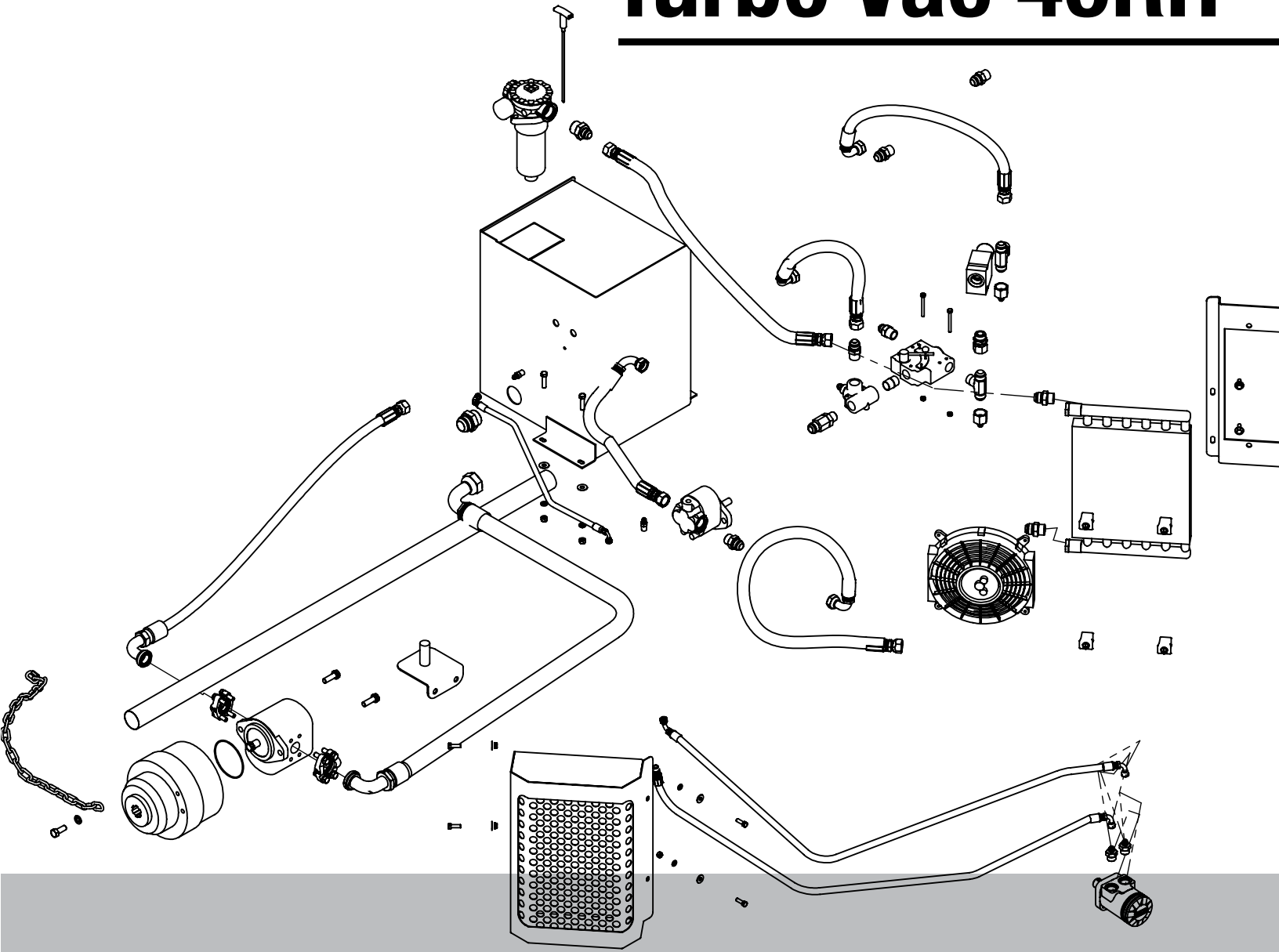


Turbo Vac 40RH



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 TV40 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:



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.



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.

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The and 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

The Harper Turbo Vac is warranted against defects in workmanship and materials for a period of TWELVE MONTHS from the original date of retail purchase to the original purchaser.

Harper Industries will repair or replace, at our option, any part which our examination shows to be defective. Warranty is limited to parts, labor and ground freight delivery of replacement parts. The user will pay freight charges for parts submitted under this warranty.

No product or part may be returned for warranty consideration without prior approval from Harper Industries.

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

Gasoline 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.

Evaporative Emissions Control System Warranty

The evaporative emission control system is warranted for two (2) years. If any evaporative emission-related part on your equipment is defective in material or workmanship, the part will be repaired or replaced by Harper Industries Inc..

Your evaporative emission control system may include parts such as: fuel tanks, fuel lines, fuel line fittings, fuel caps, carbon canisters, canister mounting brackets, carburetor purge port connection, filters, vapor hoses, clamps, control valves, control solenoids, electronic controls, vacuum control diaphragms, purge valves, liquid/vapor separator and other associated components.

RECORDS

Date of Purchase _____ / _____ / _____ Serial Number Machine _____

Dealer's Name _____ Serial Number Engine _____

Dealer's Phone _____

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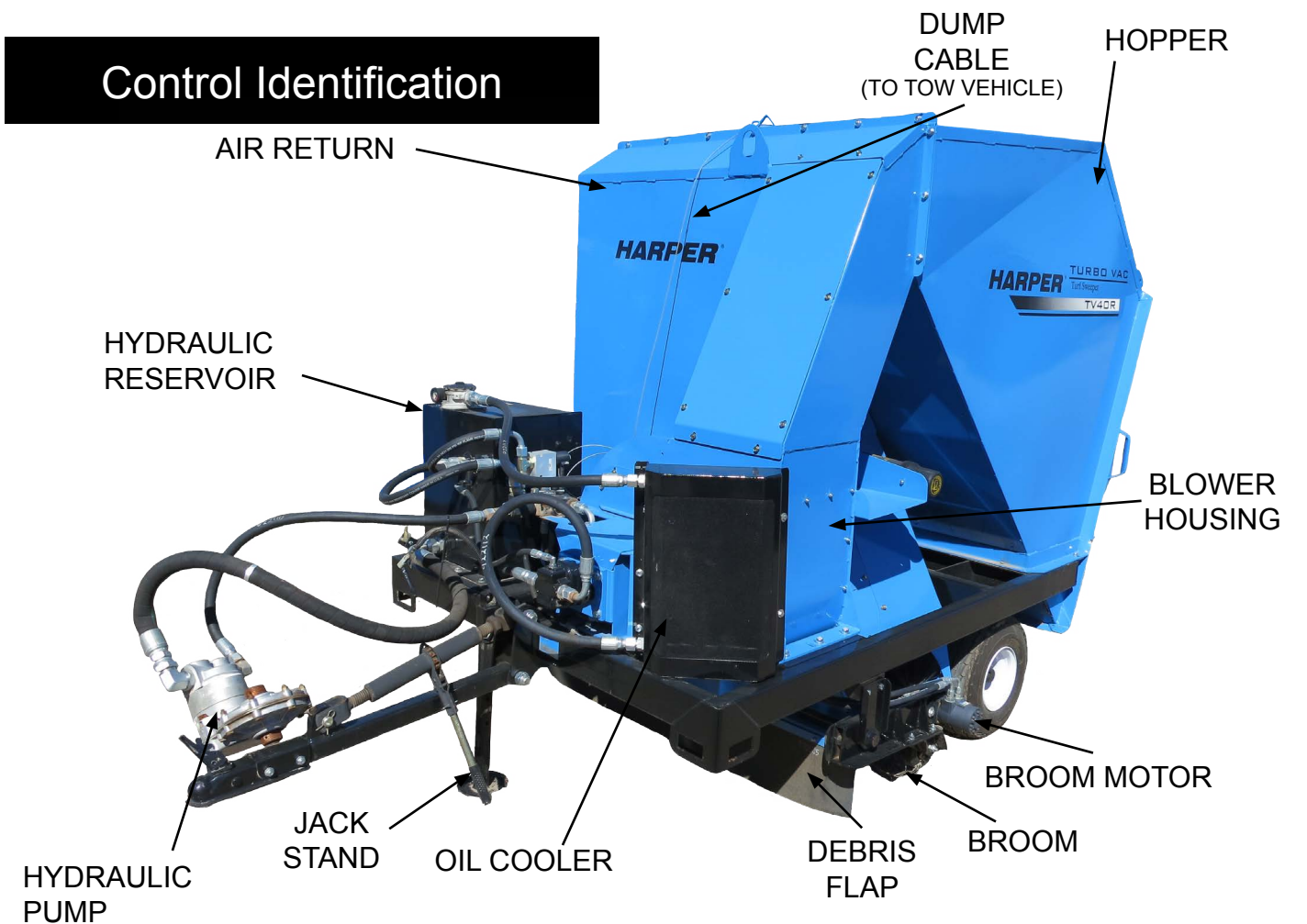
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Specifications

Safety Features	Minimal dust generated, quiet operation - 90 dB
Blower Drive	Hydraulic motor powered by PTO pump
Blower Fan	25" diameter abrasion resistant steel with replaceable poly-liner 1 1/2" shaft with self-aligned bearings
Blower Discharge	Access plate for inspection and easy liner replacement
Airflow	Re-circulated air system
Brush Drive	Hydraulic motor direct drive
Engine	PTO, gearbox pump
Hydraulics	PTO driven
Hydraulic Oil	Crown AW 46; ISO 46 Hydraulic Oil See service schedule
Main Frame	11 gauge welded and reinforced steel tubing
Bearings	Greaseable bearing and sealed bearings
Hopper Capacity	4 cubic yards
Wheels/Tires	4-bolt wheels, 18 5 x 9.5 tires
Controls	Blower & brush controls on machine
Sweeper	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
Options	Curb brush and remote hose attachments.
Discharge	Mechanical trip and latch system
Tongue and Hitch	Adjustable tongue functions as pick-up height controller
Paint	Durable 2-part polyurethane
Dimensions	135" L x 64" W x 82" H
Weight	1600 lbs. - 730 kg

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



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

Broom Motor* – The broom motor turns the broom clock-wise, throwing material forward and upward into the air stream.

Air Return* – Allows air to be put into the 'recirculating' effect which is common feature among all Turbo Vacs.

Hydraulic Reservoir – The hydraulic reservoir on a TV40RH has a 20 gallon capacity.

Hydraulic Pump – The hydraulic pump on the TV40RH is directly attached to the tractor PTO.

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

Dump Cable* – Releases the hopper door.

Oil Cooler – The oil cooler prevents the hydraulic oil from over-heating. Always keep the fins free of debris.

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

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

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.

* Denotes common features of both the TV40RE and TV40RH

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.
- 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.

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

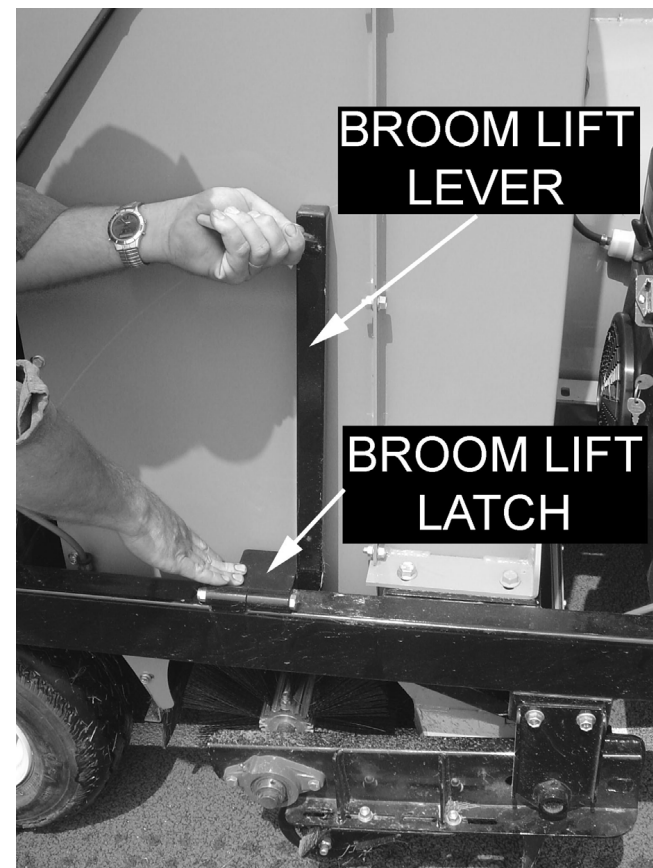
- If safety related or instructional decals become illegible or are removed, replace them immediately. New decals may be obtained from your local Harper Dealer.
- If you replace parts that have such decals attached to them, make sure the decals are replaced with current versions, and are on the replacement parts before the machine is operated again.

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 30-32 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.

Hydraulics

SAFETY WARNING!
Escaping fluid under pressure can penetrate skin causing serious injury. To prevent serious injury or death:

- 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 30-32 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.
- 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.
- 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.

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 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.
 - Hydraulic system operates under high pressure. Disable system prior to service.

Operations

1. Obtain and wear safety goggles before operating.
2. 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.)
3. 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.
4. Make sure that the blower and broom are disengaged.
5. Move the blower switch to the "on" position.
6. If the unit has a broom, lower it and slowly engage broom lever.
7. 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.

1. Shut off tow vehicle and set the park brake.
2. Turn off the blower switch and disengage the broom lever.
3. 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

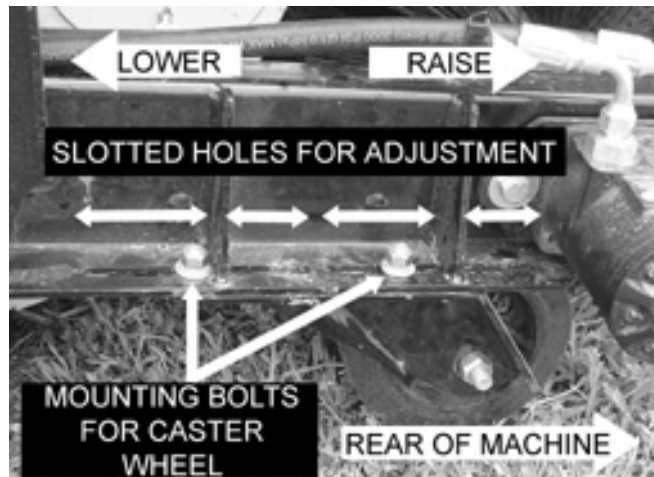
The broom height needs to be adjusted so that the broom is touching the top of the grass.



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:

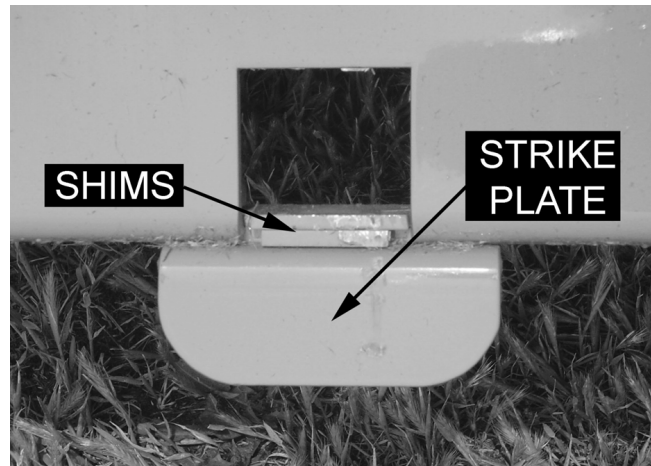
- Remove caster wheel mounting bolts.
- Adjust caster wheel to achieve desired broom height and tighten bolts.



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.

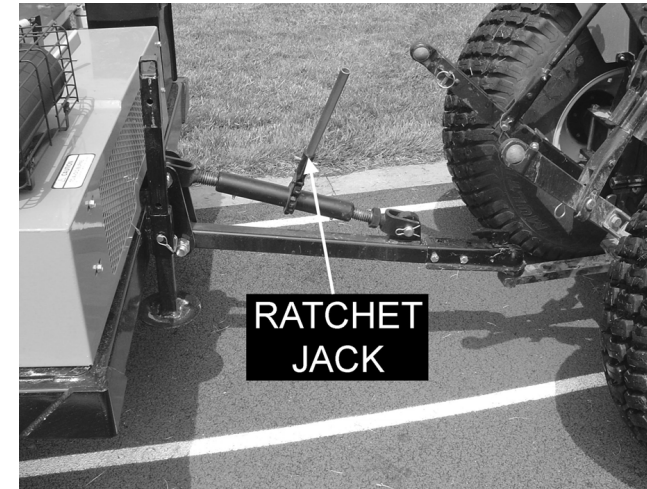


Height Adjustment

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.



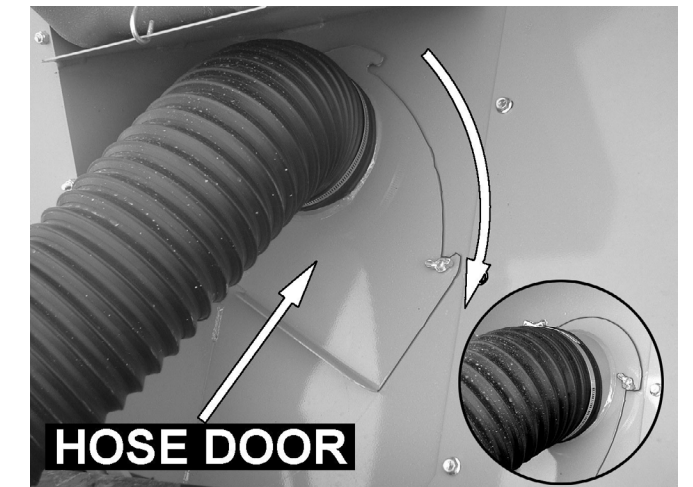
The height can be easily adjusted up or down by using the ratchet jack.



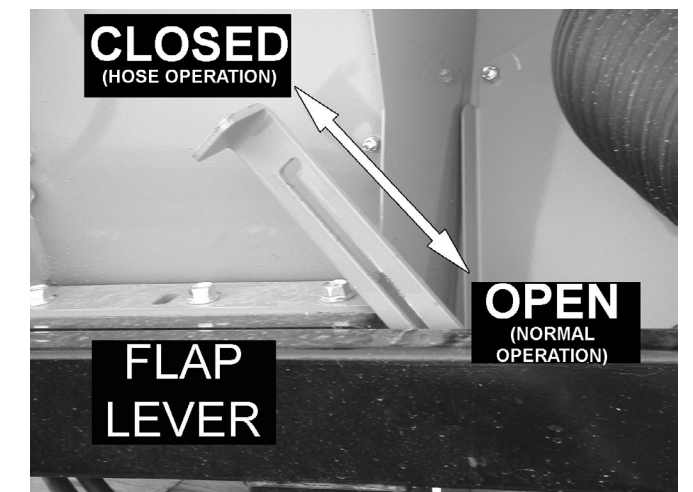
The height can be easily adjusted up or down by using the ratchet jack.

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.



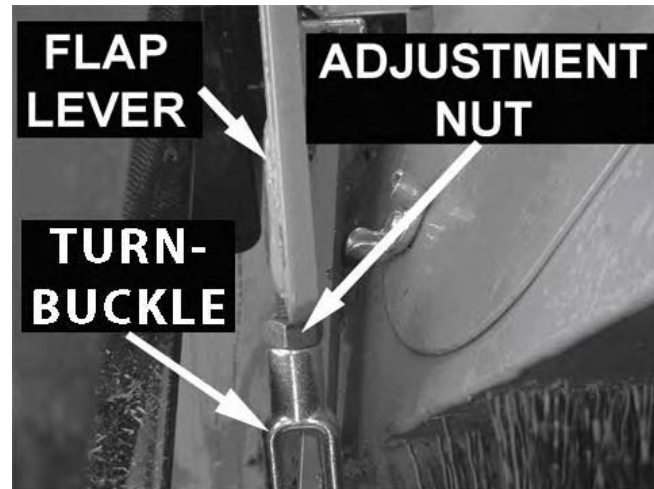
Stopping Operation

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



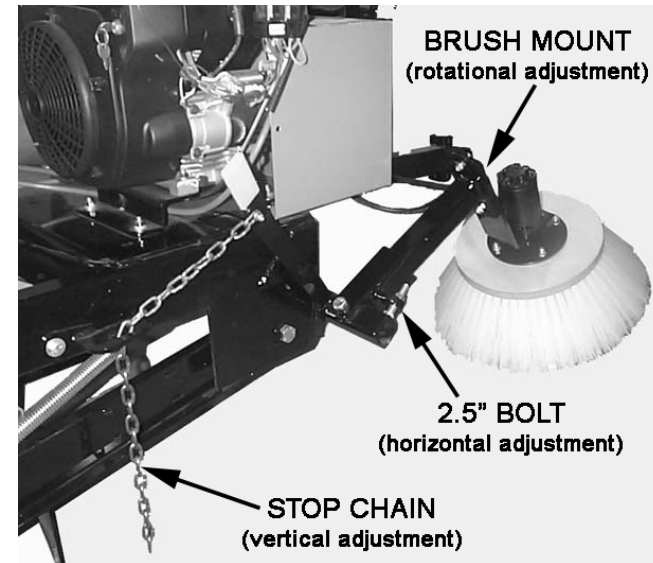
Flap Adjustment

- 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

Service & Maintenance

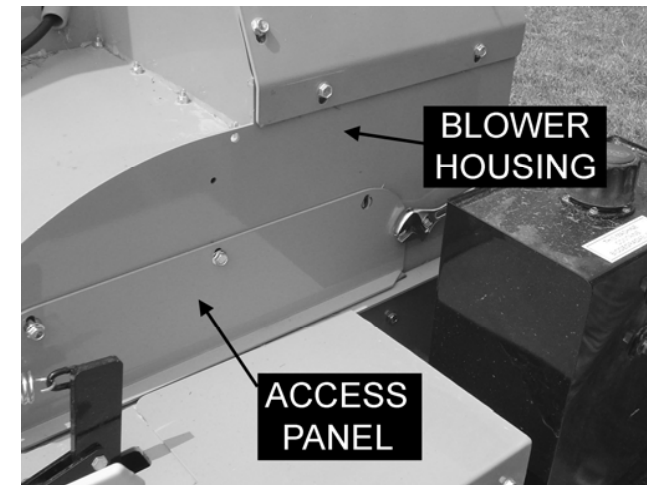
- **SAFETY WARNING!** Before servicing or inspecting the Turbo Vac, make sure the power source is shut off and all moving parts have stopped.
- Always wear safety glasses and protective gloves when servicing the Turbo Vac.

Blower Liner

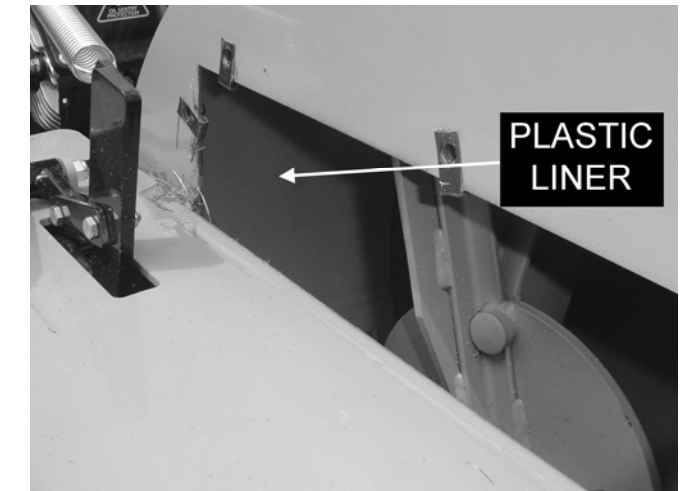
- **IMPORTANT!** Regularly check the BLOWER LINER in the blower housing for wear. Failure to maintain blower liner may result in damage to the blower housing.

To check Blower Liner:

Remove access panel.



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

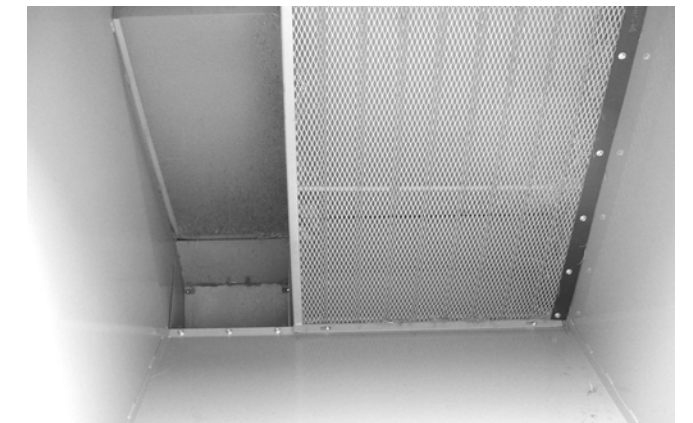


If liner is damaged or worn through; replace to avoid damage to blower housing. Part # 972009 or 972021 for a heavy duty urethane liner.

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

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.

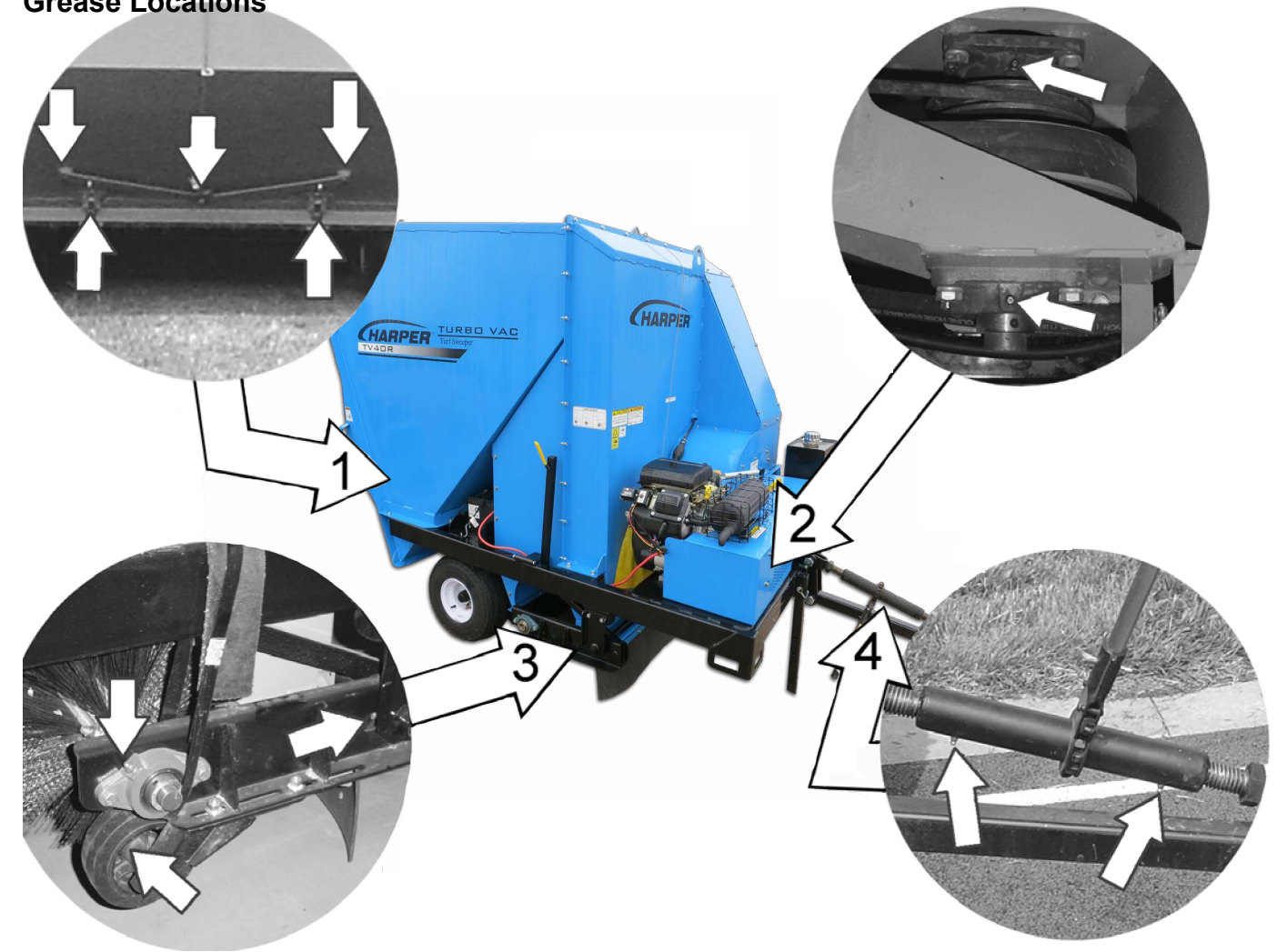
The following list of hydraulic fluids are compatible and can be mixed with Terresolve hydraulic fluid. However, mixing these hydraulic oils could reduce the biodegradability of the oil in the system. For warm environments, it is suggested that a fluid with a viscosity of ISO 68 be used. MIXING OTHER 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 = 1mm²/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 Unisvis N 46
- Pennzoil AWX MV 46
- Shell Tellus T 46
- Texaco Rando HDZ 46

Service & Maintenance. 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.

Service Schedule

Daily or Before Starting Engine

- Check hydraulic oil level..... Crown AW 46 or appropriate replacement
- oil has shelf life of two years
- Check Oil Cooler shield..... Clean if necessary
- Visually inspect machine..... Check for loose bolts, fitting and hoses
- Grease..... Refer to service section
- Check tire pressure..... 30-32 PSI

25 Hour Service (including previous items)

- Check plastic liner..... Replace if necessary
Part # 972009

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

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

100 Hour Service (including previous items)

- Clean cooling areas by removing cooling shrouds

250 Hour or Annually Service (including previous items)

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

500 Hour or Annually Service (including previous items)

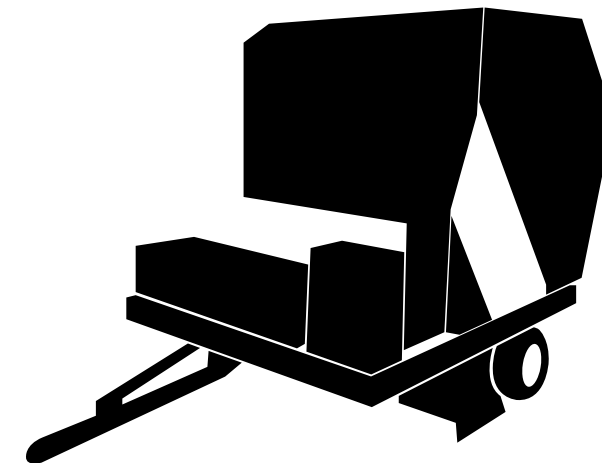
- Change hydraulic oil..... 5 gallons - Crown AW 46 or appropriate replacement

Troubleshooting

Vacuum:

Problem:	What to Check:
Turbo Vac won't sweep up material	<ul style="list-style-type: none"> • Hopper may be full • Turbo Vac may not be close enough to the ground • Air screens in hopper may be plugged • Nozzle may be plugged • Door for hose option may be closed

Parts Section



TURBO VAC 40

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Door Seal Assembly..... 4.3

Frame and Decals

Frame..... 5.1

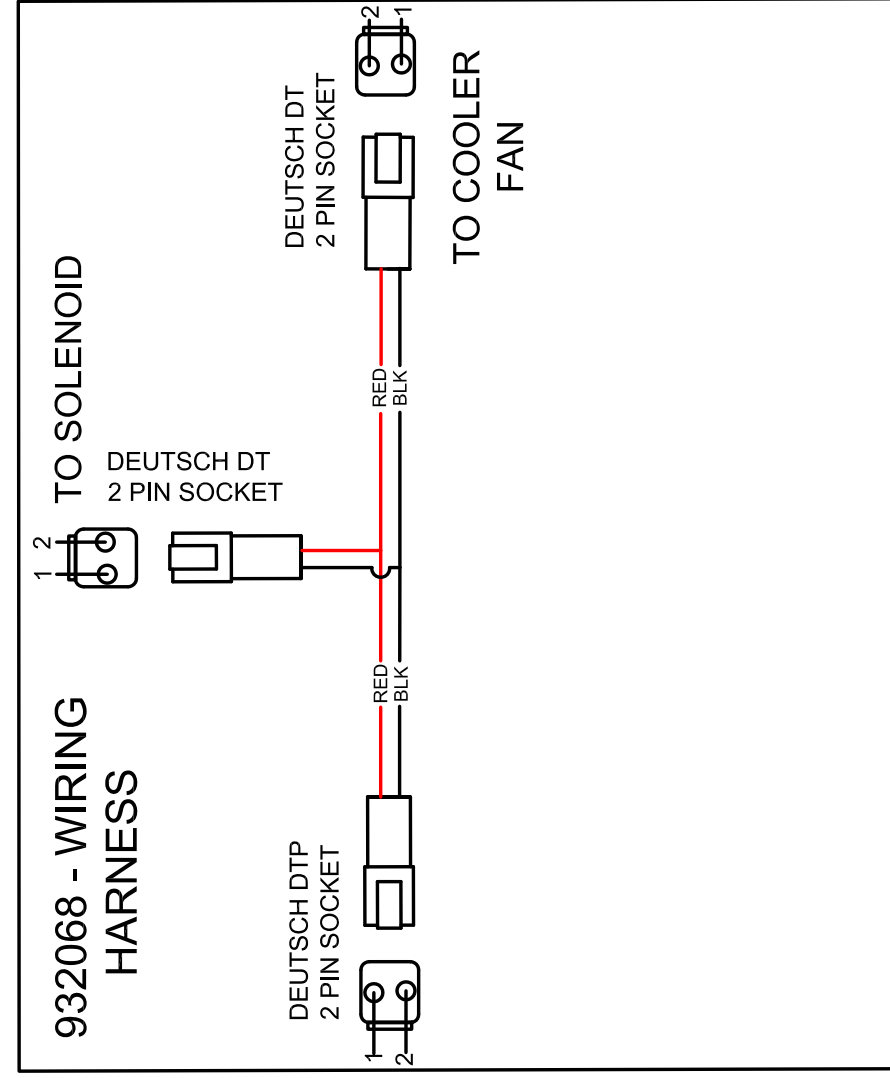
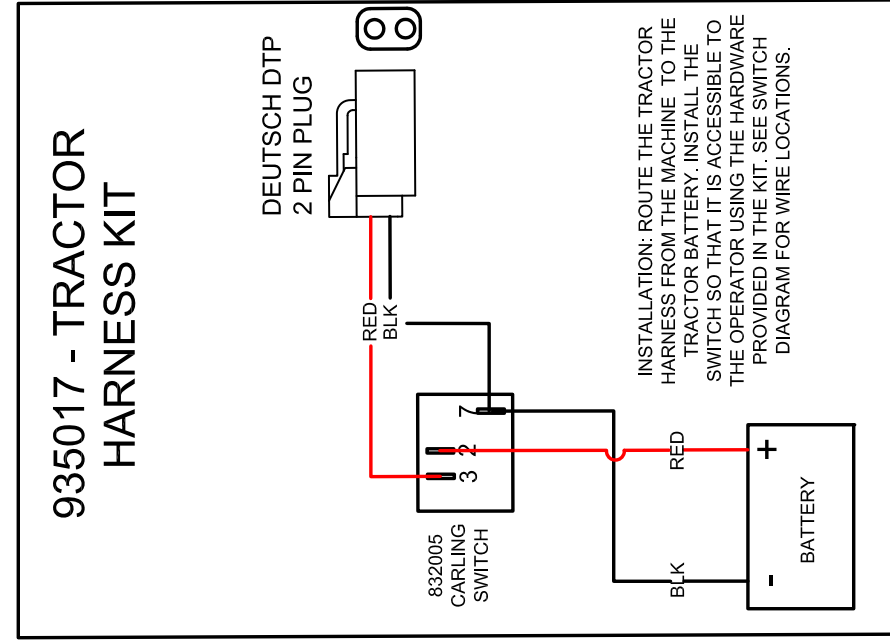
TV 40 Decals..... 5.2

Optional Equipment

Remote Hose Option - TV 40..... 6.1

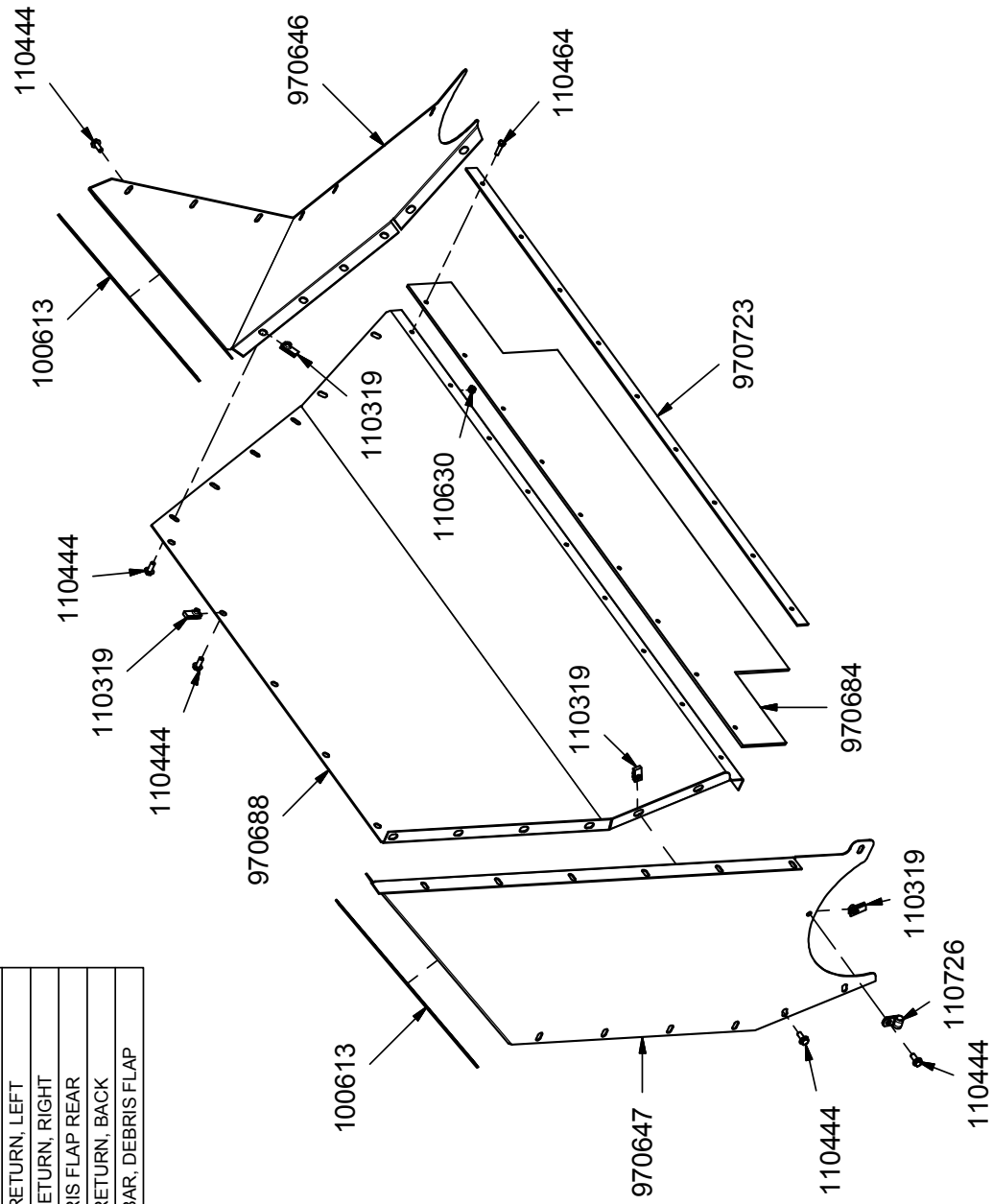
Edge Brush Option - TV 40..... 6.2

TV 40H ELECTRICAL SCHEMATIC



Parts List	
PART #	DESCRIPTION
100613	SEAL
110319	NUT, 5/16-18 U-TYPE .75L
110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE
110464	BOLT, 1/4-20 X 1.0
110630	NUT, 1/4-20 LOCK (NYLON INSERT)
110726	CLAMP, ADEL .75WX.51DX.406 HOLE
970646	AIR RETURN, LEFT
970647	AIR RETURN, RIGHT
970684	DEBRIS FLAP REAR
970688	AIR RETURN, BACK
970723	CLAMP BAR, DEBRIS FLAP

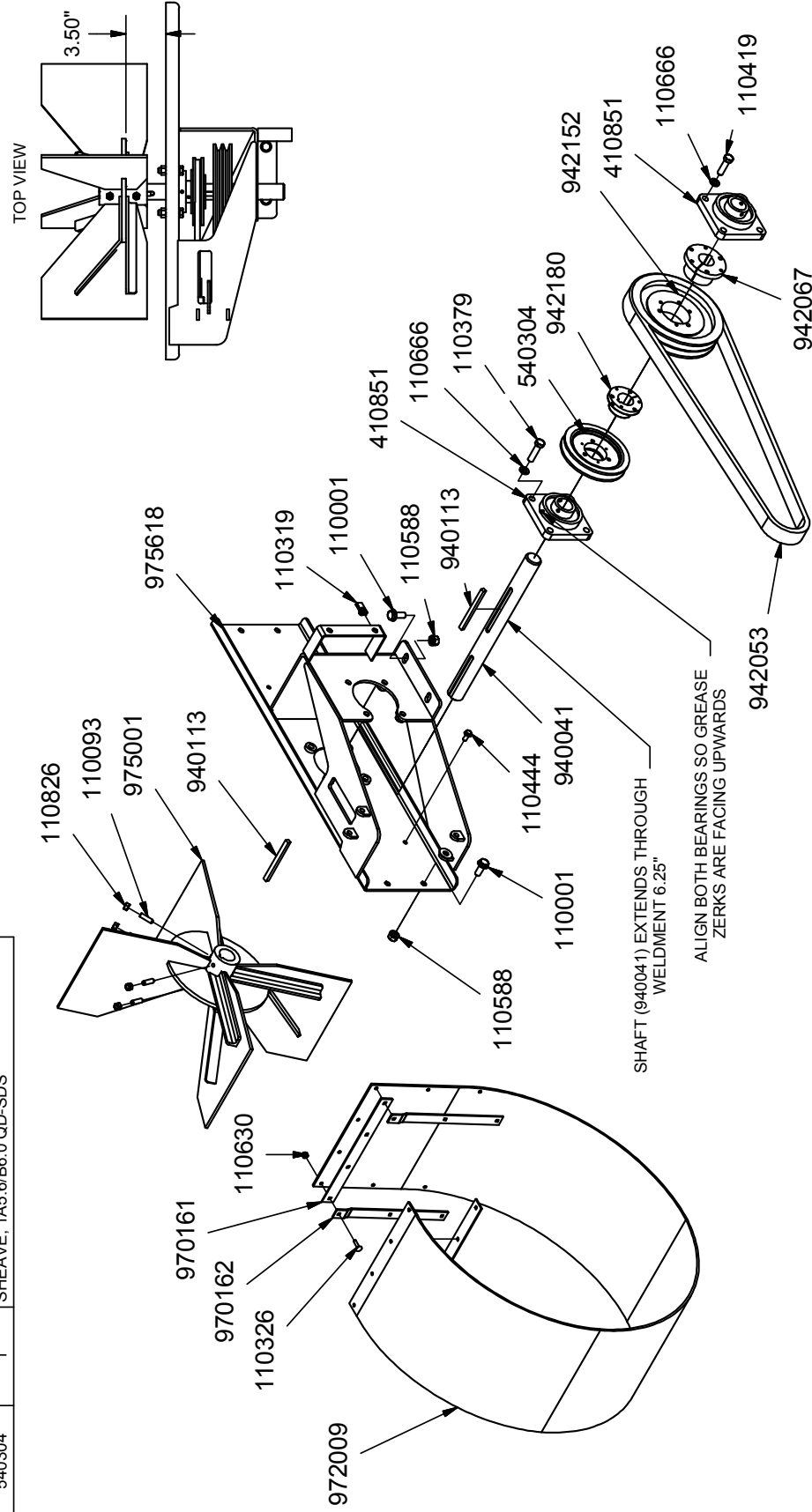
AIR RETURN



10/9/2012

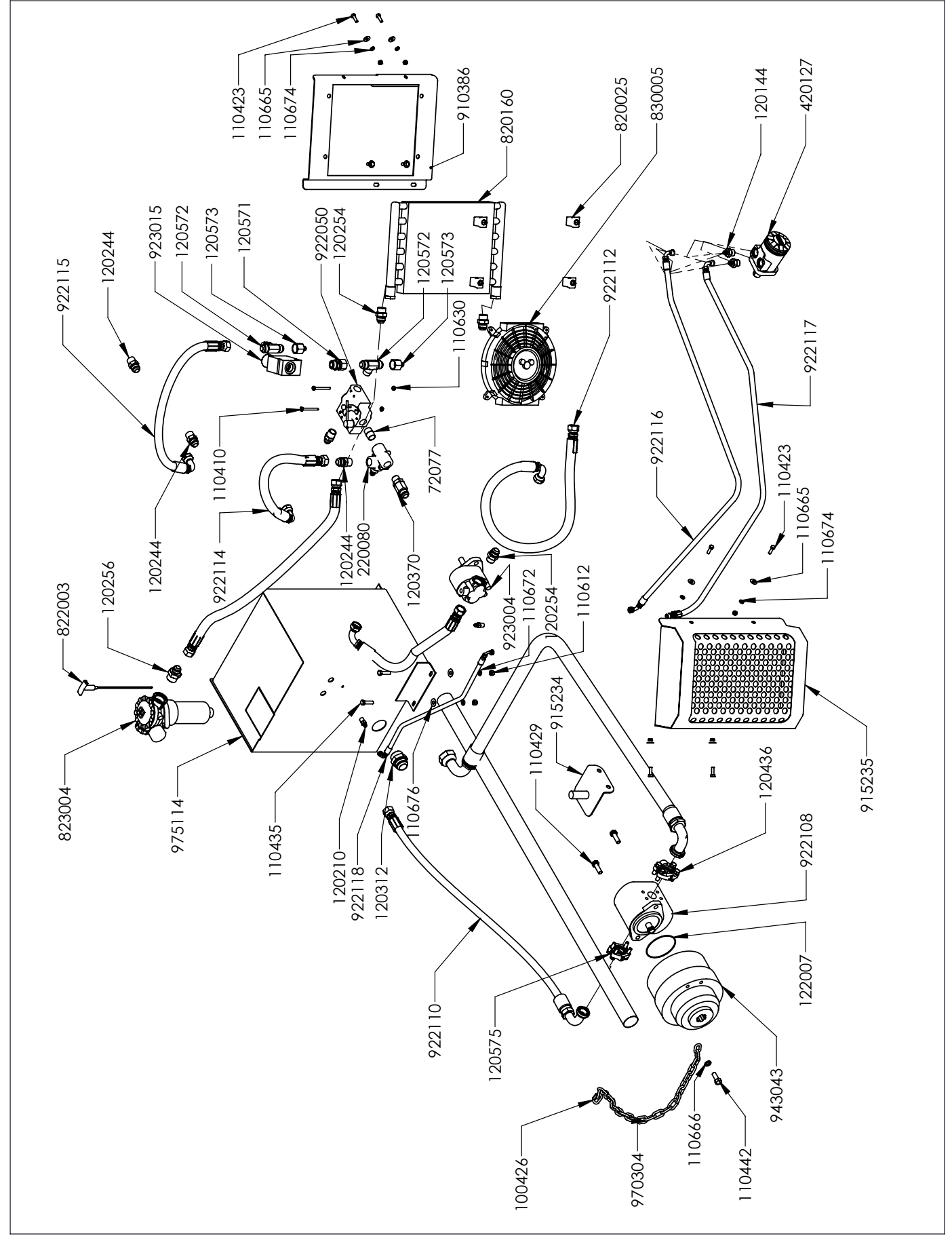
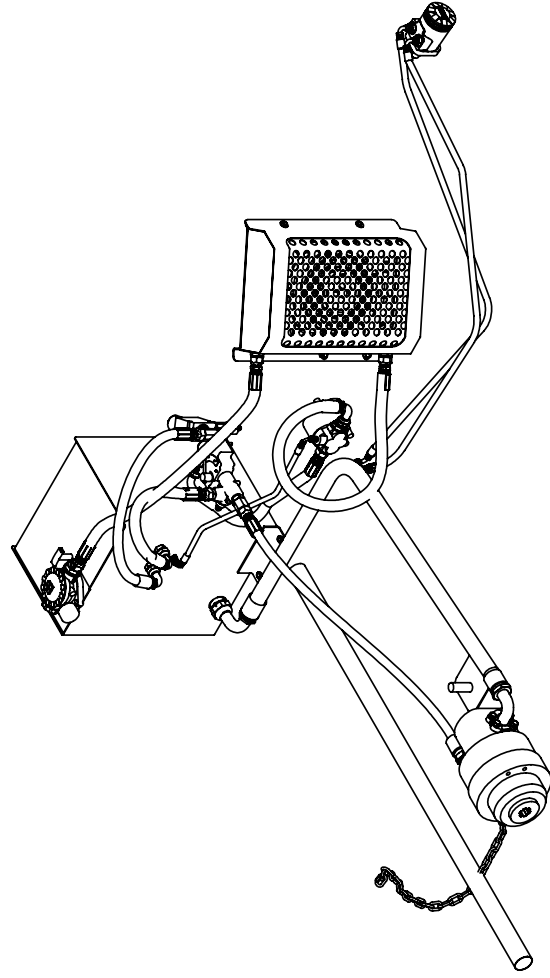
Parts List		Parts List	
PART #	DESCRIPTION	PART #	DESCRIPTION
110001	BOLT, 1/2-13 X 1.25, WIZ FLANGE	940041	BLOWER SHAFT
110093	SetScrew, 3/8-16 X 1.25	940113	KEY, 3/8 X 5
110319	NUT, 5/16-18 U-TYPE .75L	942053	BELT, POWERBAND 2B70
110326	Bolt, 1/4-20 X 1 in Carriage	942067	BUSHING, SK 1 1/2
110379	BOLT, 1/2-13 X 2.0	942152	SHEAVE, 2A8.2B8.6 QD-SK
110419	BOLT, 1/2-13 X 1.75	942180	BUSHING, QD 1-1/2" SDS
110444	BOLT, 5/16-18 X 0.75, WIZ FLANGE	970161	BLOWER LINER RETAINER
110588	NUT, 1/2-13 WIZ-FLANGE	970162	BLOWER LINER RETAINER
110630	NUT, 1/4-20 LOCK (NYLON INSERT)	972009	BLOWER LINER, .187 STD UHMW
110826	NUT, 3/8-16 GR 5	975001	FAN ASSY WLDMNT
410851	BEARING, 4FNG 1 1/2"	975618	BLOWER SUPPORT WLDMNT
540304	SHEAVE, 1A5.6/B6.0 QD-SDS		

FAN & LINER



10/5/2012

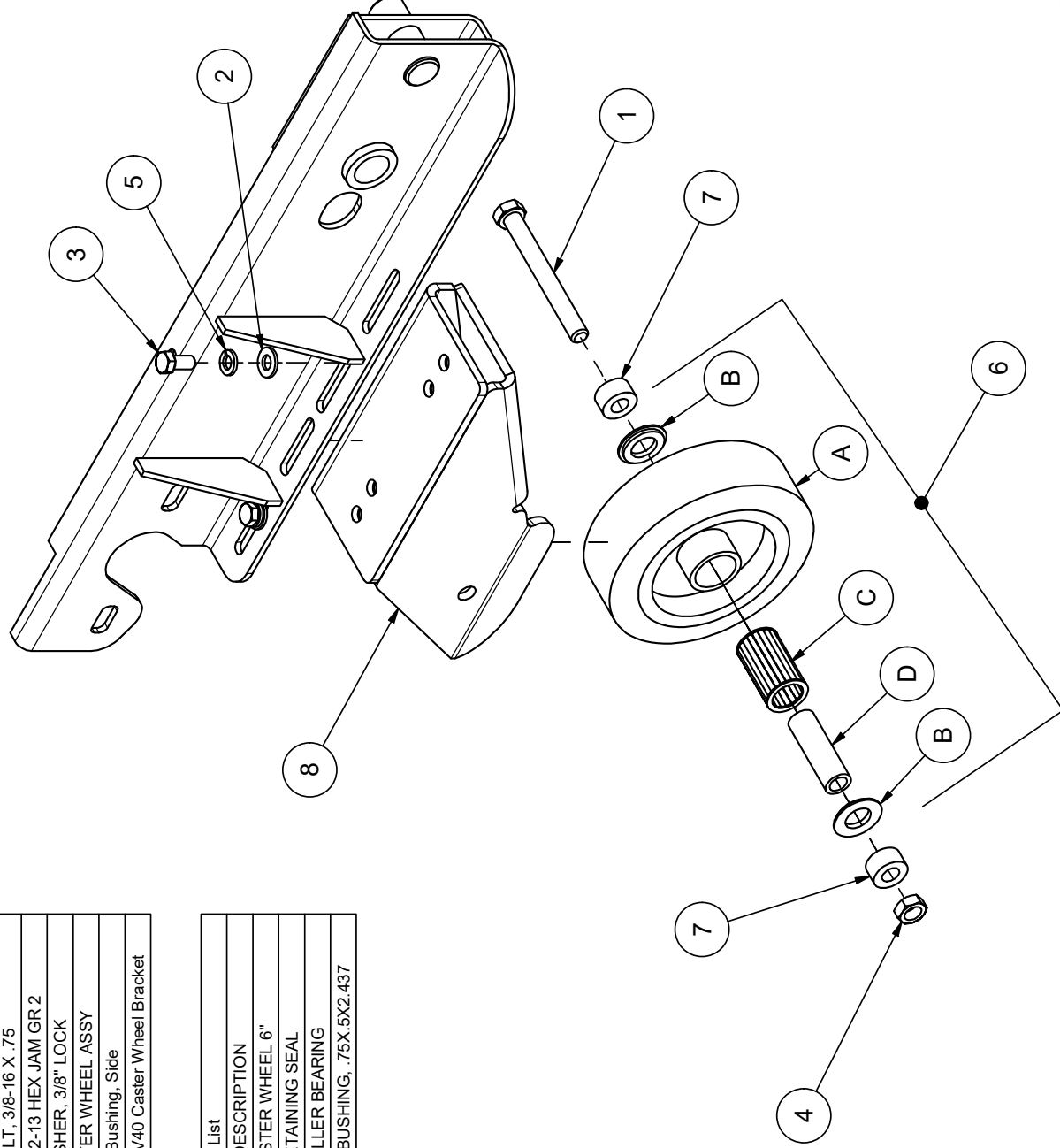
PART NUMBER	QTY.	DESCRIPTION	PART NUMBER	QTY.	DESCRIPTION
100426	1	CHAIN CONNECTOR 5/16 THREADED	915234	1	GEARBOX PUMP MNT
110410	2	BOLT, 1/4-20 X 2.5	915235	1	FAN SHIELD WLDMNT
110423	8	BOLT, 5/16-18 X 1.0	922050	1	VALVE, FLOW CONTROL, 30GPM
110429	2	BOLT, 1/2-13 X 1.5	922108	1	PUMP 38cc X 7/8, BUCHER AP300
110435	4	BOLT, 3/8-16 X 1.5	922109	1	HOSE 1.25 X 73", 20-20FJX90M-20-20FL90
110442	1	BOLT, 1/2-13 X 1.25	922110	1	HOSE, 3/4 X 46", 12-12FJX-12-16FL90M
110603	8	NUT, 5/16-18 NYLOCK	922111	1	HOSE, 3/4 X 24", 12-12FJX-12-12FJX90M
110612	4	NUT, 3/8-16	922112	1	HOSE, 3/4 X 42", 12-12FJX-12-12FJX90M
110630	2	NUT, 1/4-20 NYLOCK	922113	1	HOSE, 3/4 X 42", 12-12FJX-12-12FJX
110665	8	WASHER, 5/16 FLAT	922114	1	HOSE, 3/4 X 20", 12-12FJX-12-12FJX90M
110666	3	WASHER, 1/2 LOCK	922115	1	HOSE, 3/4 X 32", 12-12FJX-12-12FJX90M
110672	4	WASHER, 3/8 LOCK	922115	1	HOSE, 3/4 X 32", 12-12FJX-12-12FJX90M
110674	8	WASHER, 5/16 LOCK	922116	1	HOSE, 3/8 X 60", 6-6FJX90M-6-6FJX90M
110676	4	WASHER, 3/8 FLAT	922117	1	HOSE, 3/8 X 62", 6-6FJX-6-6FJX90M
120138	1	ADAPTER, 10MJ-12MP	922118	1	HOSE, 1/4 X 26", 4-4FJX90M-4-4FJX90M
120144	2	ADAPTER, 6MJ-10MB	923004	1	MOTOR, 1.71CI, FAN DRIVE
120210	2	ADAPTER, 4MJ-4MP	923015	1	VALVE, HYD NO 12V-12 PORTS
120244	3	ADAPTER, 12MJ-12MP	943043	2	GEARBOX PTO PUMP DRIVE
120254	3	ADAPTER, 12MJ-12MB	952024	1	HOSE SLEEVE
120256	1	ADAPTER, 12MJ-16MB	970304	1	PUMP STOP CHAIN
120259	1	ADAPTER, 12MF-12MB-12MJ	975114	1	HYD TANK WELDMENT
120312	1	ADAPTER, 20MJ-20MB			
120370	1	ADAPTER, SWIVEL			
120436	1	FLANGE KIT, SAE SPLIT-20			
120571	1	ADAPTER, 12MB-12FJX			
120572	1	ADAPTER, 12MJ-12MJ-12MP			
120573	2	ADAPTER, 12FJ-6MJ			
120575	1	FLANGE KIT, SAE SPLIT -16			
122007	1	O-RING 2-155			
220080	1	VALVE, RELIEF CROSS			
420127	1	MOTOR, EATON 101-1009			
720077	1	FITTING, NIPPLE 3/4 X 1.375			
820025	4	MOUNT, OIL COOLER KIT			
820160	1	OIL COOLER			
822003	1	DIP STICK			
823004	1	FILTER ASSY			
830005	1	OIL COOLER FAN ASSY			
910386	1	OIL COOLER BRACKET			



BROOM WHEELS

Parts List	
ITEM	DESCRIPTION
1	110004 BOLT, 1/2-13 X 4.5
2	110155 WASHER, 3/8" FLAT SAE
3	110433 BOLT, 3/8-16 X .75
4	110642 NUT, 1/2-13 HEX JAM GR 2
5	110672 WASHER, 3/8" LOCK
6	940043 CASTER WHEEL ASSY
7	942293 Bushing, Side
8	975188 Weldment, TV40 Caster Wheel Bracket

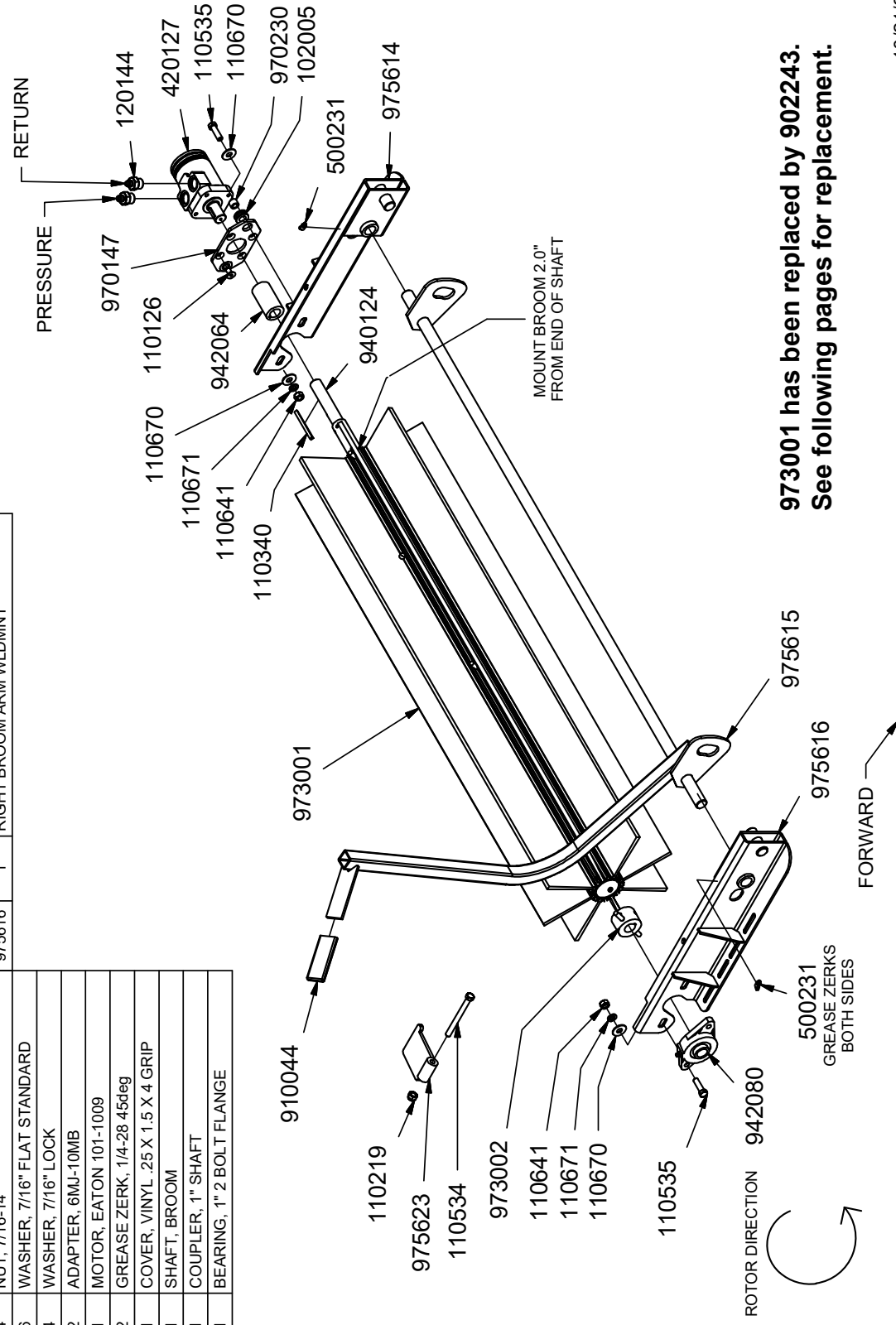
940043 Parts List	
ITEM	DESCRIPTION
A	942071 CASTER WHEEL 6"
B	942115 RETAINING SEAL
C	942116 ROLLER BEARING
D	942164 SPANNER BUSHING, .75X.5X2.437



BRUSH ROTOR

PART NUMBER: 900229

Parts List		Parts List	
PART #	DESCRIPTION	PART #	DESCRIPTION
102005	2 GROMMET, RUBBER .875 OD X .625 ID	970147	1 BROOM MOTOR PLATE
110126	4 BOLT, 3/8-16 X .75 FLT HD SKT HD	970230	2 BROOM MOTOR SPACER
110219	1 NUT, 7/16-14 LOCK NYLON INSERT	973001	1 BROOM, PARALUX TJ-16
110340	1 KEY, 1/4 X 1/4 X 3.25	973002	3 FLANGE, 2 1/8 X 1, TJ-16
110534	1 BOLT, 7/16-14 X 4.75	975614	1 LEFT BROOM ARM WLDMNT*
110535	4 BOLT, 7/16-14 X 1.5	975615	1 BROOM LIFT WLDMNT
110641	4 NUT, 7/16-14	975616	1 RIGHT BROOM ARM WLDMNT
110670	6 WASHER, 7/16" FLAT STANDARD		
110671	4 WASHER, 7/16" LOCK		
120144	2 ADAPTER, 6MJ-10MB		
420127	1 MOTOR, EATON 101-1009		
500231	2 GREASE ZERK, 1/4-28 45deg		
910044	1 COVER, VINYL .25 X 1.5 X 4 GRIP		
940124	1 SHAFT, BROOM		
942064	1 COUPLER, 1" SHAFT		
942080	1 BEARING, 1" 2 BOLT FLANGE		



**973001 has been replaced by 902243.
See following pages for replacement.**

900229 REV: C

PRESSURE RETURN

7 7 8 5 14 1 11 2 5 6 13 3 4 9

BRUSH ROTOR

CUSTOMER INSTALL P/N: 900229
FACTORY INSTALL P/N: 900251

Service Note
 - 973001 replaced by 902243
 (See Brush Rotor Assembly)

ROTOR DIRECTION

10 12 3 4 6 5

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	905158	ASSY, TV40 FULL BRUSH, SPIRAL WOUND
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

905158 REV: NC

2 3 1

Apply blue loctite to set screws and then tighten on each end to secure the broom to the shaft.

2.00 (12.00) (59.50)

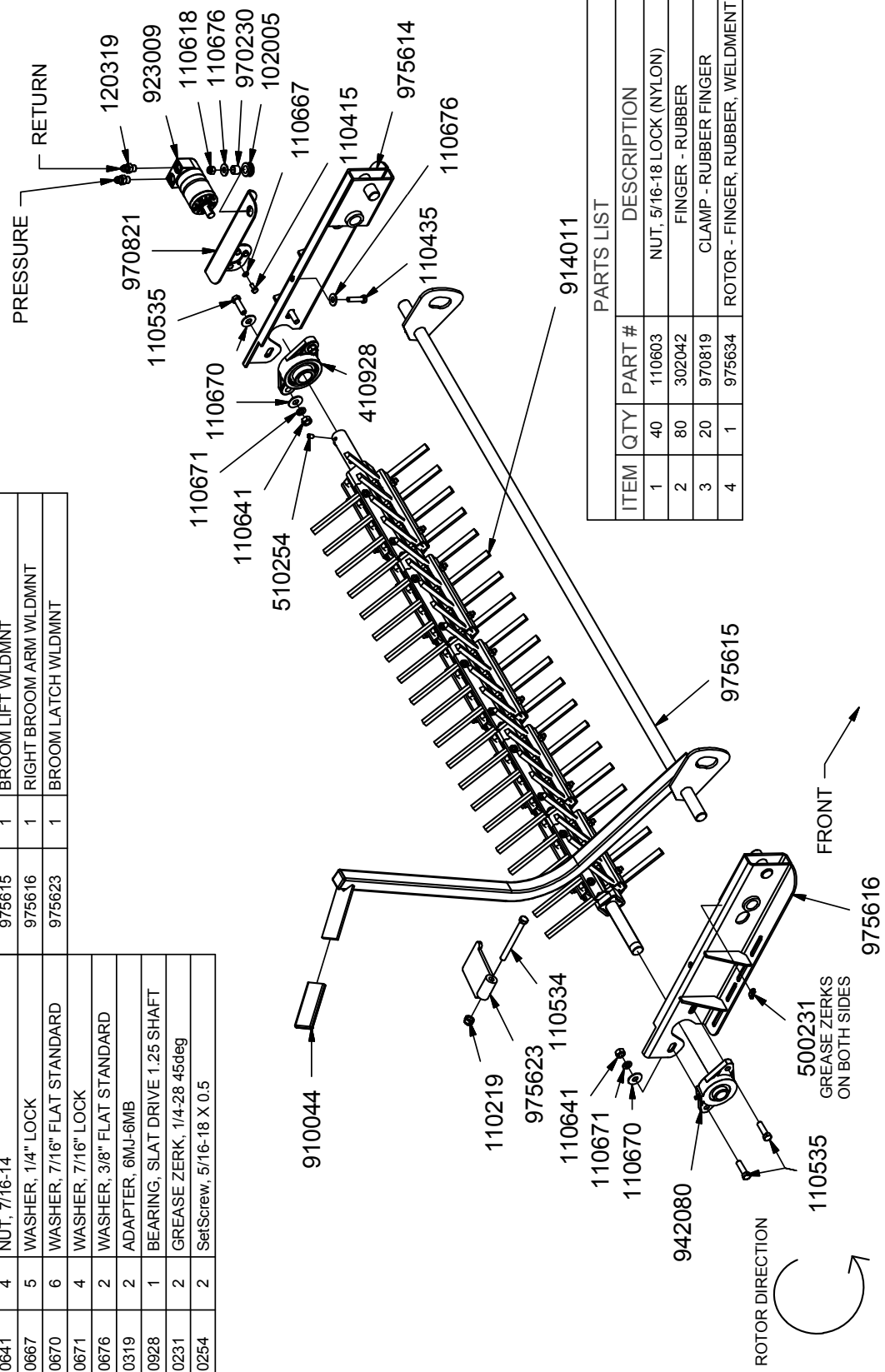
BRUSH ASSEMBLY

Parts List			
ITEM	QTY	PART #	DESCRIPTION
1	1	110340	KEY, 1/4 X 1/4 X 3.25
2	1	902243	Brush, Spiral Wound, 52 x 12.00 OD, .030 Poly
3	1	940124	SHAFT, BROOM

FINGER ROTOR

PART NUMBER: 900225

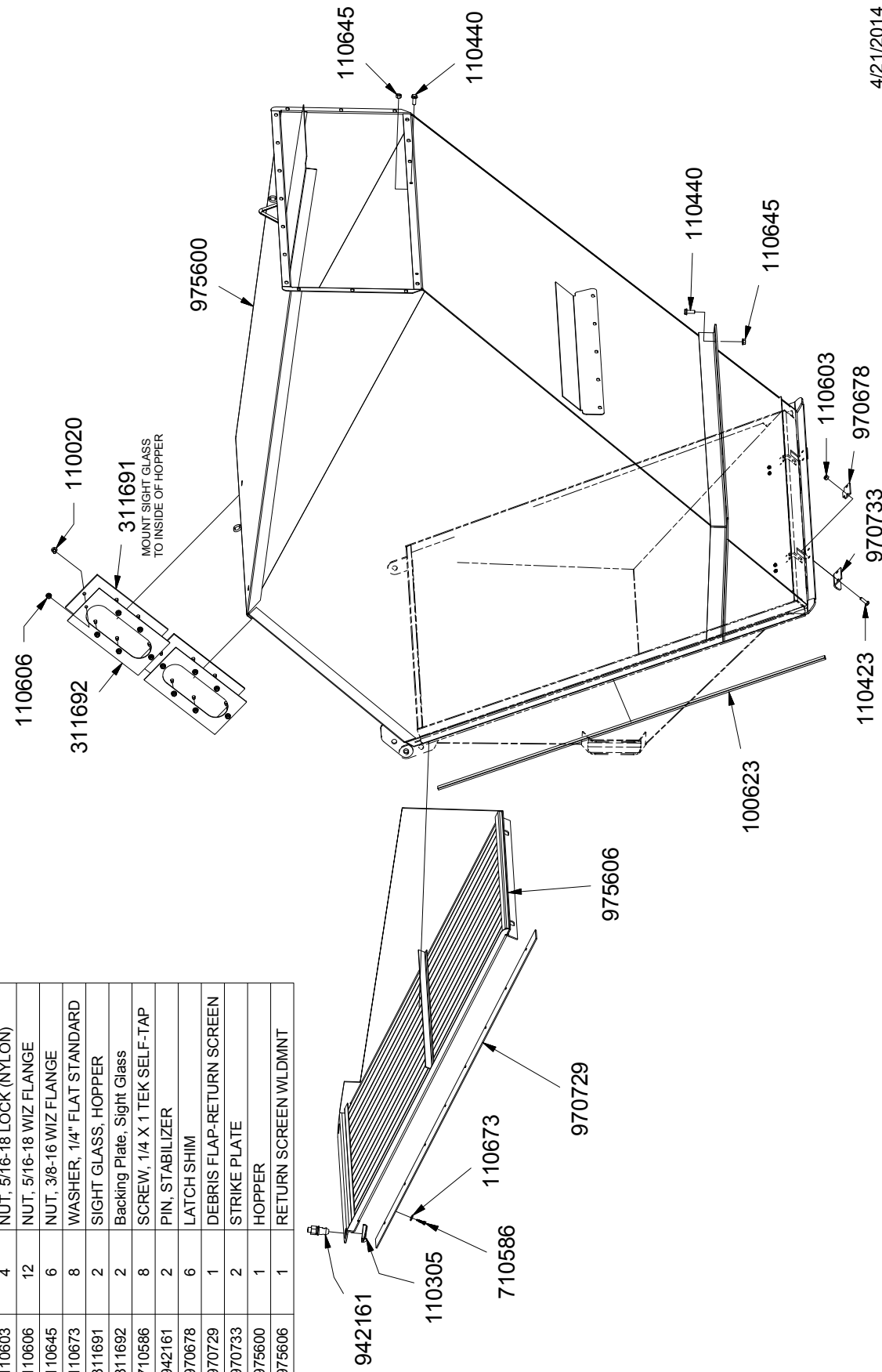
Parts List		Parts List			
PART #	QTY	DESCRIPTION	PART #	QTY	DESCRIPTION
102005	3	GROMMET, RUBBER .875 OD X .625 ID	910044	1	COVER, VINYL .25 X 1.5 X 4 GRIP
110219	1	NUT, 7/16-14 LOCK NYLON INSERT	914011	1	ROTOR - RUBBER FINGER, TV40
110415	5	BOLT, 1/4-28 X .625	923009	1	MOTOR - 1.29 CID, ROTOR DRIVE
110435	1	BOLT, 3/8-16 X 1.5	942080	1	BEARING, 1" 2 BOLT FLANGE
110534	1	BOLT, 7/16-14 X 4.75	970230	1	BROOM MOTOR SPACER
110535	4	BOLT, 7/16-14 X 1.5	970821	1	ARM - TORQUE, ROTOR, TV40
110618	1	NUT, 3/8-16 LOCK NYLON INSERT	975614	1	LEFT BROOM ARM WLDMNT
110641	4	NUT, 7/16-14	975615	1	BROOM LIFT WLDMNT
110667	5	WASHER, 1/4" LOCK	975616	1	RIGHT BROOM ARM WLDMNT
110670	6	WASHER, 7/16" FLAT STANDARD	975623	1	BROOM LATCH WLDMNT
110671	4	WASHER, 7/16" LOCK			
110676	2	WASHER, 3/8" FLAT STANDARD			
120319	2	ADAPTER, 6MJ-6MB			
410928	1	BEARING, SLAT DRIVE 1.25 SHAFT			
500231	2	GREASE ZERK, 1/4-28 45deg			
510254	2	Set Screw, 5/16-18 X 0.5			



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 - FINGER, RUBBER, WELDMENT

HOPPER & RETURN SCREEN

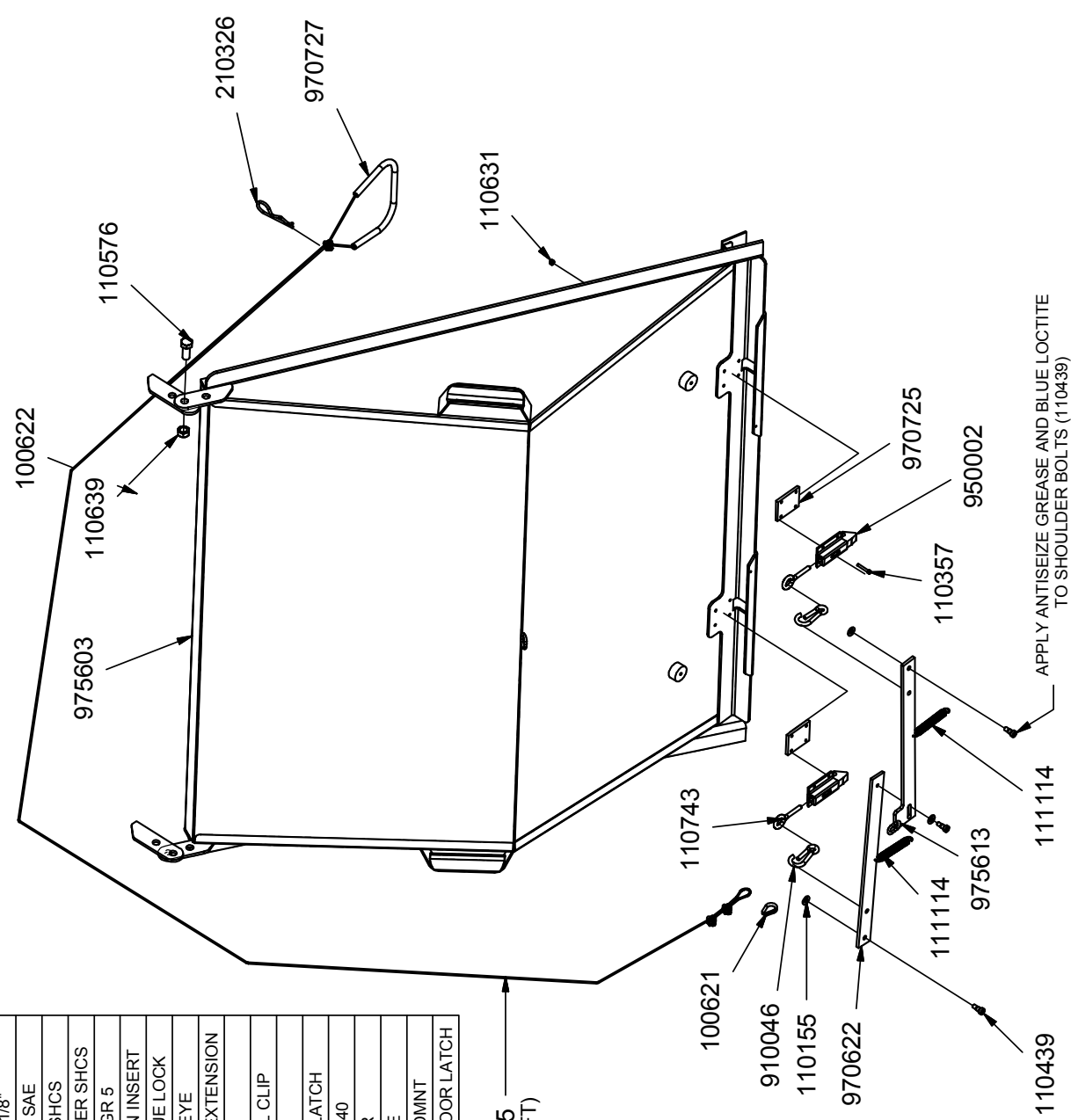
Parts List		Parts List			
PART #	QUANTITY	DESCRIPTION	PART #	QUANTITY	DESCRIPTION
100623	9 FT.	SEAL	942161	1	RETURN SCREEN WLDMNT
110020	12	Bolt, 5/16-18 X 0.75 in Carriage	110305	2	110305
110305	2	Pin, Lynch 7/16 x 1 3/4	110423	4	BOLT, 5/16-18 X 1.0
110423	4	BOLT, 5/16-18 X 1.0	110440	8	BOLT, 3/8-16 X 1, WIZ FLANGE
110603	4	NUT, 5/16-18 LOCK (NYLON)	110606	12	NUT, 5/16-18 WIZ FLANGE
110606	12	NUT, 5/16-18 WIZ FLANGE	110645	6	NUT, 3/8-16 WIZ FLANGE
110645	6	NUT, 3/8-16 WIZ FLANGE	110673	8	WASHER, 1/4" FLAT STANDARD
110673	8	WASHER, 1/4" FLAT STANDARD	311691	2	SIGHT GLASS, HOPPER
311691	2	SIGHT GLASS, HOPPER	311692	2	Backing Plate, Sight Glass
311692	2	Backing Plate, Sight Glass	710586	8	SCREW, 1/4 X 1 TEK SELF-TAP
710586	8	SCREW, 1/4 X 1 TEK SELF-TAP	942161	2	PIN, STABILIZER
942161	2	PIN, STABILIZER	970678	6	LATCH SHIM
970678	6	LATCH SHIM	970729	1	DEBRIS FLAP-RETURN SCREEN
970729	1	DEBRIS FLAP-RETURN SCREEN	970733	2	STRIKE PLATE
970733	2	STRIKE PLATE	975600	1	HOPPER
975600	1	HOPPER	975606	1	RETURN SCREEN WLDMNT
975606	1	RETURN SCREEN WLDMNT			



Parts List

PART #	QUANTITY	DESCRIPTION
100621	1	THIMBLE, WIRE ROPE 1/8"
100622	4	CLIP, WIRE ROPE 1/8"
110155	5	WASHER, 3/8" FLAT SAE
110357	8	BOLT, 10-24 X 1.25 SHCS
110439	3	BOLT, 3/8 X 3/8 SHOULDER SHCS
110576	2	BOLT, 5/8-11 X 1.5 GR 5
110631	8	NUT, 10-24 LOCK NYLON INSERT
110639	2	NUT, 5/8-11, UNITORQUE LOCK
110743	2	BOLT, 5/16-18 X 2 EYE
111114	2	SPRING, 4.50" X .625"OD EXTENSION CLIP, HAIRPIN
210326	1	
910046	2	ENGAGING CHANNEL CLIP
950002	2	DOOR LATCH
970622	1	LEVER, LEFT DOOR LATCH
970715	1	LATCH CABLE TV40
970725	2	LATCH SPACER
970727	1	HANDLE, CABLE
975603	1	HOPPER DOOR WLDMNT
975613	1	LEVER WLDMNT, RIGHT DOOR LATCH

HOPPER DOOR & LATCH

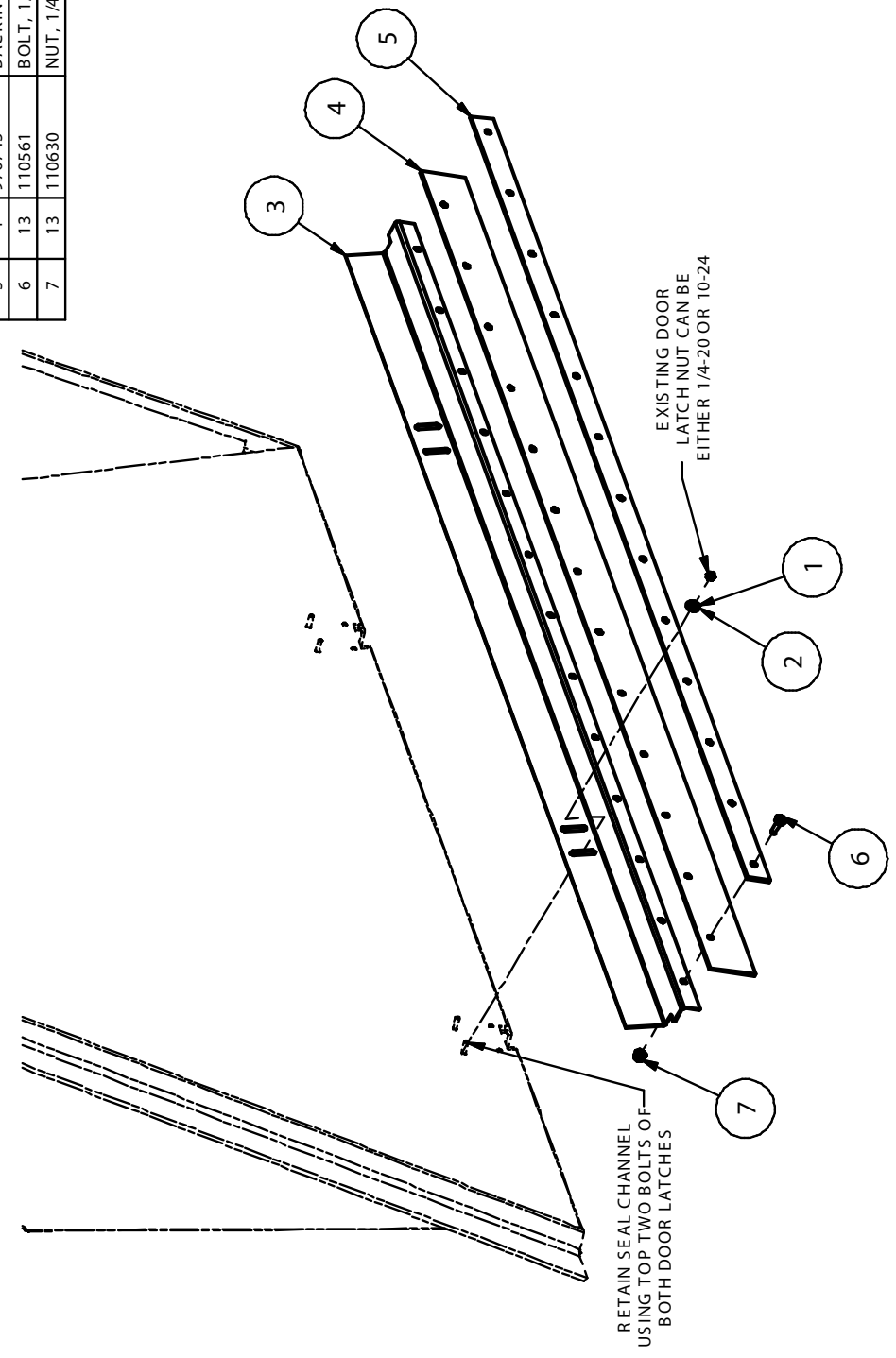


8/29/2016

975629 - TV40 DOOR SEAL ASSEMBLY

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)



Instructions:

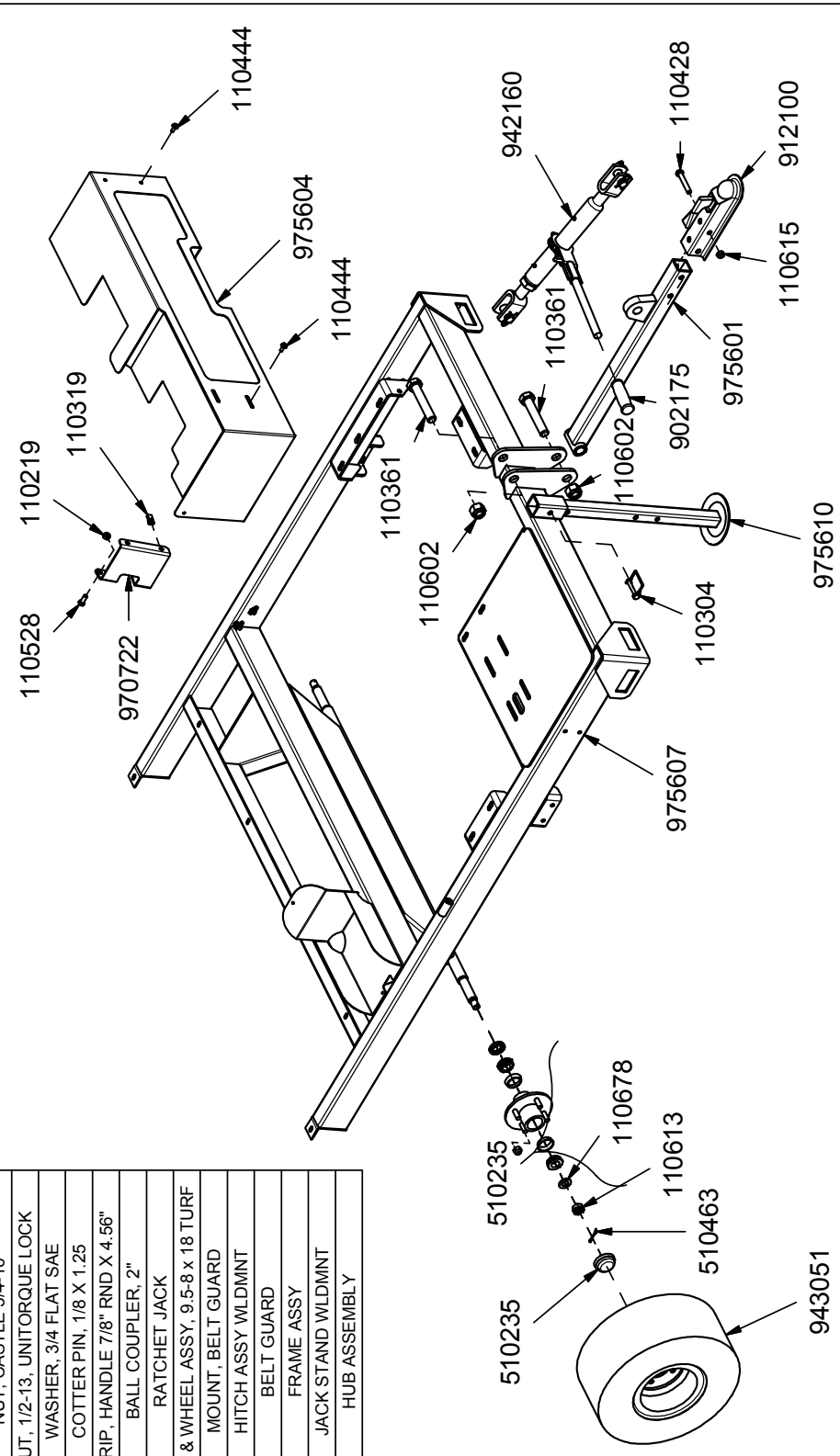
- 1) Remove nuts from top two bolts of each latch.
- 2) Use top two bolts of each latch to hold "Z" shaped seal assembly.
- 3) Set seal in center of slot initially. Adjust as needed. The seal should have good contact with hopper floor.

Instruction Sheet 975629

PART #	QTY	DESCRIPTION
110219	9	NUT, 7/16-14 LOCK NYLON INSERT
110304	1	PIN, LOCK 3/8 X 2.5 SQ
110319	58	NUT, 5/16-18 U-TYPE .75L
110361	2	BOLT, 1-8 X 5.5
110428	2	BOLT, 1/2-13 X 3.0
110444	56	BOLT, 5/16-18 X 0.75, WIZ FLANGE
110528	6	BOLT, 7/16-14 X 1.0
110602	2	NUT, 1-8 LOCK NYLON INSERT
110613	2	NUT, CASTLE 3/4-16
110615	4	NUT, 1/2-13, UNITORQUE LOCK
110678	2	WASHER, 3/4 FLAT SAE
510463	2	COTTER PIN, 1/8 X 1.25
902175	1	GRIP, HANDLE 7/8" RND X 4.56"
912100	1	BALL COUPLER, 2"
942160	1	RATCHET JACK
943051	2	TIRE & WHEEL ASSY, 9.5-8 x 18 TURF
970722	1	MOUNT, BELT GUARD
975601	1	HITCH ASSY WLDMNT
975604	1	BELT GUARD
975607	1	FRAME ASSY
975610	1	JACK STAND WLDMNT
510235	2	HUB ASSEMBLY

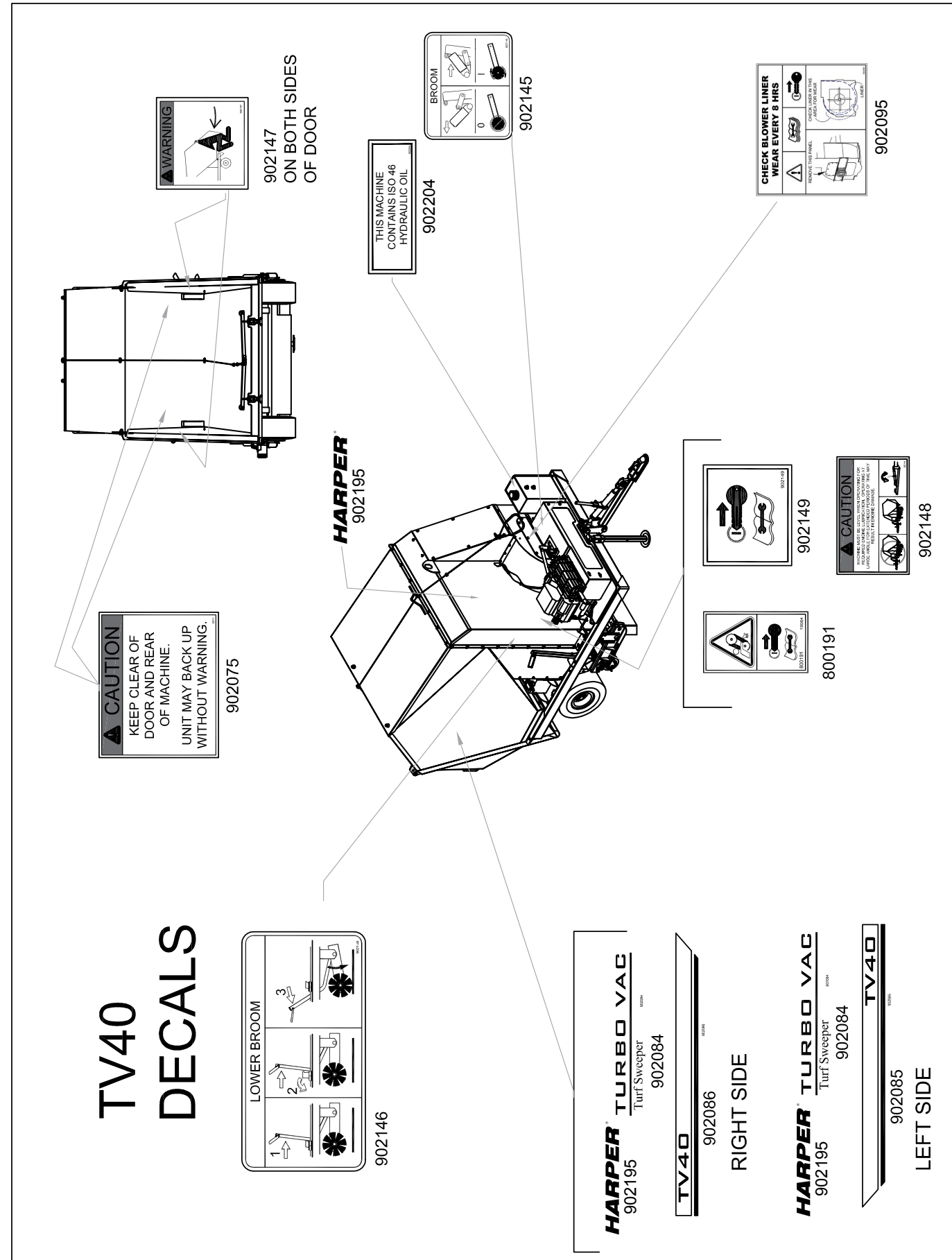
HUB ASSEMBLY (510235) PARTS		
PART #	QTY	DESCRIPTION
110617	4	NUT, 1/2-20 LUG
510465	2	BEARING CUP, 1.98 X .42
510466	2	BEARING CONE, TAPER 1.0 X .58
510467	1	SEAL, CR 12407
510469	1	DUST CAP
511073	1	HUB

FRAME

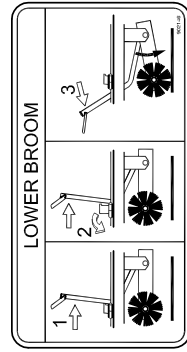


(TIRE & WHEEL ASSY
PRIOR TO S/N 14A01: 943025)

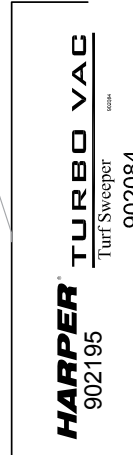
3/4/2014



TV40 DECALS



902146



RIGHT SIDE



LEFT SIDE

HARPER
902195



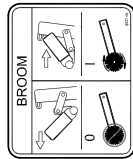
902075



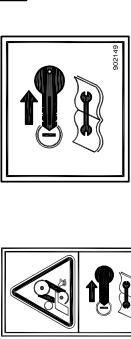
902147
ON BOTH SIDES
OF DOOR



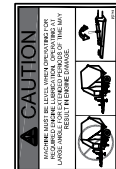
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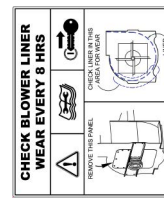
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902149



902148

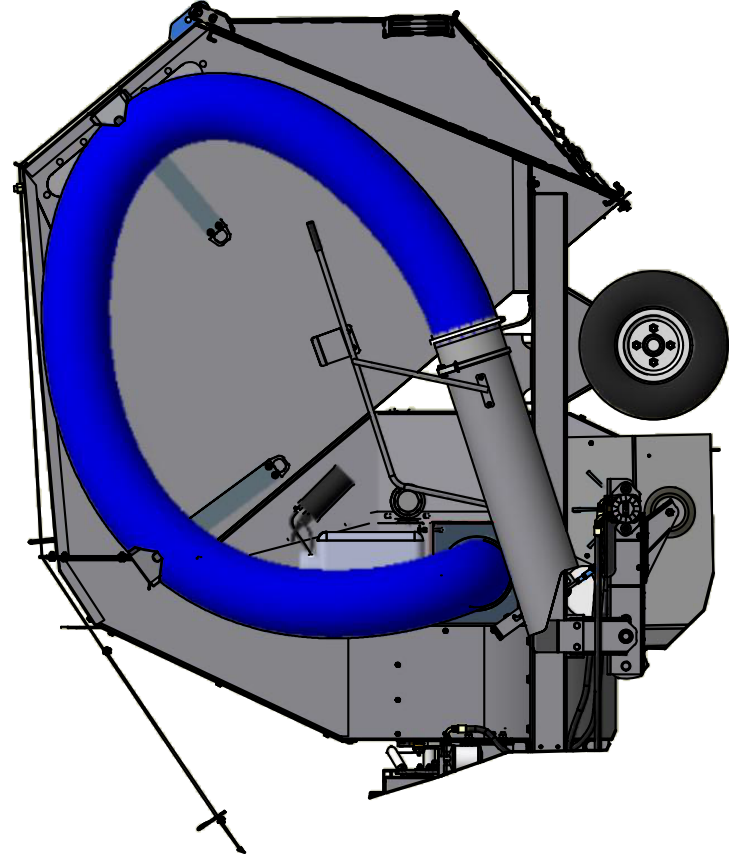


902095




902085

REMOTE HOSE OPTION



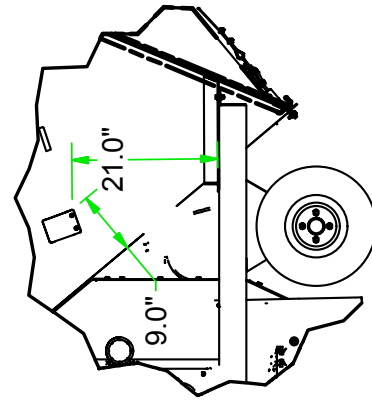
Installation Instructions:

1. Remove bolts and plate covering hole in TV40 frame cut for hose option.
 2. Thread 5/16" x 2 1/2" bolts (4) into fasteners from inside out.
- 
- 
3. Lay slide door onto rear bolts and place hose adapter on top.
 4. Use a spring, flat washer and wing nut on each bolt (4).

PARTS LIST

Part Number	Qty	Description
102022	1	COVER, VINYL 5/8" X 4 3/4"
110069	6	WASHER, 5/16" FLAT SAE
110311	2	CLAMP, HOSE #912 8.00"
110319	1	NUT, 5/16-18, U-TYPE
110327	5	NUT, 5/16 WING
110427	4	BOLT, 5/16-18 X 2.5 TAP
110437	1	BOLT, 3/8-16 .75 WIZ FLNG ZINC
110451	4	BOLT, 1/4-20 X .5, MACHINE HEAD
110539	2	BOLT, 7/16-14 X 1.25
110561	16	BOLT, 1/4-20 X .75 HHCS ZINC
110561	6	BOLT, 1/4-20 X .75
110623	1	NUT, 5/16-24
110630	16	NUT, 1/4-20, LOCK NYLON
110645	6	NUT, 3/8-16, WIZ FLNG
110667	4	WASHER, 1/4 LOCK
110673	8	WASHER, 1/4" FLAT STANDARD
110731	1	KEY, 1/8 X 1/8 X 1
211132	2	BUSHING, .625 X .5
510176	1	COTTER PIN, 1/8 X 1
510460	1	SET SCREW, 1/4-20
550046	1	CLEVIS YOKE, 5/16-24
550048	1	CLEVIS PIN, 5/16
550050	1	COTTER PIN, 3/32 X 1
902010	1	HOSE, 8 INCH
902113	1	CLAMP, NOZZLE SWIVEL
902114	1	ADAPTOR, HOSE SWIVEL
910044	1	COVER, VINYL, 25 X 1.5 X 4 GRIP
970628	2	FLAP PIVOT BLOCK
970765	1	BRACKET, NOZZLE SUPPORT
970768	1	CRADLE, REAR HOSE
970769	1	HANGER, NOZZLE HANDLE
970770	2	RING, HOSE HANGER
970774	1	SLIDE, HOSE OPTION
970775	2	HANGER STRAP
970779	1	NOZZLE TUBE
972018	4	SPRING, COMPRESSION
975132	1	FRONT HOSE CRADLE WELDMENT
975133	1	SIDE HOSE ADAPTER WELDMENT
975134	1	NOZZLE HANDLE WELDMENT
975608	1	FLAP WELDMENT
975609	1	FLAP ARM WELDMENT
975612	1	FLAP HANDLE WELDMENT

4/28/2017



NOTE: NOZZLE HANDLE HANGER PLACEMENT

NOZZLE HANDLE HANGER



NOZZLE SUPPORT

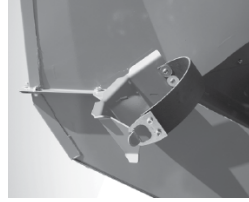
6. Install hose and nozzle as indicated.
7. Remove knock-outs from right and left side of blower housing.
8. Install flap and flap handle as indicated.



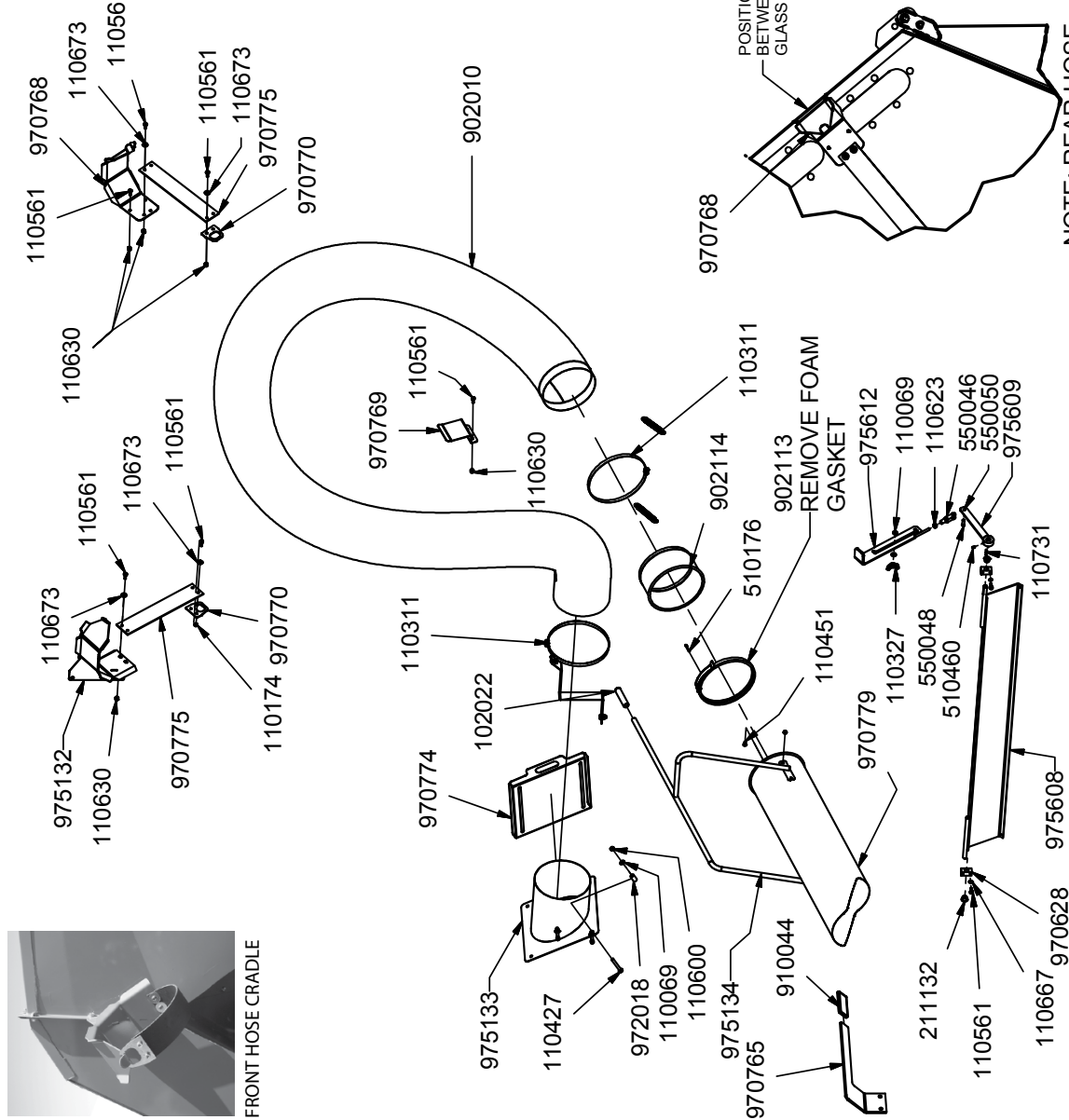
KNOCK-OUTS

FLAP HANDLE

5. Locate nozzle hangers and hose cradles as indicated.



FRONT HOSE CRADLE



POSITION BRKT BETWEEN SIGHT GLASS WINDOWS

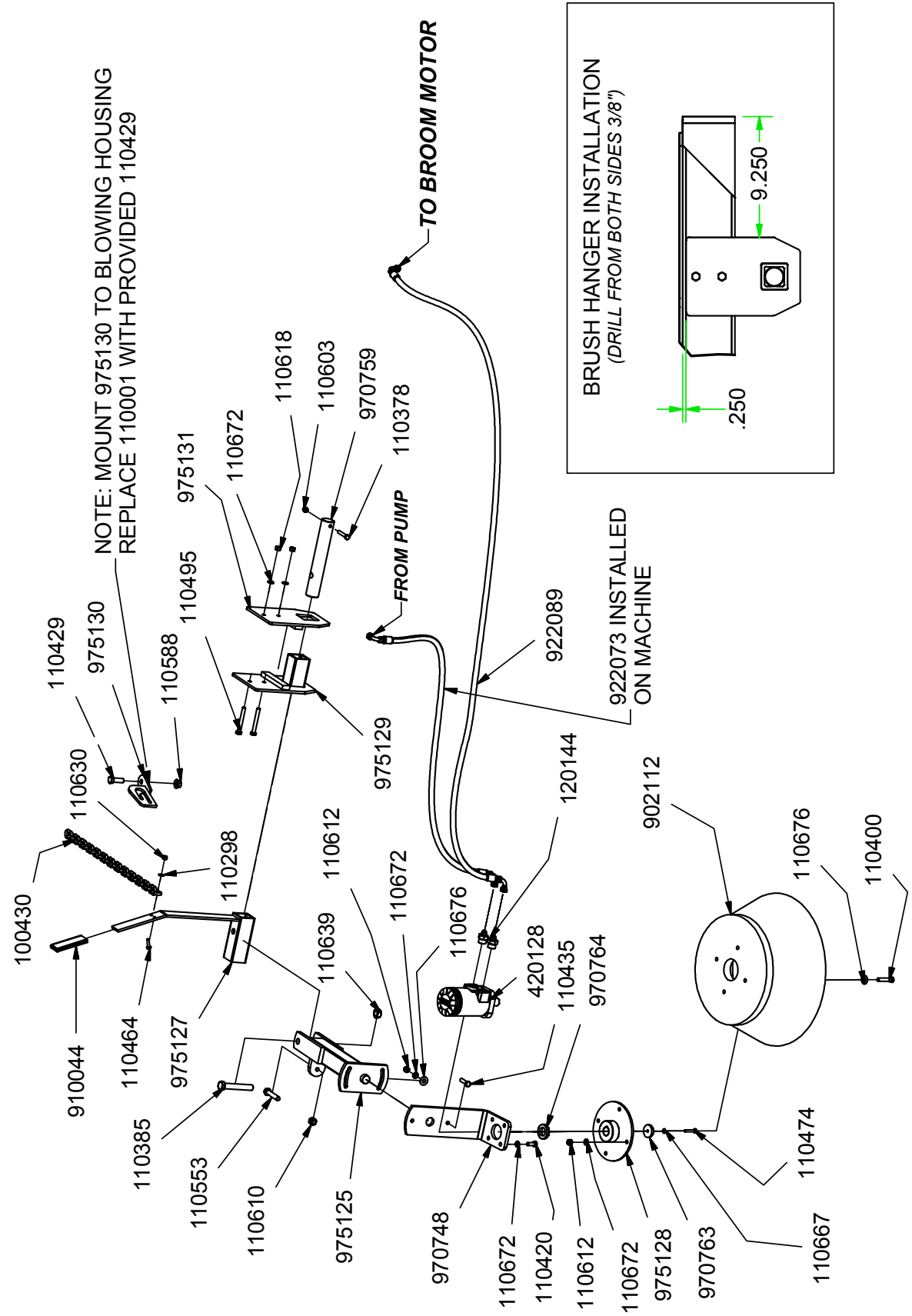
NOTE: REAR HOSE HANGER PLACEMENT

KNOCK-OUTS

FLAP HANDLE

4/28/2017

EDGE BRUSH OPTION - TV40



NOTES

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