

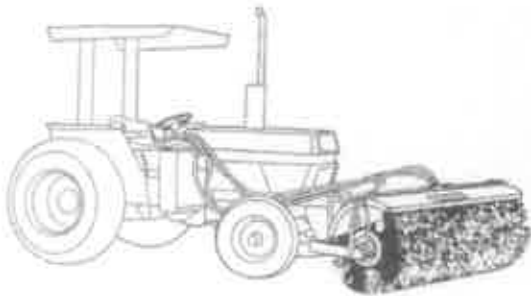


S32/D32 & S30 Series

AH, CH, LH, ,LCH, RLH & RLCH
Hydraulic Windrow Sweepers



PALADIN LIGHT CONSTRUCTION



Sweepster Serial Number _____

Manual Number: 51-2605
Release Date: May 2001

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Introduction

Serial & Part Numbers

On your unit you will find a serial number plate and/or part number plate(s). The numbers on these plates are very important if you wish to order parts or accessories. For your convenience, record numbers in the appropriate spaces below.

SWEEPSTER	
Model #	Serial #
<input type="text"/>	<input type="text"/>
Empty	GVW
<input type="text"/>	<input type="text"/>
Dexter, MI 48130 1-800-456-7100	

SWEEPSTER	
Dexter, MI 48130 1-800-456-7100	
Part Number	Date
<input type="text"/>	<input type="text"/>

SWEEPSTER	
Dexter, MI 48130 1-800-456-7100	
Part Number	Date
<input type="text"/>	<input type="text"/>

SWEEPSTER	
Dexter, MI 48130 1-800-456-7100	
Part Number	Date
<input type="text"/>	<input type="text"/>

Importance of this Manual



Read this manual before attempting to operate the equipment.

This operator's manual should be regarded as part of the sweeper. Suppliers of both new and secondhand sweepers are advised to keep documentation indicating that this manual was provided with the sweeper.

The manual contains information regarding installation, operation and maintenance required for this sweeper model and optional equipment. It also includes detailed parts lists.

Purpose of Sweeper

This sweeper is designed solely for use in construction cleanup, road maintenance, grounds maintenance, snow removal and similar operations. Use in any other way is considered contrary to the intended use. Compliance with and strict adherence to operation, service and repair conditions, as specified by the manufacturer, are also essential elements of the intended use.

This sweeper should be operated, serviced and repaired only by persons who are familiar with its characteristics and acquainted with relevant safety procedures.

Accident prevention regulations, all other generally recognized safety regulations and all road traffic regulations must be observed at all times.

Any modifications made to this sweeper may relieve the manufacturer of liability for any resulting damage or injury.

Safety Alert Symbol



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury. Carefully read the message that follows and inform other operators.

Contacting SWEEPSTER

If you have any questions about information in this manual or need to order parts, please call, write, FAX or e-mail SWEEPSTER.

SWEEPSTER, Inc.
2800 North Zeeb Road
Dexter, Michigan 48130
Phone: (734) 996-9116 • (800) 456-7100
FAX: (734) 996-9014
e-mail: sweep@sweepster.com

For help with installation, operation or maintenance procedures, contact our Technical Service Department. Direct product questions and parts orders to our Sales Department.

When ordering parts or accessories, be prepared to give the following information:

- Sweeper model, serial number and date of purchase
- Prime mover make and model
- Part number, description and quantity

Right-Hand, Left-Hand, Front & Rear

Right-hand, left-hand, front and rear are determined from the operator's perspective (either the operator's seat or standing behind a walk-behind unit), facing forward in the normal operating position.

Optional Equipment

Installation instructions for optional equipment, if applicable, appear with parts lists in the back of the manual.

Specifications & Features

Due to continuous product improvement, specifications and features may change without notice.

Warranty

To validate the warranty for this unit, fill out the warranty card or warranty pages located at the back of this manual. Then, send this information to SWEEPSTER.


Safety Information


Read this Manual


Read all safety information in this manual. All operators must read and understand the entire contents of this manual before sweeping. General safety practices are listed on Safety Information pages and specific safety information is located throughout this manual.

Hazard Definitions

Four hazard classifications are used in this manual. They are


 **CAUTION** – Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

 **WARNING** – Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **DANGER** – Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

IMPORTANT – Used for instructions when machine damage may be involved.

Operation


 **CAUTION** – A sweeper is a demanding machine. Only fully trained operators or trainee operators under the close supervision of a fully trained person should use this machine.

Before sweeping:

- Learn sweeper and prime mover controls in an off-road location.
- Be sure that you are in a safe area, away from traffic or other hazards.
- Check all hardware holding the sweeper to the prime mover, making sure it is tight.
- Make sure all hydraulic fittings and hardware are tight.
- Replace any damaged or fatigued hardware with properly rated fasteners.

- Check prime mover tire pressure before sweeping.
- Check tire ratings to be sure they match the prime mover load. Weigh the sweeper end of the prime mover, if necessary, to insure proper tire rating.
- Remove from the sweeping area all property that could be damaged by debris flying from the sweeper.
- Be sure all persons not operating the sweeper are clear of the sweeper discharge area.
- Always wear proper apparel such as a long-sleeve shirt buttoned at the cuffs; safety glasses, goggles or a face shield; ear protection; and a dust mask.

When sweeping, adhere to all government rules, local laws and other professional guidelines for your sweeping application.

 **WARNING** – Never raise the sweeper more than a few feet off the ground. The sweeper can tip back or the prime mover can tip over causing death or serious injury.

Before leaving the operator's area for any reason – lower the sweeper to the ground, stop the prime mover engine, set the brakes and remove the key from the ignition.

Minimize flying debris – use the slowest brush speed that will do the job.

Keep hands, feet, hair and loose clothing away from all moving parts.


Leave the brush hood (shield) and all other shields and safety equipment in place when operating the sweeper and prime mover.

Be aware of the extra weight and width a sweeper adds. Reduce travel speed accordingly.

When sweeping on rough terrain, reduce speed to avoid "bouncing" the sweeper. Loss of steering can result.

Never sweep toward people, buildings, vehicles or other objects that can be damaged by flying debris.

Service & Repair


 **CAUTION** – Do not modify the sweeper in any way. Personal injury could result. If you have questions, contact your dealer or SWEEPSTER.

Repair or adjust the sweeper in a safe area, away from road traffic and other hazards.

Before adjusting or servicing the sweeper – lower the sweeper to the ground, stop the prime mover engine, set the brakes and remove the key from the ignition.

When working on or around the sweeper, lower it to the ground or secure it with transport chains or cylinder-stop locks.

Stop the prime mover engine and cycle control levers to release hydraulic pressure before servicing or adjusting sweeper hydraulic systems.

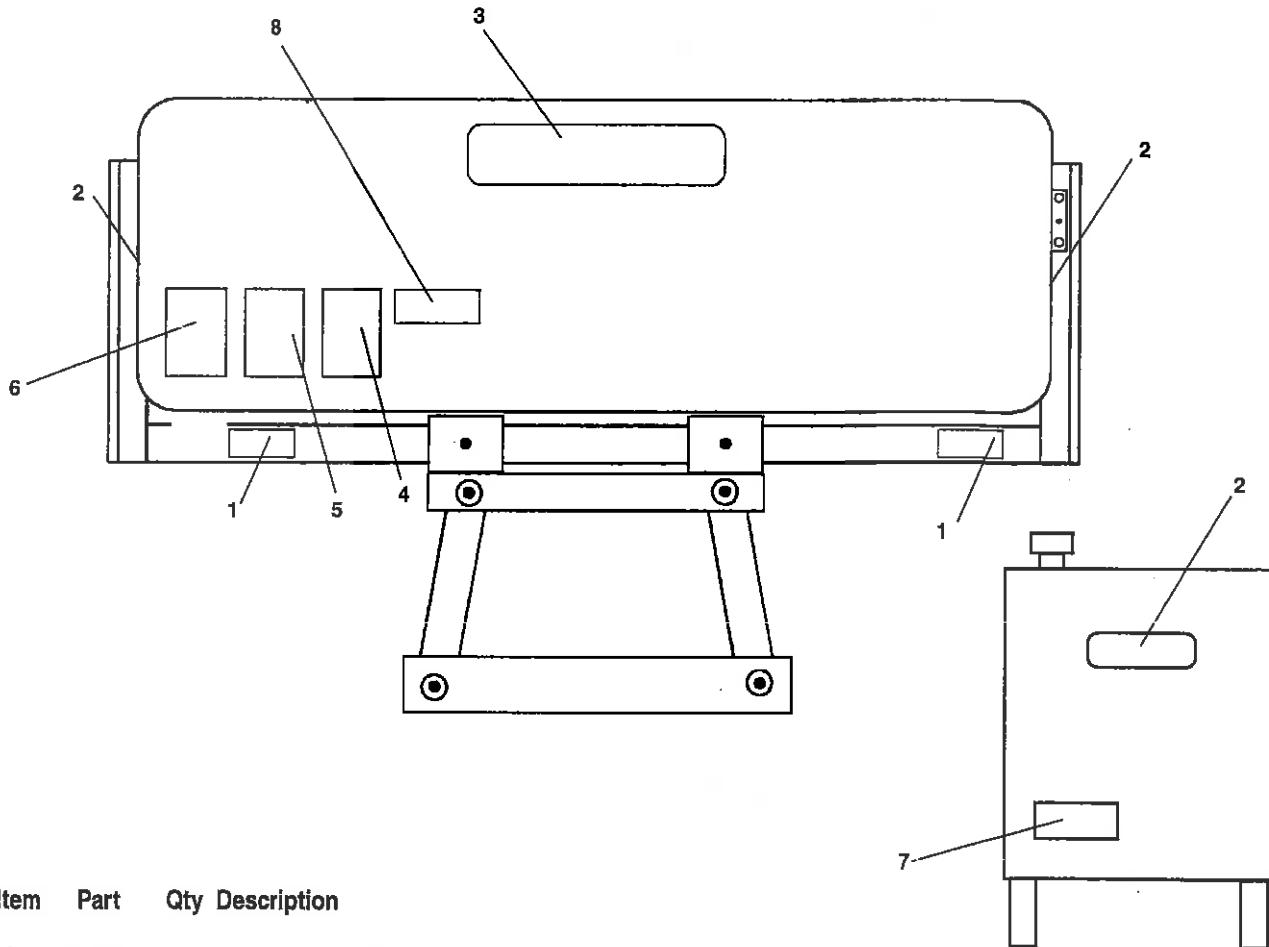
 **WARNING** – Escaping hydraulic fluid can have enough pressure to penetrate the skin, causing serious personal injury.

