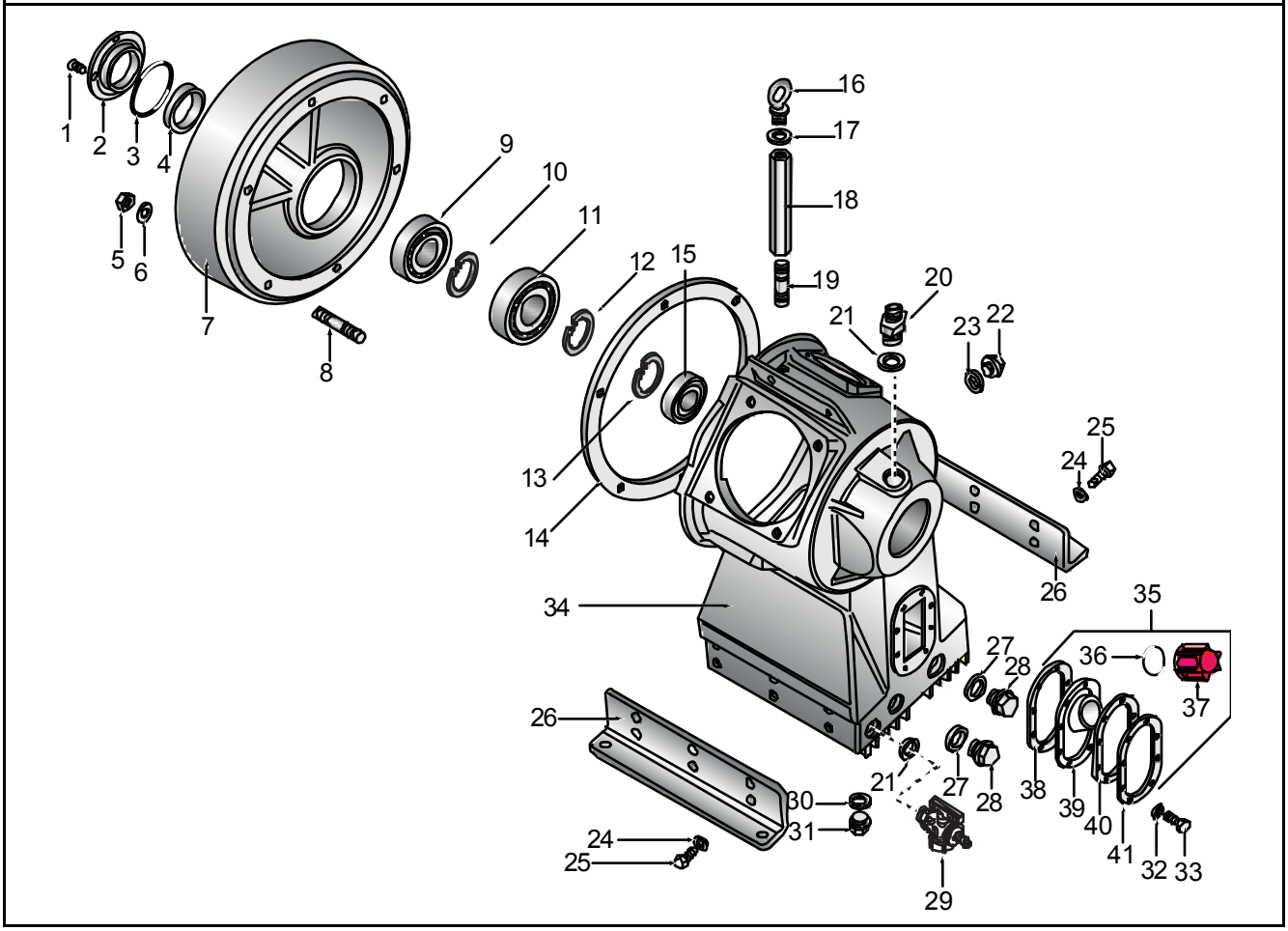


3.1.8 Replacement Parts List

Figure 3-21 Crankcase Assembly

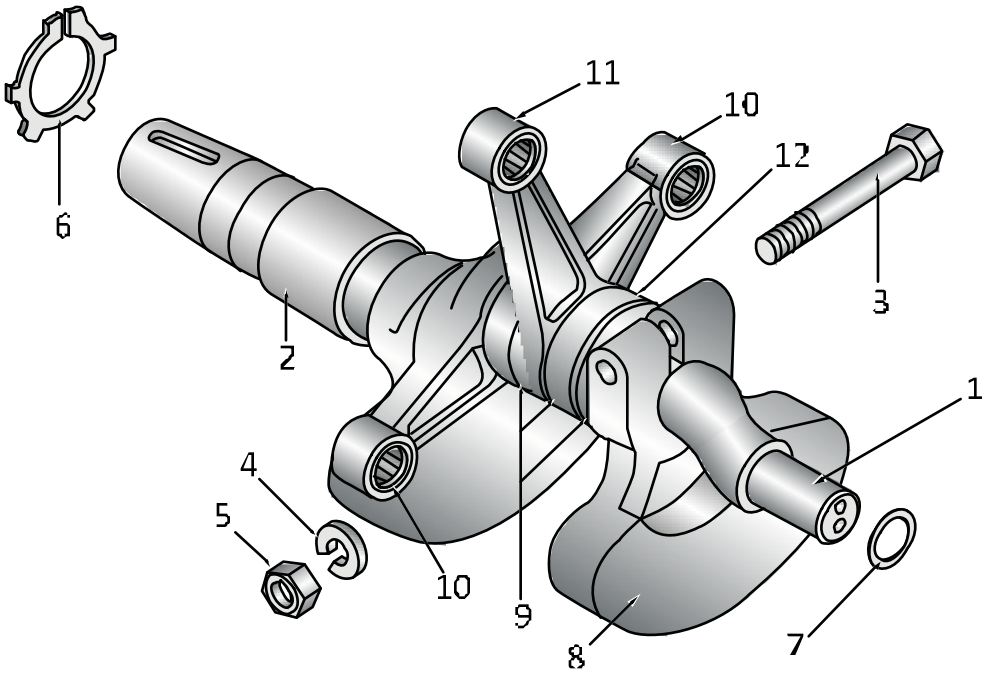


Item	Qty	Part No.	Description	Notes
♦	1	78577	Crankcase Assembly	
1	4	N20649	Screw	
2	1	68586	Cover Plate	
3	1	N15093	O-ring	
4	1	N26281	Shaft Seal	
5	6	N370	Self Locking Hex Nut	
6	6	N58	Washer	
7	1	78897	Bearing Cover	
8	6	N3138	Stud	
9	1	N18303	Roller Bearing	
10	1	N3810	Circlip	
11	1	N18304	Roller Bearing	
12	1	N18432	Circlip	
13	1	N2635	Circlip	

Figure 3-21 (cont.) Crankcase Assembly

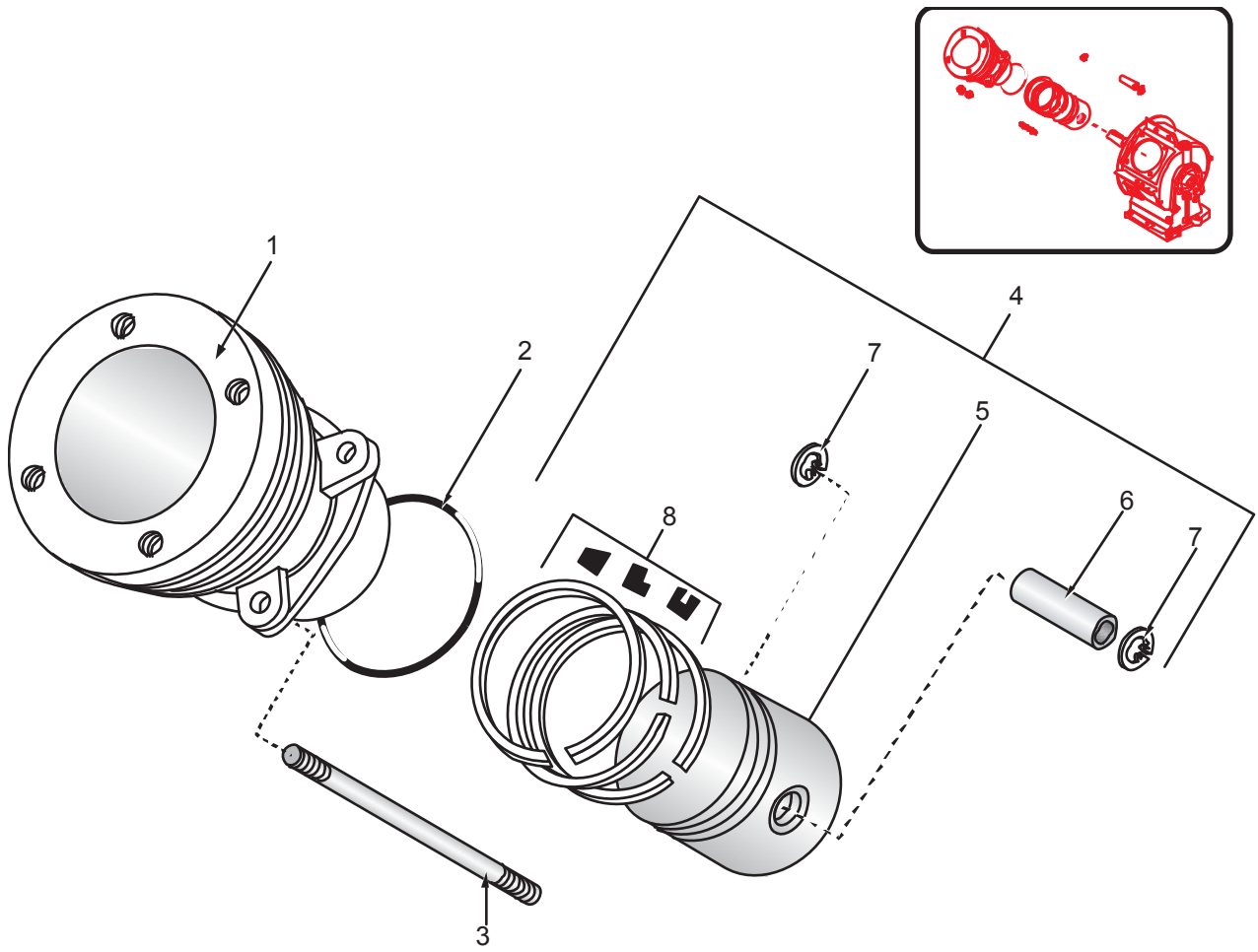
Item	Qty	Part No.	Description	Notes
14	1	3177	Gasket	
15	1	N2638	Roller Bearing	
16	1	N4467	Eye Bolt	
17	1	1492	Washer	
18	1	79225	Hexagonal Spacer	
19	1	N4150	Stud	
20	1	80197	Reducer	
21	2	N293	Gasket	
22	1	N204	Plug	
23	1	N1314	Gasket	
24	12	N16	Washer	
25	12	N312	Hex Head Screw	
26	2	78571	Bracket	
27	2	N4261	Gasket	
28	2	N2796	Plug	
29	1	N25638	Ball Valve	oil drain
30	1	N1316	Gasket	
31	1	N4570	Plug	
32	8	N102	Washer	
33	8	N19497	Hex Screw	
34	1	78578	Crankcase	
35	1	78810	Oil Sight Gauge Assembly	Items 36 - 41
36	1	N15412	O-ring	
37	1	80225	Plug	
38	1	78808	Gasket	
39	1	78569	Oil Fill	
40	1	80617	Steel Plate	
41	1	78570	Steel Plate	

