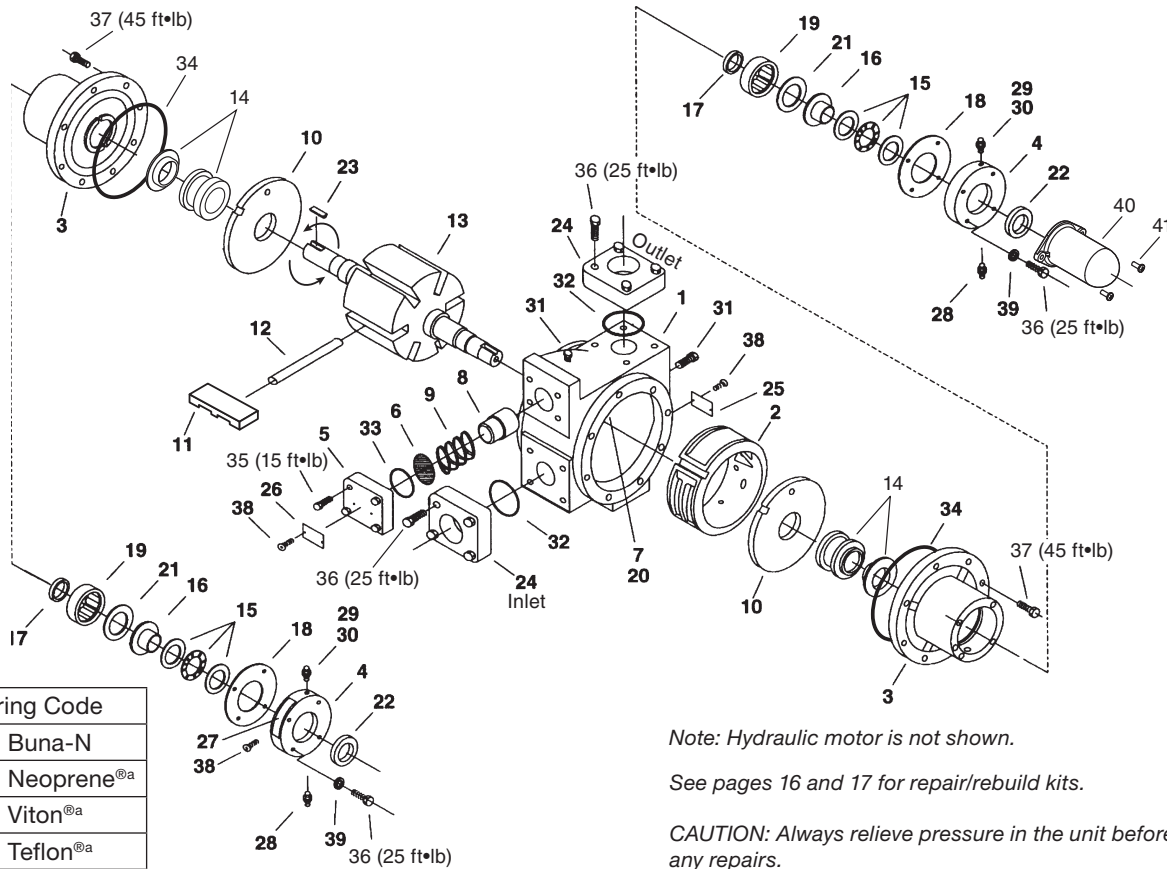


# Appendix E—Parts Details for Models Z/ZH/ZX/ZXH2000



O-ring Code	
A	Buna-N
B	Neoprene <sup>®a</sup>
D	Viton <sup>®a</sup>
E	Teflon <sup>®a</sup>

Note: Hydraulic motor is not shown.

See pages 16 and 17 for repair/rebuild kits.

CAUTION: Always relieve pressure in the unit before attempting any repairs.

Ref. No.	Part No.	Description	Qty
1.	4413	Case	1
2.	4414	Cam	1
3.	4416	Head	2
4.	4417	Bearing cap	2
5.	1174-3	Relief valve cap	1
6.	4282	Shim (Z2000, ZH2000)	1
		Shim (ZX2000, ZXH2000)	3
7.	4424	Cam key	1
8.	4425	Relief valve	1
9.	4426	Relief valve spring (Z2000, ZH2000)	1
	1240	Relief valve spring (ZX2000, ZXH2000)	1
10.	4427	Sideplate	2
11.	4428 <sup>b</sup>	Vane	6
12.	4262-X	Vane driver	3
13.	4430-X2R	Rotor—shaft assembly	1
14.	4431-X_2 <sup>c</sup>	Mech seal assy—cast iron	2
	4431-X_6 <sup>c</sup>	Mech seal assy—silicon carbide	2
15.	4432	Thrust bearing assembly	2
16.	4435	Bearing race mounting ring	2
17.	4438	Grease seal	2
18.	4439	Bearing cap shim (.002) red	As req.
	4439-1	Bearing cap shim (.010) brown	
	4439-2	Bearing cap shim (.020) yellow	
19.	2754-X	Roller bearing	2
20.	3253	Cam key pin	2

