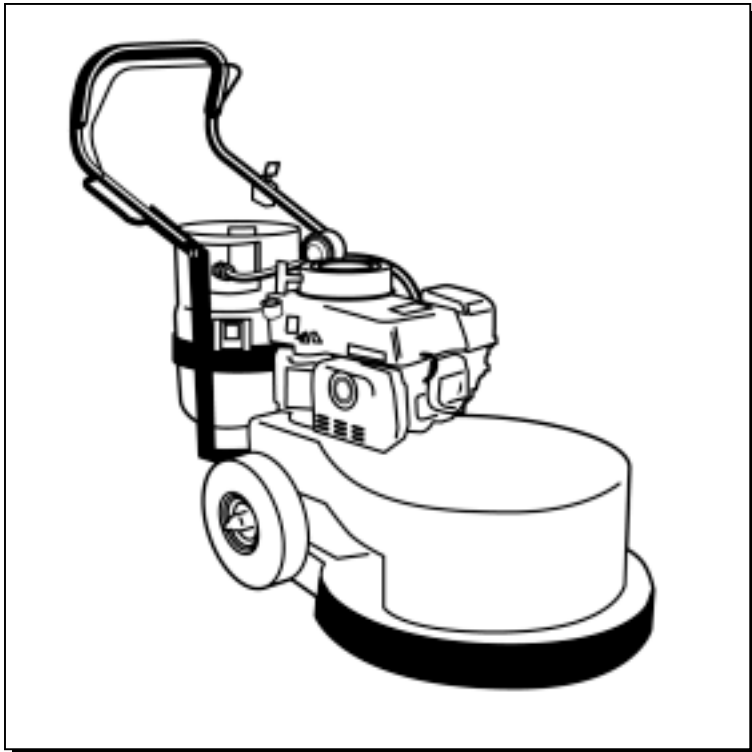


# WINDSOR LIGHTNING Stripper



## PROPANE POWERED STRIPPER

Operating Instructions



MODELS: LS24

**QUEST**® ... for Continuous Improvement.  
Windsor's Quality Management System is Certified ISO 9001.

*Read these instructions before using the machine*



98625 09/16/99



**CLICK TO ORDER PARTS**

## IMPORTANT SAFETY INSTRUCTIONS

The following symbols are used throughout this guide as indicated in their descriptions:

### HAZARD INTENSITY LEVEL

There are three levels of hazard intensity identified by signal words – **WARNING** and **CAUTION** and **FOR SAFETY**. The level of hazard intensity is determined by the following definitions:



**WARNING** – Hazards or unsafe practices which COULD result in severe personal injury or death.



**CAUTION** – Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

**FOR SAFETY: To identify actions which must be followed for safe operation of equipment.**

Report machine damage or faulty operation immediately. Do not use the machine if it is not in proper operating condition.

Following is information that signals some potentially dangerous conditions to the operator or the equipment. Read this information carefully. Know when these conditions can exist. Locate all safety devices on the machine. Please take the necessary steps to train the machine operating personnel.

**For SAFETY:**

**DO NOT OPERATE MACHINE:**

- **Unless Trained and Authorized.**
- **Unless Operation Guide is Read and understood.**
- **Never run engine in a closed building or confined area.**
- **In Flammable or Explosive area.**
- **In areas with possible falling objects.**

**WHEN SERVICING MACHINE:**

- **Avoid moving parts. Do not wear loose clothing; jackets, shirts, or sleeves when working on the machine.**
- **Use Windsor approved replacement parts.**

**NOTICE:**

**OIL ALERT BUZZER**

The "OIL ALERT" buzzer will warn you before the engine oil falls below the safe operating limit. If the buzzer sounds, stop the engine immediately and add oil.

The buzzer indicates insufficient oil. Running the engine with insufficient oil can cause serious engine damage.



**WARNING: Lethal Exhaust Gases**

Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, tasteless, and can cause death if inhaled. Avoid inhaling exhaust fumes and never run the engine in a enclosed building or confined area without proper ventilation.