Figure 3-22 Complete Crankshaft Assembly



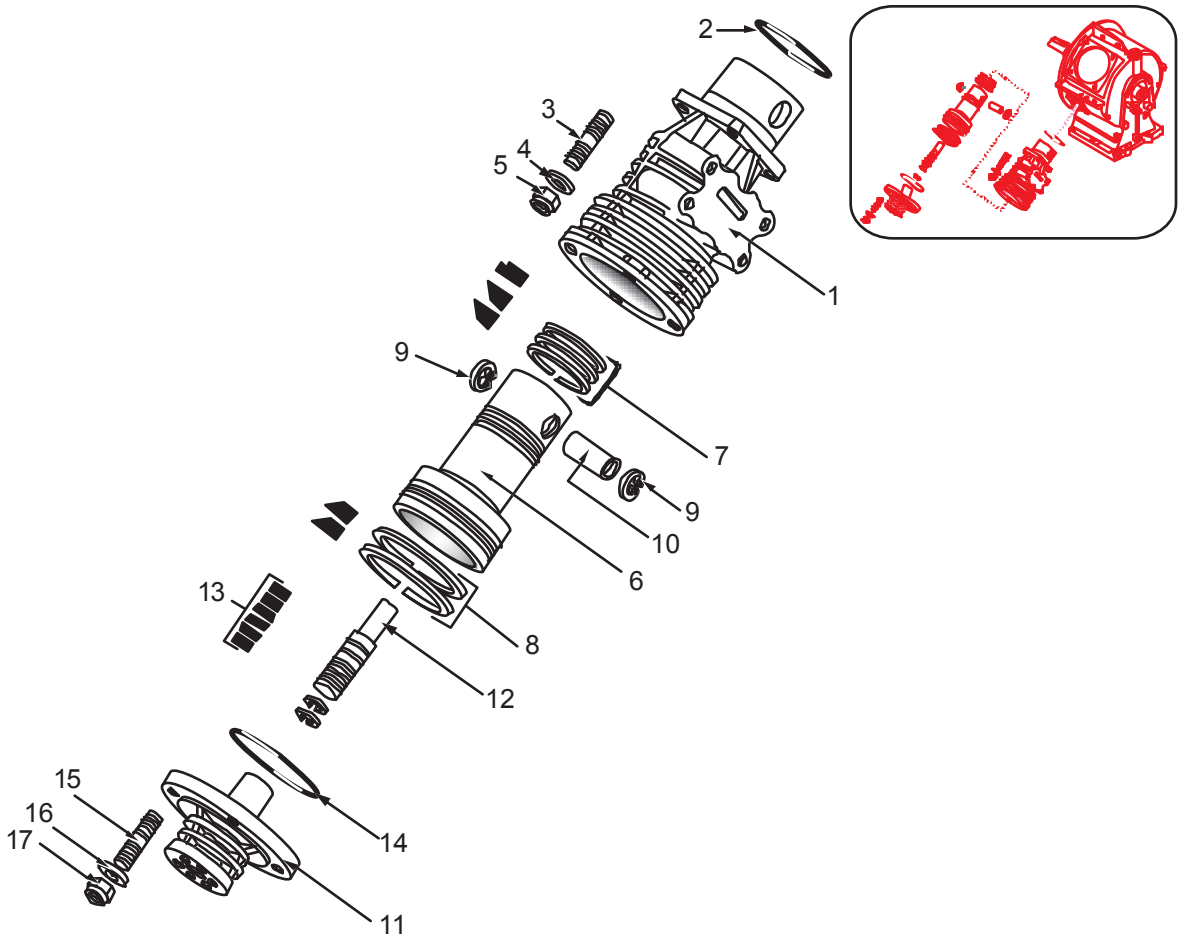
Item	Qty	Part No.	Description	Notes
♦	1	161929	Crankshaft Assembly	
1	1	78936	Crankshaft	
2	1	68587	Bushing	
3	1	N4366	Dowel Screw	
4	1	N108	Spring Washer	
5	1	N2765	Hex Nut	
6	1	N18310	Circlip	
7	1	N423	Circlip	
8	†	…	Counterweight	Available only with 161929
9	3	4220	Spacers	
10	†	…	Piston Rod Assembly	Available only with 161929
11	†	…	Piston Rod Assembly	Available only with 161929
12	†	…	Piston Rod Assembly	Available only with 161929

Figure 3-23 1st Stage Piston and Cylinder



Item	Qty	Part No.	Description	Notes
♦	1	79120	1st Stage Piston and Cylinder Assembly	
1	1	79017	Cylinder	
2	1	N2621	O-ring	
3	4	N26036	Stud	
4	1	79720	Piston Assembly	#5 - 8
5	1	79719	Piston	130 mm
6	1	N2930	Piston Pin	
7	2	N484	Circlip	
8	1	N2963	Piston Ring Set	

Figure 3-24 2nd & 4th Stage Piston and Cylinder

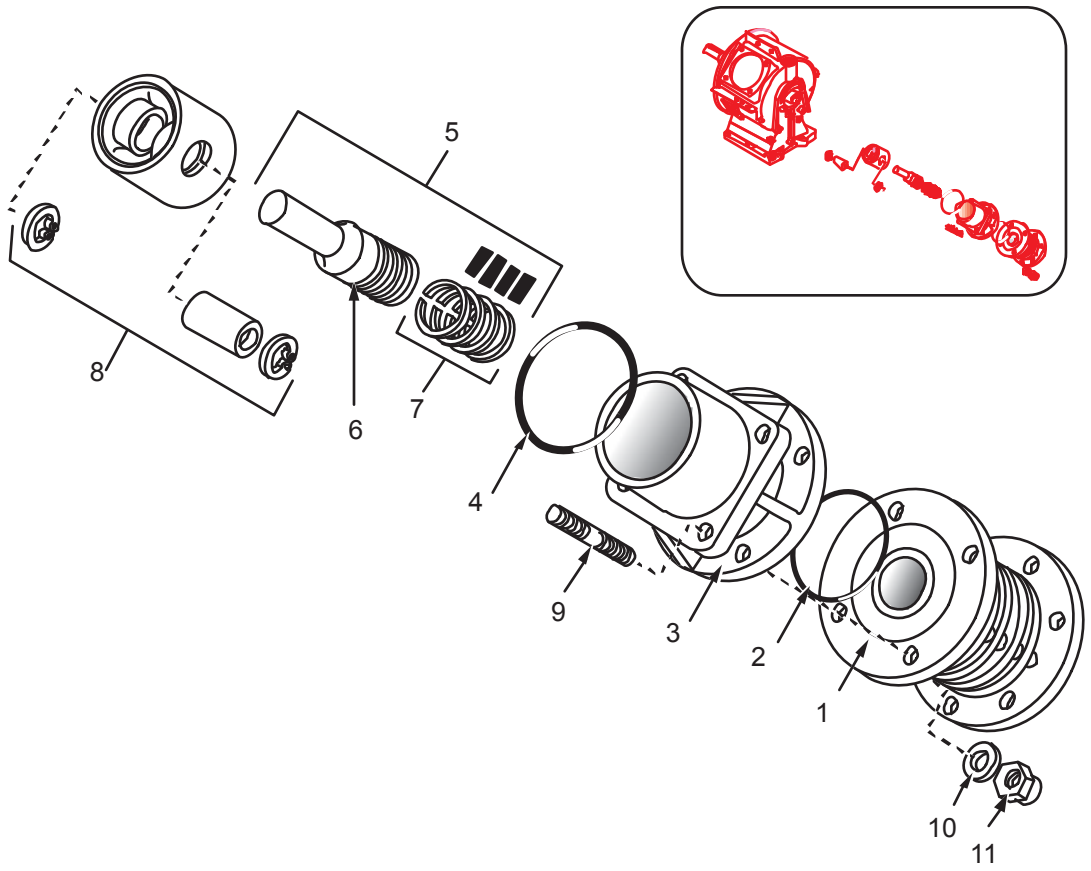


Item	Qty	Part No.	Description	Notes
♦	1	127813	2nd Stage Cylinder Assembly	Items 1 - 10
1	1	127812	Cylinder	
2	1	N3731	O-ring	
3	4	N215	Stud	
4	4	N58	Washer	
5	4	N370	Self Locking Hex Nut	
♦	1	127779	Stepped Piston Assembly	Items 6 - 10
6	1	127778	Stepped Piston	88.66 mm
7	1	N3162	Piston Ring Set	
8	1	N34414	Piston Ring Set	
9	2	N1665	Circlip	
10	1	N15409	Piston Pin	
♦	1	161335	4th Stage Cylinder Assembly	Items 11 - 17
11	1	161316	Cylinder	
♦	1	078338	4th Stage Piston Assembly	Items 12 & 13

Figure 3-24 (cont.) 2nd and 4th Stage Piston and Cylinder

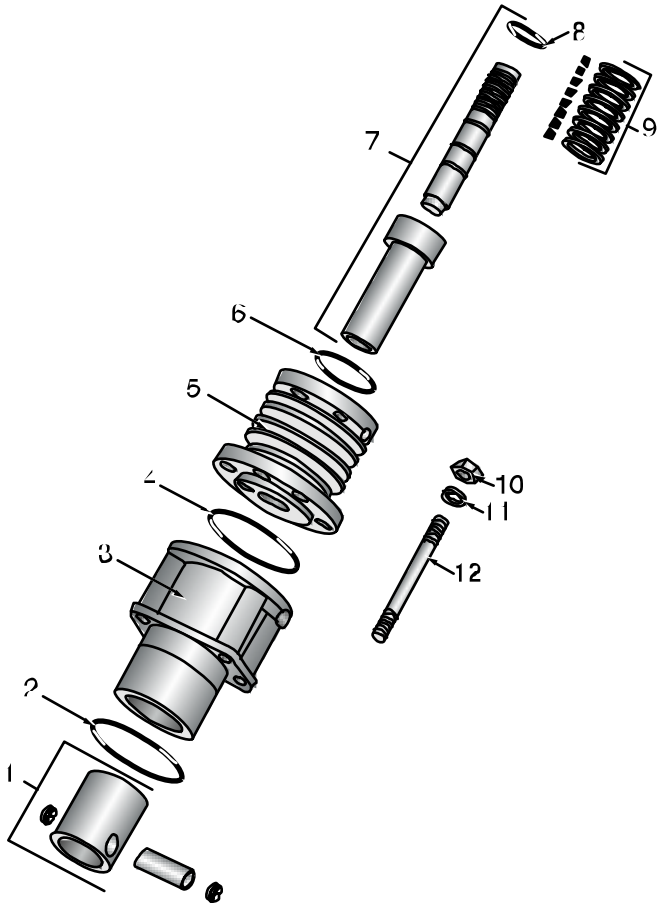
Item	Qty	Part No.	Description	Notes
12	1	78337	Piston	
13	1	N35556	Piston Ring Set	
14	1	N29082	O-ring	
15	4	N215	Stud	
16	4	N58	Washer	
17	4	N370	Self Locking Hex Nut	

