

HARDEE



BY EVH MFG CO



OPERATOR'S AND MAINTENANCE MANUAL

SUPER CANNON SPRAYER

SC550
SC1100
SC1500
SC1501



DANGER

*Read this manual and the
manual for your tractor
carefully to acquaint yourself
before operating!*

4895 RED BLUFF RD, LORIS, SC-29569

(843) 756-2555

info@hardeebyevh.com

www.hardeebyevh.com

MODEL NUMBER _____
SERIAL NUMBER _____
DATE OF PURCHASE _____

Customer Pre-Operation Check List		Reference
<input type="checkbox"/>	Read, understand and follow the general safety rules listed in this manual.	Page 2
<input type="checkbox"/>	Check all belts and chains.	Page 7
<input type="checkbox"/>	Check all grease fittings.	Page 7

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Owner's Responsibility

The manufacturer has no control over the ultimate use of the sprayer and therefore assumes no responsibility or liability for damage or injury resulting from the use of this machine.

The upkeep of the sprayer is the responsibility of the user. This upkeep includes all shielding, guards, and safety decals (OSHA Regulation 1928.57). You can obtain replacement parts from any authorized Hardee dealer.

Read this Operator's Manual before operating the sprayer. Failure to do so could result in serious injury or death to the operator or to others. Remember that most accidents occur due to neglect or carelessness. The operator is responsible for inspecting and making repairs as may be necessary. Cleaning after each use and storage under a shelter will extend the life of the sprayer.

Purpose of This Manual

This manual provides information on safety, operation, adjustments, troubleshooting and maintenance of your new sprayer. Please read and follow all the recommendations to help ensure that you get many years of service from your new Hardee sprayer.

If you need additional copies of this manual, please contact your local Hardee dealer or download a copy from our website at www.hardeebyevh.com.

Safety-Alert Symbol



This symbol is the safety alert symbol. It appears throughout this manual to call your attention to instructions involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.

Signal Words

Safety signal words are words that call attention to the safety sign and designate a degree or level of hazard seriousness. The signal words used throughout this manual are DANGER, WARNING and CAUTION. Please read and follow all safety messages that have these signal words shown for your protection.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Customer Assistance

The Hardee by EVH sales team would like you to be satisfied with your new sprayer. If for some reason you have any questions about the information in this manual or have a problem with your super cannon sprayer, please discuss the problem or question with the management of your local dealership. If further assistance is required, please contact:

HARDEE by EVH Manufacturing Company, LLC
Sales Department
4895 Red Bluff Road
Loris, SC 29569
843-756-2555
sales@hardeebyevh.com

SAFETY INFORMATION

General Safety Rules

This section of your manual will address the safe operation of your new sprayer. We, at Hardee, strive to produce a machine that is both a quality product and safe to operate. Please take the time to read, understand and follow the safety rules listed below and throughout this manual.

Your safety also depends on you becoming familiar with the basic operation of your new sprayer. You can find complete instructions for this sprayer in the Operation Instruction section of this manual. We believe that using your sprayer safely; in a safe environment will give you great results!



DANGER

If your tractor has an open cab, then it MUST be equipped with operator protective equipment in the form of shielding from thrown objects to operate this equipment safely.



DANGER

Sprayers have the inherent ability to throw debris considerable distances when in operation. The operator must use caution or serious injury may result. Be sure by-standers are at a safe distance at all times when the sprayer is in use.



WARNING

ALWAYS keep your tractor level. Be careful to keep ample distance between the rear tire and the top of the ditch bank to avoid a cave-in of the bank.



WARNING

Failure to keep the tractor level may result in loss of traction, tipping, rollover, property damage, personal injury or death.



WARNING

- NEVER allow an UNQUALIFIED OR UNDERAGE person to operate the sprayer.
- NEVER allow any person under the influence of drugs or alcohol, or who is otherwise impaired, to operate the sprayer.



DANGER

DO NOT look under the sprayer or attempt to remove objects or branches from under the sprayer while the

tractor is running. Serious injury, loss of limb or death may result.



DANGER

DO NOT reach into the sprayer at any time. Fan blades may cause serious injury, loss of limb or disfigurement.



WARNING

All shielding, guards and safety decals must be in place at all times while the sprayer is in operation. Consult OSHA Regulation 1928.57 for further details.



WARNING

- NEVER operate the sprayer in an area where objects can be thrown by the sprayer. Clear areas to be sprayed of all foreign objects before spraying.
- NEVER allow passengers to ride on the sprayer or the tractor while the sprayer or any other implement is operating.
- NEVER dismount the tractor from the rear.
- NEVER allow HORSEPLAY in the vicinity of the tractor while the sprayer is operating.



WARNING

NEVER allow the sprayer to impact rock piles, piles of gravel, steel guardrails or concrete abutments. Contact with these objects could cause serious machine damage, property damage or bodily injury may occur. Check the area for these items BEFORE spraying.



DANGER

NEVER attempt to use the sprayer to remove brush larger than 3 inches in diameter.



DANGER

- ALWAYS disengage the PTO, set parking brake, turn off the tractor engine, remove key and wait for all motion to stop BEFORE dismounting the tractor.
- ALWAYS dismount the tractor FROM THE SIDE.
- ALWAYS make sure hardware is tight.
- ALWAYS wear safety goggles when operating the sprayer.

SAFETY INFORMATION

Safety Decals

Your Hardee sprayer ships with all safety decals in place. They are located in areas on the sprayer that are potentially hazardous. Please locate, read and follow the information you find on these decals.