Although LPG burns more efficiently and emits less carbon monoxide than gasoline, some carbon monoxide is produced. Avoid inhaling exhaust gases – especially over prolonged periods of time.



**To reduce the risk of fire, electric shock, or injury:**

1. **Use** only as described in this manual. Use only manufacturer's recommended attachments.
2. **Use** indoors only. Do not use outdoors and do not expose to rain.
3. **Machine can cause a fire** when operating near flammable vapors or materials. Do not operate this machine near flammable fluids, dust or vapors.
4. This machine emits **lethal exhaust gas**. Ensure the working area is well ventilated.
5. Keep hands, feet, strings and ties from all moving parts while the machine is in operation.
6. The **exhaust system gets very hot**, keeps hands, clothing and any items that can burn away from the engine while hot.
7. **Do not** allow engine to run unattended.
8. **Do not** leave the machine unattended. Turn machine off when not in use and **before** servicing.
9. If the machine is **not working properly**, has been dropped, damaged, left outdoors, or dropped into water, return it to an authorized service center.
10. **Do not** allow to be used as a toy. **Close attention** is necessary when used by or near children.
11. **Do not** operate machine with any opening blocked. Keep openings free of debris that may reduce air flow.
12. **Keep** hair, loose clothing, fingers, and all parts of the body away from openings.
13. **Do not** use machine as a step.

## SAVE THESE INSTRUCTIONS

# OPERATING INSTRUCTIONS AND STARTING PROCEDURES

Thank you taking the time to select the best propane powered floor care equipment being manufactured today. Windsor machines are built tough and durable, however do not abuse the machine. With proper care and maintenance, this machine will give you trouble free operation for years to come.

Before and operation should begin, you first should read your Engine Operation Manual and your Owner's Manual.

## OPERATING INSTRUCTIONS

Your machine is shipped ready for your operation, however there is no fuel in the tank. When having the tank filled you must make sure the tank is never filled. The best way to do this is to tell the filling station to weigh the tank full. On an aluminum tank, it should weigh no more than 36 pounds and on a steel tank no more than 43 pounds.

**Adjustable Handle:** Adjust the handle for comfortable operation. Use two 3/4" wrenches and loosen handle. Adjust to comfortable height and re-tighten bolts to 40 – 50 ft/lbs.

**Check Oil Level:** The importance of checking and maintaining the proper oil level in the crank case cannot be overemphasized. Check oil **before each use** as follows:

1. Make sure the engine is stopped, level, and cool so that the oil has had time to drain into the sump.
2. To keep dirt, spraybuff, wax, etc. out of the engine clean the area around the oil fill cap/dipstick before removing it.
3. Unthread and remove the oil fill cap/dipstick: Wipe oil off. Reinsert the dipstick into the tube and rest the oil fill cap on the tube. Turn the cap clockwise and withdraw it again to take the reading.
4. Remove the dipstick and check the oil level. The oil level should be up to, but not over, the "F" mark on the dipstick.
5. If the level is low, add oil of the proper type, up to the "F" mark on the dipstick. Always check the level with the dipstick before adding more oil.

*Note: To prevent extensive engine wear or damage, always maintain the proper oil level in the crankcase. Never operate the engine with the oil level below the or above the limit mark on the dipstick.*

**Connect Fuel Hose:** Connect fuel hose to tank by screwing the hose fitting to the tank. You must tighten all the way down to make fuel connection. Turn tank knob slowly until you hear flow of fuel into fuel system.

## STARTING PROCEDURES

The engine is furnished with a 110 volt AC starting motor and push button starting switch.

The 110 volt system is plugged into a standard 3 prong 110V AC receptacle for starting. The engine also has a retractable starter for manual starts when AC is not available.