Figure 3-25 3rd Stage Piston and Cylinder



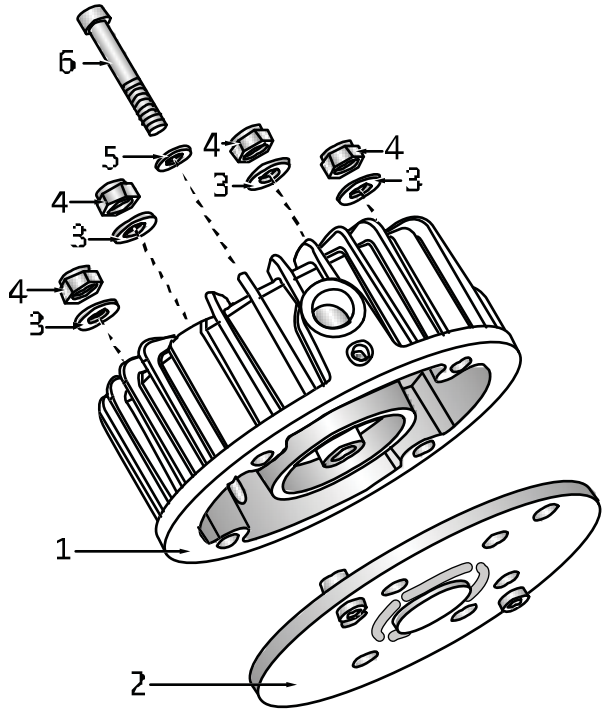
Item	Qty	Part No.	Description	Notes
♦	1	068595	3rd Stage Piston and Cylinder Assembly	
1	1	67061	Cylinder	
2	1	N7063	O-ring	
3	1	82295	Guide Cylinder	
4	1	N3731	O-ring	
5	1	070013	Piston Assembly	Items 6 and 7
6	1	N4378	Piston	
7	1	N16313	Piston Ring Set	
8	1	070070	Guide Piston Assembly	
9	4	N17462	Stud	
10	4	N58	Washer	
11	4	N370	Self Locking Hex Nut	

Figure 3-26 5th Stage Cylinder and Piston



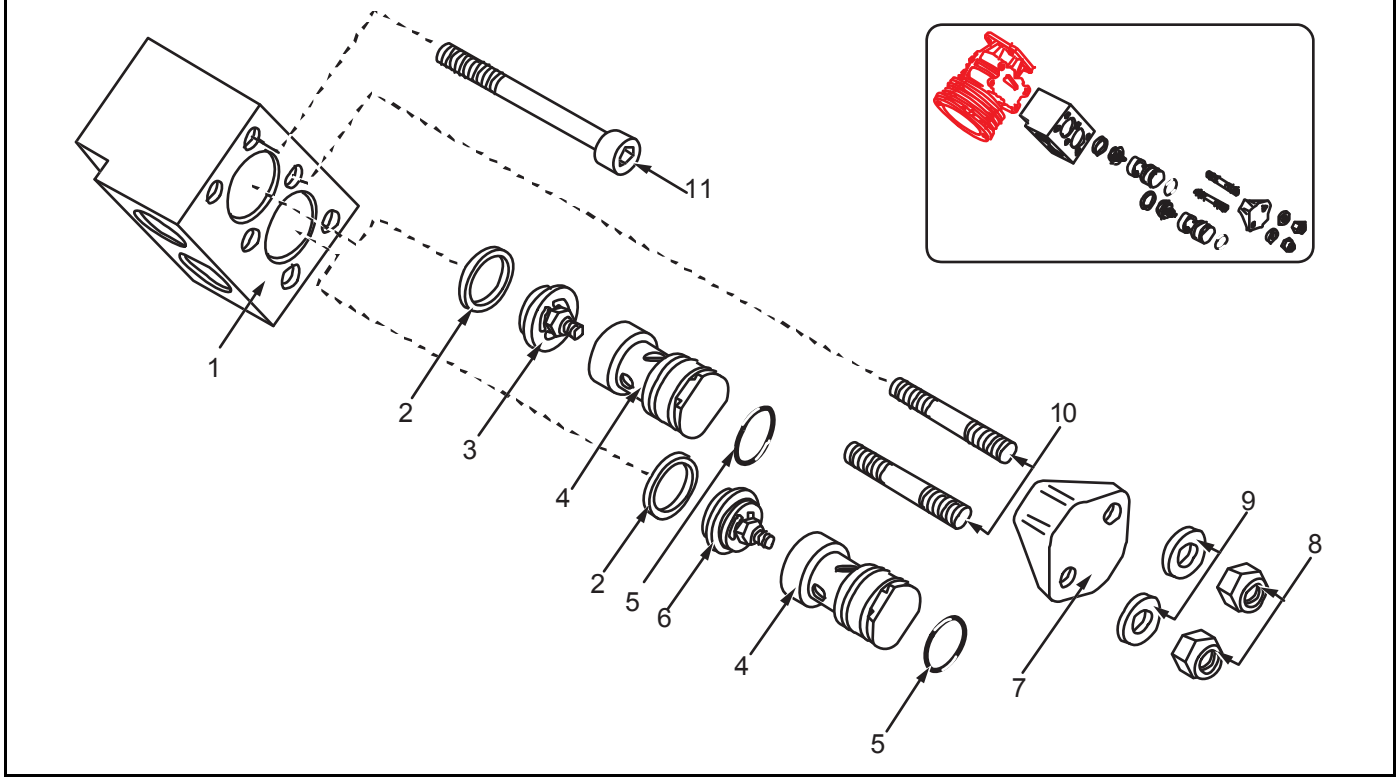
Item	Qty	Part No.	Description	Notes
♦	1	161926	5th Stage Piston & Cylinder Assembly	
1	1	070070	Guide Piston Assembly	
2	1	N3731	O-ring	
3	1	82295	Guide Cylinder	
4	1	N7063	O-ring	
5	1	82480	Cylinder	
6	1	N4868	O-ring	
7	1	79185	Piston And Sleeve Assembly	Items 8 & 9
8	1	N23755	O-ring	
9	1	N26412	Piston Ring Set	
10	4	N370	Self Locking Hex Nut	
11	4	N58	Washer	
12	4	N17462	Stud	

Figure 3-27 1st Stage Valve Head



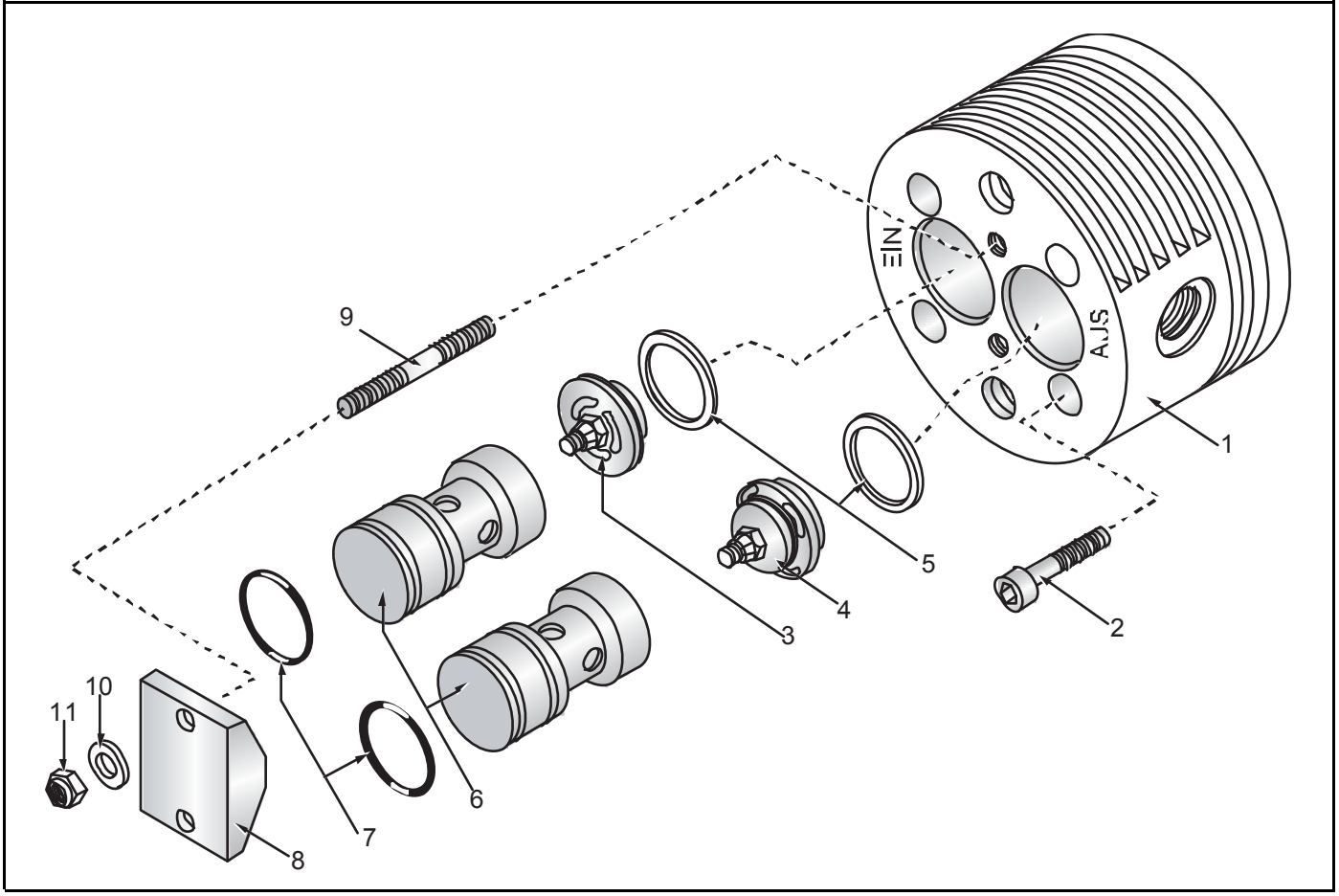
Item	Qty	Part No.	Description	Notes
♦	1	79680	1st Stage Valve Head Assembly	
1	†	…	1st Stage Valve Head	
2	1	N26029	Plate Valve	
3	4	N16	Washer	
4	4	N644	Self Locking Hex Nut	
5	1	N58	Washer	
6	1	N150	Allen Screw	

