

PARTS MANUAL

Hydra-Cell[®]

INDUSTRIAL PUMPS

IMPORTANT

Record your pump model number and serial number here for easy reference:

Model No. _____

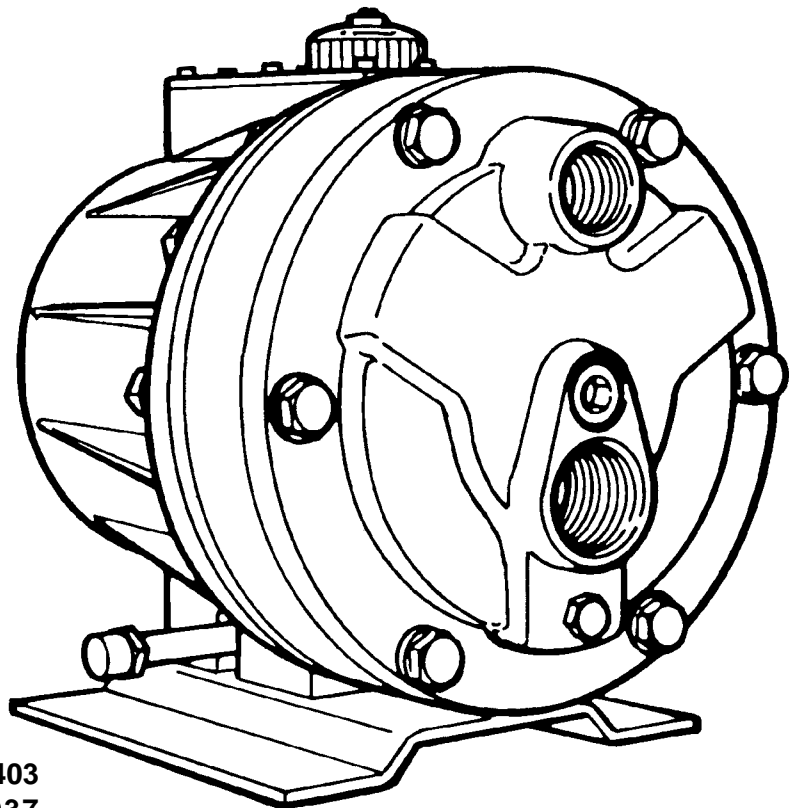
Serial No. _____

Date of Purchase _____

When ordering parts or making inquiries about this pump, please mention the model and serial numbers.

MODEL: D-10

WITH METALLIC PUMP HEAD



WANNER ENGINEERING, INC.

