

# OPERATORS AND PARTS MANUAL MODEL(S) 616 CSV



### MANUFACTURER OF OUTDOOR POWER EQUIPMENT

Products for Turf & Lawncare, Rental Construction, Tree Care, Wood Processing, Nursery & Farm Industries Other Salsco Equipment:

3-1/2" - 18", Gas, Diesel, and P.T.O. Wood/Brush Chippers Chipper Shredder Vacuum - Tailgate & Truckloader Vacuums, Strawblowers, Slicer Seeders Shaving Mills - Gas & Electric Greens Rollers

Quality of Workmanship, Innovative Design, Built to Last!

105 School House Road Cheshire, CT 06410 U.S.A. 800-872-5726, 203-271-1682, 203-271-2596 (Fax) sales@salsco.com, www.salsco.com

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## **MODEL 616CSV DESCRIPTION**

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SALSCO, INC. 105 School House Road Cheshire, CT 06410 800-872-5726, 203-271-1682 203-271-2596 (Fax)

### **STATEMENT OF FACT**

You have just purchased the highest quality, most dependable, Chipper Shredder Vacuum, on the market today. This unit has the ability to meet exact standards and perform for years with minimum downtime. HOWEVER, it cannot read nor will it understand this manual no matter how long you leave it on top of the machine.

It is your responsibility to read and understand this manual; it is also your responsibility to be certain this information is passed along to anyone who is expected to operate this equipment. Should you choose not to read, understand and pass along the information provided you, please expect equipment failure and possible injuries to persons around this equipment.

For the safety of the operator, it is **imperative** that this manual is carefully read and understood.

Once you have read this manual, it is your responsibility to be sure that all new operators read and understand this manual, especially all cautions stated.

As a manufacturer of equipment, we have a responsibility to design a safe piece of equipment. NOTE: The important safeguards and instructions in this manual are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution, and care are factors, which cannot be built into any product. These factors must be supplied by the person(s) caring for and operating this equipment.

### **ONLY YOU CAN PREVENT ACCIDENTS!!**

### **SPECIFICATIONS & FEATURES**

CHIPPER INFEED OPENING: Outer, 14-5/8" x 21" - Inner, 4-1/8" x 6-5/16". 7 Gauge Steel.

CHIPPER HOPPER COVER: Hinged, 11 Gauge Steel.

CHIPPER DISC HOUSING: Lockable, Hinged, 7 Gauge Steel, Continuous Welds.

CHIPPER/ SHREDDER ASSEMBLY: 3/4" thick x 16" Diameter Impeller with 4 fully welded and gusseted

blower paddles. 1-1/2" TG&P x 27-36/64" Shaft, Welded Flail Shaft

Bracket assembly on 2" Diameter Tube.

CHIPPER BLADES: 4" x 5" x 1/2" Thick, Double Sided, Qty. 2. BED KNIFE: 1/2" x 4" x 6-3/4", Adjustable & Sharpenable.

SHREDDER INFEED OPENING: Outer, 15-13/16" x 13-13/16" - Inner, 10" x 8". 11 Gauge Steel

SHREDDER HOPPER COVER: Hinged, 11 Gauge Steel.

SHREDDER BLADES: Quantity 12, Hardened Steel on 4- Hardened Steel Shafts.

VACUUM HOSE: Clear PVC Flex Hose, 10" Diameter x 10' Long.

VACUUM HOSE HANDLE: 11 Gauge Steel, with Welded Handle and Rubber Hand Guard.
VACUUM HOSE HANGER: Removeable Hose Hanger for Ease of Transportation & Operation.
EXHAUST CHUTE: 360 Degree Swivel, No Tools Necessary for Adjustment. Easy Adjust

Exhaust Deflector.

ENGINE: Briggs & Stratton, 16HP, V-Twin OHV Vanguard, Pull Start. 9Qt. Fuel

Tank.

BATTERY: 12 Volt.