Figure 3-28 2nd Stage Valve Head



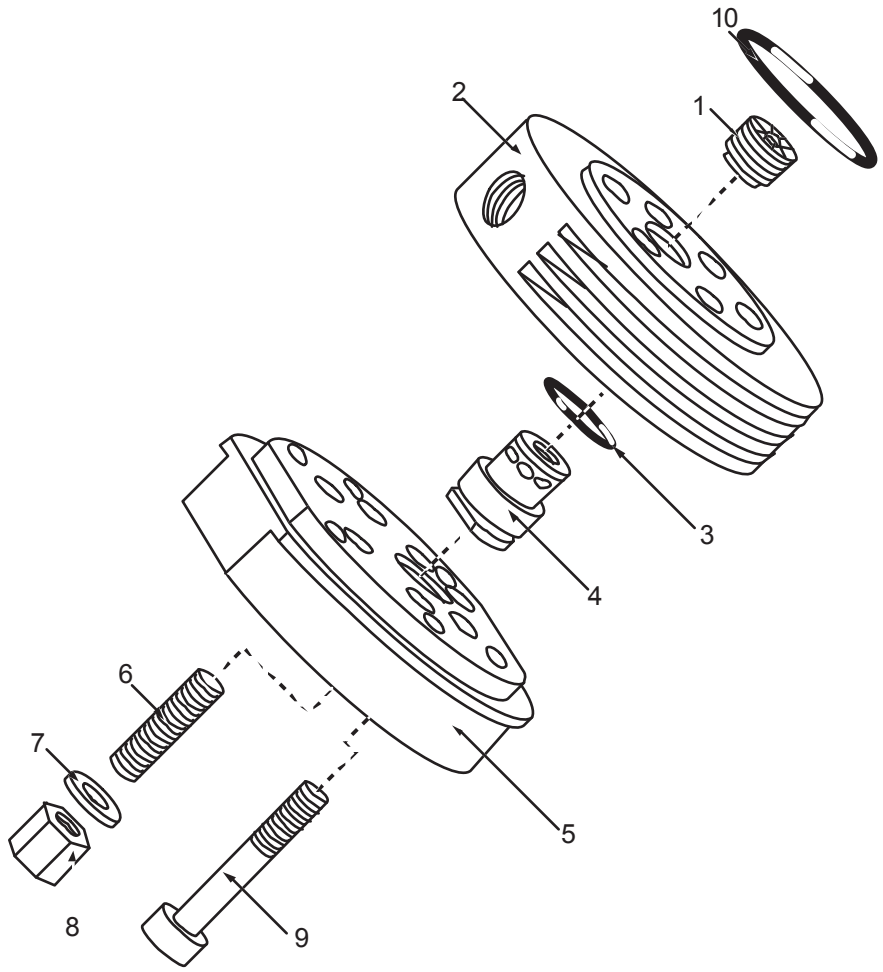
Item	Qty	Part No.	Description	Notes
♦	1	068601	2nd Stage Valve Head Assembly	
1	1	68491	Valve Head	
2	2	56668	Gasket	
3	1	N4067	Intake Valve	
4	2	56183	Valve Cap	
5	2	N3997	O-ring	
6	1	N4068	Pressure Valve	
7	1	62924	Press Pad	
8	2	N3474	Self Locking Hex Nut	
9	2	N16	Washer	
10	2	N4190	Stud	
11	4	N354	Allen Screw	

Figure 3-29 3rd Stage Valve Head



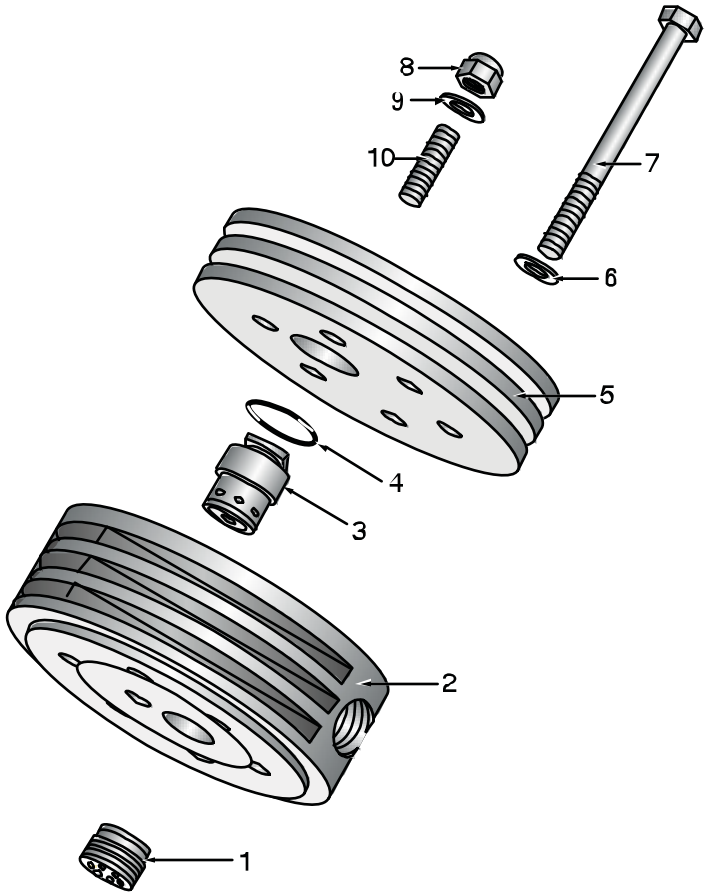
Item	Qty	Part No.	Description	Notes
♦	1	068602	3rd Stage Valve Head Assembly	
1	1	60583	Valve Head	
2	6	N503	Allen Screw	
3	1	N15273	Intake Valve	
4	1	N15274	Pressure Valve	
5	2	56668	Gasket	
6	2	56183	Valve Cap	
7	2	N3997	O-ring	
8	1	62924	Pressure Pad	
9	2	N4190	Stud	
10	2	N16	Washer	
11	2	N3474	Self Locking Hex Nut	

Figure 3-30 4th Stage Valve Head



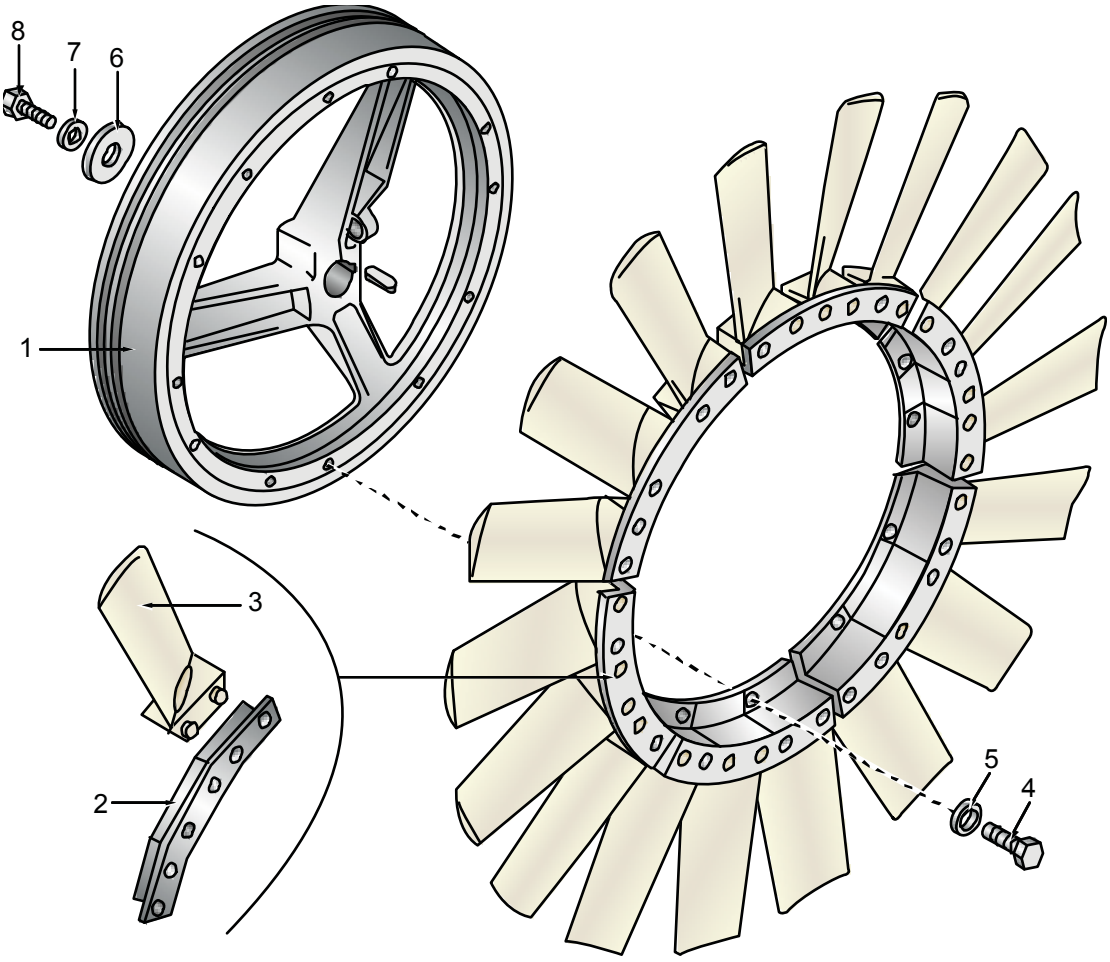
Item	Qty	Part No.	Description	Notes
♦	1	071621	**4th Stage Valve Head Assembly**	Items 1-10
♦	1	073629	**Valve Head Assembly**	Items 1-8
1	1	07790	Intake Valve	
2	1	65191	Valve Head	
3	1	N2789	O-ring	
4	1	014121	Pressure Valve	
5	1	14118	Valve Head Cover	
6	1	71065	Stud	
7	1	N3625	Gasket	
8	1	N3623	Nut	
9	6	N19554	Allen Screw	
10	1	N3860	O-ring	

Figure 3-31 5th Stage Valve Head



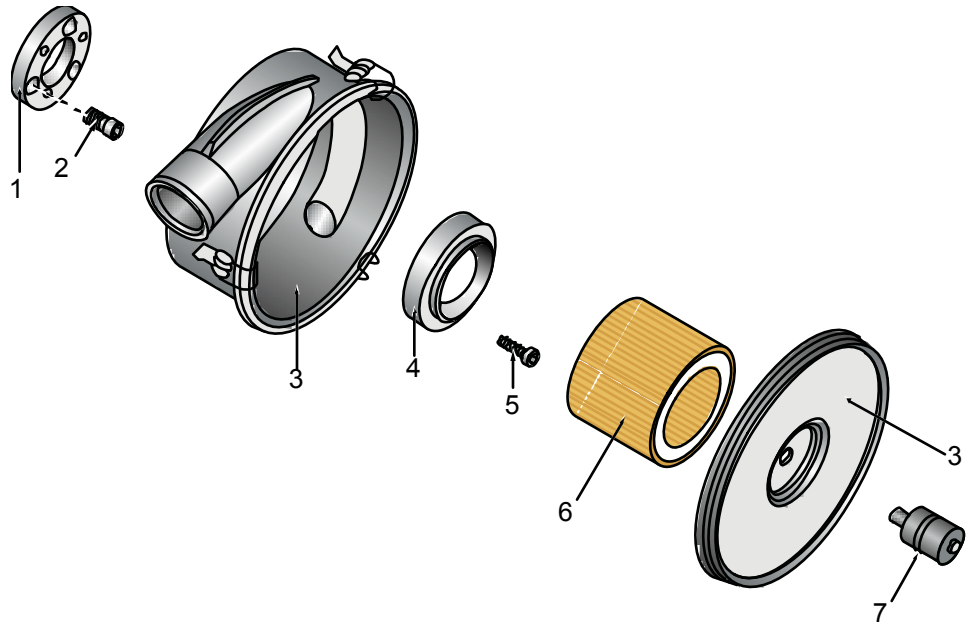
Item	Qty	Part No.	Description	Notes
♦	1	082096	5th Stage Valve Head Assembly	
1	1	081109	Intake Valve	
2	1	082087	Valve Head	
3	1	014121	Discharge Valve	Includes Item 4
4	1	N2789	O-ring	
5	1	082086	Valve Head Cover	
6	6	N58	Washer	
7	6	N17730	Hex Head Bolt	
8	1	88609	Acorn Nut	
9	1	N3625	Gasket	
10	1	N124608	Stud	

