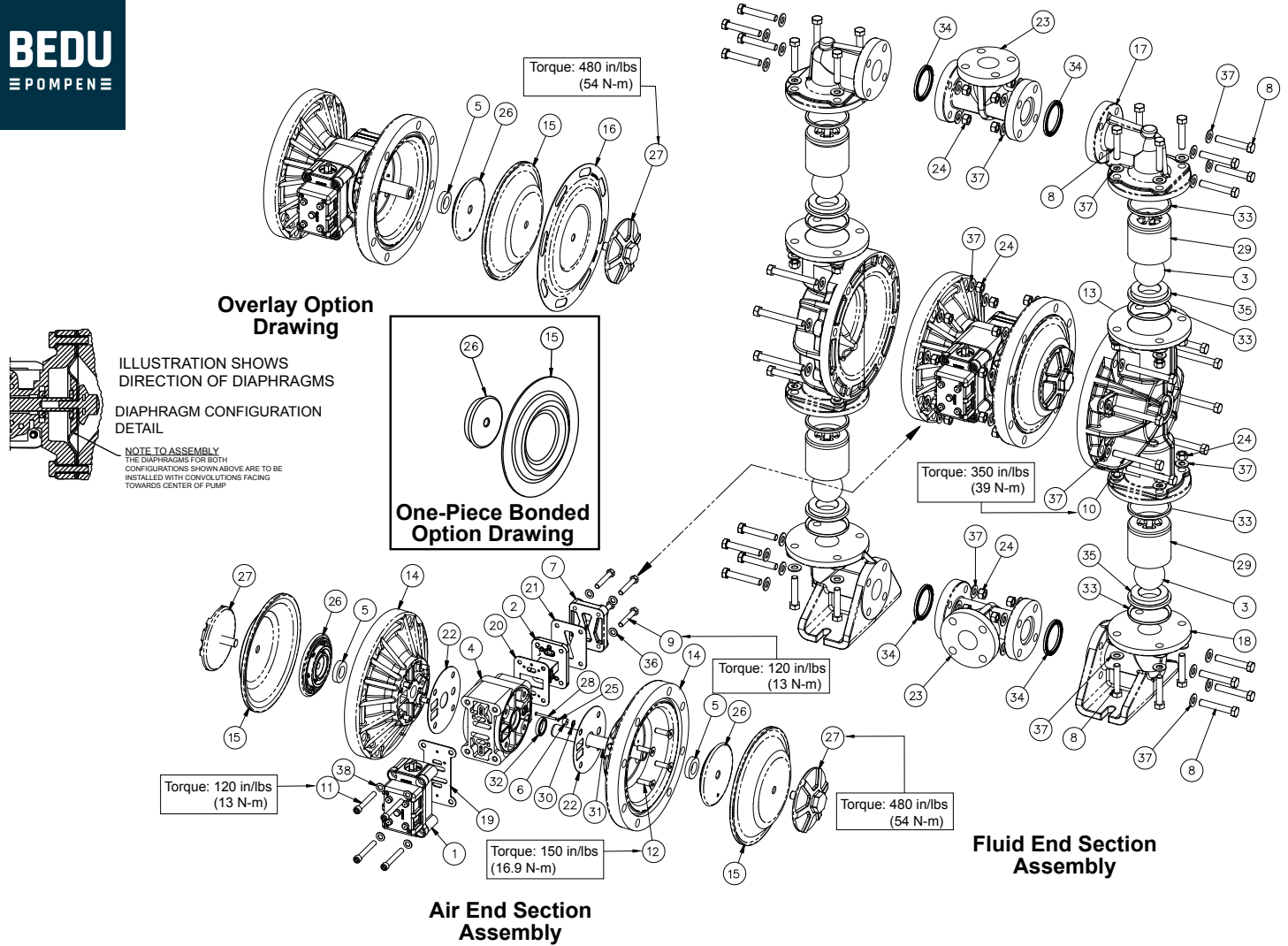


Composite Repair Parts Drawing

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3: EXP VIEW

Service & Repair Kits

- 476-V253-000 Air End Kit**
Seals, O-Rings, Gaskets, Retaining Rings, Air Valve Sleeve & Spool Set and Pilot Valve Assembly
- 476-V253-559 Air End Kit (for Conductive Polypropylene pumps)**
Seals, O-Rings, Gaskets, Retaining Rings, Air Valve Sleeve & Spool Set and Pilot Valve Assembly
- 476-V255-354 Wetted End Kit**
Santoprene Diaphragms, Santoprene Balls and TFE Seals
- 476-V255-654 Wetted End Kit**
Santoprene Diaphragms, PTFE Overlay Diaphragms, PTFE Balls and PTFE Seals

Composite Repair Parts List

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
①	031-140-000	Air Valve Assembly	1	26	612-195-157	Inner, Plate Diaphragm	2
	▲ 031-140-001	Air Valve Assembly	1		612-227-150	Inner Diaphragm Plate (One-Piece Bonded Option)	2
	031-141-000	Air Valve Assembly (No Muffler)	1	27	▲ 612-225-520	Outer, Plate Diaphragm	2
	▲ 031-141-001	Air Valve Assembly (No Muffler)	1		612-225-552	Outer, Plate Diaphragm	2
②	095-110-558	Pilot Valve Assembly	1	28	620-004-114	Plunger, Actuator	2
③	050-036-354	Ball, Check	4	29	▲ 670-045-520	Retainer, Ball	4
	050-036-357	Ball, Check	4		670-045-552	Retainer, Ball	4
	050-036-360	Ball, Check	4	30	675-042-115	Ring, Retainer	2
	050-036-365	Ball, Check	4	31	685-063-120	Rod, Diaphragm	1
	050-036-600	Ball, Check	4	32	▲ 720-004-360	Seal, U-Cup	2
4	114-024-551	Intermediate Assembly	1	33	720-035-600	Seal, Check Valve Assembly	8
	▲ 114-024-559	Intermediate Assembly	1	34	720-037-600	Seal, Manifold	4
⑤	132-035-357	Bumper, Diaphragm	2	35	722-074-520	Seat, Check Valve	4
⑥	135-034-506	Bushing, Plunger	2		722-074-552	Seat, Check Valve	4
