

**PARTS LIST / PX20X-X-X-B ( ) FLUID SECTION**

**FLUID SECTION SERVICE KITS (637309-XX)**

★ KITS INCLUDE: BALLS (see Ball Option, refer to -XX in chart below), DIAPHRAGMS (see Diaphragm Option, refer to -XX in chart below), and items 19, 70, 144, 175, (listed below) plus 174 and 94276 Lubriplate FML-2 grease (page 6).

SEAT OPTIONS PX20X-XXX-XXX-B ( )					BALL OPTIONS PX20X-XXX-XXX-B ( )								
★ "21"					★ "22" (2-1/2" dia.)								
-XXX	Seat	Qty	[Mtl]		-XXX	Ball	Qty	[Mtl]		-XXX	Ball	Qty	[Mtl]
-AXX	94328-A	(4)	[SP]		-HXX	94354	(4)	[SH]		-XAX	93358-A	(4)	[SP]
-CXX	94328-C	(4)	[H]		-KXX	94477-K	(4)	[K]		-XCX	93358-C	(4)	[H]
-EXX	95677	(4)	[C]		-LXX	95639	(4)	[Ha]		-XGX	93358-2	(4)	[B]
-FXX	95673	(4)	[A]		-SXX	94353	(4)	[SS]					
-GXX	94328-G	(4)	[B]										

DIAPHRAGM OPTIONS PX20X-XXX-XXX-B ( )										
-XXX	★ SERVICE KIT -XX = (Ball) -XX = (Diaphragm)	★ "7"			★ "8"			★ "19"		
		Diaphragm	Qty	[Mtl]	Diaphragm	Qty	[Mtl]	"O" Ring (1/8" x 3-5/8" o.d.)	Qty	[Mtl]
-XXA	637309-XA	94329-A	(2)	[SP]	-----	---	---	94356	(4)	[E]
-XXC	637309-XC	94329-C	(2)	[H]	-----	---	---	Y327-237	(4)	[V]
-XXG	637309-XG	94329-G	(2)	[B]	-----	---	---	Y325-237	(4)	[B]
-XXM	637309-XM	94329-M	(2)	[MSP]	-----	---	---	Y328-237	(4)	[T]
-XXT	637309-XT	94355-T	(2)	[T]	94330-A	(2)	[SP]	Y328-237	(4)	[T]
-XXV	637309-XV	95344	(2)	[V]	-----	---	---	Y327-237	(4)	[V]

MATERIAL CODE	
[A]	= Aluminum
[B]	= Nitrile
[C]	= Carbon Steel
[Co]	= Copper
[CI]	= Cast Iron
[E]	= E.P.R.
[H]	= Hytrel
[Ha]	= Hastelloy-C
[K]	= PVDF (Kynar)
[MSP]	= Medical Grade Santoprene
[SH]	= Hard Stainless Steel
[SP]	= Santoprene
[SS]	= Stainless Steel
[T]	= Teflon
[V]	= Viton

NOTE: Seat options -AXX, -CXX and -GXX do not require item 19 "O" ring.

CENTER SECTION PART OPTIONS PX20X-XXX-XXX-B ( )										
Item	Description (size)	Qty	PD20A-XXX-XXX-B ( )		PE20A-XXX-XXX-B ( )		PD20S-XXX-XXX-B ( )		PE20S-XXX-XXX-B ( )	
			Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]
5	Backup Washer	(2)	96503	[A]	96503	[A]	94357-2	[SS]	94357-2	[SS]
68	Air Cap	(1)	94324-1	[A]	94715-1	[A]	94349-1	[SS]	94349-1	[SS]
69	Air Cap	(1)	94324-2	[A]	94715-2	[A]	94349-2	[SS]	94349-2	[SS]
76	Pipe Plug (1/8 - 27 N.P.T. x 0.27")	(1)	-----	---	Y17-50-S	[SS]	-----	---	Y17-50-S	[SS]
126	Pipe Plug (1/4 - 18 N.P.T. x 7/16")	(2)	-----	---	Y17-51-S	[SS]	Y17-51-S	[SS]	Y17-51-S	[SS]
★ 175	"O" Ring (3/32" x 1" o.d.)	(2)	Y325-117	[B]	Y325-117	[B]	-----	---	-----	---
★ 175	"O" Ring (3/32" x 1-1/16" o.d.)	(2)	-----	---	-----	---	Y325-118	[B]	Y325-118	[B]
181	Roll Pin (5/32" o.d. x 3/4" long)	(4)	-----	---	-----	---	Y178-56-S	[SS]	Y178-56-S	[SS]