Figure 3-32 Flywheel Drive Assembly



Item	Qty	Part No.	Description	Notes
♦	1	161475	Flywheel Drive Assembly	Banded
1	1	129360-RA19010	V-belt Pulley	
2	6	128837	Fan Blade Support	
3	18	79239	Blade, Fan CCW	
4	36	N19508	Hex Head Screw	M6 x 16
5	36	WAS-0029	Washer, Split Lock	6 mm
6	1	68646	Washer	
7	1	WAS-0002	Washer, Split Lock	
8	1	N19523	Hex Head Cap Screw	

Figure 3-33 Intake Filter Assembly



Item	Qty	Part No.	Description	Notes
♦	1	079706	Intake Filter Assembly	
1	1	79679	Manifold, Air Intake	
2	3	N171	Socket Head Cap Screw	
3	1	88797	Housing, Intake Filter	
4	1	79464	Flange	
5	3	N19535	Allen Screw	
6	1	N25886	Element, Intake Filter	
7	1	N2221	Indicator, Maintenance	

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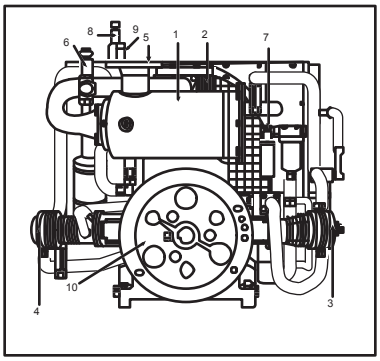
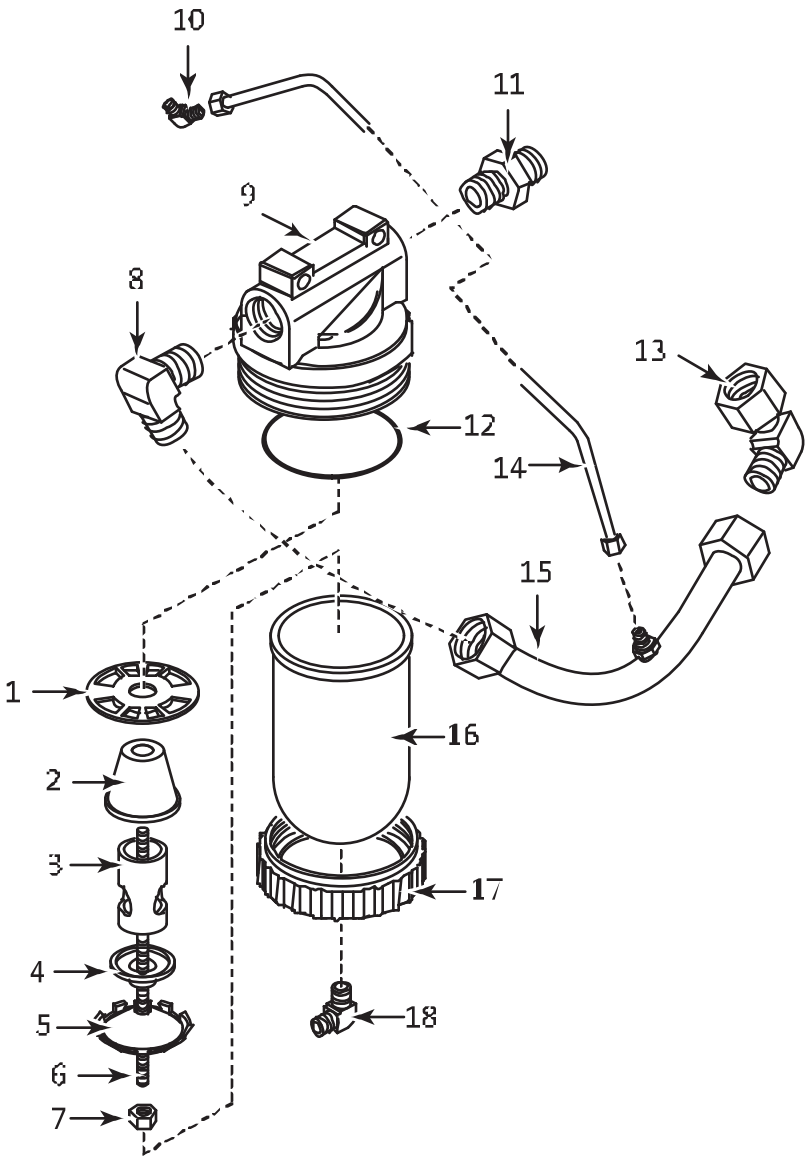


Figure 3-34 1st Stage Interfilter *(Optional)*

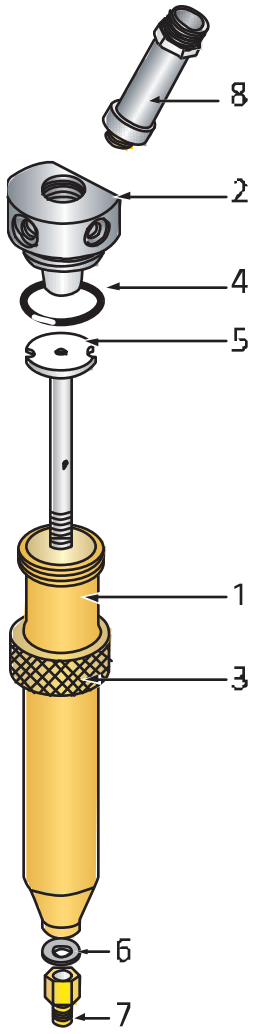


Item	Qty	Part No.	Description	Notes
♦	1	160918	1st Stage Interfilter Assembly	
1	1	N2484	Distributing Plate	
2	1	N2483	Baffle Funnel	
3	1	61751	Tube	
4	1	N2480	Baffle Plate	
5	1	N2479	Baffle Washer	
6	1	N3677	Stud	
7	1	N1042	Hex Nut, Self Locking	
8	1	N20304	Screwed Socket, Elbow	

Figure 3-34 (cont.) 1st Stage Interfilter *(Optional)*

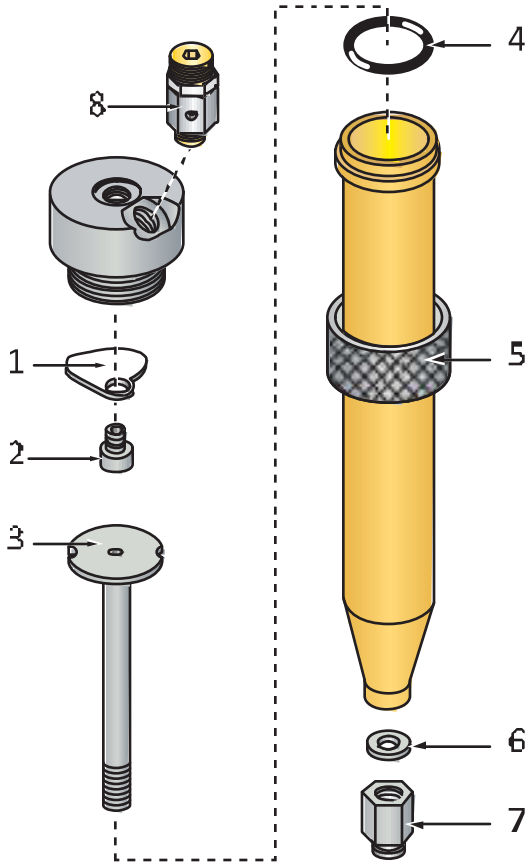
Item	Qty	Part No.	Description	Notes
9	1	80261	Interfilter	includes #1-7, 12, 16 & 17
10	1	N20058	Screwed Socket, Elbow	
11	1	N20075	Straight Male Socket	
12	1	N19122	O-ring	
13	1	N20485	Adjustable Screwed Socket	
14	1	83505	Connecting Tube Assembly	
15	1	83503	Connecting Tube Assembly	
16	1	N22966	Separator	
17	1	N3511	Screw Cap	
18	1	N20207	Screwed Socket, Elbow	

Figure 3-35 2nd Stage Interstage Separator



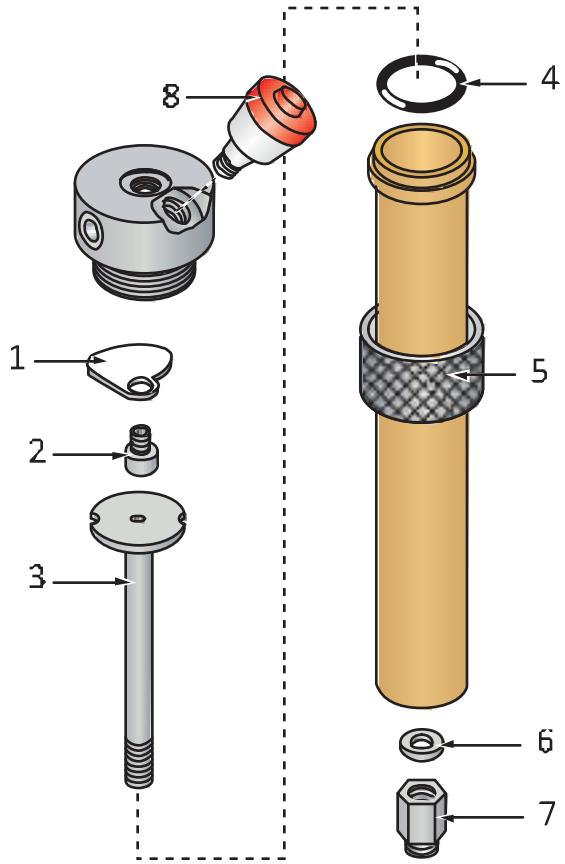
Item	Qty	Part No.	Description	Notes
♦	1	077387	Interstage Separator Assembly	
1	†	…	Filter Housing	Available only with 077387
2	†	…	Filter Head	Available only with 077387
3	1	13937	Collar, Threaded Knurled	
4	1	N3556	O-ring	
5	1	76613	Tube and Baffle	
6	1	N1316	Gasket	
7	1	N20215	Fitting	
8	1	081810	Safety Valve	

Figure 3-36 3rd Stage Interstage Separator



Item	Qty	Part No.	Description	Notes
♦	1	081798	Interstage Separator Assembly	
1	1	081178	Plate	
2	1	081643	Hollow Screw	
3	1	076613	Insert Assembly	
4	1	N3556	O-ring	
5	1	013937	Knurled Ring	
6	1	N1316	Gasket	
7	1	N20215	Fitting	
8	1	012886	Safety Valve	

Figure 3-37 4th Stage Interstage Separator



Item	Qty	Part No.	Description	Notes
♦	1	081130	Interstage Separator Assembly	
1	1	081148	Plate	
2	1	081643	Hollow Screw	
3	1	081172	Inset Assembly	
4	1	N3556	O-ring	
5	1	069173	Knurled Ring	
6	1	N1316	Gasket	
7	1	N20215	Fitting	
8	1	065410-180	Safety Valve	

