



3-POINT SPRAYERS

**Operation, Service
& Parts Manual For
G50E**

June 2006

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DATE OF PURCHASE: _____

MODEL NUMBER: _____

SERIAL NUMBER: _____

OPERATING INSTRUCTIONS

1. Check filter screen to make sure it is clean.
2. Fill sprayer - 50 gallons maximum.
3. The pressure regulator valve (black knob) should be turned counter clockwise for zero pressure.
4. Turn input valve at control block to the ON position, parallel to piping.
5. Start the engine.
6. To control pressure (black knob), turn clockwise for high pressure, and counter clockwise for low pressure.
7. Turn valve to jet agitator to set the amount of agitation required.
8. If doing handgun work, connect hose to ON-OFF valve and turn valve handle to the ON position. Then control spray and pattern with handgun.
9. If doing spray boom work, connect the two hoses from the boom to the two ON-OFF valves and turn valve handles to the ON position.

CLEANING & STORAGE

1. Wash and flush out sprayer after completion of each phase of your spraying program. Never leave chemicals in the tank.
2. Flush out sprayer when changing chemicals if there is a possibility of incompatibility.
3. Clean sprayer very thoroughly before storing at the end of spraying season. If you are in a cold climate, final rinse should be with a sufficiently concentrated anti-freeze, to prevent freeze-up in areas that were not thoroughly drained.
4. Check sprayer for possible need of repairs before using sprayer again.
5. Never leave the sprayer in the sun for long periods of time.

GENERAL SAFETY INFORMATION

Use of pressure relief device on the discharge side of pump is required to prevent damage from pressure build-up if the discharge is closed or blocked while the power source is still running.



WARNING:

DO NOT PUMP FLAMMABLE OR EXPLOSIVE FLUIDS, SUCH AS GASOLINE, FUEL OIL, KEROSENE, ETC. DO NOT USE IN EXPLOSIVE ATMOSPHERES. THE PUMP SHOULD BE USED ONLY WITH LIQUIDS COMPATIBLE WITH THE PUMP COMPONENT MATERIALS. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID THE PRODUCT WARRANTY.

Do not operate pump above recommended R.P.M.

Do not pump at pressure higher than the maximum recommended for the pump (*See Specifications*).

Operate pump between 45° and 145° F liquid temperatures.

Make certain that the power source conforms to the requirements of your equipment.

Provide adequate protection in guarding around the moving parts, such as the shaft and pulleys.

Disconnect power before servicing.

Release all pressure within the system before servicing any component.

Drain all liquids from the system before servicing.

Secure the discharge lines before starting the pump. An unsecured discharge line may whip, causing personal injury and/or property damage.

Check hoses for weak or worn condition before each use. Make certain that all connections are tight and secure.

Periodically inspect the pump and the system components. Perform routine maintenance as required (*See Maintenance Section*).

Do not operate a gasoline engine in an enclosed area. Be sure the area is well ventilated.

Use only pipe, hose and fittings rated for maximum rated pressure of pump or pressure at which pressure relief valve is set. Check with local supplier for proper pressure rating. **Do not** use used pipe!

Do not use these pumps for pumping water or other liquids for human or animal consumption.

PUMP MAINTENANCE

The pump is serviced, tested and ready for use. Never the less, before starting the pump we advise checking the oil level.

The oil level should be filled to the mark on the plastic tube.

When adding oil, remove oil filler cap and fill to level mark with SAE 30 weight engine oil.

The pressure accumulator is an important part of the pump as it prevents pulsation. Therefore, it is necessary to make sure the accumulator pressure is approximately 10% of pump working pressure. To check pressure or add air, remove cap.

After use, flush pump with clean water.

Change oil and diaphragms **every 500** hours. To drain oil from the pump, remove drain plug and rotate the shaft until the oil stops flowing out. To fill pump with oil, slowly pour oil into sight tube while turning the pump shaft. Turning the pump shaft purges all the air out of the crankcase. **Always** change oil when replacing diaphragms.

For winter storage or if a freezing condition will be encountered, flush pump with a 50/50 mixture of water and anti-freeze.

DIAPHRAGM & VALVE REPLACEMENT

I. Valve and o-ring replacement

1. Occasionally debris can cause the valves to not seat properly or damage the o-rings. To check for this problem:
 - A. Remove manifold on pump head assembly. Use a 17mm box wrench to remove manifold nuts.
 - B. With manifold removed, valves can readily be removed and checked for debris or wear.
 - C. To replace valves or o-rings, refer to parts list for appropriate kits.