*Note: If buffer unit does not have a clutch to disengage load, push handles down to raise buffer pad off the floor for starting. Keep hands and feet away from turning pad.*

For a 110 volt AC starting motor only:

1. Check Oil Level.
2. Plug 110 Volt Starter Cord Into Ac Receptacle.
3. Set Throttle Cable To The Choke Position.
4. Open Tank Valve To The Open Position.
5. Push Both Primer Buttons.
6. Push Starter Button Until Engine Starts (No Longer Than 10 Seconds).
7. When Engine Starts, Move Throttle Cable To The Slow Position.
8. Unplug Starter Cord From AC Receptacle.
9. Move Throttle Control Position To Desired Speed.

## REWIND STARTER PROCEDURE

Pull the starter grip lightly until resistance is felt then pull briskly.

# **STOPPING AND MAINTENANCE PROCEDURES**

## **STOPPING ENGINE**

Turn fuel valve on LPG tank to full closed position and allow the engine to continue running until it runs out of fuel.

In an emergency, hold down throttle cable to the stop position.

NOTE: Backfiring may occur when using the emergency stop method.

## **MAINTENANCE PROCEDURES**

### **Honda Engine: Read Owner's Manual**

Good maintenance is essential for safe, economical and trouble free operation. It will also help reduce air pollution.

#### **Daily or Before Starting Engine:**

- Check Oil Level (Add If Necessary)
- Check Air Filter (Replace If Necessary)
- Check Cooling Air Filter
- Check Fuel Hoses
- Check Belt Tension and For Loose Nuts & Bolts
- Check Engine Cooling Fins

#### **First Month or 20 Hours:**

Change Engine Oil (use SAE30 API Service Classification SH Minimum)

#### **Every 3 Months or 50 Hours:**

Change Engine Oil  
Change Air Filter

#### **Every 6 months or 100 Hours:**

Check and Adjust Spark Plug (gap @.020)  
Clean Spark Arrestor

#### **Every Year or 300 Hours:**

Replace Air Filter and Pre-Air Filter (190038/190012)  
Replace Spark Plug (190015)  
Check and Adjust Idle Speed and Valve Clearance

## **CO DETECTOR AND TANK STORAGE**

### **“CO” - CARBON MONOXIDE DETECTOR (Part number: 191125)**

The “CO” carbon monoxide detector detects carbon monoxide before it reaches dangerous levels. This detector is a must for those who run propane powered equipment in or around enclosed areas.

The CO Detector Is For Everyone’s Protection  
Against Carbon Monoxide Poisoning

The detector is effective For 30 Days After  
Package Has Been Opened

Mount With Self Adhesive Strip On The Side Of  
Your Handle Or Locate It Around The Operator’s  
Collar

**If The Orange Disk On The Detector Changes  
To Gray Or Black - Your Carbon Monoxide  
Levels Are At A Dangerous Level**

If the orange disk changes to gray or black you must turn your buffer off immediately and return it to your nearest authorized engine service technician for an emissions test. Do Not Restart the buffer or stripper until the emissions have been checked and corrected.

For replacement CO detectors, contact your Windsor Inc. distributor for availability and pricing.