Important

Always keep safety signs clean and readable, and always replace any damaged or missing safety signs with new ones from SWEEPSTER. Replacement parts must have pertinent safety signs applied to them. See page 5 for information about how to contact SWEEPSTER.

Safety sign and label locations are shown below. For representations of these safety signs and labels, refer to the next page.

Locations



Item	Part	Qty	Description
1.	50-0721	2	Label, Warning Crush Hazard
2.	50-0186	3	Label, Logo, Small, Black
	50-0184	3	Label, Logo, Small, White
3.	50-0191	1	Label, Logo, Medium, Black (S30)
	50-0185	1	Label, Logo, Medium, White (S30)
	50-0252	1	Label, Logo, White, Die Cut (S32/D32)
	50-0253	1	Label, Logo, Black, Die Cut (S32/D32)
4.	50-0014-2	1	Label, Warning, Running sweeper and engines
5.	50-0014-1	1	Label, Caution, Read manual before operating
6.	50-0013-1	1	Label, Warning, Falling Sweeper (LH/LCH)
7.	50-0725	1	Label, Warning, High Pressure Fluid Hazard

Safety Signs & Labels

Representations

NOTE – Locations shown on page 8.



1. 50-0721



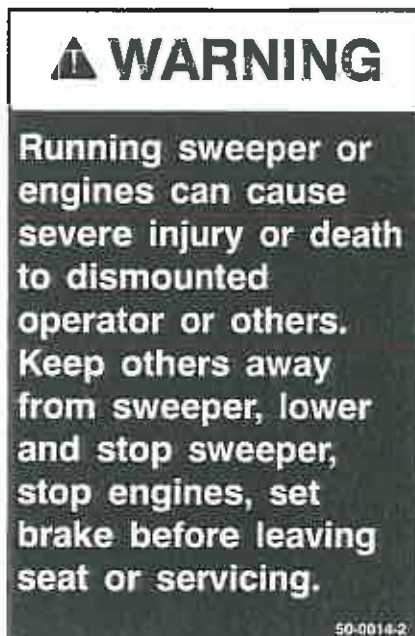
2. 50-0184 or 50-0186



3. 50-0185 or 50-0191 (S30)



3. 50-0252 or 50-0253 (S32/D32)



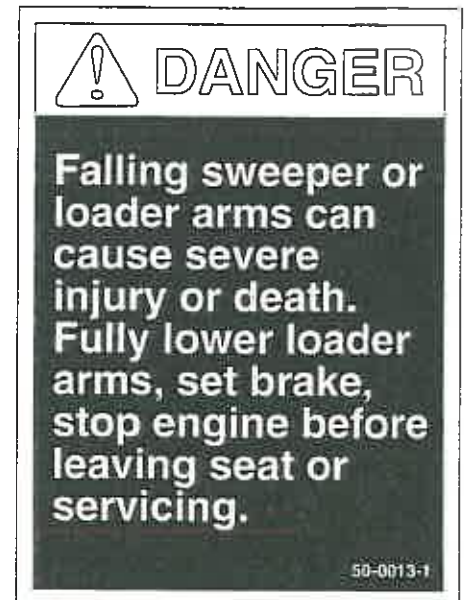
4. 50-0014-2



7. 50-0725



5. 50-0014-1



6. 50-0013-1 (LH/LCH)

Installation – AH/CH on Tractors

Mounting, Pump & Tank Assemblies

NOTE – The following give general instructions. Refer to instructions included with the mounting assembly for information specific to a particular prime mover make and model.

Front Pump Units

1. Remove any parts, such as a knockout, that block access to the tractor engine's crankshaft pulley.
2. Attach the mounting assembly to the tractor.
3. Secure the drive hub to the pulley. Some tractors require a crankshaft adapter.
4. Install the pump mounting bracket on the front of the tractor. Position the pump so the inlet faces the right-hand side of the unit. Do not secure with hardware.
5. Assemble the coupling halves and fasten the chain around them.
6. Apply grease to the pump and drive shafts.
7. Slide the coupling assembly onto the pump shaft.
8. Place the keyed end of the drive shaft in the chain coupler.
9. Slide the drive shaft into the drive hub.
10. Fasten the pump to the bracket.
11. Center the chain coupler and tighten setscrews.
12. Install the tank and valve assembly.
13. Install hydraulic fittings and hoses.
 - a. Attach the barb fitting to the pump inlet and the adapter fitting to the pump outlet.
 - b. Connect the suction hose to the tank outlet and to the barb fitting on the pump inlet. Secure with clamps.
 - c. Attach the 36 in. hose to the valve and the pump's outlet port. Tighten the fittings.
14. Go to Swing Assembly.

Mid Pump Units

1. Attach the mounting assembly to the tractor.
2. Install the barb fitting on the pump inlet and elbow fitting on the pump outlet.
3. Fasten the pump to the pump mounting bracket with the pump on the outside of the flange. Use 2, 7/16-14 x 1 1/2 in. cap screws, 3/8 in. flat washers, 7/16 in. lock washers and 7/16-14 in. nuts.
4. Attach the pump mounting to the bottom of the tractor with the pump shaft facing the rear of the tractor. Hardware is not supplied.
5. Place the round-rectangular U-joint on the pump shaft. Tighten the setscrew.
6. Slide the rectangular shaft into the round-rectangular U-joint. Then, place the rectangular-splined U-joint on the other end of the shaft. Slide the splined end of the rectangular-splined U-joint on the tractor PTO.
7. Adjust the rectangular shaft so it is flush with the end of the round-rectangular U-joint. Tighten setscrews and jam nuts on both U-joints.
8. Install the tank and valve assembly.
9. Go to Swing Assembly.

Rear Pump Units

1. Install the mounting assembly on the tractor.
2. Attach the pump to the rear PTO shaft and secure it with the chain provided. This prevents the pump from spinning on the shaft.

IMPORTANT – Avoid damage to the pump and other hydraulic components. Do not use rear pump drive on PTOs faster than 540 rpm.

3. Install the tank and valve assembly.
4. Install hydraulic fittings and hoses.
 - a. Attach the barb fitting to the pump inlet and the adapter fitting to the pump outlet.
 - b. Connect the suction hose to the tank outlet and to the barb fitting on the pump inlet. Secure with clamps.

Installation – AH/CH on Tractors

- c. Attach the pressure hose to the valve and the pump's outlet port. Tighten fittings.

5. Go to Swing Assembly.

Swing Assembly

Figure 1 shows the swing assembly attached to the mounting assembly.

1. Position the swing assembly in front of the mounting assembly. Remove the pin(s) from the swing assembly.
2. Align holes in the swing assembly with ears on the mounting assembly. Slide pin(s) through the holes and secure with cotter pin(s).
3. Go to Brush Head Assembly.

Brush Head Assembly

1. Position the brush head assembly in front of the swing assembly.
2. Align holes in the brush frame and swing assembly. Install hardware, using the cap screw in the center hole and carriage bolts in the remaining holes.
3. Align the brush head plate with the swing assembly plate and tighten the hardware.
4. Assemble the spring-chain assembly/assemblies. Attach the spring end(s) to the brush head upright. Then place the chain in a slot on the swing plate upright. Figure 2 shows a spring-chain assembly installed on the unit.
5. Connect the transport chain, which is attached to brush head upright, to the remaining slot on the swing plate upright. Figure 3 shows a transport chain installed.

NOTE – Use the transport chain to take weight off the spring-chain assembly/assemblies while transporting the unit between job sites.

6. Attach 2, 3/4 in. hoses to brush head tubes. Then, connect the hose on the front tube to the filter base and the hose on the rear tube to the run port on the valve.



figure 1

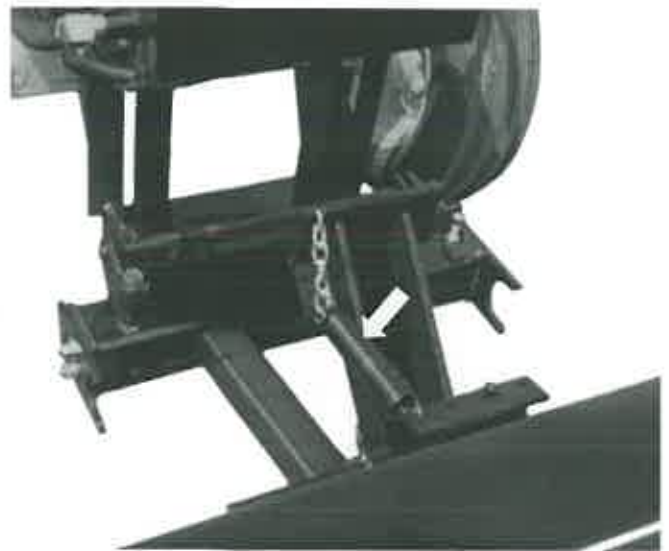


figure 2

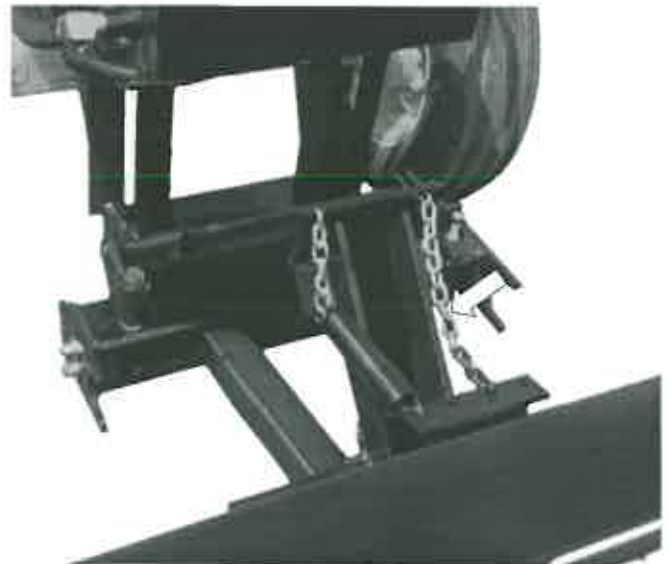


figure 3

Installation – AH/CH on Tractors

Swing Cylinder

Figure 4 shows the cylinder fully installed.

