



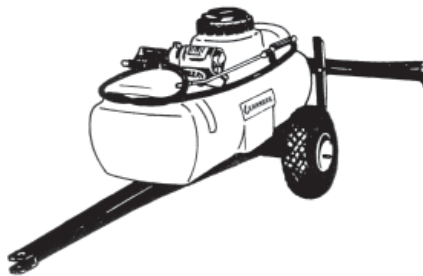
HANDGUN & BOOM SPRAYERS

Operation / Service / Parts
Manual For

ATV Sprayer Models:
M202-01-015N, M204-01-015N
& M204-01-025N



Trailer Sprayer Model:
LSEL25



October 2004

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Model No: _____

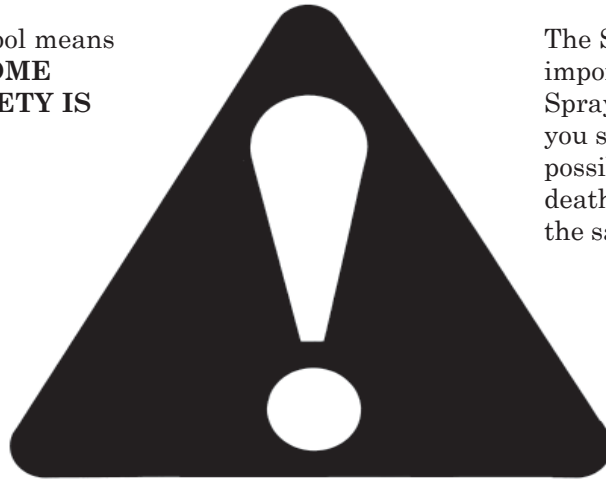
Serial No: _____

Date of Purchase: _____

1 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Sprayer and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer.

1.1 TRAINING & PREPARATION

Before operating this Sprayer, read and understand this manual completely. Become familiar with it for your own safety. To fail to do so may cause serious injury. **DO NOT** allow anyone to operate this Sprayer who has not read this manual.



NEVER use your Sprayer for any other purposes than its intended use. Any other use may cause an injury.

NEVER allow children to operate your Sprayer, nor adults lacking proper instructions. Keep them away from your work area. Your Sprayer is not a toy. Only the operator is to be near your Sprayer during use. Keep all others, including pets a minimum of 10 feet away from your work zone.

NEVER operate your Sprayer when under the influence of alcohol, drugs or medication. A clear mind is essential for safety.

NEVER allow a person who is tired or otherwise not alert to use your Sprayer.

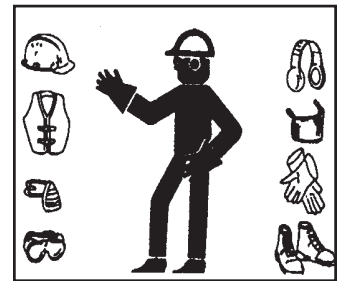


WARNING - Do not pump flammable or explosive fluids such as; gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. The pump should be used only with liquids compatible with the pump component materials. Failure to follow this warning may result in personal injury and/or property damage and will void the product warranty.

1.2 SAFETY WEAR

ALWAYS wear safety shoes.

ALWAYS wear safety glasses. Chemicals or other herbicides can irritate the eyes



If you wear gloves, be sure they are tight fitting without loose cuffs or draw strings.

Have a first aid kit available should the need arise and learn how to use it.



ALWAYS wear protective hearing devices as needed.



1.3 OPERATING SAFETY

YOU are responsible for the **SAFE** operation and maintenance of your Sprayer. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Sprayer be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the Sprayer.

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

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

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.

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

- The most important safety feature on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
 - A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
 - Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
 - **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
 - **Think SAFETY! Work SAFELY!**
- Sprayer should be operated only by qualified persons.
 - **ALWAYS** fill sprayer slowly to avoid spillage.
 - **DO NOT** make adjustments when sprayer is running, unless specifically recommended.
 - Be sure all tips are in good condition and nozzle caps are tight.
 - Make sure the lid on your tank is secured.
 - **ALWAYS** follow directions of the chemical manufacturer when mixing or handling all chemicals.
 - **NEVER** leave your Sprayer unattended. Shut off the engine if you are leaving your Sprayer even for a short period of time.

2 ASSEMBLY

2.1 MOUNTED SPRAYER

1. Secure sprayer to carrier.
2. Wire electric pump to 12 volt power source. Be sure to connect the red to the positive (+) source and the black to the negative (-) source.
3. If using a handgun to spray, connect the hose. If using a boom, connect the hose for boom.
4. Activate power source and start spraying.

2.2 LSEL25 TRAILER SPRAYER ONLY

1. Attach one end of the clear 1/2" EVA tubing to the 1/2" discharge port on the pump with the clamps provided. Attach the other end of the hose to the boom.
2. Attach the spray gun and discharge hose to the 3/8" discharge side of the pump.
3. Attach the tongue to the trailer frame with the supplied bolts.
4. The tires must be installed by using the timerman clips (shipped in tank). Tap these clips onto the axle with a hammer. Care must be taken to make sure the clips are on straight before hammering.
5. Secure sprayer to towing vehicle.
6. Wire electric pump to 12 volt power source. Be sure to connect the red to the positive (+) source and the black to the negative (-) source.

