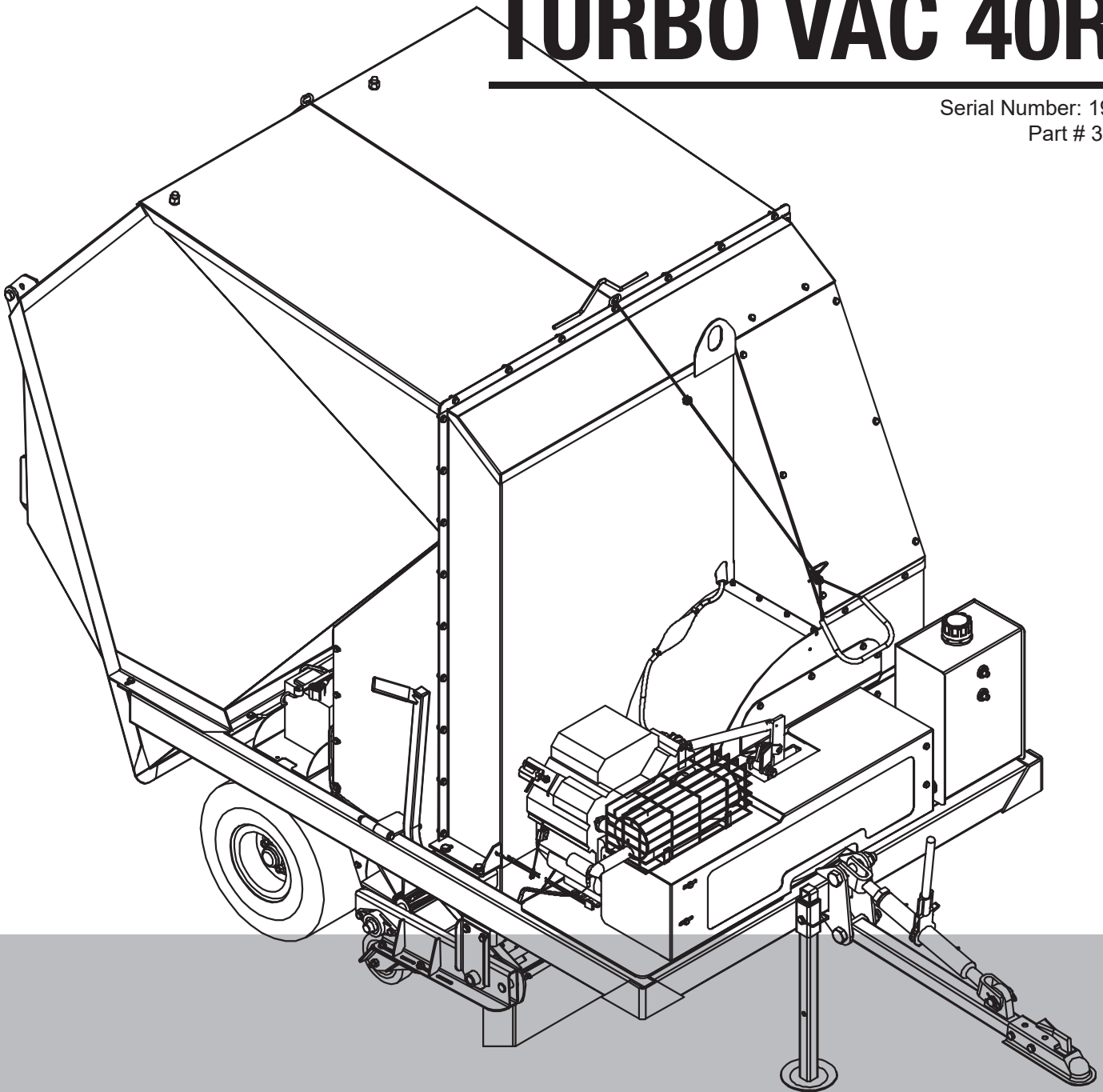


# TURBO VAC 40RE

Serial Number: 19A01+  
Part # 301042



## OPERATOR'S & PARTS MANUAL



***Thank you for purchasing a Harper Turbo Vac.***

As with all Harper products, the Harper Turbo Vac has been developed through tough design and testing procedures to produce a machine that can be relied on. This manual gives assembly, operating, and service information for Model TV40RE Turbo Vacs. Please read and understand all instructional material included with the Turbo Vac or its components before assembling and operating the equipment.

A Turbo Vac can present hazards to an operator who follows unsafe procedures in either the operation or maintenance of the unit. Therefore, SAFETY WARNINGS are presented at certain locations in the text.

**THIS SYMBOL:**



**SAFETY WARNING!**



**MEANING:** Failure to understand and obey this warning may result in injury to you or others. Whenever this symbol is used, please pay very close attention to the information presented, and make sure you fully understand. If you do not, contact your dealer or Harper Industries, Inc. for clarification.



**SAFETY WARNING!**



**ALL SHIELDS AND GUARDS MUST BE IN PLACE FOR PROPER AND SAFE OPERATION OF THIS EQUIPMENT. WHERE THEY ARE SHOWN REMOVED IN THIS MANUAL, IT IS FOR PURPOSES OF ILLUSTRATION AND INSTRUCTION ONLY. DO NOT OPERATE THIS EQUIPMENT UNLESS ALL SHIELDS AND GUARDS ARE IN PLACE.**

Harper Industries, Inc. is continually striving to improve the design and performance of its products. We reserve the right to make changes in specifications and design without thereby incurring any obligation relative to previously manufactured products.

© 2025 Harper Industries, Inc.

The Harper name is a registered trademark of Harper Industries, Inc. All other brand and product names are trademarks or registered trademarks of their respective companies.

## LIMITED WARRANTY

Harper Industries, Inc. (HII) warrants to each purchaser of a new Harper Turbo Vac from an authorized dealer or representative, that such equipment is free of manufacturer's defects in workmanship and materials which appear while in normal service for a period of ONE YEAR commencing with delivery to the original user.

The obligation of HII under this warranty is expressly limited, at our option, to replacement or repair at a service facility designated by Harper Industries or at the manufacturing plant in Harper, KS. A part will be replaced after inspection discloses it to have been defective. This warranty does not apply to defects caused by damage or unreasonable use (including failure to provide reasonable and necessary maintenance, or by performing functions without genuine Harper Turbo Vac accessories) while in the possession of the consumer.

Warranty is limited to parts, labor and ground freight delivery of replacement parts. HII shall not be liable for the consequential damages of any kind, including but not limited to consequential labor costs or transportation charges in connection with replacement or repair of defective parts.

This warranty does not apply to parts subjected to misuse, abuse, alteration, improper or inadequate maintenance, or normal wear (including belts, battery, chains, filters, knives, brush and broom).

Engines are not covered under this warranty. Refer to manufacturer's warranty for specific warranty information. Harper Industries, its agents or representatives, make or imply no other warranties.

Harper Industries makes no warranty with respect to trade accessories. They are subject to the warranties of their respective manufacturers.

ANY IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. HII makes no other express warranty, nor is anyone authorized to make any on behalf of HII.

For further information please contact your nearest Harper Turbo Vac dealer.

## Evaporative Emissions Control System Warranty

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and Harper Industries are pleased to explain the evaporative emission control system's warranty on your Harper Turbo VAC. In California, new equipment that use small off-engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. Harper Industries must warrant the evaporative emission control system on your small Turbo VAC for the period listed below provided there has been no abuse, neglect or improper maintenance of your equipment leading to the failure of the evaporative emission control system.

Your evaporative emission control system may include parts such as: carburetors, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps, connectors, and other associated components.

### MANUFACTURER'S WARRANTY COVERAGE:

This evaporative emission control system is warranted for two years. If any evaporative emission-related part on your equipment is defective, the part will be repaired or replaced by Harper Industries.

### OWNER'S WARRANTY RESPONSIBILITIES:

1. As the Turbo VAC owner, you are responsible for performance of the required maintenance listed in your owner's manual. Harper Industries recommends that you retain all receipts covering maintenance on your Turbo VAC, but Harper Industries cannot deny warranty coverage solely for the lack of receipts.
2. As the Turbo VAC owner, you should be aware that Harper Industries may deny you warranty coverage if your Turbo VAC or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.
3. You are responsible for presenting your Turbo VAC to a Harper Industries dealer as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact your authorized Harper Turbo VAC dealer or Harper Industries at (620) 896-7381.

## RECORDS

Date of Purchase \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Serial Number Machine \_\_\_\_\_

Dealer's Name \_\_\_\_\_

Serial Number Engine \_\_\_\_\_

Dealer's Phone \_\_\_\_\_



## Supplier's declaration of conformity



This is the Australian Communications and Media Authority (ACMA) approved form for a declaration of conformity under the following legislative instruments:

- > Radiocommunications Equipment (General) Rules 2021
- > Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017.

This is a sample form for a declaration of conformity under the Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015.

### Instructions for completion

**Do not return this form to the ACMA.** This completed form must be retained by the supplier as part of the documentation required for the compliance records. However, it must be made available for inspection by the ACMA when requested.

### Supplier's details (manufacturer, importer or authorised agent)

Company name (or individual)

TORO Australia Pty. Ltd
Trading as

ACN/ARBN

N1625

or

New Zealand IRDN

47 001 310 443

Street address (Australia or New Zealand)

53 Howards Rd
Beverly, S.A
POSTCODE 5009
Phone:

### Product details and date of manufacture

Product description – brand name, type, current model, lot, batch or serial number (if available), software/firmware version (if applicable)

Model No.	Product Description
900206	TV40 RE Base Machine - 20HP Kohler Engine

### Compliance – applicable standards and other supporting documents

Evidence of compliance with applicable standards may be demonstrated by test reports, endorsed/accredited test reports, certification/competent body statements.

Having had regard to these documents, I am satisfied the above-mentioned product complies with the requirements of the relevant ACMA standards made under the *Radiocommunications Act 1992* and/or the *Telecommunications Act 1997*.

List these documents including details of the standard title, number and, if applicable, number of the test report/endorsed test report or certification/competent body statement.

AS/NZS CISPR 12:2007


### Declaration

I hereby declare that:

1. I am authorised to make this declaration on behalf of the Company mentioned above
2. the contents of this form are true and correct
3. the product mentioned above complies with the applicable above mentioned standards and all products supplied under this declaration will be identical to the product identified above
4. I understand that giving false or misleading information is a serious offence.

**Note:** It is an offence to knowingly provide false or misleading information to a Commonwealth entity or a person who is exercising powers, performing functions under, or in connection with, a law of the Commonwealth. It is an offence to knowingly provide false or misleading information or documents in compliance or purported compliance with a law of the Commonwealth. (See sections 137.1 and 137.2 of the *Criminal Code Act 1995*.)

Penalty: 12 months imprisonment

<div>SIGNATURE OF SUPPLIER OR AGENT </div> <div>PRINT NAME Joe Biggerstaff</div>	<div>POSITION IN ORGANISATION VP of Engineering</div> <div>DATE 22-Jul-24</div>
---	---

The *Privacy Act 1988* (Cth) (the *Privacy Act*) imposes obligations on the ACMA in relation to the collection, security, quality, access, use and disclosure of personal information. These obligations are detailed in the Australian Privacy Principles.

The ACMA may only collect personal information if it is reasonably necessary for, or directly related to, one or more of the ACMA's functions or activities.

The purpose of collecting the personal information in this form is to ensure the supplier is identified in the 'declaration of conformity'. If this declaration of conformity is not completed and the requested information is not provided, a compliance label cannot be applied.

Further information on the Privacy Act and the ACMA's privacy policy is available at [www.acma.gov.au/privacypolicy](http://www.acma.gov.au/privacypolicy). The privacy policy contains details about how you may access personal information about you that is held by the ACMA, and seek the correction of such information. It also explains how you may complain about a breach of the Privacy Act and how we will deal with such a complaint.

Should you have any questions in this regard, please contact the ACMA's privacy contact officer on telephone on 1800 226 667 or by email at [privacy@acma.gov.au](mailto:privacy@acma.gov.au).

**EC declaration of conformity**  
**according to the EC Machinery Directive 2006/42 / EC, Annex II 1.A**

**Manufacturer:**

Harper Industries Inc.  
151 E US Highway 160  
Harper, Kansas, USA, 67058  
Phone: +1 (620) 896-7381

**Person established in the Community, who is authorized to compile the technical file:**

ProDoku  
Hartmut Hartmann, Dipl.-Ing. (FH)  
Wersener Holz 2a  
D-49504 Lotte  
Phone.: +49 (0) 5404 / 5637  
Mobil: +49 (0) 176 / 10590693  
Email: Hartmut.Hartmann@prodoku.com

**Description and identification of the machinery:**

<b>Machine Type:</b>	Turf Vacuum Sweeper
<b>Model(s):</b>	TV40RE
<b>Serial number:</b>	NNNNNNNN
<b>Measured Sound Pressure Level:</b>	85 dB

**It is expressly declared, that the machinery fulfils with all the relevant provisions of the following EC directives:**

Directive 2006/42/EG	Directive on machinery Published in the Official Journal of the European Union, L 157/41 of 9.6.2006
Directive 2000/14/EC	Directive on noise emission in the environment by equipment for use outdoors Published in the Official Journal of the European Union, L 162 of 3.7.2000
Directive 2005/88/EC	Amending Directive 2000/14/EC Published in the Official Journal of the European Union, L 344/44 of 27.12.2005

**Place of the declaration:** Harper, Kansas, USA

**Date of the declaration:** 5 December 2024

**Signature:**

  
Joe Biggerstaff

**Title:**

Vice President, Engineering

# Table of Contents

## OPERATOR SECTION

To the Owner or Operator.....	1
Warranty Statement.....	2
Document of Conformity AU.....	3-4
Document of Conformity EC.....	5
Table of Contents.....	6
Specifications.....	7
Control Identification.....	8
Engine Identification.....	9
Fluid Maintenance Location.....	9
Safety Guidelines	
Gasoline.....	10
Guards & Shields.....	10
Safety Decals.....	11-12
Battery.....	13
Equipment Controls.....	13
Towing.....	13
Hydraulics.....	13
Before Operation.....	14
During Operation.....	14
Operations	
Starting Operation.....	15
Stopping Operation.....	16
Unloading.....	16
Adjustments	
Broom Height.....	16
Hopper Door Latch.....	17
Height Adjustment.....	17
Belt Tension.....	17
Hose Option.....	18
Stopping Operation.....	18
Flap Adjustment.....	18
Edge Brush Option.....	19
Transporting.....	19
Service & Maintenance	
Blower Liner.....	20
Screens.....	20
Hydraulics.....	20
Grease Location.....	21
Lifting Points for Servicing Wheels.....	22
Hydraulic System.....	22
Service Schedule.....	23
Troubleshooting.....	24

## PARTS SECTION

### Table of Contents

#### Frame

Frame Assembly.....	27-28
Deck Lift Installation.....	29-30

#### Blower Housing Installation

Blower Housing Installation.....	31
Fan & Liner Installation.....	32
Blower Housing Assembly.....	33
Blower Housing Install to Frame.....	34

#### Hydraulics Installation

Hydraulics Installation.....	35-36
------------------------------	-------

#### Hopper and Door Assemblies

Hopper Install.....	37
Hopper & Return Screen.....	38
Door & Latch Install.....	39
Door Seal Assembly.....	40

#### Engine and Electronics Installation

Engine Install.....	41-42
Mounting Engine to Frame.....	43
Electrical Installation.....	44-45
Electrical Schematic.....	46

#### Access Panel and Final Installation

Access Panel Install.....	47
Export Kit.....	48
Decal Installation.....	49-53

#### Options

Brush Rotor Kit & Assembly.....	54
Brush Assembly.....	55
Finger Rotor.....	56-57
Remote Hose Option.....	58-59
Curb Brush Option.....	60-61

## Specifications

<b>Safety Features</b>	Minimal dust generated, Noise level: 85dba
<b>Blower Drive</b>	Double V-belt drive with electric clutch
<b>Blower Fan</b>	25" diameter abrasion resistant steel with replaceable poly-liner 1-1/2" shaft with self-aligned bearings
<b>Blower Discharge</b>	Access plate for inspection and easy liner replacement
<b>Airflow</b>	Re-circulated air system
<b>Brush Drive</b>	Hydraulic motor direct drive
<b>Engine</b>	20 HP Kohler, gasoline
<b>Hydraulics</b>	Belt driven hydraulic pump
<b>Hydraulic Oil</b>	Crown AW 46; ISO 46 Hydraulic Oil See service schedule
<b>Main Frame</b>	11 gauge welded and reinforced steel tubing
<b>Bearings</b>	Greaseable sealed bearings
<b>Hopper Capacity</b>	4 cubic yards
<b>Wheels/Tires</b>	4-bolt wheels, 18.5 x 9.5 tires
<b>Controls</b>	Engine, blower & brush controls on machine
<b>Sweeper</b>	52" single sweeping head that follows the terrain with side mounted gauge wheels, rises to transport position, and lowers to operating position by handle located on the side; Brush and Rubber Fingers
<b>Options</b>	Curb brush and remote hose attachments.
<b>Discharge</b>	Mechanical trip and latch system
<b>Tongue and Hitch</b>	Adjustable tongue functions as pick-up height controller
<b>Paint</b>	Durable 2-part polyurethane
<b>Dimensions</b>	135" L x 64" W x 82" H
<b>Weight</b>	1600 lbs - 730 kg
<b>Hitch Weight</b>	500 lbs
<b>Fuel</b>	6 gallon capacity - Gasoline

**NOTE:** Following publication of this manual, certain changes in standard equipment and/or options may have occurred which would not be included in these pages. Your Harper dealer is the best source for up-to-date information.

## Control Identification

TV40RE



**Hopper** – The hopper stores up to 4 yards of material.

**Engine** – 20 HP Kohler engine powers the blower and broom.

**Hopper Door** – Opens when the dump cable is pulled to release the material collected in the hopper.

**Debris Flap** – Helps to keep vacuum concentrated to the ground and to direct the material from the broom into the suction.

**Blower Housing** – Surrounds the fan and is covered on the inside by a plastic liner.

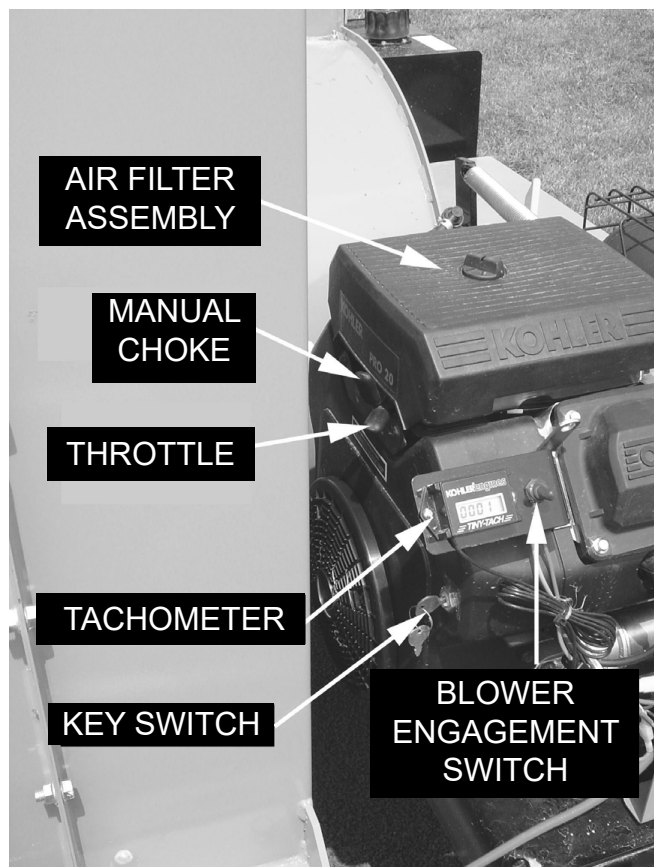
**Broom (optional)** – Assists material from the turf into the suction of the blower.

**Dump Cable** – Releases the hopper door.

**Jack Stand** – Supports the front of the Turbo Vac when it is not connected to a tractor. During operation, the jack stand must be up, with the wheel removed and in the transport location.



## Engine Identification



**Air Filter Assembly** – See service section for care information.

**Throttle** – Adjusts engine speed.

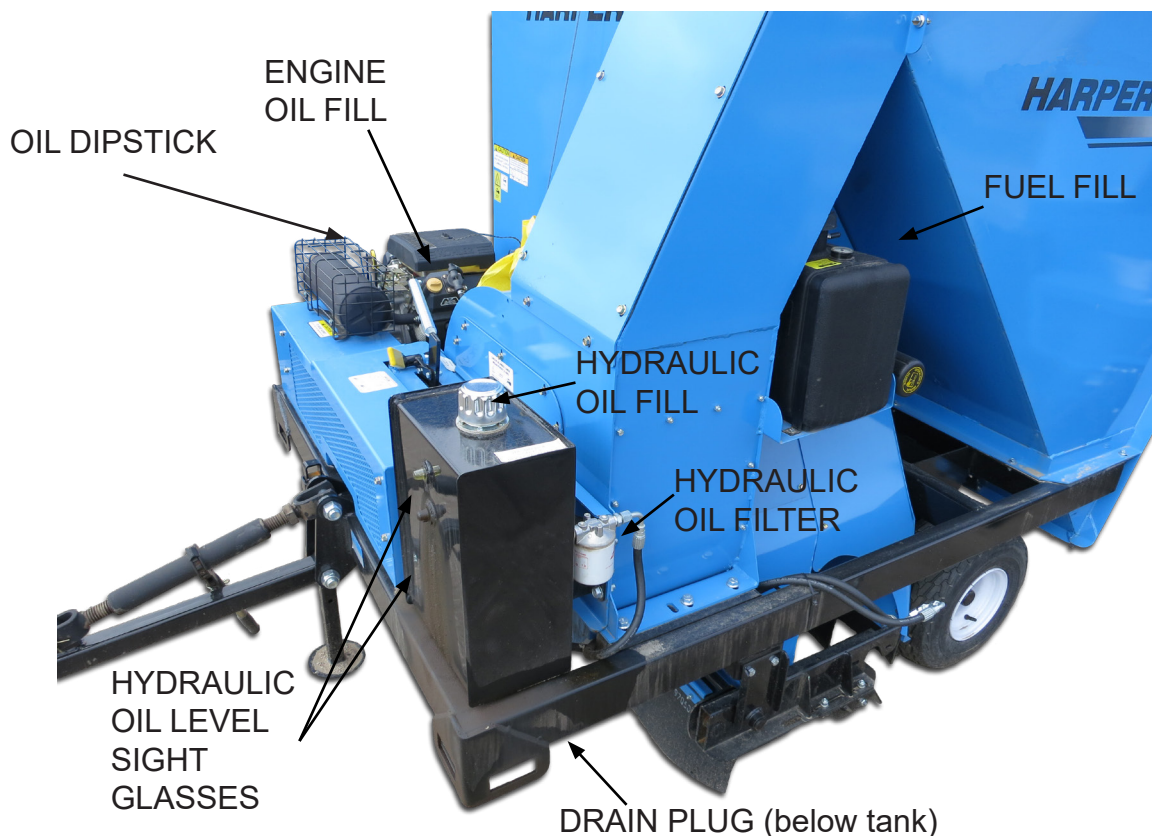
**Manual Choke** – Engage when starting the engine cold. Disengage when engine warms up.

**Tachometer** – Shows the speed of the engine when running. Shows hours when engine is not running.

**Key Switch** – Used to start the engine

**Blower Engagement Switch** - Turns the blower on and off.

## Fluid Maintenance Locations



## Safety Guidelines

- Use genuine factory parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and or others.
- If hardware is not secure, or if some of the hardware is over-tightened, equipment failure may result, posing possible safety hazards.
- To prevent possible eye injury, always wear SAFETY GLASSES while operating equipment.
- To prevent hearing loss, always wear hearing protection while operating equipment.
- Replace locknuts and locking screws if you can tighten them without feeling considerable resistance for several turns before they are completely tight. Replace them with factory authorized parts or their equivalent.



**Gasoline is extremely flammable and can be highly explosive.**

### Gasoline

- Always use an approved container for gasoline.
- Do not allow open flames or sparks while performing maintenance or refueling.
- Never remove the fuel tank cap or add gasoline when the engine is running or while it is hot.
- Never fill the fuel tank indoors (fumes can collect).
- Wipe up spilled gasoline immediately and completely.
- Do not store gasoline in a room with an appliance that has a pilot light to where electrical appliances or switches may cause sparks.

- Always store gasoline outside, in a safety can (a can which has a flame arrestor and pressure relief valve in pour spout).
- Gasoline fumes are heavy and will sink to the lowest point, collecting and becoming more and more hazardous. One part gasoline in 20 parts air will explode easily and violently.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- Be certain to provide adequate ventilation if an engine must be run indoors—exhaust fumes are dangerous.

### Guards & Shields

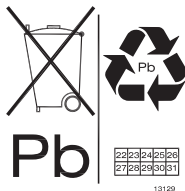
- Keep all safety devices in place.
- Replace all worn, damaged, unusable, missing or lost safety shields and guards before operating the equipment.
- Keep the equipment in good operating condition.

### Safety Decals

- **If safety decals** become illegible or damaged, replace immediately. You can purchase new decals through your Harper dealer.
- **If parts with decals** are replaced, ensure the most current decals are attached to the new parts before operating the machine.