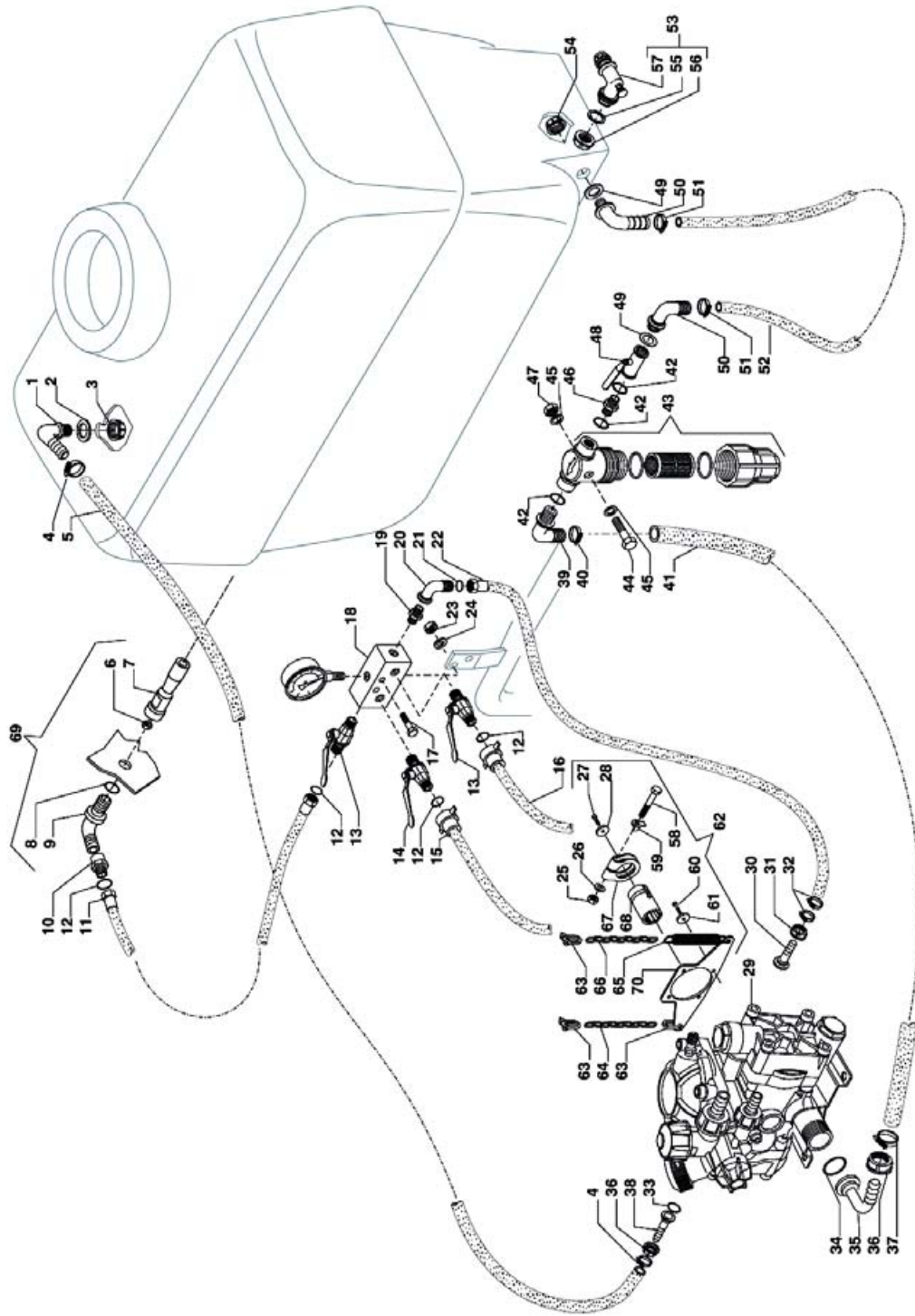
II. Diaphragm replacement

1. Drain the oil from the pump by removing drain plug. Rotate the shaft to remove excess oil.
2. Remove the pump manifold according to Step A in Section I.
3. Use a 13mm box wrench to remove the diaphragm retaining bolt, support washer and diaphragm.
 - A. To replace diaphragms order appropriate repair kit. (*See Parts List*)
4. Turn the crankshaft to bring the piston to its downstroke and seat the new diaphragm into the sleeve groove. Install retaining washer and tighten nut.
5. Replace the pulsation damper diaphragm by first bleeding the air from the damper. (*See Parts List for your model*). Use a 13mm box wrench to remove the bolts holding the damper assembly together, then replace diaphragm. Recharge damper to 10% of operation pressure.
6. Refill crankcase with 30 weight engine oil. Rotate the shaft to distribute oil and fill to proper level.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The pump does not draw water	One or more valves are seating improperly.	Examine the valve seatings and clean them.
	Suction line is plugged or collapsed - Clogged strainer.	Examine suction line - clean strainer.
Pressure gauge fluctuates excessively	The pump is sucking in air through the suction union or air has not been entirely evacuated from the pump.	Examine the suction hose and make sure it is firmly secured. Run the pump with the outlet hose open to evacuate air from pump.
The liquid flow is irregular	One or more valves are seating improperly.	Examine the valve seatings and clean them.
Output drops and the pump is noisy	Oil level is too low.	Add oil to correct level (halfway up the sight tube).
Oil comes out of the discharge port	One or more diaphragms split.	Drain the pump of oil. Dismantle the heads and fit new diaphragms. Fill to correct oil level with Motor oil (30W).
Water is pumped at little or no pressure	The sealing valve on the pressure control valve is worn.	Renew washer and, if necessary, the valve seat.