1. Connect a hose to each fitting on the cylinder.
2. Attach adapter fittings to hose ends.
3. Connect adapter fittings to remote valves (manual valves) or the Up port (electric valves).

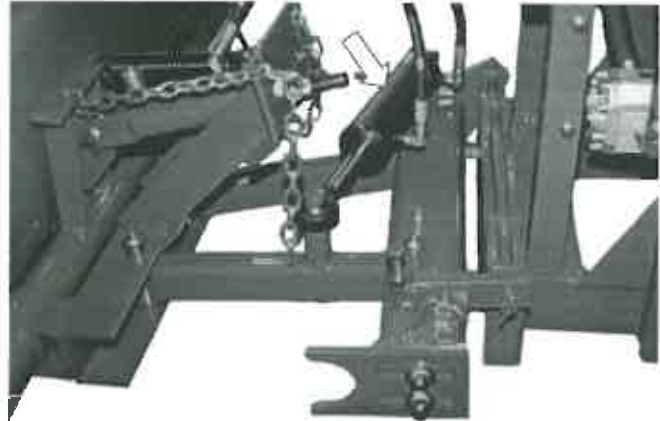


figure 4

Lift Cylinder

Figure 5 shows the lift cylinder fully installed.

1. Slide the rod end of the cylinder through the plate on the swing plate upright. Secure with a nut.

IMPORTANT – Avoid cylinder damage. Only place 1 nut on the rod.

2. Attach the barrel end to the center ear on the brush head upright. Use the clevis pin and hairpin clip provided.
3. Connect a hose to the elbow fitting on the cylinder.
4. Connect the hose to the first valve that has a single port (manual valves) or the L port (electric valves).



figure 5

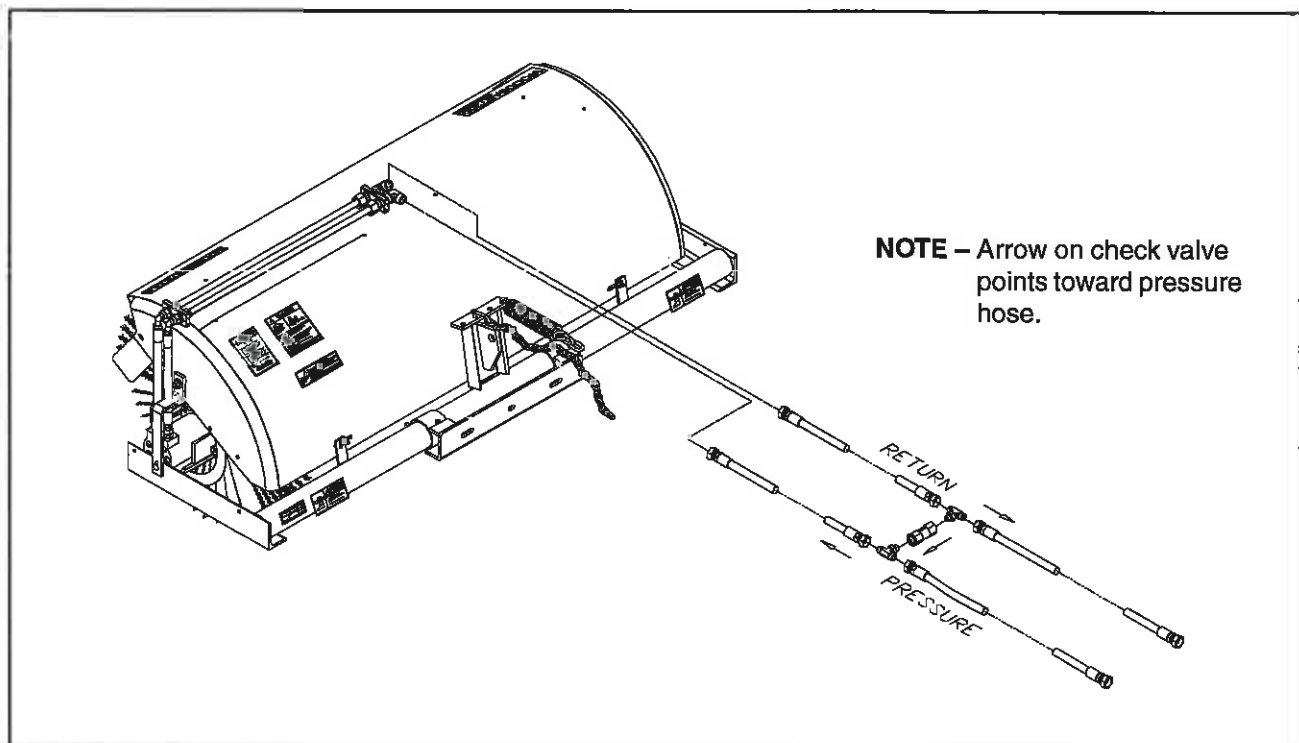




figure 6

Before First Use

1. Fill the tank to 2 in. (51 mm) from the top. Use ISO VG-46 hydraulic oil.
2. Make sure that the tractor parking brake is on and the tractor is in Neutral. Then, prime the pump.

Front pump units – Turn the engine on and off in short bursts without starting.

Rear and mid pump units – Rapidly engage and disengage the PTO while the engine is running.

3. Check the amount of oil in the tank. Add oil as required to bring it to the proper level.
4. Run the engine at a slow idle. Stop the engine and then check for hydraulic leaks. Make corrections before proceeding.

5. Start the tractor again. Engage the brush and let it run while watching for excess vibration or other problems. Test swing and lift functions. Stop the sweeper and tractor; make corrections before proceeding.
6. Perform procedures described in Adjusting Scissor Swing (scissor swing only) and Leveling, Setting Brush Pattern, Adjusting Spring-Chain Assemblies and Adjusting Transport Chain in the Maintenance section.

Adjusting Scissor Swing

IMPORTANT – Support yokes must fit tightly to the brush frame, or damage to the swing cylinder will occur. Figure 6 shows a properly adjusted support yoke.

1. Loosen hardware holding support yokes.
 2. Swing the brush head completely to the right.
 3. Slide the right-hand support yoke toward the brush head until it is snug on the brush frame tube; tighten nuts.
 4. Swing the brush head completely to the left.
 5. Slide the left-hand support yoke until it is snug on the brush frame tube; tighten nuts.
 6. Swing the brush head assembly both directions and check to make sure that support yokes fit tightly to the brush frame. If not, repeat this procedure from step 1.
-

Installation – LH/LCH on Loaders

Swing Assembly

With Quick Attach Mounting

1. Remove the bucket or other implement.
2. Attach the swing assembly with the quick attach mounting following manufacturer's instructions.
3. If not installed, attach the check valve plate to the top of the quick attach mounting (figure 7). Use 2, 3/8-16 x 1 1/4 in. cap screws, lock washers and nuts.

Without Quick Attach Mounting

Refer to figures 8 and 9 when installing.

1. Remove the bucket or other implement.
2. Center the swing assembly in front of the loader.
3. Adjust swing assembly ears so they can be attached to loader arms.
4. Attach swing assembly ears to the loader arms with pins.

NOTE – If needed, modify swing assembly ears by either drilling out holes or fabricating bushings.

5. Wrap the mounting chain around the loader cross bar or another location that keeps the chain horizontal but will not bend the loader frame. Use a block or hook to prevent the chain from crushing hydraulic lines.
6. Adjust the mounting chain so the swing assembly is level and 14 in. (356 mm) off the ground. The upright must be vertical.

IMPORTANT – Avoid sweeper and loader damage. Install the chain so it remains horizontal at all times. Otherwise, the sweeper will tip backward when raised high in the air.

IMPORTANT – Avoid sweeper and loader damage. Self-leveling features do not function properly when the sweeper is installed. Use the mounting chain to keep the mounting assembly level and at the proper height.

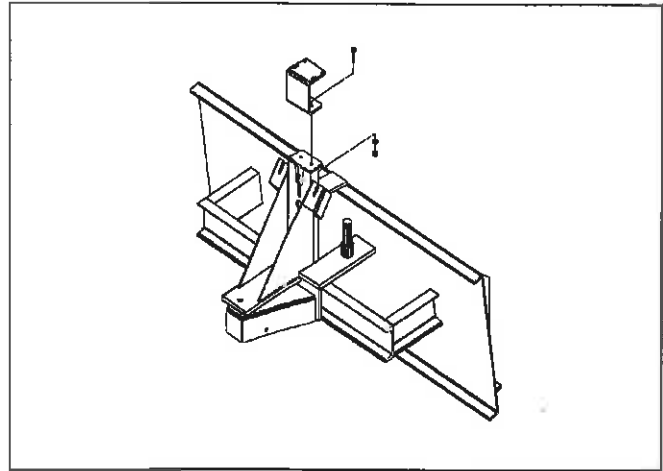


figure 7

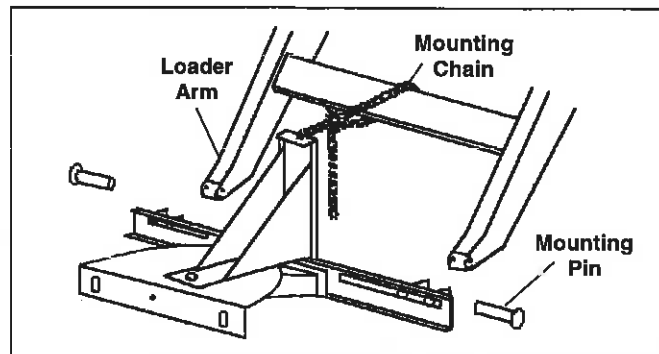


figure 8

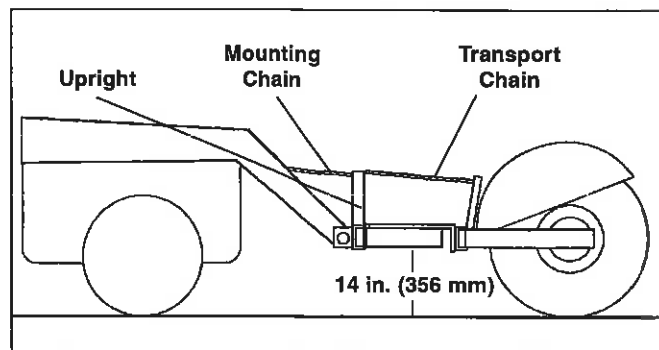


figure 9

7. If not installed, attach the check valve bracket to the top of the quick attach mounting (figure 10). Use 2, 3/8-16 x 1 1/4 in. cap screws, lock washers and nuts.
8. Place stops on loader lift cylinders to prevent arms from going too low.