By law, you must replace any safety decals that are damaged or missing. You can order replacement decals from any local Hardee dealer.

To apply the replacement decals:

- Clean the surface to place the new decal.
- Peel the decal away from the paper backing.
- Press firmly onto the clean surface.
- Squeeze out any air pockets using a straight edge.

PREPARATION FOR USE

CHECK



Danger

NEVER attempt any checks, repairs or adjustments with the tractor engine running or the power take-off engaged. Adjustment of rotating parts while the tractor engine is running can result in serious personal injury or death if the PTO accidentally engages.

Supplies

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

Have a fire extinguisher available for use should the need arise and know how to use it.

Clothing

Wear appropriate protective gear. This list includes, but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective goggles, glasses or face shield
- Suitable ear protection — ear plugs
- Heavy gloves
- Protective clothing

ATTACHMENT

Three-Point Hitch

- Position tractor in front of sprayer so that the tractor hitch is in line with sprayer hitch.
- Connect tractor lower hitch arms to sprayer hitch points and lock pins in place.
- Connect tractor top hitch link to floating linkage on sprayer hitch. Adjust linkage to a 45° angle.

Driveshaft



Danger

NEVER attach the sprayer to a 1000-RPM PTO. Operating the sprayer over 540-RPM could result in severe damage to the sprayer, and in parts flying off the sprayer resulting in severe personal injury or death to the operator or bystanders.

- Lift tractor PTO guard.
- Pull U-joint guard back along driveshaft.
- Press driveshaft yoke plunger in and slip driveshaft U-joint yoke onto splined PTO shaft. Check that plunger returns to locked position.
- Position U-joint guard over driveshaft U-joint.
- Lower Tractor PTO guard.

OPERATING INSTRUCTIONS

CAUTIONS



Danger

Incorrect operation of the sprayer may produce hazardous situations that can lead to serious injury or death. The sprayer has been designed to minimize the risks of accidents, but there is no substitute for a careful operator.

Note: See SAFETY PRECAUTIONS in the introduction section for a list of safety related cautions to be observed while operating sprayer.

Lights, SMV Emblems

If operating along public roads, warning lights or slow moving vehicle emblems should be used unless prohibited by law. Check local and state codes.

Low Speed

Slow the tractor down when approaching trees, fences, ditches or other obstacles. To stop forward movement, apply tractor brakes and throttle the engine back to allow the engine to slow the rotor before disengaging the PTO or drive clutch.

NORMAL PROCEDURES

Starting and Stopping

Power for operating the sprayer is supplied from the tractor PTO. Refer to the tractor manual for instructions on engaging and disengaging the PTO. Always engage the PTO at low engine RPM. Always operate at 540RPM. Learn how to stop the tractor quickly in case of an emergency.

To start operation, reduce engine speed and engage the tractor PTO. Gradually increase engine speed to develop 540RPM at the PTO.

Enter the area to be sprayed with the sprayer operating at 540RPM and if it becomes necessary to temporarily regulate engine speed during operations, increase or decrease the throttle gradually - Never exceed 540RPM speed.

Avoid tractor rollovers: Be careful when operating the tractor and sprayer on uneven ground. Equip your tractor with a roll bar (ROPS) and seatbelts and keep belts tightened securely.

In uneven terrain, rear wheel weights, from tractor weight and or front tire ballast should be used to improve stability. Pass diagonally through short dips and avoid drops to prevent "hanging up" the tractor and sprayer.

Avoid sudden stops and starts while traveling up or down hills.

Avoid operation on steep slopes. Slow down on sharp turns and slopes to prevent tipping or loss of control.

Traveling

Raise the sprayer to its maximum height when traveling. Additional ground clearance can be obtained by shortening the tractor hitch center arm. NEVER engage PTO while sprayer is in traveling position.



Warning

Transporting the sprayer at maximum height changes the center of gravity of the tractor. Do not travel at high rates of speed with the sprayer in traveling position, especially over rough or bumpy terrain. Tractor instability during high-speed travel can cause a rollover, resulting in serious personal injury or death.

PRIOR TO ACTUAL USAGE

1. Fill the tank with clear water to test the sprayer and make sure that all the fittings and connections are tight, to avoid losing any expensive spray solution.
2. Check nozzles and screens. Remove any accumulation of sediment around the screens. If the screens are dirty or oily they should be washed in mild detergent.
3. Check the exact gallonage per acre you are expecting to spray. Use a measured amount of water and actually spray a known acre of ground. The gallonage can be varied greatly by increasing the pressure for more gallonage and decreasing the pressure for less gallonage. Increasing the tractor speed or using a higher gear will lower the gallonage per acre; decreasing the tractor speed will increase gallonage. See the Nozzle chart included in the pump carton for speed and pressure to get the desired gallons per acre. The gallonage per acre can also be checked by using a calibration kit.

OPERATING INSTRUCTIONS

NOZZLE INFORMATION

The most important factor in applying agricultural chemicals — soluble powders, wet-able powders or emulsifiable concentrates is the selection of the correct nozzle size. With the correct size nozzles, proper ground speed and pressure, the exact amount of chemical will be applied. All other sprayer components, however important, are secondary.

Spraying pressures should be kept as low as possible for the following reasons:

1. Pump and nozzle wear goes up as pressures go up.
2. At lower pressures, larger nozzles can be used, which will give less stop-up problems.
3. At lower pressures, most nozzles will produce larger droplets, which will cause less drift. This is especially true on flooding nozzles.

