

PARTS LIST / 66605X-X FLUID SECTION

☆ **637140-XX Fluid Section Service Kits** include: Balls (see "BALL OPTIONS", refer to -XX in chart below), Diaphragms (see "DIAPHRAGM OPTIONS", refer to -XX in chart below), plus "O" ring items: 2, 19, 20, 33 and 93706-1 Key-Lube grease (page 6).

SEAT OPTIONS				BALL OPTIONS							
ITEM "21"				ITEM "22" (3/4" dia.) (Service Kit -XX)							
-XXX	Seat	Qty	[Mtl]	-XXX	Ball	Qty	[Mtl]	-XXX	Ball	Qty	[Mtl]
-2XX	93409-1	(4)	[SS]	-X1X	93100-1	(4)	[N]	-XAX	93410-1	(4)	[SS]
-3XX	93098-1	(4)	[P]	-X2X	93100-2	(4)	[B]	-XEX	93100-E	(4)	[Sp]
-34X / -3AX	93098-10	(4)	[P]	-X3X	93100-3	(4)	[V]	-0XX ITEM "42" (Duckbill)			
-4XX	93098-4	(4)	[PK]	-X4X	93100-4	(4)	[T]	-0CX	93114-1	(4)	[N]
-6XX	93098-3	(4)	[D]	-X5X	93100-5	(4)	[E]	-0DX	93114-2	(4)	[B]
-0XX	93115-1	(4)	[P]	-X8X	93100-8	(4)	[U]				

MATERIAL CODE	
[B]	Nitrile
[D]	Acetal
[E]	E.P.R.
[F]	Fluoraz
[GA]	Groundable Acetal
[GFN]	Glass Filled Nylon
[H]	Hytre
[N]	Neoprene
[P]	Polypropylene
[PK]	Pure Kynar
[Sp]	Santoprene
[SS]	Stainless Steel
[T]	PTFE
[U]	Polyurethane
[V]	Viton

DIAPHRAGM OPTIONS							
66605X-XXX	☆ Service Kits -XX = (Ball or Duckbill) -XX = (Diaphragm)	"7" / "8"	"19"	"20"	"33" ☆		
		Diaphragm (2) [Mtl]	"O" Ring (4) 1-5/16" o.d.	"O" Ring (2) 1-1/8" o.d.	"O" Ring (4) 1-3/16" o.d.		[Mtl]
-XX1	637140-X1	93113	[N]	Y325-122	Y325-119	Y325-120	[B]
-XX2	637140-X2	93465-G	[B]	Y325-122	Y325-119	Y325-120	[B]
-XX3	637140-X3	93581-3	[V]	Y327-122	Y327-119	Y327-120	[V]
66605J, 66605J-XX4	637140-X4	93111 / 93465	[T/Sp]	93265	Y328-119	94749	[T]
66605G, 66605H-XX4	637140-X4	93111 / 93465	[T/Sp]	93764	93933	95129	[F]
66605Z, 66605K-XX4	637140-X4	93111 / 93465	[T/Sp]	93265	Y328-119	94749	[T]
-XX5	637140-X5	93760	[E]	93763	93761	93762	[E]
-XX8	637140-X8	93112	[U]	93119	93117	93118	[U]
-XX9	637140-X9	93465-9	[H]	Y325-122	Y325-119	Y325-120	[B]
-XXB	637140-XB	93465	[Sp]	93763	93761	93762	[E]
-0X1	637140-C1, D1	93113	[N]	Y325-122	Not Req'd	Y325-120	[B]
-0X2	637140-C2, D2	93465-G	[B]	Y325-122	Not Req'd	Y325-120	[B]
-0X4	637140-C4, D4	93111 / 93465	[T/Sp]	Y325-122	Not Req'd	94749	[T]
-0X8	637140-C8, D8	93112	[U]	93119	Not Req'd	93118	[U]
-0XB	637140-CB, DB	93465	[Sp]	Y325-122	Not Req'd	Y325-120	[B]

- Not shown
- ⚡ Quantity = 22

☆ Item "33" "O" rings are not used on models 66605J-XXX, 66605J-XXX and 66605K-XXX.