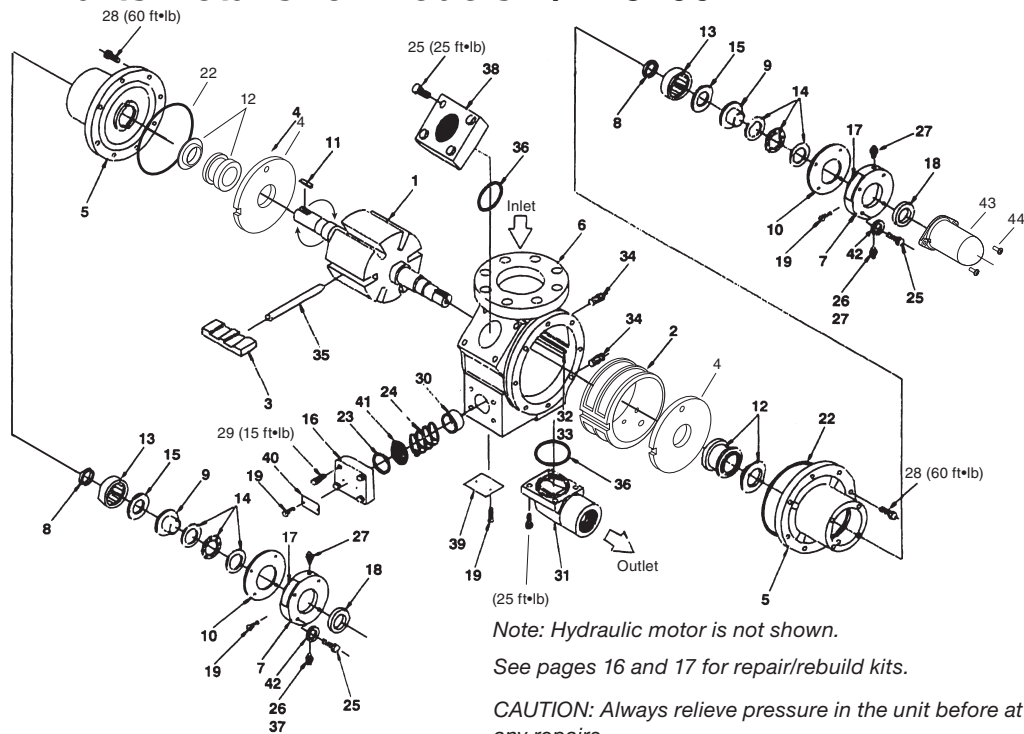
Ref. No.	Part No.	Description	Qty
21.	2760-244	Retainer ring	2
22.	4441	Grease seal	2
23.	2270	Shaft key—1/4" x 1-9/16"	2
24.	4479-2	Flange—2" NPT	2
	4479-2S	Flange—2" welded	
25.	2649	Nameplate	1
26.	4248	Relief valve nameplate (Z2000, ZH2000)	1
	4248-1	Relief valve nameplate (ZX2000, ZXH2000)	1
27.	1359	Lubrication instruction plate	2
28.	1343	1/8" NPT relief fitting	2
29.	2158	1/8" NPT grease zerk	2
30.	2159	Lubricap	2
31.	3442	1/4" NPT pipe plug	2
32.	2-231_ <sup>c</sup>	O-ring—flange	2
33.	2-224_ <sup>c</sup>	O-ring—relief valve cap	1
34.	2-261_ <sup>c</sup>	O-ring—case	2
35.	7001-031-NC125A	Bolt—hexagon head	4
36.	7001-037-NC150A	Bolt—hexagon head	16
37.	7001-043-NC125A	Bolt—hexagon head	16
38.	7012-006-SF025E	Screw	8
39.	7206-037A	Lockwasher	8
40.	4985	Shaft protector	1
41.	7012-010SF050E	Screw	2

<sup>a</sup>Registered trademark of the DuPont company.

<sup>b</sup>Slots in vanes must face TOWARDS the direction of rotation.

<sup>c</sup>\_ denotes O-ring code. See chart above.

# Appendix E—Parts Details for Models Z/ZH3200



O-ring Code	
A	Buna-N
B	Neoprene <sup>®a</sup>
D	Viton <sup>®a</sup>
E	Teflon <sup>®a</sup>

Note: Hydraulic motor is not shown.

See pages 16 and 17 for repair/rebuild kits.