2.3 OPERATING CHECKLIST



BEFORE YOU PUT CHEMICAL INTO YOUR SPRAYER TANK

1. Be sure you are familiar with and confident of your knowledge on how to operate your sprayer. Ask your dealer if in doubt.
 2. Re-check all bolts, screws, fittings, clamps, hoses, etc. to be certain they are tight and properly installed.
 3. Handle all chemicals with extreme caution, wear protective clothing, and mix your chemicals only as recommended by your chemical dealer.
 4. **USE CAUTION** and common sense for your own safety! Take time to read all literature, warnings, cautions, and operation manuals provided!
- **Think SAFETY! Work SAFELY!**

3 CALIBRATION

Proper calibration is probably the most important part of spraying. Properly calibrated sprayers will save you money and time.

3.1 TRACTOR SPEEDS - TO OBTAIN MILES PER HOUR

Speed in MPH (Miles Per Hour)	Time Required in SECONDS to Travel a Distance of:		
	100 Feet	200 Feet	300 Feet
3.0	23	45	68
3.5	20	39	58
4.0	17	34	51
4.5	15	30	45
5.0	14	27	41
6.0	-	23	34
7.0	-	19	29
7.5	-	18	27
8.0	-	17	26
9.0	-	15	23

3.2 APPLICATION RATES FOR 7 AND 10 FOOT FLOOD BOOMS

EXAMPLE: This is a direct read rate chart. The standard nozzle is *AN2.5*. You require *15 Gallon Per Acre*. Thus, you would travel slightly less than 5 miles per hour to obtain 15 G.P.A.

NOZZLE SIZE	GALLON PER ACRE AT MILES PER HOUR					
	3 MPH	4 MPH	5 MPH	6 MPH	8 MPH	10 MPH
AN2 Red	19.8	14.8	11.8	9.9	7.4	5.9
*AN2.5 Brown	24.8	18.5	14.8	12.4	9.3	7.4
AN3 Grey	30.2	22.6	18.1	15.0	11.3	9.0
* Nozzle shipped as standard with both booms						

4 GENERAL MAINTENANCE

A sprayer is a carefully designed and built machine that should provide many years of trouble free service if properly cared for. The most important factor in maintaining your sprayer is **KEEP IT CLEAN**. Most spray materials are highly corrosive. By giving your sprayer a thorough cleaning immediately following each use, you will extend the life of the sprayer. Neglect can cost dollars in repairs, wasted spray material and premature replacement of the sprayer.

You should also:

1. Check all bolts for tightness
2. Check sprayer for leaks
3. Check hose connections

5 CLEANING & STORAGE

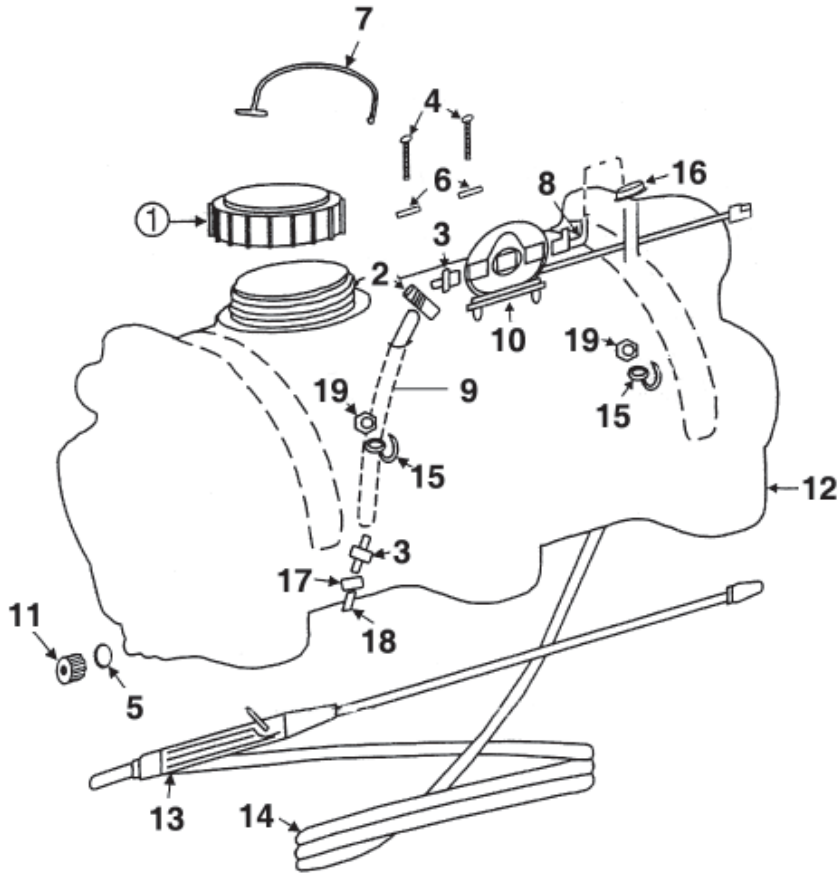
The most effective cleaning method is to pump several rinses of clean water through the tank, pump, hoses, boom, spray gun, etc. A neutralizing agent such as a solution of Nutra-Sol, a detergent or household ammonia as recommended by the chemical manufacturer can assist in removal of a persistent chemical. When the system is thoroughly cleaned, drain the tank, suction line, pump, hoses, etc.