Installation – LH/LCH on Loaders

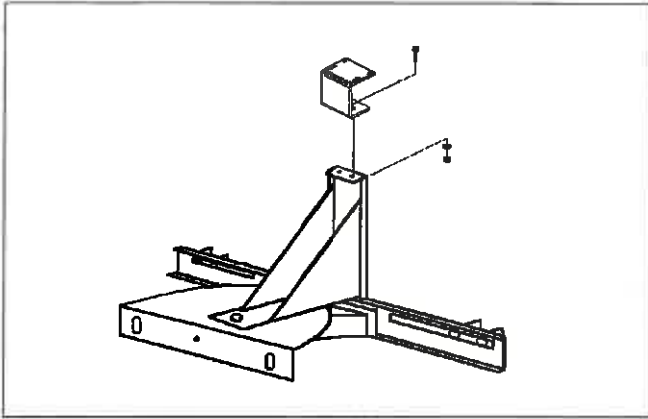


figure 10

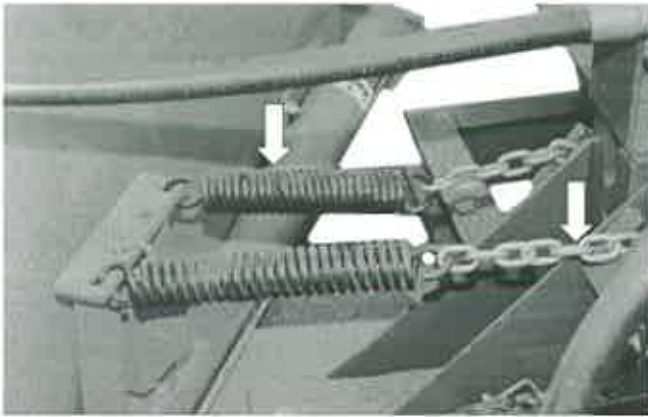


figure 11

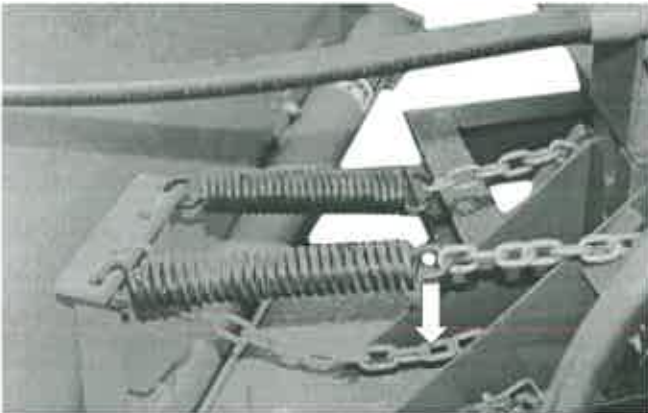


figure 12

Brush Head Assembly

1. Position the brush head assembly in front of the mounting assembly.
2. Align holes in the brush frame and swing assembly. Install the hardware, using the cap screw in the center hole and carriage bolts in the remaining holes.

Do not tighten the hardware; it must remain loose to level the brush head assembly.

3. Assemble the spring-chain assembly/assemblies. Attach the spring end(s) to the brush head upright. Then place the chains in the slots on the swing assembly upright. Figure 11 shows spring-chain assemblies installed.
4. Connect the transport chain, which is attached to brush head upright, to the remaining slot on the swing plate upright or mounting assembly upright. Figure 12 shows the transport chain installed.

NOTE – Use the transport chain to take weight off the spring-chain assembly/assemblies while transporting the unit between job sites.

Connecting Hydraulics

NOTE – Standard model LH and LCH sweepers run off hydraulic flow from the prime mover. When tapping into the hydraulic system, use the fewest fittings possible.

With Quick Attach Mounting

The loader must be equipped with auxiliary remotes; otherwise, purchase an auxiliary valve and tap into hydraulic flow elsewhere. Follow manufacturer's recommendations.

If remotes do not have 12 gpm (.76 lps) for LH or 20 gpm (1.26 lps) for LCH available, purchase a separate power pack and follow instructions included with that equipment to install. To utilize a power pack, the prime mover must have a 3-point hitch and rear PTO.

1. Connect pressure and return hoses to auxiliary remotes.
2. Follow instructions for either S32/D32 Brush Heads or S30 Brush Heads later in this section.

Installation – LH/LCH on Loaders

Without Quick Attach Mounting

Tap into flow used by tilt cylinders. Two possibilities are shown in figure 13.

Important – The host hydraulic system may overheat if the pump flow rate exceeds the requirement for the broom. The broom requires 18-22 gallons per minute. If the host pump exceeds this rate, contact the host manufacturer for the proper way to control the flow rate.

For hookup A

1. Add extensions (not furnished) to sweeper hydraulic lines.
2. Disconnect tilt cylinder hoses from the valve bank.
3. Connect extended sweeper hoses to the valve bank.
4. Follow instructions for either S32/D32 Brush Heads or S30 Brush Heads later in this section.

For hookup B

1. Remove tilt cylinder hoses from T-fittings.
2. Add quick couplers (not furnished) to hose ends.
3. Connect sweeper hoses to tilt cylinder hoses.
4. Follow instructions for either S32/D32 Brush Heads or S30 Brush Heads later in this section.

NOTE – It may be necessary to tie the valve handle to run the sweeper.

S32/D32 Brush Heads

1. Connect pressure and return hoses to prime mover hydraulics or the power pack.
2. Install the check valve on hoses. The arrow points toward the pressure hose.
3. Attach the pressure hose to the rear tube on the brush head and the return hose to the front tube.
4. Attach the check valve to the mounting plate on the mounting assembly using 5/16-18 in. U-bolts, flat washers, lock washers and nuts.

S30 Brush Heads

1. Connect pressure and return hoses to prime mover hydraulics or the power pack.
2. Remove the metal hose bracket attached to the brush head upright.
3. Connect pressure and return hoses to the brush motor. The rear port is return and the front port is pressure.
4. Locate a good place to attach the hose bracket. The bracket is intended to hold hoses so they do not become snagged on other parts when swinging the sweeper.
5. Drill a 13/32 in. diameter hole in the location chosen in step 4.
6. Install the bracket using hardware removed from the brush head upright.

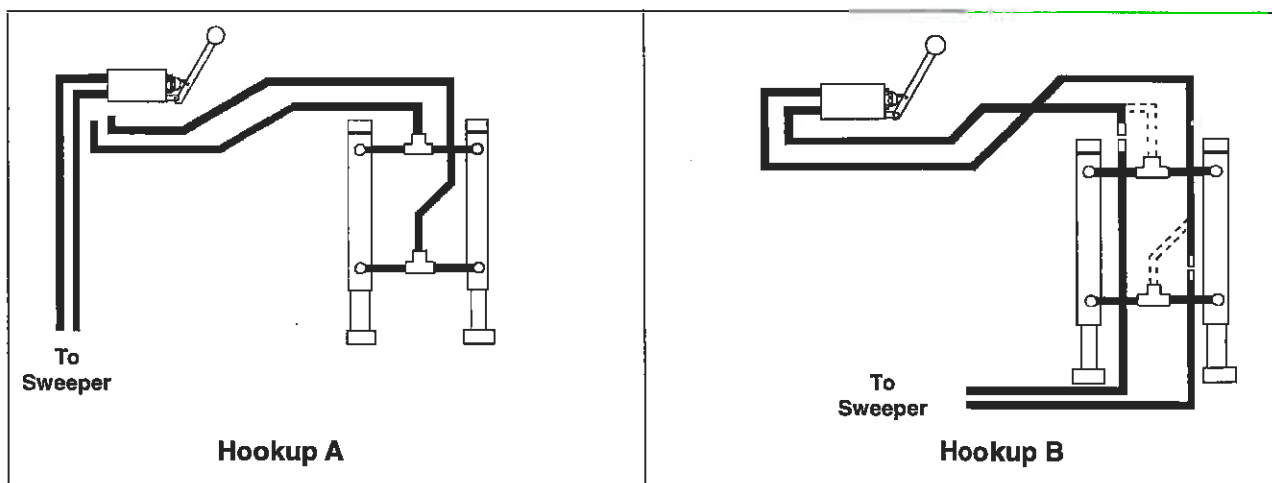


figure 13

Angle Feature

Manual Angle Kit

NOTE – Some sweepers use a hydraulic angle kit instead of a manual angle kit. See Swing Cylinder later in this section or Option – Hydraulic Swing/Electric Valve at the back of this manual.

1. Slide the inner link into the outer link (figure 14).
2. Place link ends on the swing assembly pins. Secure with cotter pins.
3. Position the brush head assembly at the desired angle. Align holes in both links and install the lock pin to keep the brush head assembly in position (figure 15).

Hydraulic Angle Kit

NOTE – For hydraulic swing with electric valves, refer to Option – Hydraulic Swing/Electric Valve at the back of this manual.