MANIFOLD THREAD / FLUID CAP MATERIAL OPTIONS PX20X-XXX-XXX-B ( )														
Item	Description (size)	Qty	PX20X-XAX-		PX20X-XCX-		PX20X-XHX-		PX20X-FHX-		PX20X-XSX-		PX20X-FSX-	
			Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]	Part No.	[Mtl]
6	Diaphragm Washer	(2)	96503	[A]	94357-2	[SS]	94357-3	[Ha]	94357-3	[Ha]	94357-2	[SS]	94357-2	[SS]
9	Washer	(2)	93065	[SS]	93065	[SS]	95683	[Ha]	95683	[Ha]	93065	[SS]	93065	[SS]
14	Screw (5/8" - 18 x 2-1/2")	(2)	Y5-111-T	[SS]	Y5-111-T	[SS]	95682	[Ha]	95682	[Ha]	Y5-111-T	[SS]	Y5-111-T	[SS]
15	Fluid Cap	(2)	94325	[A]	94346	[CI]	95679	[Ha]	95679	[Ha]	95570	[SS]	95570	[SS]
60	Inlet Manifold	(1)	94327-[★]	[A]	94347-[★]	[CI]	95680-[★]	[Ha]	96341 **	[Ha]	95510-[★]	[SS]	95512 **	[SS]
61	Outlet Manifold	(1)	94326-[★]	[A]	94348-[★]	[CI]	95681-[★]	[Ha]	96342 **	[Ha]	95511-[★]	[SS]	95513 **	[SS]
63	Pipe Plug 2 - 11-1/2 N.P.T.	(2)	Y17-128	[A]	Y17-28-C	[C]	-----	---	-----	---	-----	---	-----	---
		(2)	94439-2	[A]	94439-1	[C]	-----	---	-----	---	-----	---	-----	---

★ For N.P.T.F. thread models (PX20X-AXX-XXX-B), use "-1"

★ For BSP thread models (PX20X-BXX-XXX-B), use "-2"

\*\* Flange models

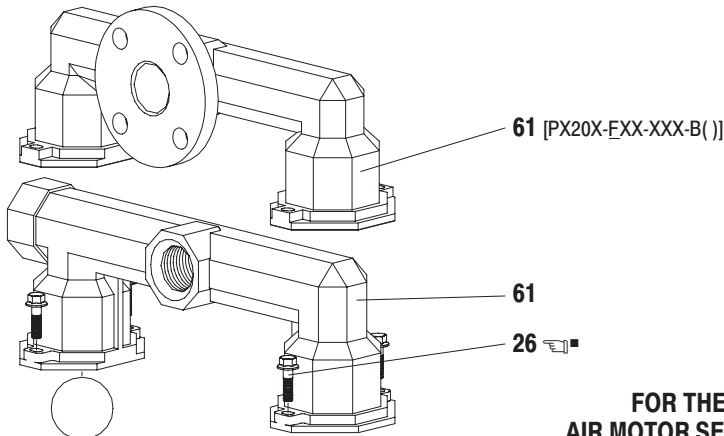
EXTERNAL HARDWARE OPTION PX20X-XXX-XXX-B ( )						
Item	Description (size)	Qty	PX20X-XXP-XXX-B ( )		PX20X-XXS-XXX-B ( )	
			Part No.	[Mtl]	Part No.	[Mtl]
26	Screw (M10 x 1.5 - 6g x 35 mm)	(8)	94409-1	[C]	94409-2	[SS]
27	Screw (M10 x 1.5 - 6g x 45 mm)	(16)	94990-1	[C]	94990	[SS]
29	Nut (M10 x 1.5 - 6g)	(16)	94992-1	[C]	94992	[SS]