7	165-118-551	Air Inlet Cap Assembly	1	36	▲ 901-038-115	Washer, Flat 5/16"	4
	▲ 165-118-559	Air Inlet Cap Assembly	1		901-038-308	Washer, Flat 5/16"	4
8	170-055-115	Capscrew, Hex HD 1/2-13 x 2.50	32	37	901-046-115	Washer, Flat 1/2"	96
	170-055-308	Capscrew, Hex HD 1/2-13 x 2.50	32		901-046-308	Washer, Flat 1/2"	96
9	170-069-115	Capscrew, Hex HD 5/16-18 x 1.75	4	38	901-048-115	Washer, Flat 3/8"	4
	170-069-308	Capscrew, Hex HD 5/16-18 x 1.75	4		901-048-308	Washer, Flat 3/8"	4
10	170-092-115	Capscrew, Hex HD 1/2-13 x 4.00	16				
	170-092-308	Capscrew, Hex HD 1/2-13 x 4.00	16				
11	171-053-115	Capscrew, Soc HD 3/8-16 x 2.75	4				
	171-053-308	Capscrew, Soc HD 3/8-16 x 2.75	4				
12	171-078-115	Capscrew, Flat HD 3/8-16 x1.25	8				
13	196-187-520	Chamber, Outer	2				
	196-187-552	Chamber, Outer	2				
	▲ 196-187-557	Chamber, Outer	2				
14	196-188-551	Chamber, Inner	2				
	▲ 196-188-559	Chamber, Inner	2				
15	286-005-354	Diaphragm	2				
	286-005-357	Diaphragm	2				
	286-005-360	Diaphragm	2				
	286-005-363	Diaphragm	2				
	286-005-365	Diaphragm	2				
	286-114-000	Diaphragm, One-Piece Bonded PTFE	2				
16	286-119-600	Diaphragm, Overlay	2				
17	312-101-520	Elbow, Discharge	2				
	312-101-552	Elbow, Discharge	2				
	▲ 312-101-557	Elbow, Discharge	2				
18	312-115-520	Elbow, Suction	2				
	312-115-552	Elbow, Suction	2				
	▲ 312-115-557	Elbow, Suction	2				
19	360-093-360	Gasket, Main Air Valve	1				
20	360-103-360	Gasket, Pilot Valve	1				
21	360-104-360	Gasket, Air Inlet Cap	1				
	▲ 360-104-379	Gasket, Air Inlet Cap (Conductive Models Only)	1				
22	360-107-360	Gasket, Inner Chamber	2				
23	518-228-520	Manifold	2				
	518-228-552	Manifold	2				
	▲ 518-228-557	Manifold	2				
24	545-008-110	Nut, Hex 1/2-13	32				
	545-008-308	Nut, Hex 1/2-13	32				
25	560-001-360	O-Ring	2				