1. Attach fittings to the cylinder with the elbow fitting on the rod end and the orifice fitting on the barrel end (figure 16).
2. Install the cylinder with the barrel end on the swing assembly and the rod end on the swing plate. Secure with cotter pins.
3. Connect a hose to each fitting.
4. Attach adapter fittings to hose ends.
5. Connect adapter fittings to remote valves on the prime mover.



figure 14

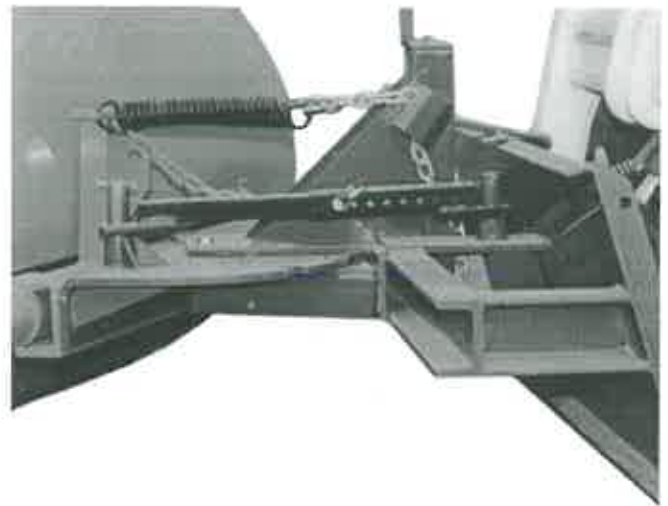


figure 15

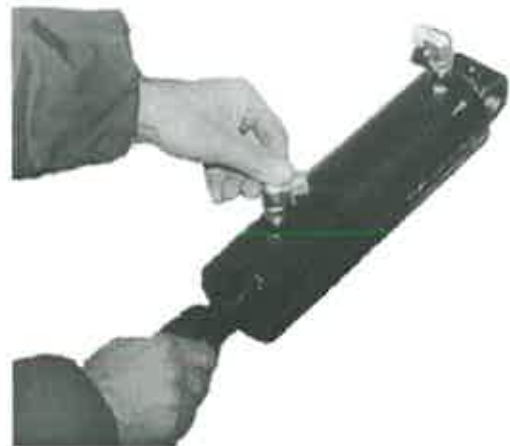


figure 16

Installation – RLH/RLCH for Rear Mounting

Swing Assembly

1. Slide the pump onto the rear PTO. Secure with a chain. Attach the barb to the pump inlet and the elbow and relief fittings on the pump outlet (figure 17).
2. Attach bottom plates to the swing assembly using hitch pins supplied. Plates go inside the frame with bends to the center.
3. Connect 39-link chains to bottom plates with shackles.
4. Fasten keyhole plates to the tractor toplinek using pins from the tractor (figure 18).
5. Position the swing assembly behind the 3-point hitch with the half-moon plate to the rear.
6. Lower hitch arms fully.
7. Slide hitch arms onto pins welded to the swing assembly. Secure with ring pins.
8. Secure the tractor toplinek to the top of the swing assembly using a pin.
9. Raise the hitch until the dimension from the slot in the center of the swing plate to the ground measures 16 in. (406 mm). See figure 19.
10. Level the swing assembly from front to back using the toplinek and from side to side using the adjustable hitch arm.
11. Attach drop chains to keyhole plates. Adjust so chains keep the 16 in. (406 mm) dimension.

NOTE – For best sweeping results, keep the swing assembly at least 16 in. (406 mm) above the ground and 21 in. (533 mm) high to sweep snow. Otherwise, material tends to carry over the brush and onto the area swept.

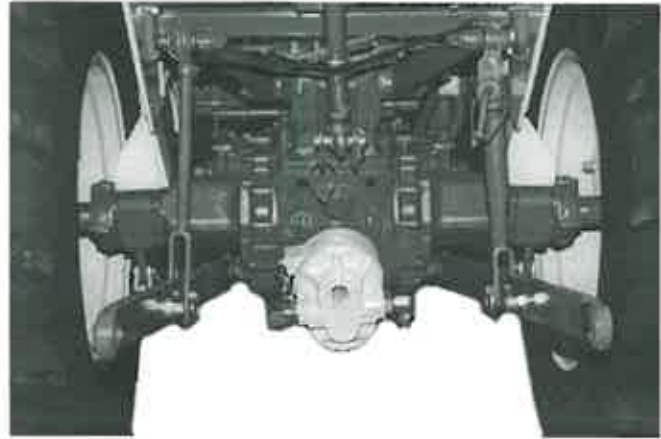


figure 17

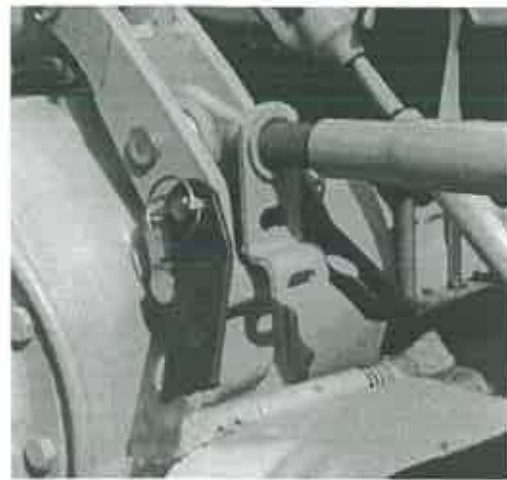


figure 18

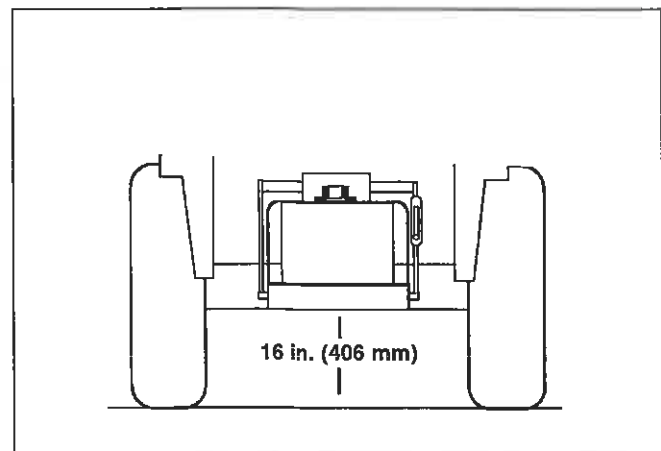


figure 19

Installation – RLH/RLCH for Rear Mounting

Brush Head Assembly

1. Position the brush head assembly behind the swing assembly.
2. Align holes in the brush frame and swing assembly. Install 3, 5/8-16 x 1³/₄ in. cap screws, flat washers, lock washers and nuts. Do not tighten the hardware; it must remain loose to level the brush head assembly.
3. Assemble the spring-chain assembly/assemblies. Attach the spring end(s) to the brush head upright. Then place the chains in the slots on the swing assembly upright.
4. Connect the transport chain, which is attached to brush head upright, to the remaining slot on the swing assembly upright.

NOTE – Use the transport chain to take weight off the spring-chain assembly/assemblies while transporting the unit between job sites.

5. Connect pressure and return hoses to prime mover remotes.

NOTE – If 12 gpm (.76 lps) for RLH or 20 gpm (1.26 lps) for RLCH is not available, purchase a power pack from SWEEPSTER.

6. Attach the pressure hose to the rear tube on the brush head and the return hose to the front tube.

Angle Feature

Manual Angle Kit

NOTE – Some sweepers use hydraulic swing instead of manual angle kit. See Swing Cylinder later in this section or Option – Hydraulic Swing/Electric Valve at the back of this manual.

1. Slide the inner link into the outer link (figure 20).
2. Place link ends on swing assembly pins (figure 21). Secure with cotter pins.
3. Position the brush head assembly at the desired angle. Align holes in both links and install lock pin to keep the brush head assembly in position (figure 22).



figure 20



figure 21



figure 22

Installation – RLH/RLCH for Rear Mounting

Hydraulic Angle Kit

NOTE –For hydraulic swing with electric valves, refer to Option – Hydraulic Swing/Electric Valve at the back of this manual.

1. Attach fittings to the cylinder with the elbow fitting on the rod end and the orifice fitting on the barrel end (figure 23).
 2. Install the cylinder with the barrel end on the swing assembly and the rod end on the swing plate. Secure with cotter pins (figure 24).
 3. Connect a hose to each fitting.
 4. Attach adapter fittings to hose ends.
 5. Connect adapter fittings to remote valves on the prime mover.
-

Before First Use

1. Run the prime mover engine at a slow idle. Stop the engine and then check for hydraulic leaks. Make corrections before proceeding.
 2. Start the prime mover again. Engage the brush and let it run while watching for excess vibration or other problems. Test swing and lift functions. Stop the sweeper and prime mover; make corrections before proceeding.
 3. Perform procedures described in Leveling, Setting Brush Pattern, Adjusting Spring-Chain Assemblies and Adjusting Transport Chain in the Maintenance section.
-



figure 23

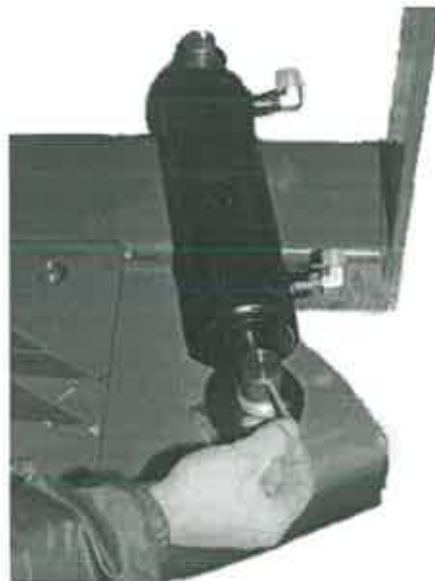



figure 24

Operation

Before Each Use

Perform daily maintenance as indicated in Maintenance: Schedule.

Run the prime mover and sweeper at a slow idle. Check for hydraulic leaks or other problems and make corrections, if necessary, before using the sweeper.

 **WARNING** – Avoid serious injury. Check for objects that could harm the operator or others if thrown by the sweeper. Remove these items before sweeping.

Observe wind direction. Sweeping with the wind makes sweeping more effective and helps keep debris off the operator.

Directing Debris

Direct debris by angling the brush head in that direction.

The terms *swing* and *angle* are used interchangeably.

Manual Angle Kit

1. Remove the lock pin from links.
2. Position the brush head at the desired angle, aligning holes in the inner and outer link.
3. Insert and close the lock pin.

Hydraulic Angle Kit

1. Start the prime mover.
 2. Rear or mid pump units only – Engage the PTO.
 3. Position the brush head at the desired angle by using the valve control for swing function.
-

Engaging Functions

Methods for engaging run, swing and lift functions differ according to how the unit is equipped.