COMMON PARTS									
Item	Description (size)	Qty	Part No.	[Mtl]	Item	Description (size)	Qty	Part No.	[Mtl]
1	Rod	(1)	94358	[C]	131	Screw (M10 x 1.5 - 6g x 120 mm)	(4)	94531	[C]
43	Ground Lug	(1)	93004	[Co]	★ 144	"U" Cup (3/16" x 1-3/8" o.d.)	(2)	Y186-51	[B]
★ 70	Gasket	(2)	94100	[B]	180	Washer (0.406" i.d. x 0.031" thick)	(4)	94098	[Co]

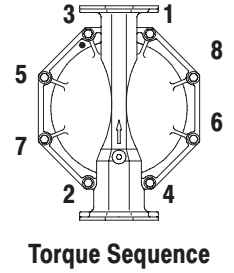
□ "Smart Parts" keep these items on hand in addition to the Service Kits for fast repair and reduction of down time.

↗ Air Motor Kit parts, see pages 6 and 7.

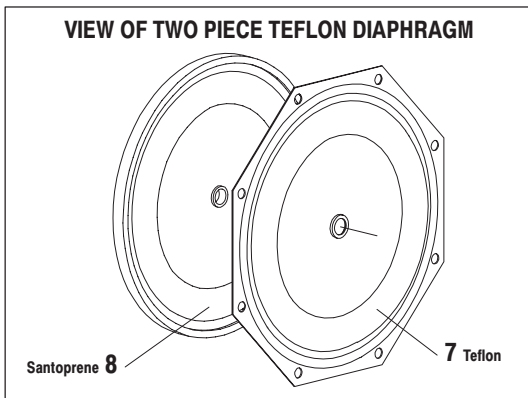
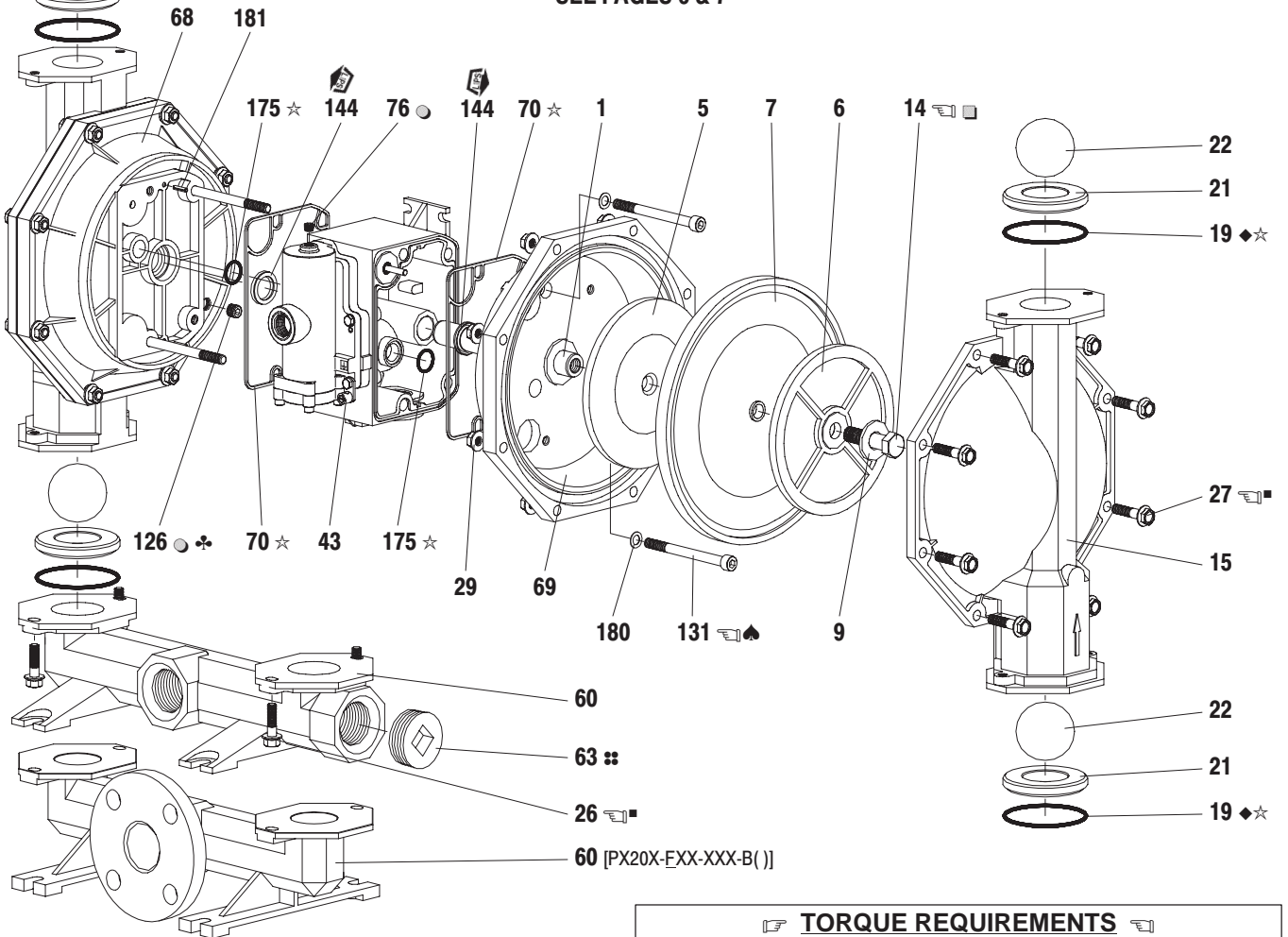
**PARTS LIST / PX20X-X-X-B( ) FLUID SECTION**