1. P65 Warning



2. Recycle Battery



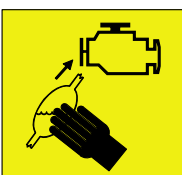
3. Insert prop rod



4. Crush hazard behind swinging door



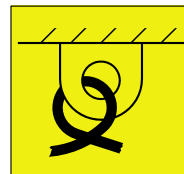
5. Pinch hazard entering with swinging door



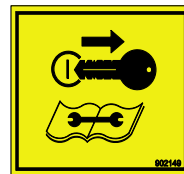
6. Engine Primer Bulb



7. Fuel Tank



8. Tie Down Point



9. Please read the manual before operation



10. Safety Alert



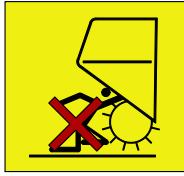
11. Hand can get caught in moving parts



12. Contact with moving parts will cause injury



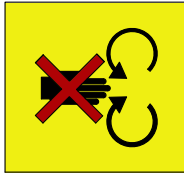
13. Turn off equipment before performing maintenance



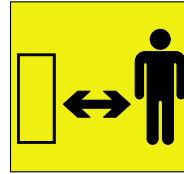
14. Don't enter machine during operation



20. High pressure spray can erode skin



15. Don't remove guards during operation



21. Stay at safe distance when machine is in use.



16. Hand can contact impeller if inserted into the shoot



22. Swinging door is a crush hazard



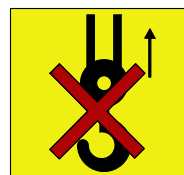
17. Hot surfaces will burn hands



23. Don't stand behind the machine



18. Turn off equipment before performing maintenance



24. Not a lift point



19. High pressure liquid can be injected into the body



25. Don't tilt the machine on soft or uneven surface



### **SAFETY WARNING!**

Batteries can produce explosive gas. Use extreme caution when working on the battery.

#### **Battery**

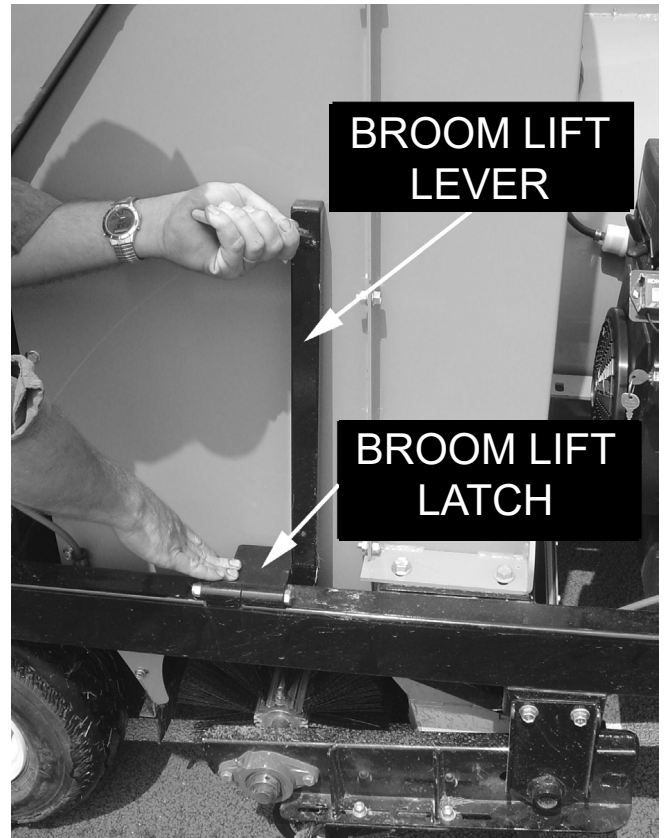
- Ventilate when charging battery or using in an enclosed space.
- DO NOT produce sparks from cable clamps, tools, or other sources; and DO NOT allow flames or smoking in the vicinity of the battery.
- Shield eyes when working near the battery.

#### **Equipment & Controls**

- Read and understand this manual.
- Altering this equipment in any manner which adversely affects its operation, performance, durability, or use will void the warranty and may cause hazardous conditions.
- Know the location and function of all controls and how to stop this equipment quickly in an emergency before you operate the equipment.
- Keep all nuts, bolts and screws tight to help ensure safe operation of this equipment.

#### **Towing**

- If towing on the highway, tail lights and turn signals must be attached before towing.
- Use a safety chain when towing.
- Make sure jack stand is up.
- Tire pressure should be 20 psi.
- Make sure lug nuts are tight.
- Broom should be locked up so that it does not rub on the ground.



Broom is locked up when the lift handle is in the vertical position and the latch is in place.



### **SAFETY WARNING!**

Escaping fluid under pressure can penetrate skin causing serious injury. To prevent serious injury or death.

#### **Hydraulics**

- Relieve pressure on system before repairing, adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks.
- Use wood or cardboard instead of hands when looking for leaks.
- Keep all components in good repair.
- Do not use any type of heat, (welding, soldering, cutting torch, etc) near pressurized lines.

## Before Operation

- Before operating this equipment, read and understand the Owner's Manual.
- Do not allow children to operate this machine.
- Tire pressure should be 20 psi. Make sure both tires have equal pressure.
- Wear approved eye and ear protection and other appropriate safety equipment while operating the machine.
- Make sure bolts holding tongue are secure and the jack is in the transport position. Use a safety chain.
- Engine governor settings are preset and should not be changed; any change can damage moving parts and void the warranty.
- Before starting the machine, visually inspect all nuts, bolts and other fasteners to see that they are properly secured. Nuts, bolts and other fasteners should be checked every 8 to 10 hours of operation for proper alignment and tightness.
- Replace damaged or missing safety decals.
- Replace locknuts and locking screws if you can tighten them without feeling considerable resistance for several turns before they are completely tight. Replace them with factory authorized parts or their equivalent.
- Make sure that all bearings or hinging parts are greased and or oiled properly. (See Service & Maintenance Section for more information)

## During Operation

- Always keep a fire extinguisher near the Turbo Vac during operation.
- Keep clothing and all body parts away from rotating parts.
- Engine governor should not be changed; any change can damage moving parts and void warranty.

- When sweeping material into the machine, make certain there are no foreign materials such as rocks, cans, bottles or other hard materials included. Sweeping hard materials will reduce the life of the plastic liner in the blower housing.
- If a foreign object should strike the broom or blower mechanism and cause an unusual noise or vibration, shut the engine off immediately and allow it to come to a complete stop. Disconnect the spark plug wire from the spark plug from the power unit.

## Do the following:

1. Inspect for damage.
  2. Repair or replace any damaged parts.
  3. Check for and tighten any loose bolts, nuts, fasteners or parts.
- Keep the engine area clean from debris and other accumulations to lessen the possibility of fire.
  - Keep all safety shields and guards in place and in good working condition.
  - If the Turbo Vac should become clogged, shut off the engine and allow it to come to a complete stop.
  - Be sure to provide adequate ventilation if the engine must be run indoors – exhaust fumes are very dangerous.
  - Hydraulic system operates under high pressure. Disable system prior to service.

## Operations

1. Obtain and wear safety goggles before operating.
2. Fill the tank with gasoline. (Refer to engine manual for gasoline specifics.)



### **SAFETY WARNING!**

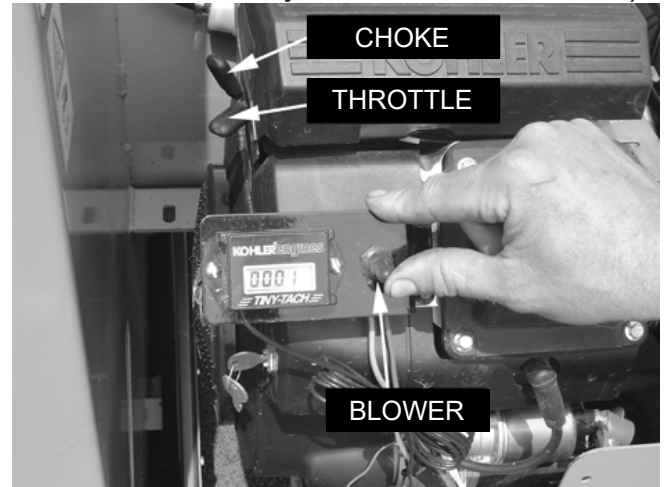
**Gasoline is extremely flammable and can be highly explosive. See Safety Guidelines for more information.**

3. Make sure the vent valve on the gas cap is open. (If the cap is closed the engine will vapor lock and will not run.)

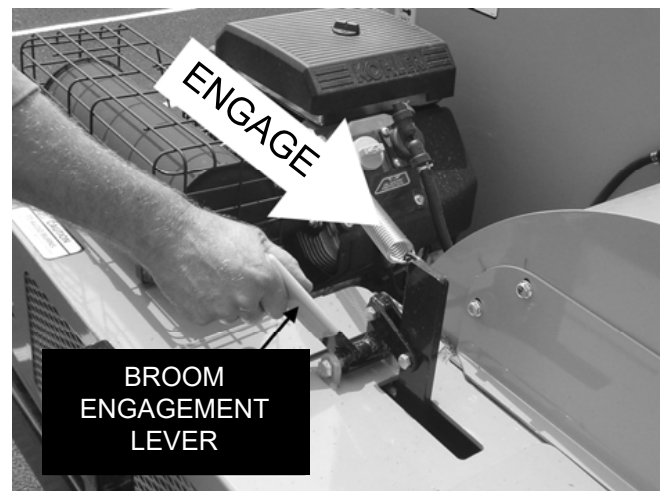


4. Attach the Turbo Vac to the tow vehicle. Be sure that the Turbo Vac is adjusted to the correct height. (Refer to adjustment section for information on setting the height.)
5. Run the dump cable to the tow vehicle to allow for convenient dumping. Attach with the pin provided to allow cable to break away from tow vehicle if it is not removed when unit is disconnected. This will help prevent any damage if the cable is forgotten.
6. Make sure that the blower and broom are disengaged.
7. For cold starting set the choke.

8. Turn the key switch to the start position and release as soon as the engine starts. Do not turn the starter for more than 10 seconds.
9. Once the engine is running, gradually move the choke lever to the off position and allow the engine to warm up. (When restarting a warm engine, it should not be necessary to use the choke lever.)



10. Move the blower switch located beside the engine tachometer to the "on" position.
11. Set the engine speed at 3200 RPM.



12. If the unit has a broom, lower it and slowly engage broom lever.
13. Begin normal operation.



## Stopping Operation



### SAFETY WARNING!

Do not leave machine unattended, or attempt any service or inspection unless the machine has come to a complete stop, the engine has been shut off, and the spark plug has been disconnected.

1. Shut off tow vehicle and set the park brake.
2. Turn off the blower switch and disengage the broom lever.
3. Shut off the engine and allow the machine to come to a complete stop.

## Unloading



### SAFETY WARNING!

To reduce the risk of injury, do not stand near the back of the Turbo Vac while unloading.

1. Find a suitable place to dump the collected material.
2. Pull dump cable. Hopper door will open and material will slide out.



3. Drive forward to allow all the collected material to escape hopper.
4. Door will swing shut and latch when it clears the collected material.

## Adjustments

### Broom height

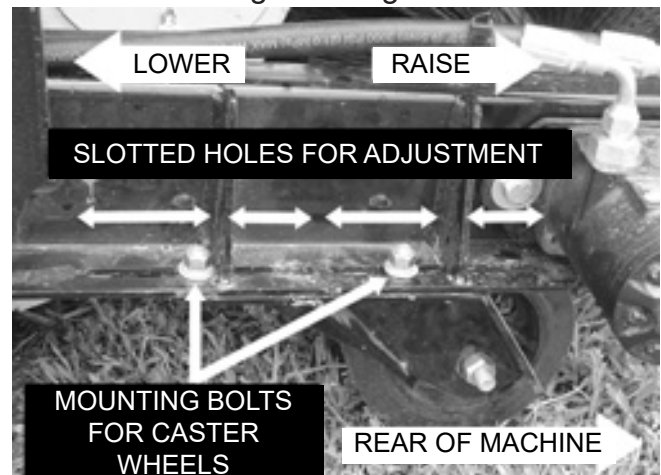
The broom height needs to be adjusted so that the broom is touching the top of the grass.



The broom height is determined by the caster wheels that it rides on. The caster wheel is attached with bolts located in slotted adjustment holes.

### To adjust:

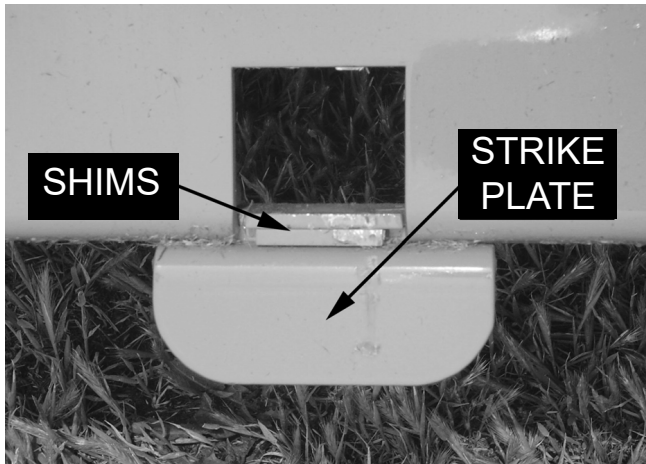
- Remove caster wheel mounting bolts.
- Adjust caster wheel to achieve desired broom height and tighten bolts.



**Note:** Brooms are originally 12" in diameter. When the broom wears to 10" the adjustment will not lower the broom enough for it to perform adequately and needs to be replaced. Part # 973001

## Hopper Door Latch

Adjustment of the hopper door latch should never be necessary. If the hopper door won't latch or the hopper door does not seal against the hopper there are adjustments that can be made. There are shims that bolt on with the strike plate that can adjust the depth of the latch. It is possible to add or remove shims to make the door close properly.



## Height Adjustment

For best performance the Turbo Vac must be operating at the correct height. At the correct height the debris flap touches the top of the grass.



The height can be easily adjusted up or down by using the ratchet jack.

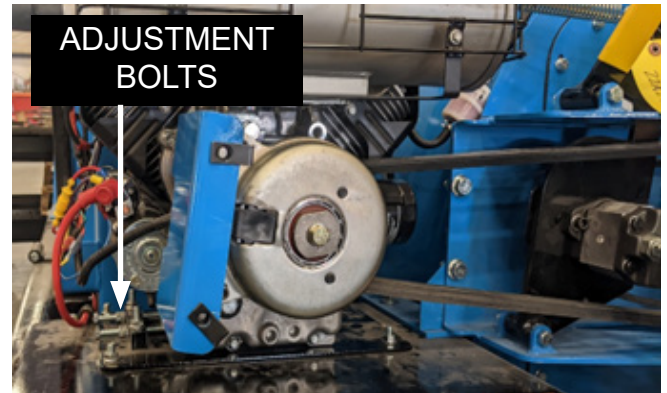


## Blower Drive Belt Tension

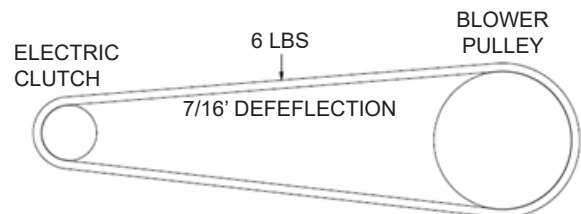
The blower drive belt is adjusted by sliding the motor.

### To Adjust:

- Loosen engine mounting bolts from underneath.
- Adjustment bolts are tightened to slide motor and increase belt tension.
- Apply 6 lbs. of pressure to the midpoint between the electric clutch and blower pulley. The belt should deflect 7/16 in.
- Tighten engine mounting bolts.
- Too much tension (minimal deflection) can damage the belt and bearings. Too little tension (excessive deflection) will allow belt to slip and decrease blower performance.



- To replace the drive belt, loosen the belt tensioner and remove the old belt. Install the new belt, and follow the same procedure for adjusting tension as described previously.
- Inspect the belts frequently and maintain the correct tension and alignment.



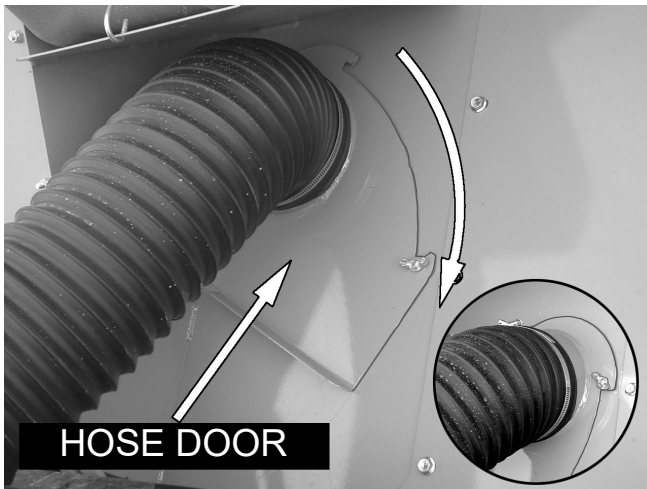
## Electrical Wiring

A 30 AMP fuse is located in-line between the blower switch and electric clutch.

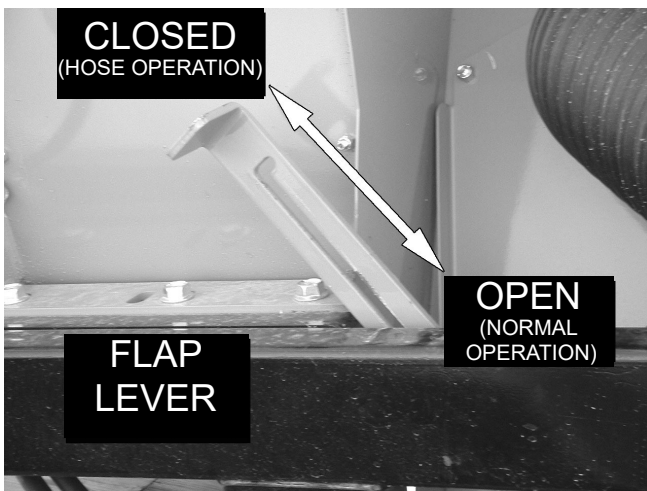


## Hose Option (900217)

1. Open the Hose Door by loosening the wing nut and swiveling the door down to the next notch.



2. Close the Flap. This blocks off air intake from underneath and creates suction in the hose.



3. Begin using hose.



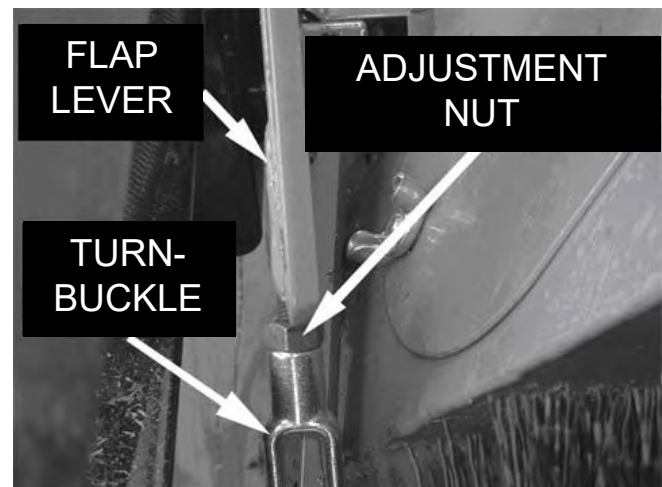
## Stopping Operation

1. Move the flap lever to the open position.
2. Close the hose door.
3. Store hose in cavity between hopper and frame.



## Flap Adjustment

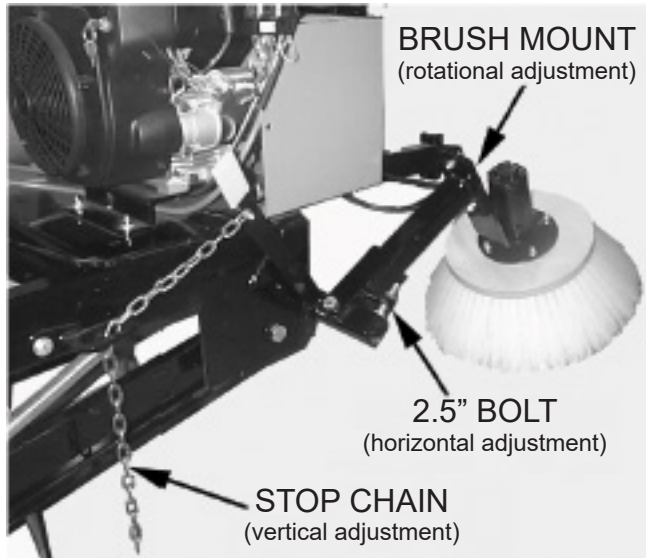
- If there is not adequate suction at the hose make sure the flap is closing completely (a small gap will work because the vacuum will suck it shut). If there is a big gap, the flap may need adjusted. Loosening the adjustment nut will shorten the flap lever causing the flap to close tighter.





### Edge Brush Option (900216)

- Follow instructions in Parts Section for installation of Edge Brush Option.
- The edge brush kit is used for cleaning areas along fences and curbs, etc., that are difficult to reach with the Turbo Vac broom.



- The edge brush can be adjusted vertically and horizontally, as well as rotated at an angle, so that debris is thrown into the Turbo Vac broom. For best results, angle the front edge of the brush downward.
- The stop chain is used to adjust the height of the brush during operation and to hold it up during transport.
- Never allow the brush to rest completely on the ground during operation.

### ⚠ SAFETY WARNING! ⚠

The Turbo Vac should never be transported with the edge brush in operating position. Always use the stop chain to suspend the brush during transport.

Contact your Harper Dealer for more information about optional equipment, or see the Harper Industries website at: [www.harperindustries.com](http://www.harperindustries.com)

## Transporting

### Transporting Machine on a Trailer

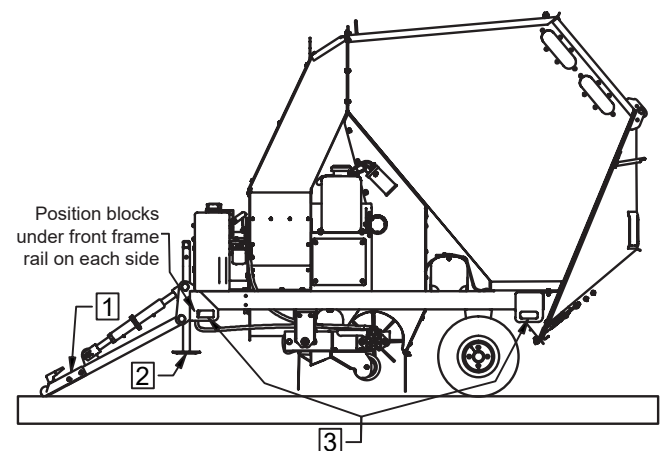
1. Use the ratchet jack to lower the hitch to support the front end of the machine. For extra stability, block up the outside edges of the front of the frame.
2. Raise the jack stand support so that it does not contact the trailer.
3. Use the front and rear tie down locations to secure the machine on the trailer.



### IMPORTANT!



If the machine is secured with the jack stand support down, there is a risk of damage occurring to frame.



## Service & Maintenance



### **SAFETY WARNING!**



- Before servicing or inspecting the Turbo Vac, make sure the power source is shut off and all moving parts have stopped.
- Disconnect the spark plug wire from the spark plug or the negative battery cable to prevent the engine from being turned on accidentally during service.
- Always wear safety glasses and protective gloves when servicing the Turbo Vac.

### Blower Liner



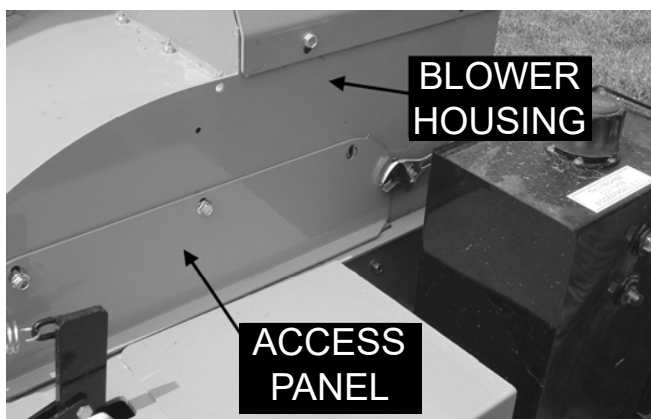
### **IMPORTANT!**



Regularly check the **BLOWER LINER** in the blower housing for wear. Failure to maintain blower liner may result in damage to the blower housing.

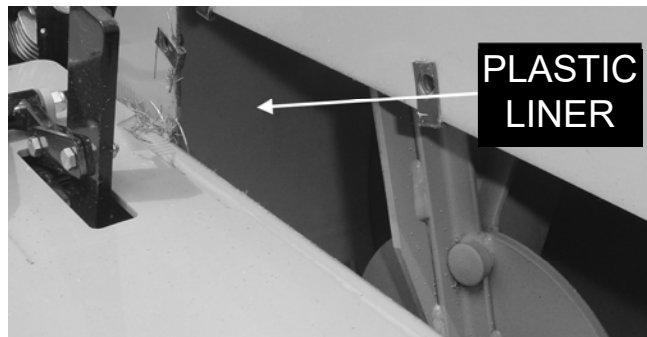
#### To check Blower Liner:

Remove access panel.



**NOTE:** Blower liner is a wear item and is not covered under warranty. Sandy conditions may shorten the life of the blower liner.

Check white plastic liner located around the inside walls of the blower housing around the blower fan.



If liner is damaged or worn through; replace to avoid damage to blower housing. Part # 972010 or 972021 for a heavy duty urethane liner.

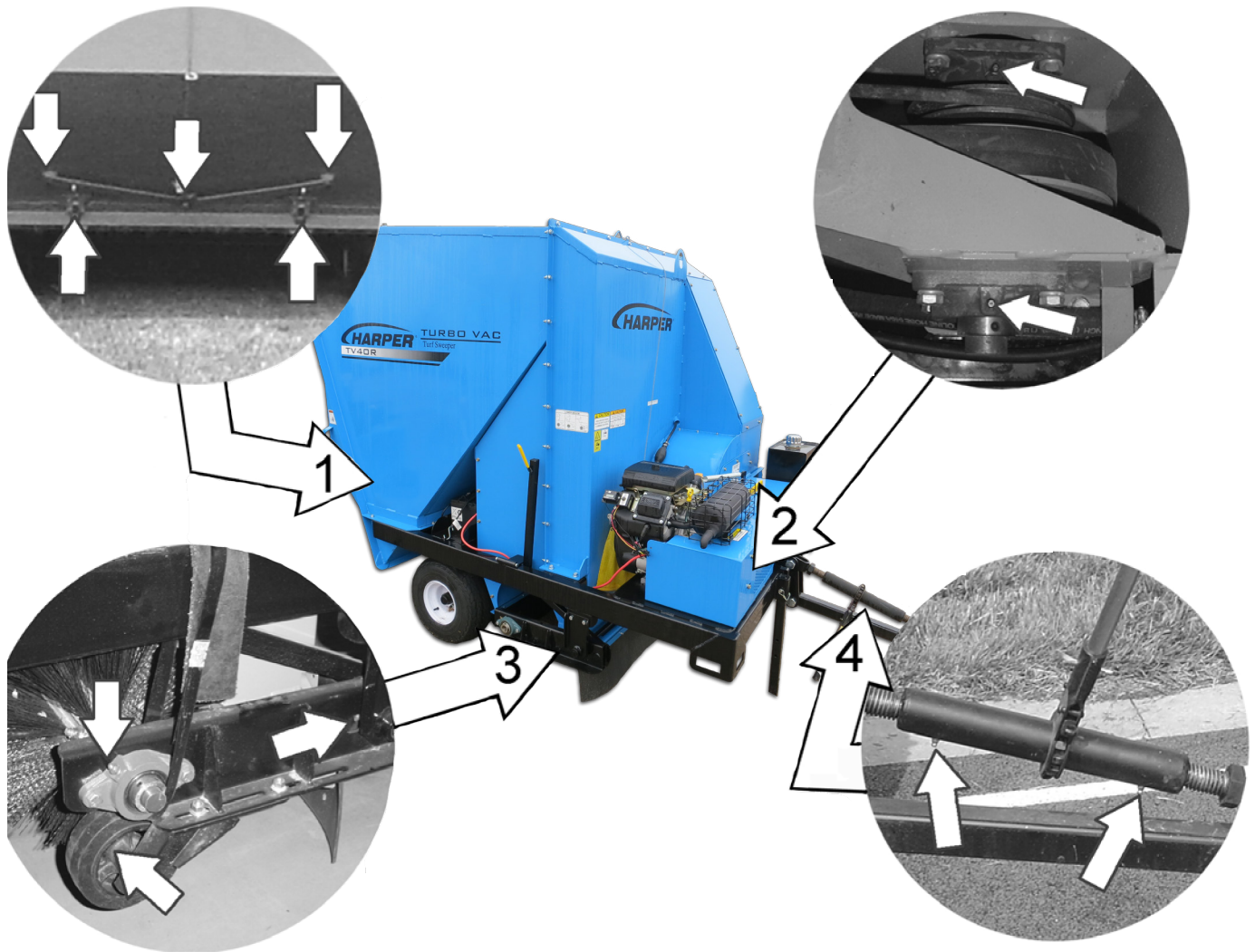
### Screens

Periodically check the return air screens located in the hopper for excess buildup. Excess buildup can reduce performance and or negate the return air system causing an increase of dust.



**To Clean Main Screen:** Remove the two pins holding it in place. The screen will then swing down and can easily be cleaned out.

## Grease Locations



### 1. Hopper Door Latch Mechanism

The two latches and three shoulder bolts should be periodically oiled to prevent rusting and ensure proper operation.

### 2. Blower Shaft

The two grease zerks located on the shaft bearings should be greased every 10 hours. To access these bearings the front safety shield must be removed.

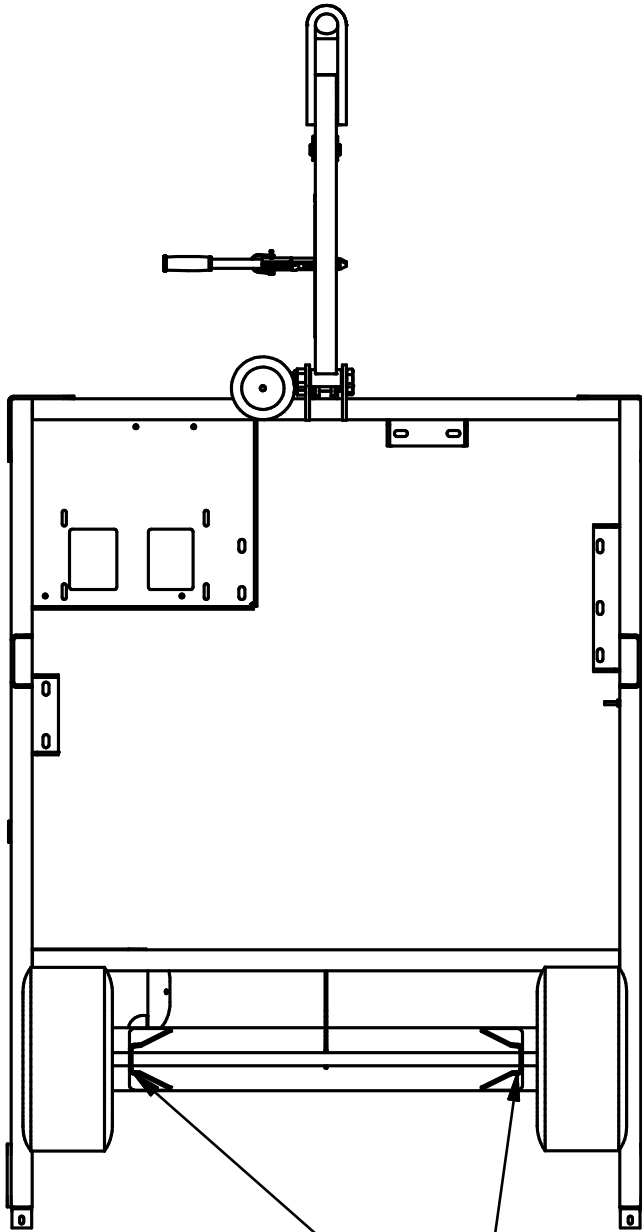
### 3. Broom Bearings, Pivot Arms & Wheel

The grease zerks located on the ends of the broom shaft, the pivot arms and the caster wheel should be greased every 10 hours. The pivot arm grease zerks are accessed through a hole in the frame.

### 4. Ratchet Jack

There are two grease zerks on the ratchet jack that should be greased annually.

## Lift Points for Servicing Wheels



PLACE JACK UNDER AXLE SUPPORT

## Hydraulic System

- The hydraulic system of the TV40RE is filled at the factory with Crown AW 46 hydraulic oil that has an ISO of 46.
- The TV40RE has a 10 micron, beta rated hydraulic oil filter designed for long life.

The following list of hydraulic fluids are compatible and can be mixed with Terresolve hydraulic fluid. However, mixing these hydraulic oils could reduce the biodegradability of the oil in the system. For warm environments, it is suggested that a fluid with a viscosity of ISO 68 be used. **MIXING OTHER OILS THAT ARE NOT INCLUDED ON THIS LIST COULD CAUSE GELLING AND DAMAGE TO THE HYDRAULIC COMPONENTS.** If another type of oil is desired, then the system must be completely drained and flushed first.

### Appropriate replacements:

**ISO 46:** Recommend for running in ambient air temperatures of 32°F-110°F, and it contains a kinematic viscosity rating around 46 cSt at 40°C. (1cSt = 1mm<sup>2</sup>/s)

- Mobil DTE 25
- Mobil DTE 15M
- Amoco Rykon Premium Oil ISO 46
- Chevron Rykon Premium Oil ISO 46
- Conoco Hydroclear AW MV 46
- Exxon Unavis N 46
- Pennzoil AWX MV 46
- Shell Tellus 52 M46
- Shell Tellus 52 V46
- Texaco Rando HDZ 46

## Service Schedule

\*Refer to engine manual for more information on engine servicing

\*\*Disclaimer – On engine applications KOHLER Engine Co.  
recommends the following:

### Daily or Before Starting Engine

Check engine oil level.....	SAE 10W-30
Check hydraulic oil level.....	CrownAW46 or appropriate replacement *oil has shelf life of two years
Fill fuel tank.....	Clean unleaded, 87 Octane or higher
Check air cleaner.....	Make sure there are no dirty, loose or damaged parts.
Check air intake and cooling areas.....	Clean if necessary
Visually inspect machine.....	Check for loose bolts, fitting and hoses
Grease.....	Refer to service section
Check tire pressure.....	20 PSI

### 25 Hour Service (including previous items)

Clean pre-cleaner element .....	Replace if necessary Kohler part # 24 083 05
Check plastic liner.....	Replace if necessary Part # 972010

### 50 Hour Break-in Service (after first 50 hours of use)

Change hydraulic filter.....	DewEze part # 220559
------------------------------	----------------------

### 100 Hour Service (including previous items)

Replace air cleaner element.....	Kohler part # 24 083 03
Change oil.....	SAE 10W-30
Clean cooling areas by removing cooling shrouds	
Check serviceability of battery	

### 200 Hour Service (including previous items)

Check spark plug condition and gap.....	Gap to .76 mm Spark Plug – Champion RC12YC Kohler part # 12 132 02
Change oil filter.....	Kohler part # 12 050 01-S

### 250 Hour or Annually Service (including previous items)

Change hydraulic filter.....	DewEze part # 220559
------------------------------	----------------------

### 500 Hour or Annually Service (including previous items)

Have Bendix starter drive serviced***	
Have solenoid shift starter disassembled and cleaned***	
Have crankshaft spline lubricated***	
Change hydraulic oil.....	5 gallons - Crown AW46 or appropriate equivalent.

\*\*\*Should be serviced by an authorized Kohler Dealer

## Troubleshooting

<b>TV40 Engine:</b>	
<b>Problem:</b>  Engine will not start	<b>What to Check:</b> <ul style="list-style-type: none"> <li>• Improper control settings</li> <li>• Engine may be low on fuel</li> <li>• Engine may be low or too full of oil</li> <li>• Battery charge may be too low</li> <li>• Possible internal problems</li> <li>• Make sure engine is primed with gas from the manual primer bulb .</li> </ul>
<b>Problem:</b>  Engine shuts off during operation	<b>What to Check:</b> <ul style="list-style-type: none"> <li>• Engine may be low on fuel</li> <li>• Engine may be low on oil</li> <li>• Air breather may be clogged</li> </ul>
<b>Vacuum:</b>	
<b>Problem:</b>  Turbo Vac won't sweep up material	<b>What to Check:</b> <ul style="list-style-type: none"> <li>• Hopper may be full</li> <li>• Turbo Vac not close enough to ground</li> <li>• Plugged air screens</li> <li>• Plugged nozzle</li> <li>• Door for hose option may be plugged</li> </ul>



# *Parts Section*



**TURBO VAC 40**

# Table of Contents

## PARTS SECTION

### Table of Contents

#### Frame

Frame Assembly.....	27-28
Deck Lift Installation.....	29-30

#### Blower Housing Installation

Blower Housing Installation.....	31
Fan & Liner Installation.....	32
Blower Housing Assembly.....	33
Blower Housing Install to Frame.....	34

#### Hydraulics Installation

Hydraulics Installation.....	35-36
------------------------------	-------

#### Hopper and Door Assemblies

Hopper Install.....	37
Hopper & Return Screen.....	38
Door & Latch Install.....	39
Door Seal Assembly.....	40

#### Engine and Electronics Installation

Engine Install.....	41-42
Mounting Engine to Frame.....	43
Electrical Installation.....	44-45
Electrical Schematic.....	46

#### Access Panel and Final Installation

Access Panel Install.....	47
Export Kit.....	48
Decal Installation.....	49-53

#### Options

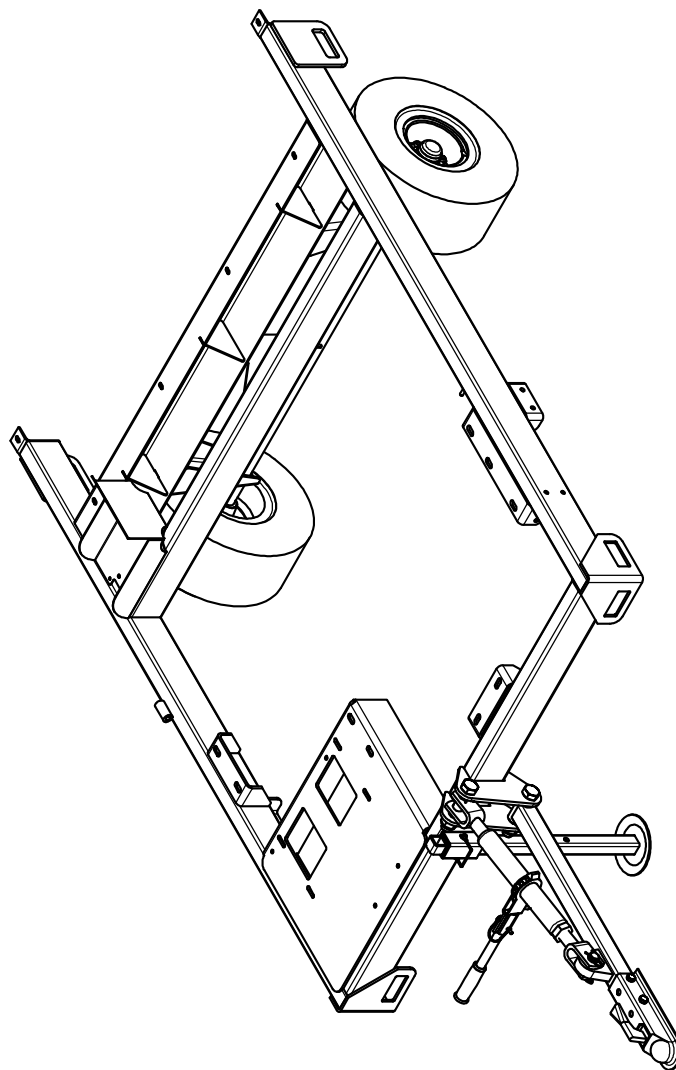
Brush Rotor Kit & Assembly.....	54
Brush Assembly.....	55
Finger Rotor.....	56-57
Remote Hose Option.....	58-59
Curb Brush Option.....	60-61



905179 REV: C

## 1/Parts List

Item	Qty	Part #	DESCRIPTION
1	1	102141	Pin, Lock .1875 x 1.625
2	1	110304	Pin, Lock 3/8 X 2.5 Sq
3	2	110361	Bolt, 1-8 X 5.5
4	2	110428	Bolt, 1/2-13 X 3.0
5	2	110602	Nut, 1-8 Lock Nylon Insert
6	2	110613	Nut, Castle 3/4-16
7	2	110615	Nut, 1/2-13, Unitorque Lock
8	2	110678	Washer, 3/4 Flat SAE
9	2	510235	Hub Assembly
10	2	510463	Cotter Pin, 1/8 X 1.25
11	1	902175	Grip, Handle 7/8" Rnd X 4.56"
12	1	912100	Ball Coupler, 2"
13	1	942160	Ratchet Jack
14	2	943051	Tire & Wheel Assy, 9.5-8 X 18 Turf
15	1	975189	Frame, TV40
16	1	975601	Hitch Assy Wldmnt
17	1	975610	Jack Stand Wldmnt



## TV40RE FRAME INSTALLATION

905179

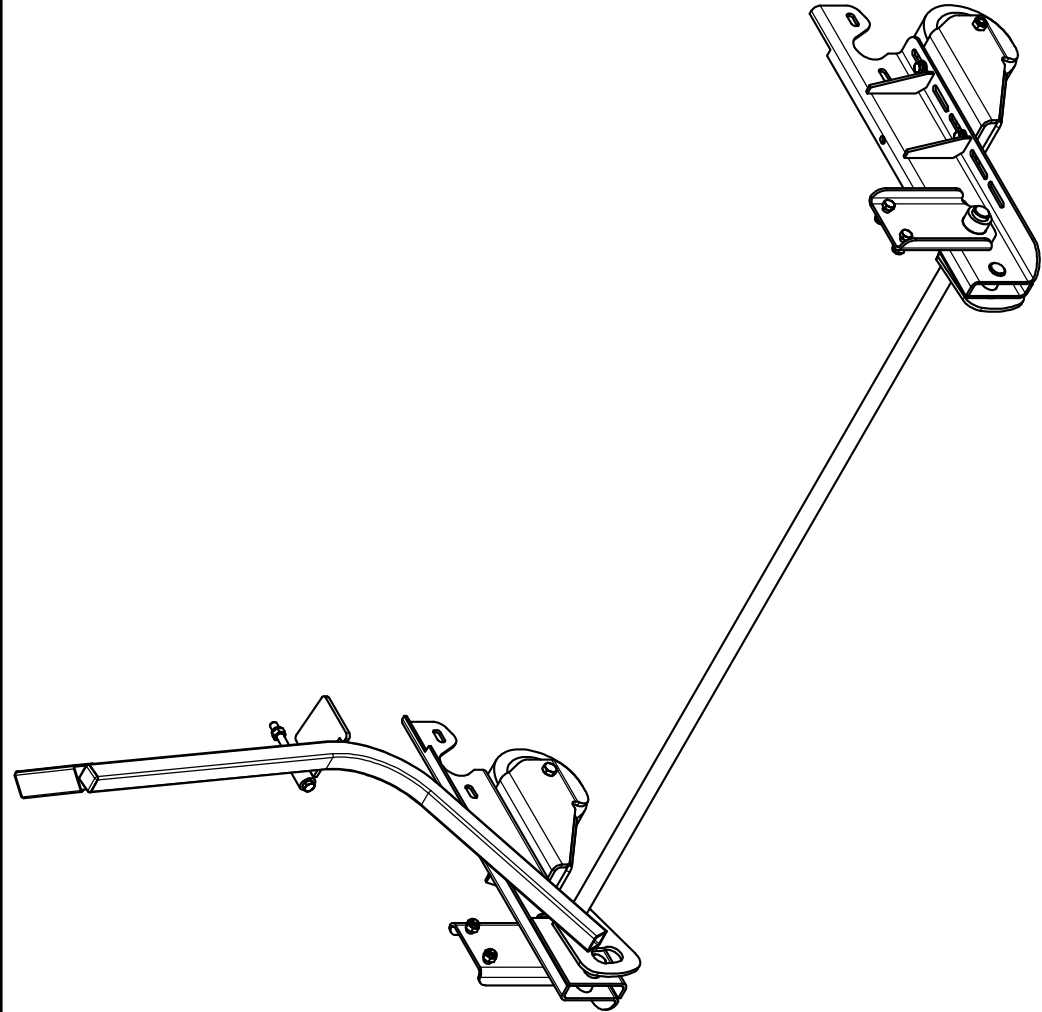
REV: C

1Parts List				1Parts List				1Parts List			
Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION
1	1	102141	Pin, Lock .1875 x 1.625	9.3	2	510466	BEARING CONE, TAPER 1.0 X .58	11	1	902175	Grip, Handle 7/8" Rnd X 4.56"
2	1	110304	Pin, Lock 3/8 X 2.5 Sq	9.4	1	510467	SEAL, CR 12407	12	1	912100	Ball Coupler, 2"
3	2	110361	Bolt, 1-8 X 5.5	9.5	1	510469	DUST CAP	13	1	942160	Ratchet Jack
4	2	110428	Bolt, 1/2-13 X 3.0	9.6	1	511073	HUB	14	2	943051	Tire & Wheel Assy, 9.5-8 X 18 Turf
5	2	110602	Nut, 1-8 Lock Nylon Insert					15	1	975189	Frame, TV40
6	2	110613	Nut, Castle 3/4-16	10	2	510463	Cotter Pin, 1/8 X 1.25	16	1	975601	Hitch Assy Widmnt
7	2	110615	Nut, 1/2-13, Unitorque Lock					17	1	975610	Jack Stand Widmnt
8	2	110678	Washer, 3/4 Flat SAE								
9	2	510235	Hub Assembly								
9.1	4	110617	LUGNUT, 1/2-20 GR 5								
9.2	2	510465	BEARING CUP, 1.98 X .42								

**HUB INSTALLATION**

1. TIGHTEN NUT ON SPINDLE WHILE ROTATING HUB
2. TORQUE NUT TO 50 FT LBS
3. BACK OFF NUT UNTIL FIRST CASTELLATION ALIGNS WITH HOLE
4. INSTALL COTTER PIN IN HOLE

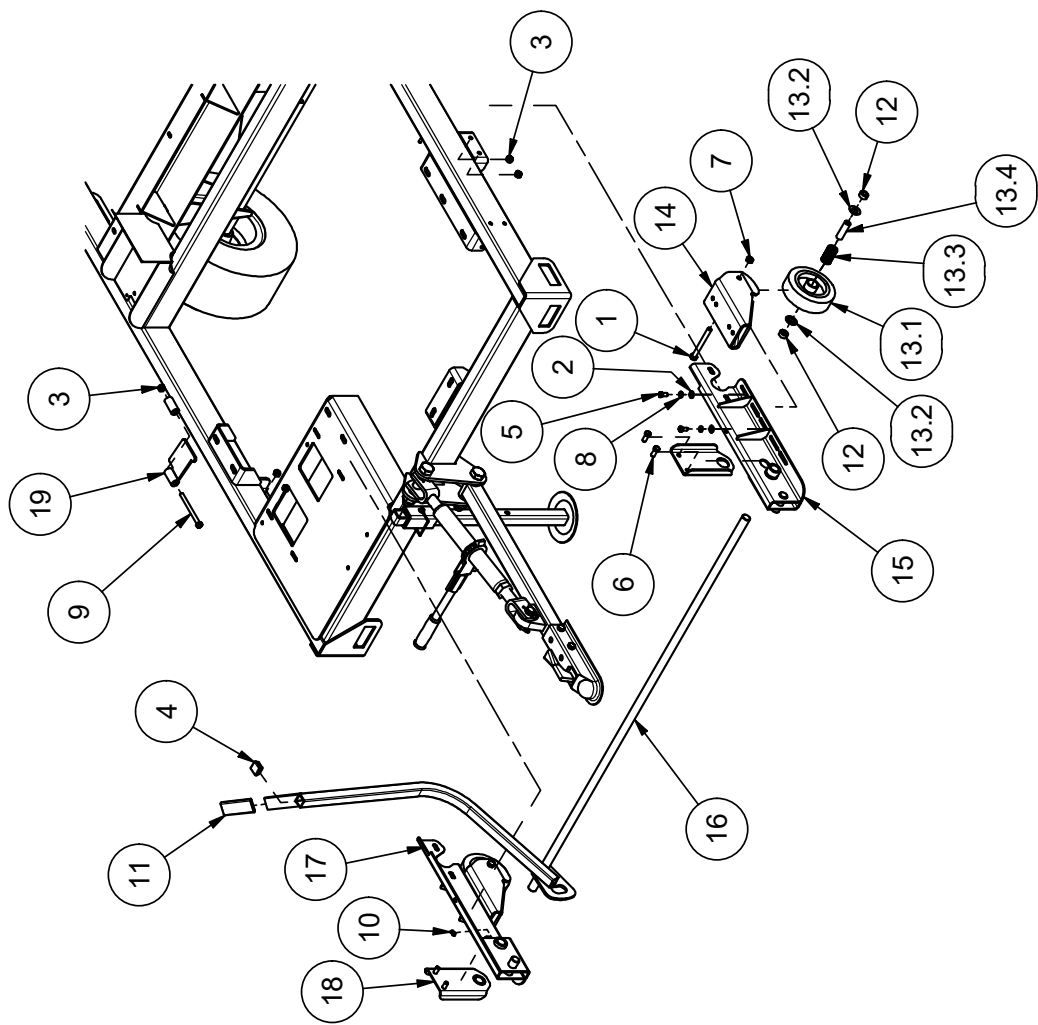
**TORQUE LUGNUTS TO 100 FT-LBS**



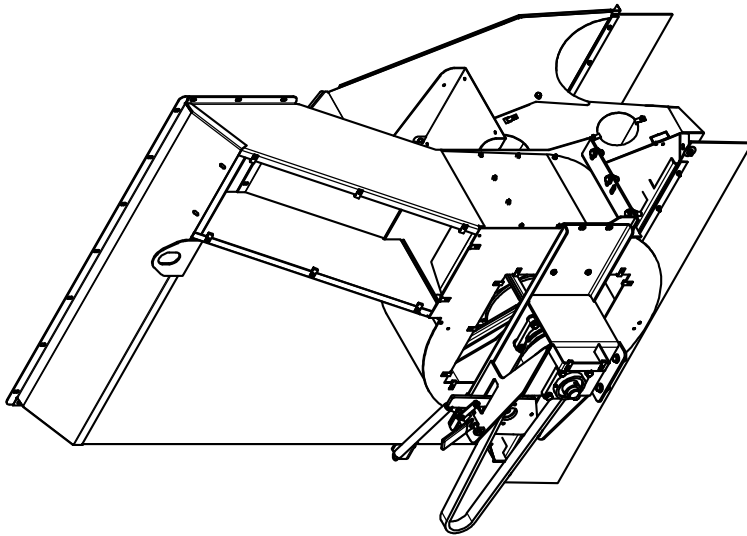
**DECK LIFT INSTALLATION**

905187		REV: B	
Parts List			
Item	Qty	Part #	DESCRIPTION
1	2	110004	Bolt, 1/2-13 X 4.5
2	4	110155	Washer, 3/8" Flat Sae
3	5	110219	Nut, 7/16-14 Lock Nylon Insert
4	1	110313	1-1/4 Sq Plug
5	4	110433	Bolt, 3/8-16 X .75
6	4	110528	Bolt, 7/16-14 X 1.0
7	2	110642	Nut, 1/2-13 Hex Jam Gr 2
8	4	110672	Washer, 3/8" Lock
9	1	110710	Bolt, 7/16-14 X 5.0
10	2	500231	Grease Zerk, 1/4-28 45deg
11	1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip
12	4	910050	Engaging Channel Spacer
13	2	940043	Caster Wheel Assy
14	2	975188	Weldment, Tv40 Caster Wheel Bracket
15	1	975614	Left Broom Arm Wldmnt'
16	1	975615	Broom Lift Wldmnt
17	1	975616	Right Broom Arm Wldmnt
18	2	975617	Broom Pivot Wldmnt
19	1	975623	Broom Latch Wldmnt

Parts List				
Item	Qty	Part #	DESCRIPTION	
1	2	110004	Bolt, 1/2-13 X 4.5	
2	4	110155	Washer, 3/8" Flat Sae	
3	5	110219	Nut, 7/16-14 Lock Nylon Insert	
4	1	110313	1-1/4 Sq Plug	
5	4	110433	Bolt, 3/8-16 X .75	
6	4	110528	Bolt, 7/16-14 X 1.0	
7	2	110642	Nut, 1/2-13 Hex Jam Gr 2	
8	4	110672	Washer, 3/8" Lock	
9	1	110710	Bolt, 7/16-14 X 5.0	
10	2	500231	Grease Zerk, 1/4-28 45deg	
11	1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip	
12	4	910050	Engaging Channel Spacer	
13	2	940043	Caster Wheel Assy	
13.1	1	942071	Caster Wheel 6"	
13.2	2	942115	Retaining Seal	
13.3	1	942116	Roller Bearing	
13.4	1	942164	Spanner Bushing, .75x.5x2.437	
14	2	975188	Weldment, Ty40 Caster Wheel Bracket	
15	1	975614	Left Broom Arm Widmnt	
16	1	975615	Broom Lift Widmnt	
17	1	975616	Right Broom Arm Widmnt	
18	2	975617	Broom Pivot Widmnt	
19	1	975623	Broom Latch Widmnt	



Parts List			Parts List			Parts List			Parts List		
Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION
1	9.5'	100613	Seal	11	2	110421	Bolt, 5/16-18 X 1-1/4	33	2	940113	Key, 3/8 X 5
2	53"	100623	Seal	12	2	110423	Bolt, 5/16-18 X 1.0	34	1	942004	Belt, A37
3	10	110001	Bolt, 1/2-13 X 1.25, Wiz Flange	13	6	110437	Bolt, 3/8-16 X 0.75, Wiz Flange	35	1	942053	Belt, Powerband 2b70
4	2	110049	Washer, 5/16" X 1 1/2 Fender	14	23	110444	Bolt, 5/16-18 X 0.75, Wiz Flange	36	1	942054	Spring
5	4	110093	Setscrew, 3/8-16 X 1.25	15	20	110464	Bolt, 1/4-20 X 1.0	37	1	942067	Bushing, Sk 1 1/2
6	2	110219	Nut, 7/16-14 Lock Nylon Insert	16	2	110472	Bolt, 3/8-16 X .375 Shcs	38	1	942152	Sheave, 2a8.2/B8.6 Qd-Sk
7	55	110319	Nut, 5/16-18 U-Type .75l	17	2	110547	Bolt, 7/16-14 X 3.5	39	1	942180	Bushing, Qd 1-1/2" Sds
8	12	110326	Bolt, 1/4-20 X 1 In Carriage	18	11	110588	Nut, 1/2-13 Wiz Flange	40	2	970161	Blower Liner Retainer, Inner
9	4	110379	Bolt, 1/2-13 X 2.0	19	2	110603	Nut, 5/16-18 Lock (Nylon)	41	2	970162	Blower Liner Retainer, Outer
10	4	110419	Bolt, 1/2-13 X 1.75	20	32	110630	Nut, 1/4-20 Lock (Nylon Insert)	42	1	970646	Air Return, Left
				21	6	110645	Nut, 3/8-16 Wiz Flange	43	1	970647	Air Return, Right
				22	8	110666	Washer, 1/2" Lock	44	1	970684	Debris Flap Rear
				23	1	110670	Washer, 7/16" Flat Standard	45	1	970685	Main Debris Flap
				24	4	110673	Washer, 1/4" Flat Standard	46	1	970688	Air Return, Back
				25	4	110826	Nut, 3/8-16 Gr 5	47	1	970711	Belt Guard
				26	1	111222	Bolt, 1/2-13 X 1.75, Wiz Flange	48	2	970723	Clamp Bar, Debris Flap
				27	2	410851	Bearing, 4fng 1 1/2"	49	1	972010	Blower Liner, .250 Uhmw
				28	1	540304	Sheave, 1a5.6/B6.0 Qd-Sds	50	1	975195	Fan Assy
				29	2	810629	Handle Clamp	51	1	975602	Blower Housing Widmnt
				30	1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip	52	1	975605	Pump Mount Widmnt
				31	1	940037	Sheave, 1a4.7 X .531 Kss	53	1	975618	Blower Support Widmnt
				32	1	940041	Blower Shaft	54	1	975619	Pump Disengage Weldment



## BLOWER HOUSING INSTALLATION



905185

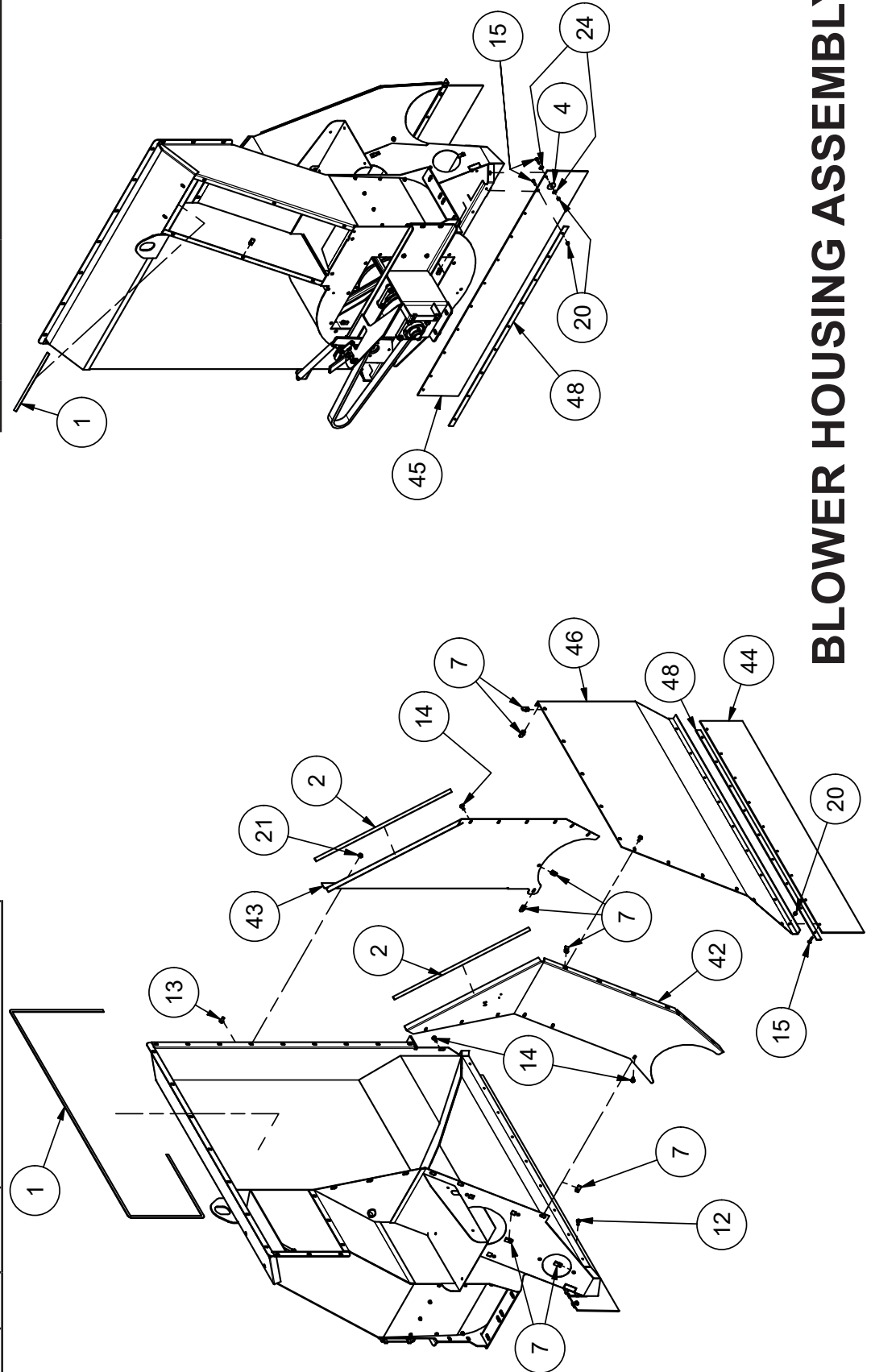
REV: D

**Parts List**

Item	Qty	Part #	DESCRIPTION
3	10	110001	Bolt, 1/2-13 X 1.25, Wiz Flange
5	4	110093	Setscrew, 3/8-16 X 1.25
6	2	110219	Nut, 7/16-14 Lock Nylon Insert
7	55	110319	Nut, 5/16-18 U-Type .75l
8	12	110326	Bolt, 1/4-20 X 1 In Carriage
9	4	110379	Bolt, 1/2-13 X 2.0
10	4	110419	Bolt, 1/2-13 X 1.75
11	2	110421	Bolt, 5/16-18 X 1-1/4
14	23	110444	Bolt, 5/16-18 X 0.75, Wiz Flange
16	2	110472	Bolt, 3/8-16 X .375 Shcs
17	2	110547	Bolt, 7/16-14 X 3.5
18	11	110588	Nut, 1/2-13 Whiz Flange
19	2	110603	Nut, 5/16-18 Lock Nylon
20	32	110630	Nut, 1/4-20 Lock (Nylon Insert)
22	8	110666	Washer, 1/2" Lock
23	1	110670	Washer, 7/16" Flat Standard
25	4	110826	Nut, 3/8-16 Gr 5
27	2	410851	Bearing, 4fng 1 1/2"
28	1	540304	Sheave, 1a5.6/B6.0 Qd-Sds
29	2	810629	Handle Clamp
30	1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip
31	1	940037	Sheave, 1a4.7 X .531 Kss
32	1	940041	Blower Shaft
33	2	940113	Key, 3/8 X 5
34	1	942004	Belt, A37
35	1	942053	Belt, Powerband 2b70
36	1	942054	Spring
37	1	942067	Bushing, Sk 1 1/2
38	1	942152	Sheave, 2a8.2/B8.6 Qd-Sk
39	1	942180	Bushing, Qd 1-1/2" Sds
40	2	970161	Blower Liner Retainer, Inner
41	2	970162	Blower Liner Retainer, Outer
47	1	970711	Belt Guard
49	1	972010	Blower Liner .250 Uhmw
50	1	975195	Fan Assy Widmnt
51	1	975602	Blower Housing Widmnt
53	1	975618	Blower Support Widmnt
54	1	975619	Pump Disengage Weldment

**FAN AND LINER INSTALLATION**

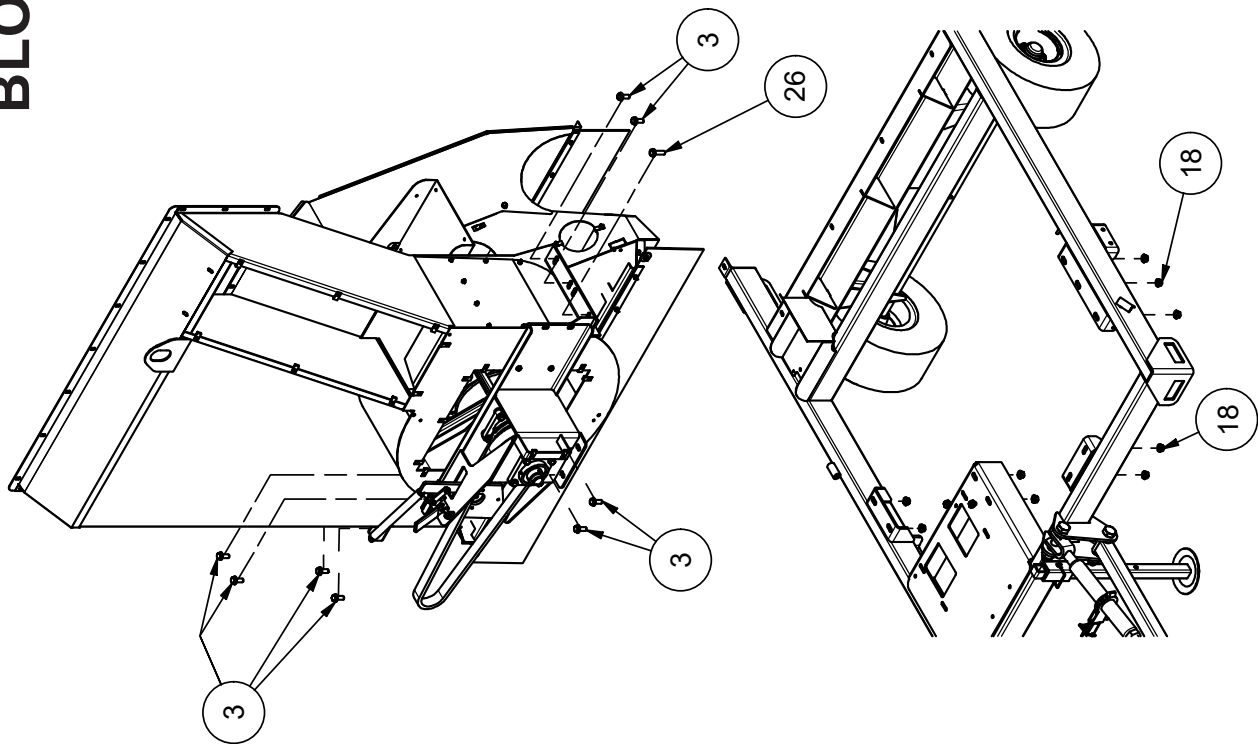
Parts List				Parts List				Parts List				905185	REV: D
Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION		
1	9.5	100613	Seal	14	23	110444	Bolt, 5/16-18 X 0.75, Wiz Flange	42	1	970646	Air Return, Left		
2	53	100623	Seal	15	20	110464	Bolt, 1/4-20 X 1.0	43	1	970647	Air Return, Right		
4	2	110049	Washer, 5/16" X 1 1/2 Fender	20	32	110630	Nut, 1/4-20 Lock (Nylon Insert)	44	1	970684	Debris Flap Rear		
7	55	110319	Nut, 5/16-18 U-Type .75l	21	6	110645	Nut, 3/8-16 Wiz Flange	45	1	970685	Main Debris Flap		
12	2	110423	Bolt, 5/16-18 X 1.0	24	4	110673	Washer, 1/4" Flat Standard	46	1	970688	Air Return, Back		
13	6	110437	Bolt, 3/8-16 X 0.75, Wiz Flange					48	2	970723	Clamp Bar, Debris Flap		



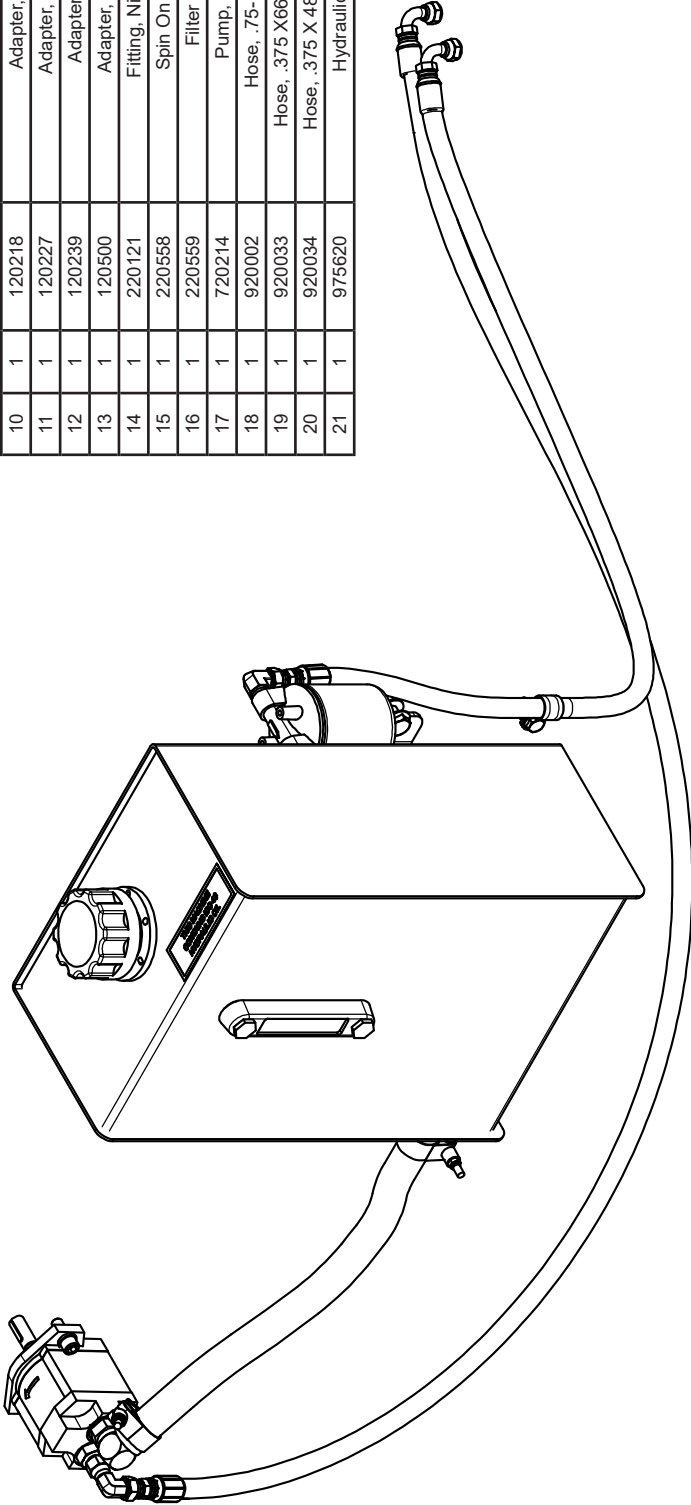
# BLOWER HOUSING ASSEMBLY

# BLOWER HOUSING INSTALL TO FRAME

Parts List			
Item	Qty	Part #	DESCRIPTION
3	10	110001	Bolt, 1/2-13 X 1.25, Wiz Flange
18	11	110588	Nut, 1/2-13 Wiz Flange
26	1	111222	Bolt, 1/2-13 X 1.75, Wiz Flange



905184		REV: A	
Parts List			
Item	Qty	Part #	DESCRIPTION
1	2	110001	Bolt, 1/2-13 X 1.25, Wiz Flange
2	2	110395	Bolt, 3/8-16 X 1.0 Shcs
3	1	110440	Bolt, 3/8-16 X 1, Wiz Flange
4	2	110588	Nut, 1/2-13 Wiz Flange
5	1	110645	Nut, 3/8-16 Wiz Flange
6	2	110672	Washer, 3/8" Lock
7	1	110727	Clamp, Adel .75wx.75idx.406hole
8	2	112008	Clamp, 1.25", T-Bolt
9	1	120184	Adapter, 12bh-10mb90
10	1	120218	Adapter, 6mj-6fx90
11	1	120227	Adapter, 12bh-12mp
12	1	120239	Adapter, 6mj-8mb
13	1	120500	Adapter, 6mj-6mp90
14	1	220121	Fitting, Nipple 3/8 X 1
15	1	220558	Spin On Filter Head
16	1	220559	Filter Element
17	1	720214	Pump, .43 Ci, Aa
18	1	920002	Hose, .75-124 Hwr X 20
19	1	920033	Hose, .375 X66" 6fx90m-6fx90m
20	1	920034	Hose, .375 X 48" 6fx90m-6fx90m
21	1	975620	Hydraulic Tank Assy



HYDRAULICS INSTALLATION

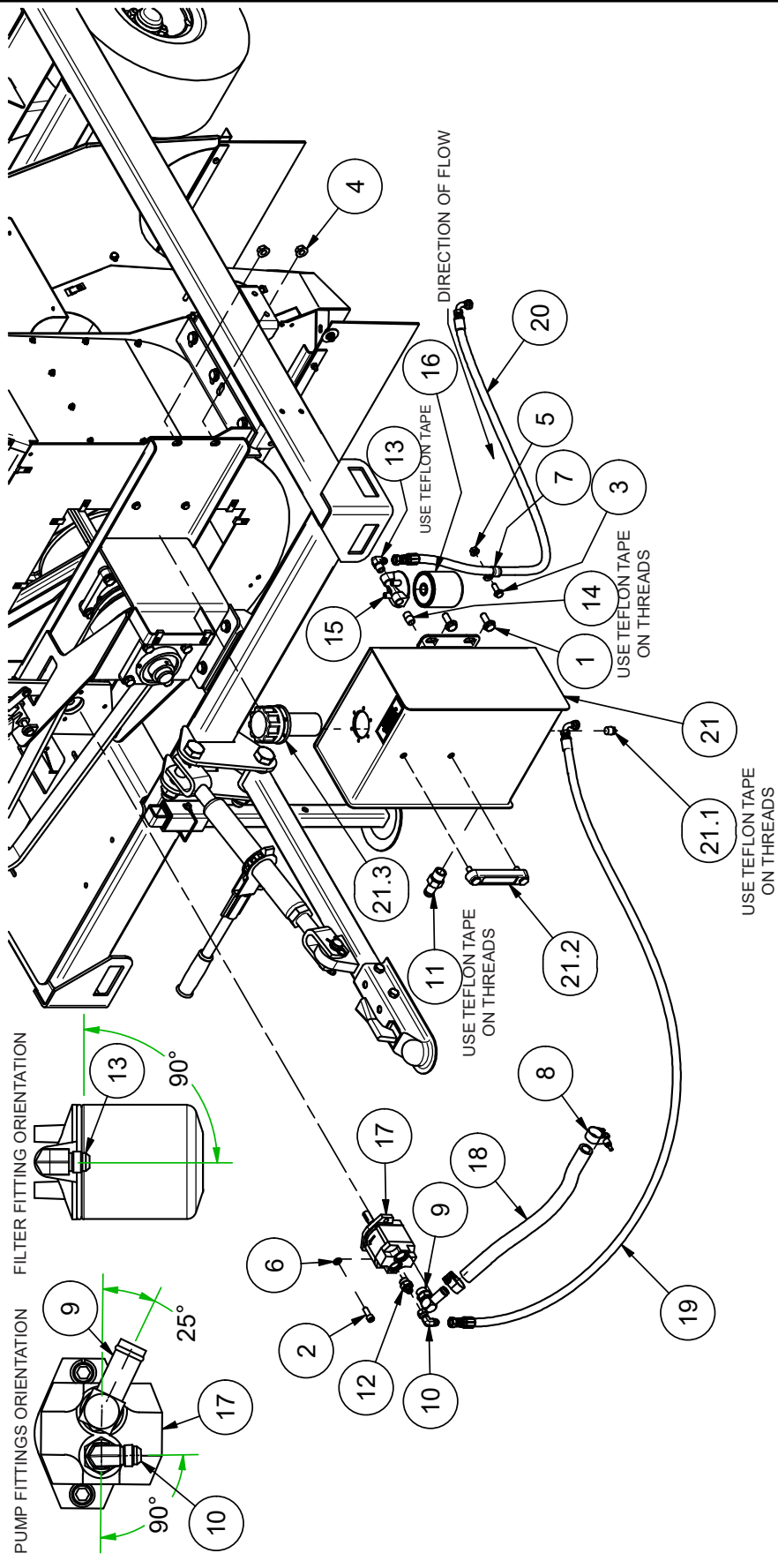
905184		REV: A
Parts List		
DESCRIPTION		
Pump, 43 Ci, Aa		
Hose, .75-124 Hwr X 20		
Hose, .375 X86" 6fjx90m-6fjx90m		
Hose, .375 X 48" 6fjx90m-6fjx90m		
Hydraulic Tank Assy		
Fitting, Plug 3/8" Pipe		
Sight Glass, Hydraulic Tank		
Breather/Filler Cap		

4

DIRECTION OF FLOW

Parts List			
Item	Qty	Part #	DESCRIPTION
9	1	120184	Adapter, 12bh-10mb90
10	1	120218	Adapter, 6mj-6fx90
11	1	120227	Adapter, 12bh-12mp
12	1	120239	Adapter, 6mj-8mb
13	1	120500	Adapter, 6mj-6mp90
14	1	220121	Fitting, Nipple 3/8 X 1
15	1	220558	Spin On Filter Head
16	1	220559	Filter Element

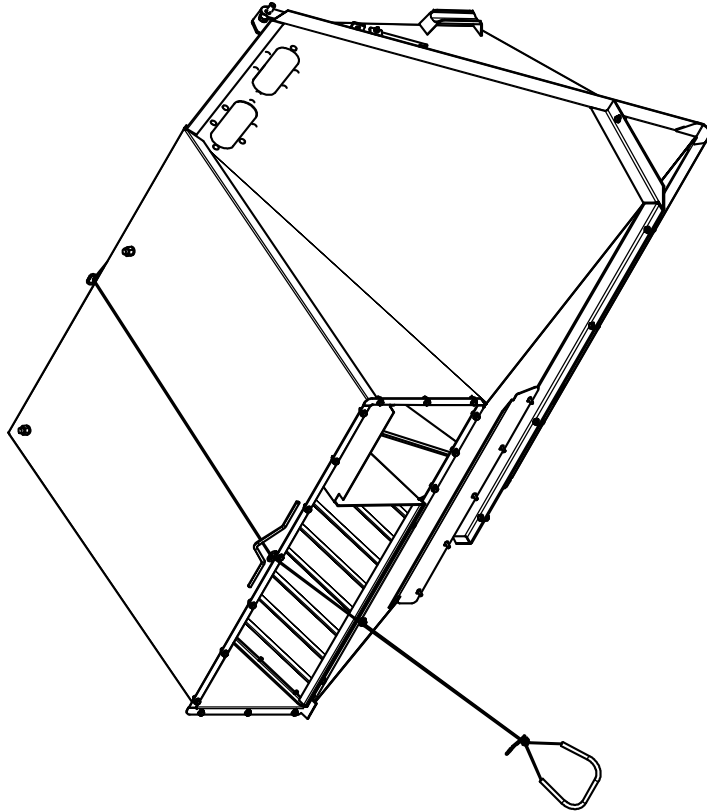
Parts List			
Item	Qty	Part #	DESCRIPTION
17	1	720214	Pump, .43 Ci, Aa
18	1	920002	Hose, .75-124 Hwr X 20
19	1	920033	Hose, .375 X66" 6fx90m-6fx90m
20	1	920034	Hose, .375 X 48" 6fx90m-6fx90m
21	1	975620	Hydraulic Tank Assy
21.1	1	720108	Fitting, Plug 3/8" Pipe
21.2	1	922142	Sight Glass, Hydraulic Tank
21.3	1	923001	Breather/Filler Cap





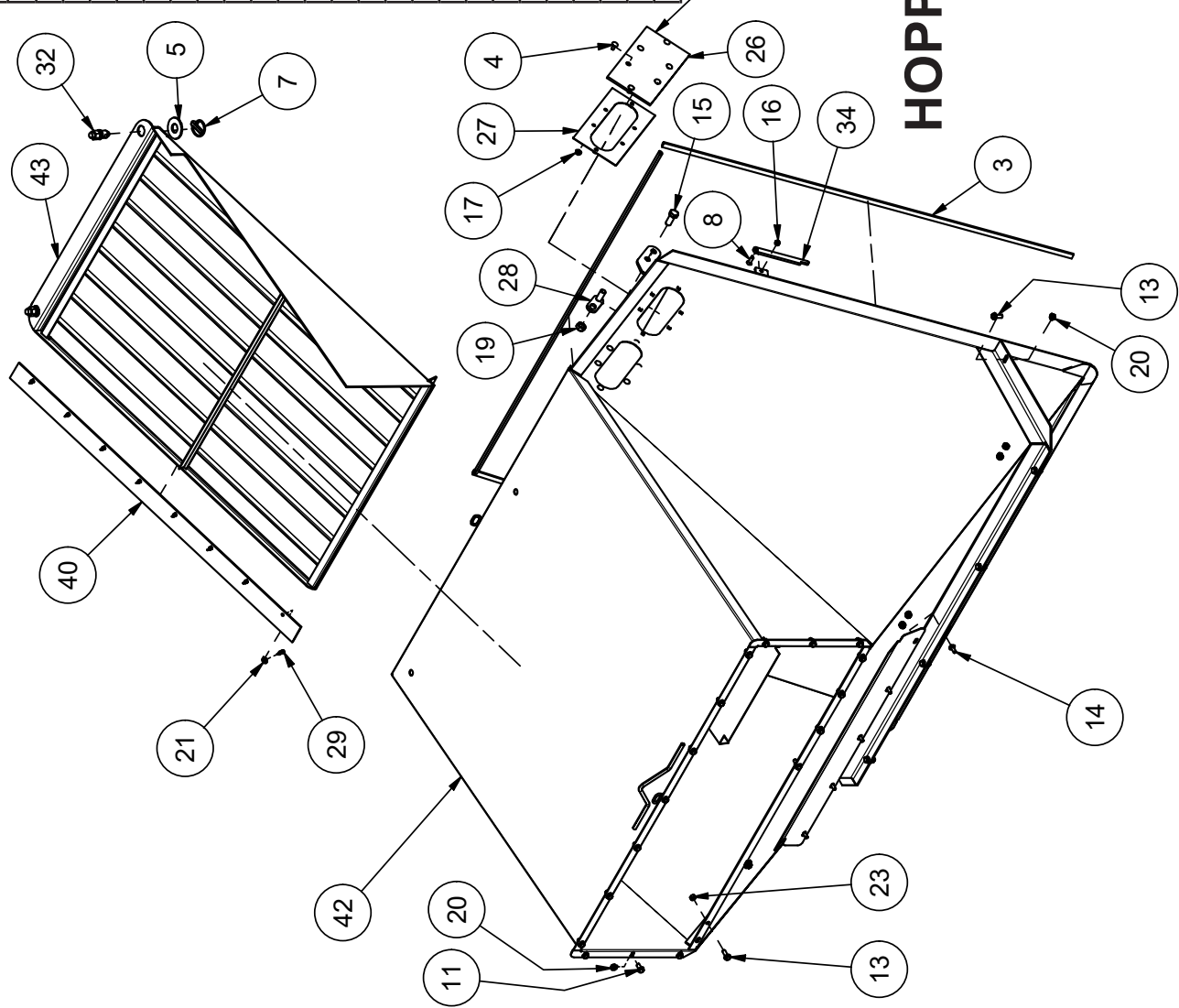
905180 REV: B

Parts List				Parts List			
Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION
1	1	100621	Thimble, Wire Rope 1/8"	38	2	970725	Latch Spacer
2	4	100622	Clip, Wire Rope 1/8"	39	1	970727	Handle, Cable
3	31.5'	100623	Seal	40	1	970729	Debris Flap-Return Screen
4	12	110020	Bolt, 5/16-18 X 0.75 In Carriage	41	2	970733	Strike Plate
5	2	110038	Washer, 1" Flat Standard	42	1	975600	Hopper
6	5	110155	Washer, 3/8" Flat Sae	43	1	975606	Return Screen Widmnt
7	2	110305	Pin, Lynch 7/16 X 1 3/4	44	1	975613	Lever Widmnt, Right Door Latch
8	1	110328	Bolt, 5/16-18 X 1 Flt Hd Skt	45	1	975629	Door Seal Assembly
9	8	110357	Bolt, 10-24 X 1.25 Shcs				
10	4	110423	Bolt, 5/16-18 X 1.0				
11	16	110437	Bolt, 3/8-16 X 0.75, Wiz Flange				
12	3	110439	Bolt, 3/8 X 3/8 Shoulder Shcs				
13	8	110440	Bolt, 3/8-16 X 1, Wiz Flange				
14	5	110444	Bolt, 5/16-18 X 0.75, Wiz Flange				
15	2	110576	Bolt, 5/8-11 X 1.5 Gr 5				
16	5	110603	Nut, 5/16-18 Lock (Nylon)				
17	12	110606	Nut, 5/16-18 Wiz Flange				
18	8	110631	Nut, 10-24 Lock Nylon Insert				
19	2	110639	Nut, 5/8-11, Unitorque Lock				
20	22	110645	Nut, 3/8-16 Wiz Flange				
21	8	110673	Washer, 1/4" Flat Standard				
22	2	110743	Bolt, 5/16-18 X 2 Eye				
23	2	110826	Nut, 3/8-16 Gr 5				
24	2	111114	Spring, 4.50" X .625"Od Extension				
25	1	210326	Clip, Hairpin				
26	2	311691	Sight Glass, Hopper				
27	2	311692	Backing Plate, Sight Glass				
28	2	315257	Pin Weldment, Hopper Door				
29	8	710586	Screw, 1/4 X 1 Tek Self-Tap				
30	1	905188	Assy, Tv40 Hopper Door W/ Decals				
31	2	910046	Engaging Channel Clip				
32	2	942161	Pin, Stabilizer				
33	2	950002	Door Latch				
34	1	970211	Bar, Prop				
35	1	970622	Lever, Left Door Latch				
36	2	970678	Latch Shim				
37	1	970715	Latch Cable Tv40				



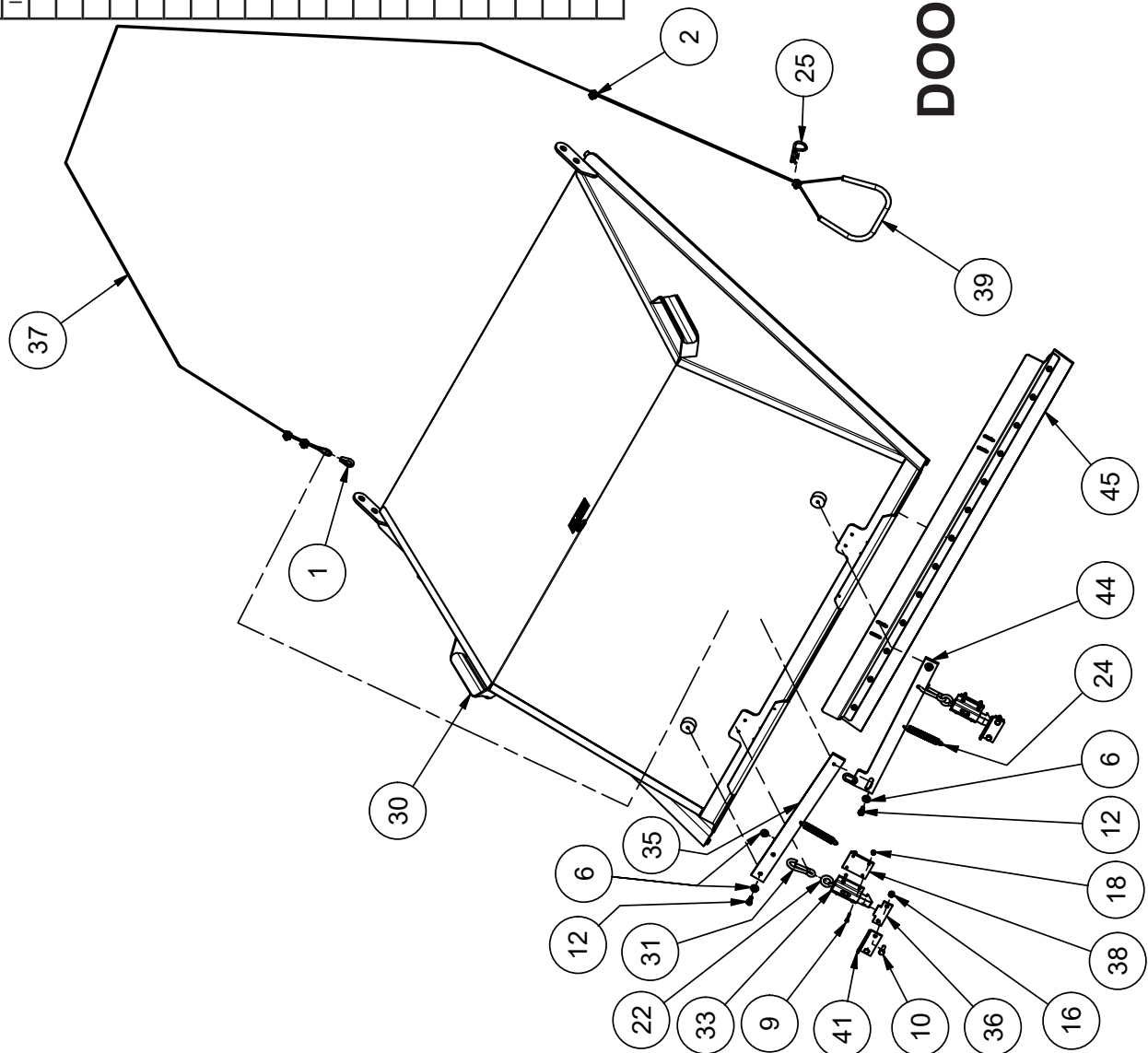
## HOPPER INSTALL

Parts List				
Item	Qty	Part #	DESCRIPTION	
3	31.5'	100623	Seal	
4	12	110020	Bolt, 5/16-18 X 0.75 In Carriage	
5	2	110038	Washer, 1" Flat Standard	
7	2	110305	Pin, Lynch 7/16 X 1 3/4	
8	1	110328	Bolt, 5/16-18 X 1 Flt Hd Skt	
11	16	110437	Bolt, 3/8-16 X 0.75, Wiz Flange	
13	8	110440	Bolt, 3/8-16 X 1, Wiz Flange	
14	5	110444	Bolt, 5/16-18 X 0.75, Wiz Flange	
15	2	110576	Bolt, 5/8-11 X 1.5 Gr 5	
16	5	110603	Nut, 5/16-18 Lock (Nylon)	
17	12	110606	Nut, 5/16-18 Wiz Flange	
19	2	110639	Nut, 5/8-11, Unitorque Lock	
20	22	110645	Nut, 3/8-16 Wiz Flange	
21	8	110673	Washer, 1/4" Flat Standard	
23	2	110826	Nut, 3/8-16 Gr 5	
26	2	311691	Sight Glass, Hopper	
27	2	311692	Backing Plate, Sight Glass	
28	2	315257	Pin Weldment, Hopper Door	
29	8	710586	Screw, 1/4 X 1 Tek Self-Tap	
32	2	942161	Pin, Stabilizer	
34	1	970211	Bar, Prop	
40	1	970729	Debris Flap-Return Screen	
42	1	975600	Hopper	
43	1	975606	Return Screen Wldmnt	



# HOPPER & RETURN SCREEN

905180		REV: B	
Parts List			
Item	Qty	Part #	DESCRIPTION
1	1	100621	Thimble, Wire Rope 1/8"
2	4	100622	Clip, Wire Rope 1/8"
6	5	110155	Washer, 3/8" Flat Sae
9	8	110357	Bolt, 10-24 X 1.25 Shcs
10	4	110423	Bolt, 5/16-18 X 1.0
12	3	110439	Bolt, 3/8 X 3/8 Shoulder Shcs
16	5	110603	Nut, 5/16-18 Lock (Nylon)
18	8	110631	Nut, 10-24 Lock Nylon Insert
22	2	110743	Bolt, 5/16-18 X 2 Eye
24	2	111114	Spring, 4.50" X .625"Od Extension
25	1	210326	Clip, Hairpin
30	1	905188	Assy, Tv40 Hopper Door W/ Decals
31	2	910046	Engaging Channel Clip
33	2	950002	Door Latch
35	1	970622	Lever, Left Door Latch
36	2	970678	Latch Shim
37	1	970715	Latch Cable Tv40
38	2	970725	Latch Spacer
39	1	970727	Handle, Cable
41	2	970733	Strike Plate
44	1	975613	Lever Widmnt, Right Door Latch
45	1	975629	Door Seal Assembly



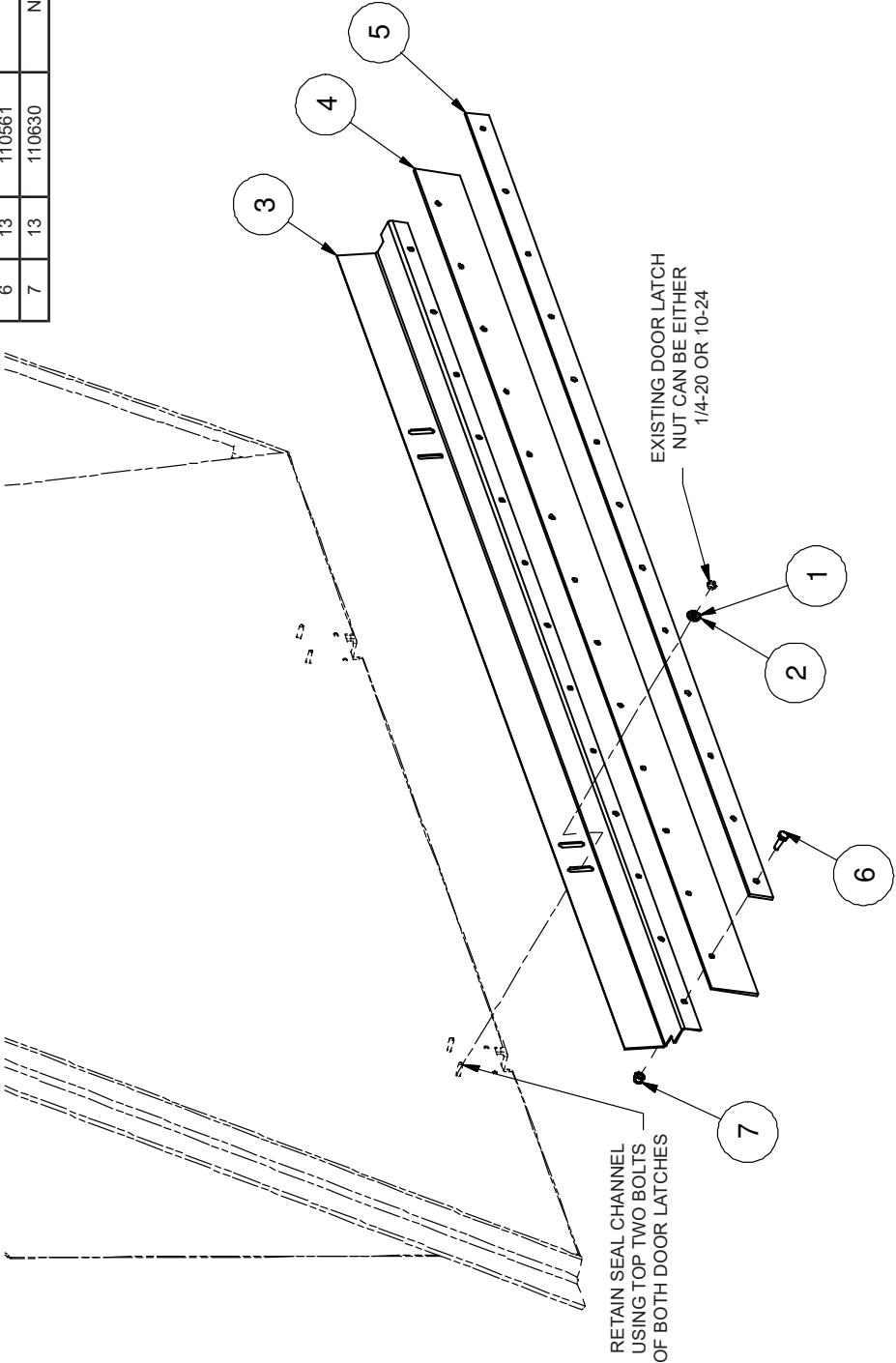
## DOOR & LATCH INSTALL

DOOR SEAL ASSEMBLY

975629

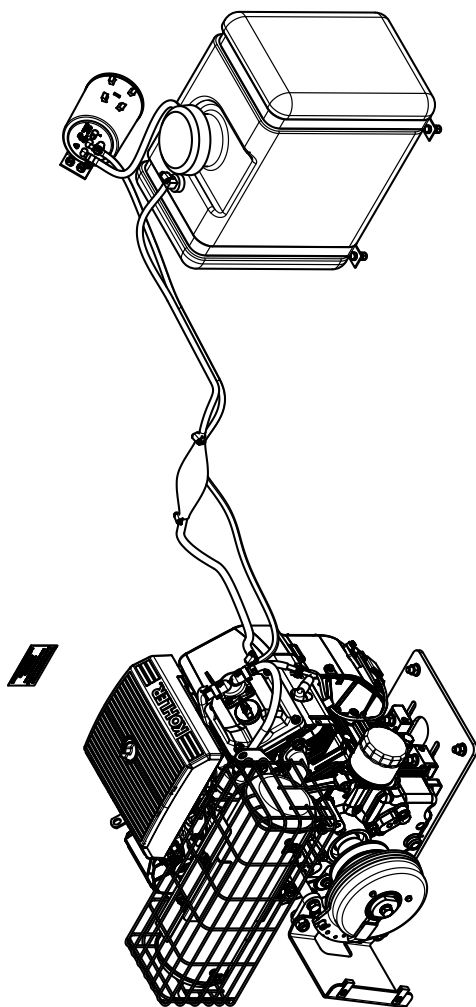
Parts List

Item	Qty	Part #	DESCRIPTION
1	4	110090	WASHER, #10 FLAT STANDARD
2	4	110298	WASHER, 1/4" FLAT SAE
3	1	970744	ZCHANNEL, DOOR SEAL
4	1	972017	DOOR SEAL
5	1	970745	BACKING PLATE, DOOR SEAL
6	13	110561	BOLT, 1/4-20 X .75
7	13	110630	NUT, 1/4-20 LOCK (NYLON INSERT)



905182 REV: C

Parts List			
Item	Qty	Part #	DESCRIPTION
1	7	100361	CLAMP, HOSE #4 .25 MINI
2	4'	100644	HOSE, 1/4, LOW PERM
3	3.75'	100708	HOSE, 3/16 LOW PERM
4	2	110168	BOLT, 5/16-18 X 2.0 SHCS
5	2	110219	NUT, 7/16-14 LOCK NYLON INSERT
6	6	110299	BOLT, 1/4-20 X .625 HEX GR 5
7	2	110319	NUT, 5/16-18 U-TYPE .75L
8	6	110400	BOLT, 3/8-16 X 2.0
9	4	110425	BOLT, 3/8-16 X 1.25
10	1	110443	BOLT, 7/16-20 X 2.75
11	2	110527	BOLT, 7/16-14 X 4.0
12	2	110528	BOLT, 7/16-14 X 1.0
13	4	110606	NUT, 5/16-18 WIZ FLANGE
14	6	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
15	4	110643	Hex Nut M8 X 1.25
16	10	110645	NUT, 3/8-16 WIZ FLANGE
17	2	110671	WASHER, 7/16" LOCK
18	10	110676	WASHER, 3/8" FLAT STANDARD
19	1	111272	WASHER, 7/16, NORD LOCK
20	2	112120	BOLT, M8x1.25 x 90 Gr 8.8
21	1	902162	FUEL TANK ASSY, 6 GAL
22	2	902163	STRAP, HOLD DOWN
23	1	902181	DECAL, EMISSIONS COMPLIANCE
24	1	902256	CARBON CANISTER, 650CC
25	1	902257	BRKT, 650CC CARBON CANISTER
26	1	932018	CLUTCH, ELECTRIC
27	1	943026	ENGINE, KOHLER 20HP TWIN
28	1	952030	Primer Bulb, CARB
29	2	970284	SPACER, .75 X .50 X 2.75
30	1	970600	SPACER, 1.625 X 1.13
31	1	970680	CLUTCH BRACKET
32	1	970722	MOUNT, BELT GUARD
33	1	970892	BLOCK, PULL BELT TENSIONER
34	1	970895	ENGINE MOUNT, TOP PLATE



## ENGINE INSTALLATION



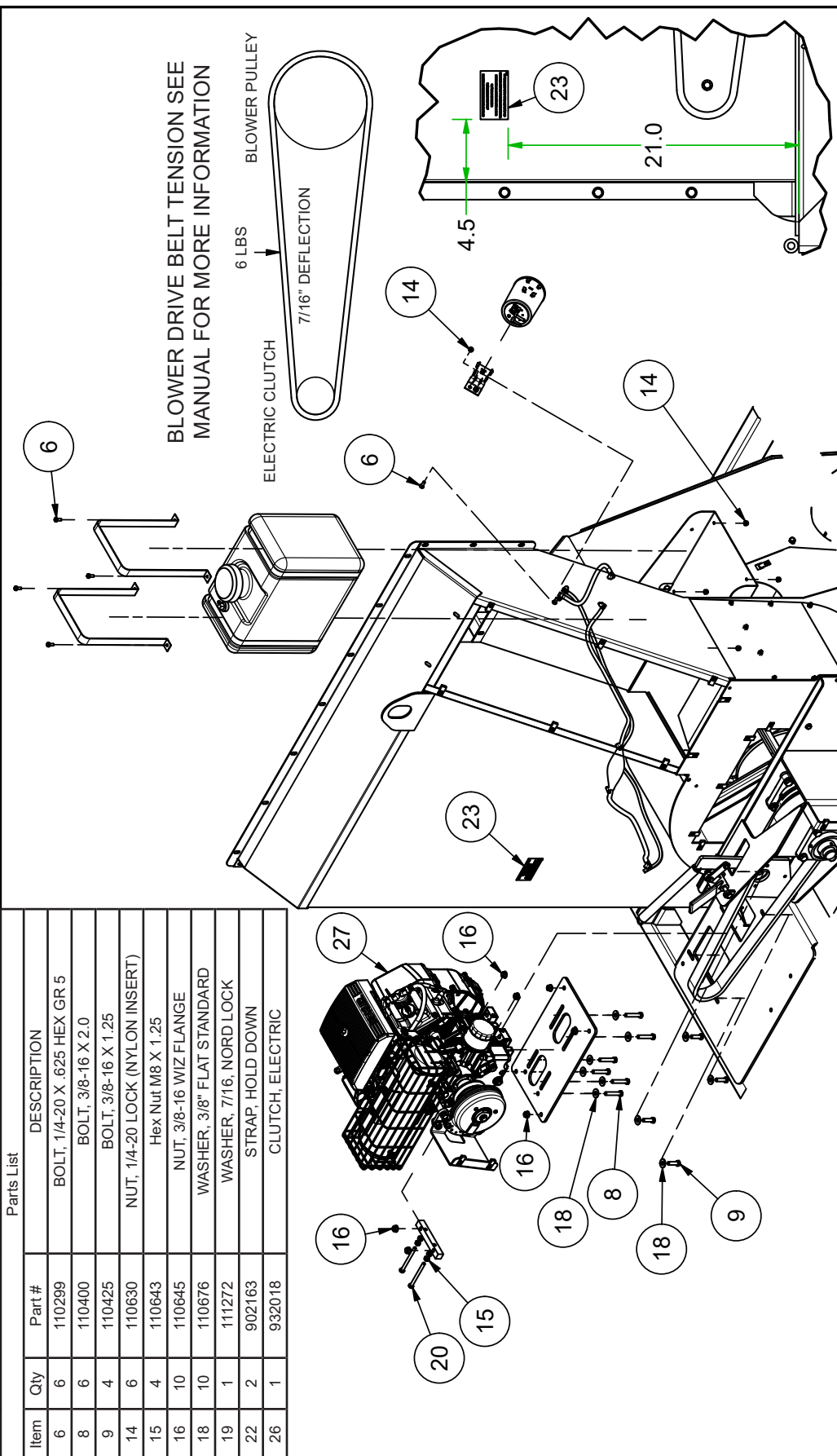
905182

REV: C

ENGING SERVICE PARTS	
Part #	DESCRIPTION
902173	FUEL FILTER
942050	MUFFLER
942051	GUARD ASSY
942068	DEFLECTOR
952001	CONTROL PANEL
952001	CHOKE CABLE

Parts List			
Item	Qty	Part #	DESCRIPTION
1	7	100361	CLAMP, HOSE #4.25 MINI
2	4'	100644	HOSE, 1/4, LOW PERM
3	3.75'	100708	HOSE, 3/16 LOW PERM
4	2	110168	BOLT, 5/16-18 X 2.0 SHCS
5	2	110219	NUT, 7/16-14 LOCK NYLON INSERT
6	6	110299	BOLT, 1/4-20 X .625 HEX GR 5
7	2	110319	NUT, 5/16-18 U-TYPE .75L
8	6	110400	BOLT, 3/8-16 X 2.0
9	4	110425	BOLT, 3/8-16 X 1.25
10	1	110443	BOLT, 7/16-20 X 2.75
11	2	110527	BOLT, 7/16-14 X 4.0
12	2	110528	BOLT, 7/16-14 X 1.0
13	4	110606	NUT, 5/16-18 WIZ FLANGE
14	6	110630	NUT, 1/4-20 LOCK (NYLON INSERT)
15	4	110643	Hex Nut M8 X 1.25
16	10	110645	NUT, 3/8-16 WIZ FLANGE
17	2	110671	WASHER, 7/16" LOCK
18	10	110676	WASHER, 3/8" FLAT STANDARD
19	1	111272	WASHER, 7/16, NORD LOCK
20	2	112120	BOLT, M8x1.25 x 90 Gr 8.8
21	1	902162	FUEL TANK ASSY, 6 GAL
22	2	902163	STRAP, HOLD DOWN
23	1	902181	DECAL, EMISSIONS COMPLIANCE
24	1	902256	CARBON CANISTER, 650CC
25	1	902257	BRKT, 650CC CARBON CANISTER
26	1	932018	CLUTCH, ELECTRIC
27	1	943026	ENGINE, KOHLER 20HP TWIN
28	1	952030	Primer Bulb, CARB
29	2	970284	SPACER, .75 X .50 X 2.75
30	1	970600	SPACER, 1.625 X 1.13
31	1	970680	CLUTCH BRACKET
32	1	970722	MOUNT, BELT GUARD
33	1	970892	BLOCK, PULL BELT TENSIONER
34	1	970895	ENGINE MOUNT, TOP PLATE

905182 REV: C



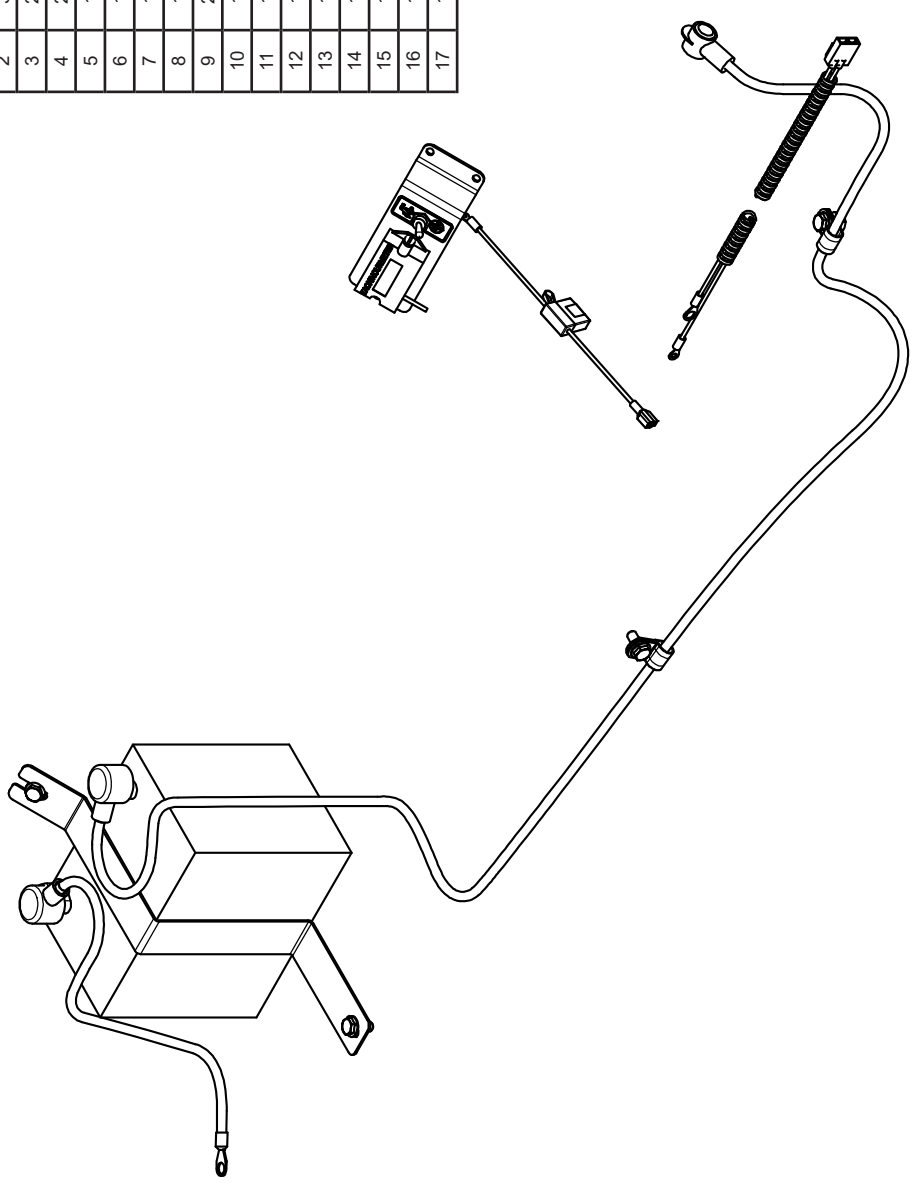
# MOUNTING ENGINE TO TV40

905183

REV: B

Parts List

Item	Qty	Part #	DESCRIPTION
1	4	110444	Bolt, 5/16-18 X 0.75, Wiz Flange
2	3	110606	Nut, 5/16-18 Wiz Flange
3	2	110631	Nut, 10-24 Lock Nylon Insert
4	2	110726	Clamp, Adel .75wx.5idx.406 Hole
5	1	130021	Switch, Spdt, No Center
6	1	132014	Insulator Cap, (Alternator)
7	1	132069	Battery Terminal Cover, Positive
8	1	132070	Battery Terminal Cover, Negative
9	2	510960	Screw, 10-24 X 0.5, Rhms
10	1	905191	Assy, Tachometer Bracket W/ Decals
11	1	910957	Brkt, Battery Hold Down
12	1	932007	Tachometer / Hour Meter
13	1	932053	Battery, 12v Gel
14	1	932066	Battery Cable, Positive 4 Ga - 60"
15	1	932067	Battery Cable, Ground
16	1	935008	Fuse Link
17	1	935009	Clutch Wire Assy



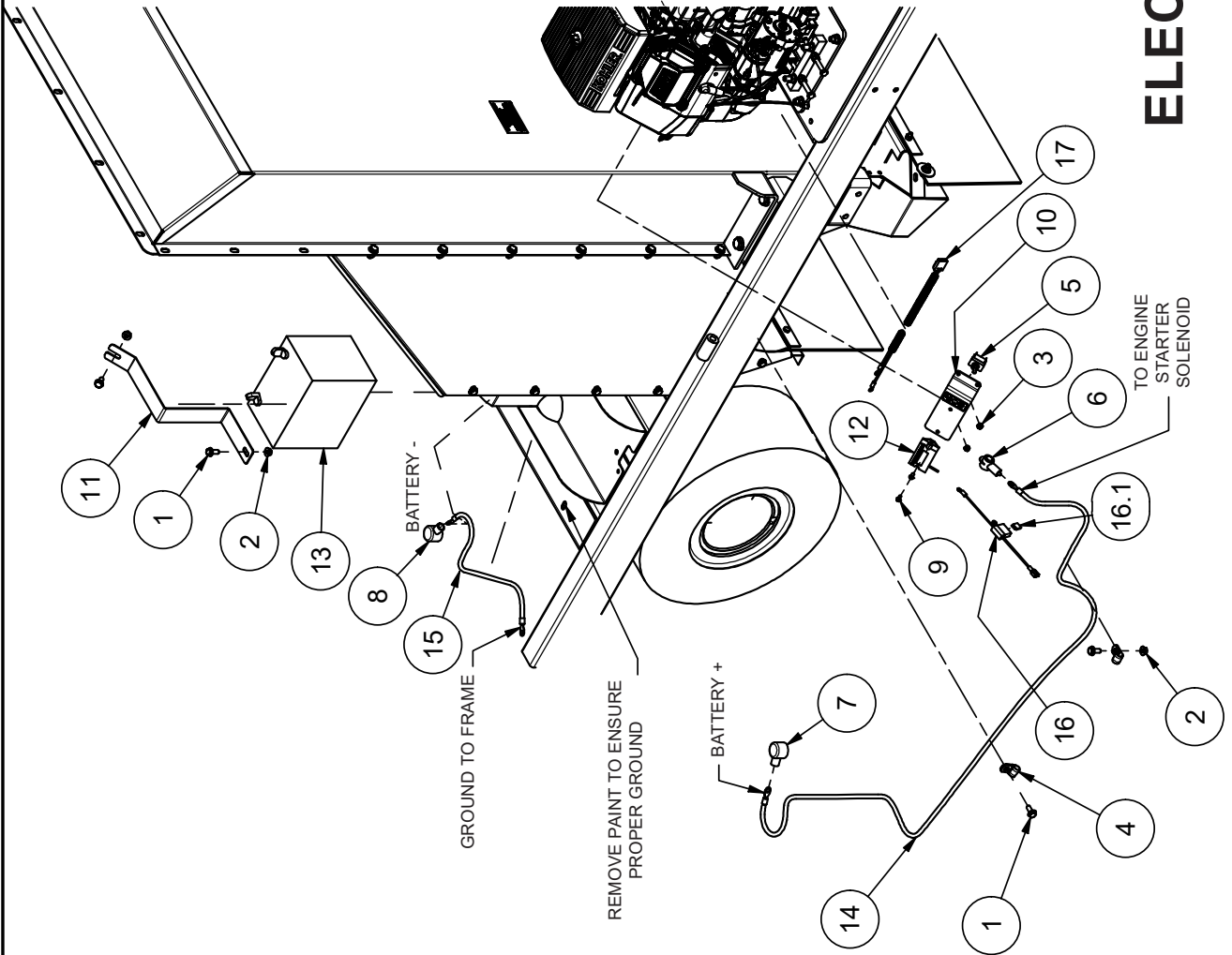
ELECTRONICS INSTALLATION

905183 REV: B

Parts List			
Item	Qty	Part #	DESCRIPTION
1	4	110444	Bolt, 5/16-18 X 0.75, Wiz Flange
2	3	110606	Nut, 5/16-18 Wiz Flange
3	2	110631	Nut, 10-24 Lock Nylon Insert
4	2	110726	Clamp, Adel .75wx.5idx.406 Hole
5	1	130021	Switch, Spdt, No Center
6	1	132014	Insulator Cap, (Alternator)
7	1	132069	Battery Terminal Cover, Positive
8	1	132070	Battery Terminal Cover, Negative
9	2	510960	Screw, 10-24 X 0.5, Rhms
10	1	905191	Assy, Tachometer Bracket W/ Decals
11	1	910957	Brkt, Battery Hold Down
12	1	932007	Tachometer / Hour Meter
13	1	932053	Battery, 12v Gel
14	1	932066	Battery Cable, Positive 4 Ga - 60"
15	1	932067	Battery Cable, Ground
16	1	935008	Fuse Link
16.1	1	132002	Fuse, Mini 30 Amp
17	1	935009	Clutch Wire Assy

**WIRING INSTRUCTIONS FOR 130021:**

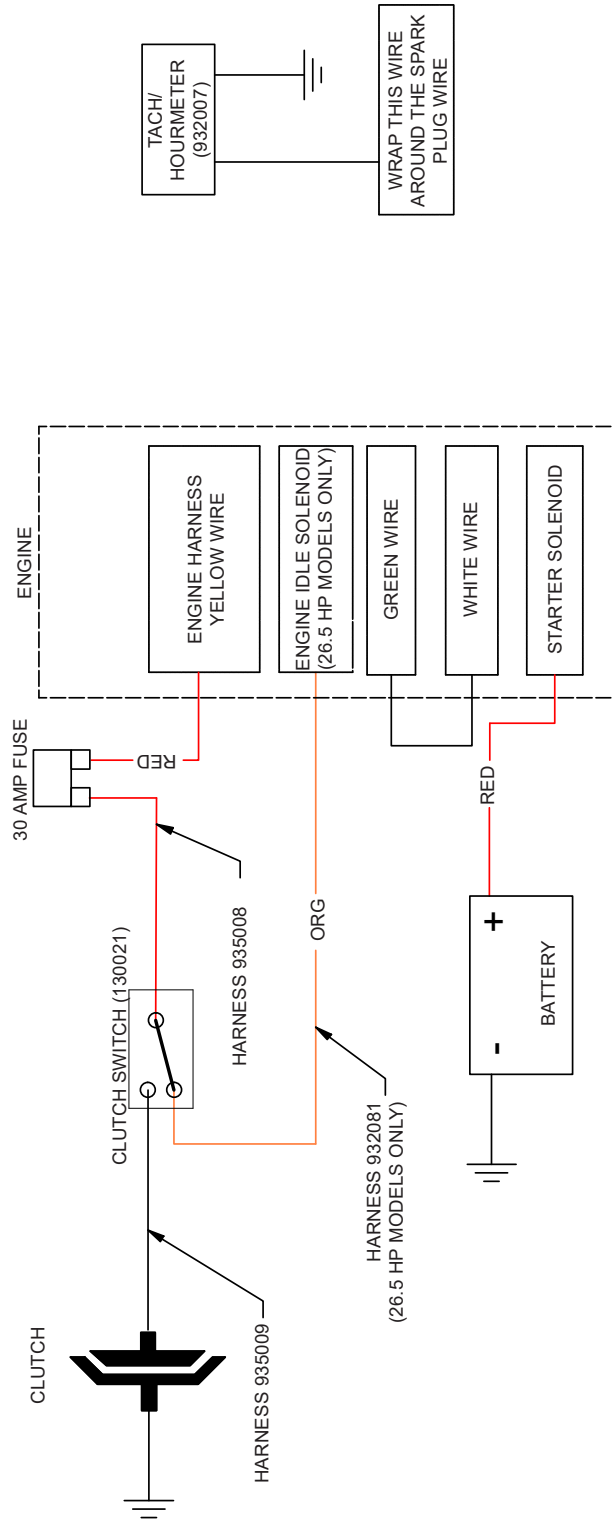
935008 TO MIDDLE OF SWITCH  
 RED WIRE OF 935009 TO BOTTOM OF SWITCH  
 932081 TO TOP OF SWITCH (26.5 HP MODELS ONLY)



# ELECTRONICS INSTALLATION

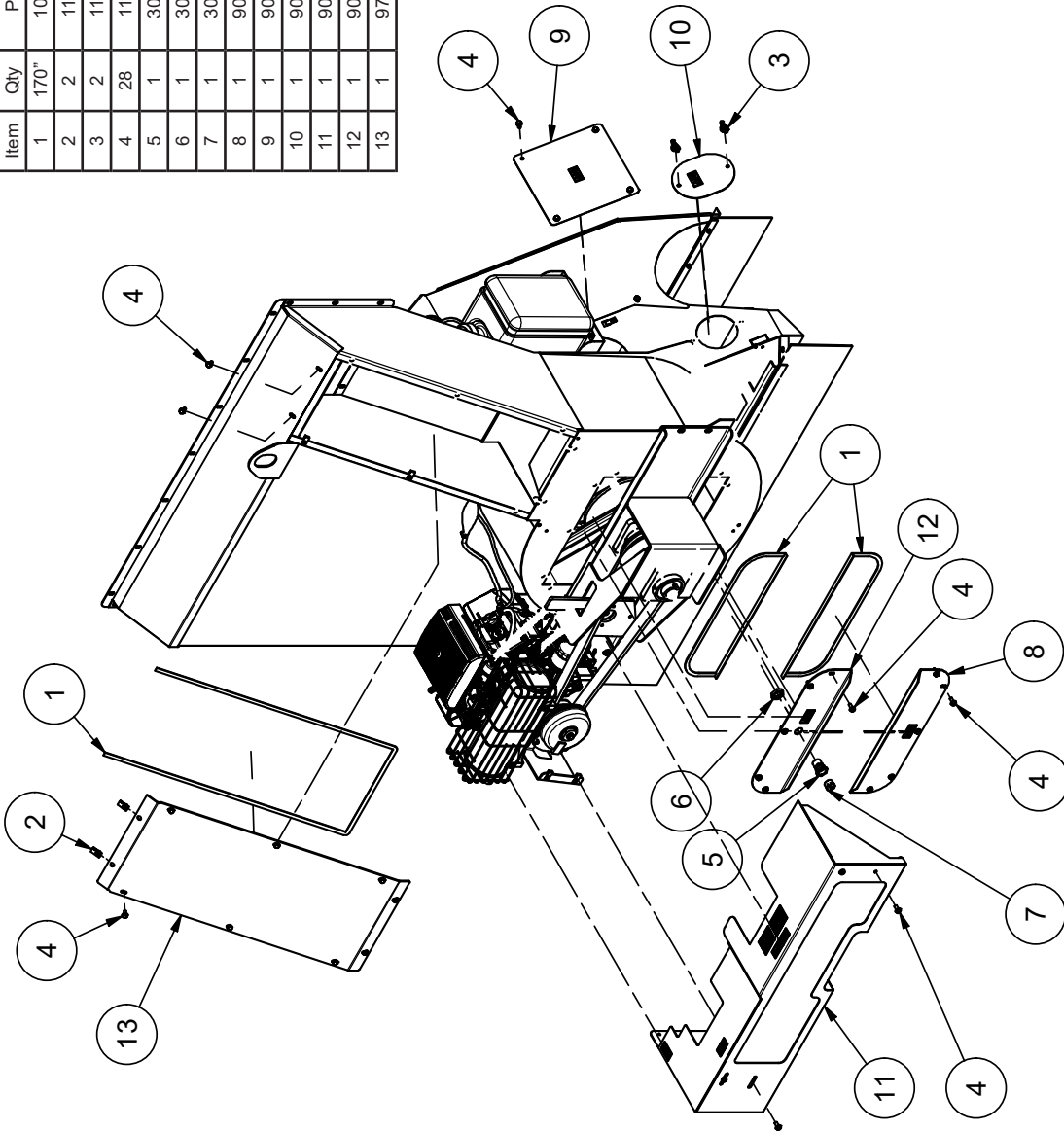
# TV40 ELECTRICAL SCHEMATIC

905183 REV: B





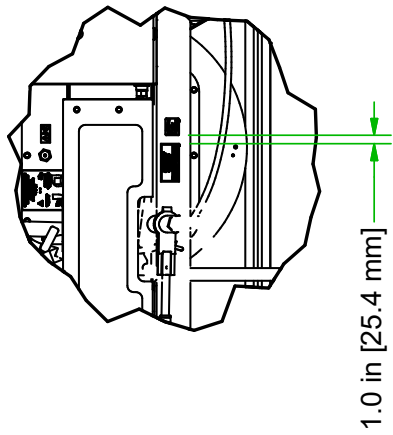
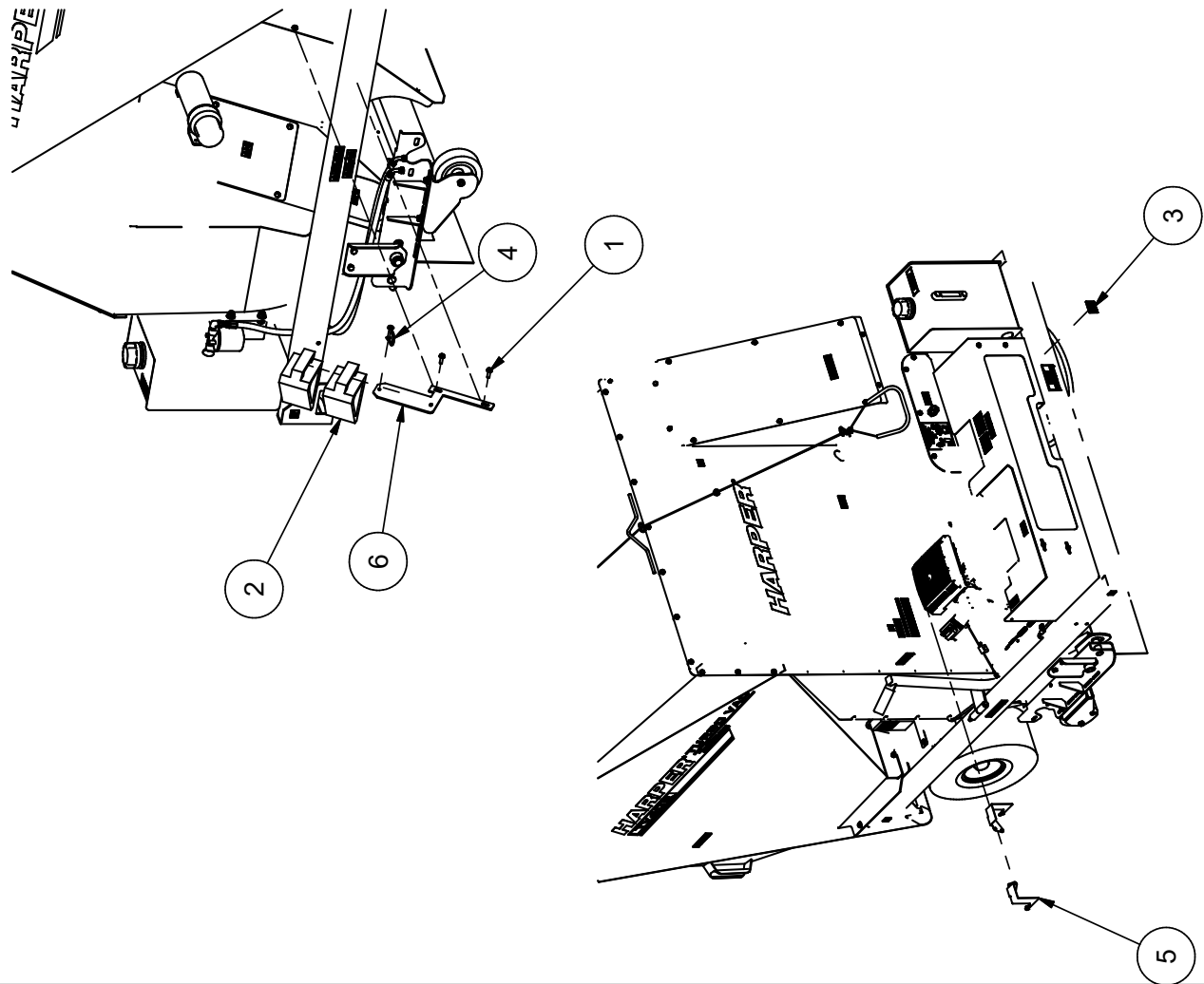
Parts List			
Item	Qty	Part #	DESCRIPTION
1	170"	100613	Seal
2	2	110319	Nut, 5/16-18 U-Type .75l
3	2	110327	Nut, 5/16-18 Wing
4	28	110444	Bolt, 5/16-18 X 0.75, Wiz Flange
5	1	302060	Swivel, Garden Hose-To-Pipe
6	1	302061	Locknut, 3/4 Npt
7	1	302062	Plug, Garden Hose
8	1	905120	Assembly, Bottom Fan Access Panel
9	1	905121	Assembly, Hose Option Cover
10	1	905122	Assembly, Nozzle Access Cover
11	1	905189	Assy, Belt Guard W/ Decals
12	1	905190	Assy, Fan Access Panel W/ Decals
13	1	970697	Door, Removable



# ACCESS PANEL INSTALL

Parts List

ITEM	QTY	PART #	DESCRIPTION
1	2	110459	BOLT, 5/16-18 X 1, WIZ FLANGE
2	2	302207	WHEEL CHOCK, SOLID RUBBER
3	1	302209	DECAL, SOUND LEVEL TV40
4	1	510962	PIN, WIRE LOCK
5	1	942309	KIT, EXHAUST SIDE SHIELDS, CE
6	1	970937	CHOCK HANGER

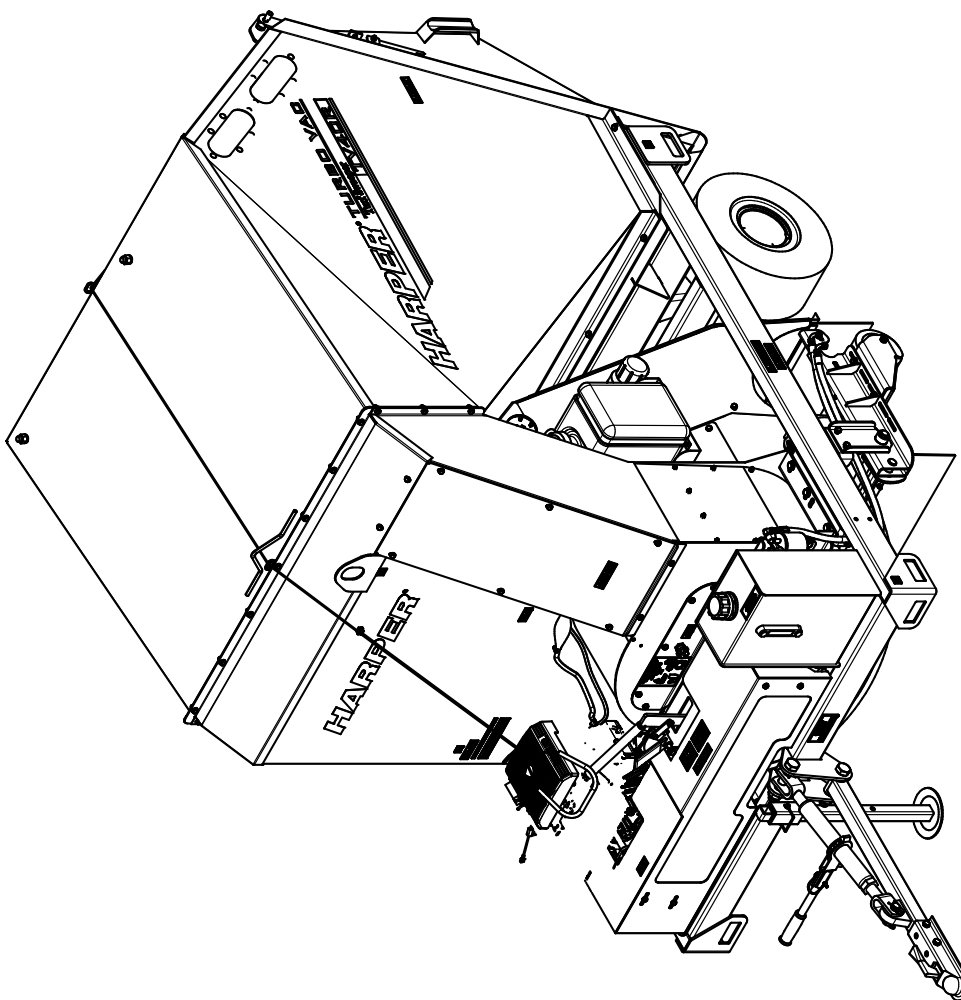


**EXPORT KIT**

905186 REV: C

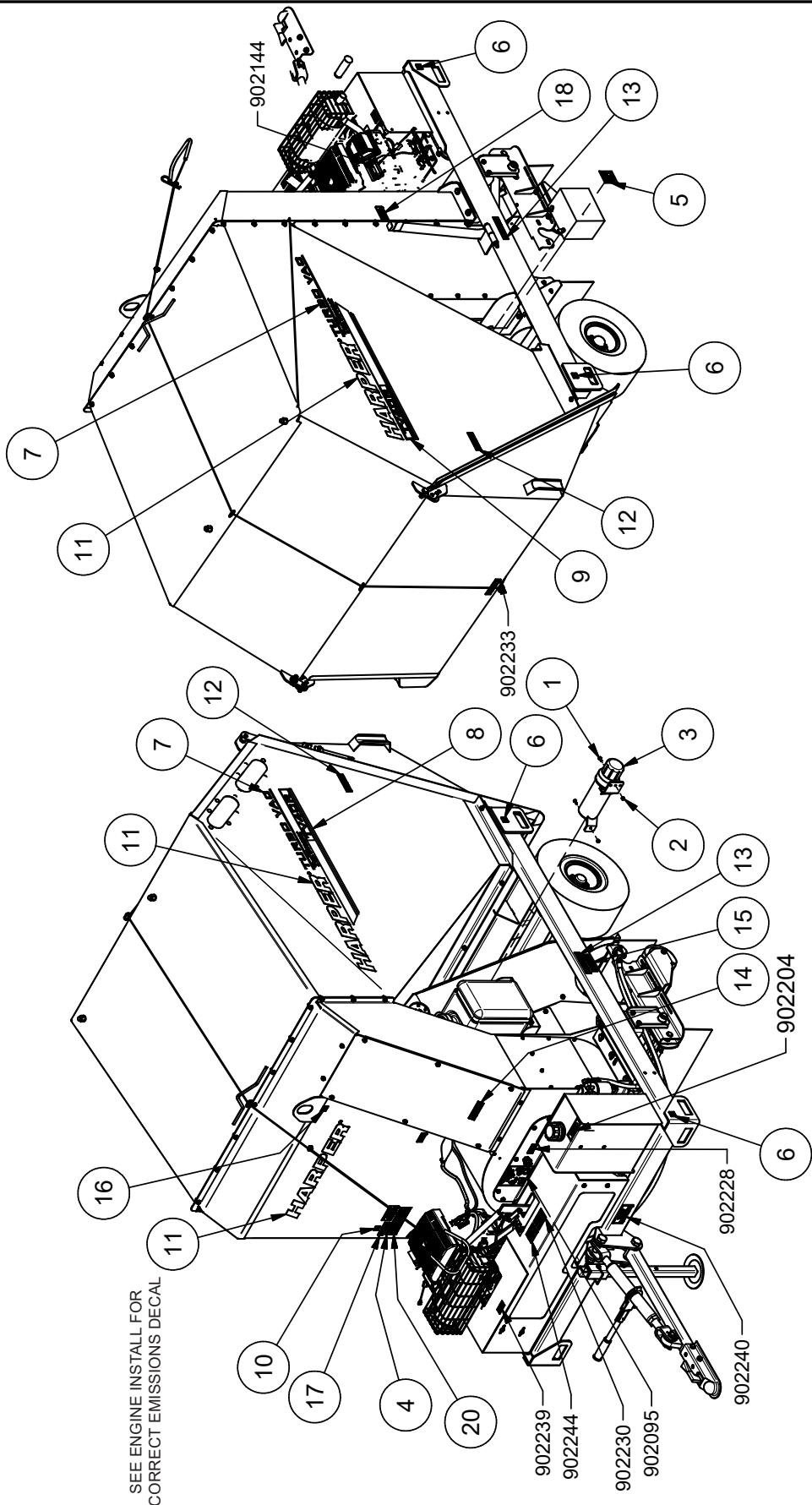
## Parts List

Item	Qty	Part #	DESCRIPTION
1	2	110299	Bolt, 1/4-20 X .625 Hex Gr 5
2	2	110630	Nut, 1/4-20 Lock (Nylon Insert)
3	1	152004	Holder, Manual
4	1	202134	Decal, Prop 65, Short Form
5	1	800195	Decal, Recycle Battery
6	4	802067	Decal, Tie Down Point
7	2	902084	Decal, Turbo Vac, Turf Sweeper
8	1	902085	Decal, Tv40 Stripe, Left
9	1	902086	Decal, Tv40 Stripe, Right
10	1	902149	Decal, Read Operators Manual.
11	3	902195	Decal, Harper 2.87 X 24.00, Black Gloss
12	2	902226	Decal, Hopper Crushing
13	2	902227	Decal, Entanglement
14	1	902229	Decal, Impeller Shield
15	1	902232	Decal, High Pressure Injection
16	1	902234	Decal, No Lift
17	1	902235	Decal, Safe Distance, No Slope
18	1	902238	Decal, Lower Broom
19	1	902246	Decal, Fuel Primer Location
20	1	902259	Decal, California Spark Arrestor

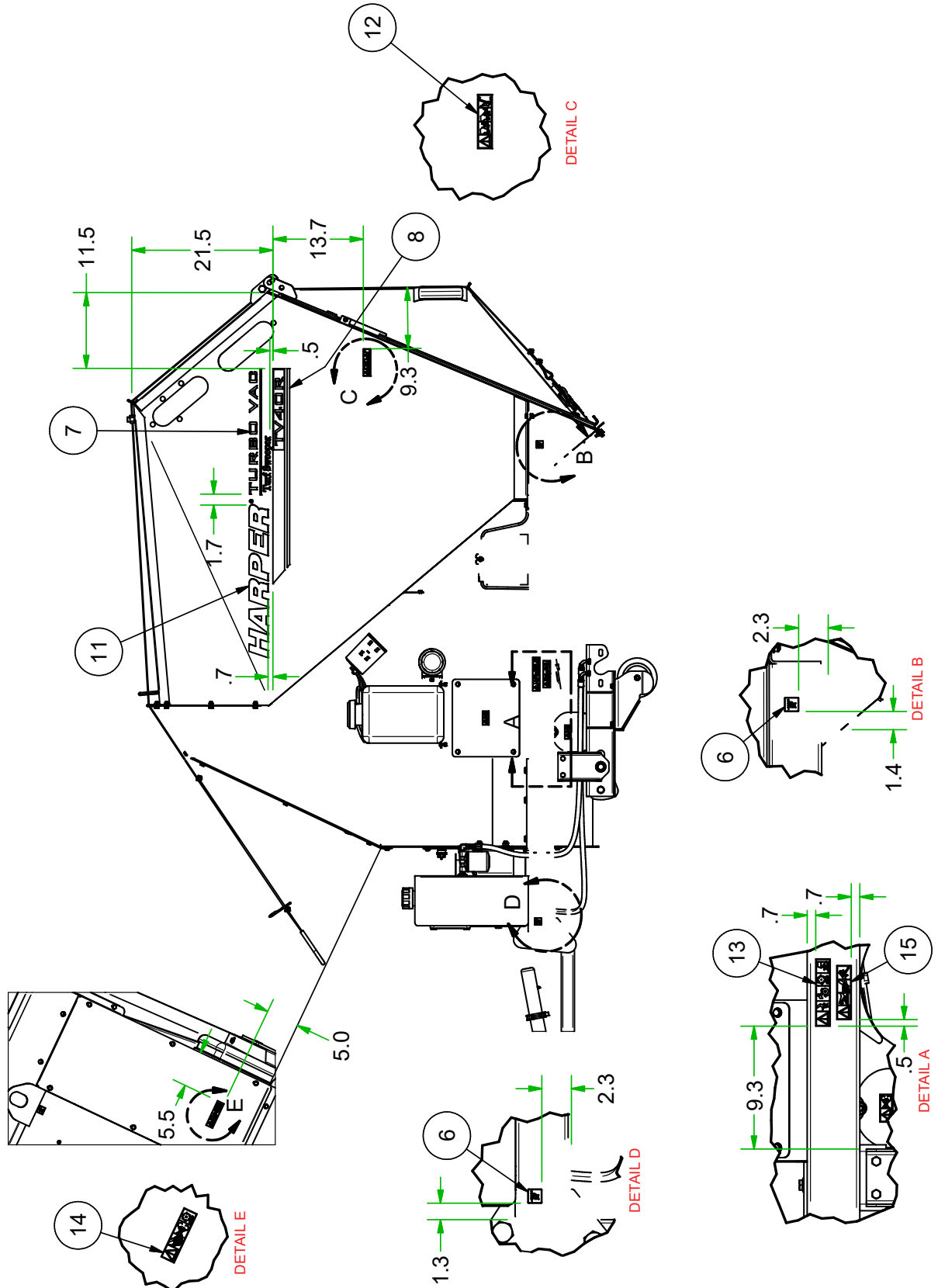


## DECAL INSTALLATION

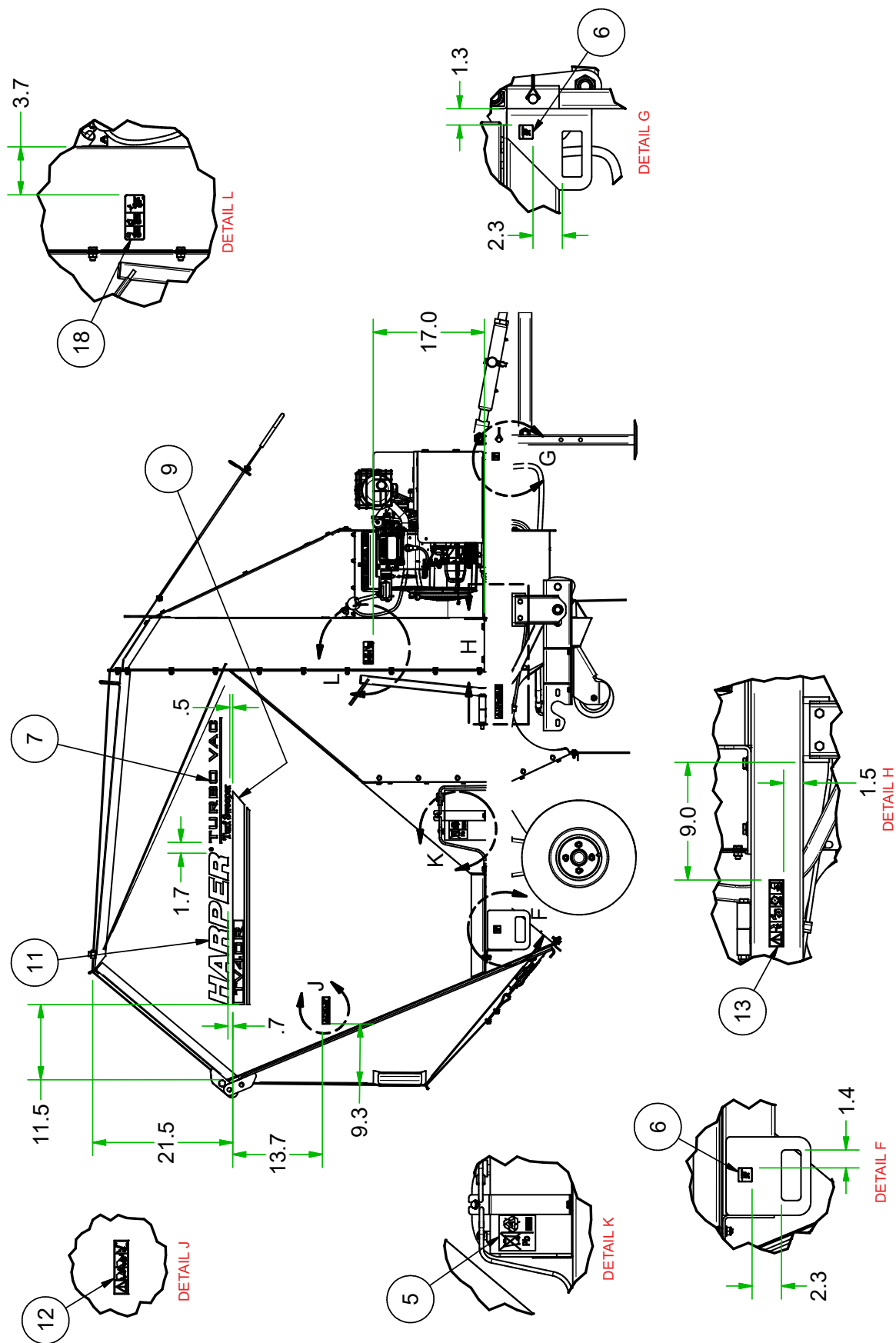
# DECAL INSTALLATION



# DECAL INSTALLATION



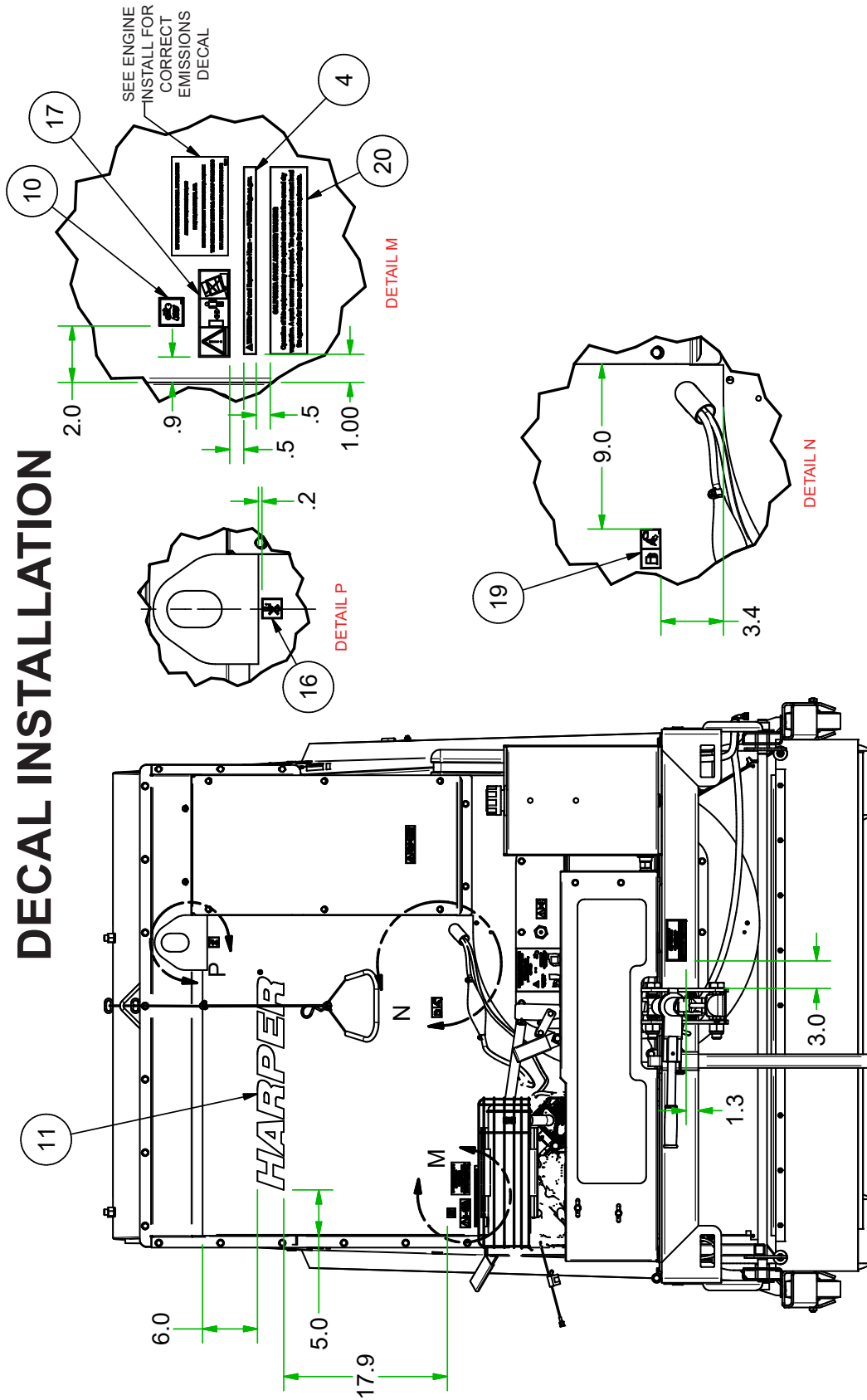
# DECAL INSTALLATION





## DECAL INSTALLATION

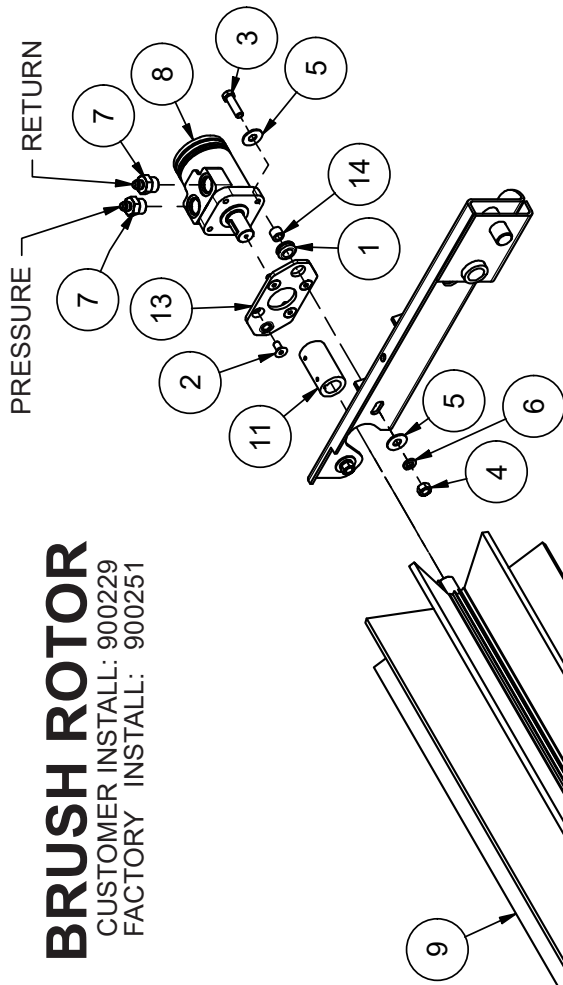
905186 REV: C



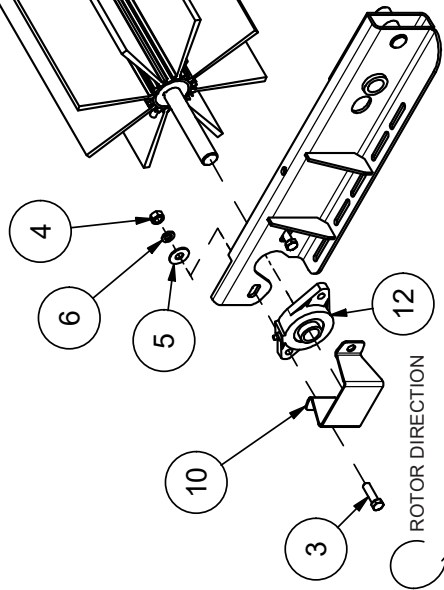
Parts List		
Item	Qty	Part # DESCRIPTION
1	2	102005 Grommet, Rubber .875 Od X .625 Id
2	4	110126 Bolt, 3/8-16 X .75 Flt Hd Skt Hd
3	4	110535 Bolt, 7/16-14 X 1.5
4	4	110641 Nut, 7/16-14
5	6	110670 Washer, 7/16" Flat Standard
6	4	110671 Washer, 7/16" Lock
7	2	120144 Adapter, 6mj-10mb
8	1	420127 Motor, Eaton 101-1009
9	1	905192 Assy, Tv40 Strip Brush
10	1	911078 Shield, Bearing, Tv40 Arm
11	1	942064 Coupler, 1" Shaft
12	1	942080 Bearing, 1" 2 Bolt Flange
13	1	970147 Mount - Motor Plate
14	2	970230 Broom Motor Spacer
15	1	900288 TV40RE Brush Rotor Installation Instructions

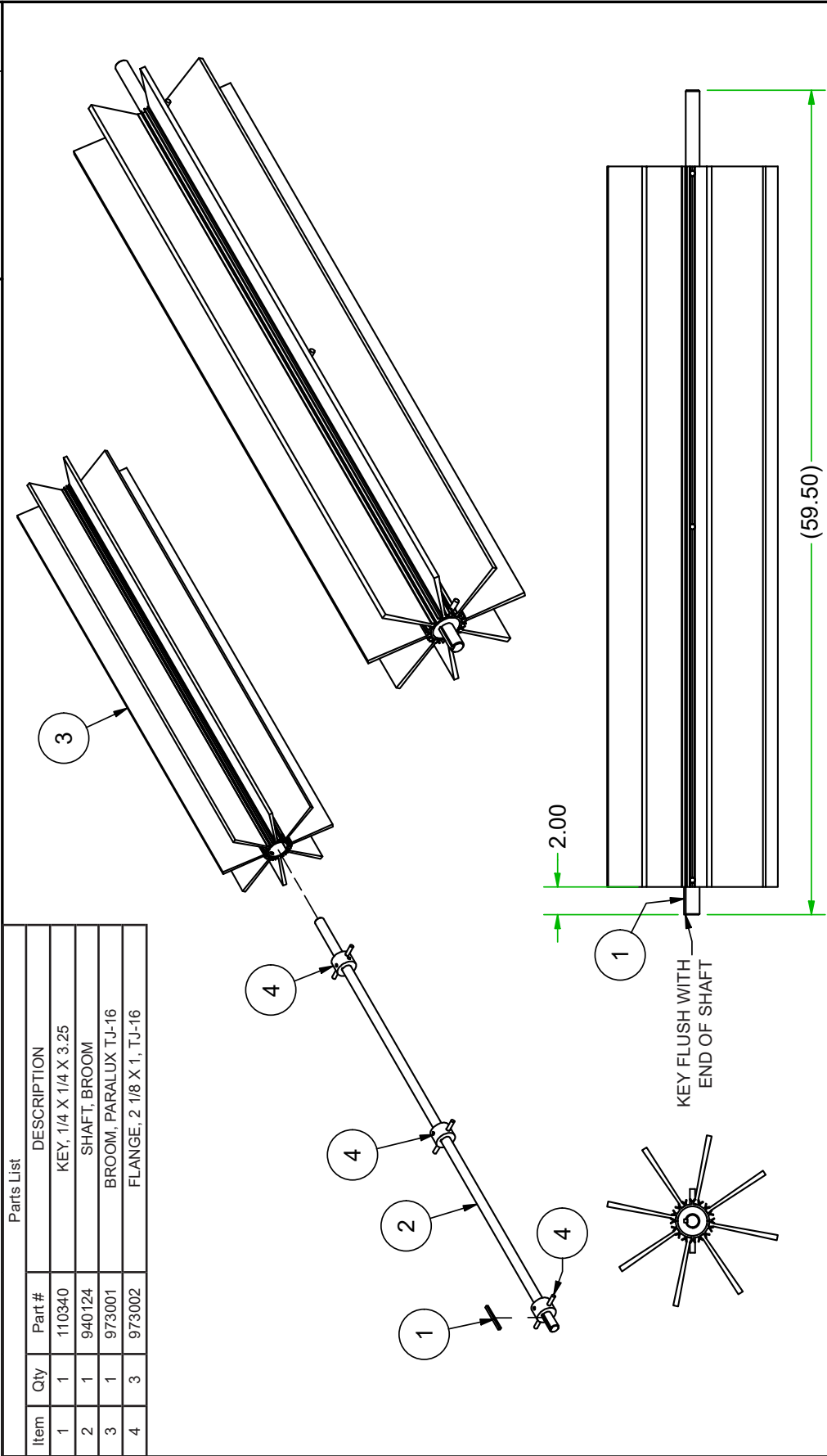
# BRUSH ROTOR

CUSTOMER INSTALL: 900229  
FACTORY INSTALL: 900251



**SERVICE NOTE:**  
Due to Part Availability, 2022 & 2023 models may have been equipped with a Full Brush Rotor (905158) or a Strip Brush Rotor (905192). See the brush assembly page for service part details.





# BRUSH ASSEMBLY

900225

REV: C

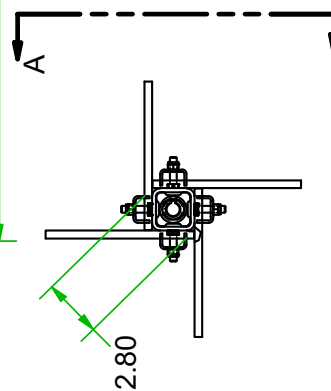
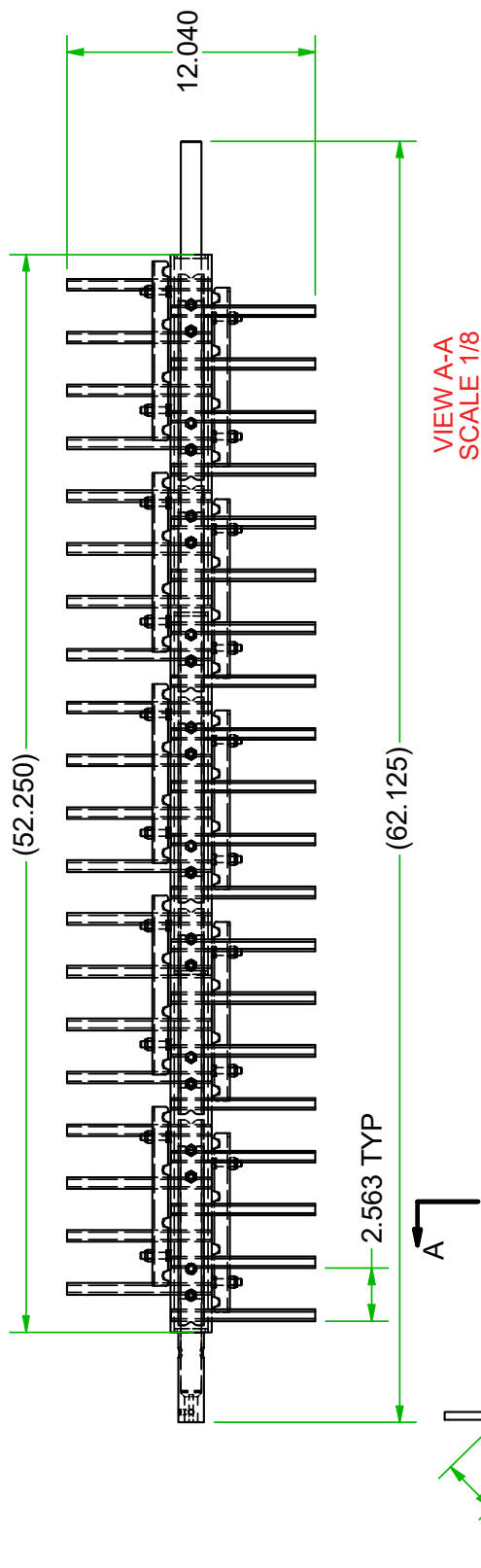
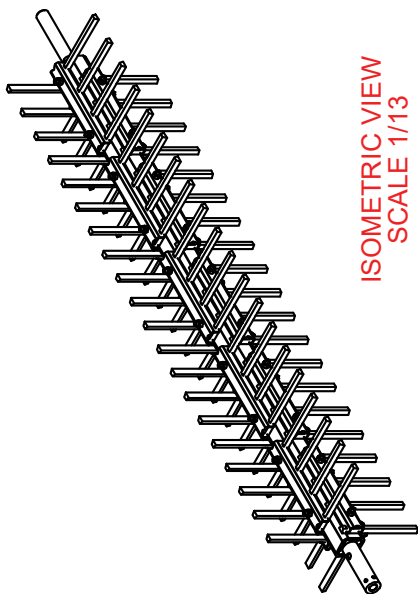
Parts List		Parts List	
Item	Qty	Part #	DESCRIPTION
1	1	102005	Grommet, Rubber .875 Od X .625 Id
2	5	110415	Bolt, 1/4-28 X .625
3	2	110419	Bolt, 1/2-13 X 1.75
4	1	110435	Bolt, 3/8-16 X 1.5
5	2	110535	Bolt, 7/16-14 X 1.5
6	2	110610	Nut, 1/2-13
7	1	110618	Nut, 3/8-16 Lock Nylon Insert
8	2	110641	Nut, 7/16-14
9	2	110658	Washer, 1/2" Flat Standard
10	2	110666	Washer, 1/2" Lock
11	5	110667	Washer, 1/4" Lock
12	2	110670	Washer, 7/16" Flat Standard
13	2	110671	Washer, 7/16" Lock
14	2	110676	Washer, 3/8" Flat Standard
15	2	120319	Adapter, 6mj-6mb
16	1	410928	Bearing, Slat Drive 1.25 Shaft

Item	Qty	Part #	DESCRIPTION
1	40	110603	Nut, 5/16-18 Lock (Nylon)
2	80	302042	Finger - Rubber
3	20	970819	Clamp - Rubber Finger
4	1	975634	Rotor - Rubber Finger, Weldment

## RUBBER FINGER ROTOR

914011 REV: A

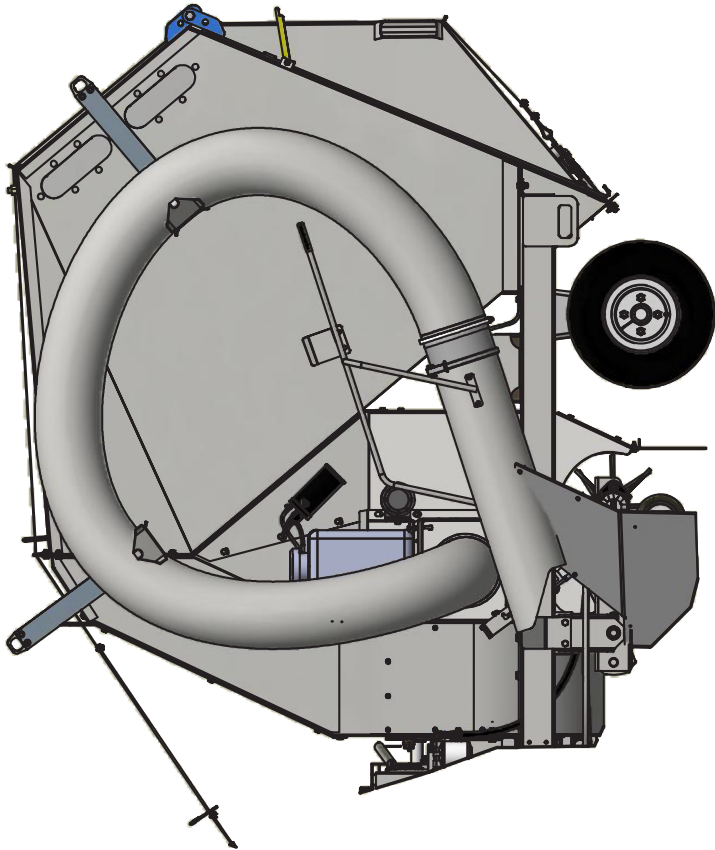
Parts List			
Item	Qty	Part #	DESCRIPTION
1	40	110603	Nut, 5/16-18 Lock (Nylon)
2	80	302042	Finger - Rubber
3	20	970819	Clamp - Rubber Finger
4	1	975634	Rotor - Rubber Finger, Weldment



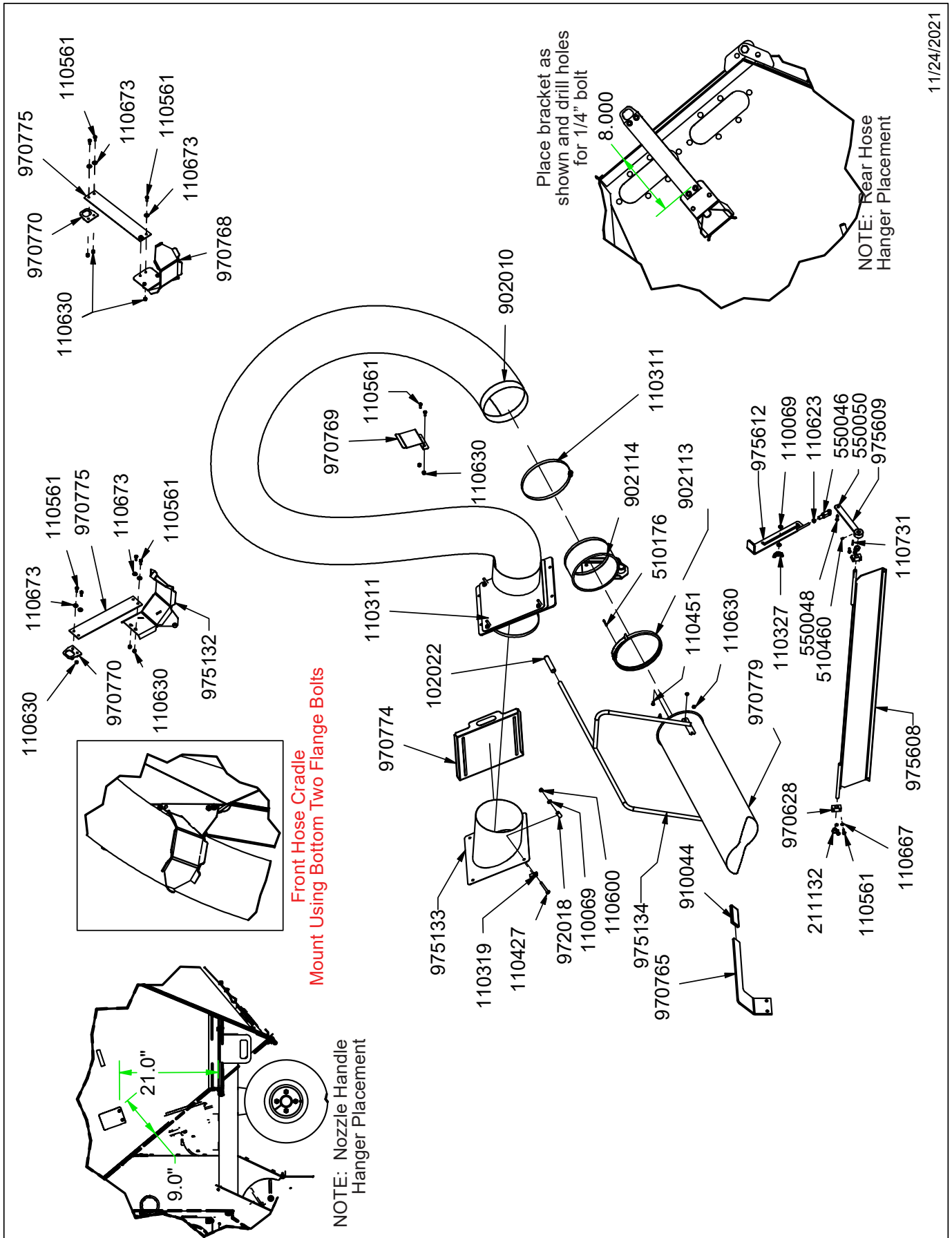
900217		REV: B
905081: KIT, SMALL PARTS, 8" HOSE OPTION		
Qty	Part #	DESCRIPTION
1	102022	Cover, Vinyl 5/8" X 4 3/4"
6	110069	Washer, 5/16" Flat Sae
2	110311	Clamp, Hose #912 8.00"
1	110319	Nut, 5/16-18, U-Type
5	110327	Nut, 5/16 Wing
4	110427	Bolt, 5/16-18 X 2.5 Tap
1	110437	Bolt, 3/8-16 .75 Wz Flng Zinc
4	110451	Bolt, 1/4-20 X .5, Machine Head
2	110539	Bolt, 7/16-14 X 1.25
16	110561	Bolt, 1/4-20 X .75 Hhcs Zinc
6	110561	Bolt, 1/4-20 X .75
1	110623	Nut, 5/16-24
16	110630	Nut, 1/4-20, Lock Nylon
6	110645	Nut, 3/8-16, Wz Flng
4	110667	Washer, 1/4 Lock
8	110673	Washer, 1/4" Flat Standard
1	110731	Key, 1/8 X 1/8 X 1
2	211132	Bushing, .625 X .5
1	510176	Cotter Pin, 1/8 X 1
1	510460	Set Screw, 1/4-20
1	550046	Clevis Yoke, 5/16-24
1	550048	Clevis Pin, 5/16
1	550050	Cotter Pin, 3/32 X 1
1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip
2	970628	Flap Pivot Block
2	970770	Ring, Hose Hanger
4	972018	Spring, Compression
1	902010	Hose, 8 Inch
1	902113	Clamp, Nozzle Swivel
1	902114	Adaptor, Hose Swivel
1	970765	Bracket, Nozzle Support
1	970768	Cradle, Rear Hose
1	970769	Hanger, Nozzle Handle
1	970774	Slide, Hose Option
2	970775	Hanger Strap
1	970779	Nozzle Tube
1	975132	Front Hose Cradle Weldment
1	975133	Side Hose Adapter Weldment
1	975134	Nozzle Handle Weldment
1	975608	Flap Weldment
1	975609	Flap Arm Weldment
1	975612	Flap Handle Weldment
1	900286	TV40RE Remote Hose Install Instructions

# REMOTE HOSE OPTION

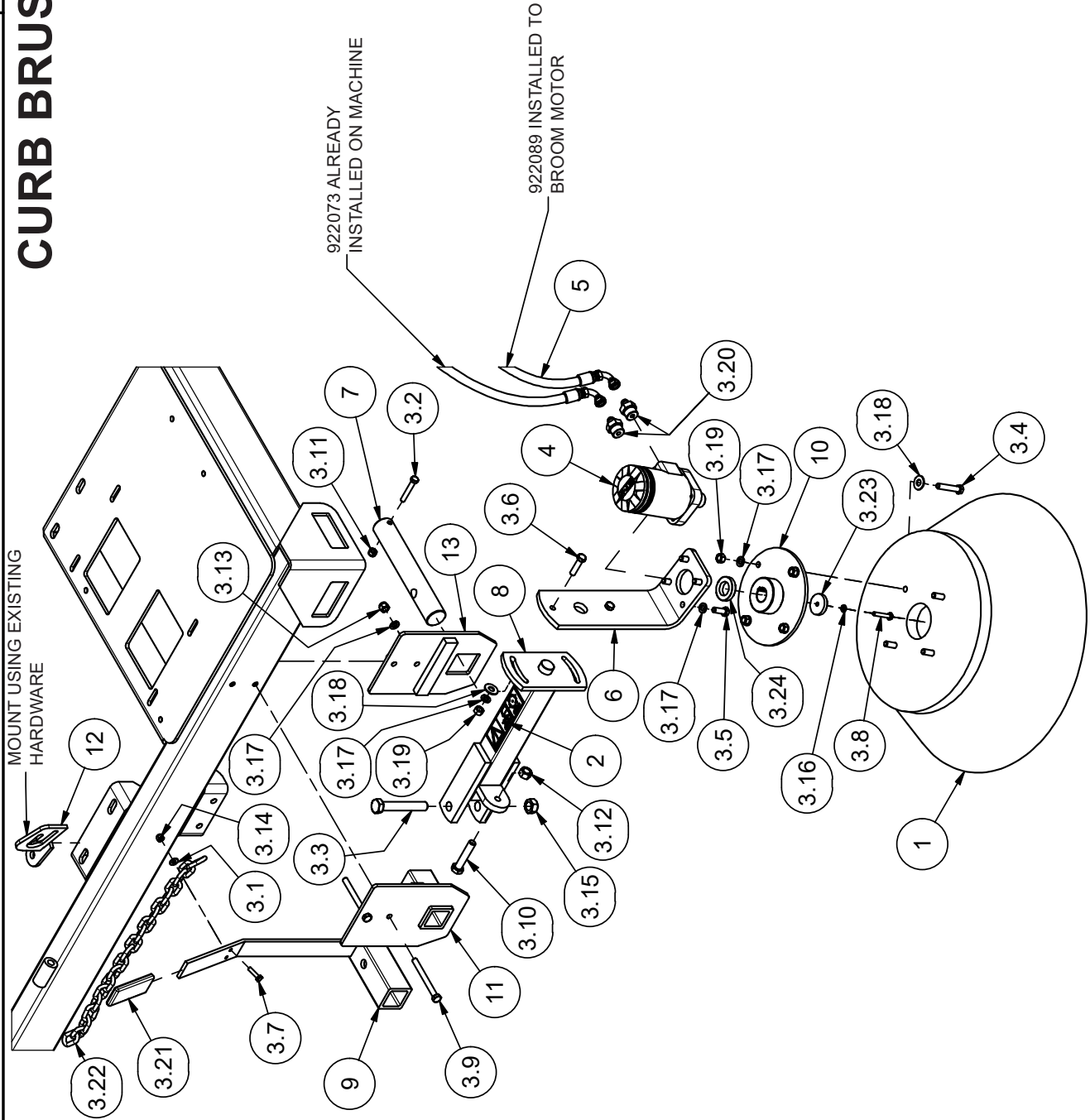
SUCTION WHEN PROPERLY INSTALLED: 1436 cfm







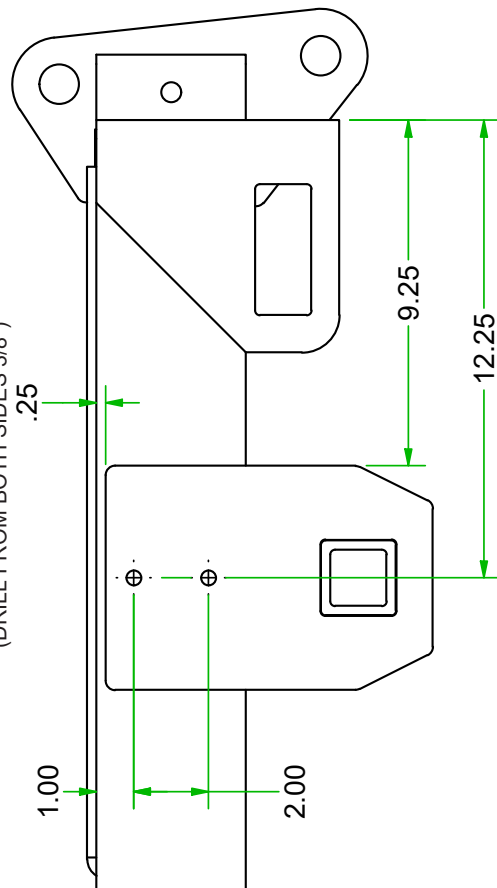
# CURB BRUSH OPTION



900216				REV: A			
Parts List				Parts List			
Item	Qty	Part #	DESCRIPTION	Item	Qty	Part #	DESCRIPTION
1	1	902112	Brush, 18" X 6" X 40 Deg	3.16	1	110667	Washer, 1/4" Lock
2	1	902236	Decal, Curb Brush Warning	3.17	12	110672	Washer, 3/8" Lock
3	1	905079	Kit, Sm Parts Tv40 Fence Brush	3.18	6	110676	Washer, 3/8" Flat Standard
3.1	1	110298	Washer, 1/4" Flat Sae	3.19	6	110826	Nut, 3/8-16 Gr 5
3.2	1	110378	Bolt, 5/16-18 X 2.0	3.20	2	120144	Adapter, 6mj-10mb
3.3	1	110385	Bolt, 5/8-11 X 4.0	3.21	1	910044	Cover, Vinyl .25 X 1.5 X 4 Grip
3.4	4	110400	Bolt, 3/8-16 X 2.0	3.22	1	970304	Pump Stop Chain
3.5	4	110420	Bolt, 3/8-16 X 1.0	3.23	1	970763	Washer, 1.50 X .320
3.6	2	110435	Bolt, 3/8-16 X 1.5	3.24	1	970764	Spacer, 1.700 X 1.005 X .320
3.7	1	110464	Bolt, 1/4-20 X 1.0	4	1	922004	Motor, Eaton 101-1009
3.8	1	110474	Bolt, 1/4-20 X 1-1/2	5	1	922089	Hose .375 X 96 6fx90m
3.9	2	110495	Bolt, 3/8-16 X 3.75	6	1	970748	Arm, Brush Motor Mount
3.10	1	110553	Bolt, 1/2-13 X 2.5 Tap	7	1	970759	Shaft, Lift Pivot
3.11	1	110603	Nut, 5/16-18 Lock (Nylon)	8	1	975125	Lift Tube Weldment
3.12	1	110610	Nut, 1/2-13	9	1	975127	Lift Lever Weldment
3.13	2	110618	Nut, 3/8-16 Lock Nylon Insert	10	1	975128	Brush Adaptor Weldment
3.14	1	110630	Nut, 1/4-20 Lock (Nylon Insert)	11	1	975129	Outer Lift Hanger Weldment
3.15	1	110639	Nut, 5/8-11, Unitorque Lock	12	1	975130	Lift Latch Weldment
				13	1	975131	Inner Lift Hanger Weldment

### BRUSH HANGER INSTALLATION

(DRILL FROM BOTH SIDES 3/8")



## CURB BRUSH OPTION

## NOTES

Harper Industries, Inc.  
151 E. Highway 160  
Harper, KS 67058

Telephone: 620-896-7381  
Toll-Free: 800-835-1042  
Fax: 620-896-7129

Website: [www.harperindustries.com](http://www.harperindustries.com)

E-mail: [info@harperindustries.com](mailto:info@harperindustries.com)