CLUTCH: Centrifugal Clutch.

AXLE: Torflex, 1100 lb. Cap. Idler. TIRE/WHEEL ASSEMBLIES: 18.5 x 8.5-8 Over the Road Tires.

TONGUE: 2" x 3" x 1/4" Rectangular Steel Wall, Fully Welded and Gusseted.

HITCH: 2" Ball Coupler, with Safety Chains.

JACK: 1000 lb. Swivel, Height Adjustable, Bolt on with Castor Wheel.

FENDERS: Heavy Duty, Diamond Plate Steel.

TOW FRAME: 3" X 4" X 3/16" Rectangular Steer, Fully Welded and Gusseted.

BEARINGS: Heavy Duty, Cast Iron, Greaseable & Self Centering.

PULLEYS: Cast Iron with Taper Lock Centers. BELTS: Heavy Duty Double Banded Belt.

DEBRIS BAG: Heavy Duty, Nylon, 26" x 36" with Lockable Draw String.

OPTION STORAGE SHELF: Bolted on 11 Gauge Steel.

GUARDS/DECALS: All Moving Parts Guarded. Full Set of Safety Decals.

PAINT: Orange, Polyester Powder Coat Paint Provides Excellent Outdoor

Weatherability and Offers Protection Against Ultra Violet

Discoloration. All Parts Painted Separately.

DIMENSIONS: Length: 7' 11"

Width: 5'

Height: 4' toTop of Shredder Infeed

Specifications & Options are subject to change without notice. 11/08

# **MACHINE REGISTRATION**

MANUFACTURED BY:	SALSCO, INC.  105 School House Rd., Cheshire, CT 06410  800-872-5726, 203-271-1682, 203-271-2596 (Fax)  sales@salsco.com www.salsco.com
THIS MANUAL COVERS MODEL (s): (	616CSV, Chipper Shredder Vacuum
± • • • • • • • • • • • • • • • • • • •	inue, add improvements to, or change the design of any model o improve existing machines, either by changing the design or
±	cy of SALSCO to update existing machines at its own ns will be made in such a way that they can be "Retro Fit" if so
Record in the space provided below the monumbers for future reference.	odel and serial number of this unit. Please retain these
No parts orders will be accepted <b>WITHOU</b> numbers are listed in this manual.	UT MODEL NUMBERS OR PART NUMBERS. All part
Serial Number	Model Number
NOTE: Be sure to complete your warranty claims.	y card. This will insure immediate processing of any warranty
READ AND UNDERSTAND THIS	S MANUAL BEFORE STARTING THE MACHINE
11/08	

### **CAUTIONS**

### SALSCO CHIPPER / SHREDDER / VAC

- 1. **ALWAYS** use protective eyewear when machine is in operation.
- 2. **ALWAYS** use gloves and wear ear protection when machine is in operation.
- 3. **NEVER** put hands into or near Chipper/Shredder/Vac intake or discharge openings.
- 4. **NEVER** run with guards removed.
- 5. **ALWAYS** allow machine to cool off, remove key and put engine in neutral before attempting any maintenance, or repair.
- 6. **DO NOT** operate with loose clothing or long unrestrained hair. Be sure vines and branches are not wrapped around your body parts.
- 7. **DO NOT** operate on ice or any other slippery surface. Be sure area around machine is clear and clean. You don't want to trip into the machine.
- 8. **NEVER** leave machine running unattended, especially around youngsters or persons not instructed in the safe operation of this machine.
- 9. **NEVER** do any work on this machine without disconnecting the spark plug.
- 10. **READ** federal guidelines (pages 9 10) provided with this manual.