NOT SHOWN:

530-033-000 Muffler 1

LEGEND:

○ = Items contained within Air End Kits

□ = Items contained within Wet End Kits

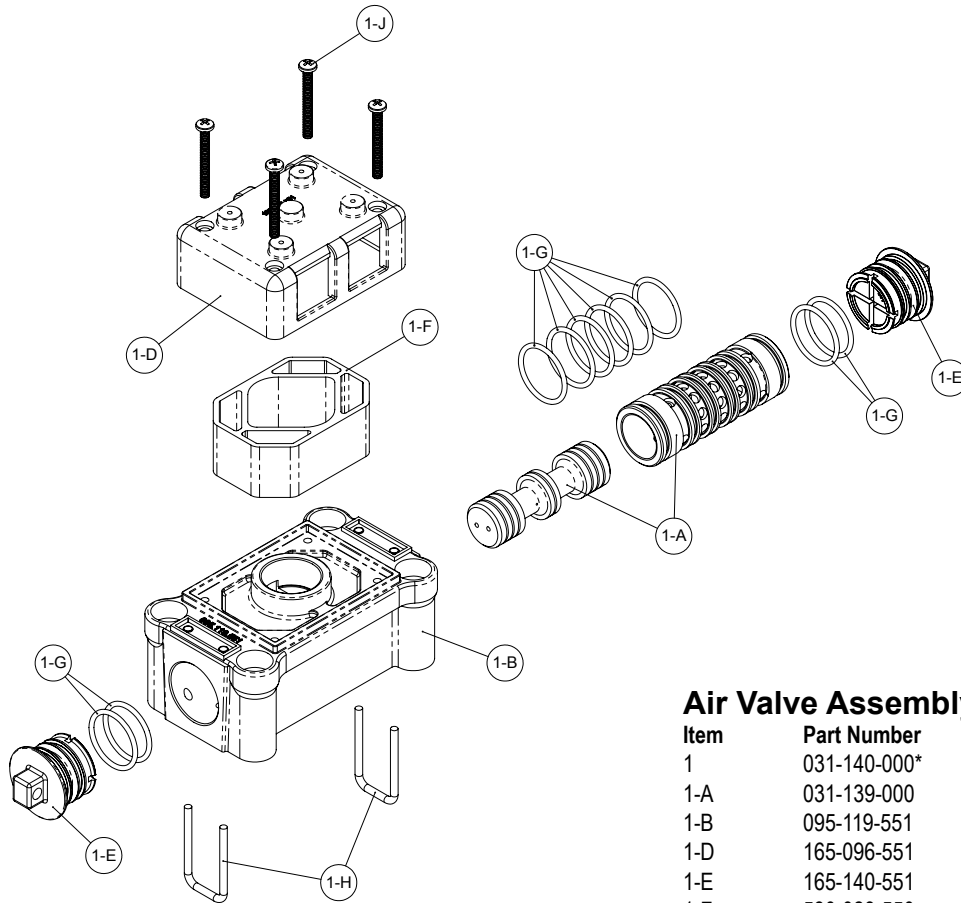
Note: Kits contain components specific to the material codes.