SPRAYER ASSEMBLY



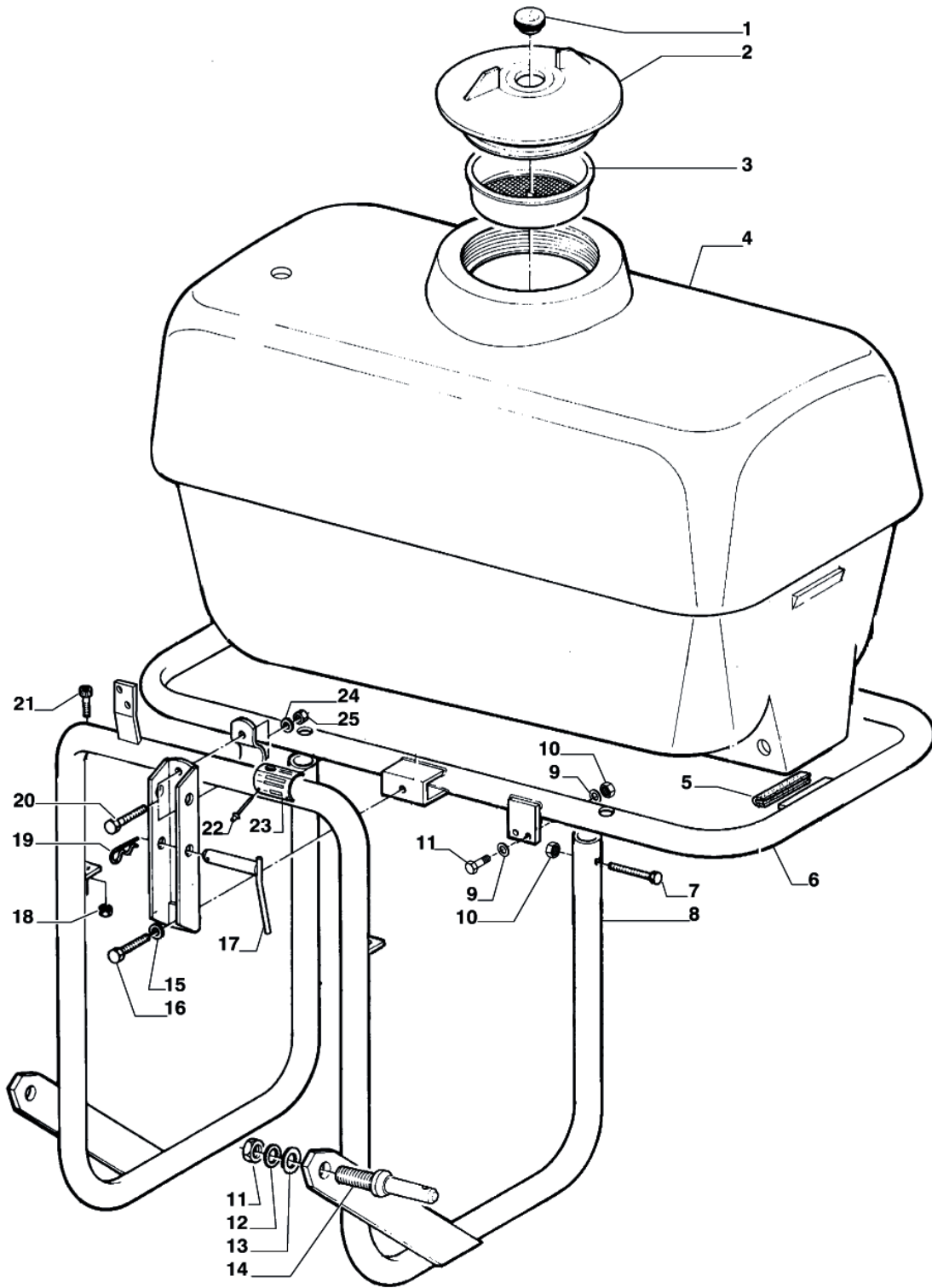
SPRAYER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	1400130	Elbow Fitting D.13 1/2
2	1	1700001	Gasket D.32 x 21 x 2
3	1	1400001	Ring Nut 1/2
4	2	1500013	Clamp 10-16/9 Head 7
5	1	1600760	Hose PVC 13 x 19 20 Bar L=1100
6	1	1400076	Nozzle D.2
7	1	1400074	Body Jet Agitation
8	1	1700006	OR D.36 x 26 x 5
9	1	1400075	Jet Agitation
10	1	1300146	Extension Cylindrical MF 1/2"
11	1	1600095	Hose Co. PVC 10 x 19 80 Bar L=530
12	6	1700010	Gasket 18 x 12 x 2 White
13	2	1300010	Valve LH 1/2 - 3/8 A.5264
14	1	1300009	Cock RH 1/2 - 3/8 "Meteor" A.5263
15	2	1600231	Hose PVC 10 x 17 40 Bar L=2000
16	2	1600231	Hose PVC 10 x 17 40 Bar L=2000
17	2	1800051	Bolt M6 x 35 UNI 5739 8.8 Galvanized
18	1	0100291	Valve Block
19	1	1300037	Nipplo MM 3/8 - 1/2
20	1	1300001	Brass Elbow MF 1/2 - 1/2
21	1	170001	Gasket 18 x 12 x 2 White