### BRUSH CHIPPERS ANSI Z133.1-2006

# American National Standard for Arboricultural Operations Safety Requirements

### 5.3 Brush Chippers

- 5.3.1 The items contained in section 5.1 shall always be included in the review of this section.
- 5.3.2 Access panels (for example, guards) for maintenance and adjustment, including discharge chute and cutter housing, shall be closed and secured prior to starting the engine of brush chippers. These access panels shall not be opened or unsecured until the engine and all moving parts have come to a complete stop (see Annex C, General Safety Procedures That Apply to All Tree Work).
- 5.3.3 Rotary drum or disc brush chippers not equipped with a mechanical infeed system shall be equipped with an infeed hopper not less than 85 inches (2.15 m) measured from the blades or knives to ground level over the center line of the hopper. Side members of the infeed hopper shall have sufficient height so as to prevent workers from contacting the blades or knives during operations.
- 5.3.4 Rotary drum or disc brush chippers not equipped with a mechanical infeed system shall have a flexible anti-kickback device installed in the infeed hopper to reduce the risk of injury from flying chips and debris.
- 5.3.5 Chippers equipped with a mechanical infeed system shall have a quick-stop and reversing device on the infeed system. The activating mechanism for the quick-stop and reversing device shall be located across the top, along each side, and close to the feed end of the infeed hopper within easy reach of the worker.
- 5.3.6 Vision, hearing, and/or other appropriate personal protective equipment shall be worn when in the immediate area of a brush chipper in accordance with section 3.4, Personal Protective Equipment.
- 5.3.7 Arborists, mechanics, and other workers shall not, under any circumstances, reach into the infeed hopper when the cutter disc, rotary drum, or feed rollers are moving.
- 5.3.8 When trailer chippers are detached from the vehicles, they shall be chocked or otherwise secured in place.
- 5.3.9 When in a towing position, chipper safety chains shall be crossed under the tongue of the chipper and properly affixed to the towing vehicle.
- 5.3.10 See section 8.6, Brush Removal and Chipping, for additional requirements.

# BRUSH REMOVAL AND CHIPPING ANSI Z133.1-2006

# American National Standard for Arboricultural Operations Safety Requirements

### 8.6 Brush Removal and Chipping

- 8.6.1 Traffic control around the jobsite shall be established prior to the start of chipping operations along roads and highways (see section 3.2, Traffic Control Around the Jobsite).
- 8.6.2 Brush and logs shall not be allowed to create hazards in the work areas.
- 8.6.3 To prevent an entanglement hazard, loose clothing, climbing equipment, body belts, harnesses, lanyards, or gauntlet-type gloves (for example, long-cuffed lineman's or welder's gloves) shall not be worn while operating chippers.
- 8.6.4 Personal protective equipment shall be worn when in the immediate area of chipping operations in accordance with section 3.4, Personal Protective Equipment, of this standard.
- 8.6.5 Training shall be provided in the proper operation, feeding, starting, and shutdown procedures for the chipper being used.
- 8.6.6 Maintenance shall be performed only by those persons authorized by the employer and trained to perform such operations.
- 8.6.7 Brush and logs shall be fed into chippers, butt or cut end first, from the side of the feed table center line, and the operator shall immediately turn away from the feed table when the brush is taken into the rotor or feed rollers. Chippers should be fed from the curb-side whenever practical.
- 8.6.8 The brush chipper discharge chute or cutter housing cover shall not be raised or removed while any part of the chipper is turning or moving. Chippers shall not be used unless a discharge chute of sufficient length or design is provided that prevents personal contact with the blades (see Annex C., General Safety Procedures That Apply to All Tree Work).
- 8.6.9 Foreign material, such as stones, nails, sweepings, and rakings, shall not be fed into chippers.
- 8.6.10 Small branches shall be fed into chippers with longer branches or by being pushed with a long stick.
- 8.6.11 Hands or other parts of the body shall not be placed into the infeed hopper. Leaning into or pushing material into infeed hoppers with feet is prohibited.
- 8.6.12 While material is being fed into the chipper infeed hopper chute, pinch points continually develop within the material being chipped and between the material and machine. The operator shall be aware of this situation and respond accordingly.
- 8.6.13 When feeding a chipper during roadside operations, the operator shall do so in a manner that prevents him or her from stepping into traffic or being pushed into traffic by the material that is being fed into the chipper.
- 8.6.14 When using a winch in chipper operations, the operator shall ensure that the winch cable is properly stored before initiating chipper operations.
- 8.6.15 Refer to section 5.3, Brush Chippers, for additional information.