CAUTION: Always relieve pressure in the unit before attempting any repairs.

Ref. No.	Part No.	Description	Qty
1.	4495-X2R	Rotor shaft assembly	1
2.	4242	Cam	1
3.	4232 <sup>c</sup>	Vane	6
4.	4231	Sideplate	2
5.	4488	Head	2
6.	4239	Case	1
7.	4417	Bearing cap	2
8.	4438	Grease seal	2
9.	4435	Mounting ring	2
10.	4439	Bearing shim (.002) red	As req.
	4439-1	Bearing shim (.010) brown	
	4439-2	Bearing shim (.020) yellow	
11.	2270	Shaft key	2
12.	4431-X_2 <sup>b</sup>	Mechanical seal assembly—cast iron	2
	4431-X_6 <sup>b</sup>	Mechanical seal assembly—silicon carbide	2
13.	2754	Bearing outer race	2
14.	4432	Thrust bearing assembly	2
15.	2760-244	Retainer ring	2
16.	1174-2	Relief valve cap	1
17.	1359	Lubrication instruction plate	2
18.	4441	Grease seal	2
19.	7012-006SF019E	Screw	8
20.	—	Not shown	—
21.	—	Not shown	—
22.	2-262_ <sup>b</sup>	O-ring—case	2
23.	2-224_ <sup>b</sup>	O-ring—relief valve cap	1
24.	1240	Relief valve spring	1

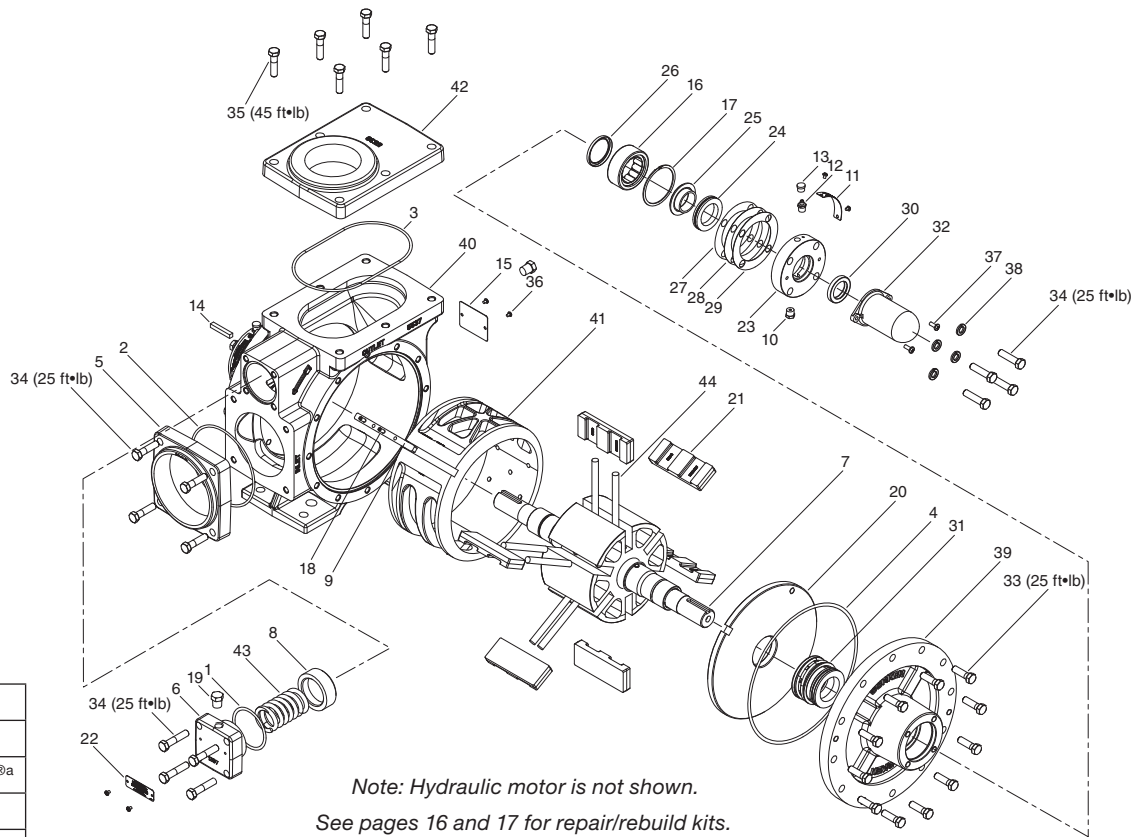
Ref. No.	Part No.	Description	Qty
25.	7001-037NC150A	Bolt—3/8-16 x 1-1/2" hex head	16
26.	2158	1/8" NPT grease zerk	2
27.	1343	1/8" NPT relief fitting	2
28.	7001-050NC150A	Bolt—1/2-13 x 1-1/2" hex head	16
29.	7001-031NC125A	Bolt—5/16-16 x 1-1/4" hex head	4
30.	1241	Relief valve	1
31.	1172-1.5	Outlet flange—1.5" NPT	1
	1172-1.5S	Outlet flange—1.5" WF	1
	1172-2	Outlet flange—2" NPT	1
	1172-2S	Outlet flange—2" WF	1
	1947	Outlet flange—1.5" NPT ell	1
	4243	Outlet flange—2" NPT ell	1
32.	4241	Cam key	1
	3253	Cam key pin	1
33.	3442	1/4" NPT pipe plug	1
34.	4262-X	Vane driver	3
35.	2-234_ <sup>b</sup>	O-ring—flange	1
36.	2159	Lubricap	2
37.	1172-1.5	Aux. inlet flange—1.5" NPT	1
	1172-15S	Aux. inlet flange—1.5" WF	1
	1172-2	Aux. inlet flange—2" NPT	1
	1172-2S	Aux. inlet flange—2" WF	1
	1920-3	Aux. inlet flange—blind	1
	4243	Aux. inlet flange—2" NPT ell	1
38.	2649	Nameplate	1
39.	4248	Relief valve nameplate	1
40.	4282	Relief valve shim	As req.
41.	7206-037A	3/8" lockwasher	8
42.	4985	Shaft protector	1
43.	7012-010SF050E	Screw	2
44.			