Manual Valves with Control Rods

Control rod functions are marked with a label. Pull or push control rods according to instructions.

<i>Brush Run</i>	<i>Swing</i>	<i>Lift</i>
Push to stop Pull to run	Push to angle left Pull to angle right	Push to lower Pull to raise

Manual Valves without Control Rods

Engage functions with valve control handles.

- With SWEEPSTER hydraulic run, swing and lift:

The first handle (closest to the operator) controls lift. Push forward to lower and pull back to raise.

The second handle activates the swing function. Push forward to angle left and pull back to angle right.

The third handle controls brush rotation. Pull back to run and push forward to stop.

- With SWEEPSTER hydraulic run and swing:

The first handle (closest to the operator) controls the swing function. Push forward to angle left and pull back to angle right.

The second handle controls brush rotation. Pull back to run and push forward to stop.

Electric Valves

Activate valves with switches on the control box. Functions are marked with a label.

Prime Mover Valves

Activate valves with prime mover controls.

Sweeping

To sweep:

1. Manual angle kit only – Swing the brush head assembly the direction that you want to direct debris.
2. Start the prime mover at idle.
3. Rear or mid pump units only – Engage the PTO.
4. Hydraulic angle kit only – Swing the brush head assembly the direction that you want to direct debris.
5. Engage the brush and then lower it to the ground.
6. Increase prime mover engine rpms to sweeping speed.

IMPORTANT – Avoid hydraulic pump damage on rear or mid pump units. Do not run the engine at speeds which make the PTO overspeed the pump. This will destroy the pump.

7. Travel forward at 5 mph (8 kph) or less.

At the end of a run: slow engine and travel speeds, disengage the brush, raise the brush head assembly and then make the turn.

IMPORTANT – Avoid sweeper damage. When approaching obstacles, like utility poles or fire hydrants, slow engine and travel speeds to avoid hitting these hazards.

Operating Tips

IMPORTANT – Avoid sweeper damage. Do not ram into piles. Use a dozer blade for this type of job.

Brush, Engine & Travel Speeds

Vary brush, engine and travel speeds to match sweeping conditions.

Large Areas

When sweeping a large area, such as a parking lot, make a path down the middle and sweep to both sides. This reduces the amount of debris that the sweeper must sweep in the next pass.

Snow

Fast brush speeds and slow travel speeds are needed to sweep snow effectively. Start at 3/4 throttle and the lowest gear of the prime mover. For wet and/or deep snow, increase to almost full throttle. This helps keep snow from packing up inside the brush hood.

In deep snow you may need to make multiple passes to get down to a clean surface.

To keep snow from blowing back onto a swept area, always sweep so the wind is at your back or so it follows the brush angle.

Dirt & Gravel

To keep dust at a minimum, plan sweeping for days when it is overcast and humid or after it has rained. Also, sweep so the wind blows at your back or in the direction the brush head is angled.

Low brush speeds and moderate travel speeds work best for cleaning debris from hard surfaces. Brush speeds that are too fast tend to raise dust because of the aggressive sweeper action.

To sweep gravel, use just enough brush speed to “roll” the gravel, not throw it.

Heavy Debris

Travel slowly – less than 5 mph (8 kph).

Sweep a path less than the full width of the sweeper.

Increase engine speed if debris becomes very heavy.

Brushes

IMPORTANT – Do not store the sweeper with weight on the brush. Weight will deform the bristles, destroying the sweeping effectiveness. To avoid this problem, place the sweeper on blocks or use optional stands.

Do not store polypropylene brushes in direct sunlight. The material can deteriorate and crumble before the bristles are worn out.

Keep polypropylene brush material away from intense heat or flame.

Cylinders

Grease threaded and ball ends to prevent rust.

Maintenance

Schedule

Procedure	Before Each Use	After Each Use	100 Hours	500 Hours	See Prime Mover Manual
Brush head assembly – Level (All)	✓				
Brush pattern – Check (All)	✓				
Cylinders – Retract rods (All)		✓			
– Grease threaded and ball ends to prevent rust (All)		✓			
Drive shaft, pump – Check (AH/CH; Power Pack)	✓				
Filter, air, prime mover – Clean (All)					✓
Filter, hydraulic – Replace (AH/CH)			✓		
Fittings/hoses, hydraulic – Tighten (All)	✓				
Fittings, zerk – Grease (All)	✓				
Oil, hydraulic – Check Level (AH/CH)	✓				
– Replace (AH/CH); use ISO VG-46 hydraulic oil				✓	
Hardware – Tighten (All)	✓				
Swing plate – Grease (CH/LH/LCH/RLH/RLCH)	✓				

Leveling

Level the sweeper for even brush wear and efficient use.

CAUTION – Avoid injury. Before adjusting the sweeper, always turn off the sweeper and the prime mover engine and remove the key.

1. Move the sweeper to a flat, paved surface.
2. Lower the brush head assembly so the brush is 2 in. (51 mm) above the ground.
3. Check if the swing assembly is level by using a bubble level. To make corrections:

Scissor swing/plate swing on tractor – Turn leveling bolts (figures 25 and 26) in or out equal amounts. If the front of the swing assembly is high, turn the leveling bolts in. If it is low, turn the leveling bolts out.

LH/LCH with quick attach mounting – Adjust tilt cylinders. If the front of the swing assembly is high, extend tilt cylinders. If low, retract cylinders.

LH/LCH without quick attach mounting – Lower loader arms enough to take weight off the mounting chain; adjust the chain to make the assembly level. If the front of the swing assembly is high, add links between the upright and loader's cross member. If low, decrease the number of links between the upright and loader's cross member. Raise the brush head assembly.

RLH/RLCH – Adjust the toplinek. If the rear of the swing assembly is high, lengthen the toplinek. If low, shorten the toplinek.

4. Position the brush head assembly straight ahead. On each side, measure from the brush frame to the ground (figure 27). If measurements are not equal:

Scissor swing – Turn the adjustment screw (figure 25) in to lower the right-hand side of the brush head assembly. Turn it out to lower the left-hand side.

Plate swing on tractor/LH/LCH – Loosen hardware that attaches the swing assembly to the brush head assembly; lower the high side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.

RLH/RLCH – Raise or lower the adjustable hitch arm.

5. Measure to see if the brush head assembly is level

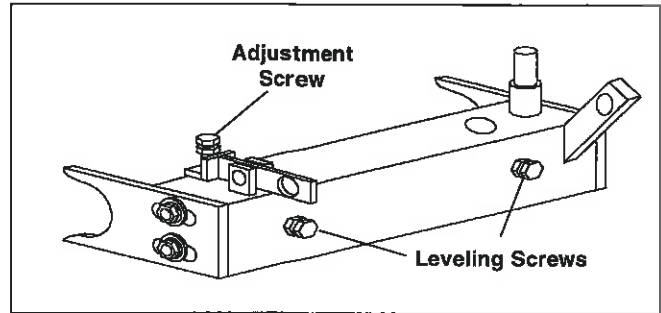


figure 25

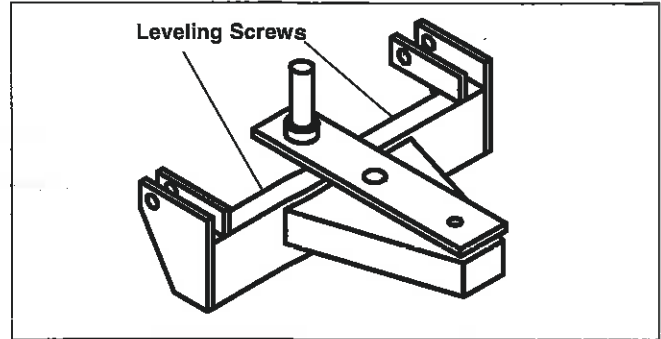


figure 26



figure 27

when angled. First, angle the brush head to the right. Measure as in step 4. Then, angle the brush head to the left. Measure again. If measurements are equal, the sweeper is level. If not, proceed with this step.

Scissor swing – To correct leveling problems in:

- figure 28, turn leveling screws out.
- figure 29, turn leveling screws in.
- figure 30, turn the adjustment screw in.
- figure 31, turn the adjustment screw out.

Plate swing on tractor – To correct leveling problems shown in:

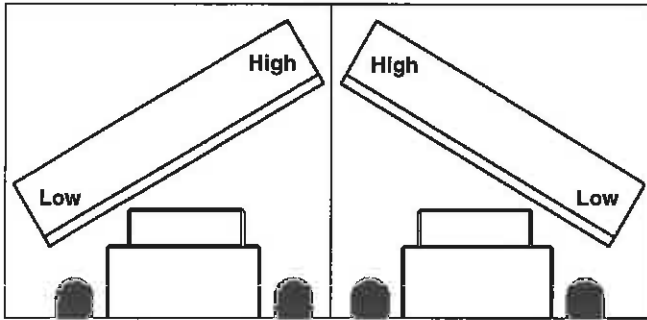


figure 28

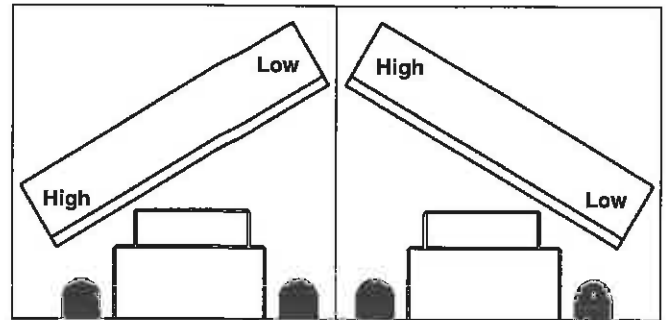


figure 30

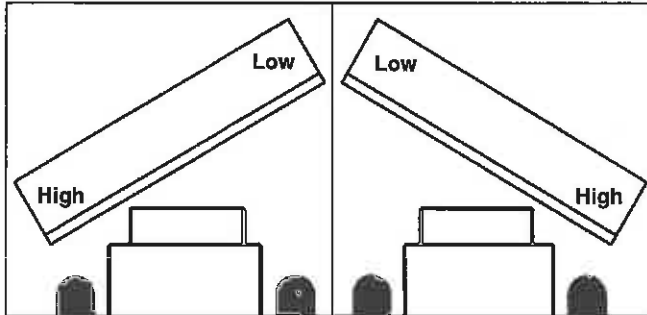


figure 29

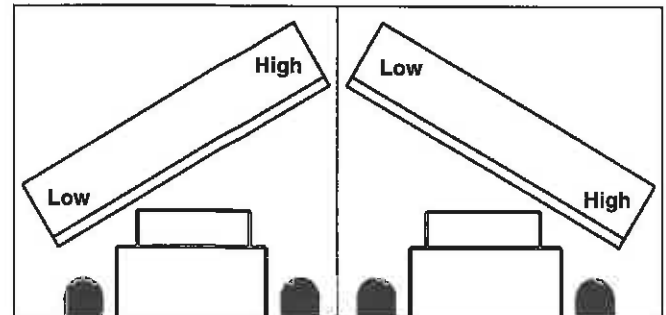


figure 31

- figure 28, turn leveling screws out.
- figure 29, turn leveling screws in.
- figure 30, loosen hardware that attaches the swing assembly to the brush head assembly; lower the left-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
- figure 31, loosen hardware that attaches the swing assembly to the brush head assembly; lower the right-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.