 **ATEX Compliant**

Material Codes - The Last 3 Digits of Part Number

000.....Assembly, sub-assembly; and some purchased items	364.....EPDM Rubber Color coded: BLUE	• Delrin and Hytrel are registered tradenames of E.I. DuPont.
010.....Cast Iron	365.....Neoprene Rubber Color coded: GREEN	• Nylatron is a registered tradename of Polymer Corp.
015.....Ductile Iron	366.....Food Grade Nitrile	• Gylon is a registered tradename of Garlock, Inc.
020.....Ferritic Malleable Iron	368.....Food Grade EPDM	• Santoprene is a registered tradename of Exxon Mobil Corp.
080.....Carbon Steel, AISI B-1112	371.....Philthane (Tuftane)	• Rulon II is a registered tradename of Dixon Industries Corp.
110.....Alloy Type 316 Stainless Steel	374.....Carboxylated Nitrile	• Ryton is a registered tradename of Phillips Chemical Co.
111.....Alloy Type 316 Stainless Steel (Electro Polished)	375.....Fluorinated Nitrile	• Valox is a registered tradename of General Electric Co.
112.....Alloy C	378.....High Density Polypropylene	
113.....Alloy Type 316 Stainless Steel (Hand Polished)	379.....Conductive Nitrile	
114.....303 Stainless Steel	408.....Cork and Neoprene	
115.....302/304 Stainless Steel	425.....Compressed Fibre	
117.....440-C Stainless Steel (Martensitic)	426.....Blue Gard	
120.....416 Stainless Steel (Wrought Martensitic)	440.....Vegetable Fibre	
148.....Hardcoat Anodized Aluminum	500.....Delrin® 500	
150.....6061-T6 Aluminum	502.....Conductive Acetal, ESD-800	
152.....2024-T4 Aluminum (2023-T351)	503.....Conductive Acetal, Glass-Filled	
155.....356-T6 Aluminum	506.....Delrin® 150	
156.....356-T6 Aluminum	520.....Injection Molded PVDF Natural color	
157.....Die Cast Aluminum Alloy #380	540.....Nylon	
158.....Aluminum Alloy SR-319	542.....Nylon	
162.....Brass, Yellow, Screw Machine Stock	544.....Nylon Injection Molded	
165.....Cast Bronze, 85-5-5-5	550.....Polyethylene	
166.....Bronze, SAE 660	551.....Glass Filled Polypropylene	
170.....Bronze, Bearing Type, Oil Impregnated	552.....Unfilled Polypropylene	
180.....Copper Alloy	555.....Polyvinyl Chloride	
305.....Carbon Steel, Black Epoxy Coated	556.....Black Vinyl	
306.....Carbon Steel, Black PTFE Coated	557.....Unfilled Conductive Polypropylene	
307.....Aluminum, Black Epoxy Coated	558.....Conductive HDPE	
308.....Stainless Steel, Black PTFE Coated	559.....Glass Filled - Conductive Polypropylene	
309.....Aluminum, Black PTFE Coated	570.....Rulon II®	
313.....Aluminum, White Epoxy Coated	580.....Ryton®	
330.....Zinc Plated Steel	600.....PTFE (virgin material) Tetrafluorocarbon (TFE)	
332.....Aluminum, Electroless Nickel Plated	603.....Blue Gylon®	
333.....Carbon Steel, Electroless Nickel Plated	604.....PTFE	
335.....Galvanized Steel	606.....PTFE	
337.....Silver Plated Steel	607.....Envelon	
351.....Food Grade Santoprene®	608.....Conductive PTFE	
353.....Geolast; Color: Black	610.....PTFE Encapsulated Silicon	
354.....Injection Molded #203-40 Santoprene® Duro 40D +/-5; Color: RED	611.....PTFE Encapsulated FKM	
356.....Hytrel®	632.....Neoprene/Hytrel®	
357.....Injection Molded Polyurethane	633.....FKM/PTFE	
358.....Urethane Rubber (Some Applications) (Compression Mold)	634.....EPDM/PTFE	
359.....Urethane Rubber	635.....Neoprene/PTFE	
360.....Nitrile Rubber Color coded: RED	637.....PTFE, FKM/PTFE	
363.....FKM (Fluorocarbon) Color coded: YELLOW	638.....PTFE, Hytrel®/PTFE	
	639.....Nitrile/TFE	
	643.....Santoprene®/EPDM	
	644.....Santoprene®/PTFE	
	656.....Santoprene® Diaphragm and Check Balls/EPDM Seats	
	661.....EPDM/Santoprene®	
	666.....FDA Nitrile Diaphragm, PTFE Overlay, Balls, and Seals	
	668.....PTFE, FDA Santoprene®/PTFE	