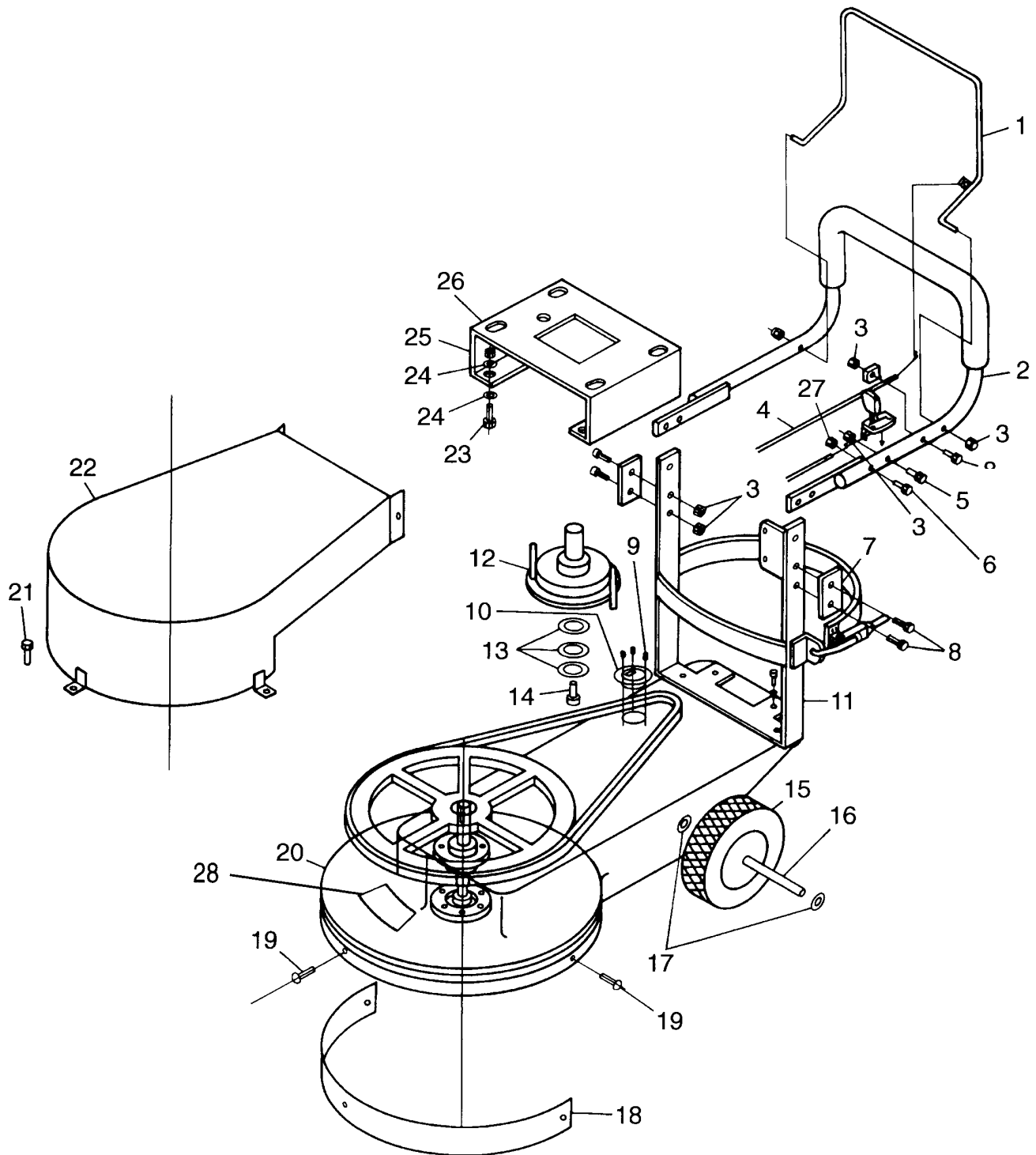
This is for your protection as well as your customers. A must for safe operation and maximum efficiency on your equipment.

### **TANK STORAGE AND MAINTENANCE**

The Worthington gas cylinders designed for vapor withdraw. The fuel lockoffs, regulators, and engines are also designed for vapor withdraw. “Fuel freeze-ups” or “frozen regulators” are a result of liquid propane being introduced into the system. To prevent these “freeze-ups” from occurring follow this important procedure:

1. Always store tanks in the upright position (valves up) outside and in a well ventilated area.
2. Do not overfill - the best gauge is a scale - never allow tank to weigh over 36 pounds for aluminum tank and 43 pounds for a steel tank.