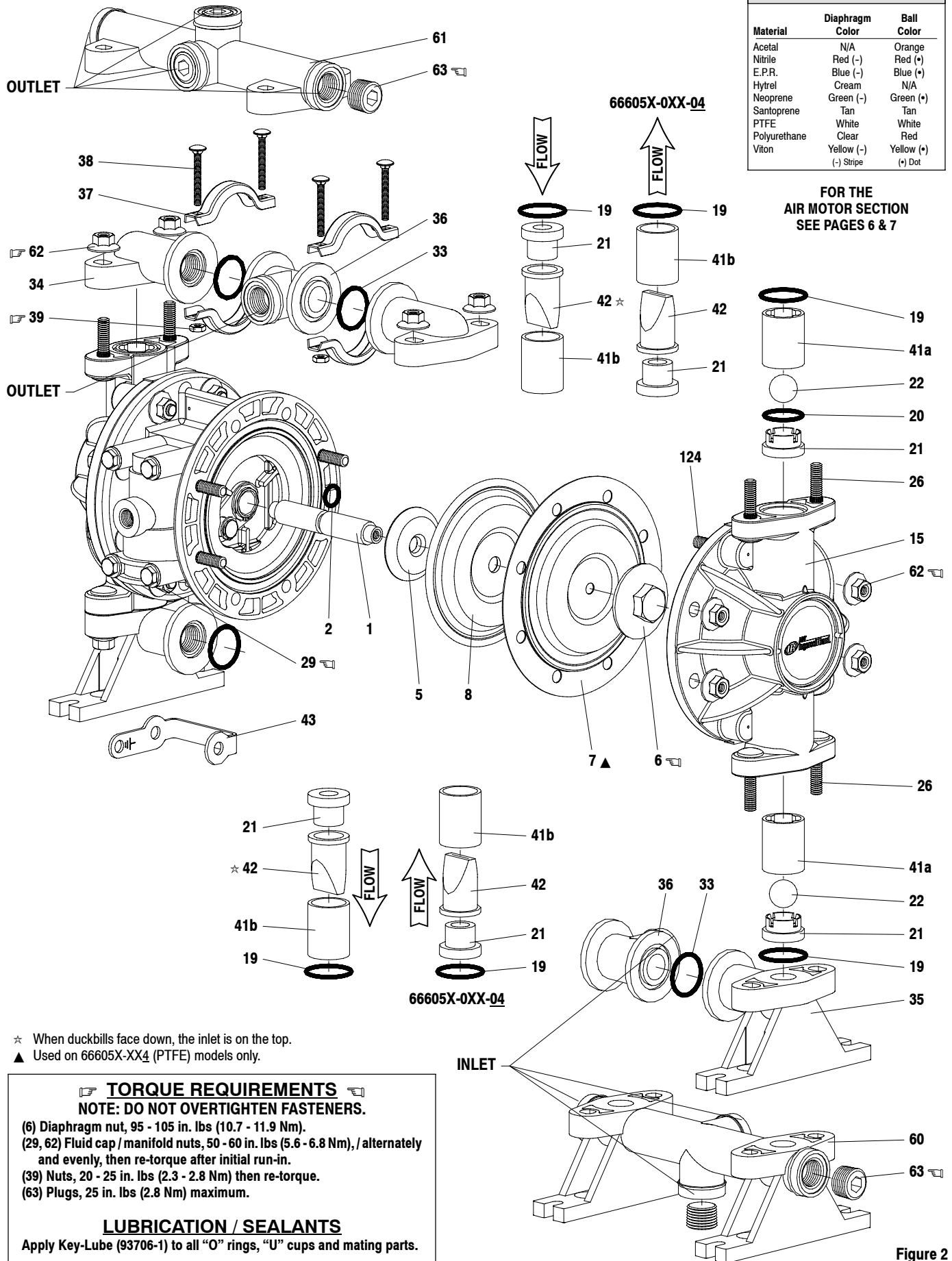
WETTED COMMON PARTS														
Item	Description (size)	Qty	Polypropylene				Groundable Acetal				Pure Kynar			
			66605J-XXX		66605J-XXX		66605G-XXX		66605H-XXX		66605Z-XXX		66605K-XXX	
			Part No.	Mtl	Part No.	Mtl	Part No.	Mtl	Part No.	Mtl	Part No.	Mtl	Part No.	Mtl
<input type="checkbox"/> 1	Rod	(1)	93084	[SS]	93084	[SS]	93084	[SS]	93084	[SS]	93084	[SS]	93084	[SS]
2	"O" Ring (3/32" x 5/8" o.d.)	(1)	Y325-111	[B]	Y325-111	[B]	Y325-111	[B]	Y325-111	[B]	Y325-111	[B]	Y325-111	[B]
5	Washer (2" o.d.)	(2)	94645	[GFN]	94645	[GFN]	94645	[GFN]	94645	[GFN]	94645	[GFN]	94645	[GFN]
<input type="checkbox"/> 6	Diaphragm Nut (5/16" - 18)	(2)	93103-1	[P]	93103-1	[P]	93103-3	[D]	93103-3	[D]	93103-4	[PK]	93103-4	[PK]
15	Fluid Cap (includes 26 & 124)	(2)	93105-1	[P]	93105-1	[P]	93105-11	[GA]	93105-11	[GA]	93105-9	[PK]	93105-9	[PK]
26	Bolt (5/16" - 18 x 1-1/2")	(8)	93109	[SS]	93109	[SS]	93109	[SS]	93109	[SS]	93109	[SS]	93109	[SS]
29	Nut (5/16" - 18)	(2)	-----	---	-----	---	Y12-5-S	[SS]	Y12-5-S	[SS]	-----	---	-----	---
34	Manifold, Outlet (top)	(2)	93102-1	[P]	-----	---	93102-6	[GA]	-----	---	93102-4	[PK]	-----	---
<input type="checkbox"/> 35	Manifold, Foot (bottom)	(2)	93106-1	[P]	-----	---	93106-6	[GA]	-----	---	93106-4	[PK]	-----	---