Air Distribution Valve Assembly



Air Distribution Valve Servicing

See repair parts drawing, remove screws.

Step 1: Remove staple retainer (1-H).

Step 2: Remove end cap (1-E).

Step 3: Remove spool part of (1-A) (caution: do not scratch).

Step 4: Press sleeve (1-A) from body (1-B).

Step 5: Inspect O-Ring (1-H) and replace if necessary.

Step 6: Lightly lubricate O-Rings (1-H) on sleeve (1-A).

Step 7: Press sleeve (1-A) into body (1-B).

Step 8: Reassemble in reverse order, starting with step 3.

Note: Sleeve and spool (1-A) set is match ground to a specified clearance sleeve and spools (1-A) cannot be interchanged.

Air Valve Assembly Parts List

Item	Part Number	Description	Qty
1	031-140-000*	Air Valve Assembly	1
1-A	031-139-000	Sleeve and Spool Set	1
1-B	095-119-551	Body, Air Valve	1
1-D	165-096-551	Cap, Muffler	1
1-E	165-140-551	Cap, End	2
1-F	530-028-550	Muffler	1
1-G	560-020-360	O-Ring	10
1-H	675-068-115	Staple	2
1-J	710-015-115	Screw, Self-tapping	4

For Pumps with Piped Exhaust:

1	031-141-000*	Air Valve Assembly	1
(Includes all items used on 031-140-000 minus items 1-D, 1-F & 1-J)			

Air Valve Assembly Parts List

Item	Part Number	Description	Qty
⚠ 1	031-140-001	Air Valve Assembly	1
1-A	031-139-000	Sleeve and Spool Set	1
1-B	095-119-559	Body, Air Valve	1
1-D	165-096-559	Cap, Muffler	1
1-E	165-140-559	Cap, End	2
1-F	530-028-550	Muffler	1
1-G	560-020-360	O-Ring	10
1-H	675-068-115	Staple	2
1-J	710-015-115	Screw, Self-tapping	4

⚠ For Pumps with Metal Mesh Muffler or Piped Exhaust:			
1	031-141-001	Air Valve Assembly	1
(Includes all items used on 031-140-001 minus items 1-D, 1-F & 1-J)			