### **OPERATING INSTRUCTIONS**

### SALSCO CHIPPER / SHREDDER / VAC

- 1. Be sure all guards are in place.
- 2. Check both chambers to be sure they are free and clear of debris.
- 3. Check engine oil and fuel levels, as per engine manufacturers specifications.
- 4. Set engine throttle just above idle, and set choke.
- 5. Start engine and let idle for a few minutes to warm up.

# \*CAUTION: NEVER LOOK INTO EITHER CHUTE. NEVER REACH, FOR ANY REASON, INTO ANY PART OF THIS MACHINE.

- 6. Bring engine up to full R.P.M. in small increments. Unit is ready to use when engine is running at full R.P.M.
- 7. In chipper side, machine will take a maximum of 3" diameter limbs and branches.
- 8. In shredder hopper, machine will take a maximum of 1" diameter branches, leaves, paper, etc.

# \*CAUTION: WHEN USING SHREDDER SIDE, BE SURE BRANCHES, VINES, ETC. ARE NOT WRAPPED AROUND YOUR BODY PARTS.

9. Rake leaves, small branches and leftover debris into hose. **HINT:** Leave hose attached to bungee cord and if debris gets stuck in hose, shake hose to loosen debris.

### HINTS

- 1. When putting brush in shredder hopper, throw material in and let it go, do not put it in. IF IT GETS STUCK, LEAVE IT. The next branch will pull it in. **DO NOT REACH INTO HOPPER.**
- 2. When using the chipper side and you have a **SHORT PIECE OF WOOD BOUNCING AROUND IN THE HOPPER, LEAVE IT**. The next branch will push it in. **DO NOT REACH INTO THE HOPPER FOR ANY REASON.**
- 3. When at low idle, you may hear a loud clanking noise. This is most likely the flail blades. Noise should disappear with a higher R.P.M.
- 4. When feeding leaves into the shredder hopper or vacuum hose, feed them slowly. A large volume of wet leaves at once can clog the machine.

### **OPERATING INSTRUCTIONS**

(Continued)
SALSCO CHIPPER / SHREDDER / VAC

5.	Before turning machine off, let it run at full RPM a few minutes to make sure that all material
	has been discharged.

6.	. When machine is new or when putting on a new belt: apply a finger full of grea	se to the
	underside of belt. Be sure engine is off. NEVER REACH INTO BELT AR	EA OI
	REHIND RELT CHARD WHILE ENGINE IS RUNNING	

NEVER REACH INTO, OR LOOK INTO CHUTES OR HOPPERS FOR ANY REASON WHILE RUNNING MACHINE.

WHILE PERFORMING MAINTENANCE OR REPAIR, ALWAYS REMOVE KEY FROM ENGINE. ENGINE IS IN NEUTRAL.

### SERVICE SCHEDULE

### SALSCO CHIPPER / SHREDDER / VAC

- 1. ENGINE Follow service and maintenance schedule set forth by manufacturer in engine manual.
- 2. Grease main bearings once a day or as needed. **DO NOT OVER-GREASE.** Wipe extra grease off bearings. Grease engine slides weekly.
- 3. Be sure to clean entire machine, especially around engine box, after using.
- 4. TO SHARPEN/REPLACE CHIPPER BLADES: Remove key from engine. Remove spark plug wire. Engine is in neutral. Remove bolts on impeller housing and open housing. Sharpen blades as you would sharpen a lawn mower, under angle edge only. Sharpen blades as evenly as possible.