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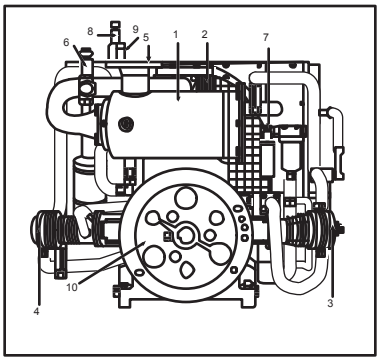
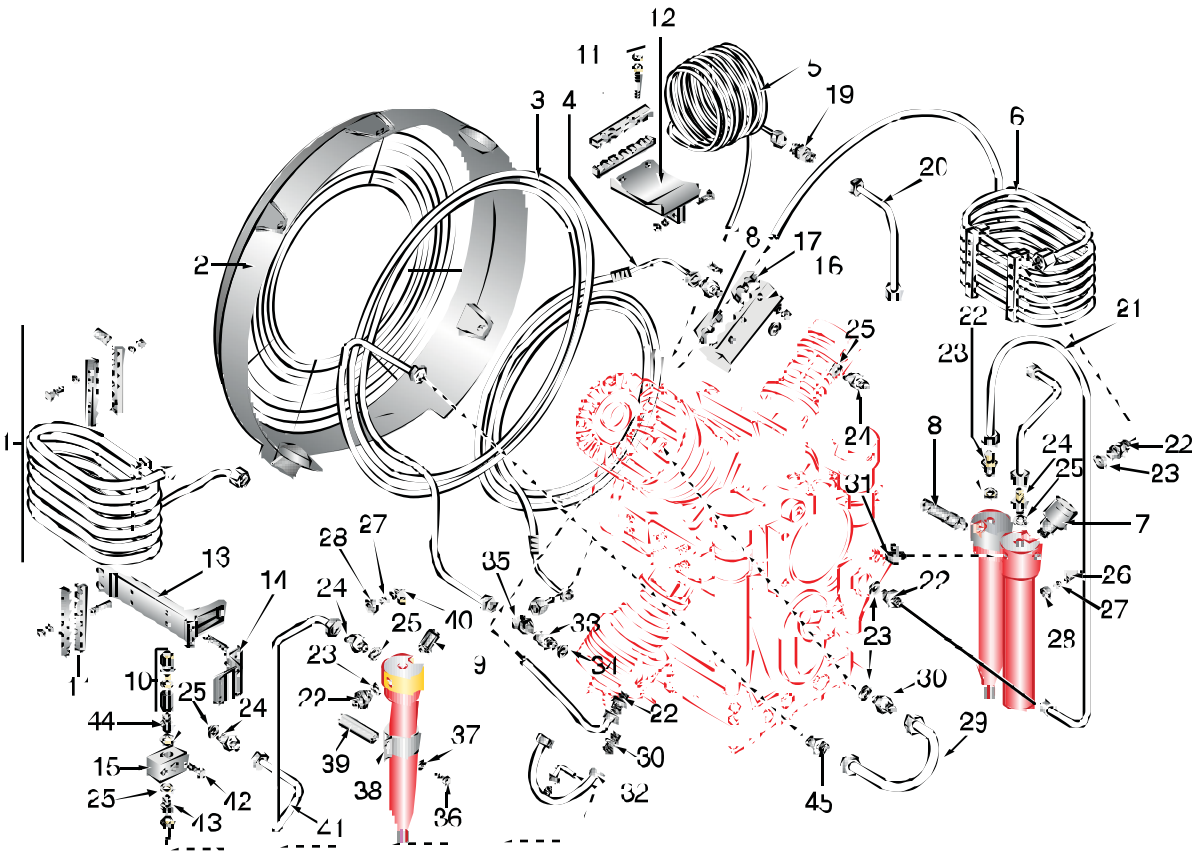


Figure 3-38 Cooling System Assembly

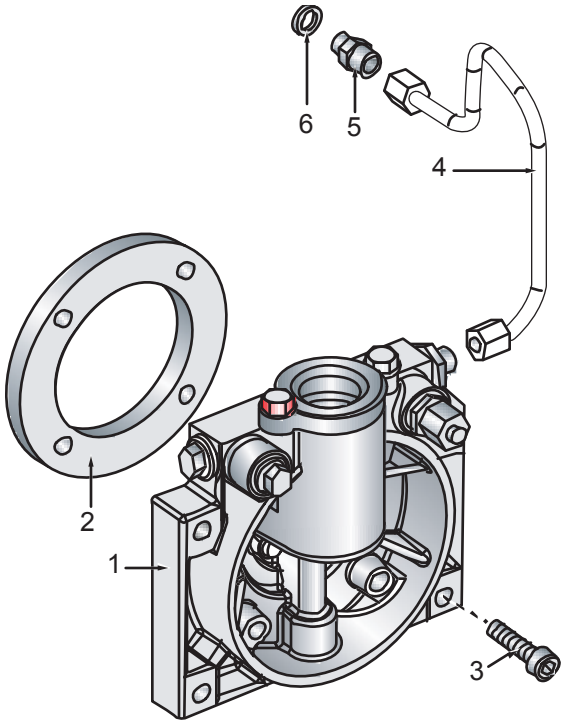


Item	Qty	Part No.	Description	Notes
♦	1	79916	Cooling System Assembly	
1	1	79961	3rd Stage Intercooler	
2	1	060709	Fan Screen	
3	1	79967	1st stage Intercooler	
4	1	79936	Aftercooler	
5	1	79963	4th Stage Intercooler	
6	1	79957	2nd Stage Intercooler	
7	1	065410-180	Safety Valve, 4th Stage	180 bar
8	1	081810	Safety Valve, 2nd Stage	24 bar
9	1	012886	Safety Valve, 3rd Stage	80 bar
10	1	083274	Safety Valve, 1st Stage	6 bar
11	4	…	Bracket Assembly	each consisting of:
—	2	62773	Bracket	
—	2	N3494	Stud	
—	2	N102	Washer	
—	2	N1042	Self Locking Hex Nut	
12	1	68889	Bracket	

Figure 3-38 (cont.) Cooling System Assembly

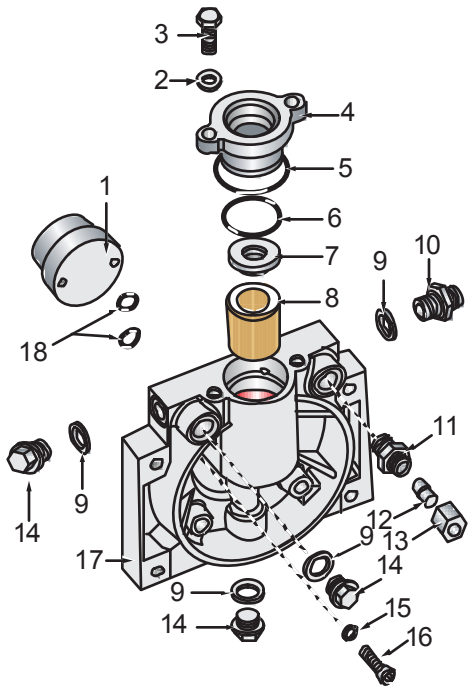
Item	Qty	Part No.	Description	Notes
13	2	60751	Mounting	
14	1	60716	Mounting	
15	1	60717	Support	
16	4	79637	Bracket	
17	3	71195-M	Clamp	
18	9	60694-M	Clamp	
19	1	N20310	Connector	
20	1	81240	Connecting Tube	
21	1	070079	Connecting Tube	
22	5	N20231	Straight Male Coupling	
23	5	N293	Gasket	
24	4	N20059	Fitting	
25	6	N1316	Gasket	
26	1	N20008	Tee Coupling	
27	2	N4530	Plug	
28	2	N7430	Screw Cap	
29	1	79919	Connecting Tube	
30	1	N20060	Connector	
31	1	N22719	Elbow	
32	1	070043	Connecting Tube	
33	1	71598	Connector	
34	1	56983	Gasket	
35	1	N20200	Elbow	
36	4	N171	Allen Screw	
37	8	N58	Washer	
38	3	57070	Tube Clamp	
39	4	69046	Hex Stud	
40	1	N20003	Elbow	
41	1	070080	Connecting Tube	
42	2	N724	Allen Screw	
43	1	N20014	Connector	
44	1	N20201	Connector	
45	1	N20312	Straight Male Connector	

Figure 3-39 Lubricating System Assembly



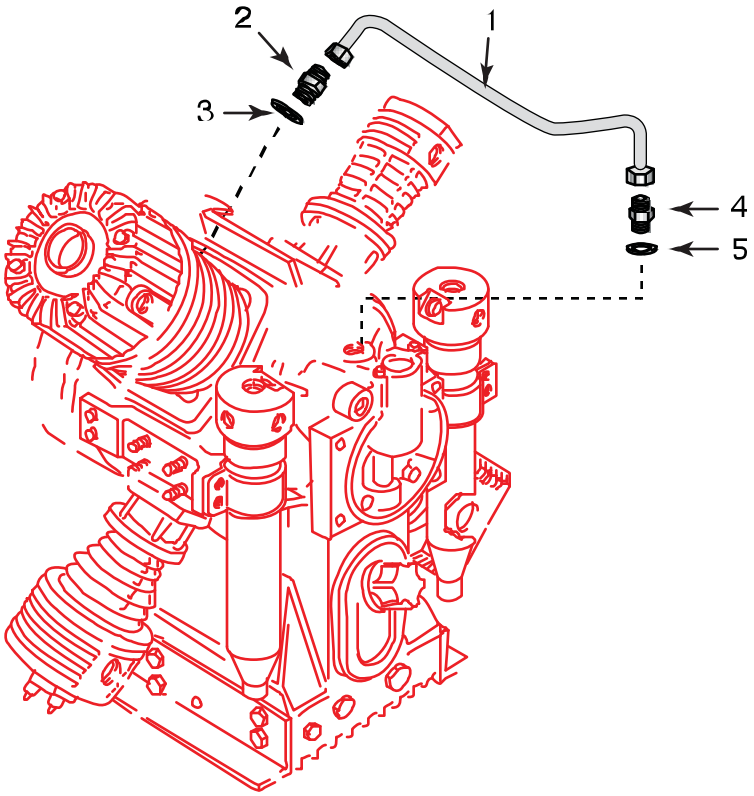
Item	Qty	Part No.	Description	Notes
♦	1	84381	Lubricating System Assembly	
1	1	080345	Lubricating System	See next Figure
2	1	78421	Gasket	
3	4	N123	Socket Head Screw	
4	1	84382	Connecting Tube Assembly	
5	1	N20002	Connector	
6	1	N4501	Gasket	

Figure 3-40 Lubricating System



Item	Qty	Part No.	Description	Notes
♦	1	080345	Lubricating System	
1	1	N24585	Gear Pump	
2	2	N58	Washer	
3	2	N19506	Hex Head Screw	
4	1	77885	Oil Filter Cover	
5	1	N04058	O-ring	
6	1	N25327	O-ring	
7	1	77771	Rubber Gasket	
8	1	N25326	Filter Element	
9	4	N1316	Gasket	
10	1	81050	Regulating Valve	
11	1	N20065	Straight Male Connector	
12	1	N16309	Plug	
13	1	N1049	Screw Cap	
14	3	N52	Plug	
15	2	N2889	Gasket	
16	2	N634	Socket Head Screw	
17	1	077878	Oil Pump Case	
18	2	N3489	O-ring	