22	1	1600094	Hose Co. PVC 10 x 19 80 Bar L=820 RA.
23	2	1800179	Nut M6 UNI 5587 6.8 Galvanized
24	2	1800110	Washer Grower A 6.4 x 11.4 UNI 1751 Galvanized
25	1	AR320130	Nut
26	1	AR320131	Washer
27	1	AR880280	Bolt
28	1	AR780230	Washer
29	1	0200052	Pum p AR202
30	1	0200065	Hose Fitting D.8
31	1	0200064	Ring Nut
33	1	AR1880340	Pressure Gauge
34	1	0200060	OR 18.72 x 2.62
35	1	AR550460	Elbow
36	1	AR550450	Ring Nut
37	1	1500003	Clamp Perfect 14 x 27
39	1	1400062	Elbow Connector D.20 1/2 G
40	1	1500003	Clamp Perfect 14 x 27
41	1	1600092	Hose PVC 19 x 26 20 Bar L=600
42	2	1700001	Gasket D.32 x 21 x 2
43	1	1400072	Filter 1/2"
44	2	1800099	Bolt TE M8 x 80 UNI 5737 8.8 Galvanized
45	4	1800120	Flat Washer UNI 6592 M.8 Galvanized
46	1	1400001	Ring Nut 1/2
47	2	1800181	Nut Aut. High CL. 8 M8
48	1	1400071	Valve Comp. 1/2"
49	2	1700001	Gasket D.32 x 21 x 2