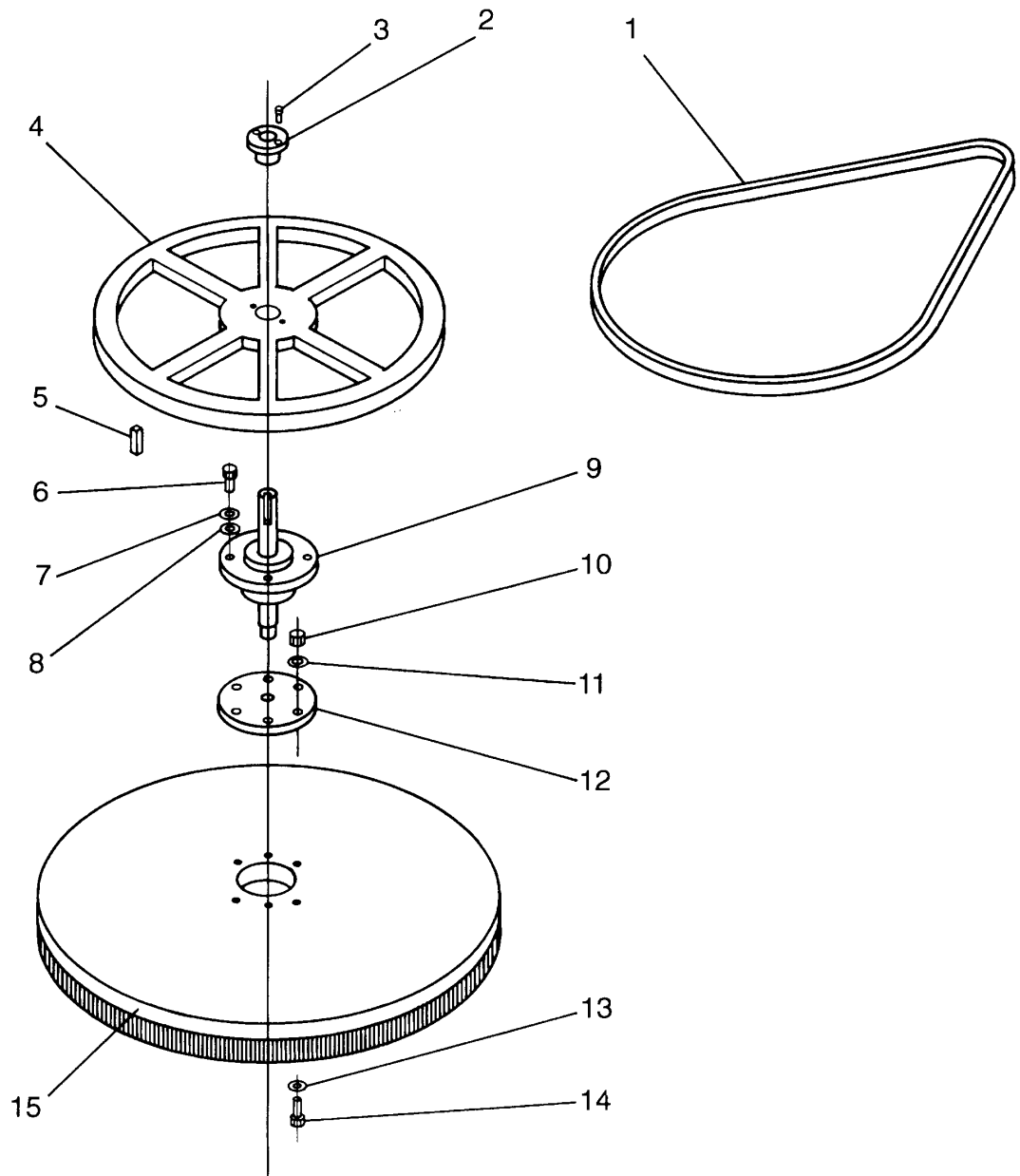
# FRAME ASSEMBLY PARTS



## FRAME ASSEMBLY PARTS LIST

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	191064		CLUTCH BRAKE HANDLE		
2	1910641		UPPER HANDLE (STRIP)		
3	57047		NUT, 1/4-20 HEX NYLOCK		
4	191132		CABLE		
5	70105		SCR, 1/4-20 X 1.75 HHCS PLTD		
6	70209		SCR, 10-32 X 1.75 PPHMS PLTD		
7	191092		HANDLE BRACKET		
8	70505		SCR, 1/4-20 X 1 HHCS GR5 PLTD		
9	70518		SCR, 6-32 X 2.50 PPHMS SS		
10	191076		HOUR METER		
11	191063L		LOWER HANDLE		
12	191067		CLUTCH		
13	192050		WASHER, CLUTCH SPACER		
14	70665		SCR, 7/16-20 X 1.75 HHCS GR5 PLTD		
15	191041		WHEEL, PNEUMATIC		
16	191042		AXLE, 5/8 X 24		
17	191043		COLLAR, LOCK #10		
18	1910347		SPLASH GUARD		
19	70218		SHOULDER BOLT 5/16 X 1/2		
20	1910022		DECK, 24"		
21	70670		SCR, 5/16-18 X 5/8 HHCS PLTD		
22	191038		BELT SHROUD		
23	70325		SCR, 5/16-18 X 1.25 HHCS GR5 PLTD		
24	87196		WASHER, 5/16 FLAT SAE GR8 ZINC/YLW		
25	57113		NUT, 5/16-18 HEX NYLOCK		
26	191036		MOTOR MOUNT		
27	57030		NUT, 10-32 HEX NYLOCK		
28	190048		LABEL, MAIN		
29	98721		SERVICE TAG		NOT SHOWN
30	14382		BAND, SERVICE TAG		NOT SHOWN