- Wash and flush out sprayer after completion of each phase of your spraying program.
- Flush out sprayer when changing chemicals, if there is a possibility of incompatibility.
- Clean sprayer very thoroughly before storing at the end of the 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.
- Check sprayer over for needed repairs before time to spray again.
- Preparing the sprayer for use in the Spring means completion of all needed repairs, installation of all drain plugs and checking sprayer for leaks with a tank of water.
 1. Store the unit in an area away from human activity
 2. Do not permit children to play on or around the stored machine.
 3. Store the unit in a dry, level area. Support the frame with planks if required.

6 PARTS BREAKDOWN

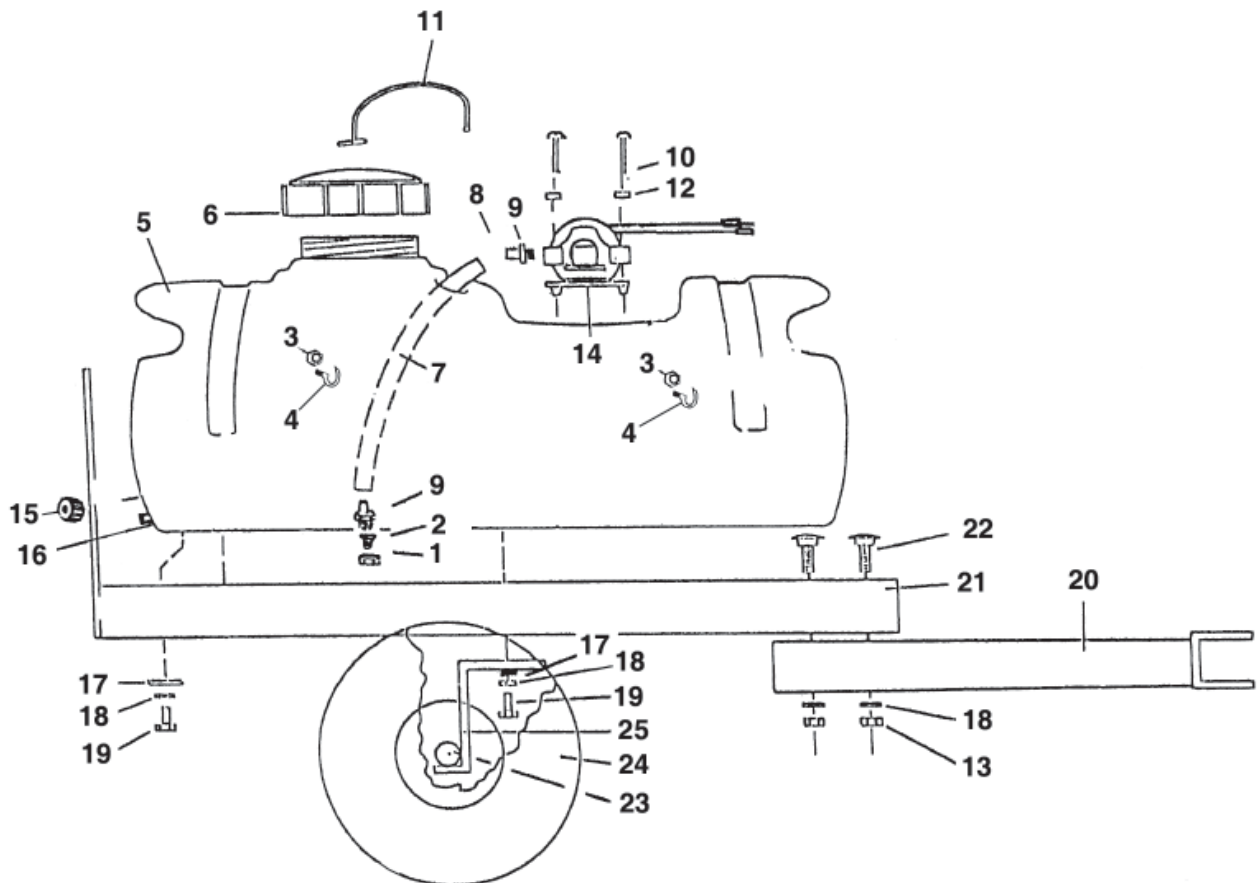
6.1 ATV SPRAYER ASSEMBLY

(Models M202-01-015N, M204-01-015N, & M204-01-025N)