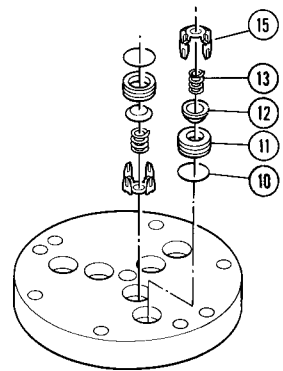
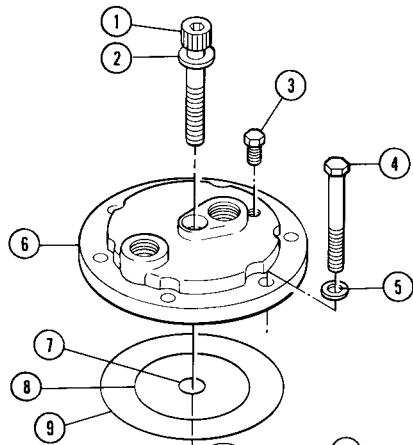
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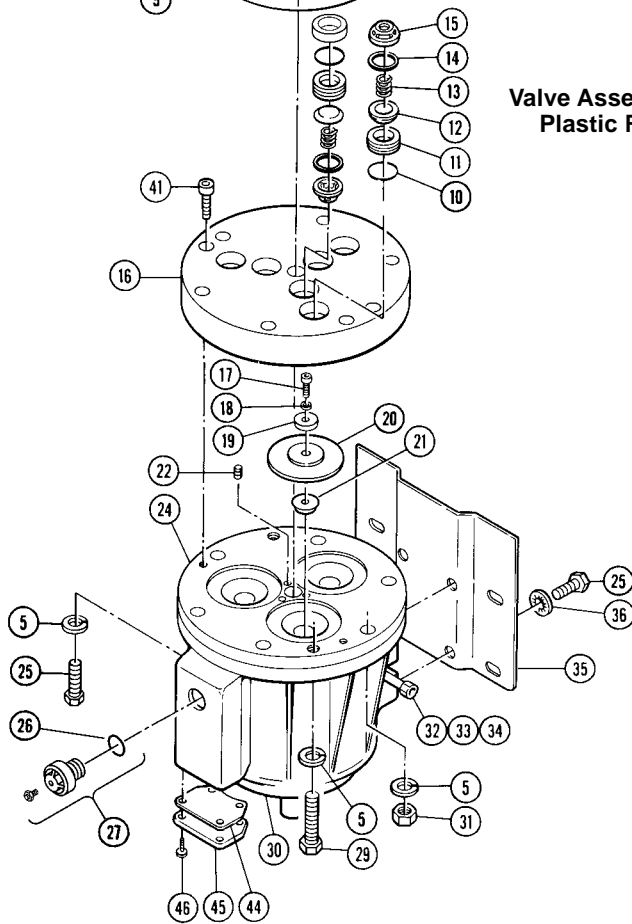
D-10 Fluid End (with metallic pump head)

**Model D-10
with Metallic Pump Head**

**Valve Assemblies with
Metal Retainers**



**Valve Assemblies with
Plastic Retainers**



Ref #	Part Number	Description	Quantity/ Pump
1	D10-081-2012	Cap Screw, socket head, 2-3/4"	1
2	D10-084-2010	Washer, 1/2", flat	1
3	D10-038-2017	Plug, Hastelloy C	1
	D10-038-2210	Plug, brass	1
	D10-038-2211	Plug, 316 SST	1
4	D10-024-2010	Bolt, 3-1/2" hex-head	6
5	D10-048-2010	Washer, 3/8" split lock	14
6	D10-004-1002	Manifold, 316 SST, NPT	1
	D10-004-1008	Manifold, brass, NPT	1
	D10-004-1017	Manifold, nickel alloy, Hastelloy CW12MW, NPT	1
	D10-004-1034	Manifold, cast iron, NPT	1
7	D10-083-2110	O-ring, centerbolt, Buna	1
	D10-083-2111	O-ring, centerbolt, Viton	1
	D10-083-2112	O-ring, centerbolt, Neoprene	1
	D10-083-2113	O-ring, centerbolt, EPDM	1
	D10-083-2118	O-ring, centerbolt, Teflon	1