<sup>a</sup>Registered trademark of the DuPont company.

<sup>b</sup>\_ denotes O-ring code. See chart above.

<sup>c</sup>Slots in vanes must face TOWARDS the direction of rotation

# Appendix E—Parts Details for Models Z3500



Note: Hydraulic motor is not shown.

See pages 16 and 17 for repair/rebuild kits.

CAUTION: Always relieve pressure in the unit before attempting any repairs.

O-ring Code	
A	Buna-N
B	Neoprene <sup>®a</sup>
D	Viton <sup>®a</sup>
E	Teflon <sup>®a</sup>

Ref. No.	Part No.	Description	Qty
1.	2-228 <sup>b</sup>	O-ring	1
2.	2-245 <sup>b</sup>	O-ring	1
3.	2-259 <sup>b</sup>	O-ring	1
4.	2-268 <sup>b</sup>	O-ring	2
5.	1206-3	Inlet flange—3" NPT	1
	1206-4	Inlet flange—4" NPT	1
	1206-3S	Inlet flange—3" WF	1
	1206-4S	Inlet flange—4" WF	1
6.	1207-2	Relief valve cap	1
7.	1208-1X6R	Rotor shaft assembly	1
8.	1224	Relief valve	1
9.	1309	Cam key	1
10.	1343	Grease relief fitting	2
11.	1359	Lubrication plate	2
12.	2158	Grease zerk	2
13.	2159	Lubricap	2
14.	2270	Shaft key—1/4"	1
15.	2649	Nameplate	1
16.	2754-X	Roller bearing	2
17.	2760-244	Retainer ring	2
18.	3253	Cam key pin	2
19.	3442	Pipe plug—1/4" NPT	2
20.	3935	Sideplate	2
21.	3936 <sup>c</sup>	Vane	6
22.	4248	Relief valve warning tag	1