<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	5340134-A	Lid
2	1	5380124	Hose Clamp
3	2	3850MN	Nipple $\frac{3}{8}$ " MNT x $\frac{1}{2}$ " HB
4	4	10-24X1	Screw, Round Head
5	1	10960	Gasket
6	4	10FWZP	Flat Washer $\frac{3}{16}$ "
7	1	10873	Strap, Retainer
8	1	K-3838	Elbow $\frac{3}{8}$ " MPT x $\frac{3}{8}$ " HB
9	1	1/2-1X18	Hose $\frac{1}{2}$ " x 18" 15 Gallon
9	1	1/2-1X22	Hose $\frac{1}{2}$ " x 22" 25 Gallon
10	1	SLV10-AA41	Pump 1.0 GPM M202-01-015N
10	1	8000-543-236	Pump 1.8 GPM M204 Models
11	1	10959	Cap, Drain
12	1	TOP-15B	Tank, 15 Gallon
12	1	TOP-25B	Tank, 25 Gallon
13	1	275-190-AL	Spray Gun
14	1	3/8"x15'	Hose $\frac{3}{8}$ " x 15'
15	2	HOOK	Hook, Hose Holder
16	1	SSC6	Clamp $\frac{1}{2}$ " S.S.
17	1	5046052	Cap
18	1	5116019	Filter
19	2	10-24N	Nut

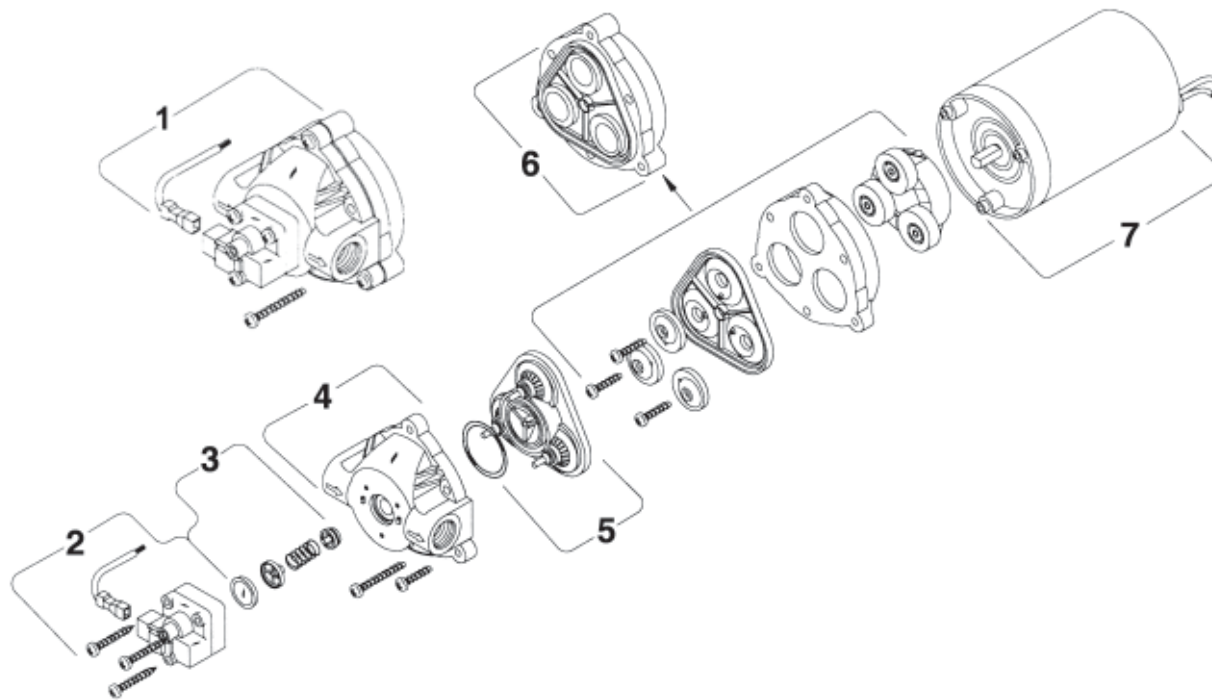
6.2 LSEL 25 SPRAYER ASSEMBLY



<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	5046052	Cap, Nylon
2	1	5116019	Strainer
3	2	5310109	Nut
4	2	HOOK	Hook, Hose Holder
5	1	TOP-25B	Tank, 25 Gallon
6	1	5340134-A	Lid
7	1	1/2"/ID	Hose 1/2" x 18"
8	1	5380124	Hose Clamp
9	2	3850MN	Hose Barb 3/8"
10	4	10-24X1	Screw, Round Head
11	1	10873	Retainer, Strap
12	4	10FWZP	Flat Washer
13	4	5006040	Nut 5/16"
14	1	8000-543-236	Pump, Electric
15	1	10959	Cap, Drain
16	1	10960	Gasket
17	4	5/16"FWZP	Flat Washer 5/16"
18	2	5016026	Lock Washer 5/16"
19	2	O/L	Bolt 5/16" x 3/4"
20	1	202-11-005	Tongue
21	1	202-21-001	Frame
22	2	90-204	Bolt, C. S. 5/16" x 1 3/4"
23	2	T/C	Lock Clip
24	2	LSRFT25	Tire & Wheel
25	1	202-11-010	Axle