<input type="checkbox"/> 36	Swivel	(2)	93101-1	[P]	-----	---	93101-6	[GA]	-----	---	93101-4	[PK]	-----	---
<input type="checkbox"/> 37	Clamp	(8)	93099	[SS]	-----	---	93099	[SS]	-----	---	93099	[SS]	-----	---
38	Bolt (#10 - 24 x 1-1/2")	(8)	Y84-303-T	[SS]	-----	---	Y84-303-T	[SS]	-----	---	Y84-303-T	[SS]	-----	---
39	Nut (#10 - 24)	(8)	Y22-10-S	[SS]	-----	---	Y22-10-S	[SS]	-----	---	Y22-10-S	[SS]	-----	---
41a	Ball Cage	(4)	93097-1	[P]	93097-1	[P]	93097-3	[D]	93097-3	[D]	93097-4	[PK]	93097-4	[PK]
41b	Sleeve (models 66605X-0XX)	(4)	93120-1	[P]	93120-1	[P]	-----	---	-----	---	-----	---	-----	---
43	Ground Strap	(1)	-----	---	-----	---	92956-1	[SS]	92956-1	[SS]	-----	---	-----	---
■ 57	Ground Kit Assembly	(1)	-----	---	-----	---	66885-1	---	66885-1	---	-----	---	-----	---
60	Manifold, Inlet (bottom)	(1)	-----	---	93802-1	[P]	-----	---	93802-2	[GA]	-----	---	93802-3	[PK]
61	Manifold, Outlet (top)	(1)	-----	---	93801-1	[P]	-----	---	93801-2	[GA]	-----	---	93801-3	[PK]
62	Flange Nut (5/16" - 18)	(24)	93886	[SS]	93886	[SS]	93886 (⚡)	[SS]	93886 (⚡)	[SS]	93886	[SS]	93886	[SS]
63	Plug (1/2 - 14 N.P.T.)	(6)	-----	---	93897-1	[P]	-----	---	93897-2	[D]	-----	---	93897-3	[PK]