CAUTION: DO NOT, UNDER ANY CIRCUMSTANCES, START ENGINE WHEN UNIT IS OPEN OR AT ANY TIME WHEN PERFORMING SERVICE OR MAINTENANCE.

CAUTION: When installing blades, be sure to use Locktite (Salsco uses Blue 242 Locktite) and replace all hardware.

# CALL Salsco, Inc., 800-872-5726, OR EMAIL US <a href="mailto:sales@salsco.com">sales@salsco.com</a> AND REQUEST INFORMATION ON OUR BLADE SHARPENING SERVICE!

**HINT:** It is strongly recommended to have a set of blades and screws on the shelf to prevent downtime.

**HINT**: Blades need sharpening when unit stops or slows down feeding itself. If you have to push material in, then the chipper blades need to be sharpened.

5. **REPLACE FLAIL BLADES**: Remove key from engine. Engine is in neutral. Loosen split collars, remove damaged flail blades from shaft. Flail blades cannot be sharpened. Replace damaged flail blades and reassemble. Be sure when replacing flail blades to put biting edge on leading side into rotation.

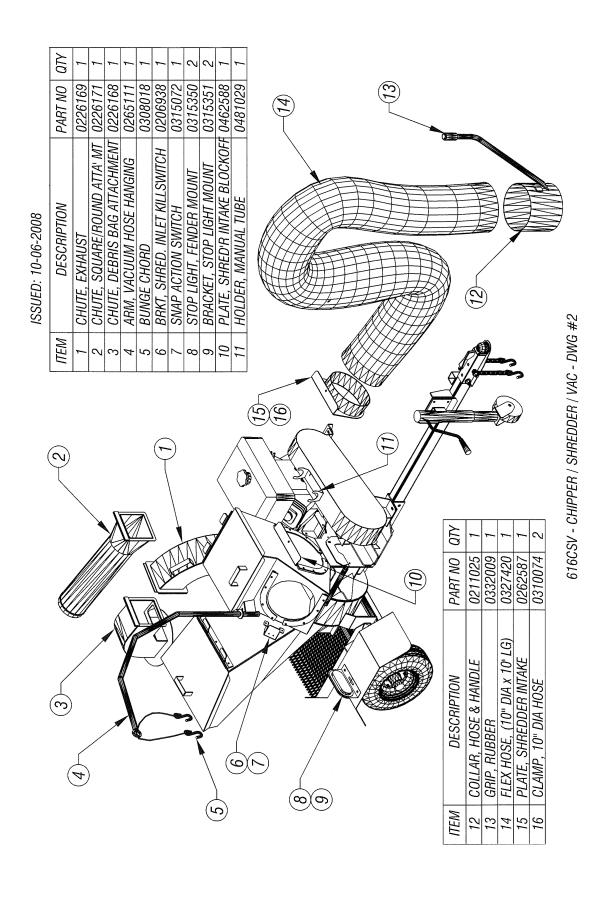
**HINT**: Pay attention to spacer positions.

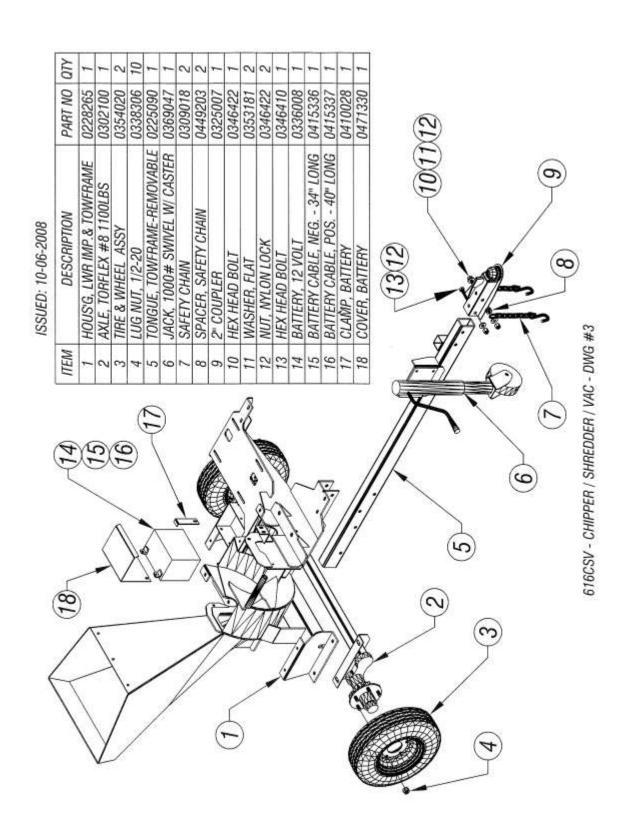
Check belt periodically. Tighten as necessary. Remove key from engine, engine is in neutral. Remove belt guard to tighten belt.