7 BREAKDOWNS

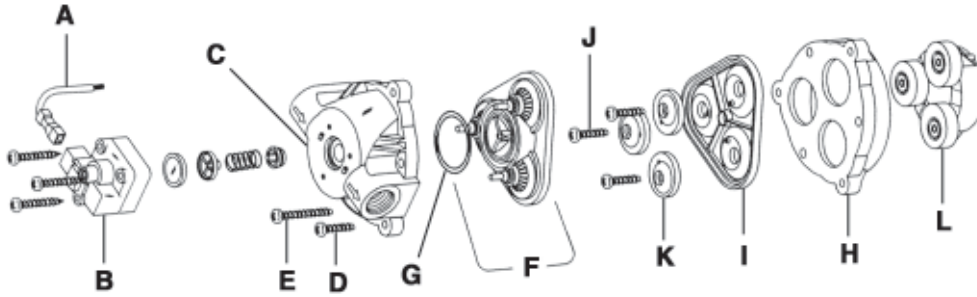
7.1 8000-543-236 PUMP ASSEMBLY - 1.8 GPM ONLY



<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	94-380-02	Complete Pump Head
2	1	94-375-05	Switch Assembly
3	1	94-374-05	Check Valve Assembly
4	1	94-379-00	Upper Housing
5	1	94-390-05	Valve Assembly (Standard)
6	1	94-385-32	Solid Diaphragm/Drive Assembly
7	1	11-111-00	Motor

7.2 PUMP DISASSEMBLY & REPAIR

NOTE: Before starting work, make certain power to pump is off. Release liquid pressure on outlet line of pump before performing any maintenance. You may find it easier to remove the pump and work on a bench.



DISASSEMBLY:

1. Disconnect lead wires (A) from pressure switch (B). Note which wire goes to each lead on the switch.
2. The 8000 Series is equipped with a strain relief. Remove the strain relief plug by pushing out on plug from the motor side with a flat blade screwdriver and pull the lead wires through the strain relief.
3. Remove the upper housing (C) screws and nuts (D). **NOTE:** There is no need to remove the three pressure switch screws.
4. Remove the long screws (E). These screws hold the pump assembly to the motor.
5. Remove the upper housing (C), valve assembly (F), and o-ring (G).
6. Remove the lower housing (H) from motor.
 - a. With lower housing sitting on a flat surface, and with diaphragm (I) facing up, remove the three piston capscrews (J).
 - b. Remove piston caps (K) from diaphragm.
 - c. Remove diaphragm from lower housing.

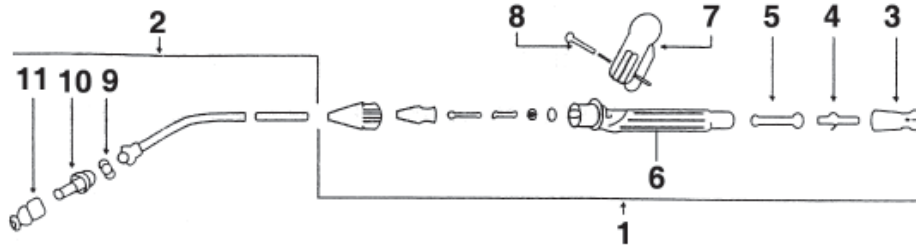
RE-ASSEMBLY:

NOTE: The two sides of the diaphragm (I) are different. One side is shaped relatively smooth. It is the side that goes toward the motor (face down). The side with the large groove and the three dimples goes toward the pump head (face up).

1. With the diaphragm in place on the lower housing, install the three piston caps (K) so that the small tapered hole in the piston cap fits the dimple on the diaphragm. **NOTE:** The flat side of the piston cap should face toward the diaphragm (or down).
 2. Set the lower housing and diaphragm on top of the wobbler (L) and install the three piston cap screws (J). **NOTE:** The lower housing is now back together. The wobbler and diaphragm should move freely within the lower housing.
 3. Place the valve assembly and new o-ring on top of the diaphragm. Make sure valve assembly seats properly on diaphragm.
 4. Place the upper housing in position over the valve assembly diaphragm and lower housing. Replace the three screws and nuts. **Do not** run screws down tight until the pump head has been attached to the motor.
- NOTE:** There are small holes in the lower housing. These small openings are drain holes and should be down by the motor mounting plate when assembled to the motor.
5. Lubricate the motor shaft with a small amount of general purpose grease.
 6. Align the groove of the motor shaft with the groove on the eccentric (wobbler) inside the lower housing. Check to be sure the drain holes are on the side with the motor mounting plate. Push pump head until it seats on the motor face.
 7. Put the three long screws in place and screw down until each touches. Then tighten each screw securely.
 8. Tighten the three outer screws and nuts.
 9. Snap strain relief back into upper housing with thumb or flat head screwdriver and connect lead wires to pressure switch.