COLOR CODE		
Material	Diaphragm Color	Ball Color
Hytrek	Cream	Cream
Nitrile	Black	Red (•)
Santoprene	Tan	Tan
Santoprene (Backup)	Green	N / A
Teflon	White	White
Viton	Yellow (-)	Yellow (•)
	(-) Dash	(•) Dot



FOR THE AIR MOTOR SECTION  
 SEE PAGES 6 & 7



**TORQUE REQUIREMENTS**  
 NOTE: DO NOT OVERTIGHTEN FASTENERS.  
 ALL FASTENERS ARE METRIC.

- (14) Diaphragm screw, 65 - 70 ft lbs (88.1 - 94.9 Nm).
- (26 and 27) Fluid cap / manifold screw, 30 - 40 ft lbs (40.7 - 54.2 Nm).
- (131) Screw, 35 - 40 ft lbs (47.5 - 54.2 Nm).

- Apply anti-seize compound to threads and bolt and nut flange heads which contact pump case when using stainless steel fasteners.

**LUBRICATION / SEALANTS**

- ★ Apply Lubriplate FML-2 grease to all "O" rings, "U" cups & mating parts.
- ♣ Apply Loctite® 262 to threads at assembly.
- ⚡ Apply Teflon tape to threads.
- ▣ Apply Loctite 271 to threads.
- Apply Loctite 572 to threads.

Figure 2

- ◆ Not used with PX20X-XXX-AXX-B( ), -CXX & -GXX.
- ♣ Not used with PX20X-XXX-XXX-B0L.
- ◇ Lubriplate FML-2 is a white food grade petroleum grease.

**PARTS LIST / PX20X-X-X-B( ) AIR SECTION**

✓ Indicates parts included in 637421 Air Section Service Kit shown below and items (70), (144), (175), (180) shown on page 4.