Figure 3-41 Crankcase Venting



Item	Qty	Part No.	Description	Notes
♦	1	128126-KD	Crankcase Vent Assembly	
1	1	078918	Connecting Tube Assembly	
2	1	N20188	Male Connector	
3	1	N842	Gasket	
4	1	N20014	Male Connector	
5	1	N1316	Gasket	

3.2 Automatic Condensate Drain System; ASY-4002

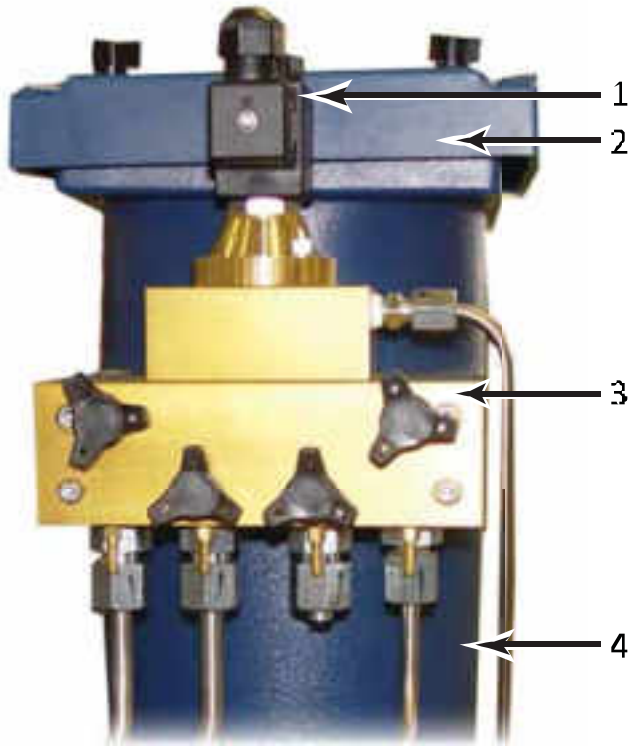
3.2.1 Description

The automatic condensate drain (ACD) system may not be on all units. It must be requested at time of ordering. The ACD system operates electropneumatically and is comprised of the following:

A condensate manifold
An electrically controlled solenoid
A condensate collector tank
A pneumatic condensate drain valve
A condensate separator

The automatic condensate drain system drains the interstage and final separators every 15 minutes during operation. Additionally the automatic condensate drain system unloads the compressor during the starting phase and drains these separators at shutdown of the compressor unit.

Figure 3-42 Automatic Condensate Drain System

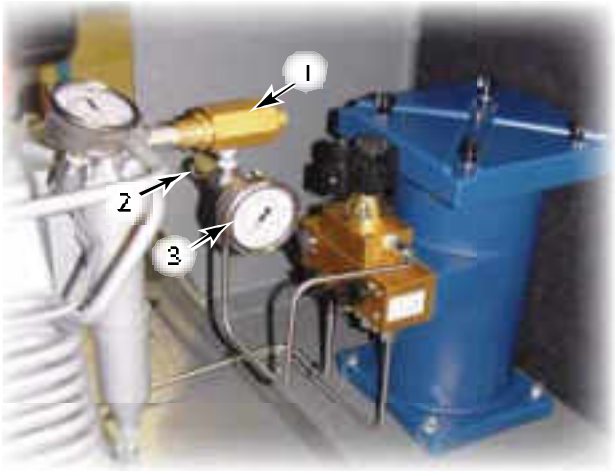


1. Solenoid	3. Condensate Drain Manifold
2. Condensate Separator Cap	4. Condensate Collection Tank

3.2.2 120 II Block Regulator Assembly

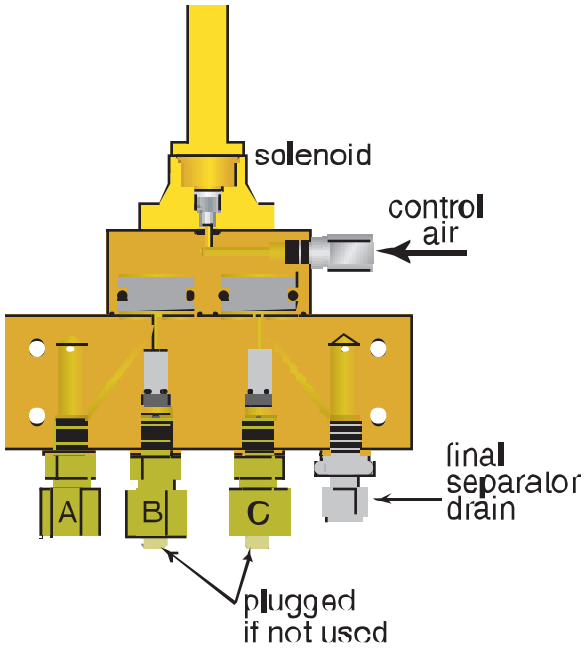
The 120 II block requires a regulator assembly to supply control Gas gas to the ACD drain valve. The regulator assembly consists of a pressure gauge, regulator and a safety valve.

Figure 3-43 120 II Block Regulator Assembly



1. Regulator
2. Safety Valve
3. Pressure Gauge

Figure 3-44 ACD Operation Diagrams



3.2.2.1 ACD Operation

The ACD valve operates with control Gas from the first stage cylinder on 3 stage compressors and from the second stage cylinder on 4 & 5 stage compressors. Upon starting the compressor, the control Gas closes both drain valves. The PLC controls the solenoid which vents the control Gas, allowing the drain valves to release and drain. The standard setting is to open the drain valves every 15 minutes for approxi-

mately 10 seconds. The drain valve on the same side as the control Gas is the final separator drain. (See Figure 3-44)

On 3 stage compressors ports **B** and **C** are plugged. Port **A** drains the 2nd stage separator.

On 4 stage compressors Port **C** is plugged. Port **A** drains the 3rd stage separator and port **B** drains the 2nd stage separator. A check valve is installed in port **B** preventing the second stage from draining until the 3rd stage has drained down to a pressure lower than the pressure of the second stage.

On 5 stage compressors no plugs are installed. Port **A** drains the 3rd stage separator, port **B** drains the 2nd stage separator and, and port **C** drains the 4th stage separator. Port **C** like port **B** has a check valve installed preventing it from draining until the final separator has drained lower than the pressure in the 4th stage separator.

3.2.2.2 Start Unloading

The unloading of the compressor during the starting phase is possible because of the lack of control Gas immediately upon starting the unit. As the unit is switched on the solenoid is energized and closes. After the compressor has attained nominal speed, pressure builds in the interstage separators and the control Gas closes the condensate drain valves. Once these valves close, the compressor delivers to the consuming device.

3.2.2.3 Standstill Drainage

At compressor shutdown, the solenoid is de-energized and opens. This drains the condensate and relieves the pressure in the interstage and final separators.

3.2.2.4 Condensate Drain Separator

The condensate drainage is a mixture of oil, water and Gas. The Condensate Drain Separator is utilized to separate the oil and water from the Gas. The oil and water is then piped to the Condensate Collector Bottle where the oil and water mixture is stored until it can be disposed of properly.

3.2.3 ACD Maintenance

The condensate drain valves are provided with manual drain valves to verify correct operation of the automatic system.

The automatic condensate drain system must be serviced once a week as follows:

1. Open all manual drain valves one after the other.
2. Observe the drainage of condensation.
3. If the system drains more than 2 ounces of liquid per stage, either the system or the corresponding condensate drain valve is not working properly.
4. Find the fault and remedy accordingly.
5. If little or no condensation emerges, the automatic system is operating properly.
6. The condensate collection bottle should be emptied regularly. Due care must be taken to ensure that any oil which is drained with the condensate is disposed of properly. Check local, State and Federal regulations.

If the ACD valve is not functioning properly, a repGas kit, KIT-0377, is available through our parts department. The repGas kit comes with O-rings, gaskets, and other components that may ware down from excessive use. A clear diagram and instructions are also included in the repGas kit.

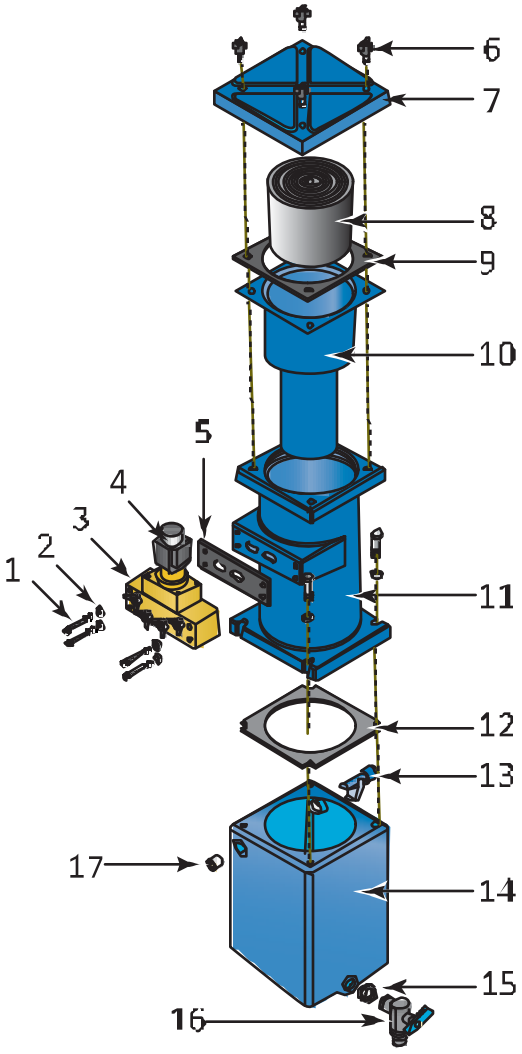
3.3 Condensate Collector

The processed Gas is heated by the compression process then cooled. This causes condensation within the system. The resulting moisture is removed after each compression stage with separators and is collected through the automatic condensate drain system.

This moisture may have a small oil content. The separation of entrained oil is not possible through simple methods; therefore the condensate must be completely removed. It is most practical to collect this condensate in special containers and dispose of it entirely.

For these compressor units a tank assembly is used. A float level switch is also included. The condensate is drained from the tank assembly by the manual drain valve into a separate container for proper disposal.