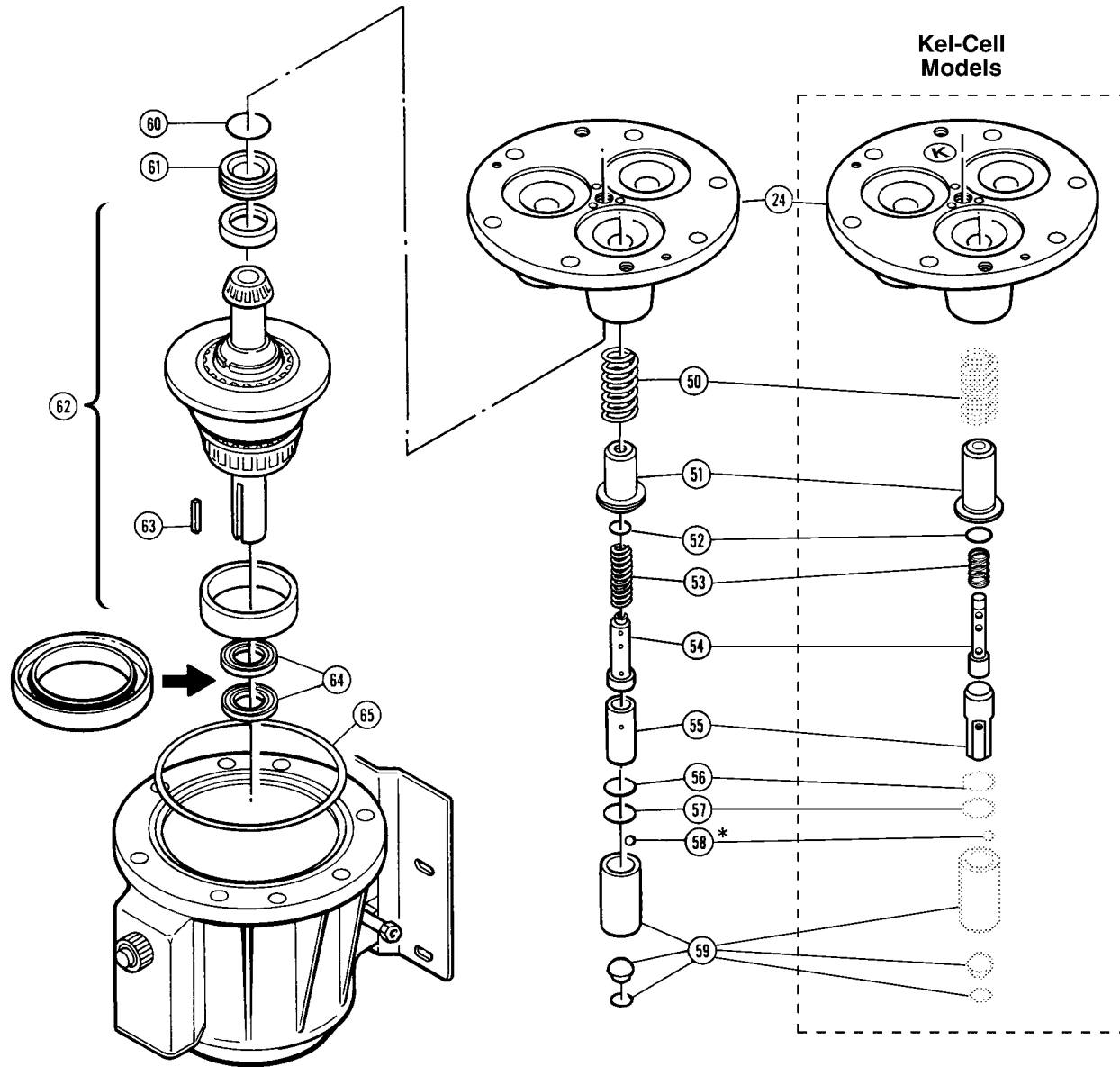
D-10 Fluid End (with metallic pump head)