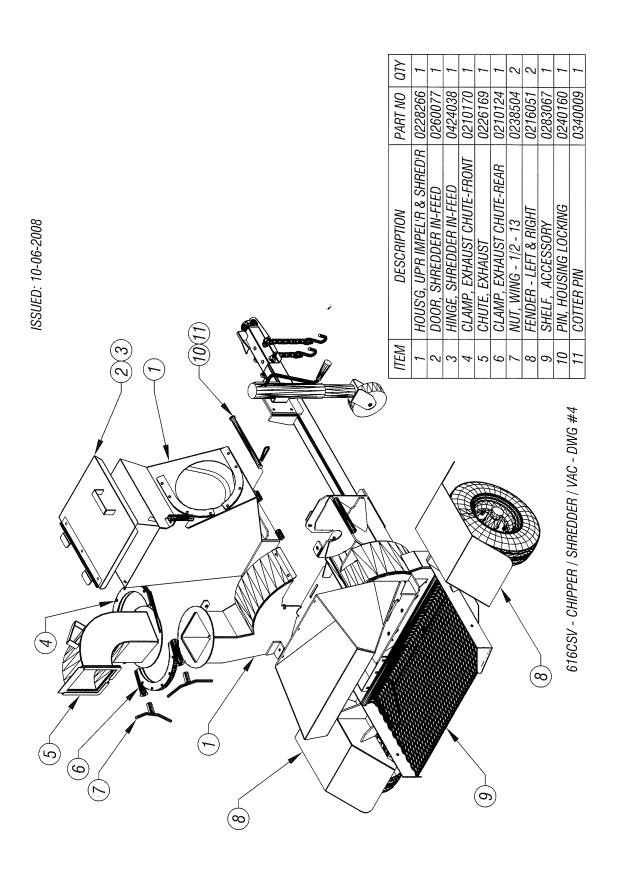
HINT: When machine is new or when putting on a new belt, apply a finger full of grease to underside of belt.