SPRAYER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
50	1	1400070	Ecrow Fitting D.20 1/2 G H=13
51	2	1500003	Clamp Perfect 14 x 27
52	1	1600091	Hose PVC 19 x 26 20 Bar L=420
53	1	1400212	Ecologic Outlet Plug
54	1	1400001	Ring Nut 1/2
55	1	1700015	Gasket 57.5 x 40 x 3
56	1	1400009	Ring Nut 1 1/4"
57	1	1400212	Ecologic Outlet Plug
58	1	AR320170	Bolt
59	1	AR500171	Washer
60	4	AR130610	Bolt
61	4	AR550331	Washer
62		AR1496	Application T For AR202-252 Without Joint
63	4	AR650340	Chain Hook
64	1	AR320640	Chain
65	1	AR650380	Spring
66	1	AR320641	Chain
67	1	AR500160	Clamp
68	1	AR801930	Quick Coupling
69	1	1400073	Complete Jet Agitation D.2.0
70	1	AR620571	Bracket

SPRAYER ASSEMBLY

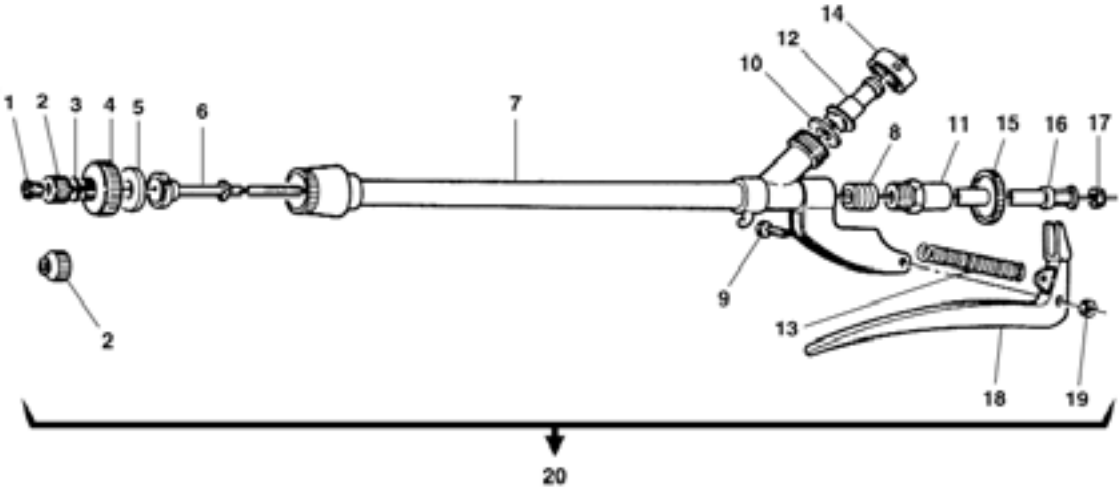


SPRAYER ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	1400081	Leak Plug
2	1	1400080	Tank Cover
3	1	0600027	Filter Tank
4	1	0600029	Tank Poligood SP200
5	2	0100293	Rubber Universal L=90
6	1	0100286	Frame G50E
7	2	1800056	Bolt TE M 8 x 45 UNI 5737 8.8 Galvanized
8	1	0100289	Support
9	4	1800120	Flat Washer UNI 6592 M.8 Galvanized
10	4	1800181	Nut Aut. High CL. 8 M8
11	2	1800099	Bolt TE M 8 x 80 UNI 5737 8.8 Galvanized
12	2	1800167	Washer Grower D.23 x 35 UNI L.1751 Galvanized
13	2	1800168	Washer 23 x 39 UNI 6592 R 40 Galvanized
14	2	2100011	Single Complete Pivot 22-22
15	1	1800130	Plain Washer UNI 6592 M.10
16	1	1800036	Bolt TE M 10 x 25 UNI 5739 8.8 Galvanized
17	1	0100290	Pin D.18
18	2	1800181	Nut Aut. High CL. 8 M8
19	1	2100001	Pin R 3
20	2	1800025	Bolt TE UNI 5739 8.8 8 x 25 Galvanized
21	2	1800018	Bolt TCEI M 8 x 20 UNI 5931 8.8 Galvanized
22	2	1800350	Tear A Rivet D.2.9 x 9 Aluminum
23	1	2600009	Small Label Register
24	2	1800120	Flat Washer UNI 6592 M8 Galvanized
25	2	1800180	Nut M8 UNI 5587 6.8 Galvanized

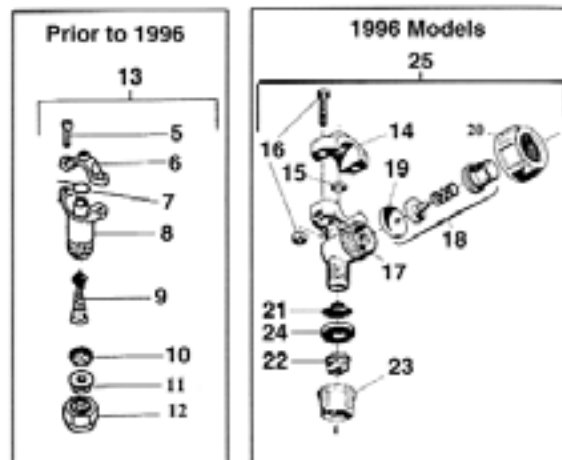
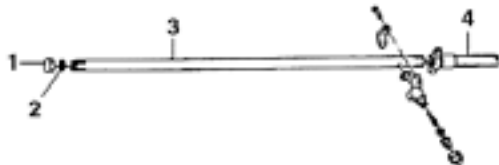
HANDGUN ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	0800115	Nozzle 1.2
1	1	0800116	Nozzle 1.5
1	1	0800117	Nozzle 1.8
1	1	0800118	Nozzle 2.0
1	1	0800119	Nozzle 2.5
2	1	0800120	Jet Support
2	1	0800121	Jet Support Ceramic
3	1	0800122	Gasket
4	1	0800123	Ring Nut
5	2	0800124	Gasket
6	1	0800125	Plate
7	1	0800126	Body
8	1	0800127	Spring
9	1	0800128	Bolt
10	1	0800129	Gasket
11	1	0800130	Plug
12	1	0800131	Connector
13	1	0800132	Spring
14	1	0800133	Ring Nut
15	1	0800134	Ring Nut
16	1	0800135	Pin
17	1	0800136	Nut
18	1	0800137	Lever
19	1	0800138	Nut
20	1	HG	Complete Handgun HG