"Smart Parts", keep these items on hand in addition to the service kits for fast repair and reduction of down time.

PARTS LIST / 66605X-X FLUID SECTION

COLOR CODE		
Material	Diaphragm Color	Ball Color
Acetal	N/A	Orange
Nitrile	Red (-)	Red (+)
E.P.R.	Blue (-)	Blue (+)
Hytrel	Cream	N/A
Neoprene	Green (-)	Green (+)
Santoprene	Tan	Tan
PTFE	White	White
Polyurethane	Clear	Red
Viton	Yellow (-)	Yellow (+)
	(-) Stripe	(+) Dot

FOR THE AIR MOTOR SECTION
SEE PAGES 6 & 7



★ When duckbills face down, the inlet is on the top.
▲ Used on 66605X-XX4 (PTFE) models only.

TORQUE REQUIREMENTS
NOTE: DO NOT OVERTIGHTEN FASTENERS.

- (6) Diaphragm nut, 95 - 105 in. lbs (10.7 - 11.9 Nm).
- (29, 62) Fluid cap / manifold nuts, 50 - 60 in. lbs (5.6 - 6.8 Nm), / alternately and evenly, then re-torque after initial run-in.
- (39) Nuts, 20 - 25 in. lbs (2.3 - 2.8 Nm) then re-torque.
- (63) Plugs, 25 in. lbs (2.8 Nm) maximum.

LUBRICATION / SEALANTS

Apply Key-Lube (93706-1) to all "O" rings, "U" cups and mating parts.

PARTS LIST / 66605X-X AIR MOTOR SECTION

✓ Indicates parts included in 637141 Air Section Repair Kit.

AIR SECTION PARTS

Item	Description (size)	Qty	Part No.	[Mtl]
101	Motor Body	(1)	93091	[P]
✓ 102	“O” Ring (3/32” x 1” o.d.)	(2)	Y325-117	[B]
□ 103	Sleeve	(1)	93087	[Bz]
□ 104	Snap Ring (13/16”)	(2)	37285	[C]
111	Spool	(1)	93085	[D]
118	Pilot Rod	(1)	93088	[C]
✓ 119	“O” Ring (1/8” x 3/4” o.d.)	(4)	93075	[U]
□ 120	Spacer	(3)	115959	[Z]
✓ 122	Snap Ring (1/2”)	(2)	77802	[C]
124	Stud (5/16” - 18 x 1-17/32”) (see page 5)	(8)	93249	[SS]
129	Muffler Assembly	(1)	66972	[P]
129☆	Exhaust Cover (see note 2)		93092	[PS]
✓ 130	Gasket	(1)	93107	[SY]
131	Bolt (5/16” - 18 x 1-1/4”)	(8)	93095	[SS]
✓ 132	Gasket (see note 1)	(1)	93339-1	[B]

Item	Description (size)	Qty	Part No.	[Mtl]
133	Washer (9/32” i.d.)	(4)	93096	[SS]
134	Bolt (1/4” - 20 x 5”)	(4)	Y6-419-T	[SS]
135	Valve Block	(1)	93090	[P]
136	Plug	(1)	93086	[D]
✓ 137	“O” Ring (3/32” x 1-1/2” o.d.)	(1)	Y325-125	[B]
✓ 138	Packing, “U” Cup (1/8” x 1” o.d.)	(1)	94395	[U]
✓ 139	Packing, “U” Cup (1/8” x 1.427” o.d.)	(1)	96383	[B]
✓ 140	Valve Insert	(1)	93276	[CK]
✓ 141	Valve Plate	(1)	93275	[CK]
142	Washer	(2)	116038	[Z]
143	Plate	(2)	93089	[SS]
201	Muffler (see note 2)		93110	[C]
✓	Key-Lube “O” Ring Lubricant		93706-1	
	10 Pack of Key-Lube		637175	

DIAPHRAGM PUMP SERVICE**GENERAL SERVICE NOTES:**

- Inspect and replace old parts with new parts as necessary. Look for deep scratches on metallic surfaces, and nicks or cuts in “O” rings.
 - 7/16” wrench, 1/2” wrench, 7/16” socket, 1/2” socket, torque wrench (measuring inch pounds), “O” ring pick.