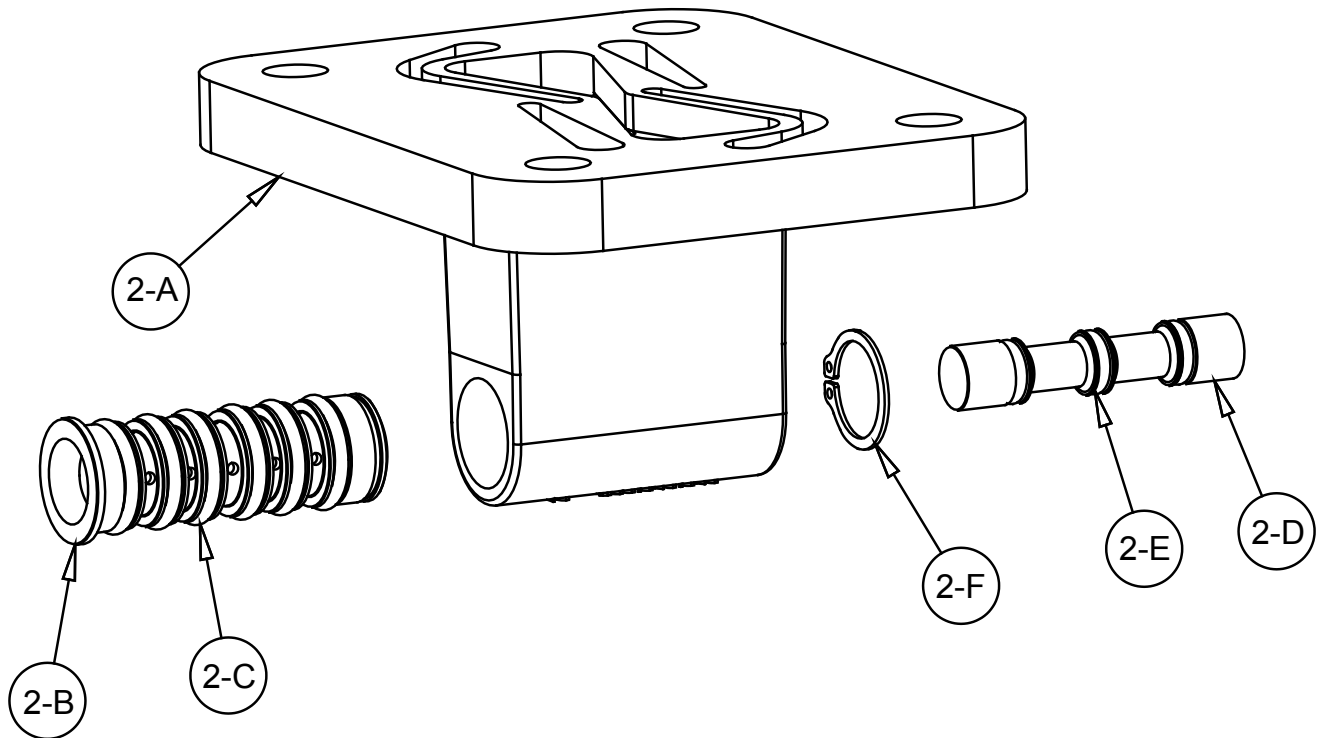
⚠ IMPORTANT



Read these instructions completely, before installation and start-up. It is the responsibility of the purchaser to retain this manual for reference. Failure to comply with the recommendations stated in this manual will damage the pump, and void factory warranty.

⚠ **ATEX Compliant**

Pilot Valve Assembly



Pilot Valve Servicing

With Pilot Valve removed from pump.

Step 1: Remove snap ring (2-F).

Step 2: Remove sleeve (2-B), inspect O-Rings (2-C), replace if required.

Step 3: Remove spool (2-D) from sleeve (2-B), inspect O-Rings (2-E), replace if required.