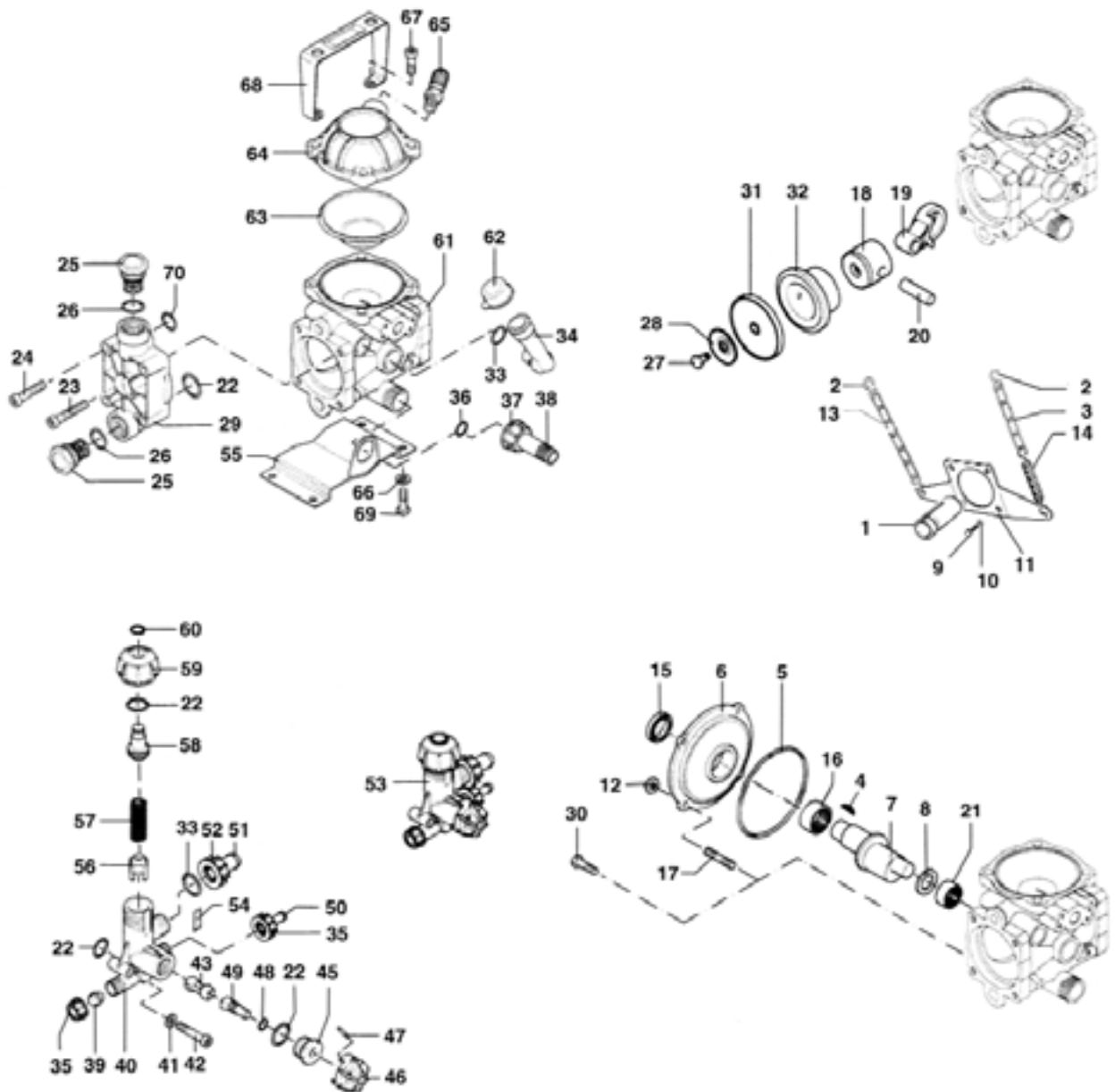


ETB-5 & ETB-10 BOOM ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	0100097	Plug 1/2
2	2	1700021	Gasket 19 x 4
3	2	2000024	Tube SS 22" ETB-5
3	2	2000025	Tube SS 42" ETB-10
4	2	1600096	Hose
5	8-12	1800002	Bolt M5 x 16
6	4-6	0800004	Nozzle Buckle
7	4-6	1700020	O-Ring 16 x 3
8	4-6	0800062	Nozzle Body
9	4-6	1400036	Anti-drip
10	4-6	1400037	Filter
11	4-6	0800072	80 Boom Nozzle (Brass)
12	4-6	0800071	Ring Nut
13	4-6	0800076	Complete Nozzle Assembly
14	4-6	400030.020	Nozzle Clamp
15	4-6	400040.030	O-Ring 9.1 x 2.6
16	8-12	400100	Bolt & Nut
17	4-6	402025.010	Nozzle Body
18	4-6	00226011	Anti-drip Assembly
19	4-6	00226010	Diaphragm, Anti-drip
20	4-6	00226002	Nut 3/4" GAS
21	4-6	02311000	Filter
22	4-6	30-02F80YE	Jet 80° (Yellow)
22	4-6	30-04F80RE	Jet 80° (Red)
23	4-6	02289000	Nut
24	4-6	02309010	Gasket
25	4-6	402025	Complete Nozzle Assembly (96)