NOZZLE TYPES

Also, of great importance is the selection of the right type of nozzle for each application. Following is a description and usage of different types available:

FLOODING - Flooding nozzles deliver flat patterns with a wide spray angle. This nozzle produces its best pattern between 10 and 25 PSI. Never exceed 40 PSI. Large droplets minimize drift. Flooding nozzles are used for broadcast application of herbicides, fertilizers and defoliant.

FLAT SPRAY - Flat spray nozzles are designed to produce narrow tapered patterns. The tapered edge of each pattern feathers into the pattern of the next nozzle, which produced uniform distribution of liquids on boom type sprayers. The best spray pressure is 30 PSI with 20 PSI as minimum and 60 PSI as Maximum. This nozzle is best used when no fine droplets or fogging is wanted. It is used to broadcast application of herbicides, insecticides and fertilizers.

EVEN SPRAY - This nozzle is similar to flat spray nozzles except it produces a rectangular pattern with no tapered edges. The spray characteristics are similar to the flat spray nozzles. This nozzle type is used when chemicals are applied in bands as in pre and post-emergence spraying on planters and cultivators.

HOLLOW CONE SPRAY - This nozzle delivers a hollow cone shaped pattern and very fine droplets. Droplets get finer as the pressure goes up. The best spray pressure is 75 PSI with a minimum of 40 PSI and a maximum of 120 PSI. the nozzle is used for spraying insecticides, defoliant and other chemicals where droplet penetration or fogging is wanted.

DISC CORE - This nozzle is similar to the cone spray nozzle except much higher pressures can be used and it is ideal for abrasive materials. It can be used in a wide pressure range of 40 PSI to 400 PSI. It is used where a lot of droplet penetration is wanted or at lower pressures for extremely abrasive materials.

BROADCAST NOZZLES - Produces a uniform spray pattern approximately 35 feet wide.

APPLICATION RATES

Although total sprayer capacity is determined by nozzle flow rate and the number of nozzles, the volume of liquid applied per acre is a function of flow rate, nozzle spacing, and sprayer speed, as defined in the following formula:

$$\text{GPA} = \frac{5940 \times \text{GPM per nozzle}}{\text{Nozzle Spacing-inches} \times \text{MPH}}$$

$$\text{GPM} = \frac{\text{GPA} \times \text{MPH} \times \text{W} \times \text{NozzleSpacing}}{5940}$$

GPM – Gallons Per Minute

GPA – Gallons Per Acre

MPH – Miles Per Hour

W - Nozzle spacing (in inches) for broadcast spraying.
Spray width (in inches) for single nozzles, band spraying or boomless spraying.

Row spacing (in inches) divided by the number of nozzles per row for directed spraying.

MEASURING TRAVEL SPEED

Measure a test course in the area to be sprayed or in an area with similar surface conditions. Minimum lengths of 100 and 200 feet are recommended for measuring speeds up to 5 and 10 MPH respectively. Determine the time required to travel the test course. To help insure accuracy, conduct the speed check with a loaded sprayer and select the engine throttle setting and gear that will be used when spraying. Repeat the above process and average the times that were measured. Use the following equation to determine ground speed:

$$\text{Speed (MPH)} = \frac{\text{Distance (feet)} \times 60}{\text{Time (seconds)} \times 88}$$

MAINTENANCE

MAINTENANCE

Proper servicing and adjustments are the key to long life of any machine. With careful and systematic inspection for the sprayer, you can avoid costly maintenance, time, and repair.

Visually inspect the sprayer at least once a week. Lubricate parts with good lithium EP grease at the intervals specified. If heavy, long-duration operation is expected, lubricate more frequently. Wipe off excess grease after lubricating.

Interval	Grease Location
After every 8 – 10 hours	Mounts, bolts and hardware
	Tension on belts
	Grease on bearings and PTO Shaft

- Always rinse unit with fresh water.
- Store unit on pallet or blocks.
- Adjusting the drive belts - On belt tensioner loosen the 9/16 bolts, then turn large bolt on opposite end of roller to tighten or loosen belts, retighten 9/16 bolts.
- Adjusting the pump belt - Loosen mounting bolts on bottom of pump, using prying tool to hold pump, retighten mounting bolts.
- Check and clean filter with full tank. Shut off ball valve under tank, clean filter and reopen valve.
- Chain tensioner - (Located behind top plastic sleeve) loosen jam nut at bottom of adjustment screw. To tighten, turn clockwise, and feel to ensure that chain is tight.
- Always use factory parts and service.