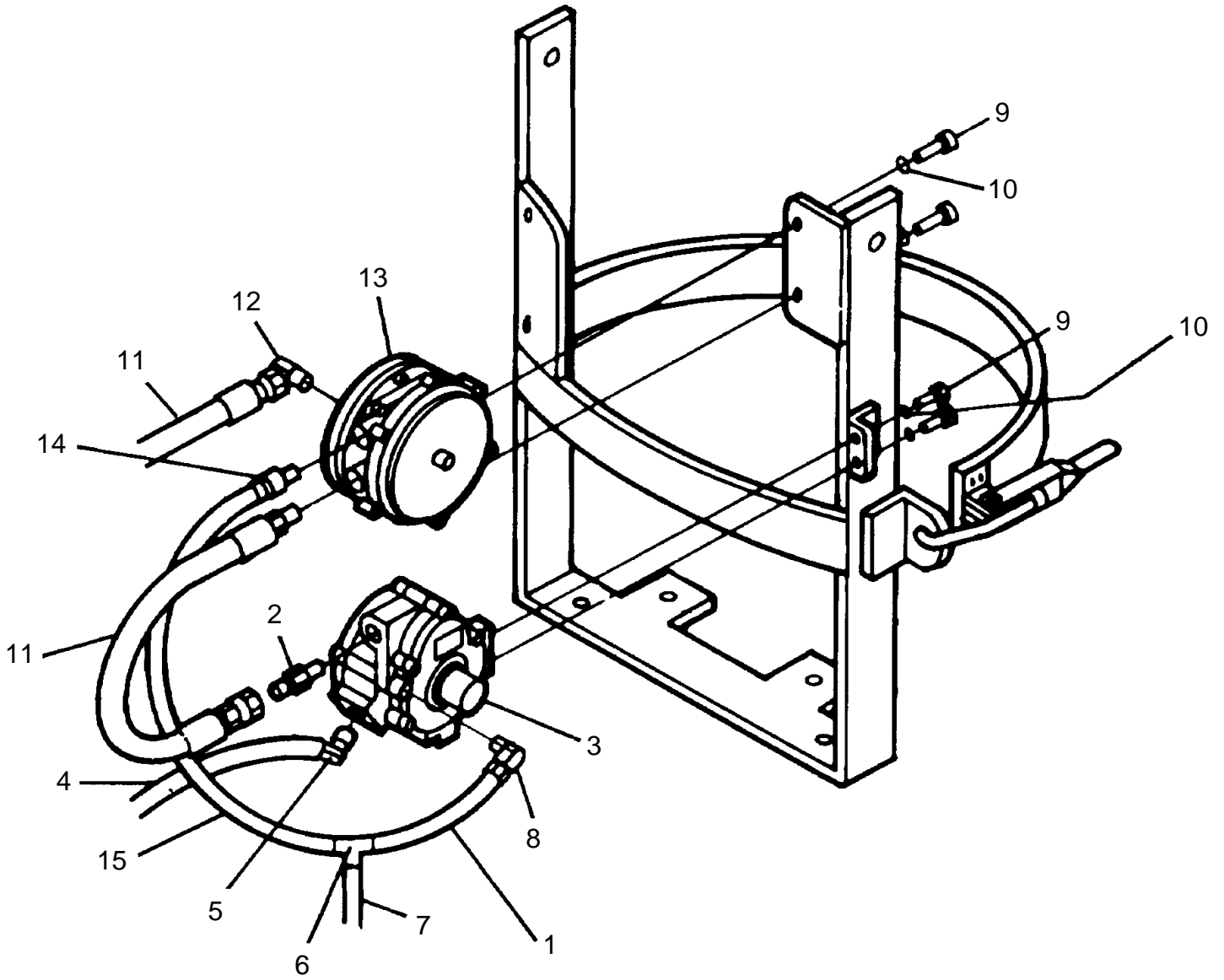
# DRIVE ASSEMBLY PARTS



## DRIVE ASSEMBLY PARTS LIST

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	191033		BELT, B72		
2	191029		BUSHING, 25MM		
3	70520		SCR, 1/2-13 X 1.75 HHCS GR5 PLT		
4	191032		PULLEY, 20"		
5	191136		KEY 7MM X 8MM		
6	70666		SCR, 7/16-1.25 HHCS GR5 PLTD		
7	87176		WASHER, 7/16 SPLIT LOCK PLTD		
8	87197		WASHER, 7/16 FLAT GR8 ZINC/YLW		
9	191045		FRONT END, EXTENDED		
10	57113		NUT, 5/16-18 HEX NYLOCK		
11	87196		WASHER, 5/16 FLAT SAE GR8 ZINC/YLW		
12	191047		PLATE		
13	87193		WASHER, 1/4 X 1.5 FENDER PLTD		
14	70320		SCR, 5/16-18 X 2" HHCS GR5 PLTD		
15	191039		STRIP BRUSH 24"		

# REGULATOR ASSEMBLY PARTS



## REGULATOR ASSEMBLY PARTS LIST

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	192013		VACUUM HOSE 4"		
2	191011		FITTING		
3	191083		FUEL REGULATOR		
4	192014		FUEL HOSE X 20"		
5	191010		FITTING		
6	192037		VACUUM TEE		
7	192015		VACUUM HOSE		
8	191012		FITTING		
9	70558		SCR, 1/4-20 X 5/8 HHCS PLTD		
10	87162		WASHER, 1/4 SPLIT LOCK PLTD		