AR202 PUMP ASSEMBLY



AR202 PUMP ASSEMBLY

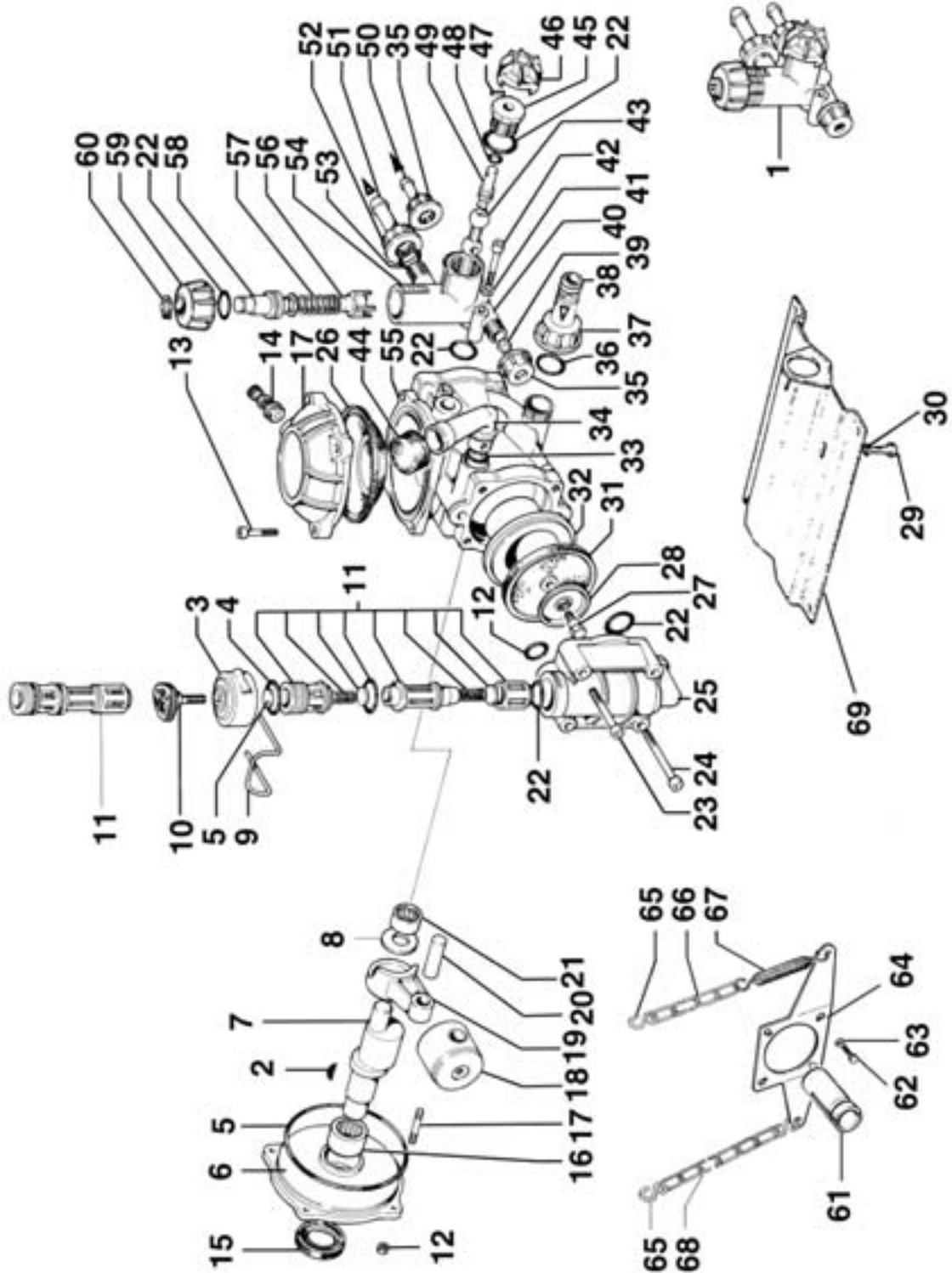
<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
* 1	1	114-1200	PTO Coupler
* 2	3	320650	S Hook
* 3	1	320641	Chain L=320
4	1	800590	Key 4 x 5
5	1	800380	O-Ring
6	1	800020	Flange
7	1	800175	Shaft AR202
8	1	800160	Spacer
* 9	4	390430	Bolt M6 x 25
*10	4	391470	Washer
*11	1	620571	Bracket
12	4	390440	Nut M6
*13	1	320640	Chain L=450
*14	1	620650	Spring
15	1	25X38X7	Seal
16	1	DHK2516	Bearing
17	4	550330	Stud
18	2	800120	Piston
19	2	800140	Connecting Rod
20	2	800130	Piston Pin
21	1	DHK1616	Bearing
22	4	OR1713262	O-Ring 17.13 x 2.62
23	1	680360	Bolt M8 x 50
24	7	800220	Bolt M8 x 45
25	4	809060	Valve Assembly
26	4	880830	O-Ring 15.54 x 2.62
27	2	800090	Diaphragm Pin
28	2	800350	Plate
29	2	801940	Head
30	4	320350	Bolt M6 x 12
31	1	1927	Diaphragm Kit
32	2	800112	Sleeve AR202
33	3	OR14178	O-Ring 14 x 1.78
34	1	800320	Oil Tank
35	2	800520	Ring Nut
36	1	OR1872262	O-Ring 18.72 x 2.62
37	1	550450	Ring Nut
38	1	800340	Hose Barb
39	1	800540	Plug
40	1	800400	Valve Body
41	2	550331	Washer
42	2	801080	Bolt M6 x 50
43	1	800430	Valve
45	1	800500	Ring Nut