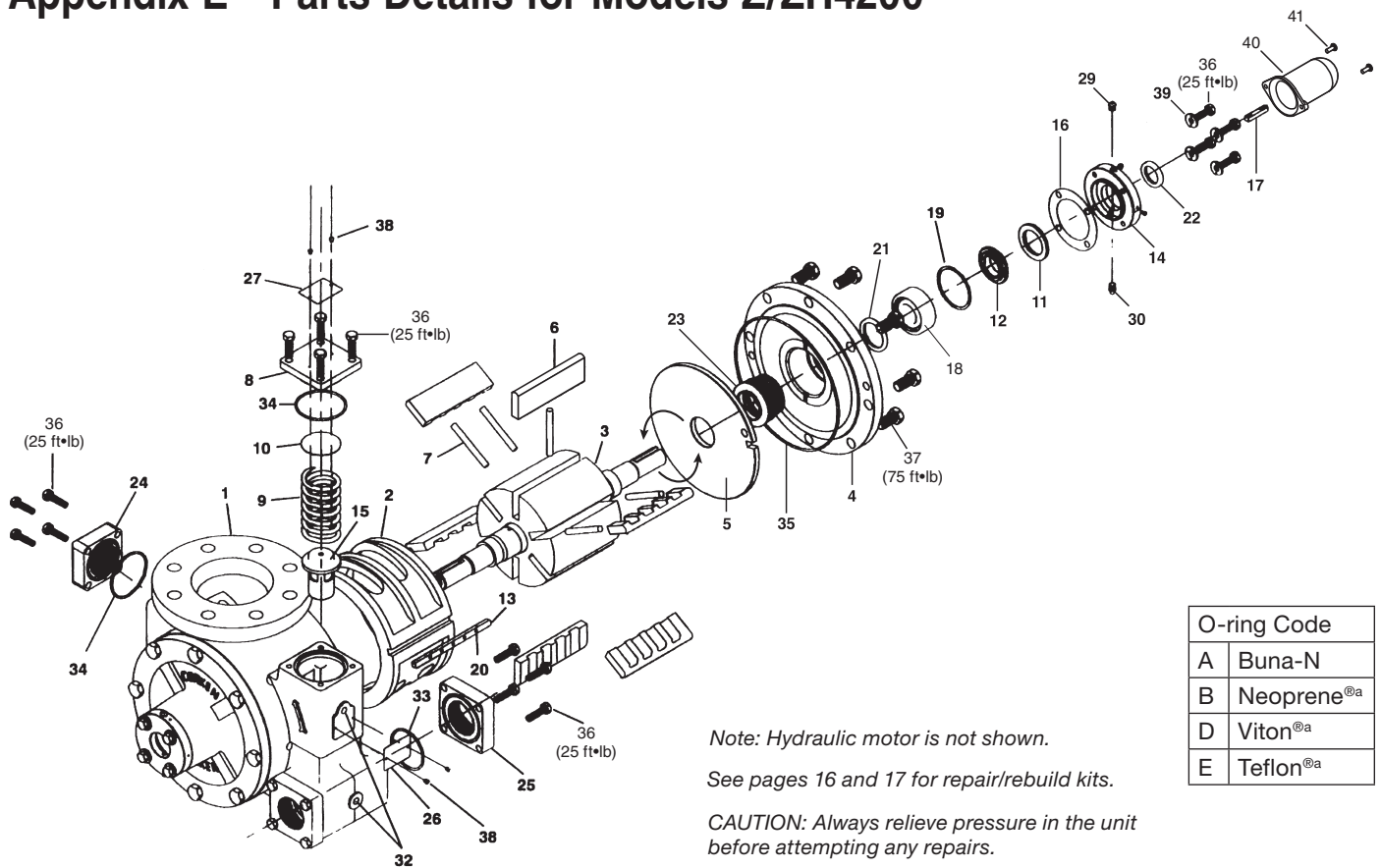
Ref. No.	Part No.	Description	Qty
23.	4417	Bearing cap	2
24.	4432	Thrust bearing assembly	2
25.	4435	Thrust bearing mounting ring	2
26.	4438	Grease seal / Oil seal	2
27.	4439	Bearing cap shim—0.002"	2
28.	4439-1	Bearing cap shim—0.010"	2
29.	4439-2	Bearing cap shim—0.020"	2
30.	4441	Grease seal	2
31.	6660-X_2 <sup>b</sup>	Mechanical seal assembly—cast iron	2
	6660-X_6 <sup>b</sup>	Mechanical seal assembly—silicon carbide	2
32.	4985	Shaft protector	1
33.	7001-037NC125A	Hex head bolt	24
34.	7001-037NC150A	Hex head bolt	16
35.	7001-043NC150A	Hex head bolt	6
36.	7012-006SF019E	Screw	9
37.	7012-010SF050E	Screw	2
38.	7206-037A	Lock washer—0.375"	8
39.	5534	Head	2
40.	5537	Case	1
41.	5539	Cam	1
42.	5538	Outlet flange—3" NPT Elongated	1
	5538-3S	Outlet flange—3" WF Elongated	1
43.	5548	Spring	1
44.	5554-X	Vane driver	6

<sup>a</sup>Registered trademarks of the DuPont company.

<sup>b</sup> denotes O-ring code. See chart above.

<sup>c</sup>Slots in vanes must face TOWARDS the direction of rotation

# Appendix E—Parts Details for Models Z/ZH4200



O-ring Code	
A	Buna-N
B	Neoprene <sup>®a</sup>
D	Viton <sup>®a</sup>
E	Teflon <sup>®a</sup>

Note: Hydraulic motor is not shown.

See pages 16 and 17 for repair/rebuild kits.

CAUTION: Always relieve pressure in the unit before attempting any repairs.