Danger

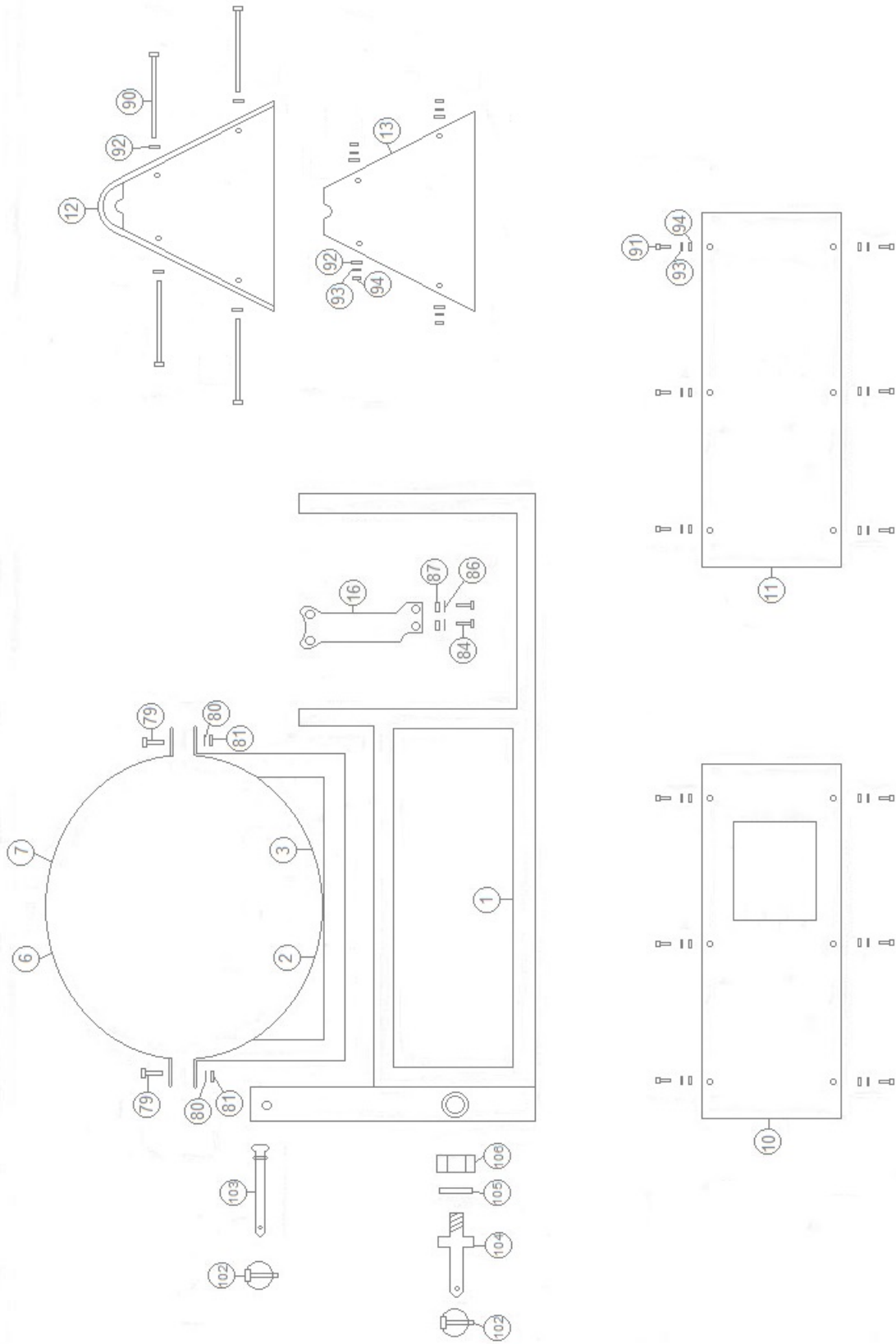
NEVER attempt any checks, repairs or adjustments with the tractor engine running or the power take-off engaged. Adjustment of rotating parts while tractor engine is running can result in serious personal injury or death if the PTO accidentally engages.

STORAGE

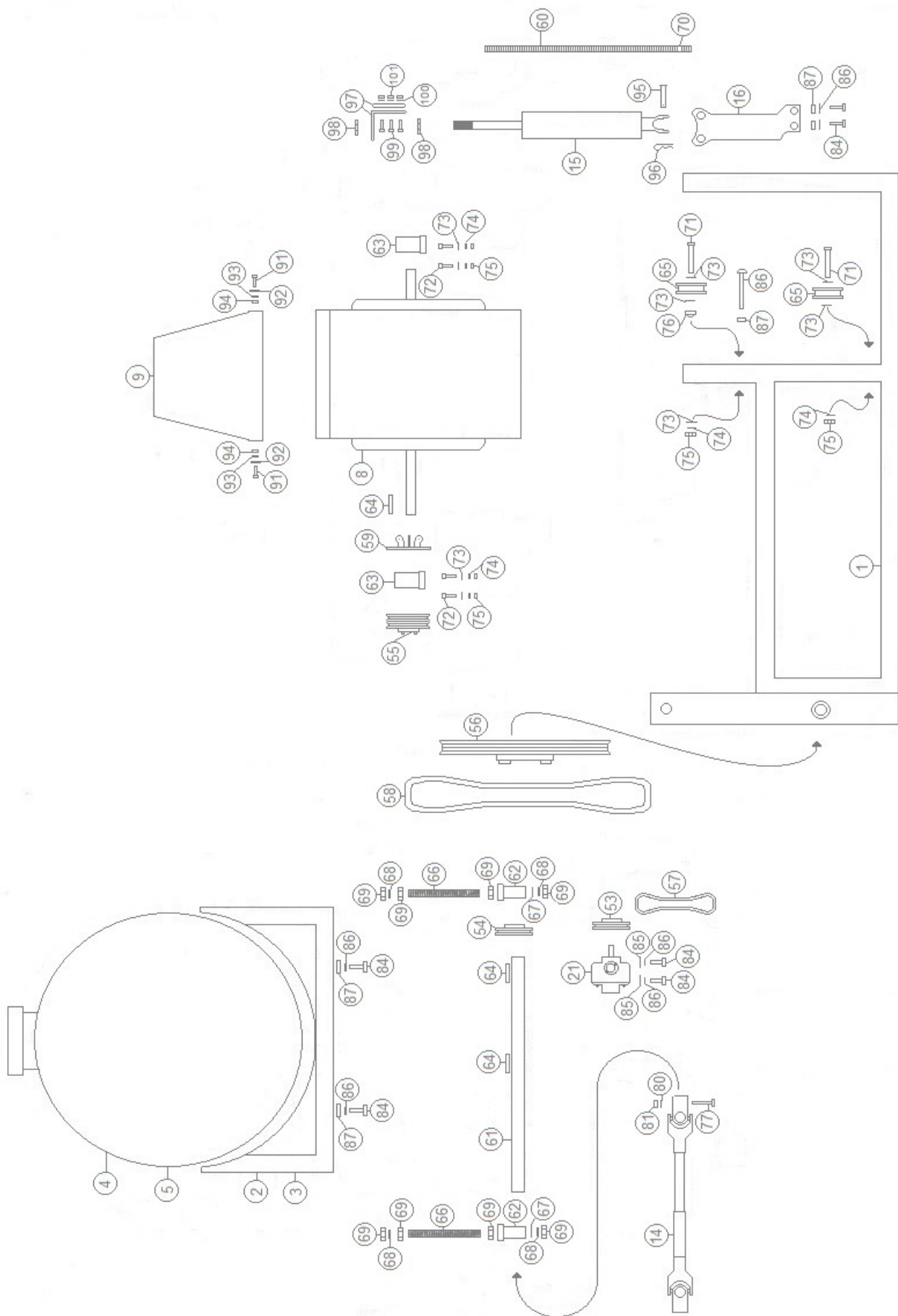
Your sprayer represents an investment from which which you should get the greatest possible benefit. Therefore, when the season is over, the sprayer should be thoroughly checked and prepared for storage so that a minimum amount of work will be required to put it back into operation for the next season. The following are suggested storage procedures:

- Drain the pump completely or fill with anti-freeze to prevent damage from freezing.
- Thoroughly clean sprayer.
- Lubricate the sprayer as covered in the maintenance section.
- Tighten all bolts to the recommended torque.
- Check the sprayer for worn or damaged parts. Make replacements immediately using genuine parts.
- Store the sprayer in a clean, dry place.
- Use the spray touch-up enamel where necessary to prevent rust and maintain the appearance of the sprayer.

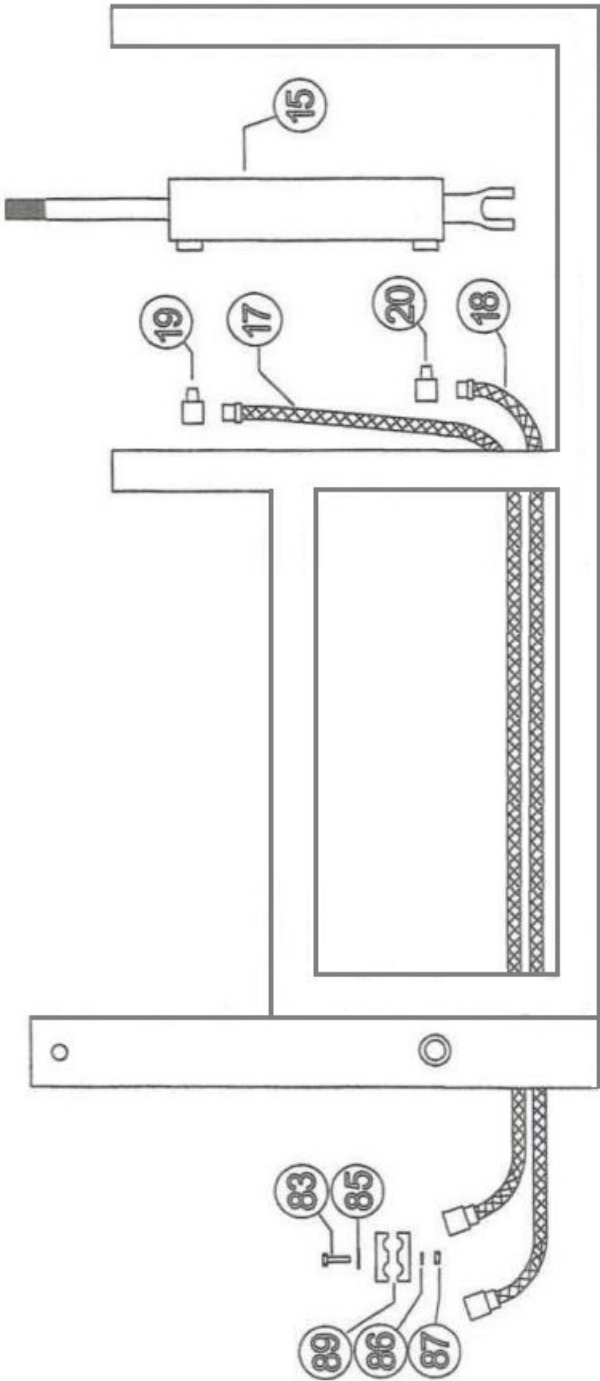
MAIN FRAME AND GUARDS



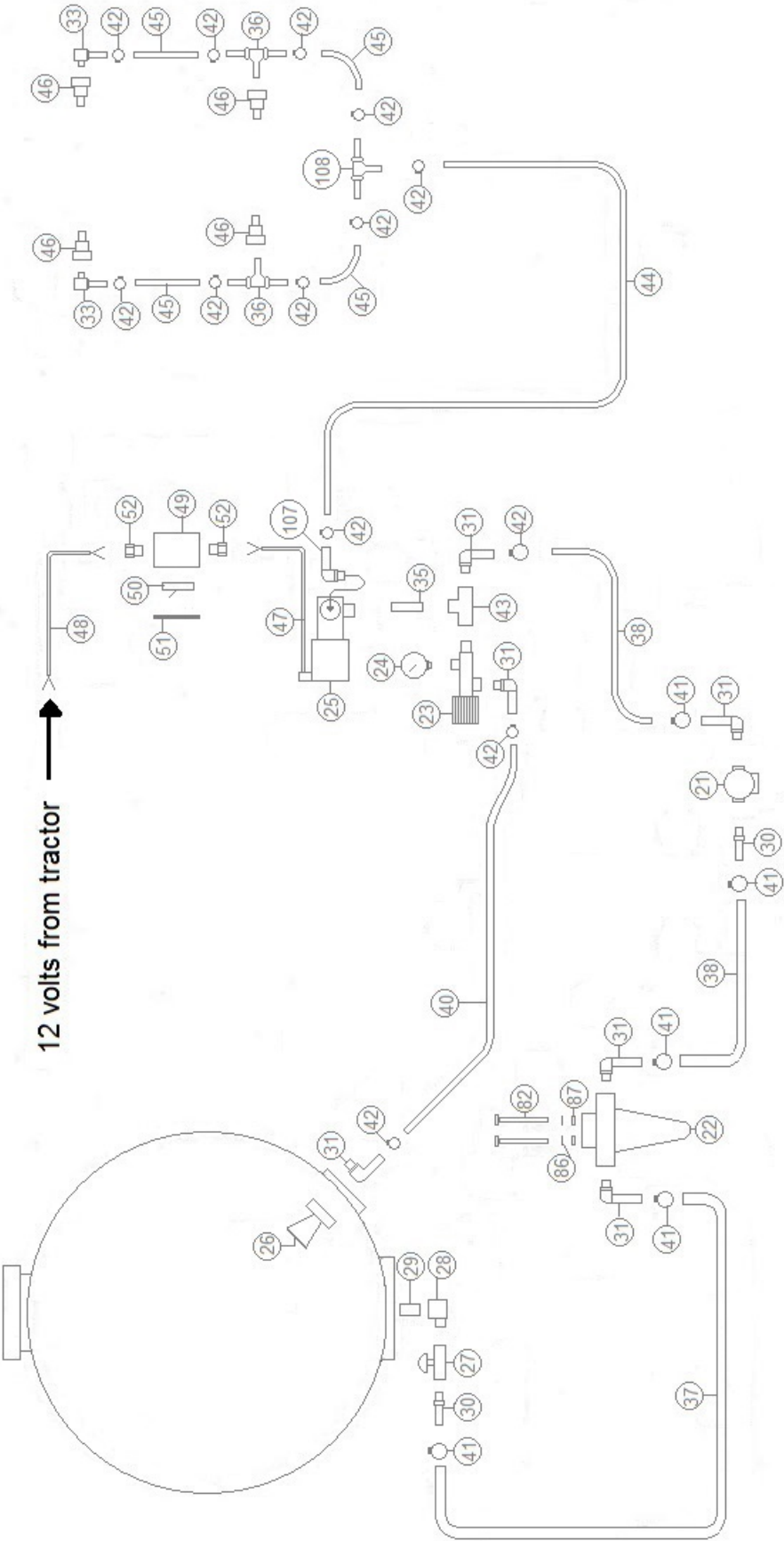
MECHANICAL PARTS



HYDRAULIC SYSTEM



CHEMICAL APPLICATION SYSTEM - ELECTRICAL SYSTEM



PARTS LIST FOR SUPER CANNON SPRAYER

SECTION 6 - REFERENCE

KEY	PART #	DESCRIPTION	QTY
1		Main Frame	1
2		Tank Support Frame for 55 gal. Tank	1
3		Tank Support Frame for 100 gal. Tank	1
4		Tank - 55 gal.	1
5		Tank - 100 gal.	1
6		Tank Hold Down Strap for 55 gal. Tank	2
7		Tank Hold Down Strap for 100 gal. Tank	2
8		Blower	1
9		Volute	1
10		Left Side Cover Panel	1
11		Right Side Cover Panel	1
12		Outside Belt Cover	1
13		Inside Belt Cover	1
14		PTO Shaft	1
15	16752	Hydraulic Cylinder	1