11	191006		HOSE X 15 3/4"		
12	191013		FITTING		
13	191082		FUEL SHUTOFF		
14	191008		FITTING		
15	192016		VACUUM HOSE		

## **REGULATOR ASSEMBLY PARTS LIST**

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	190011		STARTER, ENGINE GXV340 HONDA		
2	190012		FILTER, PRE-CARB GXV340 HONDA		
3	190014		BONNETT FILTER, GXV340 HONDA		
4	190015		SPARK PLUG, GXV340		
5	190038		FILTER, AIR GXV340 HONDA		
6	191075		STARTER CORD, 10FT		
7	191091		TANK, PROPANE (ALUM)		

## **SUGGESTED SPARE PARTS**

REF	PART NO.	QTY	DESCRIPTION	SERIAL NO. FROM	NOTES:
	190038		FILTER, AIR GXV340 HONDA		
	190012		FILTER, PRE-CARB GXV340 HONDA		
	190014		BONNETT FILTER, GXV340 HONDA		
	190015		SPARK PLUG, GXV340		
	191132		CABLE		
	191041		WHEEL, PNEUMATIC 10"		
	191039		STRIP BRUSH, 24"		
	191033		BELT, B72		



## **LIMITED WARRANTY**

Windsor Industries, Inc. warrants new machines against defects in material and workmanship under normal use and service to the original purchaser. The warranty period is subject to the conditions stated below.