LH/LCH without quick attach mounting – To correct leveling problems shown in:

- figure 28, extend tilt cylinders.
- figure 29, retract tilt cylinders.
- figure 30, loosen hardware that attaches the swing assembly to the brush head assembly; lower the left-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
- figure 31, loosen hardware that attaches the swing assembly to the brush head assembly; lower the right-hand side of the brush head until both sides are an equal distance above the

ground. Tighten the hardware.

LH/LCH without quick attach mounting – To correct leveling problems shown in:

- figure 28, add links between the upright and loader's cross member.
- figure 29, decrease the number of links between the upright and loader's cross member.
- figure 30, loosen hardware that attaches the swing assembly to the brush head assembly; lower the left-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
- figure 31, loosen hardware that attaches the swing assembly to the brush head assembly; lower the right-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.

RLH/RLCH – To correct leveling problems in:

- figure 28, shorten the hitch toplink.
- figure 29, lengthen the hitch toplink.
- figure 30, lower the adjustable hitch arm.
- figure 31, raise the adjustable hitch arm.

Setting Brush Pattern

A properly adjusted brush offers the best sweeper performance. To check the brush pattern:

1. Move the sweeper to a dusty, flat surface.
2. Set the prime mover's parking brake and leave the engine running.
3. Start the sweeper at a slow speed; then, lower it so the bristle tips touch the ground. Run the sweeper in a stationary position for 10 seconds.
4. Raise the sweeper and back away; switch off the engine and remove the key. The brush pattern left in the dust should be 2-3 in. (51-76 mm) wide, running the length of the brush. (Compare the swept area with figure 32.)
5. Adjust the brush pattern as necessary according to instructions found in Adjusting the Spring-Chain Assembly.

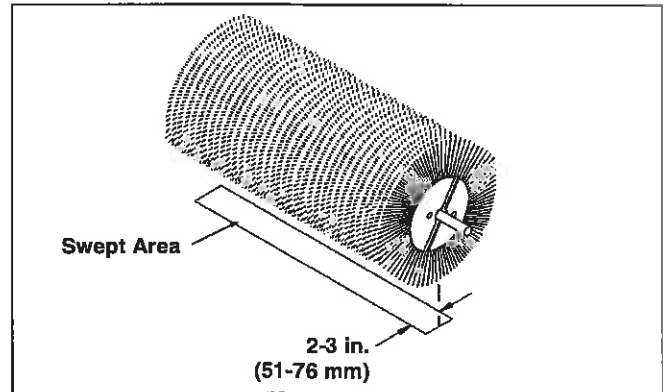


figure 32

Tightening Transport Chain

The transport chain supports the weight of the brush head assembly during transport between work sites and during adjustment of the spring-chain assemblies.

To adjust the transport chain:

AH/CH/RLH/RLCH

1. Raise the sweeper.
2. Tighten the transport chain.
3. Lower the sweeper so the transport chain supports the weight of the sweeper.

LH/LCH without Quick Attach Mounting

1. Lower the sweeper until the transport chain becomes slack.
2. Tighten the transport chain.
3. Raise the sweeper so the transport chain supports the weight of the sweeper.

LH/LCH with Quick Attach Mounting

1. Extend tilt cylinders.
2. Tighten the transport chain.
3. Retract tilt cylinders.
4. Lower the sweeper so the transport chain supports the weight of the sweeper.

Adjusting Spring-Chain Assembly

The spring-chain assembly allows the brush head to pivot up and down.

To adjust the brush pattern:

1. Raise the sweeper.
2. Tighten the transport chain and lower the sweeper so the transport chain supports weight.
3. Move the spring chain forward in the swing assembly chain holder to lower the brush head or backward in the holder to raise it.

Replacing Brush Sections – Standard Core

1. Support the brush head assembly with stands.
2. Remove hydraulic hoses at the motor(s).

IMPORTANT – To prevent contamination, clean and then cover hose ends, fittings and motor ports with caps or plugs.

3. Remove screws from the bearing (single motor only) and motor mountings (figures 33 and 34).
4. Pull the core out of the brush frame.
5. Remove the retainer from the end of the core (figures 35 and 36).
6. Stand the core upright, placing it on blocks to protect the motor.
7. Remove old sections.
8. Install the first, polypropylene section. Be sure the drive pins straddle a tube to prevent the section from spinning on the core (figure 37).

NOTE – Always install a polypropylene section on each end of the core – 1 first and 1 last.

9. Install a second section with the drive pins rotated 180° from those on the first section (figure 38).
10. Continue installing sections, rotating each section 180° until the core is full.

NOTE – If the last section will take more space than remains but more than 1/2 in. (13 mm) of the core needs to be filled, nest the last section on the previous. Do this by placing both sections' drive pins on the same tube.

11. Reinstall the retainer.
12. Place the core in the brush frame.
13. Reinstall and finger-tighten the motor housing and bearing bolts.

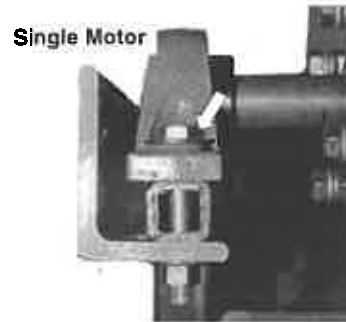


figure 33



figure 34

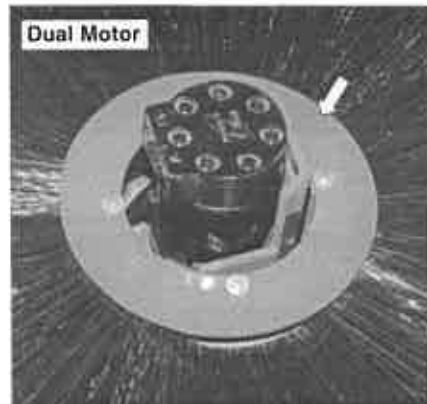


figure 35

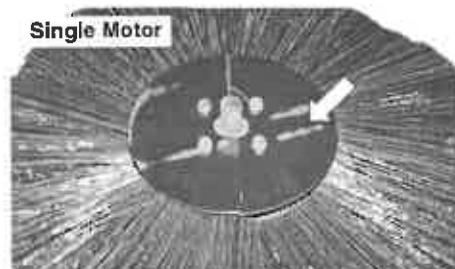


Figure 36



Figure 37

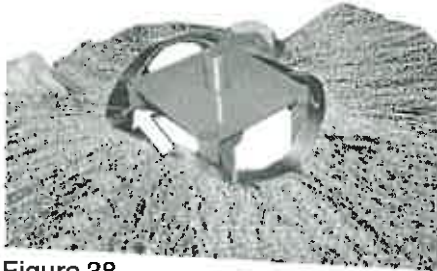


Figure 38

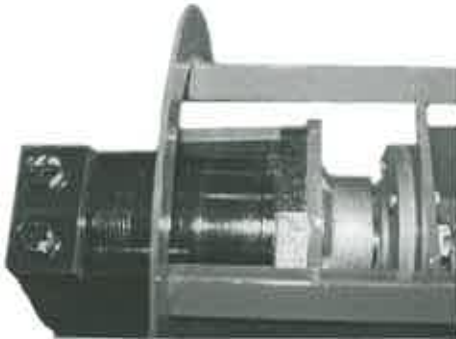


figure 39



figure 40

- Align the core. Measure from the brush frame tube to the center of the motor(s) and from the brush frame tube to the center of the core on the bearing end (single motor only). If the measurements are not equal, adjust 1 end until the measurements match; tighten all bolts.

IMPORTANT – Pull the motor housing to the end of the frame (figure 39) or damage to the motor will result.

- Thoroughly clean hose fittings and motor ports. Connect hydraulic hoses to the motor.

Replacing Brush Sections – Quick Change Core

- Remove hairpin clips and latch pins (figure 40) from the brush frame.
- Pull the brush head, including motor assembly/ assemblies, out of the brush mounting frame.
- Unlock motor assembly/assemblies by removing the cotter pin and retainer clip and rotating each assembly.
- Slide motor assembly/assemblies off core end(s).
- Dual motor units – Remove retainer pins from the retainer plate and take the plate off the core.
Single motor units – Remove 4 bolts on retainer halves and take them off the core.
- Remove old brush sections.
- Install the first, polypropylene section. Be sure the drive pins straddle a tube to prevent the section from spinning on the core (figure 37).

NOTE – Always install a polypropylene section on each end of the core – 1 first and 1 last.

- Install a second section with the drive pins rotated 180° from those on the first section (figure 38).
- Continue installing sections, rotating each section 180° until the core is full.

NOTE – If the last section will take more space than remains but more than 1/2 in. (13 mm) of the core needs to be filled, nest the last section on the previous. Do this by placing both sections' drive pins on the same tube.

Continued on next page

10. Dual motor unit – Attach the retainer plate to the core and secure it with retainer pins.

Single motor unit – attach retainer halves to the core and secure with 4 bolts.