15A	16757	Seal Kit	1
16		Hydraulic Support Bracket	1
17		Hydraulic Line 10 ft. Long	1
18		Hydraulic Line 9 ft. long	1
19		Hydraulic L-fitting (restricted)	1
20		Hydraulic L-fitting	1
21	12756	Chemical Application Pump	1
22		Chemical Application Filter	1
23	12267	Pressure Relief Valve	1
24	13898	Pressure Gauge	1
25		Solenoid Valve	1
26		Chemical Mixing Ventura	1
27	13007	Valve (3/4 in.)	1
28	13507	Street Elbow Fitting (3/4 in.)	1
29	13396	Nipple (3/4 in. X close)	1
30	13319	Fitting (3/4 in. Pipe X 3/4 in. Hose)	2
31	13355	Elbow (3/4 in. Pipe X 3/4 in. Hose)	2
32	13317	Elbow Fitting (3/4 in. Pipe X 1/2 in. Hose)	1
33	13880	Nozzle Holder 90°	2
34	13322	Fitting (1/2 in. Pipe X 1/2 in. Hose)	3
35		Nipple (1/2 X Close)	1
36		Nozzle Holder T	2
37	12852	Hose (3/4 in. X 20 in.)	1
38	12852	Hose (3/4 in. X 24 in.)	1
39	10795	Hose (1/2 in. X 24 in.)	1
40	10795	Hose (1/2 in. X 48 in.)	1
41	13531	Hose Clamp (3/4 in.)	4
42	13528	Hose Clamp (1/2 in.)	10 opt
43	13806	Tee-fitting (1/2 in. X 1/2 in. X 1/2 in.)	2 opt
44	10795	Hose (1/2 in. X ?)	1
45	10795	Hose (1/2 in. X ?)	2 opt
46		Spray Nozzles	2 opt
47		Power Cord (from Switch to Solenoid Valve)	1