### **3 YEARS FOR PARTS AND 1 YEAR FOR SERVICE LABOR**

Exceptions: Rotationally molded polyethylene tanks carry a **6 year** parts and 1 year service labor warranty. VERSAMATIC® models carry a 3 year warranty on brush motors, vacuum motors, and belts, and a 1 year service labor warranty. SENSOR® models carry a 2 year warranty on vacuum motors and belts, and a 1 year service labor warranty. Extractor brush motors, pump motors, pc boards and electronics, vac motors (other than VERSAMATIC® and SENSOR®), pumps, and FLEXSOL™ diaphragms, all RADIUS™, all ACCESS™ and TITAN™1 carry a 1 year parts and service labor warranty. Propane equipment has a 1 year parts and service warranty. The Onan® engines have a 3 year manufacturers' warranty. The Honda® engines have a 2 year manufacturers' warranty. The engine warranty is administered through the engine manufacturer and must be repaired at an authorized service center.

Normal wear items including, but not limited to, belts, brushes, capacitors, carbon brushes, casters, clutches, cords, filters, finishes, gaskets, hoses, light bulbs, rectifiers, switches, squeegees, bearings, pulleys, relays, actuating cables, tires and wheels will be warranted for manufacturing defects for 90 days from the purchase date.

The warranty commences on the purchase date by the original end user from an authorized Windsor Agent, subject to proof of purchase. The Machine Registration Card must be completed and returned immediately at the time of purchase. If proof of purchase cannot be identified, the warranty start date is 90 days after date of sale to an authorized Windsor distributor. Parts replaced or repaired under warranty are guaranteed for the remainder of the original warranty period.

### **90 DAY WARRANTY EXTENSION AVAILABLE**

Upon receipt of the Machine Registration Card, Windsor will extend the warranty period an additional 90 days from the purchase date. Does not include items warranted 90 days for manufacturing defects.

### **STATED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED.**

Any statutory implied warranties, including any warranty of merchantability or fitness for a particular purpose, are expressly limited to the duration of this written warranty. Windsor will not be liable for any other damages, including but not limited to indirect or special consequential damages arising out of or in connection with the furnishing; performance, use or inability to use the machine. This remedy shall be the exclusive remedy of the buyer.

This warranty shall not apply to: 1.damage in transit; 2.misuse or abuse(including the use of incompatible or corrosive chemicals or overloading of capacity); 3. failure due to lack of proper maintenance and care (including cleaning); 4.any design alterations performed by an organization not authorized or specified by Windsor; 5.batteries and chargers. 6. high pressure washing. 7.electrical components exposed to moisture.

If difficulty develops during the warranty period, contact the authorized Windsor Agent from whom the product was purchased. Windsor, Inc. may elect to require the return of components to validate a claim. Any defective part to be returned must be shipped freight pre-paid to an authorized Windsor Distributor/Service Center or to the Windsor factory.

### **USE OF PARTS NOT APPROVED BY WINDSOR, INC. WILL VOID ALL WARRANTIES.**

This warranty is valid only for all products sold after July 1, 1995. A product sold before that date shall be covered by the limited Warranty in effect at the date of sale to the original purchaser.



**WINDSOR INDUSTRIES, INC., 1351 W. Stanford Ave., Englewood, CO 80110 USA**  
Phone: 303-762-1800 Fax: 303-762-0817 Internet: [www.windsorind.com](http://www.windsorind.com)