Ref #	Part Number	Description	Quantity/ Pump
8	D10-073-2110	O-ring, inner manifold, Buna	1
	D10-073-2111	O-ring, inner manifold, Viton	1
	D10-073-2112	O-ring, inner manifold, Neoprene	1
	D10-073-2113	O-ring, inner manifold, EPDM	1
	D10-073-2118	O-ring, inner manifold, Teflon	1
9	D10-074-2110	O-ring, outer manifold, Buna	1
	D10-074-2111	O-ring, outer manifold, Viton	1
	D10-074-2112	O-ring, outer manifold Neoprene	1
	D10-074-2113	O-ring, outer manifold EPDM	1
	D10-074-2118	O-ring, outer manifold, Teflon	1
10	D10-035-2110	O-ring, valve seat, Buna	6
	D10-035-2111	O-ring, valve seat, Viton	6
	D10-035-2112	O-ring, valve seat, Neoprene	6
	D10-035-2113	O-ring, valve seat, EPDM	6
	D10-035-2118	O-ring valve seat, Teflon	6
11	D10-020-1010	Valve seat, 17-4 SST, HT	6
	D10-020-1011	Valve seat, 316 SST	6
	D10-020-1016	Valve seat, tungsten carbide	6
	D10-020-1017	Valve seat, Hastelloy C	6
	D10-020-3300	Valve seat, ceramic	6
12	D10-021-1010	Valve, 17-7 SST, stamped, HT	6
	D10-021-1011	Valve, Nitronic	6
	D10-021-1015	Valve, 17-4 SST, machined, HT	6
	D10-021-1016	Valve, tungsten carbide	6
	D10-021-1017	Valve, Hastelloy C	6
D10-021-3300	Valve, ceramic	6	
13	D10-022-3116	Valve Spring, 17-7 SST, HT	6
	D10-022-3117	Valve Spring, Elgiloy	6
	D10-022-3123	Valve Spring, Hastelloy C	6
14	D10-092-2110	Tetra Seal, Buna	6
	D10-092-2111	Tetra Seal, Viton	6
	D10-092-2112	Tetra Seal, Neoprene	6
	D10-092-2113	Tetra Seal, EPDM	6
	D10-092-2118	Tetra Seal, Teflon	6
15	D10-023-1010	Retainer, valve spring, 17-7 SST, HT	6
	D10-023-1017	Retainer, valve spring, Hastelloy C ...	6
	D10-023-2310	Retainer, valve spring, Celcon	6
	D10-023-2326	Retainer, valve spring, Nylon	6
	D10-023-2327	Retainer, valve spring, polypropylene ..	6
D10-023-2328	Retainer, valve spring, Kynar	6	
16	D10-003-1011	Valve Plate, brass	1
	D10-003-1012	Valve Plate, 316 SST	1
	D10-003-1019	Valve Plate, cast iron	1
	D10-003-1027	Valve Plate, nickel alloy, Hastelloy CW12MW	1
17	D10-030-2010	Screw, flat-head, SST, 3/8"	3
	D10-030-2011	Screw, flat-head, Hastelloy C, 3/8"	3
18	D10-047-2110	O-ring, follower, Buna-N	3
	D10-047-2111	O-ring, follower, Viton	3
	D10-047-2112	O-ring, follower, Neoprene	3
	D10-047-2113	O-ring, follower, EPDM	3
	D10-047-2118	O-ring, follower, Teflon	3

Ref #	Part Number	Description	Quantity/ Pump
19	D10-017-1010	Follower, 316 SST	3
	D10-017-1011	Follower, Hastelloy C	3
20	D10-018-2312	Diaphragm, Neoprene	3
	D10-018-2313	Diaphragm, EPDM	3
	D10-018-2315	Diaphragm, Viton XT	3
	D10-018-2318	Diaphragm, Teflon	3
	D10-018-2320	Diaphragm, Buna-N-XS	3
21	D10-016-1010	Plunger	3
22	D10-082-2010	Set Screw, 3/8"	3
24	D10-002-1010	Cylinder Housing	1
	D10-002-1210	Cylinder Housing Assembly ¹	–
	K10-002-1010	Cylinder Housing, Kel-Cell ²	–
	K10-002-1210	Cylinder Housing Assembly, Kel-Cell ^{1,2}	–
25	D10-029-2010	Cap Screw, hex-head, 1"	5
26	D10-080-2110	O-ring, oil fill, Buna	1
27	D03-039-1210	Cap, oil fill (includes breather and O-ring)	1
29	D10-087-2010	Cap Screw, hex-head, 1-1/8"	1
30	D10-001-1214	Pump Housing ³	1
	D10-001-1215	Pump Housing Assembly ⁴	–
31	D10-028-2010	Nut, hex, 3/8"	6
32	D10-076-2210	Elbow, brass, 1/8"	1
33	D10-077-2210	Pipe, brass, 1/8"	1
34	D10-078-2210	Cap, brass, 1/8"	1
35	D10-025-1010	Base	1
36	D10-054-2010	Washer, shakeproof, 3/8"	4
38	M10-110-2000	Bolt, 1-1/2"	4
41	D10-088-2010	Cap Screw, socket-head	2
44	D10-106-2310	Gasket, cover	1
45	D10-105-1010	Cover/Nameplate	1
46	G10-090-2010	Screw, M4 x 12	4