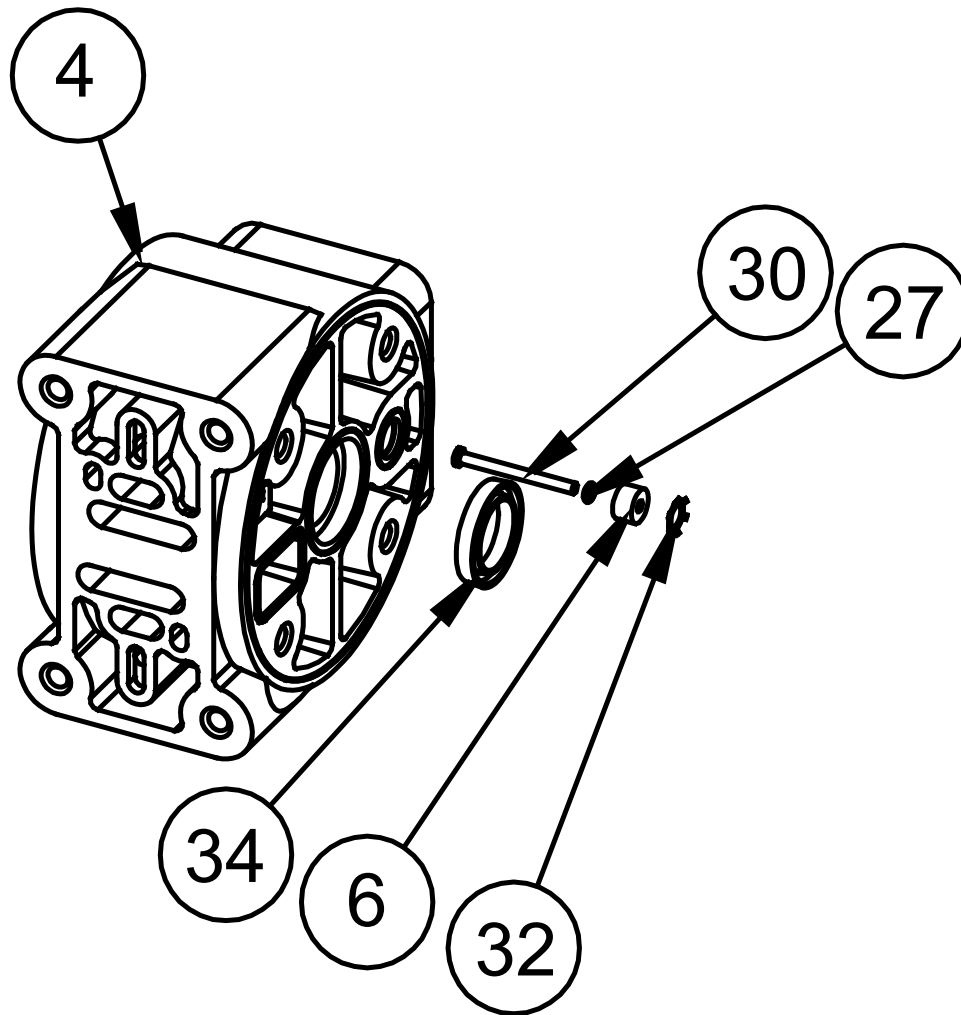
Step 4: Lightly lubricate O-Rings (2-C) and (2-E).

Reassemble in reverse order.

Pilot Valve Assembly Parts List

Item	Part Number	Description	Qty
2	095-110-558	Pilot Valve Assembly	1
2-A	095-095-558	Valve Body	1
2-B	755-052-000	Sleeve (With O-Rings)	1
2-C	560-033-360	O-Ring (Sleeve)	6
2-D	775-055-000	Spool (With O-Rings)	1
2-E	560-023-360	O-Ring (Spool)	3
2-F	675-037-080	Retaining Ring	1