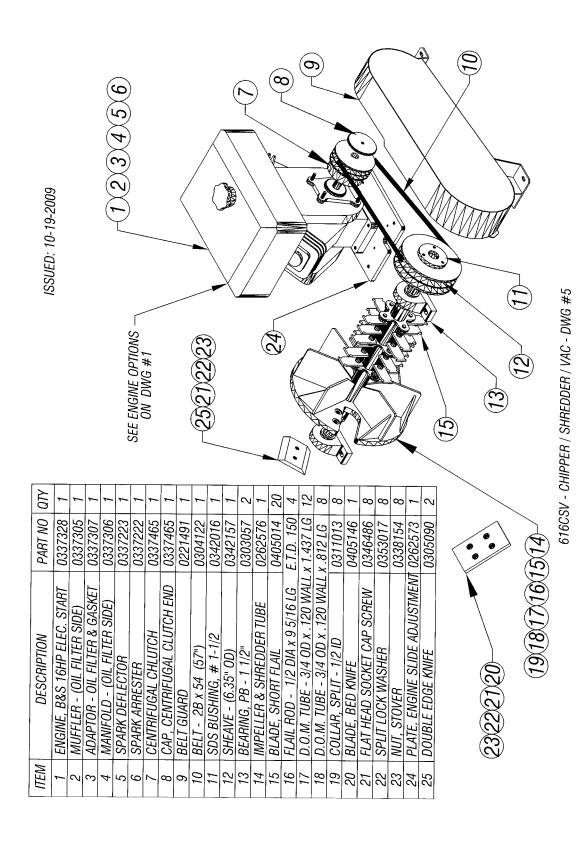
### ATTENTION TO SERVICE AND MAINTENANCE PREVENTS DOWNTIME

616CSV - CHIPPER / SHREDDER / VAC - DWG #1







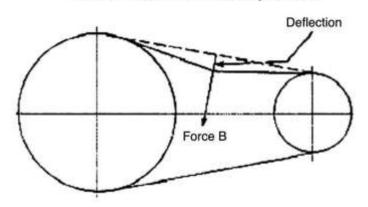


Below is a quick reference chart for various "Flat Head Cap Screws" and the torque recommendations.

## **VALUES ARE STATED IN FOOT POUNDS**

BOLT SIZE	Thds Per Inch	SAE Grade 5	SAE Grade 8
1/4	20	10	14
·	28		
5/16	18	19	29
	24		
3/8	16	33	47
	24		
7/16	14	54	78
	20		
1/2	13	78	119
	20		
9/16	12	114	169
	18		
5/8	11	154	230
	11		
3/4	10	257	380
	10		
7/8	9	382	600
	9		
1	8	587	700
	8		

### Drive Belt Tension Measurement by Deflection



Deflection should be 3/8" when 8-12 lbs. push is applied at "B"

### WARRANTY POLICY

Your Salsco Commercial or Turf Equipment product is a commercial type product and is normally manufactured and sold for commercial or industrial use. Salsco will, for the original purchaser, for one (1) year from the date of purchase (90 days if used for rental purposes) repair or replace, free of charge, any part or parts found to be defective in material, workmanship or both. Any transportation or shipping charges will be borne by the purchaser. If, during the warranty period stated above, the product does not function properly due to defect, simply contact Salsco and follow the Warranty Procedures included in this manual.

This warranty does not include incidental or consequential damages and is exclusive of any implied warranties.

This warranty <u>does not</u> cover normal maintenance parts, including, but not limited to hoses, chains, belts, filters, lubricants, etc.

This warranty <u>does not</u> include parts or components, which are covered under the original manufacturer warranty, including, but not limited to engines, pumps, and motors.

### **WARRANTY PROCEDURE**

In order for Salsco to process your warranty claims in a timely manner you must follow the simple procedures listed below:

### MACHINE OR PART FAILURE

- a) Call our service department for helpful instruction on how to correct or repair the problem. Preventive maintenance will also be suggested.
- b) Fill in all information requested on warranty claim form, a copy of which is included in this manual, (date of purchase, company name, address, etc.).
- c) List all parts used. Make sure part numbers are correct. You can obtain these from your manual. Any parts that you believe to be defective or any parts that break should be retained for possible inspection until after the warranty has been paid or part has been replaced.

PLEASE NOTE: Warranty Claims will not be processed if Warranty Cards and Dealer Delivery Reports have not been returned to Salsco

PREVENTIVE MAINTENANCE IS YOUR BEST INSURANCE AGAINST EQUIPMENT FAILURE. BE SURE TO READ THIS MANUAL, ESPECIALLY THE MAINTENANCE, OPERATING AND CAUTION SECTIONS.

