

TORO®

MODEL NO. 41191-40001 & UP

SET-UP AND
PARTS LIST

INJECTOR PRO™ PUMP PACKAGE for the Injector Pro™ System

The following instructions apply to the installation of a Injector Pro Pump Package. If the **single** Injector Pro System has not yet been installed, do so before continuing with following instructions.

For instructions on operating the Injector Pro™ Pump Package see the Injector Pro™ System Operator's Manual.

NOTE: "Right", "Left", "Front" and "Rear" are referenced while seated in the operator's position.

1. Mount the Injection Pump Housing to the rear of the Chem 2 Saddle Shelf using four (4) 3/8" x 3/4" cap screws and flat washers. See Fig. 1.

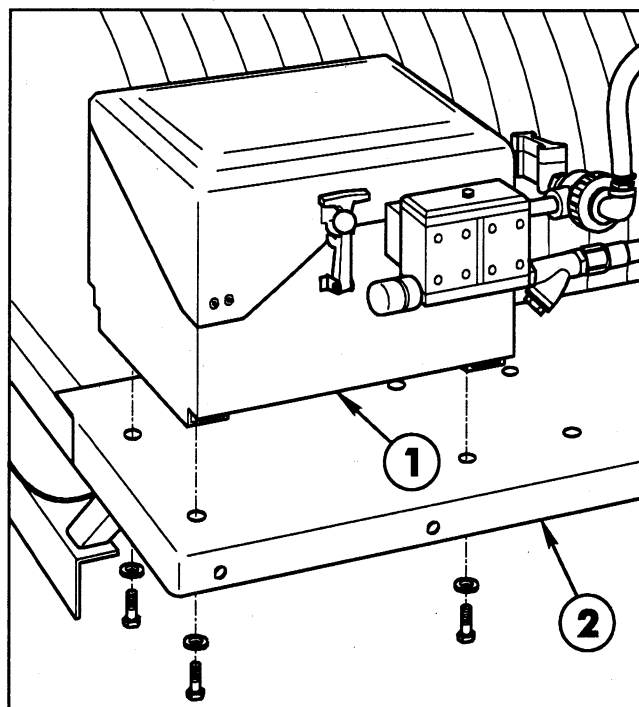


Fig. 1

1. Injection Pump Housing

2. Chem 2 Saddle Shelf

2. Mount the Injection Tank and Saddle to the front of the Chem 2 Saddle Shelf using the five (5) 3/8" x 1-1/4" cap screws, flat washers and hex nuts. See Fig 2.

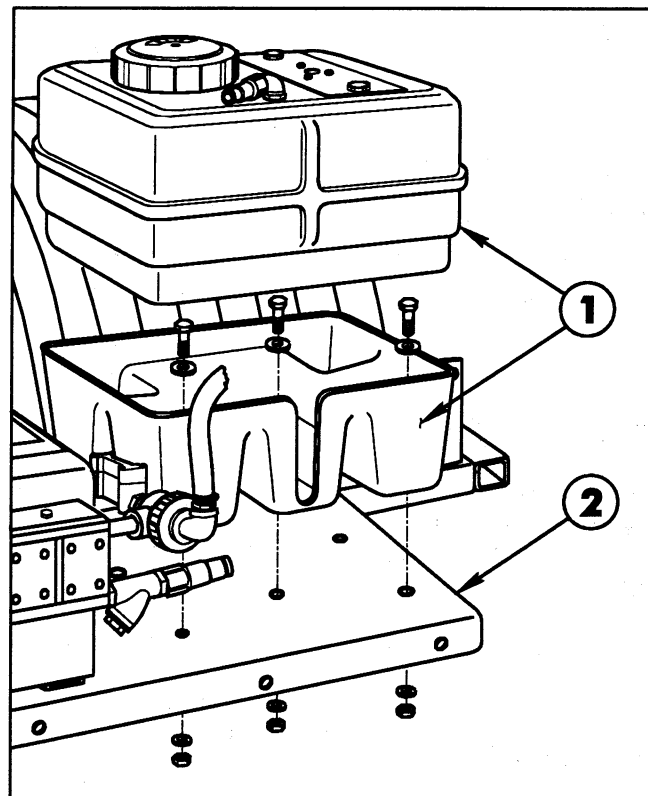


Fig. 2

1. Injection Tank and Saddle

2. Chem 2 Saddle Shelf

3. Loosen the screw and remove the cover plate on the back of the Injection Pump Housing. See Fig. 3.

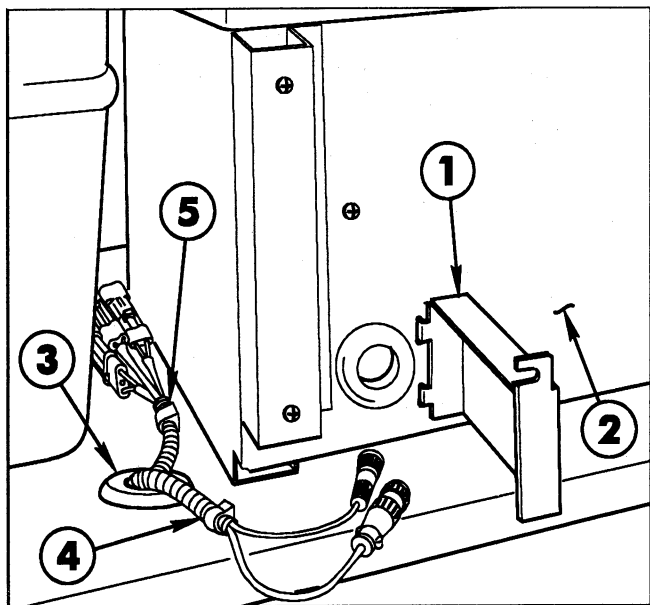


Fig. 3

- | | |
|---------------------------|----------------------------------|
| 1. Cover Plate | 4. Chem 2 Injector Control Cable |
| 2. Injection Pump Housing | 5. Chem 2 Monitor Control Cable |
| 3. Grommet | |

4. Insert the Grommet into the hole in the center of the Saddle Shelf.

5. Route the two cables from the Injector Control Wiring Harness through the grommeted hole and the hole in the Pump Housing, to connect with the mating connectors inside the Pump Housing.

6. Replace the Cover and tighten the screw.

7. Connect the Injection Tank Suction Hose to the Male Flat Face Coupler on the Injection Pump. See FIG. 4.

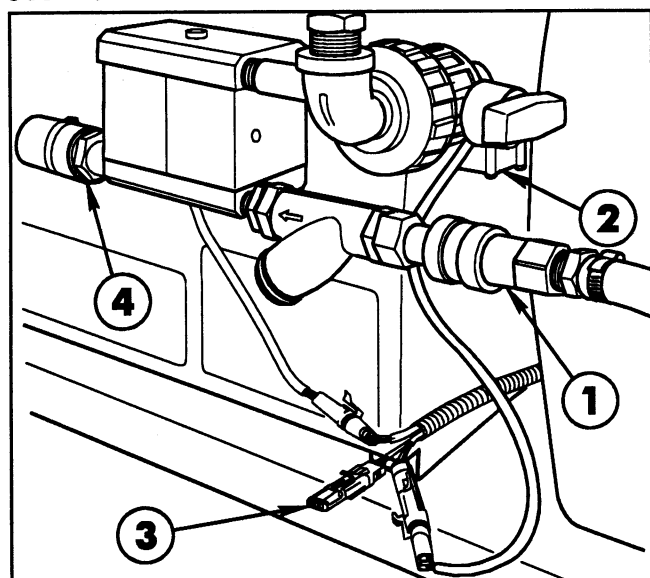


Fig. 4

- | | |
|--------------------------------|--------------------------------|
| 1. Injection Tank Suction Hose | 3. Optional Agitator Connector |
| 2. Flow Switch | 4. Vacuum Switch |

8. Connect the two cables from the Monitor Control Cable to the connectors from the Vacuum Switch and the Flow Switch.

9. Route the Chem 2 Injector Control Cable and the Chem 2 Monitor Control Cable through the Cable Support Ring on each of the Saddle. See Fig. 5.

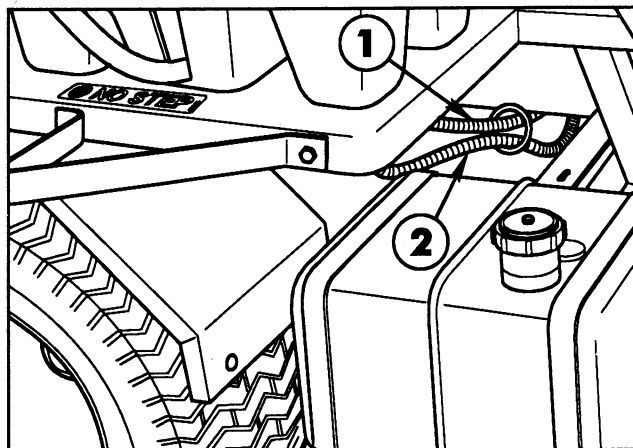


Fig. 5

- | | |
|----------------------------------|---------------------------------|
| 1. CHEM 2 Injector Control Cable | 2. CHEM 2 Monitor Control Cable |
|----------------------------------|---------------------------------|

10. Attach the Chem 2 Injector Control Cable to the mating connector on the Injector Control Cable. See FIG. 6.

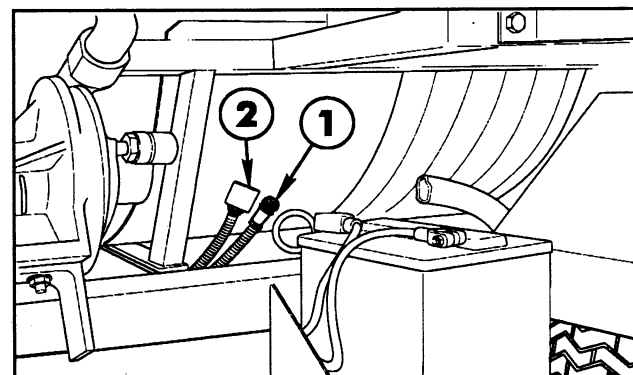


Fig. 6

- | | |
|---------------------------|--------------------------|
| 1. Injector Control Cable | 2. Monitor Control Cable |
|---------------------------|--------------------------|

11. Attach the Chem 2 Monitor Control Cable to the mating connector on the Monitor Control Cable.

CHEMICAL SUPPLY HOSE (Injector Pump to Injection Manifold):

1. Remove the hex plug assemble the two reducer bushings, close nipple, adaptor, check valve and barbed elbow into the second injection tee. See FIG. 7.

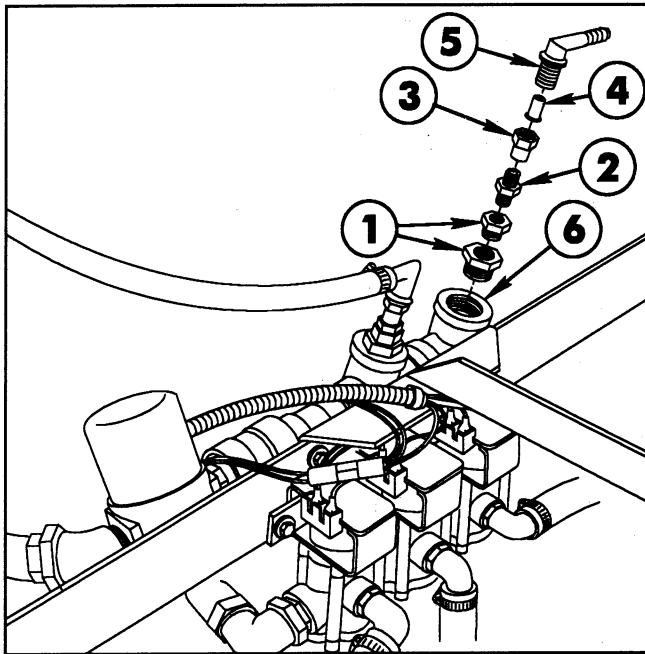


FIG. 7

- | | |
|---------------------|-------------------------|
| 1. Reducer Bushings | 4. Check Valve |
| 2. Close Nipple | 5. Barbed Elbow |
| 3. Adaptor | 6. Second Injection Tee |

2. Attach one end of the 3/8" x 48" Chemical Supply Hose to the barbed elbow and secure with a hose clamp.

3. Attach the other end of the Chemical Supply Hose to the hose barb at the Flow Switch at the Injection Pump. Secure with a hose clamp.

GUARD ASSEMBLY:

Use four (4) 3/8" x 3/4" cap screws and hex nuts to secure the Guard Assembly to the Shelf flange as shown in FIG. 8.

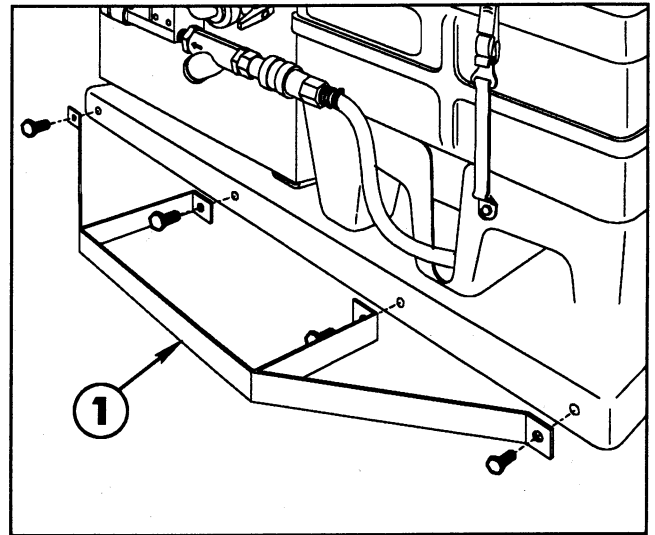
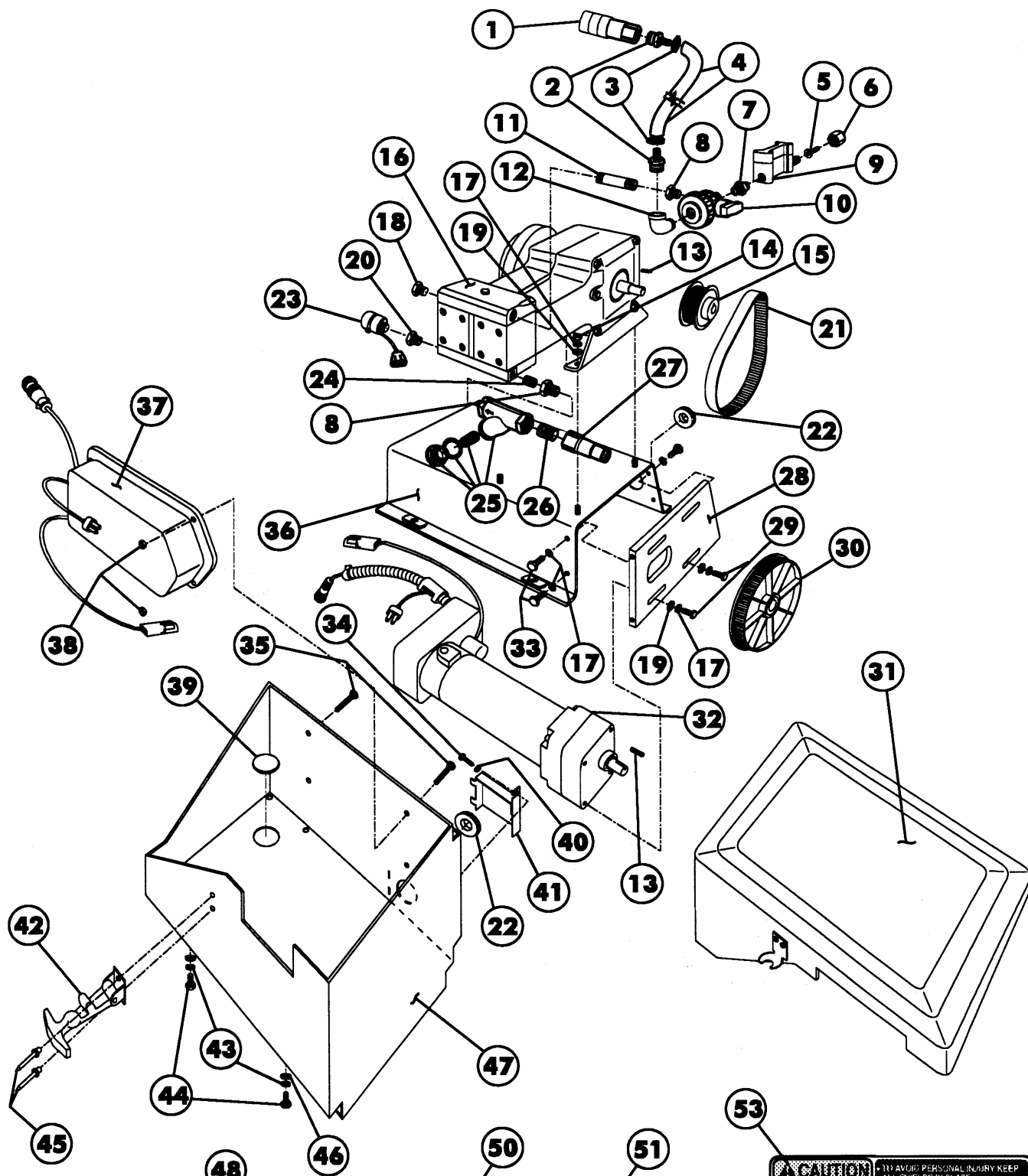


FIG. 8

1. Guard Assembly



WARNING

BURSTING CHEMICAL HOSE OR FITTING COULD RESULT IN PERSONAL INJURY.

NEVER USE INJECTION PUMP UNTIL THE 3-WAY VALVE LEVER IS FULLY TURNED TO EITHER CALIBRATION SETTING OR SPRAY SETTING.

NEVER USE INJECTION PUMP WITH THE 3-WAY VALVE LEVER TURNED TO CALIBRATION SETTING UNTIL TANK RETURN HOSE IS CONNECTED TO EITHER THE CHEMICAL TANK OR THE CALIBRATION TUBE.

CALIBRATION SETTING	3-WAY VALVE LEVER	TANK RETURN HOSE



CHEMICALS CAN BE HAZARDOUS

TO AVOID ENVIRONMENTAL DAMAGE AND PERSONAL INJURY:

- READ AND UNDERSTAND THE SPRAY SYSTEM OPERATOR'S MANUAL. TOP OPERATOR MUST BE TRAINED IN USE OF THE SPRAY SYSTEM BEFORE BEGINNING OPERATION.
- READ AND FOLLOW THE CHEMICAL MANUFACTURER'S RECOMMENDATIONS FOR PROTECTIVE CLOTHING AND EQUIPMENT BEFORE HANDLING CHEMICALS.

THE FOLLOWING FORMULAS ARE PROVIDED FOR CALCULATING INJECTION CHEMICAL VOLUME TO DETERMINE THE CORRECT INJECTION PUMP SETTING.

US UNITS

(inches) (oz. 1/16)

$$\text{Speed} \times \text{Boom Width} \times \text{Rate} = \text{oz. min.}$$

5.940

SI (METRIC) UNITS

(inches) (dl./ha)

$$\text{Speed} \times \text{Boom Width} \times \text{Rate} = \text{dl. min.}$$

80.000

TU (TURF) UNITS

(inches) (oz. 1000 ft)

$$\text{Speed} \times \text{Boom Width} \times \text{Rate} = \text{oz. min.}$$

137

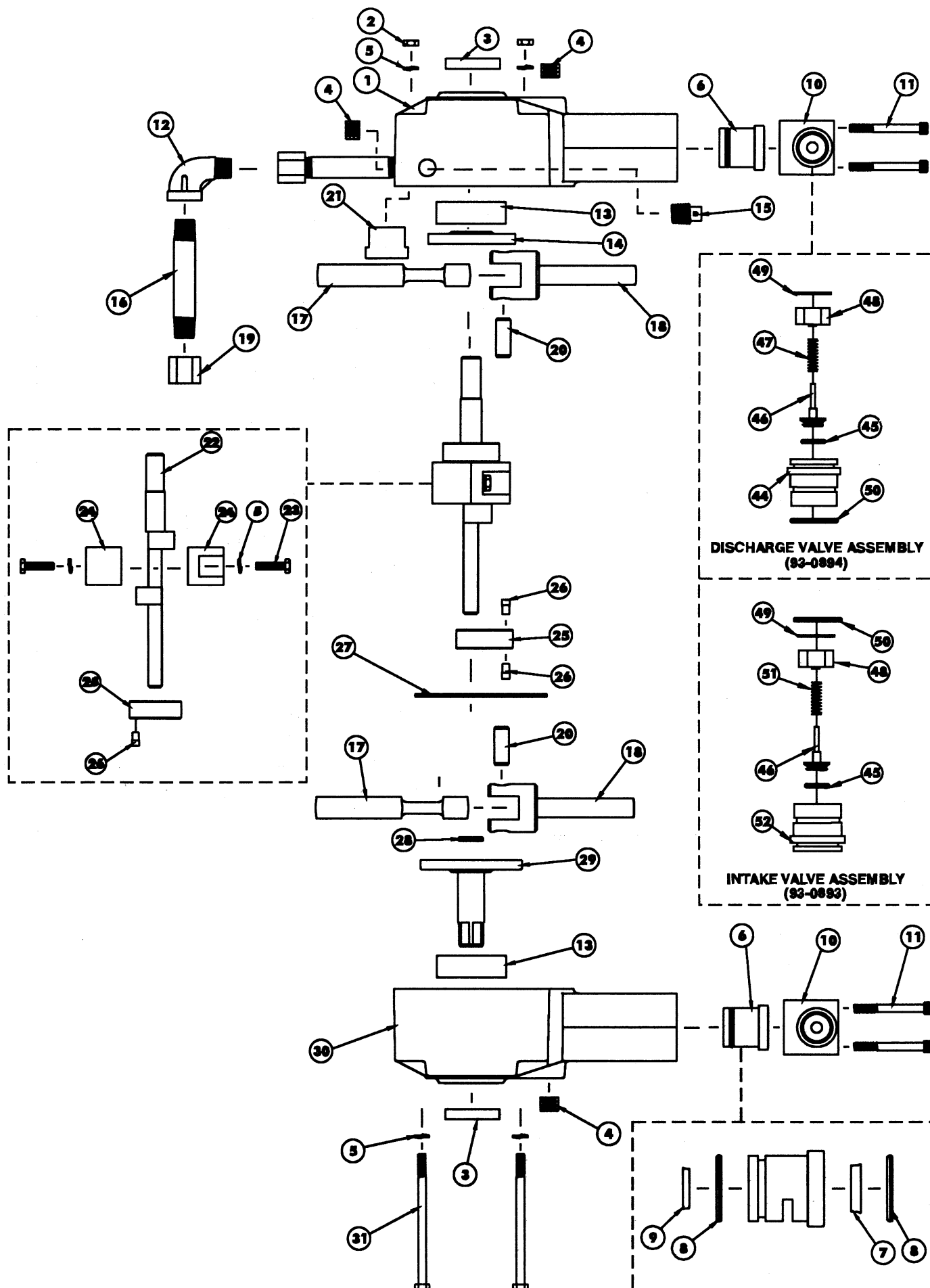
INJECTION PUMP ASSEMBLY (92-8447)

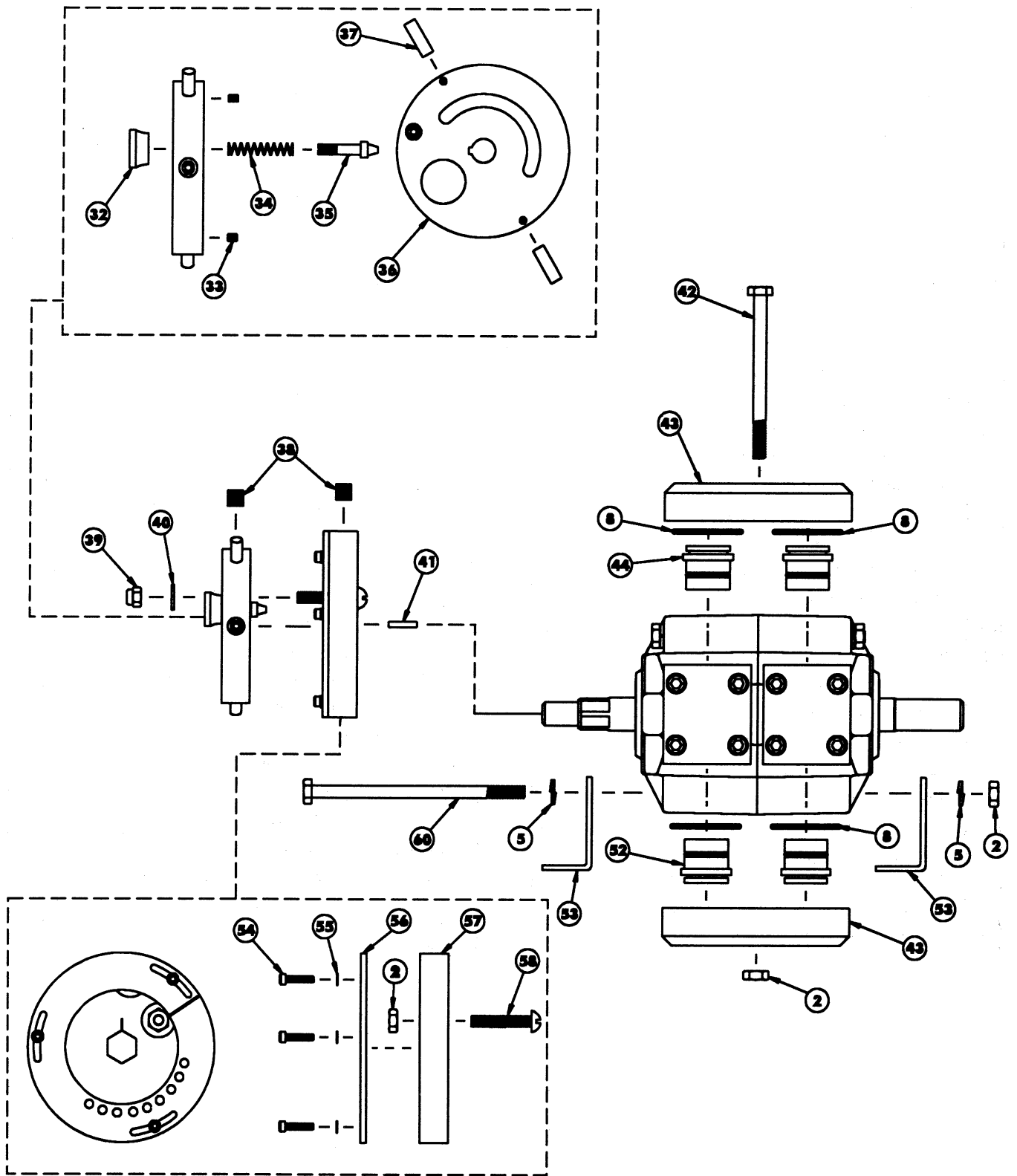
Ref	Part No.	Description	Qty
1	92-8382	Female Flat Face Coupling	1
2	92-8459	Hose Barb 1/2 MPT x 3/8"	2
3	96609	Hose Clamp	2
4	92-8570	Calibration Hose	1
5	93-0789	Hose Shank Fitting	1
6	93-0788	Nozzel Cap Fitting	1
7	93-0787	Nozzel Nipple Fitting	1
8	93-0781	Reducing Bushing	2
9	93-0785	Flow Switch Assembly	1
	93-1020	Magnet 3/4" (f/w 93-0785)	1
	93-1018	Cap Plug (f/w 93-0785)	1
	93-1019	Spring 1/4" OD (f/w 93-0785)	1
10	93-0872	3-Way Ball Valve	1
	93-0915	Valve Union Nut	1
11	93-0900	Pipe Nipple 3/8 NPT x 2-1/2"	1
12	92-8452	90° St. Elbow ST'N ST'L	1
13*	93-0671	Square Key	2
14*	22-11-AJD	Hex Nut 1/4" - 20 UNC	4
15*	93-0763	Small Timing Pulley	1
16*	93-0764	Pump Assembly Calabrated	1
17*	93-0606	Lock Washer 1/4"	12
18	93-0786	Hex HD Pipe Plug	1
19*	24-9-AD	Flatwasher 1/4"	8
20	93-0790	Reducing Bushing	1
21*	93-0760	Timing Belt	1
22*	93-0692	Grommet	2
23	93-0784	Vacuum Switch Assembly	1
24	93-0783	Close Pipe Nipple	1
25	93-1087	Strainer	1
	93-1088	Screen	1

Ref	Part No.	Description	Qty
	93-1089	Cover	1
	93-1090	Gasket	1
26	92-8456	Close Nipple, 1/2"	1
27	93-8381	Male Flat Face Coupling	1
28*	93-0765	Motor Mount Bracket	1
29*	20-5-AGD	Hex HD Cap Screw 1/4-20 UNC x 1"	4
30*	93-0762	Large Timing Pulley	1
31	93-0777	Injection Pump Box Lid	1
32*	93-0766	Motor Assembly	1
33*	93-0605	Hex HD Cap Screw 1/4 x 5/8"	1
34	93-0773	Pan HD Mach. Screw #8 UNC x 1/2"	1
35	93-0775	Pan HD Mach Screw #10 UNF x 1"	4
36*	93-0767	Pump Platform	1
37	93-0774	Motor Control Assembly	1
38	93-0776	Lock Nut #10 UNF	4
39	93-0769	Hole Plug	1
40	93-0791	Lock Washer #8	1
41	93-0772	Cable Shield	1
42	93-0779	Rubber Drawlatch	1
43	93-0771	Lock Washer 1/4"	4
44	93-0770	Hex HD Mach Bolt	4
45	93-0780	Pop Rivet 3/16 x .40 LG.	2
46	93-0792	Flat Washer 1/4"	4
47	93-0778	Injection Pump Box	1
48	93-0617	Decal - Valve Warning	1
49	92-8545	Decal - Warning Chemicals	1
50	67-7320	Decal - Toro	1
51	88-8950	Decal - Shield Warning	1
52	92-8543	Decal - Formula	1
53	87-0450	Decal - Personal Injury	1

* Denotes parts that are available in an assembled unit.

Order #93-0768 Low Vol. Pump/Motor Assembly

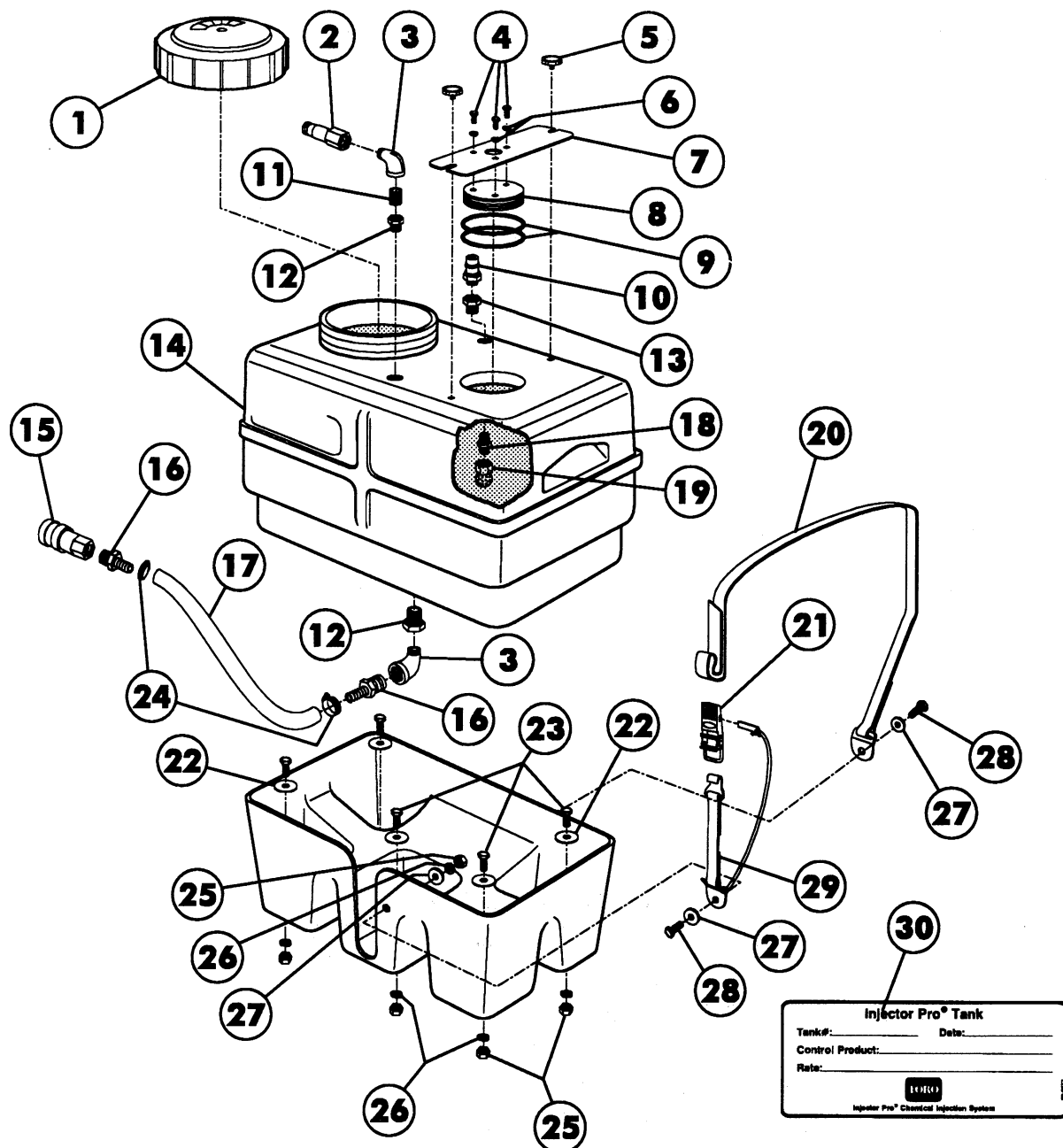




INJECTION PUMP REPLACEMENT PARTS

Ref	Part No.	Description	Qty
1	93-0693	Left Pump Half	1
2	93-0694	1/4 - 20 Stainless Steel Nut	5
3	93-0695	17mm Shaft Seal	2
4	93-0696	Socket Head Pipe Plug	3
5	93-0697	1/4" Split Washer	10
6	93-0698	Seal Sleeve	2
7	93-0699	Head Poly Pak Seal	2
8	93-0700	O-Ring, Viton	8
9	93-0701	Crankcase Poly Pak Seal	2
10	93-0702	Pump Head	2
11	93-0703	Socket Head Screw	8
12	93-0704	Elbow	2
13	93-0705	17mm Ball Bearing	2
14	93-0706	End Spacer	1
15	93-0707	Vented Breather Plug	1
16	93-0708	Pipe Nipple	1
17	93-0709	Connecting Rod	2
18	93-0710	Plunger	2
19	93-0711	Pipe Cap	1
20	93-0712	Dowel Pin	2
21	93-0713	Crankcase Baffle	1
22	93-0714	Crankshaft	1
23	20-5-AGD	1/4 - 20 x 1" Hex Cap Screw	2
24	93-0715	Eccentric Spacer Half	2
25	93-0716	Eccentric	2
26	93-0717	Eccentric Pin	3
27	93-0718	O-Ring, Buna-N	1
28	93-0719	O-Ring, Buna-N	1
29	93-0720	Stroke Adjustment Sleeve	1
30	93-0721	Right Pump Half	1

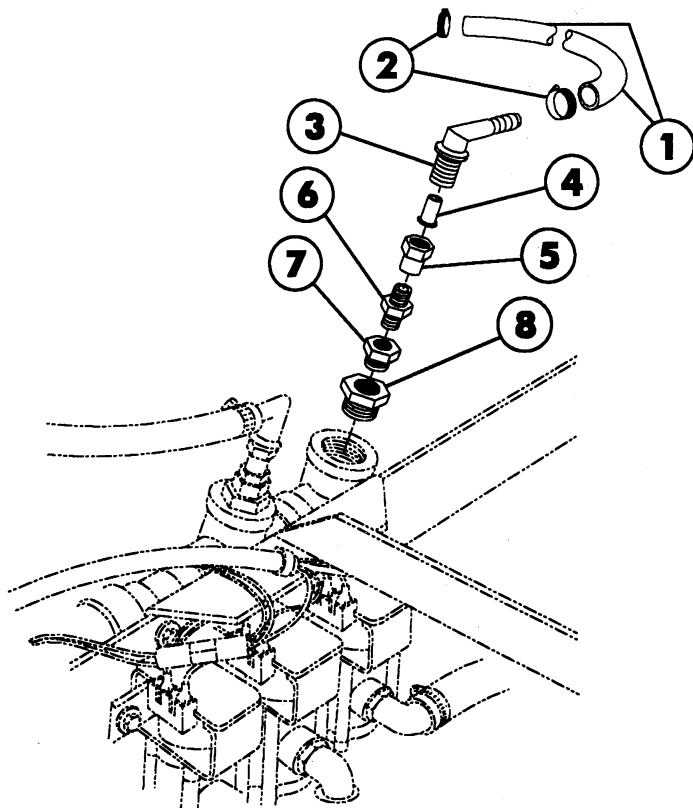
Ref	Part No.	Description	Qty
31	93-0722	1/4 - 20 x 4-1/4" Modified Bolt	2
32	93-0723	Knob	1
33	93-0724	6-32 UNC Set Screw	2
34	93-0725	Stainless Steel Spring	1
35	93-0726	Pin	1
36	93-0727	Printed Magnet Wheel	1
37	93-0728	Magnet	2
38	93-0729	1/4 - 20 UNC Set Screw	2
39	93-0730	Nylon Insert Lock Nut	1
40	24-7-BD	#10 Flat Washer	1
41	93-0731	1/8" Square Key	1
42	93-0732	1/4 - 20 x 3-3/4" Stainless Steel Bolt	1
43	93-0733	Manifold	2
44	93-0734	Discharge Valve Body	1
45	93-0735	O-Ring, Viton (V965-80)	2
46	93-0736	Poppet	2
47	93-0737	Discharge Coil Compression Spring	1
48	93-0738	Poppet Valve Guide	2
49	93-0739	Internal Retaining Ring	2
50	93-0740	O-Ring, Viton	2
51	93-0741	Intake Coil Compression Spring	1
52	93-0742	Intake Valve Body	1
53	93-0743	Bracket	2
54	93-0745	6-32 x 5/8" Cap Screw	3
55	93-0746	Flat Washer	3
56	93-0747	Index Ring	1
57	93-0748	Calibration Wheel	1
58	93-0749	1/4 - 20 x 1-3/4" Machine Screw	1
59	93-0750	1/4 - 20 x 4-1/2" Stainless Steel Bolt	2



INJECTION TANK ASSEMBLY (92-8449)

Ref	Part No.	Description	Qty
1	93-0756	Injection Tank Lid	1
2	92-8381	Male Flat Face Coupling	1
3	92-8452	90° St. Elbow ST'N ST'L	2
4	93-0605	Hex Hd Cap Screw 1/4 x 5/8"	3
5	93-0607	Male Threaded Knob	2
6	93-0606	Lock Washer 1/4"	3
7	93-0754	Agitator Mount Bracket	1
8	93-0755	Agitator Hole Plug	1
9	93-0753	O-Ring	2
10	92-8383	Male Coupling - Plastic	1
11	92-8456	Close Nipple 1/2" NPT ST'N ST'L	1
12	92-8457	Red. Bushing 3/4 x 1/2"	2
13	92-8455	Red. Bushing -3/4 x 1/2" D'ble Tap	1
14	92-8451	Injection Tank - 8 Gallon	1
15	92-8382	Female Flat Face Coupling	1
16	92-8458	Hose Barb 1/2 MPT x 1/2"	2
17	92-8453	Supply Hose	1

Ref	Part No.	Description	Qty
18	41314	Close Nipple 1/2" NPT	1
19	92-8571	Rinsing Nozzle	1
20	93-0757	8 Gallon Strap Assembly	1
21	93-0759	Over Center Buckle	1
22	356308	Flat Washer 3/8"	5
23	20-48-AGD	Hex HD. Cap Scr 3/8 UNC x1-1/4"	5
24	96609	Hose Clamp	2
25	22-13-AJD	Hex Nut 3/8" UNC	7
26	23-11-GD	Lock Washer 3/8"	7
27	24-11-AD	Flat Washer 3/8"	7
28	20-47-AGD	Hex HD. Cap Screw 3/8 UNC x 1"	2
29	93-0758	Quick Disconnect Strap Assy	1
30	92-8572	White Tank Decal	1
	92-8573	Yellow Tank Decal	1
	92-8574	Green Tank Decal	1
	92-8575	Blue Tank Decal	1

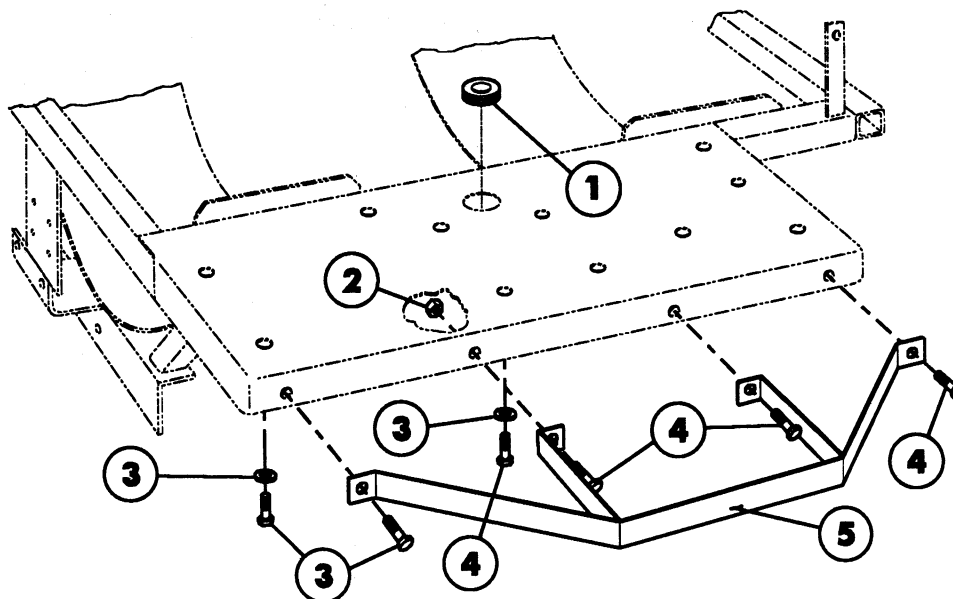


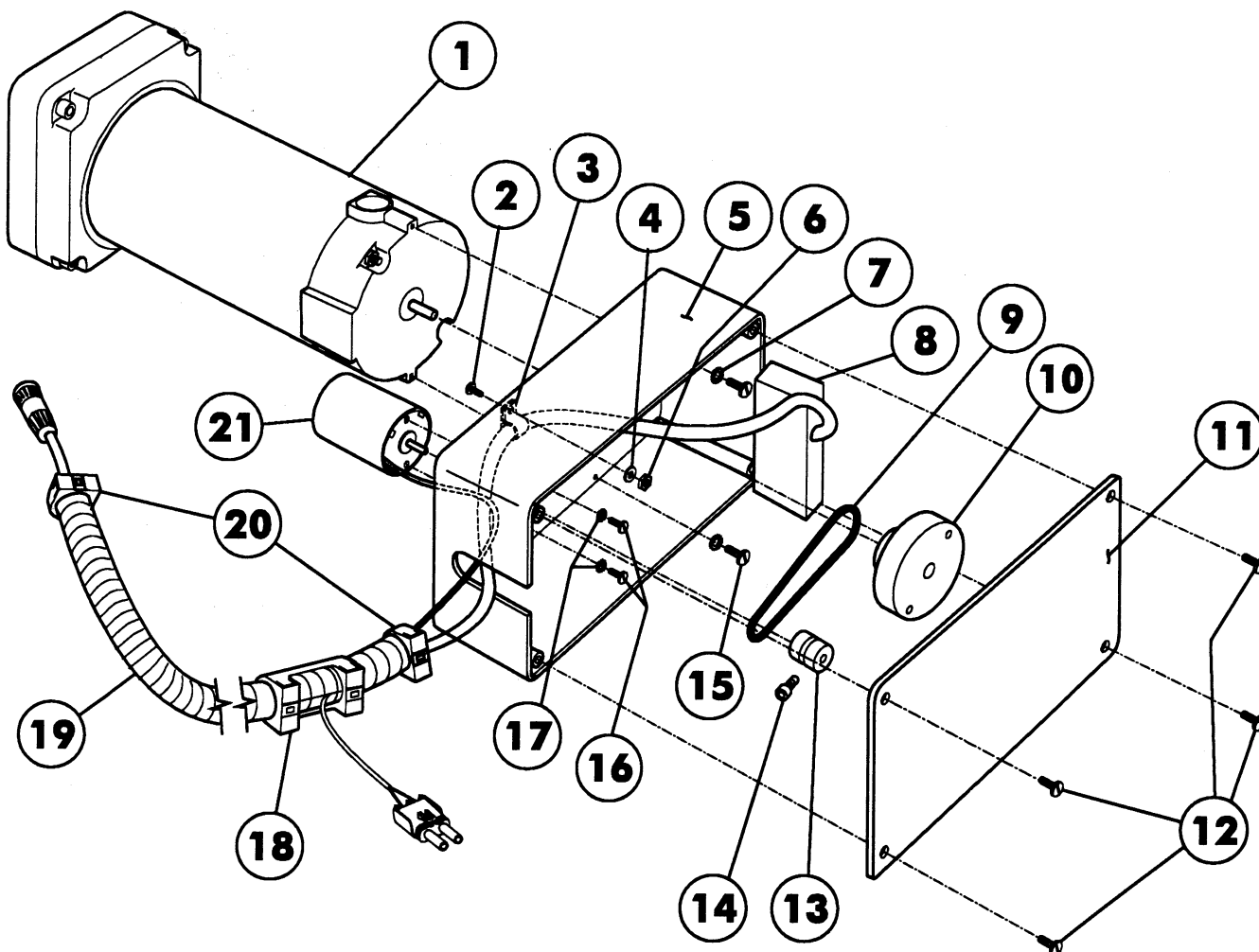
CHECK VALVE

Ref	Part No.	Description	Qty
1	92-8558	Chemical Supply Hose	1
2	96609	Hose Clamp	2
3	41290	90° Nozzle Body	1
4	41291	Check Valve	1
5	41289	Outlet Adapter	1
6	41288	Close Nipple	1
7	41310	Reducing Bushing 3/4 x 1/4"	1
8	43001	Reducing Bushing 1 x 3/4"	1

GUARD & GROMMET

Ref	Part No.	Description	Qty
1	40764	Grommet	1
2	22-13-AJD	Hex Nut, 3/8"	4
3	24-11-AD	Flat Washer, 3/8"	4
4	20-25-AGD	HHCS, 3/8 x 3/4" UNC	8
5	92-8598	Guard Assembly	1

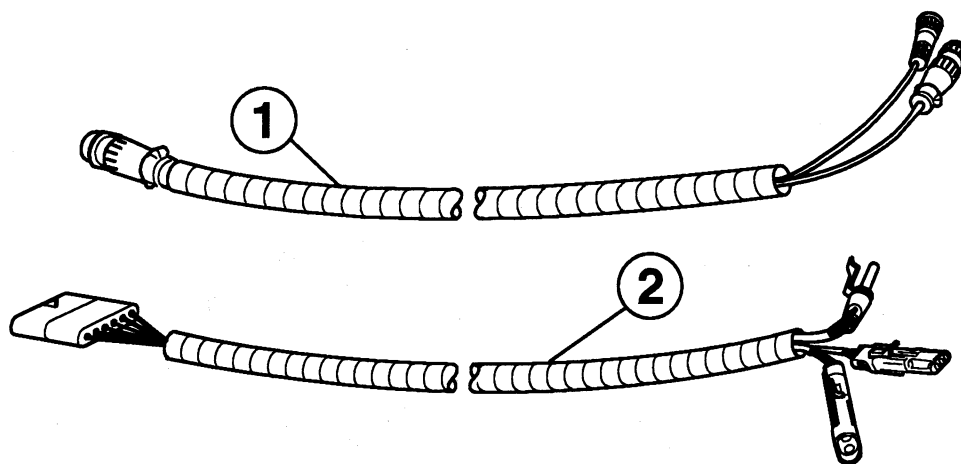




INJECTION PUMP MOTOR (93-0766)

Ref	Part No.	Description	Qty
1	93-1065	Gear Motor Assembly	1
2	93-1067	Pan Head Screw	1
3	93-1070	Cable Clamp	1
4	93-1068	Flat Washer	1
5	93-1064	Enclosure	1
6	93-1069	Hex Nut	1
7	93-1060	Lock Washer	2
8	93-1062	Metering Sensor	1
9	93-1058	O-Ring	1
10	93-1061	Pulley Assembly	1

Ref	Part No.	Description	Qty
11	93-1056	Cover	1
12	93-1067	Pan Head Screw	1
13	93-1057	Pulley	1
14	93-1072	Hex Socket Hd. Screw	1
15	93-1059	Pan Head Screw	2
16	93-1073	Pan Head Screw	2
17	93-1071	Lock Washer	2
18	93-1055	Conduit Outlet	1
19	93-1054	Conduit	1
20	93-1053	Conduit Ring	2
21	93-1066	Motor	1



CONTROL CABLES

Ref	Part No.	Description	Qty
1	92-8590	Chem 2 Injector Control Cable	1
2	92-8591	Chem 2 Monitor Control Cable	1