FLUID SECTION DISASSEMBLY

- Remove (34) top manifold / (36) swivel assembly.
Note: Manifold options involve single piece manifolds (60 / 61) or three piece swivel type manifolds with clamps.
- Remove (41) ball cages, (22) balls, (19 and 20) “O” rings and (21) seats. Note: If cages are difficult to remove at this step, it may be helpful to proceed through step 5 and remove them once they are accessible from the inside of the fluid cap.
- Remove (35) bottom manifolds / (36) swivel assembly.
- Remove (19) “O” rings, (21) seats and (22) balls.
- Remove (15) fluid caps.
- Remove (6) diaphragm nut, (8) [(7) PTFE models only] diaphragm(s) and (5) diaphragm washer from (1) diaphragm connecting rod.
- Remove (1) connecting rod from air motor.
- Carefully remove remaining (6) diaphragm nut, (8) [(7) PTFE models] diaphragm and (5) diaphragm washer from (1) connecting rod. Do not mar surface of connecting rod.
- Remove (2) “O” ring from connecting rod.
- Remove (37) clamps from top and bottom manifold / swivel assemblies.
- Remove (33) “O” rings from (36) swivels.

Note 1: Part no.93339-1 one-piece gasket replaces the following parts (not shown) in models manufactured prior to October 1988, Y325-10 (4), Y325-12, 93093, 93094, Y325-8.

Note 2: The (129☆) exhaust cover and (201) muffler were standard until 9/92. They are available separately for service or piped exhaust applications.

Note 3: A major valve service assembly is available separately which includes items: 111, 132, 135 - 141. Order part no. 66362.

MATERIAL CODE

[B] = Nitrile	[D] = Acetal	[SY] = Syn-Seal
[Bz] = Bronze	[P] = Polypropylene	[U] = Polyurethane
[C] = Carbon Steel	[PS] = Polyester	[Z] = Zinc
[CK] = Ceramic	[SS] = Stainless Steel	

FLUID SECTION REASSEMBLY

- Reassemble in reverse order.
- Lubricate (1) connecting rod and (2) “O” ring with Key-Lube or equivalent “O” ring lubricant.
- Install (5) diaphragm washers with i.d. chamfer toward diaphragm.
- When replacing PTFE diaphragms, install the 93465 Santoprene diaphragm behind the PTFE diaphragm.
- When installing (41) cage, ball guides must line up with notches in (21) seat to prevent damage.
- Before installing (35), (34) manifolds, (19) “O” ring should be properly seated on the o.d. of (41) ball cage.
- Before tightening (39) nut and (38) carriage bolts on (36) swivels, attach the manifold / swivel assembly to the fluid caps. Rotate (36) swivel to desired position and tighten each of the nuts approximately 8 - 9 turns, then finish tightening (29) nuts.

PARTS LIST / 66605X-X AIR MOTOR SECTION

TORQUE REQUIREMENTS
NOTE: DO NOT OVERTIGHTEN FASTENERS.
 (134) Torque to 15 - 20 in. lbs (1.7 - 2.3 Nm), wait 10 minutes, then re-torque to 15 - 20 in. lbs (1.7 - 2.3 Nm).

LUBRICATION / SEALANTS
 Apply Key-Lube (93706-1) to all "O" rings, "U" cups and mating parts.