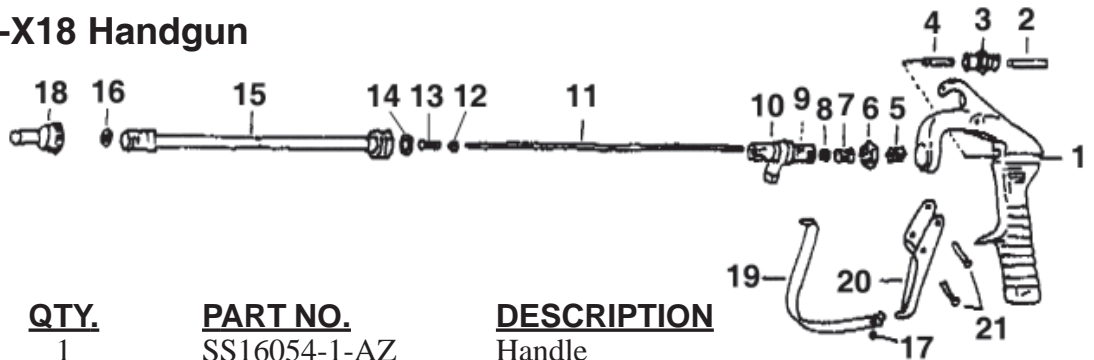
7.3 HANDGUN ASSEMBLY

275-190 Handgun



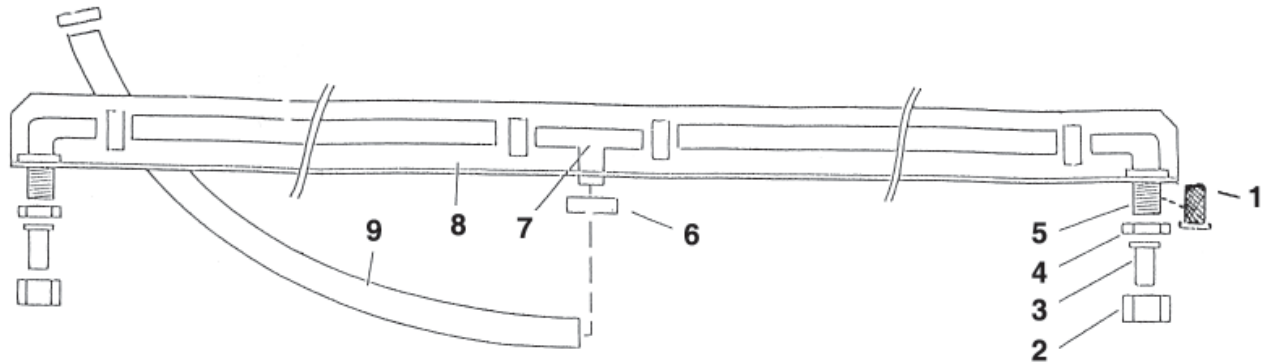
<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	S2-16-53	Handle Assembly
2	1	S2-13-15	Pipe Assembly
3	1	S2-15-32	Connector
4	1	S2-15-42	Hose Barb
5	1	S2-15-51	Filter
6	1	S2-15-62	Handle Only
7	1	S2-15-12	Trigger
8	1	S2-14-81	Pin
9	1	S2-12-31	Gasket
10	1	S2-12-13	Body
11	1	S2-12-23	Cap