**AIR MOTOR PARTS**

Item	Description (size)	Qty	Part No.	[Mtl]
101	Center Body (PX20A-XXX-XXX-B)	(1)	94028	[A]
	(PX20S-XXX-XXX-B)	(1)	94109	[SS]
103	Bushing	(1)	94092	[D]
105	Screw (M6 x 1 - 6g x 20 mm)	(4)	95887	[SS]
111	Spool	(1)	95651	[D]
118	Actuator Pin (0.250" x 2.276" long)	(2)	94083	[SS]
121	Sleeve	(2)	94084	[D]
127	90 St. Elbow (1-1/2 - 11-1/2 N.P.T.)	(1)	94860	[C / I]
128	Set Screw (1/4" - 20 x 1/4")	(2)	Y29-42-S	[SS]
✓ 132	Gasket	(1)	94099	[B]
133	Lockwasher (1/4") (PX20A-X-X-B)	(3)	Y117-416-C	[C]
	(PX20S-X-X-B)	(3)	Y14-416-T	[SS]
134	Screw (M6 x 1 - 6g x 30 mm)	(4)	96358	[SS]
135	Valve Housing (PD20A-XXX-XXX-B)	(1)	96334-1	[A]
	(PD20S-XXX-XXX-B)	(1)	96337-1	[SS]
	(PE20A-XXX-XXX-B)	(1)	96334-2	[A]
	(PE20S-XXX-XXX-B)	(1)	96337-2	[SS]
136	Plug (PX20A-XXX-XXX-B)	(1)	96335	[A]
	(PX20S-XXX-XXX-B)	(1)	96339	[SS]
✓ 137	"O" Ring (1/16" x 2" o.d.)	(1)	Y325-32	[B]
✓ 138	"U" Cup (3/16" x 1.792" o.d.)	(1)	95966	[B]
✓ 139	"U" Cup (3/16" x 1-1/4" o.d.)	(1)	Y186-50	[B]
140	Valve Insert	(1)	95650	[Ck]
141	Valve Plate	(1)	95659	[Ck]
✓ 146	"O" Ring ◆ (3/32" x 1-1/16" o.d.)	(1)	Y325-118	[B]
✓ 147	"O" Ring ◆ (1/8" x 1/2" o.d.)	(2)	Y325-202	[B]

★ Fluid Section Kit parts, see page 4.

**AIR MOTOR SECTION SERVICE**

Service is divided into two parts - 1. Pilot Valve, 2. Major Valve.

**GENERAL REASSEMBLY NOTES:**

- Air Motor Section Service is continued from Fluid Section repair.
- Inspect and replace old parts with new parts as necessary. Look for deep scratches on metallic surfaces, and nicks or cuts in "O" rings.
- Take precautions to prevent cutting "O" rings upon installation.
- Lubricate "O" rings with Lubriplate FML-2 grease.
- Do not over-tighten fasteners, refer to torque specification block on view.
- Re-torque fasteners following restart.
- SERVICE TOOLS - To aid in the installation of (168) "O" rings onto the (167) pilot piston, use tool # 204130-T, available from ARO.

**PILOT VALVE DISASSEMBLY**

1. A light tap on (118) should expose the opposite (121) sleeve, (167) pilot piston and other parts.
2. Remove (170) sleeve, inspect inner bore of sleeve for damage.

**PILOT VALVE REASSEMBLY**

1. Clean and lubricate parts not being replaced from service kit.
2. Install new (171 and 172) "O" rings, replace (170) sleeve.
3. Install new (168) "O" rings and (169) seal - Note the lip direction. Lubricate and replace (167).
4. Reassemble remaining parts, replace (173 and 174) "O" rings.

Item	Description (size)	Qty	Part No.	[Mtl]
✓ 166	Track Gasket ●	(1)	94026	[B]
✓ 167	Pilot Piston (includes 168 and 169)	(1)	67164	[D]
168	"O" Ring (3/32" x 5/8" o.d.)	(2)	94433	[U]
169	"U" Cup (1/8" x 7/8" o.d.)	(1)	Y240-9	[B]
170	Piston Sleeve	(1)	94081	[Br]
✓ 171	"O" Ring (3/32" x 1-1/8" o.d.)	(1)	Y325-119	[B]
✓ 172	"O" Ring (1/16" x 1-1/8" o.d.)	(1)	Y325-22	[B]
✓ 173	"O" Ring (1/16" x 1-3/8" o.d.)	(2)	Y325-26	[B]
★ ✓ 174	"O" Ring (1/8" x 1/2" o.d.)	(2)	Y325-202	[B]
✓ 176	Diaphragm (check valve)	(2)	94102	[SP]
✓ 199	Track Gasket	(1)	95666	[B]
✓ 200	Gasket	(1)	95665	[B]
○ 201	Muffler Kit (includes item 127)	(1)	67213	
233	Adapter Plate (PX20A-XXX-XXX-B)	(1)	96336	[A]
	(PX20S-XXX-XXX-B)	(1)	96338	[SS]
240	Screw (M6 x 1 - 6g x 16 mm)	(2)	95991	[SS]
✓ 241	Track Gasket	(1)	96344	[B]
✓ 242	"O" Ring (1/16" x 7/32" o.d.)	(1)	Y325-5	[B]
✓ 243	"O" Ring (1/8" x 5/8" o.d.)	(1)	Y325-204	[B]
✓ 244	"O" Ring (1/8" x 7/8" o.d.)	(1)	Y325-208	[B]
★ ✓	Lubriplate FML-2 Grease	(1)	94276	
	Lubriplate Grease Packets (10)		637308	
◆ Used on models PX20S-XXX-XXX-B( ) only.				
● Used on models PX20A-XXX-XXX-B( ) only.				
○ Items not shown				