¹ Cylinder Housing Assembly includes casting (24), bearing, adjusting plate (61), O-ring (60), and set screws (22).
² Parts used in Kel-Cell version pump.
³ Pump housing includes housing (30), cover (45), gasket (44), and screws (46).
⁴ Pump Housing Assembly includes housing (30), drain plug (32, 33, 34), bearing cup, cover (45), gasket (44), and screws (46).

D-10 Hydraulic End (with metallic pump head)



*Qty per piston: 4

D-10 Hydraulic End (with metallic pump head)

Ref #	Part Number	Description	Quantity/ Pump
50	D10-019-3110	Spring, piston return	3
51	D10-042-1010	Retainer, spring	3
	K10-042-1010	Retainer, spring, Kel-Cell ⁵	3
52	D10-046-2110	O-ring, valve cylinder, Buna	3
	C23-009-2110	O-ring, valve cylinder, Buna, Kel-Cell ⁵	3
53	D10-045-3110	Spring, sleeve valve	3
	D10-045-3111	Spring, sleeve valve, Teflon diaphragm	3
	K10-045-3110	Spring, sleeve valve, Kel-Cell ⁵	3
54	D10-044-1010	Valve Plunger	3
	K10-044-1010	Valve Plunger, Kel-Cell ⁵	3
55	D10-043-1010	Cylinder, valve	3
	K10-043-1010	Cylinder, valve, Kel-Cell ⁵	3
56	D10-034-2110	O-ring, Buna	3
57	D10-041-1010	Washer, ball retainer	3
58	D10-015-3010	Ball	12
59	D10-014-1209	Piston, with foot and retainer	3
	D10-014-1210	Piston Assembly ⁶	—
	K10-014-1210	Piston Assembly, Kel-Cell ^{5,6}	—
60	D10-075-2110	O-ring, bearing adjusting plate, Buna	1
61	D10-012-1010	Bearing Adjusting Plate	1

Ref #	Part Number	Description	Quantity/ Pump
62	D10-007-1210	(X) Cam Assembly, 8 gpm @ 1450 rpm ⁷	—
	D10-007-1211	(I) Cam Assembly, 4 gpm @ 1750 rpm ⁷	—
	D10-007-1212	(S) Cam Assembly, 6 gpm @ 1750 rpm ⁷	—
	D10-007-1214	(E) Cam Assembly, 8 gpm @ 1750 rpm ⁷	—
63	D10-085-2210	Key, shaft	1
64	D10-031-2210	Seal, Buna	2
65	D10-037-2110	O-ring, pump housing, Buna	1
—	D10-111-2401	Label, caution	1
	D10-111-2402	Label, caution	1

⁵ Parts used in Kel-Cell version pumps (Kel-Cell version pumps are indicated by a “K” in the 5th digit of the pump model number).