23L-7676-X18 Handgun



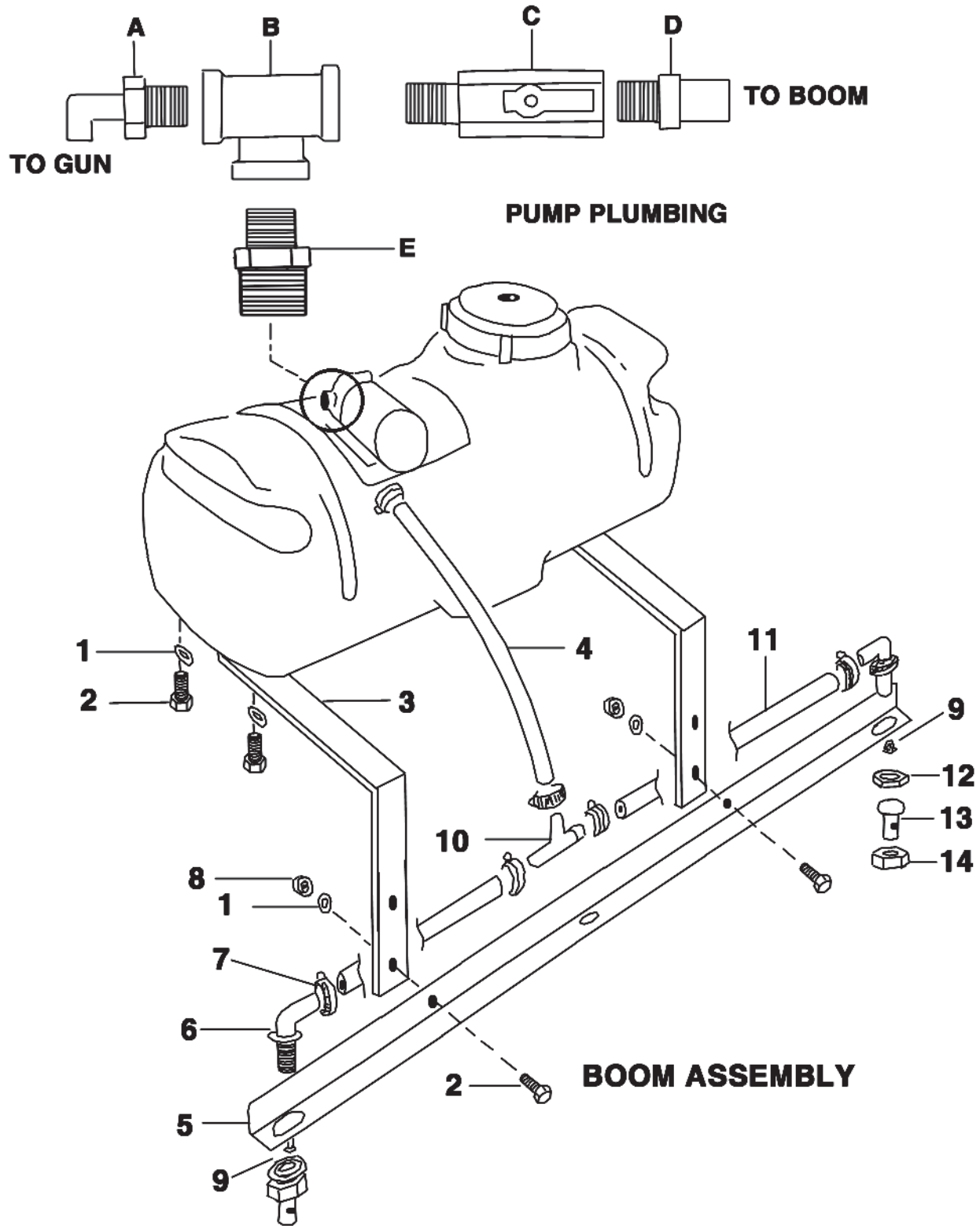
<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	SS16054-1-AZ	Handle
2	1	SS16053-1-SS	Spring 125 PSI
2	1	SS16053-2-S	Spring 800 PSI
3	1	SS7480-IZP	Spring Screw
4	1	SS7491-ALEF	Stud, Spring
5	1	SS8591-IZF	Guide
6	1	SS7486-SS	Lock Nut
7	1	SS16071-SS	Screw, Packing
8	1	SS14255-1-BN	Cap
9	1	SS7892-IZP	Key
10	1	SS16074	Body, Inlet
11	1	7677-18-SS	Stem
12	1	SS7679-1-SS	Nut
13	1	SS7678	Stem End
14	1	SS4743-TEF	Gasket
15	1	SS13206-18	Extension
16	1	SS23437-PP	Seat
17	1	SS9697-INP	Screw
18	1	SS5500-PPB-X12	Nozzle
19	1	SS9539-INP	Guard
20	1	SS14252-INP	Trigger
21	2	SS8038-IZP	Rivet

7.4 SB7 BOOM ASSEMBLY - FOR MODEL LSEL25 ONLY



<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	5116019	Filter
2	2	5046052	Cap, Nozzle
3	2	AN2.5	Nozzle 2.5
4	2	5006102	Nut
5	2	5056023	Elbow
6	6	SCG	Hose Clamp
7	1	5350126	Tee 1/2" x 1/2"
8	1	217-13-011	Boom
9	1	AM1/2"X.125	Hose 1/2" x 40"