PARTS LIST FOR SUPER CANNON SPRAYER

KEY	PART #	DESCRIPTION	QTY
48		Power Cord (from Tractor to Switch)	1
49		Switch Box	1
50		Spray Activation Switch	1
51		Switch Cover	1
52		Power Cord Compression Fitting	2
53		Pulley ("A" X 4 in. X 5/8 in. Bore)	1
54		Pulley ("A" X 4 in. X 1-1/4 in. Bore)	1
55		Pulley (Double "B" X 5 in. X 1 in. Bore)	1
56		Pulley (Double "B" X 18-3/4 in. A1-1/4 in. Bore)	1
57		V-Belt ("A" 28)	1
58		V-Belt (BX72)	2
59		Sprocket (40 Pitch)	1
60		Roller Chain (40 Pitch)	1
61		Main Power Shaft	1
62	11875	Pillow Block Bearing (1-1/4 in.)	2
63	15049	Pillow Block Bearing (1 in.)	2
64	12221	Key (1/4 in. X 2 in.)	3
65		Idler Roller	2
66		Threaded Rod (5/8 - 11 X 5 in.)	4
67	10205	Flat Washer (5/8 in.)	4
68	10185	Lock Washer (5/8 in.)	8
69		Hex Nut (1/2 X 13)	16
70		Master Link (40 Pitch)	1
71	10075	Bolt (1/2 13 X 3 in.)	2
72	10073	Bolt (1/2 13 X 2 in.)	4
73	10204	Flat Washer (1/2 in.)	9
74	10184	Lock Washer (1/2 in.)	6
75	10176	Hex Nut (1/2 - 13)	6
76	10176	Sliding Adjusting Nut (1/2 - 13)	1
77	10035	Shear Bolt (3/8 - 16 X 3 in.)	1
78	10035	Bolt (3/8 - 16 X 3 in.)	2
79	10029	Bolt (3/8 - 16 X 1-1/4 in.)	2
80	10182	Lock Washer (3/8 in.)	4
81	10162	Hex Nut (3/8 - 16)	4
82	10022	Bolt (5/16 - 18 X 3-1/2 in.)	2
83	10020	Bolt (5/16 - 18 X 2-1/2 in.)	2
84	10017	Bolt (5/16 - 18 X 1 in.)	6
85	10201	Flat Washer (5/16 in.)	2
86	10181	Lock Washer (5/16 in.)	10
87	10162	Hex Nut (3/8 - 16 in.)	11
88		Pan Head all Thread bolt (5/16 - 18 X 3 in.)	1
89		Hold Down Clip	2
90	10008	Bolt (1/4 - 20 X 4 in.)	4
91	10001	Bolt (1/4 - 20 X 3/4 in.)	18
92	10200	Flat Washer (1/4 in.)	12
93	10180	Lock Washer (1/4 in.)	22
94	10160	Hex Nut (1/4 - 20)	22
95		Hydraulic Cylinder Mounting Pin	1
96		R-Clip	1
97		Hydraulic Cylinder - Chain Coupler	1

PARTS LIST FOR SUPER CANNON SPRAYER

KEY	PART #	DESCRIPTION	QTY
98		Hydraulic Cylinder Shaft Hex Nut	2
99		Bolts (10 - 24 X 1 in. Flat Head)	3
100		Lock Washer (#10)	3
101		Hex Nut (10-24)	3
102	10346	Lynch Pin	3
103		Top Link Pin	2
104	10307	Lift Arm Link Pin	2
105	10307	Link Pin Lock Washer	2
106	10307	Link Pin Hex Nut	2
107		Elbow (1/2 in. Pipe X 1/2 in. Hose)	1
108		1/2 in. Barb Tee	1

Bolt Torque

Checking Bolt Torque

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torque specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt. Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

NOTE: Bolt Torques shown are maximum allowable values for ultimate safe working strength or external load-carrying capacity. The bolt torque are not applicable in cases where bolts are used as a pin-like device, holding together two or more movable objects and keeping them from spreading apart. – “Clamping Torque” Being dependent upon the application of the bolt. -

*Torque value for bolts and cap screws are identified by their head markings.
See Page 16*