Ref. No.	Part No.	Description	Qty
1.	4442 <sup>b</sup>	Case	1
2.	4443 <sup>b</sup>	Cam	1
3.	4444-X2R <sup>b</sup>	Rotor-shaft assembly	1
4.	4445 <sup>b</sup>	Head	2
5.	4446	Sideplate	2
6.	4448 <sup>c</sup>	Vane	6
7.	4449-X	Vane driver	5
8.	4450	Relief valve cap	1
9.	4451	Relief valve spring	1
10.	4452	Shim	1
11.	4453	Thrust bearing assembly	2
12.	4454	Bearing race mounting ring	2
13.	4455	Cam key	1
14.	4456	Bearing cap	2
15.	4457	Relief valve	1
16.	4458	Bearing cap shim (.002) red	As req.
	4458-1	Bearing cap shim (.010) brown	
	4458-2	Bearing cap shim (.020) yellow	
17.	4459	Shaft key—5/16 x 1-3/4	1
18.	4460-X	Roller bearing	2
19.	2760-283	Retainer ring	2
20.	3253	Cam key pin	5
21.	4462	Grease seal	2

Ref. No.	Part No.	Description	Qty
22.	4463	Grease seal	2
23.	4464-X_2 <sup>b</sup>	Mechanical seal assembly—cast iron	2
	4464-X_6 <sup>b</sup>	Mechanical seal assembly—silicon carbide	2
24.	1172-2	Aux. inlet flange—2" NPT	1
	1172-2S	Aux. inlet flange—2" WF	1
	1920-3	Aux. inlet flange—blind	1
25.	4479-2 <sup>d</sup>	Discharge flange—2" NPT	2
	4981-2	Discharge flange—2" NPT	2
26.	2649	Nameplate	1
27.	4248	Relief valve nameplate	1
28.	1359	Lubrication instruction plate	2
29.	1343	1/8 NPT relief fitting	2
30.	2158	1/8 NPT grease zerk	2
31.	2159 <sup>b</sup>	Lubricap	2
32.	3442	1/4 NPT pipe plug	2
33.	2-231_ <sup>b</sup>	O-ring—discharge flange	2
34.	2-234_ <sup>b</sup>	O-ring—auxiliary inlet flange	1
35.	2-270_ <sup>b</sup>	O-ring—case	2
36.	7001-037NC150A	Bolt—hexagon head	24
37.	7001-062NC125A	Bolt—hexagon head	16
38.	7012-006SF019E	Screw	8
39.	7206-037A	Lockwasher	8
40.	4985	Shaft protector	1
41.	7012-010SF050E	Screw	2

<sup>a</sup>Registered trademark of the DuPont company.  
<sup>b</sup> \_ denotes O-ring code. See chart above.  
<sup>c</sup>Slots in vanes must face TOWARDS the direction of rotation  
<sup>d</sup>Prior to January 1998.

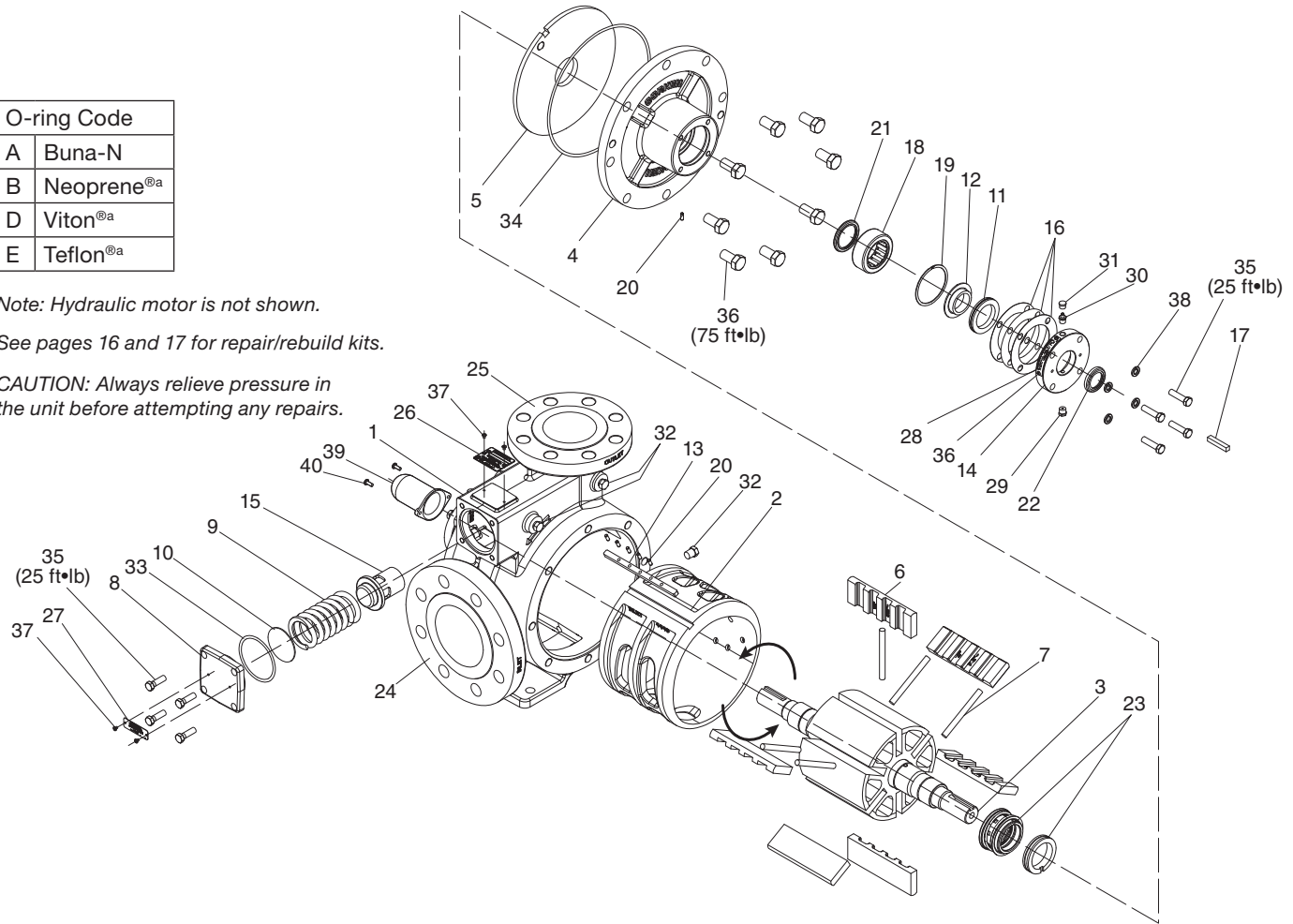
# Appendix E—Parts Details for Model Z4500