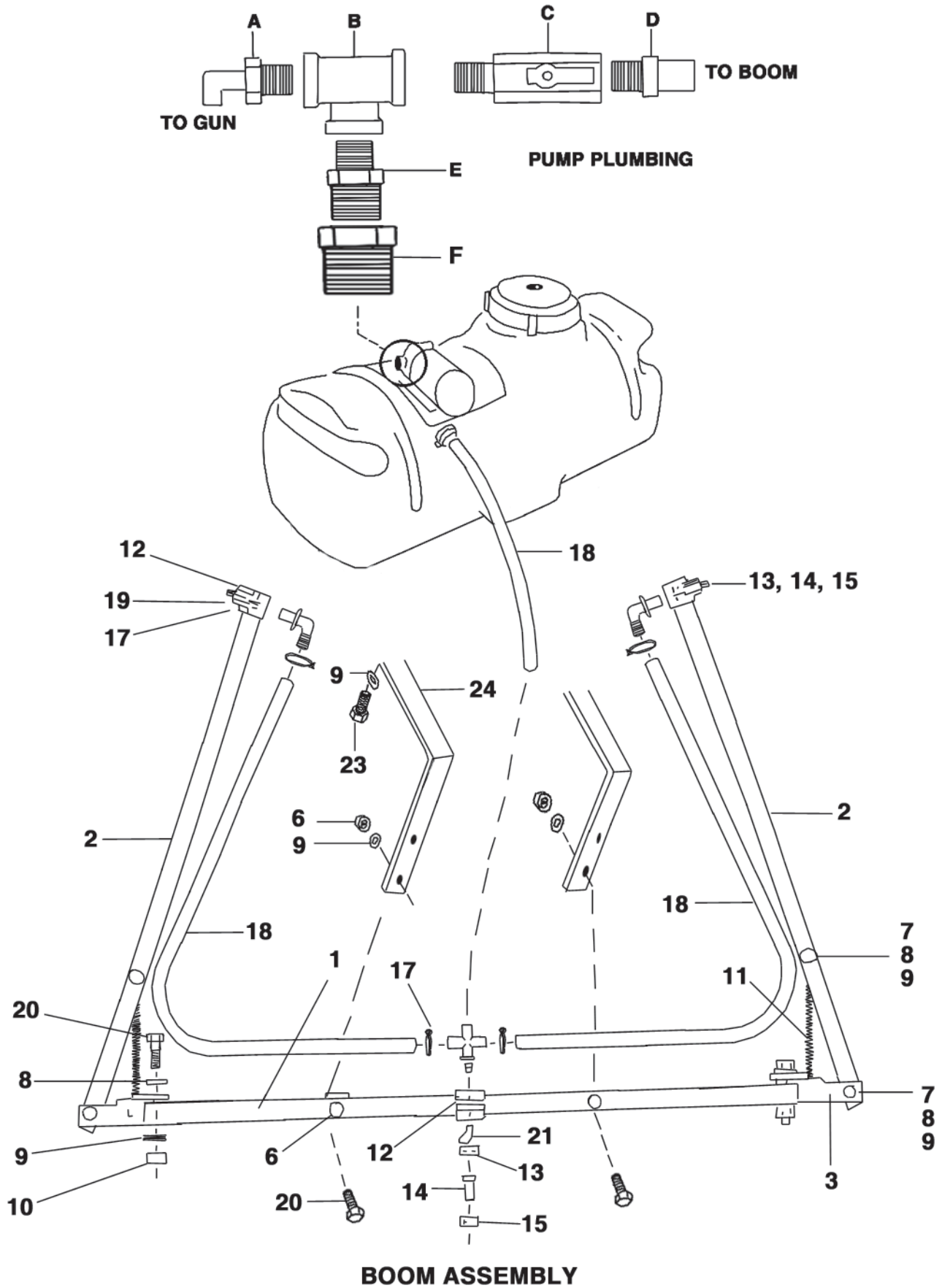
7.5 SSB-7 7' FLOOD BOOM ASSEMBLY



7.5 SSB-7 7' FLOOD BOOM ASSEMBLY

<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
<u>PUMP PLUMBING</u>			
A	1	5010046	Nylon Hose Barb 1/4 MPTx3/8
B	1	NT14	Nylon Tee
C	1	BV14	Ball Valve 1/4"
D	1	2550MN	Nylon Hose Barb 1/4MPTx1/2
E	1	M3814	Nylon Pipe Nipple
<u>BOOM ASSEMBLY</u>			
1	6	5016026	Lockwasher Med. Split z/p
2	6	5/16-18x3/4	Bolt Hex Head Capscrew z/p
3	2	217-13-022	Angle Mounting Spot Sprayer Boom
4	1	EVA-1/2	Hose 1/2 Anhydrous 40"
5	1	217-13-011	Angle Formed Boom
6	2	5056023	Ny Noz Fitting 11/16 MPSx1/2
7	6	SCG	Hose Clamp for 1/2" EVA
8	2	5006040	Nut Hex Standard z/p
9	2	5116019	Nozzle Strainer
10	1	5350126	Ny Hose Tee 1/2x1/2x1/2
11	2	EVA-1/2	Hose 1/2 Anhydrous
12	2	5006102	Nut, Nylon
13	2	AN2.5	Flood Nozzle
14	2	5046052	Nozzle Cap Nylon

7.6 FB10-SS 10' FLOOD BOOM ASSEMBLY



7.6 FB10-SS 10' FLOOD BOOM ASSEMBLY

<u>REF #</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
<u>BOOM ASSEMBLY</u>			
1	1	217-03-006-SS	Boom Center Section
2	2	217-03-003-SS	Boom Outer Wing
3	1	217-03-004	Boom Hinge Bracket (Right)
4	1	217-03-005	Boom Hinge Bracket (Left)
6	2	5006038	Boom Wing Nut
7	6	5034004	H. H. Bolt
8	14	5/16"FWZP	Flat Washer
9	6	5016026	Lock Washer
10	6	5006035	H. H. Lock Nut
11	2	217-03-010	Breakaway Spring
12	3	111SQ-1	Nozzle Clamp Body
13	3	5006102	Nozzle Nylon Lock Nut
14	3	AN2.5	Flood Nozzle
15	3	5046052	Nozzle Cap
16	1	K50TS-NY	Cross w/Nozzle Body
17	6	SCG	Hose Clamp 1/2"
18	2	EVA1/2"	Plastic Hose 1/2" x 40"
19	2	5056023	Nozzle Body Elbow 1/2"
20	2	5/16-18x2	H. H. Bolt
21	3	5116019	Nozzle Strainer
22	6	5016026	Lock Washer Med. Split z/p
23	6	5/16-18x3/4	Bolt Hex Head Cap Screw z/p
24	2	217-13-022	Angle Mounting Spot Sprayer Boom
26	2	5006040	Nut Hex Standard z/p

PUMP PLUMBING

A	1	5010046	Nylon Hose Barb 1/4 MPTX3/8
B	1	NT14	Nylon Tee
C	1	BV14	Valve Ball 1/4"
D	1	2550MN	Nylon Hose Barb 1/4MPTx1/2
E	1	NN14	Nylon Pipe Nipple 1/4MPTx1/4MPT
F	1	NRB-3814	Nylon Bushing 3/8MPTx1/4MPT

8 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.