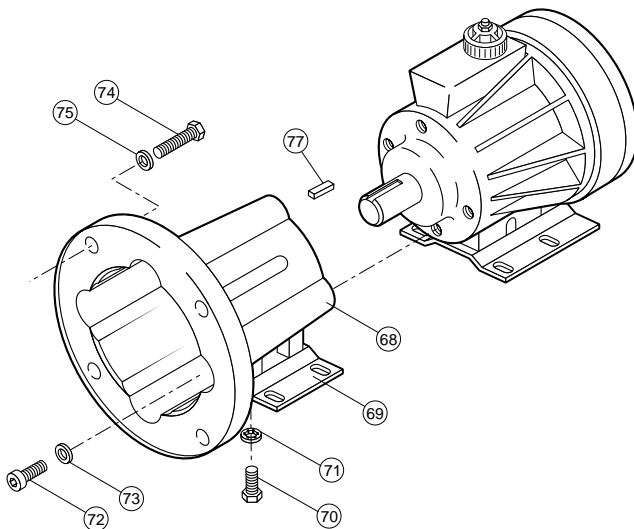
⁶ Piston Assembly includes cylinder, foot, valve plunger, O-rings, spring retainer, and springs (50-59).

⁷ Cam Assembly includes cam, shaft, wobble plate, cups and bearings. It is only available as an assembly.

D-10 Pump/Motor Adapter Kit

For 56C-145TC NEMA C-Face Motors (Complete Kit Part No. A04-001-1200)

For 182-215TC NEMA C-Face Motors (Complete Kit Part No. A04-002-1200)



Ref #	Description	A04-001-1200	A04-002-1200	Qty/Kit
68	Pump/Motor Adapter	A04-031-1000	A04-030-1000	1
69	Adapter Baseplate	A04-025-1010	—	1
70	Cap Screw, Hex-head, 3/8"	D10-029-2010	—	4
71	Lockwasher, Internal tooth, 3/8"	D10-054-2010	—	4
72	Cap Screw, Socket-head 3/8"	A04-041-2010 3/8"	A04-041-2010 3/8"	4
73	Lockwasher, Split 3/8"	D10-048-2010 3/8"	D10-048-2010 3/8"	4
74	Cap Screw, Hex-head, 3/8"	D03-068-2010 3/8"	M10-110-2000 1/2"	4
75	Lockwasher, Split 3/8"	D10-048-2010 3/8"	M10-111-2000 1/2"	4
77	Short Key	A04-085-2210	A04-085-2210	1

D-10 Series Replacement Parts Kits

(with metallic pump head)

TO ORDER REPLACEMENT PARTS KIT: A Replacement Parts Kit contains 11 digits corresponding to customer-specified design options.

1	2	3	4	5	6	7	8	9	10	11
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Digit	Order Code	Description
1-3		Pump Configuration
	D10	For all D-10 Pumps
4		Kit Designator
	K	Complete Fluid End Kit
	D	Diaphragm Kit
	V	Valve Kit (diaphragm not included)
5-6		Pump Head Version
	52	Metallic Pump Head Version
7		Diaphragm & O-ring Material
	E	EPDM
	G	Viton®-XT
	J	Teflon®
	P	Neoprene
	T	Buna-N-XS
8		Valve Seat Material
	C	Ceramic
	D	Tungsten Carbide
	H	17-4 PH Stainless Steel
	S	316 Stainless Steel
	T	Hastelloy® C
	X	Not included in Diaphragm Kit
9		Valve Material
	C	Ceramic
	D	Tungsten Carbide
	F	17-4 PH Stainless Steel – Machined
	H	17-7 PH Stainless Steel – Stamped
	N	Nitronic 50
	T	Hastelloy® C
	X	Not included in Diaphragm Kit
10		Valve Springs
	E	Elgiloy®
	H	17-7 PH Stainless Steel
	T	Hastelloy® C
	X	Not included in Diaphragm Kit
11		Valve Spring Retainers
	C	Celcon
	H	17-7 PH Stainless Steel
	M	Kynar®
	P	Polypropylene
	T	Hastelloy® C
	Y	Nylon (Zytel)
	X	Not included in Diaphragm Kit