O-ring Code	
A	Buna-N
B	Neoprene <sup>®a</sup>
D	Viton <sup>®a</sup>
E	Teflon <sup>®a</sup>

Note: Hydraulic motor is not shown.

See pages 16 and 17 for repair/rebuild kits.

CAUTION: Always relieve pressure in the unit before attempting any repairs.



Ref. No.	Part No.	Description	Qty
1.	5522	Case	1
2.	4443	Cam	1
3.	4444-X2R	Rotor-shaft assembly	1
4.	4445	Head	2
5.	4446	Sideplate	2
6.	4448 <sup>c</sup>	Vane	6
7.	4449-X	Vane driver	5
8.	4450	Relief valve cap	1
9.	4451	Relief valve spring	1
10.	4452	Shim	1
11.	4453	Thrust bearing assembly	2
12.	4454	Bearing race mounting ring	2
13.	4455	Cam key	1
14.	4456	Bearing cap	2
15.	4457	Relief valve	1
16.	4458	Bearing cap shim (.002) red	As req.
	4458-1	Bearing cap shim (.010) brown	
	4458-2	Bearing cap shim (.020) yellow	
17.	4459	Shaft key—5/16 x 1-3/4	1
18.	4460-X	Roller bearing	2
19.	2760-283	Retainer ring	2

Ref. No.	Part No.	Description	Qty
20.	3253	Cam key pin	5
21.	4462	Grease seal	2
22.	4463	Grease seal	2
23.	4464-X_2 <sup>b</sup>	Mechanical seal assembly—cast iron	2
	4464-X_6 <sup>b</sup>	Mechanical seal assembly—silicon carbide	2
24.	---	Inlet flange—4" ANSI	1
25.	---	Outlet flange—3" ANSI	1
26.	2649	Nameplate	1
27.	4248	Relief valve nameplate	1
28.	1359	Lubrication instruction plate	2
29.	1343	1/8 NPT relief fitting	2
30.	2158	1/8 NPT grease zerk	2
31.	2159	Lubricap	2
32.	3442	1/4 NPT pipe plug	2
33.	2-234_ <sup>b</sup>	O-ring—relief valve	1
34.	2-270_ <sup>b</sup>	O-ring—case	2
35.	7001-037NC150A	Bolt—hexagon head	16
36.	7001-062NC125A	Bolt—hexagon head	16
37.	7012-006SF019E	Screw	8
38.	7206-037A	Lockwasher	8
39.	4985	Shaft cover	1
40.	7012-010SF050E	Screw	2