**MAJOR VALVE DISASSEMBLY**

1. Remove (135) valve block and (233) adapter plate, exposing (166 and 132) gaskets and (176) checks.
2. Remove (233) adapter plate, releasing (140) valve insert, (141) valve plate, (199, 200 and 241) gaskets and (243 and 244) "O" rings.
3. Remove (136) plug and (137) "O" ring, releasing (111) spool.

**MAJOR VALVE REASSEMBLY**

1. Install new (138 and 139) "U" cups on (111) spool - **LIPS MUST FACE EACH OTHER.**
2. Insert (111) spool into (135) valve housing.
3. Install (137 and 242) "O" rings on (136) plug and assemble plug to (135) valve housing, securing with (105) screws.
4. Install (140) valve insert, (141) valve plate, (199) gasket and (243 and 244) "O" rings into (135) valve housing. NOTE: Assemble (140) valve insert with "dished" side toward (141) valve plate. Assemble (141) valve plate with part number identification toward (140) valve insert.
5. Assemble (200 and 241) gaskets and (233) adapter plate to (135) valve housing, securing with (240) screws.
6. Assemble (132 and 166) gaskets and (176) checks to (101) center body.
7. Assemble (135) valve housing and components to (101) center body, securing with (134) screws.

**PARTS LIST / PX20X-X-X-B( ) AIR SECTION**

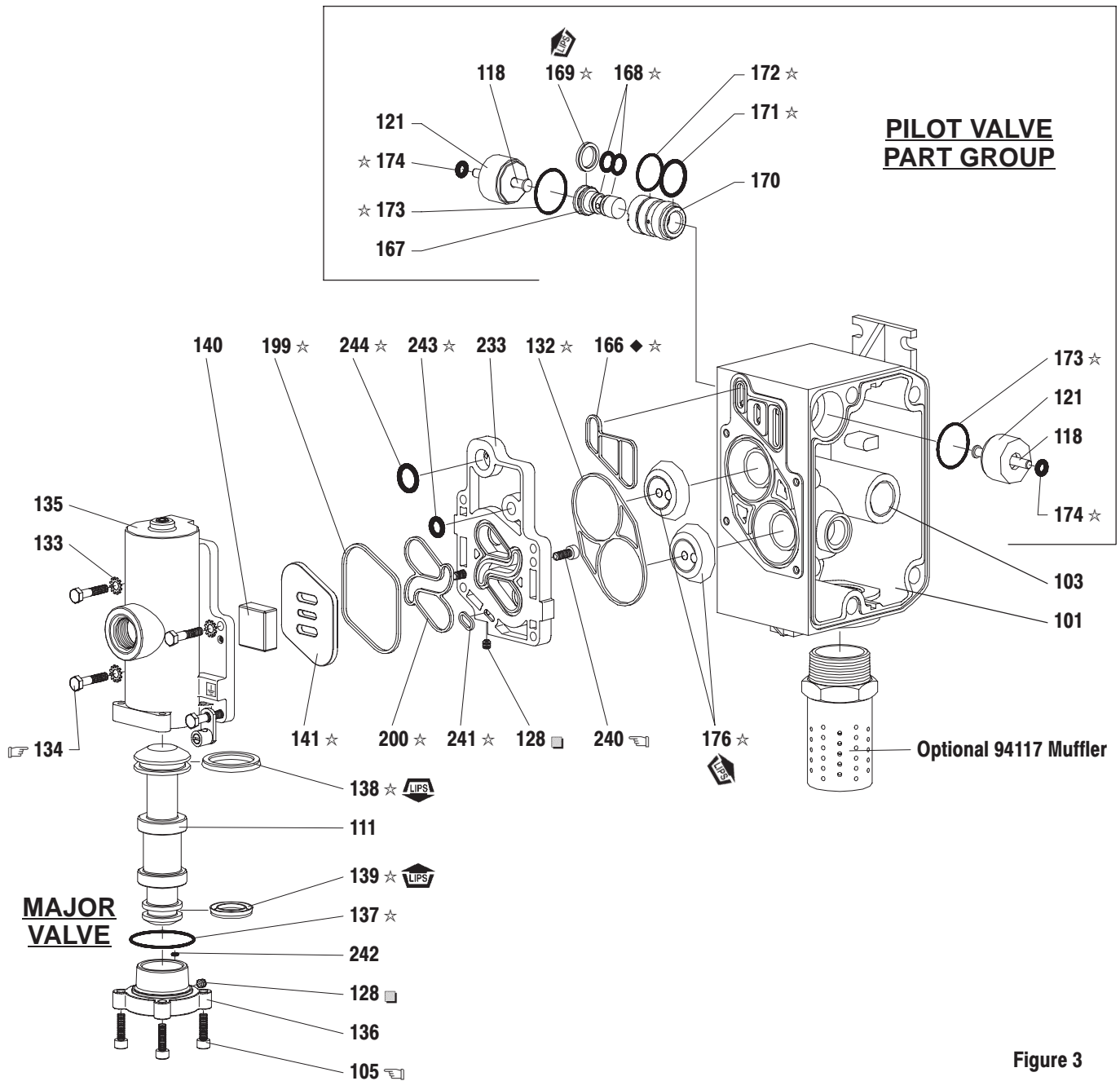


Figure 3

**TORQUE REQUIREMENTS**  
 NOTE: DO NOT OVERTIGHTEN FASTENERS.  
 ALL FASTENERS ARE METRIC.  