Torque Specifications for Coarse Threads

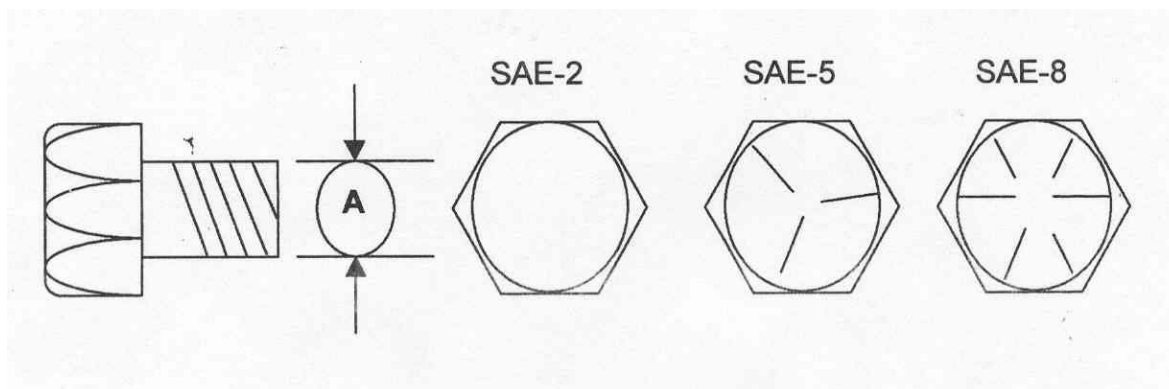
Diameter “A”	Bolt Torque		Coarse Thread			
	SAE-2		SAE-5		SAE-8	
	LB-FT	N.m	LB-FT	N.m	LB-FT	N.m
1/4" - 20	6	8	9	12	12	17
5/16" - 18	10	13	19	25	27	36
3/8" - 16	20	27	33	45	45	63
7/16" - 14	30	41	53	72	75	100
1/2" - 13	45	61	80	110	115	155
9/16" - 12	70	95	115	155	165	220
5/8" - 11	95	128	160	215	220	305
3/4" - 10	165	225	290	390	400	540
7/8" - 9	170	230	420	570	650	880
1" - 8	225	345	630	850	970	1320
1 1/8" - 7	354	478	794	1072	1287	1737
1 1/4" - 7	500	675	1120	1512	1875	2531
1 3/8" - 6	655	884	1470	1985	2382	3216
1 1/2" - 6	870	1175	1950	2632	3161	4267

See page 16 for Torque Specifications for Fine Threads and Head Markings

Torque Specifications for Fine Threads

Diameter "A"	Bolt Torque					
	SAE-2		SAE-5		SAE-8	
	LB-FT	N.m	LB-FT	N.m	LB-FT	N.m
1/4" - 28	6	8	10	14	14	19
5/16" - 24	12	16	19	26	27	36
3/8" - 24	22	31	35	47	49	66
7/16" - 20	36	49	55	74	78	105
1/2" - 20	55	74	85	115	120	162
9/16" - 18	80	108	122	165	172	232
5/8" - 18	110	148	170	230	240	324
3/4" - 16	200	270	297	400	420	567
7/8" - 14	180	243	474	640	668	402
1" - 12	274	370	705	952	995	1343
1" - 14	280	378	721	973	1019	1376
1 1/8" - 12	397	536	890	1201	1444	1950
1 1/4" - 12	553	747	1241	1675	2012	2716
1 3/8" - 12	746	1007	1672	2257	2712	3661
1 1/2" - 12	979	1322	2194	2962	3557	4802

Head Markings



Hardee by EVH Manufacturing Co., LLC Limited Warranty

Hardee by EVH Manufacturing Co., LLC warrants its **Equipment*** for one year to the **original** non-commercial, non-governmental, or non-municipal purchaser. For the **original** commercial, industrial, or municipal purchaser, the goods are warranted for 90 days to be free from defects in material or workmanship.

This limited warranty does not apply to any part of the goods which have been subjected to improper or abnormal use, negligence, alteration, modification, accident, or damage due to lack of maintenance.

The Warranty Card **must** be filled out and returned within **30 days** of purchase. **No** warranty will be allowed without a properly completed and returned warranty card.

“Our obligation under this warranty shall be limited to repair or replacement of any part or parts of this implement, which in our judgment, shows evidence of such defect, and provided further, that said parts shall be removed and returned by the owner at the owner’s expense to Hardee by EVH Manufacturing Co., LLC, Loris, SC, through an authorized dealer, transportation prepaid, free and clear of liens or encumbrances.”

This warranty shall not include normal wear items.

Changes or alterations to the implement made without the **written** authorization of the manufacturer will render this warranty void.

This warranty does not obligate this company to bear any labor costs in replacement of defective parts.

Hardee by EVH Manufacturing Co., LLC reserves the right to make changes or improvements in its equipment at any time, with the express understanding that such changes or improvements do not impose any obligation of the company to install such changes or improvements on implements previously manufactured.

IMPLIED WARRANTIES: You may have some implied warranties. For example, you may have an implied warranty of merchantability (that the unit is reasonably fit for the general purpose for which it was sold) or an implied warranty of fitness for a particular purpose (that the unit is suitable for your special purposes). Special purposes must be specifically disclosed to Hardee by EVH Manufacturing Co., LLC and not merely to the dealer before your purchase. Hardee by EVH Manufacturing Co., LLC itself must approve, in writing, that the special purpose is warrantable.

These implied warranties do not apply at all if you use your equipment for business or commercial use.

See separate Hydraulic Mower & Rotary Mower Limited Warranties

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BY EVH MFG CO

EVH MANUFACTURING COMPANY, LLC
4895 RED BLUFF ROAD LORIS, SC 29569
PHONE: 843-756-2555 OR 1-888-990-2555
WWW.HARDEEBYEVH.COM INFO@HARDEEBYEVH.COM