Kit Contents

Part Number*	Description	Qty	Kit Designator		
			K	D	V
D10-018-___	Diaphragm	3	•	•	
D10-047-___	O-ring, follower	3	•	•	
D10-074-___	O-ring, outer manifold	1	•	•	•
D10-073-___	O-ring, inner manifold	1	•	•	•
D10-083-___	O-ring, center bolt	1	•	•	•
D10-035-___	O-ring, valve seat	6	•		•
D10-020-___	Valve seat	6	•		•
D10-021-___	Valve	6	•		•
D10-022-___	Valve spring	6	•		•
D10-092-___	Tetra seal **	6	•		•
D10-023-___	Retainer, valve spring	6	•		•
A01-113-3400	Threadlocker	1	•	•	

* Last four digits of part numbers with ___ refer to specific material of construction.

** Not included with metallic spring retainers.



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- Numbers in parenthesis refer to photo on flip side of these instructions for tool identification
- Refer to individual pump installation manual for complete servicing instructions

Seal Protector (5)

When installing new shaft seals, the Seal Protector protects the inside of the seals from nicks and cuts.

1. Place shaft seals onto the tapered end of the seal protector with a liberal amount of grease in between seals (Figure 1).
2. Place Seal Protector completely onto pump shaft.



Figure 1

Seal Inserter (2)

Used to seat seals on D/G-10 and larger size pumps.

1. Use tapered end of Seal Inserter to push seals off of Seal Protector and into pump housing (Figure 2).
2. Tapping with a rubber mallet may be necessary to fully seat seals flush with pump housing.



Figure 2

Shaft Rotator (2 or 7)

Used to prime the pump's hydraulic cells.

1. After installing new diaphragms, prime the hydraulic cells by using the shaft rotator to rotate the pump shaft (Figure 3).



Figure 3

Lever Assembly (3) and Valve Seat Puller (4)

The Lever Assembly and Valve Seat Puller are used to remove valve seats from the valve plate.

Note: The valve plate can remain on the pump or be removed and held firmly on work surface.

1. Thread the appropriate Valve Seat Puller onto the Lever Assembly.
2. Squeeze the claw end of the Puller and guide Puller into the valve seat (Figure 4) until all four claws are beneath the valve seat.
3. Position the Lever Assembly on a level area of the valve plate (Figure 5), and firmly depress the handle to draw the valve seat straight out of the valve plate.
4. Repeat process to remove all valve seats.
5. Unscrew Seat Puller from Lever Assembly and slide off all seats (Figure 6).

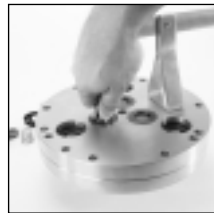


Figure 4



Figure 5

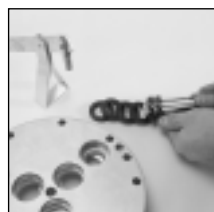


Figure 6

Valve Plunger Holder (6)

Use Plunger Holder to firmly hold valve plunger stem while changing diaphragms (Figure 7).

1. Rotate pump shaft to maximum forward stroke of selected diaphragm.
2. Pull up on diaphragm to expose crosswise holes in valve plunger stem.
3. Insert center tine of Plunger Holder tool completely.
4. Release diaphragm while continuing to hold plunger holder.
5. Remove old diaphragm and install new diaphragm with an appropriate screwdriver and according to Installation manual.
6. Lift up on new diaphragm to remove Plunger Holder tool.
7. Rotate pump shaft for the next diaphragm and repeat.



Figure 7

Plunger Guide Lifter (8 or 9)

For pumps without plungers (all F/G-20 D/G-03 and D/G-04 Series pumps), use the Plunger Guide Lifter (8) to retrieve valve plunger from inside piston.

For pumps with plungers (all D/G-10 Series and larger), use the Plunger Guide Lifter (9) to remove press-fit plungers from valve plunger stem.