SALSCO, INC., 105 School House Rd., Cheshire, CT 06410 800-872-5726, 203-271-1682 203-271-2596 (Fax) sales@salsco.com, www.salsco.com

12/99

### WARRANTY CLAIM FORM

SALSCO, INC. 105 School House Rd. Cheshire, CT 06410 Phone:(203) 271-1682,(800) 872-5726

Fax: (203) 271-2596 Email: s.clark@salsco.com

Website: www.salsco.com

#### Date Submitted: END OWNER Work Order #: Phone: Name: Office Use Only Fax: Email: Date Rec'd Address: Cust ID: Salsco WC Salsco RA Date Approved: PURCHASED FROM Date Rejected: Phone: Name: Processed By: Fax: Email: Dir. Del Report on File: YES NO Address: Warranty Card on File: YES NO Part(s) Total: Labor Total: Equipment/Warranty Information (Must be complete) Date Failed: Total Approved: Purchase Date: Invoice # Approved/Rejected: Repair Date: Serial #: Model #: Name: Reason for Rejection: Primary Use: Hrs Used: Warranty Claim/Work Order#: Was a Salsco Return Authorization # issued for repairs or Suggested Preventative Maint: YES NO Return of Parts? Probable Cause of Failure: Work Performed/Comments on Repair: Submitted By: Shop Labor Rate: Printed Name: Total Labor Hours to Repair: Parts Required for repair Inv# Qty. Price Each | Total Salsco Part #: Description: S \$ \$ S

Fill in all information requested on warranty claim form.

## INCOMPLETE FORMS CANNOT BE PROCESSED & WILL BE RETURNED

List all parts used. Make sure part numbers are correct. Any parts that you believe to be defective or any parts that break should be retained for possible inspection until after the warranty has been paid or part has been replaced.

### Salsco, Inc. 105 School House Rd. 800-872-5726 Cheshire, CT 06410 sales@salsco.com 203-271-2596 (Fax) www.salsco.com 203-271-1682 DEALER DELIVERY REPORT MODEL SERIAL NO DEALER CITY PURCHASER (Lest Have or Company) **ADDRESS** The undersigned dealer warrants that the above-described machine was The undersigned purchaser certifies that the operation and maintenance of the above-described machine have been explained to him; acknowledges receipt of a copy of the Owners's Instruction Manual and Our Warranty Policy printed in carefully inspected, adjusted and prepared for delivery before delivery to the purchaser; that both the operation and maintenance of the machine were explained to the purchaser; and that a copy of the Owner's Instruction Manual said Instruction Manual and Caution Notes. I also understand that it is my were given to the purchaser and his attention called to Our Warranty and any responsibility to explain and make Salsco manuals available to new operators. operating instructions included in the manual and caution notes. Dealer Sign By Phone

FACTORY COPY WHITE - DEALER'S COPY YELLOW - OWNER'S COPY PINK

SERIAL#		MODEL NO.	
SAL	SCO LIMITED WARRANTY	CARD	
1. DATE PURCHASED:			
2. PURCHASER:			
3. PURCHASER ADDRESS:			
4. EMAIL ADDRESS:			
5. DEALER:			
6. DEALER ADDRESS:			
7. WILL THIS EQUIPMENT BE U	JSED COMMERCIALLY?	☐ YES	□ NO
8. DID DEALER SERVICE THIS	EQUIPMENT AND INSTRUCT	YOU IN ITS CARE A	ND
SAFE OPERATION ?	*	☐ YES	□ NO
9. DID YOU RECEIVE AN "OPE	RATION & SERVICE MANUAL	AND SAFETY PAME	PHLET?
	•	☐ YES	□ NO
NOTICE SI	GNED		
		Purchaser	
IMPORTANT: THIS CARD MUST WITHIN 10 DAYS	FBE FILLED OUT COMPLETELY OF PURCHASE DATE, OR YOU		
VOIDED.			
WHITE - DEALER	YELLOW - OWNER	CARD - FACTOR	Y

## **SERVICE RECORD**

If kept properly, this schedule will help track problems in the future.

Ï					Total Hours
Date	Qty.	Part #	Description of Work Done	Hours Used	to Date
			THE STATE OF THE S		
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MODEL #	S/N	
	and the second s	DATE PURCHASED: