

OPERATOR'S & PARTS MANUAL ORIGINAL INSTRUCTIONS



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:



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.

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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.

RECORDS

Date of Purchase	_ / /
Dealer's Name	
Dealer's Phone	
Serial Number Machine	
Serial Number Engine	



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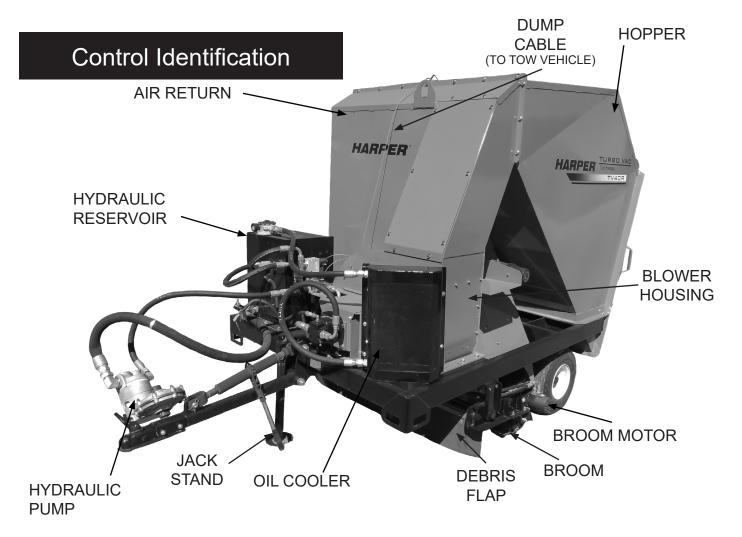


Specifications

Safety Features	Minimal dust generated, quiet operation - 96 dB
Blower Drive	Hydraulic motor powered by PTO pump
Blower Fan	25" (63.5 cm) diameter abrasion resistant steel with replaceable
	poly-liner
	1 1/2" (3.81 cm) 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 - 3.06 cubic meters
Wheels/Tires	4-bolt wheels, 18 5 (47 cm) x 9.5 (24.13 cm) tires
Controls	Blower & brush controls on machine
Sweeper	52" (132.08 cm) 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 - 342.9 cm L x 162.56 cm W x 208.28 cm H
Weight	1600 lbs 725 kg
Max Operating Angle	15°
Max Storage Angle	8°
Brush Spin Down	2 seconds
Fan Spin Down	2 seconds
System Relief Pressure	2000 psi - 13.79 MPa

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.





Hopper* – The hopper stores up to 4 yards of material. - 3.06 m³

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. - 75.71 L

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

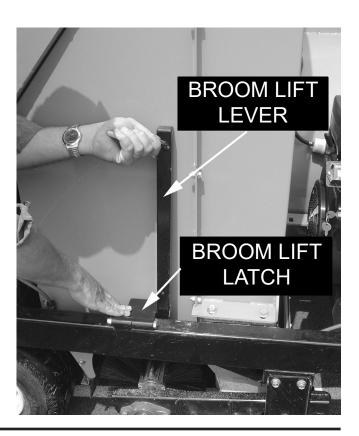
- If safety related or instructional decals become illegible or are removed, replace them immediately. New decals may be obtained from your local Harper Dealer.
- If you replace parts that have such decals attached to them, make sure the decals are replaced with current versions, and are on the replacement 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 20 psi -206843-220632 Pa.
- 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.

When transporting the TV40RH on a trailor be sure to use the specified tie down point on the unit located and labelled on the four corners of the trailor frame. Reference the decal page 5.2 if necessary (part #2).

Parking

- Lift broom so it isn't resting on the ground.
- Release hitch from towing vehicle.
- Lower jack stand and raise the hitch above the tow ball.
- Be sure to remove towing chains and unplug lighting cable.
- If unit is not being parked on level ground or a slope of less than 8°, use wheel chaulks to ensure unit doesn't move.

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 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.
- 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

- 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.

Maintenance

When inspecting hopper, use the prop bar to hold hopper open.





Safety Symbols



 High pressure fluid could be injected into body.



· High pressure spray could erode flesh.



 Hopper door can crush when too close to surroundings.



 Hopper door can crush when inside of hopper.



 Severing of fingers or hand when impeller is in use.



• Fingers or hands could become entangled due to rotating rollers.



 Arm could become entangled in broom when in use.



· Hot surface could burn fingers or hands.



• Attach support before getting into a hazardous area.



Never tip TurboVac on soft ground or on a slope.



Stay a safe distance from machine when in use.





• Stay clear of hopper door swing area while tractor engine is running.



• Stay clear of raised hopper door unless safety locks are in place and secured.



• Do not open or remove safety shields while engine/tractor is running.



• Wait until all machine components have completely stopped before touching them.



 Never reach into the broom area as long as the tractor is running with the PTO connected.



Read manual before starting/operating machine.



Safety alert symbol.



· Hook does not lift up.

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.

Locations of all safety symbols and decal part numbers associated with those symbols are located in the parts section at 5.3.



Operations

- 1. Obtain and wear safety goggles before operating.
- 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

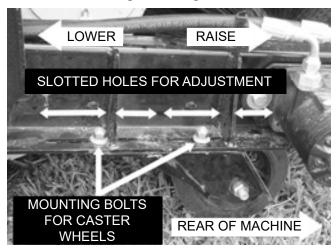
The broom height needs to be adjusted so that the broom is touching the top of the grass.



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:

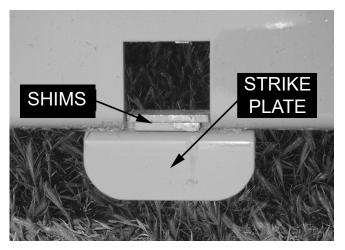
- Remove caster wheel mounting bolts.
- Adjust caster wheel to achieve desired broom height and tighten bolts.



Note: Brooms are originally 12" in (30.48 cm) diameter. When the broom wears to 10" (25.4 cm) 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.



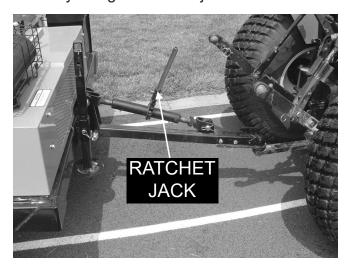
Height Adjustment

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.



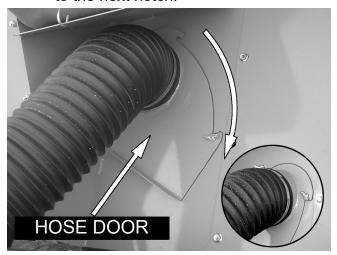


The height can be easily adjusted up or down by using the ratchet jack.

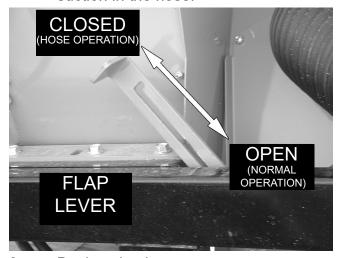


Hose Option (900217)

 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.



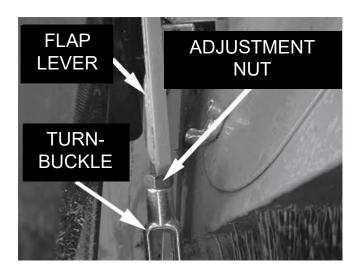
Stopping Operation

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



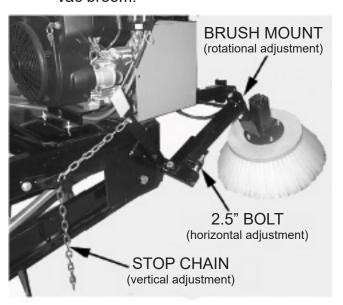
Flap Adjustment

• 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

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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



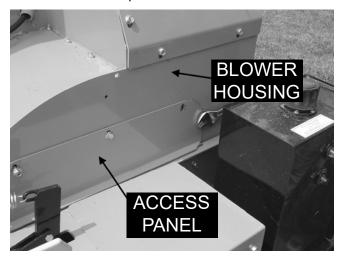
IMPORTANT!



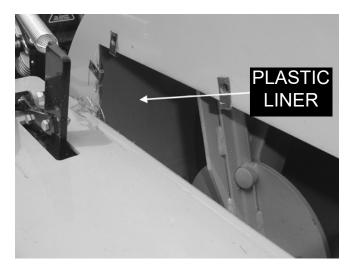
Regularly check the BLOWER LINER in the blower housing for wear. Failure to maintain blower liner may result in damage to the blower housing.

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 # 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:

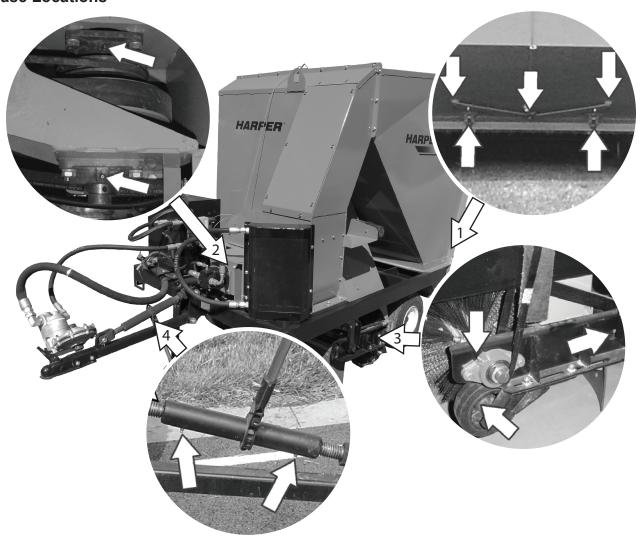
ISO 46: Recommend for running in ambient air temperatures of 32°F-110°F (0°C -43°C), and it contains a kinematic viscosity rating around 46 cSt at 40°C. (1cSt = 1mm²/s)

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



Transporting

Transporting Machine on a Trailer

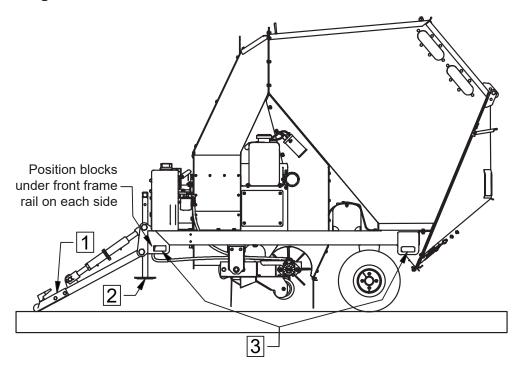
- Use the ratchet jack to lower the hitch to support the front end of the machine. For extra stability, block up the outside edges of the front of the frame.
- 2. Raise the jack stand support so that it does not contact the trailer.
- 3. Use the front and rear tie down locations to secure the machine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

25 Hour Service (including previous items)

Check plastic liner...... Replace if necessary

Part # 972010

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

Change hydraulic filter...... Harper part # 822002

100 Hour Service (including previous items)

Clean cooling areas by removing cooling shrouds

250 Hour or Annually Service (including previous items)

500 Hour or Annually Service (including previous items)

Troubleshooting

Vacuum:

Problem:	What to Check:
Turbo Vac won't sweep up material	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





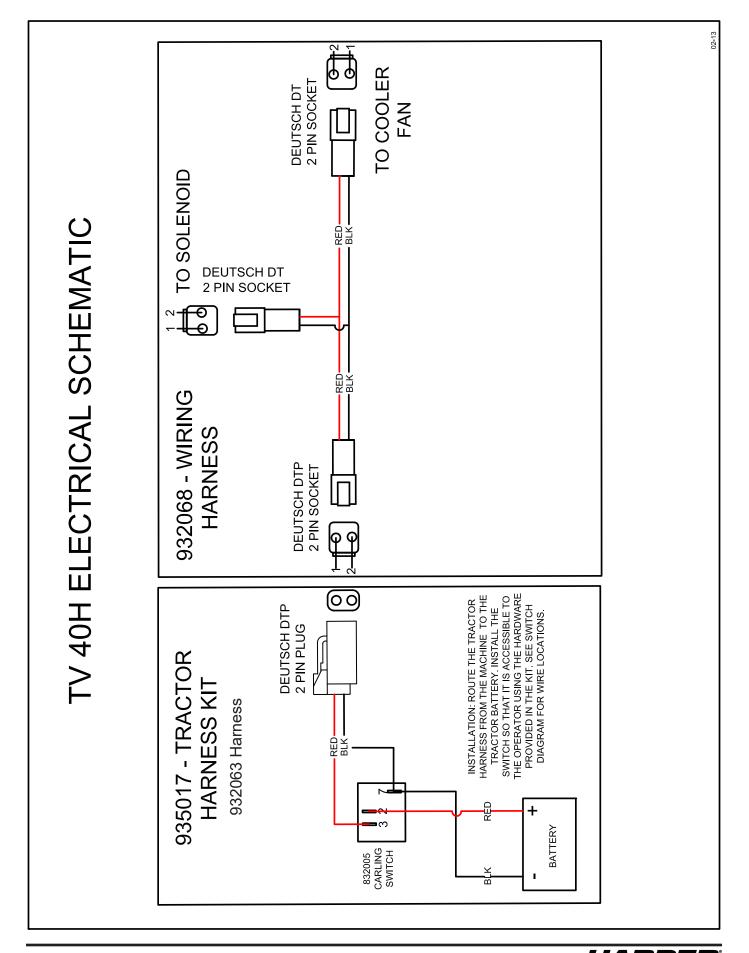
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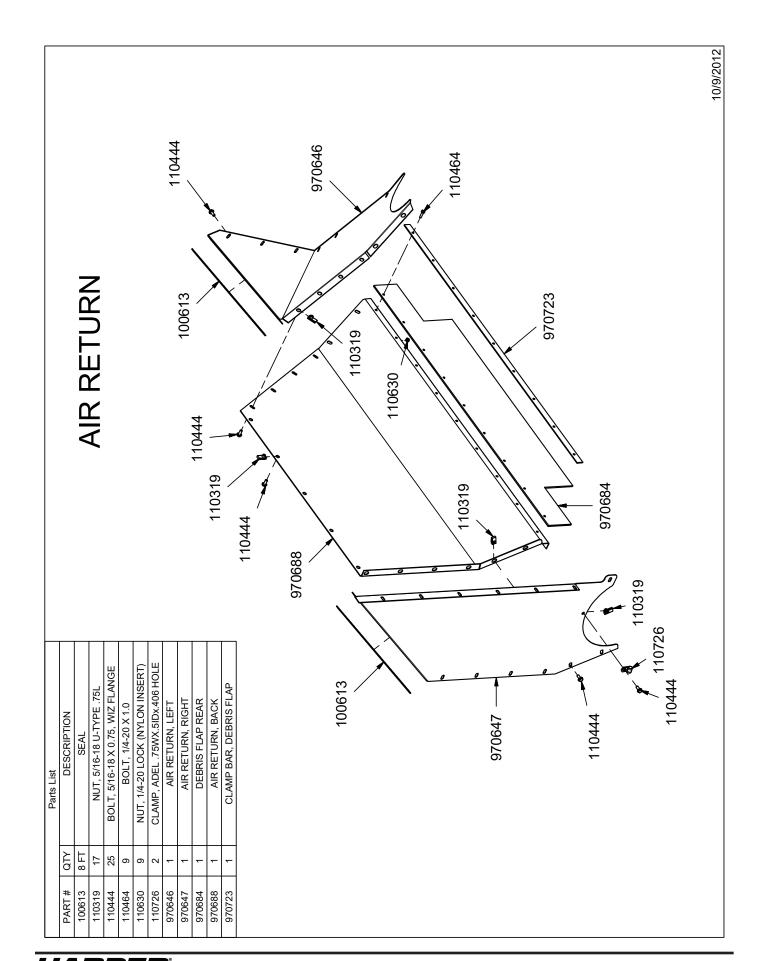
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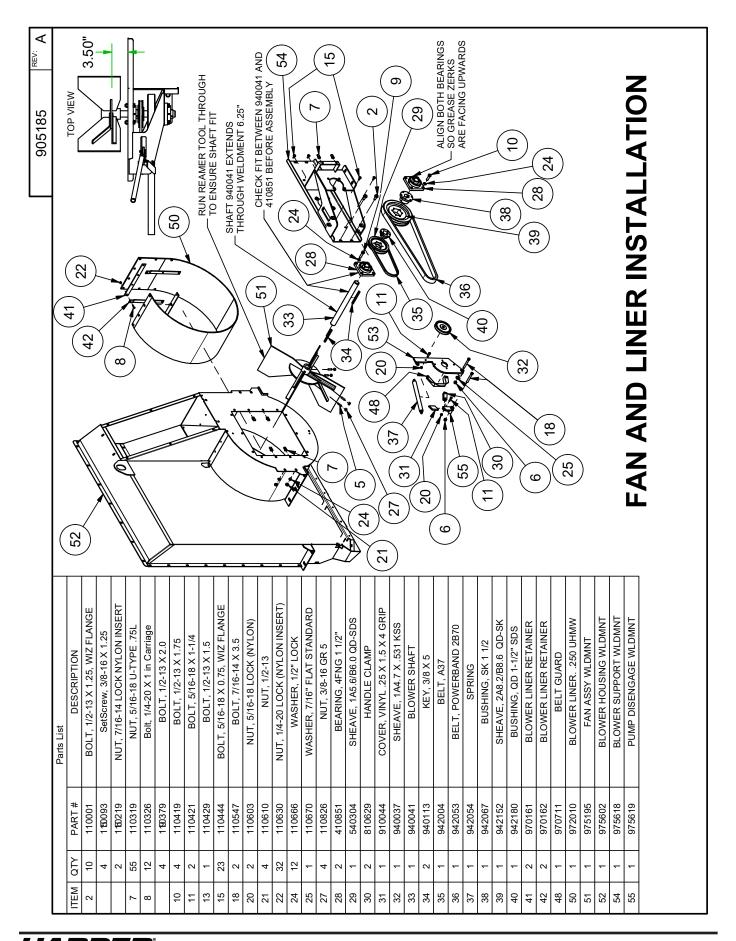




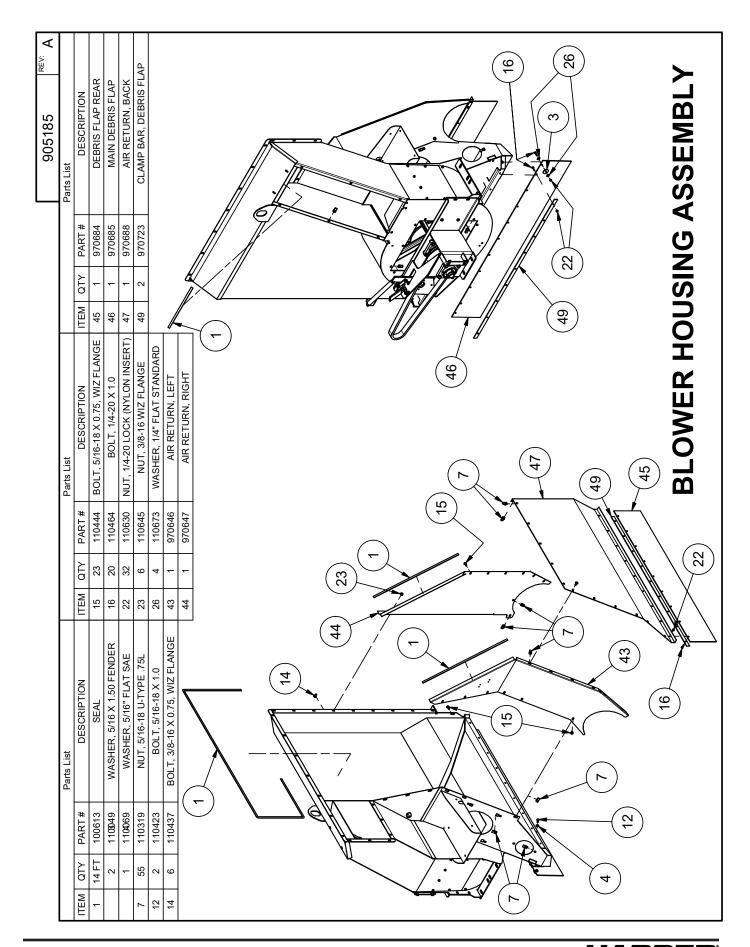


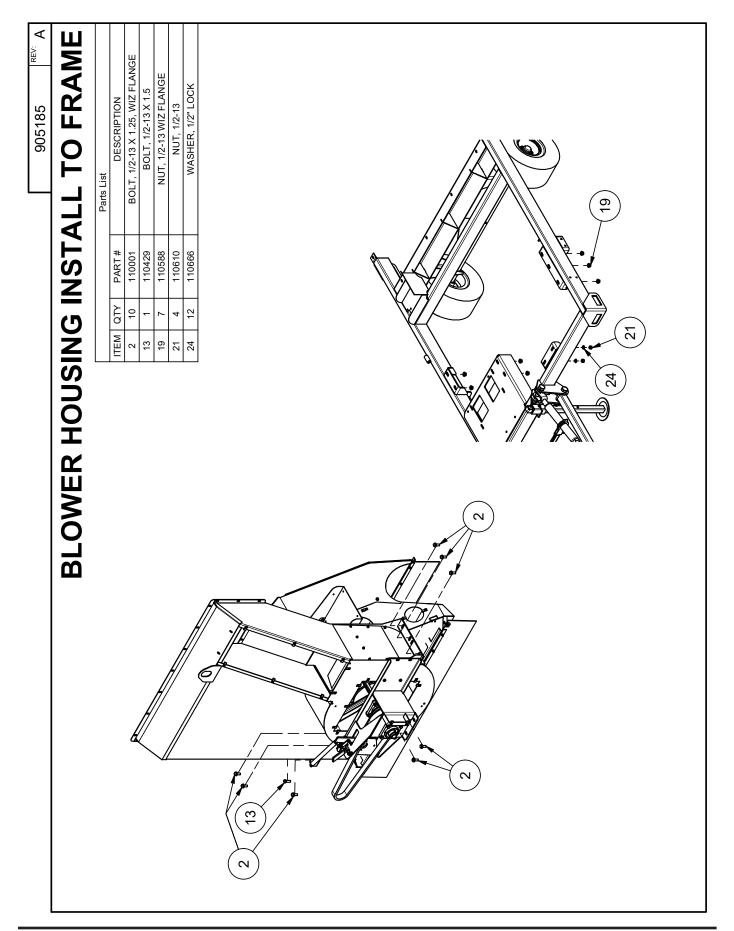


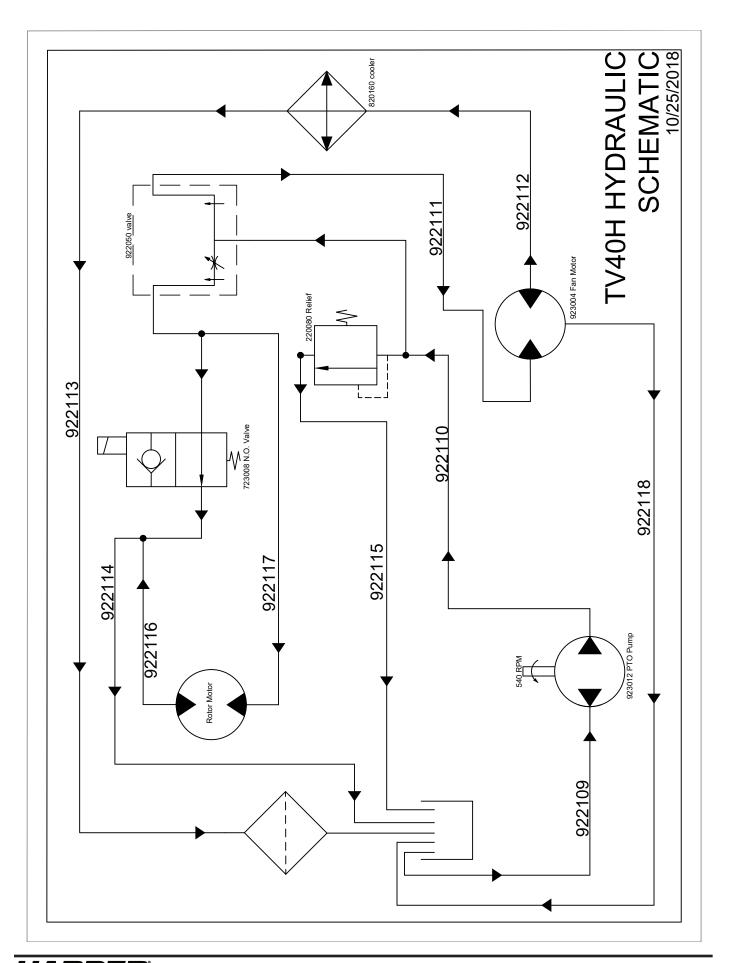
905185 REV: A	Parts List Parts List	PART# DESCRIPTION ITEM QTY PART# DESCRIPTION	110421 BOLT, 5/16-18 X 1-1/4 26 4 110673 WASHER, 1/4" FLAT STANDARD	110423 BOLT, 5/16-18 X 1.0 27 4 110826 NUT, 3/8-16 GR 5	110429 BOLT, 1/2-13 X 1.5 28 2 410851 BEARING, 4FNG 1 1/2"	540304 SHI	110444 BOLT, 5/16-18 X 0.75, WIZ FLANGE 30 2 810629 HANDLE CLAMP	110464 BOLT, 1/4-20 X 1.0 31 1 910044 COVER, VINYL .25 X 1.5 X 4 GRIP	110472 BOLT, 3/8-16 X .375 SHCS 32 1 940037 SHEAVE, 1A4.7 X .531 KSS	110547 BOLT, 7/16-14 X 3.5 33 1 940041 BLOWER SHAFT	110588 NUT, 1/2-13 WIZ FLANGE 34 2 940113 KEY, 3/8 X 5	NUT, 5/16-18 LOCK (NYLON) 35 1 942004	NUT, 1/2-13 36 1 942053 BELT, PC	_	iE 38 1 942067	39 1 942152 S	110670 WASHER, 7/16" FLAT STANDARD 40 1 942180 BUSHING, QD 1-1/2" SDS		42 2 970162 BLOWER LINER RETAINER	43 1 970646 AIR RETURN, LEFT	44 1 970647 AIR RETURN, RIGHT	45 1 970684 DEBRIS FLAP REAR	46 1 970685 MAIN DEBRIS FLAP	47 1 970688 AIR RETURN, BACK	48 1 970711 BELT GUARD	49 2 970723 CLAMP BAR, DEBRIS FLAP	50 1 972010 BLOWER LINER. 250 UHMW	51 1 975195 FAN ASSY WLDMNT	52 1 975602 BLOWER HOUSING WLDMNT	1 975605	54 1 975618 BLOWER SUPPORT WLDMNT	55 1 975619 PUMP DISENGAGE WLDMNT	BLOWER HOUSING INSTALLATION
										-				-	_	-	-					-	-	-				-	-				
	Ц	ITEN	26	27	78			31	32	33	34	35		_	38	33	40	4	45	43	4	45	46	47	48	49	20	51	52	53	54	55	Z
	Parts List	DESCRIPTION	BOLT, 5/16-18 X 1-1/4	BOLT, 5/16-18 X 1.0	BOLT, 1/2-13 X 1.5	BOLT, 3/8-16 X 0.75, WIZ FLANGE	BOLT, 5/16-18 X 0.75, WIZ FLANGE	BOLT, 1/4-20 X 1.0	BOLT, 3/8-16 X .375 SHCS	BOLT, 7/16-14 X 3.5	NUT, 1/2-13 WIZ FLANGE	NUT, 5/16-18 LOCK (NYLON)	NUT, 1/2-13	NUT, 1/4-20 LOCK (NYLON INSERT)	NUT, 3/8-16 WIZ FLANGE	WASHER, 1/2" LOCK	WASHER, 7/16" FLAT STANDARD																WER HOUSI
		PART#	110421	110423	110429	110437	110444	110464	110472	110547	110588	110603	110610	110630	110645	110666	110670																BLO
		QTY	2	2	-	9	23	70	2	2	7	2	4	32	9	12	-																
		ITEM	=	12	13	14	15	16	17	18	19	20	21	22	23	24	25																
	Parts List	DESCRIPTION	SEAL	BOLT, 1/2-13 X 1.25, WIZ FLANGE	WASHER, 5/16 X 1.50 FENDER	WASHER, 5/16" FLAT SAE	SetScrew, 3/8-16 X 1.25	NUT, 7/16-14 LOCK NYLON INSERT	NUT, 5/16-18 U-TYPE .75L	Bolt, 1/4-20 X 1 in Carriage	BOLT, 1/2-13 X 2.0	BOLT, 1/2-13 X 1.75		4	<i>[</i>]/		<i>[</i>																
		PART#	100613	110001	110049	110069	110093	110219	110319	110326	110379	110419	L		` \	//	// 	/										·	\ /	4			
		QTY	14 FT	10	2	-	4	2	22	12	4	4																لکو	•			7/	/
			_	$\overline{}$	_	$\overline{}$	r	r -	Г	$\overline{}$	г	П																		C	/		

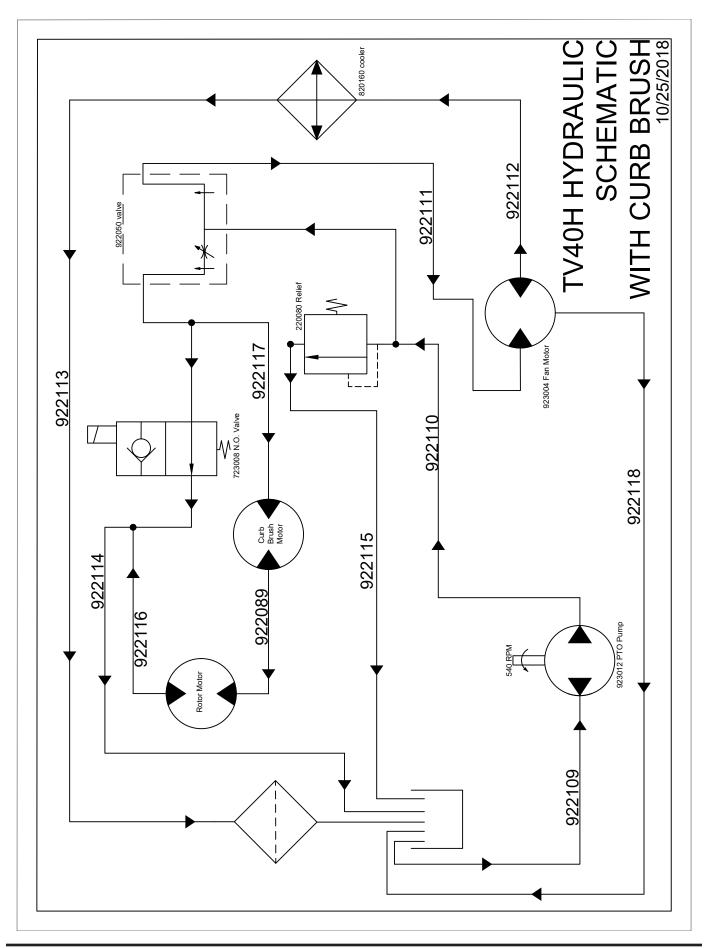


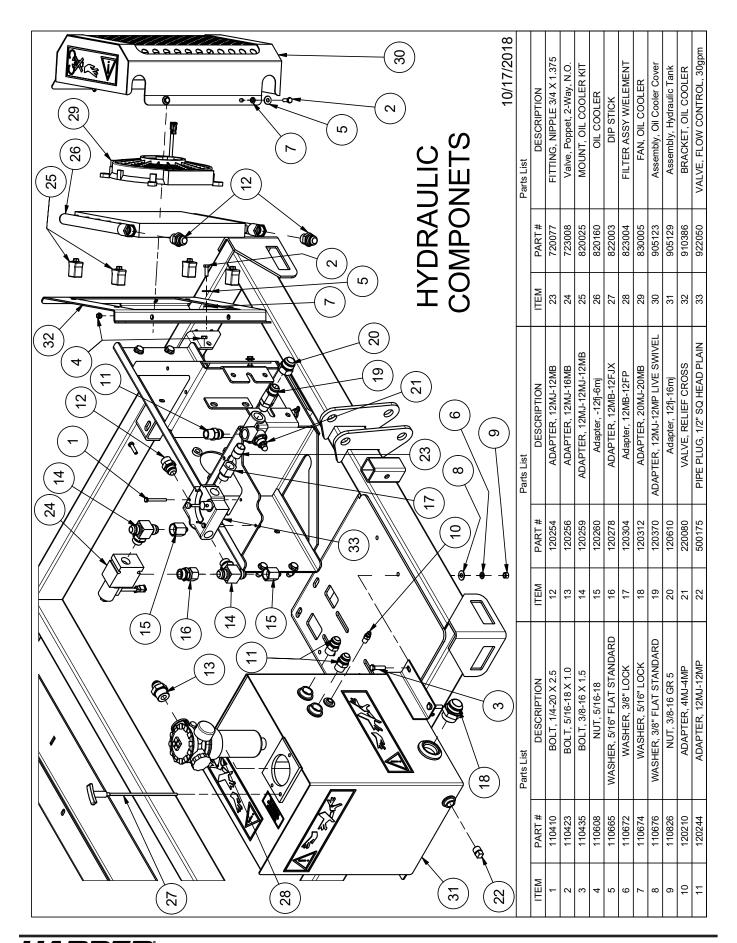






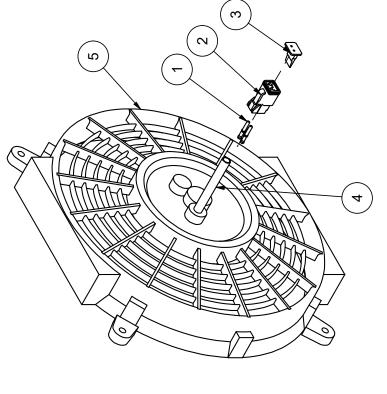




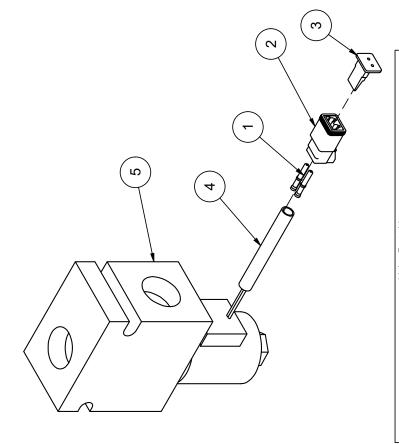




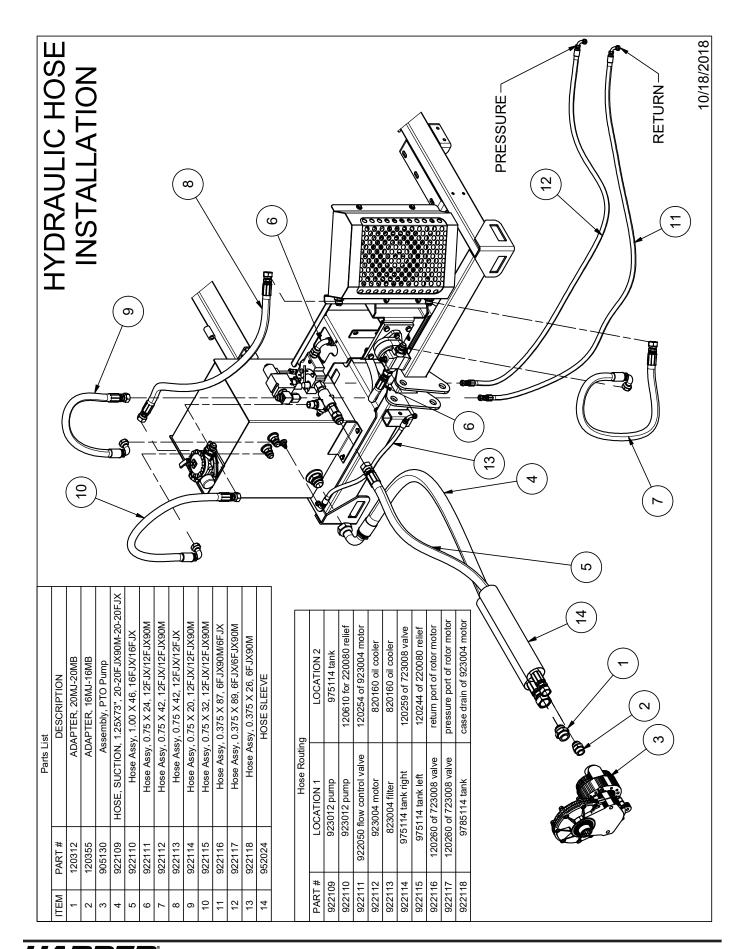




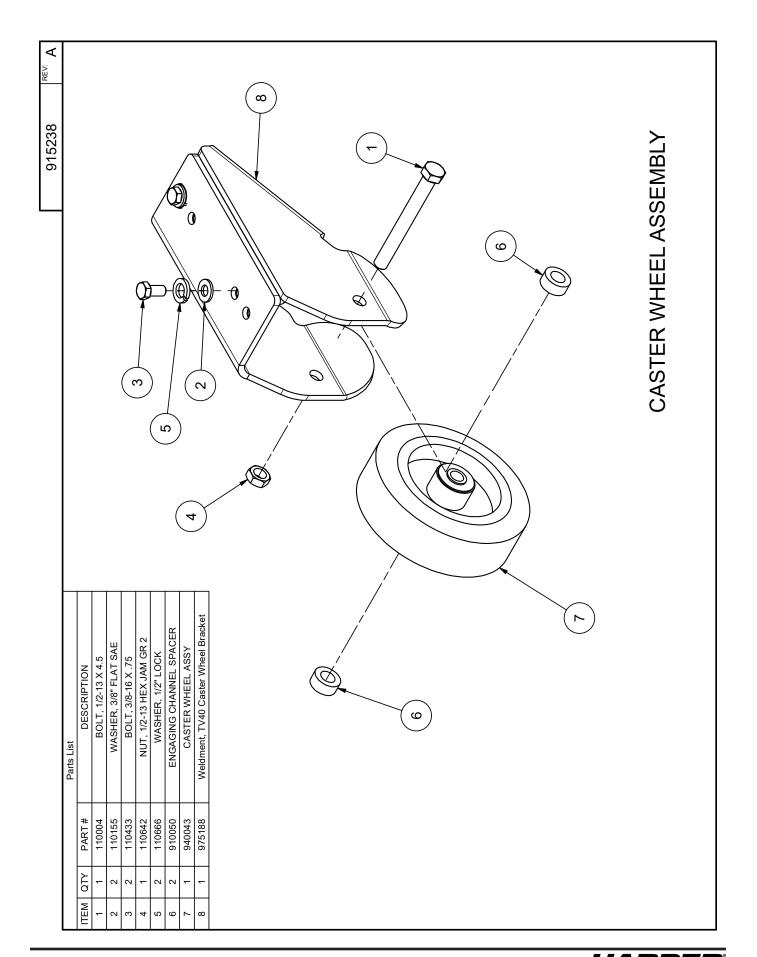
Oil Cooler Fan Parts List	DESCRIPTION	TERMINAL, OPEN BARREL SOCKET, 14-16 GA. DEUTSCH	CONNECTOR, 2 CAVITY, DEUTSCH DT (DT-06-2S)	SECONDARY LOCK, DEUTSCH DT, (W2S)	Loom, 1/4 Flex Guard	FAN, OIL COOLER
	PART#	130058	130059	130061	132024	830005
	QTY	2	-	1	1	1
	ITEM QTY	1	2	3	4	5



Valve Parts List	DESCRIPTION	TERMINAL, OPEN BARREL SOCKET, 14-16 GA. DEUTSCH	CONNECTOR, 2 CAVITY, DEUTSCH DT (DT-06-2S)	SECONDARY LOCK, DEUTSCH DT, (W2S)	Loom, 1/4 Flex Guard	Valve, Poppet, 2-Way, N.O.	
	PART#	130058 T	130059	130061	132024	723008	
	ITEM QTY	2	1	1	1	1	
	ITEM	1	2	3	4	2	

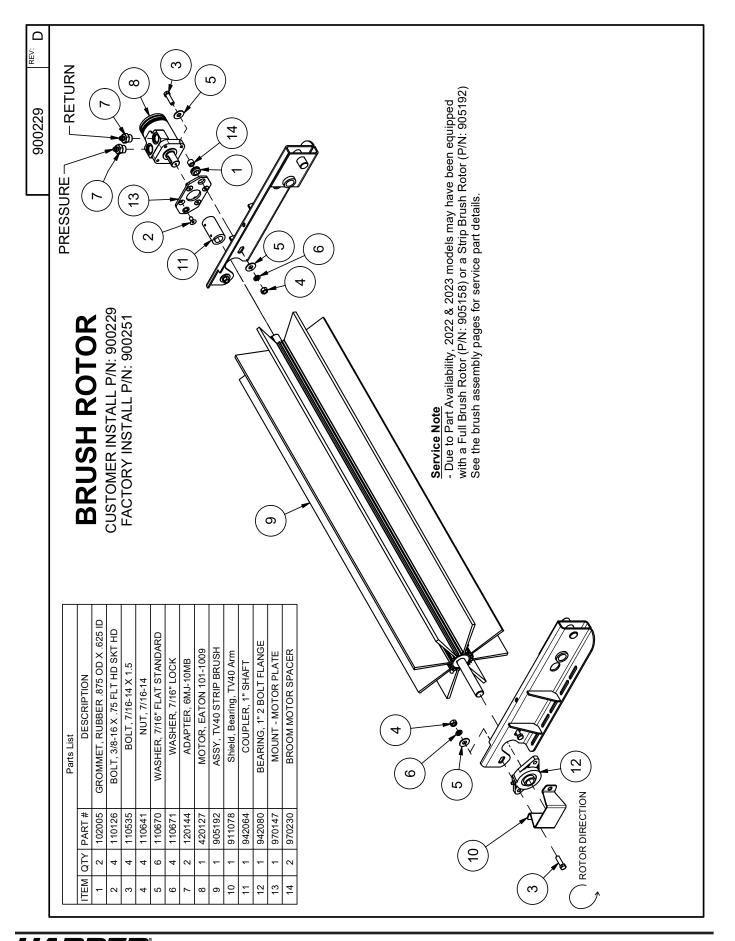


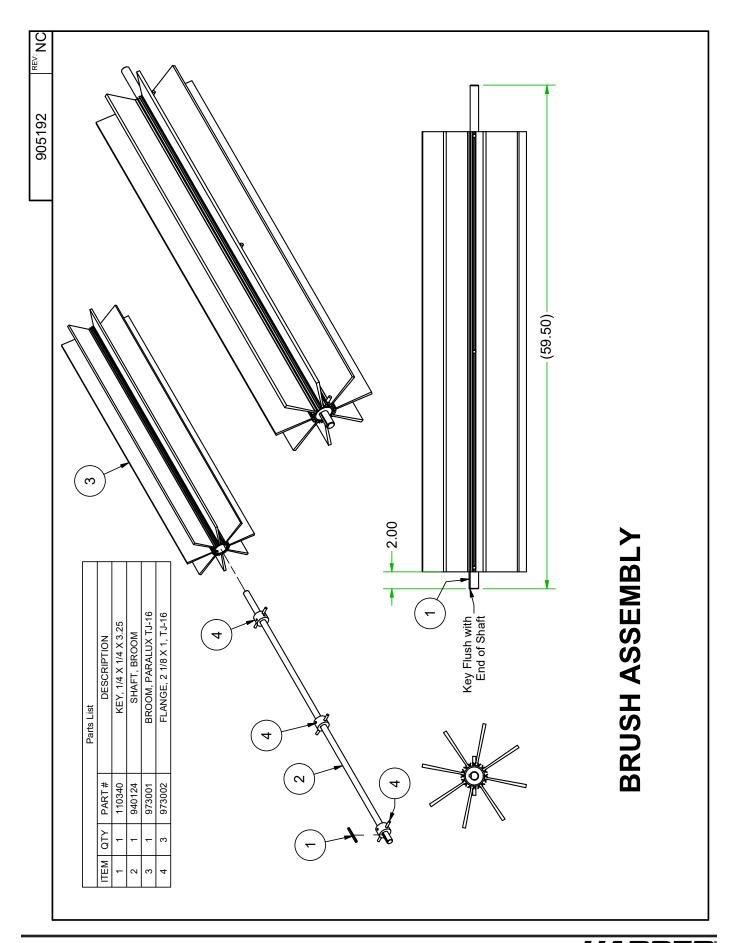




			905187 REV: A	_
			Parts List	_
TIEM QTY		PART#	DESCRIPTION	
	2	110004	BOLT, 1/2-13 X 4.5	
	4	1120155	WASHER, 3/8" FLAT SAE	
	5	1130219	NUT, 7/16-14 LOCK NYLON INSERT	
	_	1140313	1-1/4 SQ PLUG	_
	4	1150440	BOLT, 3/8-16 X 1, WIZ FLANGE	_
	4	170528	BOLT, 7/16-14 X 1.0	_
	2	1170642	NUT, 1/2-13 HEX JAM GR 2	
	4	1180672	WASHER, 3/8" LOCK	
		1190710	BOLT, 7/16-14 X 5.0	_
	2	500231	GREASE ZERK, 1/4-28 45deg	
	-	910044	COVER, VINYL .25 X 1.5 X 4 GRIP	
	4	910050	ENGAGING CHANNEL SPACER	
	2	940043	CASTER WHEEL ASSY	_
		942071	CASTER WHEEL 6"	
(10)	2	942115	RETAINING SEAL	_
		942116	ROLLER BEARING	
12.4	1	942164	SPANNER BUSHING, .75X.5X2.437	
	2 6	975188	Weldment, TV40 Caster Wheel Bracket	
15	1 6	975614	LEFT BROOM ARM WLDMNT`	
		975615	BROOM LIFT WLDMNT	
		975616	RIGHT BROOM ARM WLDMNT	_
)	2 8	975617	BROOM PIVOT WLDMNT	
		975623	BROOM LATCH WLDMNT	_
5 12.3 12.1 12.3 DECK LIFT INST	 	LAT	Z O	1
				_

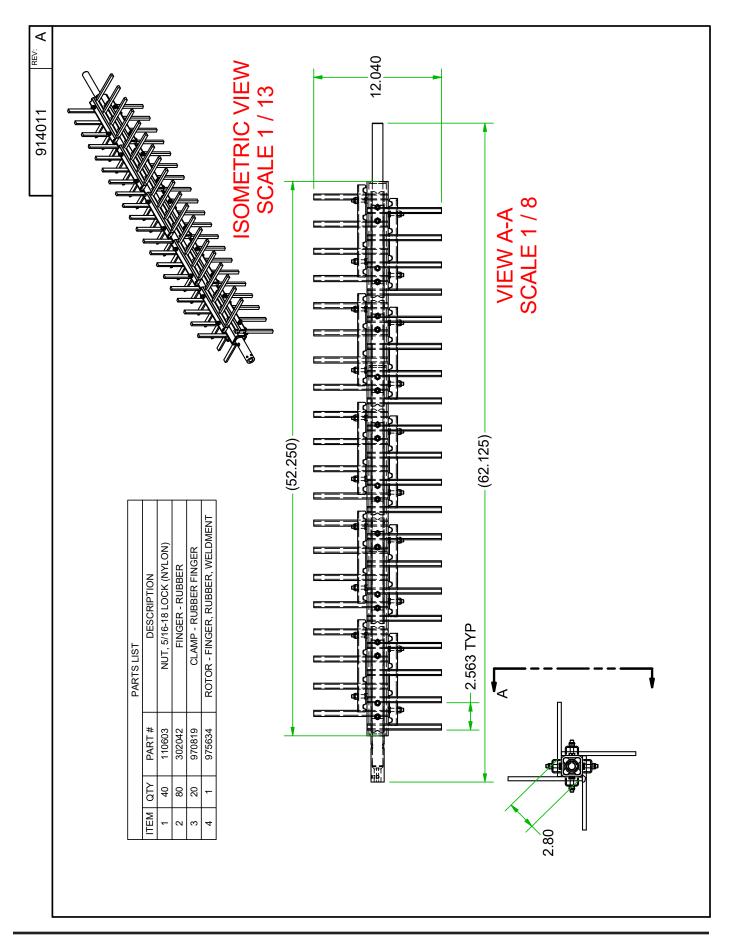




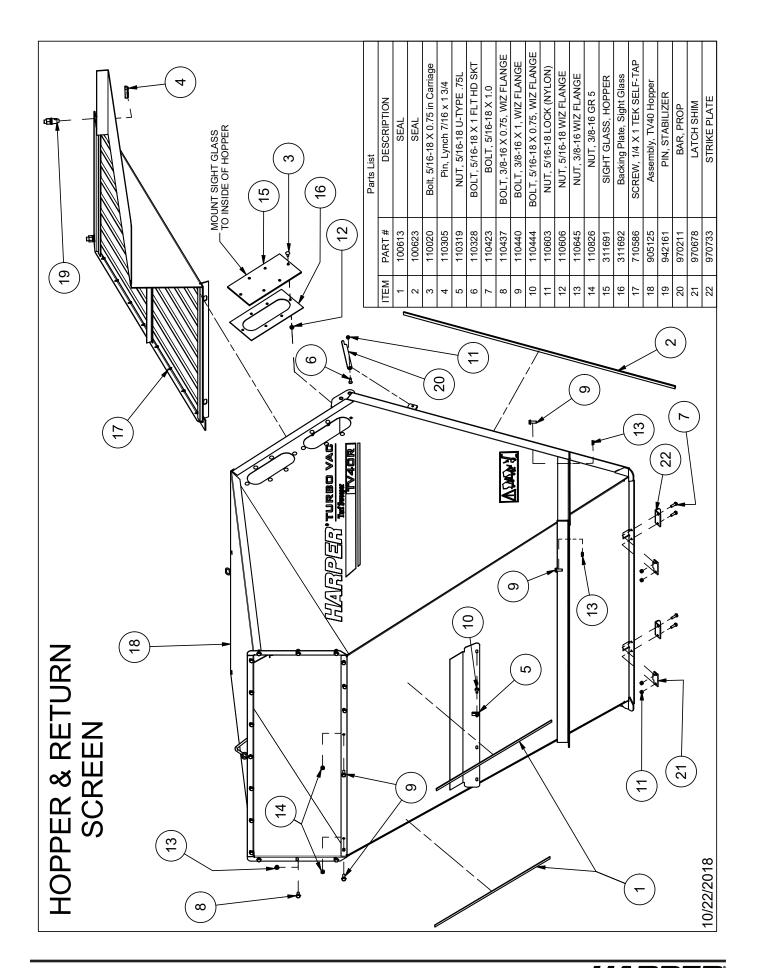


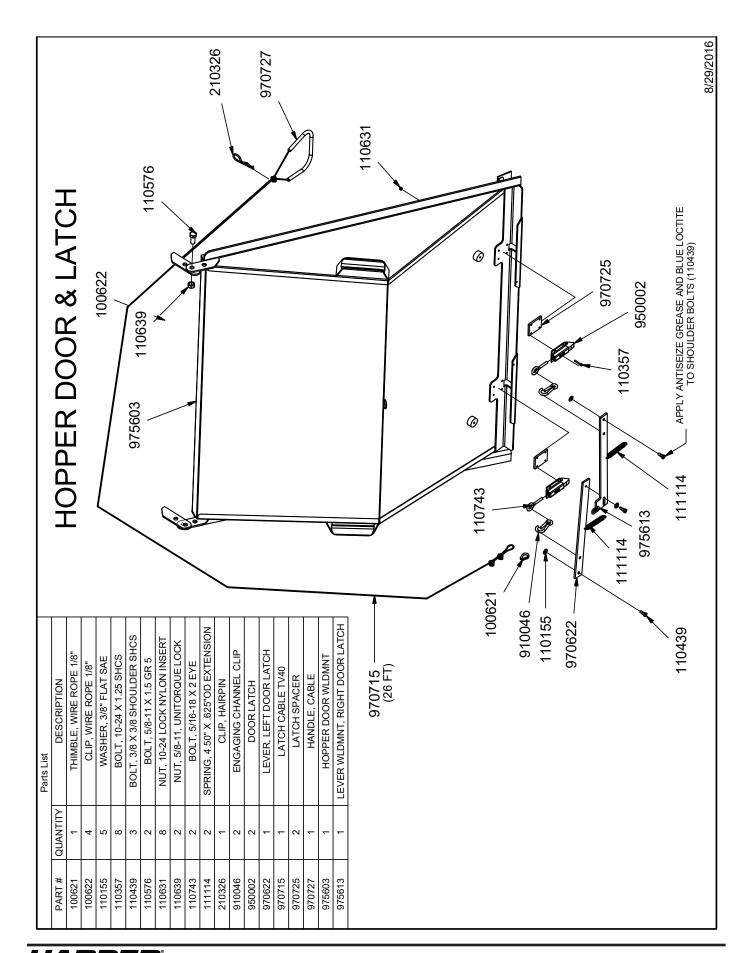
1 1 100000 100000 100000 100000 10000 10000 10000 10000 100000 10000 10000 10000	900225			T RETURN		(15)			1		()() A	/ (14) (22)				(\frac{\pi}{\pi})	(2)		<u> </u>	3-26-2021
PARTS LIST				TAESSONE			(20))(\leq	\(\begin{aligned}	* \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						-S		
PARTS LIST PARTS LIST								ノ 	(- 	(6) /		<i>/</i> _ 							I - PARTS LIST DESCRIPTION NUT, 5/16-18 LOCK (I FINGER - RUBBER F CLAMP - RUBBER F R - FINGER, RUBBER	
102005 GROMMET, RUBBER 875 ODX. 625 ID 16 1 1 1 1 1 1 1 1 1		PARTS LIST	DESCRIPTION	BEARING, SLAT DRIVE 1.25 SHAFT	SetScrew, 5/16-18 X 0.5	Shield, Bearing, TV40 Arm	ROTOR - RUBBER FINGER, TV40	MOTOR - 1.29 CID, ROTOR DRIVE	BEARING, 1" 2 BOLT FLANGE	BROOM MOTOR SPACER	ARM - TORQUE, ROTOR, TV40	(w w		\	27			QTY PART# 40 110603 20 970819 1 975634	
PARTS LIST DESCRIPTION ITEM		l		410928	510254	911078	914011	923009	942080	970230	970821									
DARTS LIST		-	тем ат	16 1		_	19 1	\dashv	\dashv											
				GROMMET, RUBBER .875 OD X .625 ID	BOLT, 1/4-28 X .625	BOLT, 1/2-13 X 1.75	BOLT, 3/8-16 X 1.5	BOLT, 7/16-14 X 1.5	NUT, 1/2-13	NUT, 3/8-16 LOCK NYLON INSERT	NUT, 7/16-14	WASHER, 1/2" FLAT STANDARD	WASHER, 1/2" LOCK	WASHER, 1/4" LOCK	WASHER, 7/16" FLAT STANDARD	WASHER, 7/16" LOCK	WASHER, 3/8" FLAT STANDARD	ADAPTER, 6MJ-6MB	27 (13)	
		_		102005	110415	110419	110435	110535	110610	110618	110641	110658	110666	110667	110670	110671	110676	120319	ROTOR DIF	
			тем ату	\dashv	_	3 2		\dashv	6 2		8 2	9 2	10 2	_	_		\dashv	-		



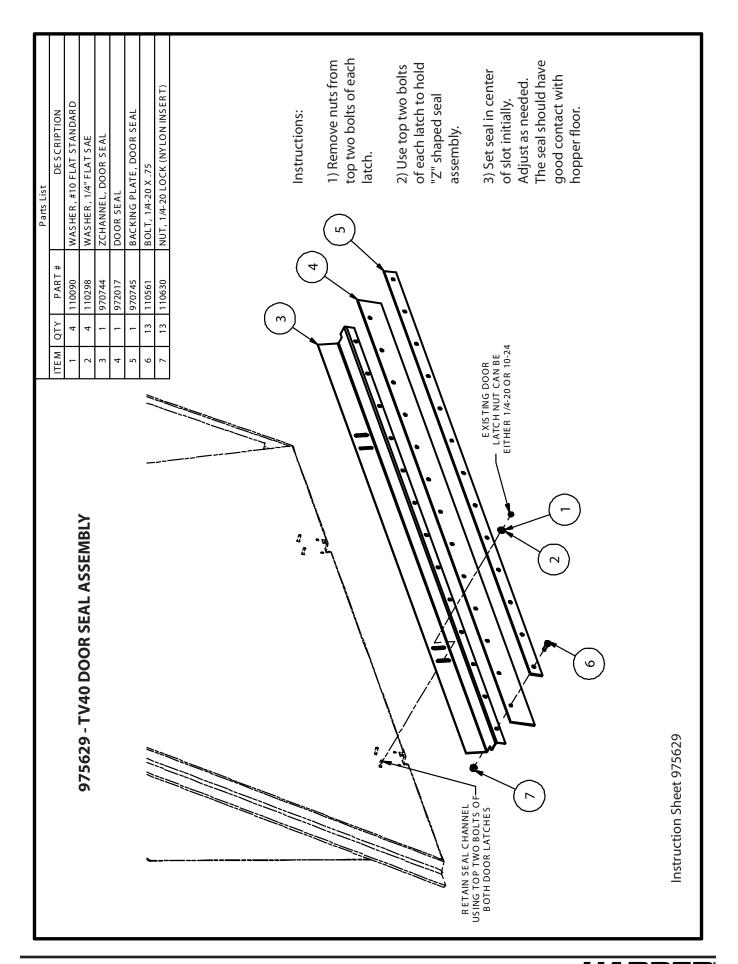






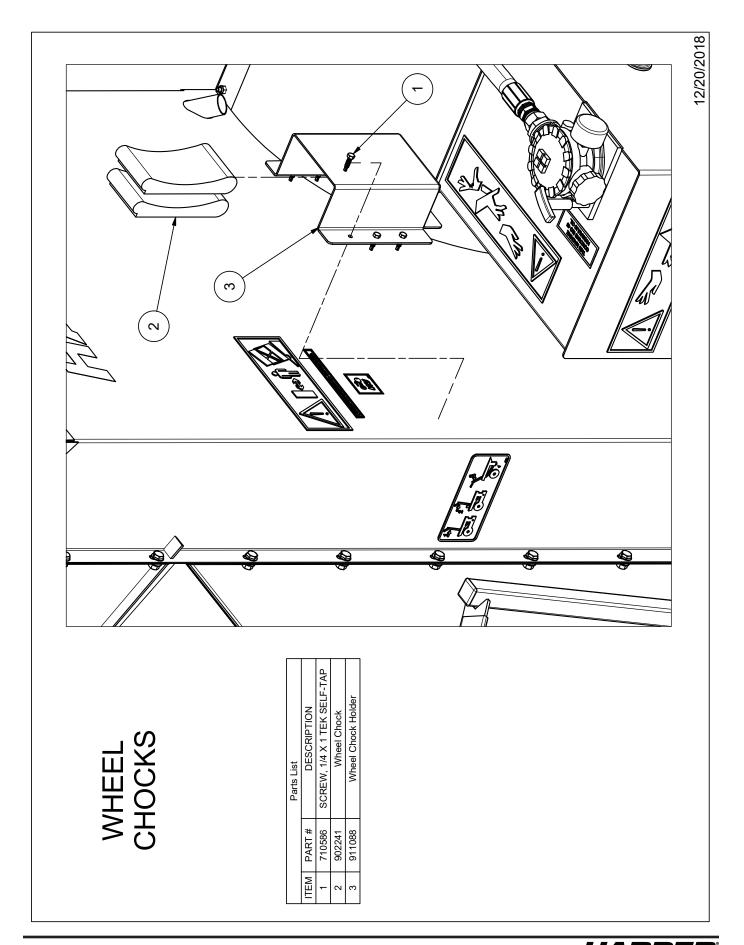


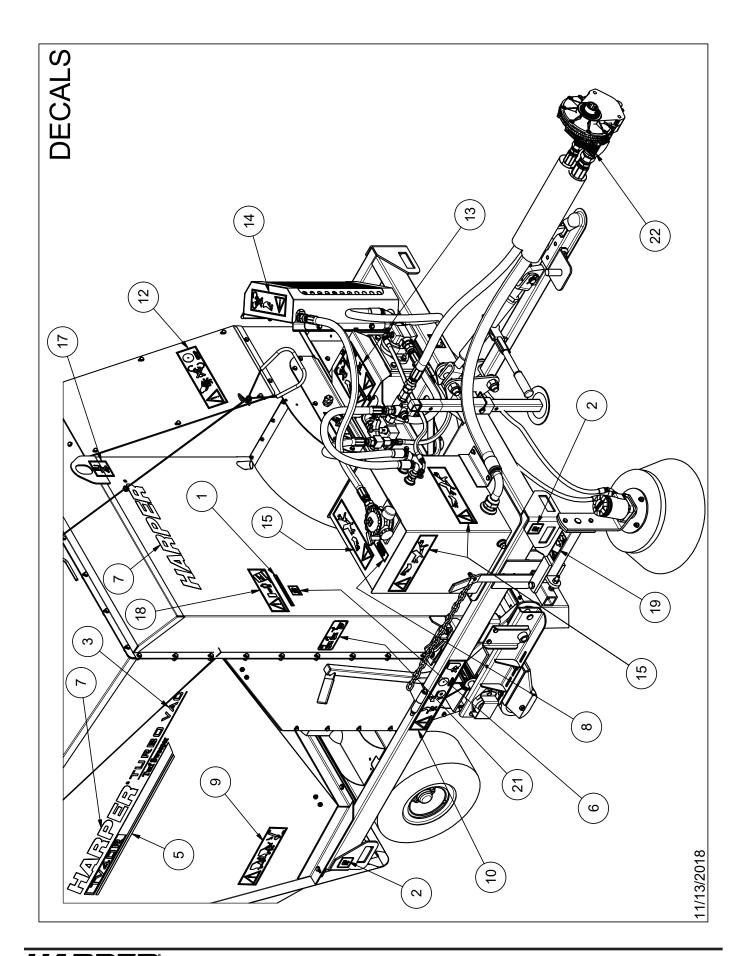


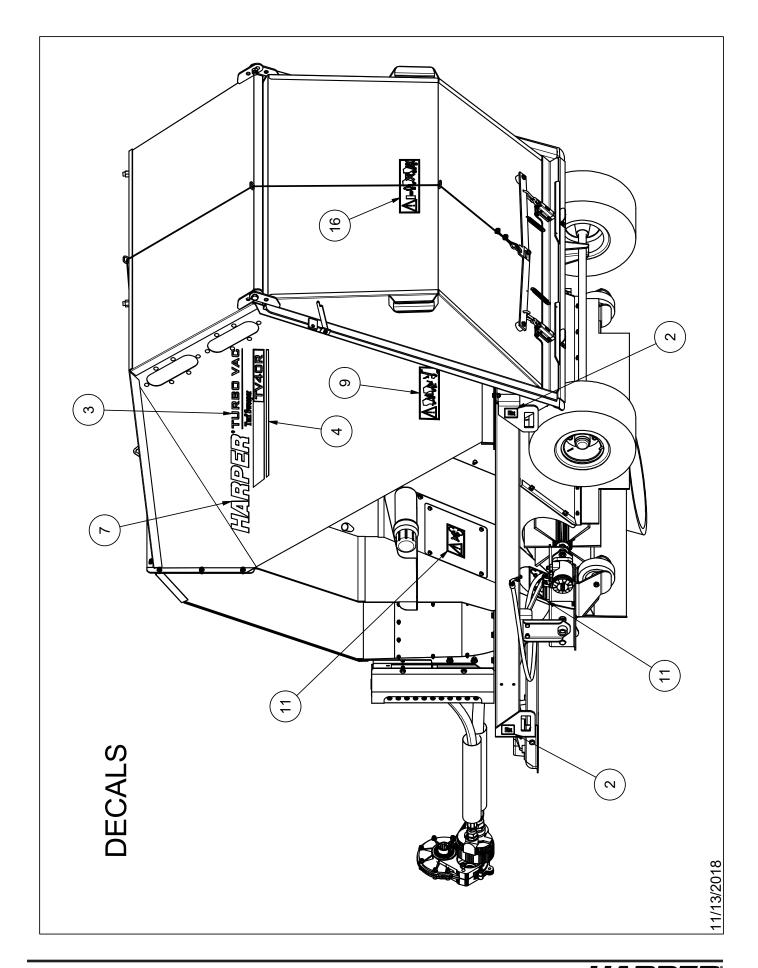


FRAME ASSEMBLY 2 Bearing Cone, Taper 1.0 x 0.58 Bearing Cup, 1.98 x 0.42 Washer, 3/4 Flat SAE Cotter Pin, 1/8 X 1.25 Nut, Castle, 3/4 - 16 Nut, 1/2-20 Lug DESCRIPTION Seal, CR 12407 Hub assembly (510235) Parts List Dust Cap qnH $^{\circ}$ PART # 110617 110678 510463 510467 110613 511073 510465 510466 510469 В ပ Ω ш ш G ェ ග TIRE & WHEEL ASSY, 9.5-8 x 18 TURF NUT, 1/2-13, UNITORQUE LOCK GRIP, HANDLE 7/8" RND X 4.56" NUT, 1-8 LOCK NYLON INSERT Ш PIN, LOCK 3/8 X 2.5 SQ JACK STAND WLDMNT Assembly, TV40 Frame GEARBOX PUMP MNT HITCH ASSY WLDMNT BOLT, 1/2-13 X 3.5 BALL COUPLER, 2" BOLT, 1-8 X 5.5 **HUB ASSEMBLY** RATCHET JACK DESCRIPTION Ш ш Parts List Ω I PART# 902175 912100 110602 110615 975610 110002 110304 110361 510235 915234 942160 943051 975601 905127 10/22/2018 10 13 4 12 9

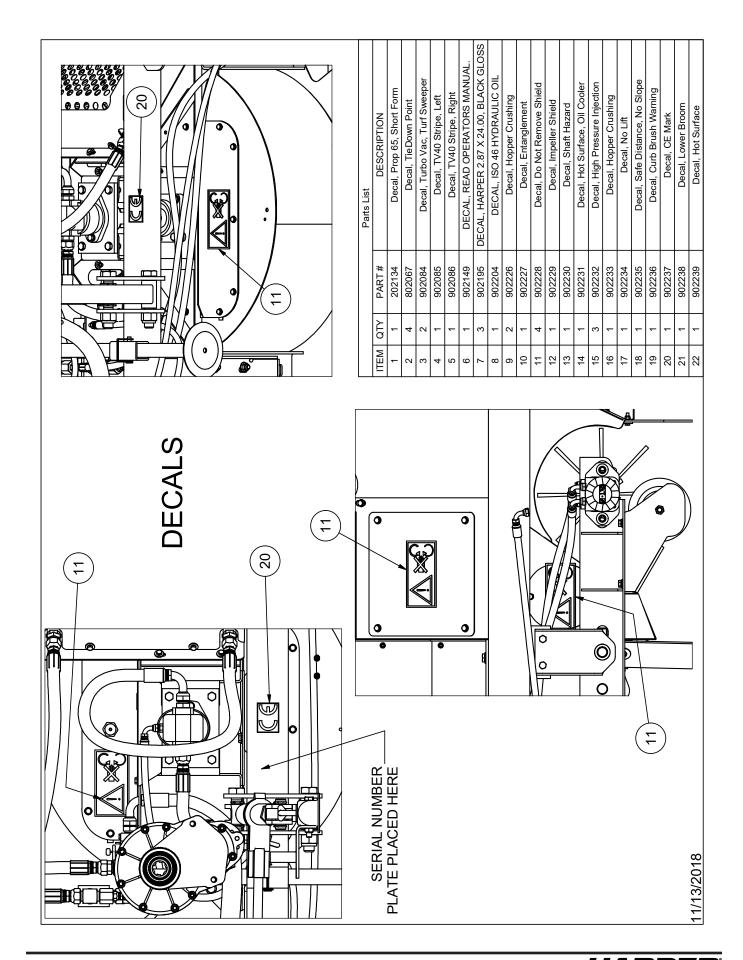




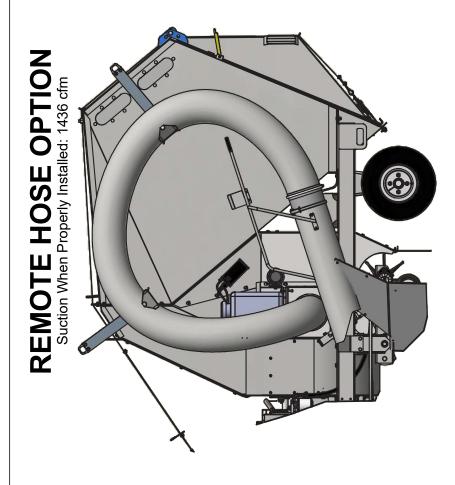




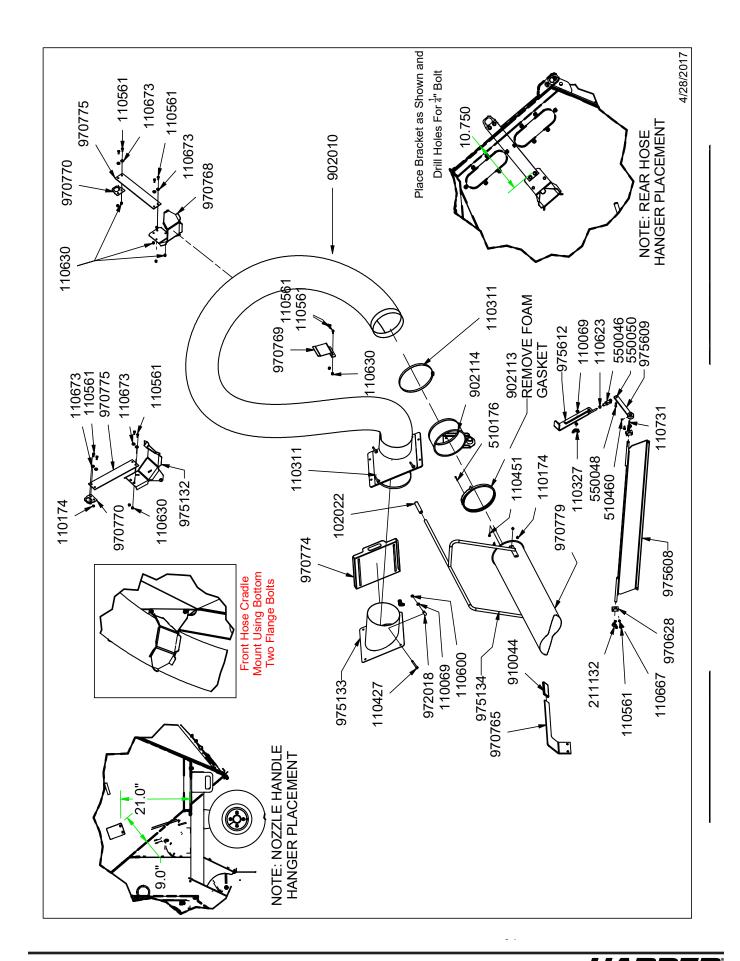


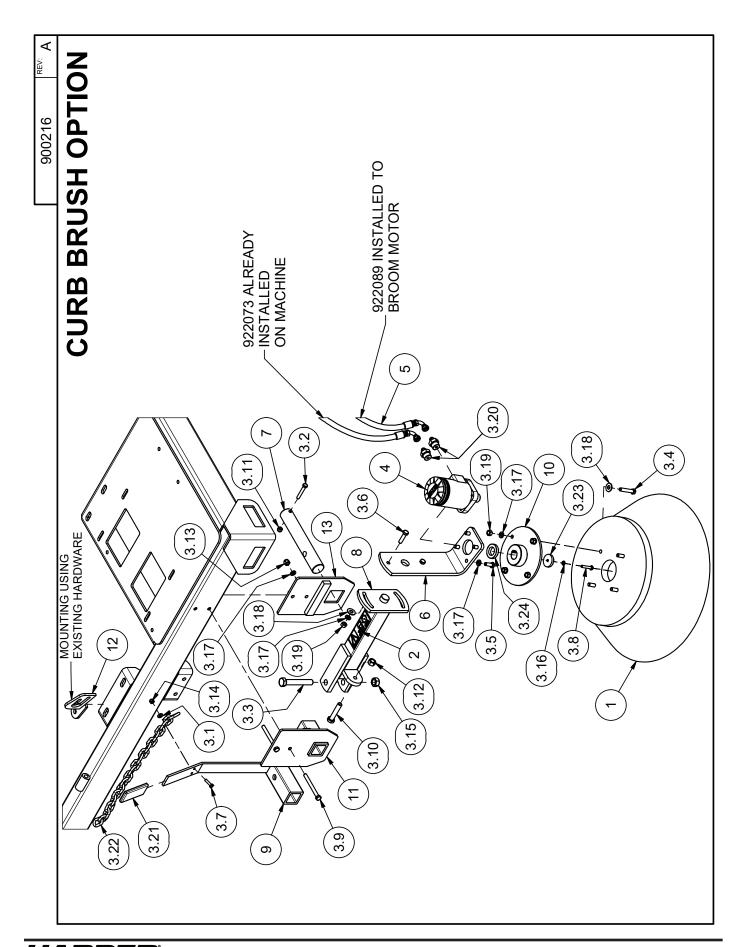


		PARTSLIST
Part Number	Qty	Description
102022	1	COVER, VINYL 5/8" X 4 3/4"
110069	9	R, 5/16" FLA ⁻
110311	2	, HOSE
110319	_	NUT, 5/16-18, U-TYPE
110327	2	NUT, 5/16 WING
110427	4	LT, 5/
110437	-	, 3/8-16 .75 WIZ FLNG
110451	4	BOLT, 1/4-20 X .5, MACHINE HEAD
110539	2	OLT, 7/16-14 X 1.25
110561	16	X .75 HF
110561	9	BOLT, 1/4-20 X .75
110623	-	NUT,
110630	16	NUT, 1/4-20, LOCK NYLON
110645	9	
110667	4	
110673	8	
110731	_	KEY, 1/8 X 1/8 X 1
211132	2	
510176	-	I 1
510460	-	SET SCREW, 1/4-20
550046	-	
550048	-	1, 5/16
550050	τ-	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	PIVOT BL
970765	-	BRACKET, NOZZLE SUPPORT
920768	-	CRADLE, REAR HOSE
692026	-	HANGER, NOZZLE HANDLE
970770	2	RING, HOSE HANGER
970774	-	SLIDE, HOSE OPTION
970775	2	
97079	_	NOZZLE TUBE
972018	4	SPRING, COMPRESSION
975132	_	FRONT HOSE CRADLE WELDMENT
975133	_	SIDE HOSE ADAPTER WELDMENT
975134	_	NOZZLE HANDLE WELDMENT
975608	_	FLAP WELDMENT
975609	_	FLAP ARM WELDMENT
975612	1	FLAP HANDLE WELDMENT









Parts List	DESCRIPTION	WASHER, 1/4" LOCK	WASHER, 3/8" LOCK	WASHER, 3/8" FLAT STANDARD	NUT, 3/8-16 GR 5	ADAPTER, 6MJ-10MB	COVER, VINYL .25 X 1.5 X 4 GRIP	PUMP STOP CHAIN	WASHER, 1.50 X.320	SPACER, 1.700 X 1.005 X .320	MOTOR, EATON 101-1009	Hose .375 X 96 6fjx90m	ARM, BRUSH MOTOR MOUNT	SHAFT, LIFT PIVOT	LIFT TUBE WELDMENT	LIFT LEVER WELDMENT	BRUSH ADAPTOR WELDMENT	OUTER LIFT HANGER WELDMENT	LIFT LATCH WELDMENT	INNER LIFT HANGER WELDMENT	CURB BRUSH OPTION	
	PART#	110667	110672	110676	110826	120144	910044	970304	970763	970764	922004	922089	970748	970759	975125	975127	975128	975129	975130	975131	RB	
	QTY	1	12	9	9	2	-	1	-	1	1	-	1	1	1	1	1	1	1	1	\mathcal{C}	Ш Z ∓
	ITEM	3.16	3.17	3.18	3.19	3.20	3.21	3.22	3.23	3.24	4	2	9	7	80	6	10	11	12	13	J	MACH
Parts List	DESCRIPTION	BRUSH, 18" x 6" x 40 DEG	Decal, Curb Brush Warning	KIT, SM PARTS TV40 FENCE BRUSH	WASHER, 1/4" FLAT SAE	BOLT, 5/16-18 X 2.0	BOLT, 5/8-11 X 4.0	BOLT, 3/8-16 X 2.0	BOLT, 3/8-16 X 1.0	BOLT, 3/8-16 X 1.5	BOLT, 1/4-20 X 1.0	BOLT, 1/4-20 X 1-1/2	BOLT, 3/8-16 X 3.75	BOLT, 1/2-13 X 2.5 TAP	NUT, 5/16-18 LOCK (NYLON)	NUT, 1/2-13	NUT, 3/8-16 LOCK NYLON INSERT	NUT, 1/4-20 LOCK (NYLON INSERT)	NUT, 5/8-11, UNITORQUE LOCK		TION 3/8")	FRONT OF MACHINE THIS SIDE
	PART#	902112	902236	902029	110298	110378	110385	110400	110420	110435	110464	110474	110495	110553	110603	110610	110618	110630	110639		SIDES	9.25
	QTY	-	-	1	-	-	-	4	4	2	-	-	2	-	-	-	2	-	_		R INS	- 52
	ITEM	_	2	3	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11	3.12	3.13	3.14	3.15		NGE OM E	
																					BRUSH HANGER INSTALLATION (DRILL FROM BOTH SIDES 3/8")	2.00

NOTES

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