Intermediate Assembly Drawing



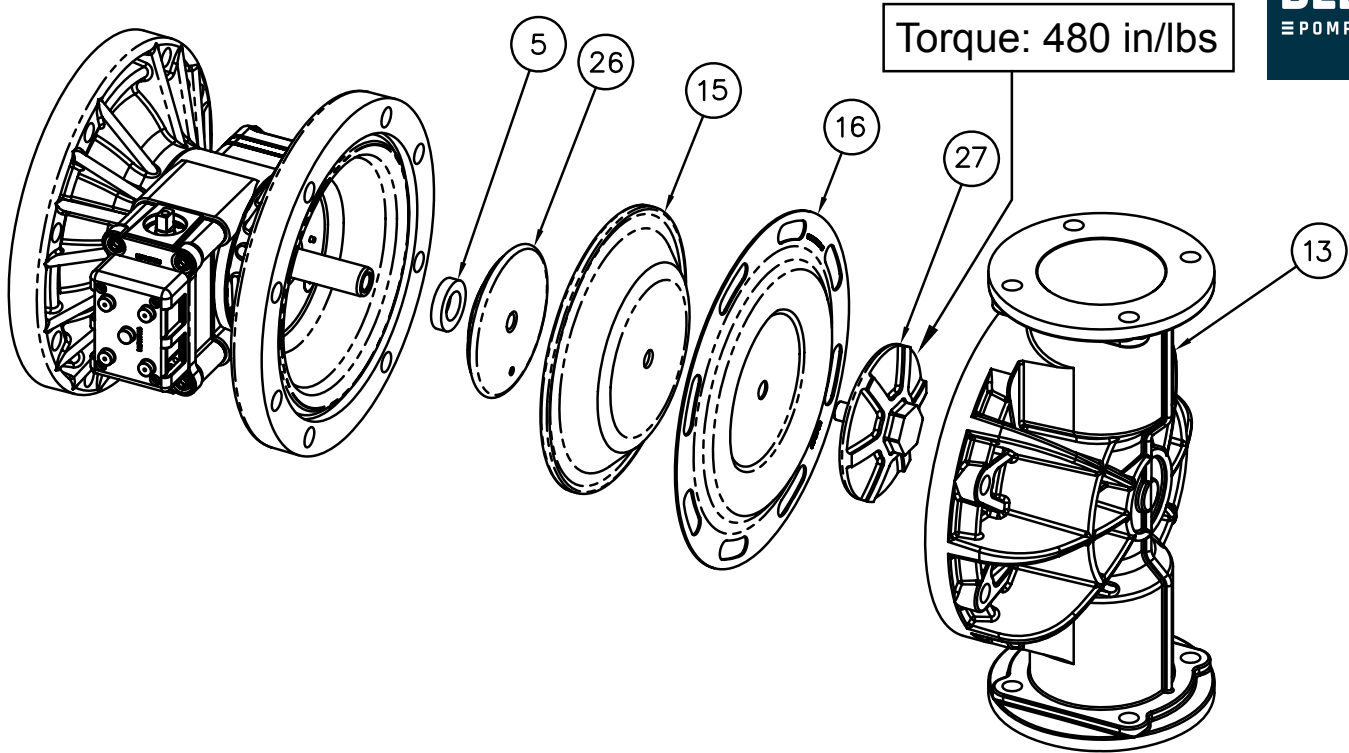
Intermediate Assembly Drawing

- Step 1:** Remove plunger, actuator (28) from center of intermediate pilot valve cavity.
- Step 2:** Remove Ring, Retaining (30), discard.
- Step 3:** Remove bushing, plunger (6), inspect for wear and replace if necessary with genuine parts.
- Step 4:** Remove O-Ring (25), inspect for wear and replace if necessary with genuine parts.
- Step 5:** Lightly lubricate O-Ring (25) and insert into intermediate.
- Step 6:** Reassemble in reverse order.
- Step 7:** Remove Seal, Diaphragm Rod (32).
- Step 8:** Clean seal area, lightly lubricate and install new Seal, Diaphragm Rod (32).

⚠ IMPORTANT

 When the pumped product source is at a higher level than the pump (flooded suction condition), pipe the exhaust higher than the product source to prevent siphoning spills. In the event of a diaphragm failure a complete rebuild of the center section is recommended.

Diaphragm Service Drawing with Overlay



Diaphragm Service Drawing, Non-Overlay