* Not included with pump assembly

AR202 PUMP ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
46	1	800510	Knob
47	1	390330	Pin
48	1	OR873178	O-Ring 8.73 x 1.78
49	1	800490	Pivot
50	1	800530	Hose Barb
51	1	800670	Hose Barb
52	1	800680	Ring Nut
53	1	1912	Regulating Valve
54	1	800480	Atm Scale Adhesive
55	1	800311	Mount Bracket
56	1	800440	Lower Spring Guide
57	1	800450	Spring
58	1	800460	Upper Spring Guide
59	1	800470	Adjustment Knob
60	1	47112	Circlip E12
61	1	800010	Pump Body "SP"
62	1	800330	Oil Tank Cap
63	1	800190	Diaphragm Accumulator
64	1	800230	Upper Air Chamber Black
65	1	800650	Valve
66	2	380241	Washer
67	4	540290	Bolt M8 x 25
68	1	800390	Handle
69	2	180431	Bolt M8 x 16
70	2	OR1310262	O-Ring 13.10 x 2.62

AR19 PUMP ASSEMBLY



AR19 PUMP ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	1912	Regulator Valve
2	1	800590	Key 4 x 5
3	2	800360	Valve Cap
*♦4	4	OR2022353	O-Ring 20.22 x 3.53
*5	2	800380	O-Ring 97 x 1.5
6	1	800020	Front Housing
7	1	800172	Crankshaft f/3/4" Solid Shaft
8	1	800160	Spacer Washer
9	2	800150	Spring Locking Clip
10	2	800370	Retainer Knob
♦11	1	1914	Valve Kit
12	2	OR1310262	O-Ring 13.10 x 2.62
13	4	540290	Bolt M8 x 35
14	1	800650	Air Valve
15	1	25X38X7	Seal
16	1	DHK2516	Roller Bearing
17	1	800230	Accumulator Head
18	2	800120	Piston
19	2	800140	Connecting Rod
20	2	800130	Connecting Rod Pin
21	1	DHK1616	Roller Bearing
*22	7	OR1713262	O-Ring 17.13 x 2.62
23	1	680360	Bolt For Oil Line
24	7	800220	Head Bolt
25	2	800100	Head
26	1	800190	Accumulator Diaphragm
27	2	800090	Diaphragm Retaining Bolt
28	2	800350	Diaphragm Supporting Washer
29	2	180431	Bolt 8 x 15
30	2	380241	Lock Washer
31	1	1927	Diaphragm Kit
32	2	800110	Piston Sleeve
*33	1	OR14178	O-Ring 14 x 1.78
34	1	800320	Oil Sight Glass
35	2	800520	Barb Nut
*36	1	OR1872262	O-Ring 18.72 x 2.62
37	1	550450	Barb Nut
38	1	800340	3/4" Hose Barb
39	1	800540	Plug
40	1	800400	Relief Valve Body w/Valve Seat
41	2	550331	Lock Washer
42	2	800410	Bolt 6 x 40
43	1	800430	Floating Valve
44	1	800330	Cap For Oil Sight Glass

AR19 PUMP ASSEMBLY

<u>REF#</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
45	1	800500	Locking Bolt
46	1	800510	Locking Bolt Cap
47	1	390330	Locking Clip
*48	1	OR873178	O-Ring 8.73 x 1.78
49	1	800490	Positioning Rod
50	1	800530	3/8" Outlet Hose Barb Metal
51	1	800671	1/2" Bypass Barb Plastic
52	1	800680	Barb Nut Plastic
*53	1	OR1111178	O-Ring 11.11 x 1.78
54	1	800480	Indicator Scale
55	1	800010	Pump Body
56	1	800440	Relief Valve Seat Holder
57	1	800450	Tension Spring
58	1	800460	Relief Valve Plunger
59	1	800470	Adjustment Cap (Relief Valve)
60	1	480550	Retaining Ring
61	1	114-1200	PTO Coupler
62	4	390430	Bolt M6 x 25
63	4	391470	Washer
64	1	620571	Mount Plate
65	3	320650	S Hook
66	1	320641	Chain L=320
67	1	620650	Spring
68	1	320640	Chain L=450
69	1	800311	Base Plate

PUMP REPAIR PARTS KITS

*1913 - O-Ring Parts Kit Consisting of:

<u>REF #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
4	4	O-Ring
5	2	O-Ring
12	2	O-Ring
22	7	O-Ring
33	1	O-Ring
36	1	O-Ring
48	1	O-Ring
53	1	O-Ring
70	2	O-Ring
75	4	O-Ring

w1914 - Valve Parts Kit Consisting of:

<u>REF #</u>	<u>QTY.</u>	<u>DESCRIPTION</u>
4	2	O-Ring
11	2	Valve

LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.
13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

The serial number of this product is stored in our computer database, thus submitting a warranty registration card is not required.