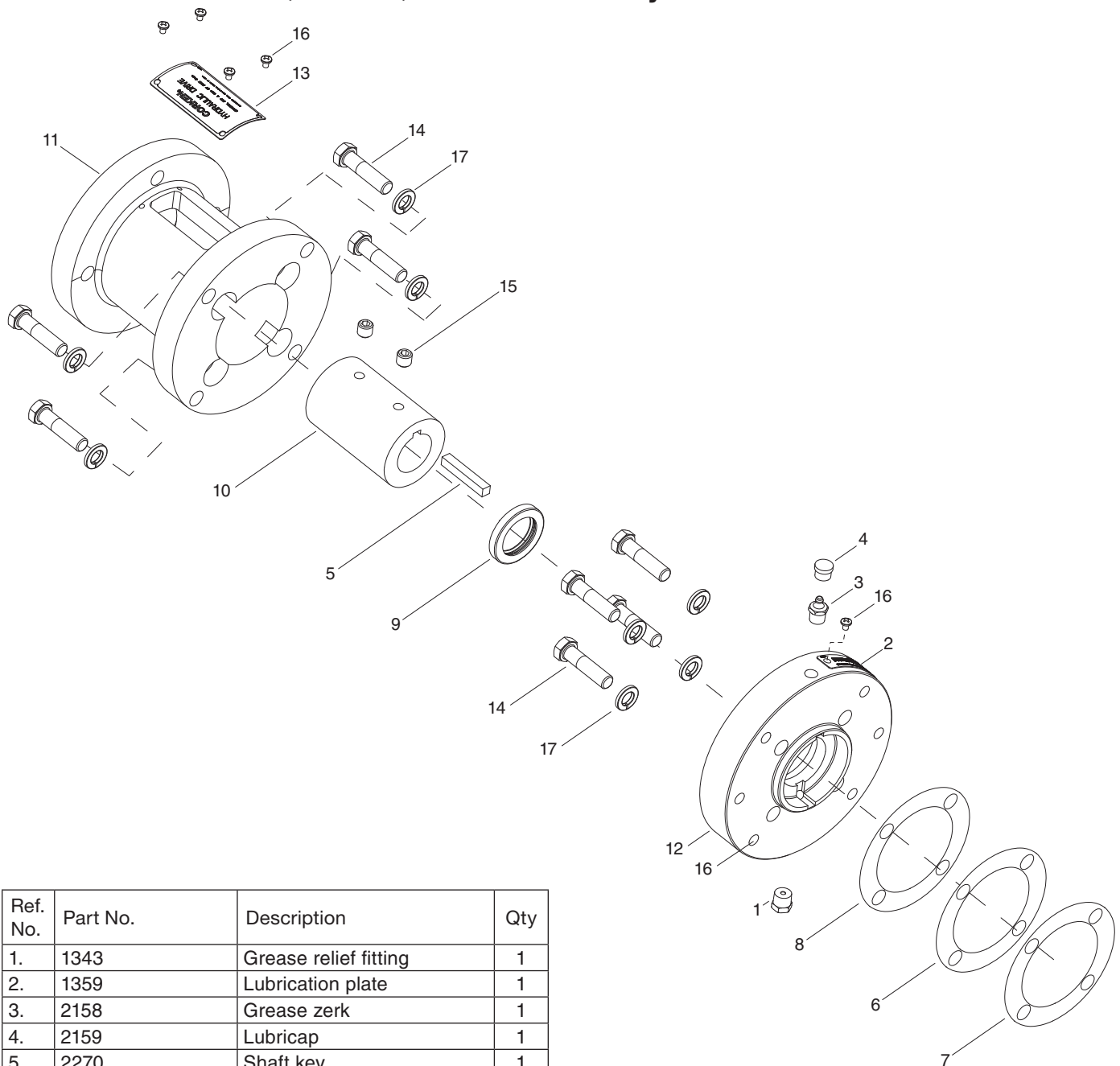
<sup>a</sup>Registered trademark of the DuPont company.

<sup>b</sup> \_ denotes O-ring code. See chart above.

<sup>c</sup>Slots in vanes must face TOWARDS the direction of rotation

# Appendix E—Parts Details for Hydraulic Adapter (4496-X1)

## Fits Models Z2000, Z3200, and Z3500 Only



Ref. No.	Part No.	Description	Qty
1.	1343	Grease relief fitting	1
2.	1359	Lubrication plate	1
3.	2158	Grease zerk	1
4.	2159	Lubricap	1
5.	2270	Shaft key	1
6.	4439	Bearing cap shim—0.002"	1
7.	4439-1	Bearing cap shim—0.010"	1
8.	4439-2	Bearing cap shim—0.020"	1
9.	4441	Grease seal	1
10.	4487-1	Hydraulic drive solid coupling	1
11.	4496	Hydraulic drive bracket	1
12.	4497	Hydraulic drive bearing cap	1
13.	4499	Hydraulic drive name plate	1
14.	7001-037NC150A	Bolt—hexagon head	8
15.	7006-037NC037A	Set screw	2
16.	7012-006SF019E	Screw	6
17.	7206-037A	Lock washer—0.375"	8