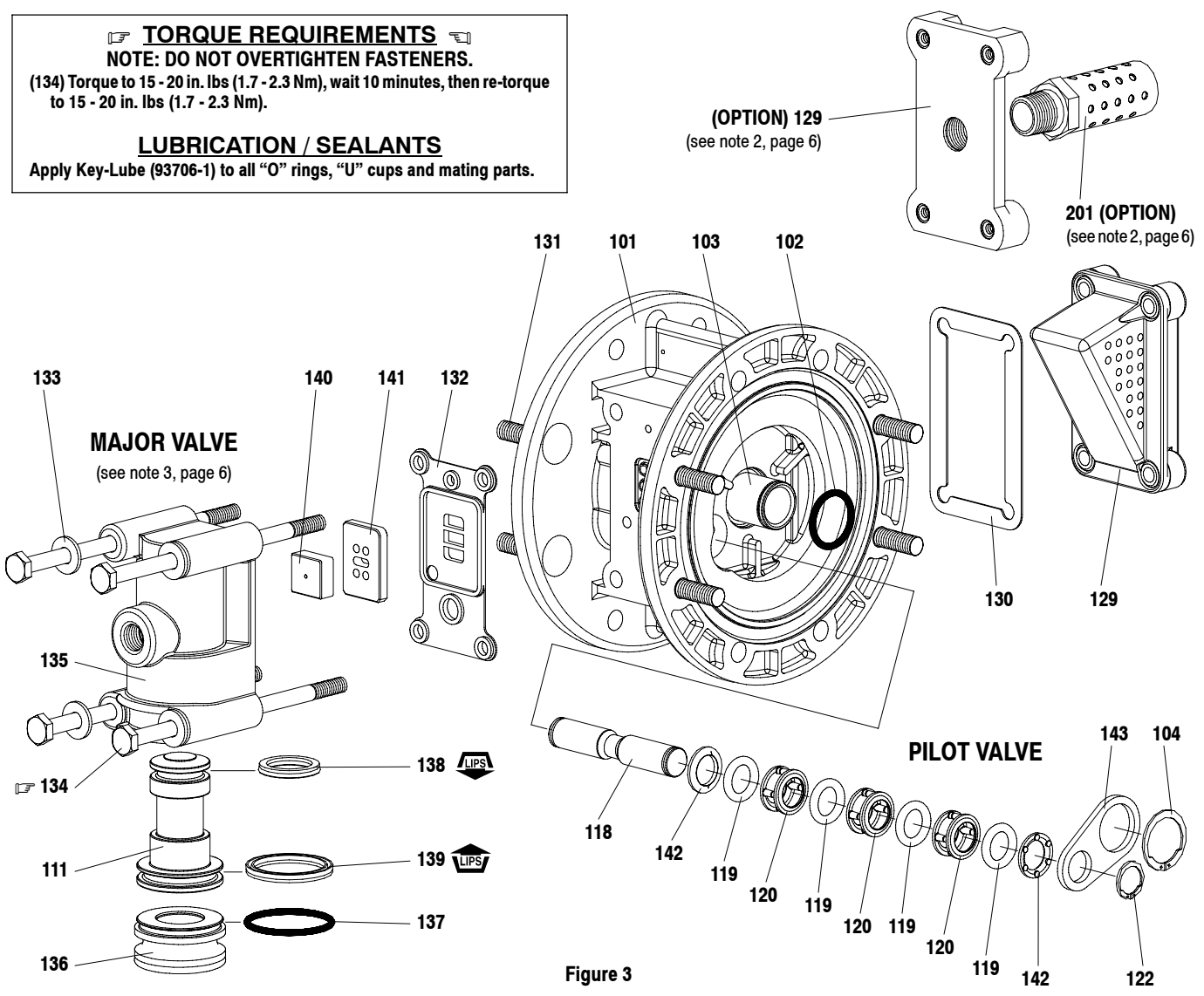


Figure 3

AIR MOTOR SECTION SERVICE

Service is divided into two parts - 1. Pilot Valve, 2. Major Valve.
 • Air Motor Section Service is continued from Fluid Section repair.

PILOT VALVE DISASSEMBLY

1. Remove (122) and (104) snap rings.
2. Remove (143) plates.
3. Remove (103) sleeve and (102) "O" rings.
4. Remove (118) piston, (142) washers, (119) "O" rings and (120) spacers from (101) center body.

PILOT VALVE REASSEMBLY

1. Assemble (119) "O" rings, (120) spacers and (142) washers on (118) pilot rod.
2. Insert the stack into the (101) body. Sleeve (103) may be used to assist pressing stack into body.
3. Install (103) sleeve and (102) "O" rings into (101) body.
4. Install (143) plates and (122) and (104) snap rings.

MAJOR VALVE DISASSEMBLY

1. Remove (129) exhaust cover and (130) gasket.
2. Pull (135) valve block assembly from (101) body.
3. Remove (134) bolts, (133) washers and (132) gasket from (135) valve block.
4. Remove (141) valve plate and (140) valve insert.
5. Remove (136) plug and (111) spool.

MAJOR VALVE REASSEMBLY

1. Install new (139) and (138) "U" cups on (111) spool - **LIPS MUST FACE EACH OTHER.**
2. Insert (111) spool into (135) valve block.
3. Install (137) "O" ring on (136) plug, insert plug into (135) valve block.
4. Install (140) valve insert and (141) valve plate into (135) valve block. Note: After 9/92, parts (140, 141) are white (ceramic), the dished side of the (140) valve insert should be against the shiny face of (141) valve plate for best performance.
5. Replace (132) gasket and install valve block assembly on (101) body.