 Torque (105) screw to 40 - 50 in. lbs (4.5 - 5.6 Nm).  
 Torque (134) screw to 40 - 50 in. lbs (4.5 - 5.6 Nm).  
 Torque (240) screw to 40 - 50 in. lbs (4.5 - 5.6 Nm).

**LUBRICATION / SEALANTS**  
 ☆ Apply Lubriplate FML-2 grease to "O" rings, "U" Cups & mating parts.  
 ■ Apply Loctite 271 to threads at assembly.

**MATERIAL CODE**

[A]	=	Aluminum
[B]	=	Nitrile
[Br]	=	Brass
[C]	=	Carbon Steel
[Ck]	=	Ceramic
[D]	=	Acetal
[I]	=	Iron
[SP]	=	Santoprene
[SS]	=	Stainless Steel
[U]	=	Polyurethane

◆ Substitute these "O" rings for "166" gasket on models PX20S-XXX-XXX-B( ).

A replacement Major Valve Service Assembly is available separately, which includes the following:  
 637374-2 for models PD20A-X: 105 (4), 111, 128 (2), 132, 133 (3), 134 (4), 135, 136, 137, 138, 139, 140, 141, 166, 176 (2), 199, 200, 233, 240 (2), 241, 242, 243 and 244.  
 637374-3 for models PE20A-X: 76, 105 (4), 111, 128 (2), 132, 133 (3), 134 (4), 135, 136, 137, 138, 139, 140, 141, 166, 176 (2), 199, 200, 233, 240 (2), 241, 242, 243 and 244.  
 637374-4 for models PD20S-X: 105 (4), 111, 128 (2), 132, 133 (3), 134 (4), 135, 136, 137, 138, 139, 140, 141, 146, 147, 176 (2), 199, 200, 233, 240 (2), 241, 242, 243 and 244.  
 637374-5 for models PE20S-X: 76, 105 (4), 111, 128 (2), 132, 133 (3), 134 (4), 135, 136, 137, 138, 139, 140, 141, 146, 147, 176 (2), 199, 200, 233, 240 (2), 241, 242, 243 and 244.