Plunger Removal

1. Thread small end of Plunger Guide Lifter completely into selected valve plunger.
2. Carefully tap hex end of Plunger Guide Lifter to drive valve plunger out the back of the plunger (Figure 8).
3. Unthread Plunger Guide Lifter to remove.

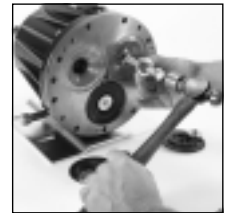


Figure 8

Plunger Installation

1. Place a new plunger on the screw end of the Plunger Guide Lifter (flat side of plunger toward tool).
2. Screw the Plunger Guide Lifter and plunger into the valve plunger.
3. Hold the hex end of the Plunger Guide Lifter with one wrench while tightening the hex nut (Figure 9).
4. The shield will seat the plunger onto the valve plunger stem.

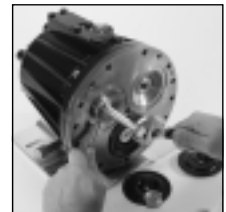


Figure 9

Note: Never re-install used plungers.

Assembly Studs (10)

Assembly Studs are used to draw pump housing and cylinder housing together for size D/G-10 and larger pumps.

1. With the cylinder housing on wood blocks (pistons pointing up) and cam assembly in place, use Assembly Studs to draw pump housing and cylinder housing together.
2. Frequently rotate the pump shaft (Use Shaft Rotator Item 2) by hand to keep the front bearing centered in the cylinder housing bearing cup.

Tool Kits Accessories



Complete Pump Tool Kits

Wanner Tool Kits provide convenient specialty tools helpful for pump repairs and routine servicing. Tool Kits are customized for each pump model. Each pump tool kit is provided in a durable hard plastic case. Contents include: shaft rotator, valve seat remover, plunger guide lifter, plunger holder, protector seal, seal inserter and assembly studs.

Part Number	Description
A03-175-1107	Master Tool Kit for all Pump Models
A03-175-1105	F/G-20
A03-175-1106	D/G-03, D/G-04
A03-175-1101	D/G-10, D/G-10-SD, D/G-12
A03-200-1103	D/G-15/17
A03-175-1102	H/G-25, H/G-25-SD
A03-200-1100	D/G-35, D/G-35-SD



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Specialty Tools

Individual specialty tools are available for all pumps.

Part Number	Description
① A03-126-1500	Toolbox
② A03-159-1200	Inserter/Rotator (D/G-10)
A03-155-1200	Inserter/Rotator (D/G-15/17)
A03-160-1200	Inserter/Rotator (H/G-25)
A03-185-1200	Inserter/Rotator (D/G-35)
③ A03-124-1200	Lever Assembly
④ A03-117-1000	Seat Puller (D/G-03, D/G-04)
A03-118-1000	Seat Puller (D/G-10, D/G-12)
A03-119-1000	Seat Puller (H/G-25, D/G-35)
⑤ A03-157-1000	Seal Protector (D/G-10, D/G-12)
A03-158-1002	Seal Protector (D/G-15/17)
A03-158-1001	Seal Protector (H/G-25)
⑥ A03-125-1020	Plunger Holder (F/G-20, D/G-03, D/G-04)
A03-125-1010	Plunger Holder (D/G-10, D/G-12, D/G-15/17)
A03-125-1000	Plunger Holder (H/G-25, D/G-35)
⑦ A03-195-1200	Shaft Rotator (F/G-20, D/G-03, D/G-04)
⑧ A03-196-1000	Plunger Guide Lifter (F/G-20, D/G-03, D/G-04)
⑨ A03-162-1200	Plunger Guide Lifter (D/G-10, D/G-12)
A03-162-1010	Plunger Guide Lifter (D/G-15/17)
A03-162-1201	Plunger Guide Lifter (H/G-25, D/G-35)
⑩ A03-156-1200	Assembly Studs (D-10, D-12, D/G-15/17, H/G-25, D/G-35)

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