Figure 3-45 Condensate Collector



1-4.ACD Manifold 5 . ACD Gasket 6 - 11.Separation Tank) 12. Gasket 13. Float Level Switch	14. Condensate Tank 15. Adapter 16. Manual Drain Valve 17. Plug

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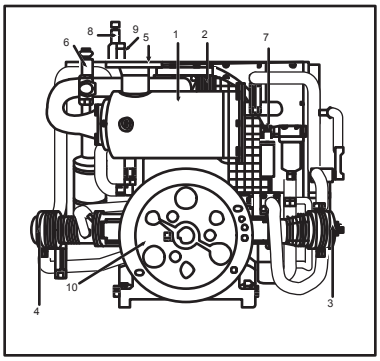
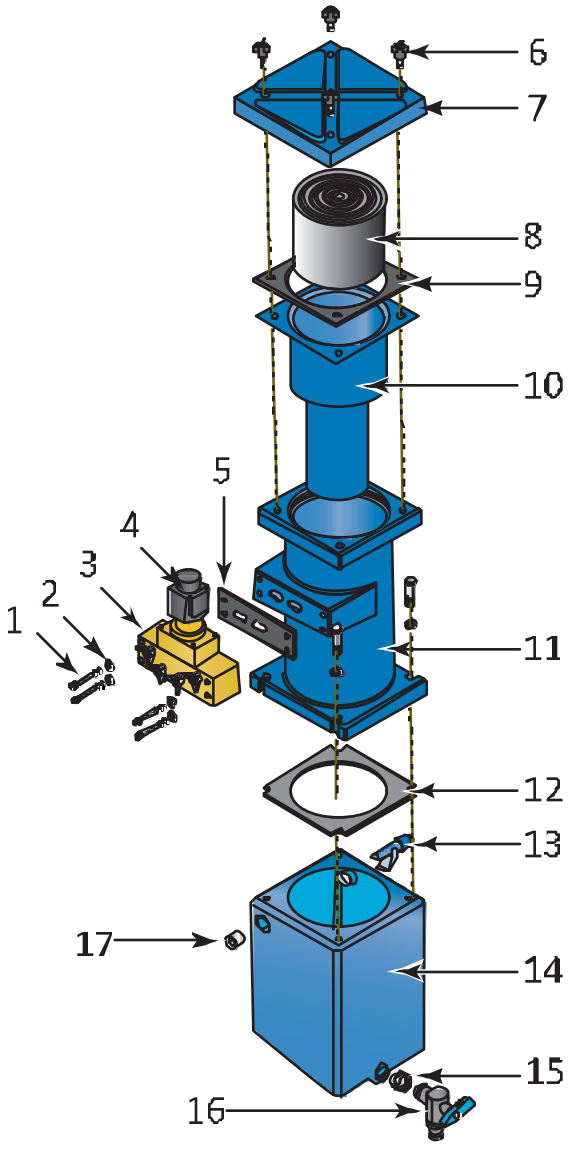


3.3.1 ACD Replacement Parts List

Figure 3-46 ASY-4002 Replacement Parts List

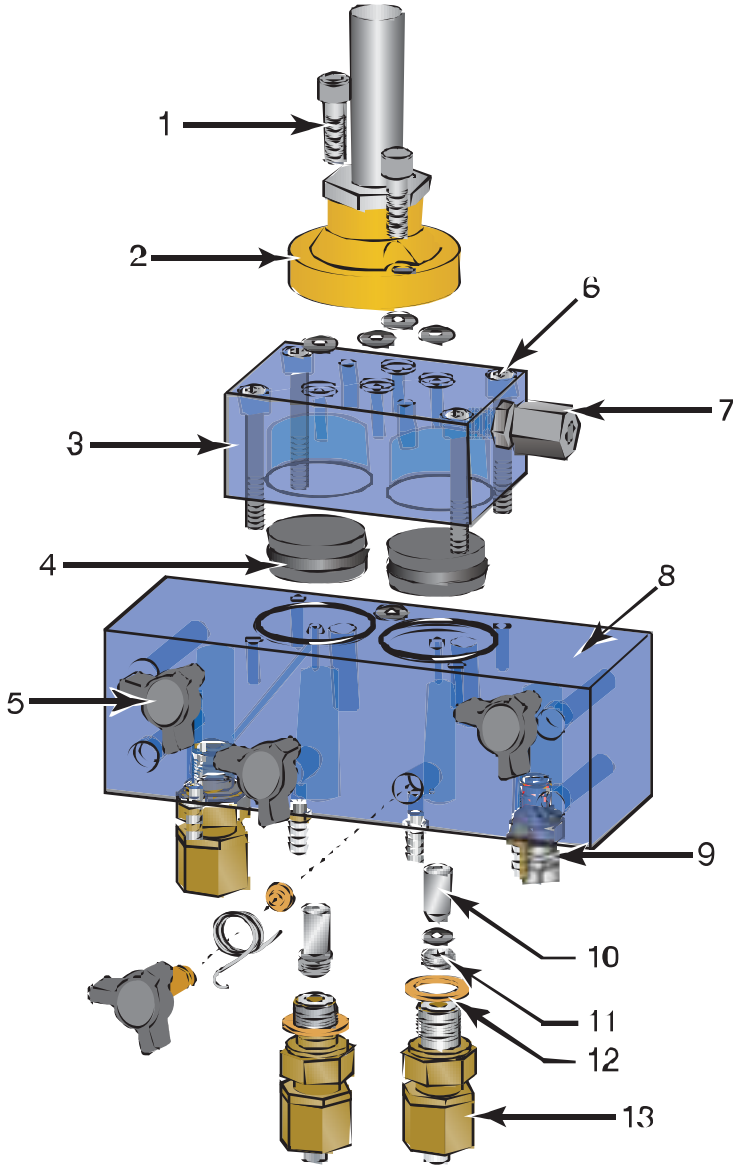


Item	Qty	Part No.	Description	Notes
♦	1	ASY-4002	Automatic Condensate Drain System	
1	4	SCR-0390	Allen Screws	
2	4	WAS-0057	Split Lock Washer	
3	1	ASY-4001	ACD Manifold	See Figure 3-47
4	1	COI-0034	Solenoid, NO	12 Volt DC
or	1	COI-0035	Solenoid, NO	120 Volt AC
or	1	COI-0033	Solenoid, NO	24 V, 20 Watt (black)
5	1	GKT-0073	Gasket	Neoprene
6	4	SCR-0391	Thumb Screws	

Figure 3-46 (cont.) ASY-4002 Replacement Parts List

Item	Qty	Part No.	Description	Notes
7	1	CAP-0103	Condensate Separator	
8	1	ELM-0210	Wire Mesh Filter Element	
9	1	GKT-0074	Gasket	Neoprene
10	1	HUS-0050	Inner Housing	
11	1	HUS-0062	Outer Housing	
12	1	GKT-0078	Gasket	Neoprene
13	1	SWT-0265	Liquid Level Switch	
14	1	TNK-0092	Condensate Tank	1.75 gal.
15	1	RED-0067	Reducer	
16	1	VAL-0137	Manual Drain Valve	
17	1	PLU-0198	Plug	

Figure 3-47 ACD Assembly, ASY-4001

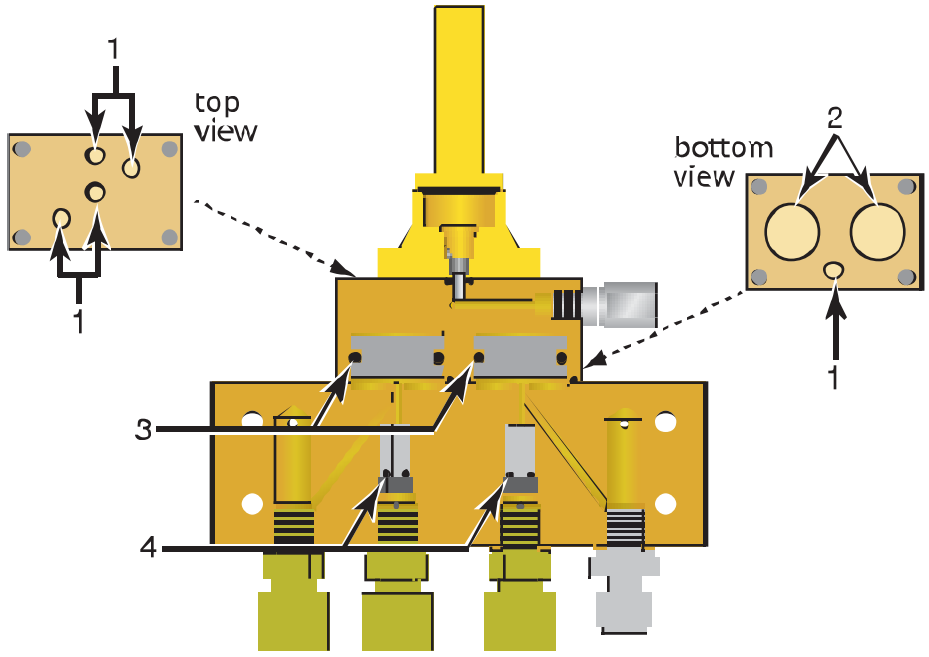


Item	Qty	Part No.	Description	Notes
♦	1	ASY-4001	ACD Valve	
1	2	SCR-0392	Allen Head Screws	
2	1	VAL-0634	Solenoid (body only)	NO
3	1	MFD-0060	Upper ACD	
4	2	PIS-0004	ACD Piston	
5	4	073793	Drain Tap	
6	4	SCR-0393	Allen Head Screw	
&	4	WAS-0057	Split Lock Washer	
7	1	CON-0009	Connector	

Figure 3-47 (cont.) ACD Assembly, ASY-4001

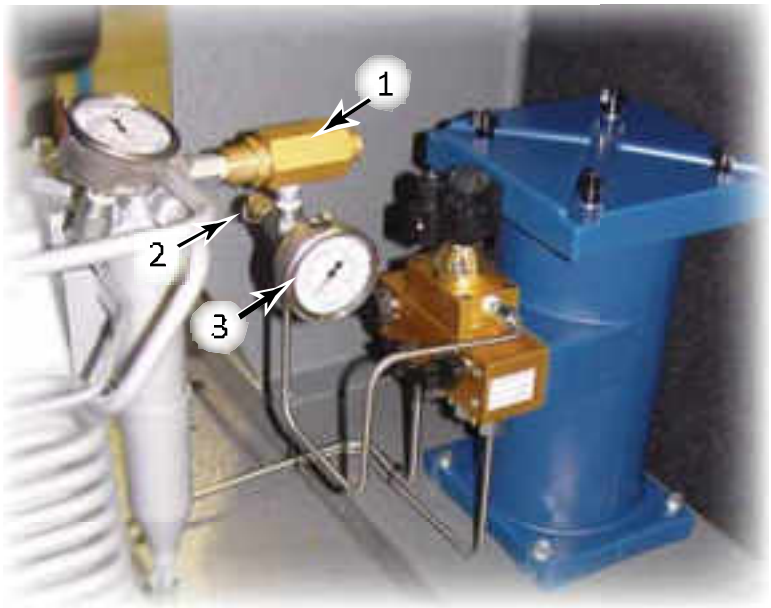
Item	Qty	Part No.	Description	Notes
8	1	MTD-0059	Main ACD	
9	1	CON-0009	Connector	
10	2	VAL-0426	Check Valve	600 psi
11	2	SCR-0383	Set Screw	
12	4	N01316	Sealing Washer	copper
13	3	CON-0061	Connector	

Figure 3-48 ACD O-Rings



Item	Qty	Part No.	Description	Notes
1	5	RNG-0142	O-ring, ACD small	90 Duro
2	2	RNG-0143	O-ring, ACD large	90 Duro
3	2	N03521	O-ring, ACD pistons	75 Duro,
4	2	RNG-0114	O-ring, Check Valves	90 Duro

Figure 3-49 Regulator Assembly [a]



a.Only used with IK 120 II block

Item	Qty	Part No.	Description	Notes
1	1	REG-0043	Pressure Regulator	6,000 psi IN; 0 - 250 psi OUT
2	1	VAL-0017	Safety Valve	225 psi
3	1	GAG-0028W	Pressure Gauge	0 - 300 psi