11. Align the brush with the brush frame.
12. Place motor assembly/assemblies on the core and lock retainer pins in keyhole slots. Reinstall retainer pins and install new cotter pins.
13. Slide the brush into the brush frame and insert latch pins. After rotating latches, pull latch pins out and install hairpins.
14. Tighten all hydraulic hoses and fittings.

Replacing Motor & Hub

1. Support the brush head assembly with stands.
2. Remove hydraulic hoses at the motor(s).

IMPORTANT – To prevent contamination, clean and then cover hose ends, fittings and motor ports with caps or plugs.

3. Remove screws from the bearing (single motor only) and motor mountings (figures 41 and 42).
4. Pull the core out of the brush frame.
5. Remove the retainer from the end of the core (figures 43 and 44).
6. Remove a few sections; then slide the remaining sections down the core to expose the motor and hub.
7. Remove the hairpin and nut from the motor shaft (figure 45). Slide the motor and housing off the core.
8. If replacing the hub:
 - a. Remove screws that hold the hub on the core.
 - b. Take the hub out of the core.
 - c. Place a new hub in the core.

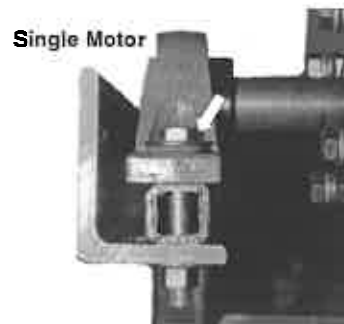


figure 41



figure 42

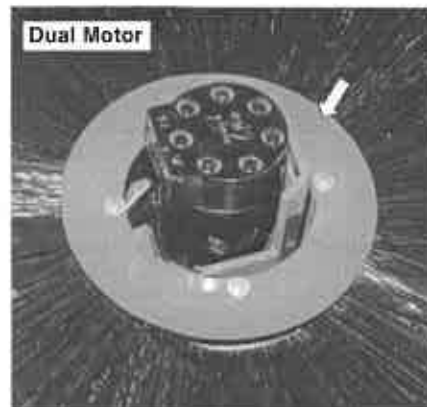


figure 43

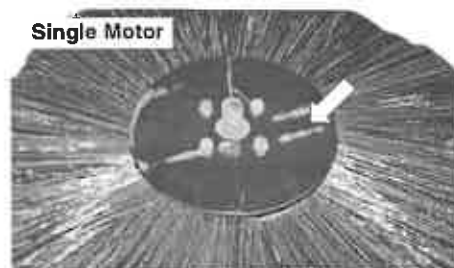


Figure 44



figure 45



figure 46

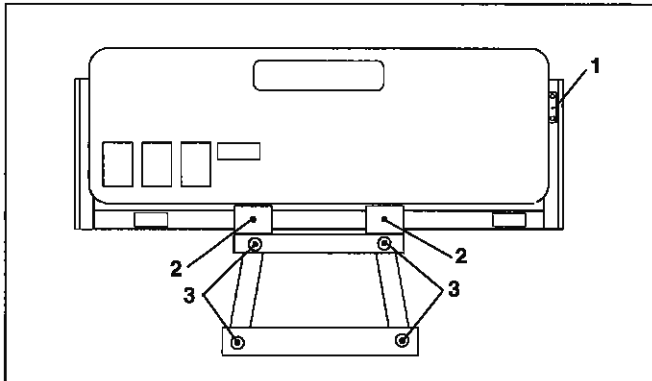


figure 47

9. Place the new motor in the housing and slide the assembly into the core and hub.
10. Reinstall the nut and hairpin on the motor shaft.
11. Install the sections, retainer plate and bearing.
12. Place the core in the brush frame.
13. Reinstall and finger-tighten the motor housing and bearing bolts.
14. Align the core. Measure from the brush frame tube to the center of the motor(s) and from the brush frame tube to the center of the core on the bearing end (if applicable). If the measurements are not equal, adjust the bearing end until the measurements match; tighten all bolts.

IMPORTANT – Pull the motor housing to the end of the frame or damage to the motor will result (figure 46).

15. Thoroughly clean the hose fittings and motor ports. Connect hydraulic hoses to the motor.

Lubricating Zerk Fittings

The following grease fittings should be greased daily. See figure 47 for locations.

1. Core bearing (single motor only)
2. Brush head pivot tube (all)
3. Pivot pins (scissor swing)

Troubleshooting

Brush Head Assembly

Problem	Possible Cause	Possible Solution
Brush rotates wrong direction	Hoses installed incorrectly	Switch hoses at brush head tubes
Brush slows or stops when sweeping	Brush pattern too wide	Adjust brush pattern to 2-3 in. (51-76 mm) wide; see Maintenance: Adjusting Brush Pattern
	Travel speed too fast	Travel no more than 5 mph (8 kph) while sweeping
	Trying to sweep too much material at once	Make several passes with sweeper
	Relief pressure set too low	Set relief pressure to 2000 psi (138.0 bars)
	Pump has failed	Contact dealer to repair or replace
	AH/CH: Pressure relief set incorrectly	Set relief valve to 2000 psi
	LH/LCH/RLH/RLCH: Check valve installed incorrectly	Reinstall check valve so arrow points toward pressure hose
	Hydraulic motor is failing	Test hydraulic system; see Troubleshooting: Hydraulic Problems
Brush head assembly "bounces" during sweeping	Spring-chain assembly too loose	Adjust spring-chain assembly; see Maintenance: Adjusting Spring-Chain Assembly
	Travel speed too fast and/or brush speed slow	Find correct combination of ground and brush speeds; do not travel at more than 5 mph (8 kph)
	Core is bent	Replace core
Brush wears into cone shape	Sweeper is not level	Level sweeper before each use; see Maintenance: Leveling
	Tires on prime mover at different pressures or are different sizes	Check tire sizes and ratings; make corrections as necessary
Brush wears very quickly	Brush pattern too wide	Adjust brush pattern to 2-3 in. (51-76 mm) wide; see Maintenance: Setting Brush Pattern
Core fails	Sweeping too deep of material	Make several passes with sweeper

Troubleshooting

Spring-Chain Assemblies

Problem	Possible Cause	Possible Solution
Springs on spring-chain assemblies stretching	Transport chain too loose when traveling between job sites	Adjust according to Adjusting Transport Chain
	Travel speeds too fast when sweeping	Do not travel at speeds over 5 mph (8 kph)

Hydraulic Cylinders – Lift & Swing

Problem	Possible Cause	Possible Solution
Hydraulic cylinder neither extends nor retracts	<u>Manual valve</u> – Control rods not connected or are binding	Check control rod linkage; make sure all parts are connected and are not binding; fix if necessary
	<u>Electric valve</u> – Setscrew in flow divider on manifold too tight	Loosen jam nut and then turn setscrew in until it stops; turn setscrew out 1 1/2 turns; tighten jam nut
	<u>Electric valve</u> – No power from controls because wires are broken or disconnected	Reconnect wires if disconnected; replace wires if broken
	<u>Electric valve</u> – No power from controls because switch is broken	Replace switch
	<u>Both types of valves</u> – Hydraulic oil level too low	Fill tank to 2-3 in. (51-76 mm) from top of tank with ISO VG-46 oil
	<u>Both types of valves</u> – Hoses or fittings loose or disconnected	Tighten hoses and fittings
	<u>Both types of valves</u> – Restriction in hoses	Remove bends in hoses; remove obstructions inside hoses
Hydraulic cylinder only extends or only retracts	<u>Electric valve</u> – Setscrew in flow divider on manifold out of adjustment	Loosen jam nut and then turn setscrew in until it stops; turn setscrew out 1 1/2 turns; tighten jam nut
	<u>Electric valve</u> – Dirt or debris in spools	Contact SWEEPSTER Technical Service
Hydraulic cylinder extends or retracts too quickly	<u>Manual valve</u> – Flow too high because restrictor fitting missing from cylinder	Reinstall restrictor fitting on rod end of cylinder
	<u>Manual valve</u> – Flow too high even though restrictor fitting is installed	Add needle valve to hose connected to barrel end of cylinder
	<u>Electric valve</u> – Setscrew in flow divider on manifold too loose	Loosen jam nut and then turn setscrew in until it stops; turn setscrew out 1 1/2 turns; tighten jam nut

Troubleshooting

Hydraulic System

Problem	Possible Cause	Possible Solution
Hydraulic system overheats	Quick couplers loose	Connect quick couplers securely
	Hydraulic oil level too low	Add hydraulic oil to tank until it comes to 2 in. (51 mm) from top
	Flow divider sending too much hydraulic oil to tank	Set flow divider so hydraulic motor receives 12-16 gpm (.76-1.01 lps) for single motor or 18-22 gpm (1.14-1.38 lps) for dual motor
	Restriction in hoses	Remove bends in hoses; remove obstructions inside hoses
	Host pump flow rate exceeds 18-22 g.p.m.	Contact host manufacturer for proper flow control method
Hydraulic quick couplers leak	Quick coupler poppet is unseated	Reseat poppet; replace quick coupler if poppet is beyond repair
Hydraulic motor seals leak	Check valve not installed or installed incorrectly	Install check valve so arrow points toward pressure hose
	Hydraulic pressure set too high	Set pressure to 2000 psi (138.0 bar)
	Hydraulic flow is incorrect	Set flow divider to send to hydraulic motor 12-16 gpm (.75-1.01 lps) for single motor or 18-22 gpm (1.14-1.38 lps) for dual motor
	Motor is failing	High number of hours on motor; Contact dealer to rebuild or replace
Hydraulic oil flows from breather cap on hydraulic tank	Hydraulic tank too full	Drain, flush and refill hydraulic tank with new ISO VG-46 hydraulic oil
Motor moves when operating	Housing designed to allow motor to "float" to minimize stress on motor shafts	No remedy needed

Hydraulic Problems

If hydraulic problems – which include the brush failing to rotate, the brush slowing or stopping when making contact with the sweeping surface or swing/lift cylinders not functioning – occur, complete all of the following checks on the hydraulic system.

! WARNING – Avoid serious injury.

Test components must have a minimum rating of 3000 psi (206.0 bars). Otherwise, components could rupture, causing serious injury. Open the gate valve before beginning any tests.

Do not operate the hydraulic system more than 5 seconds with pressure over 2000 psi (138.0 bars). Higher pressures can rupture hydraulic components and cause serious injury.



figure 48

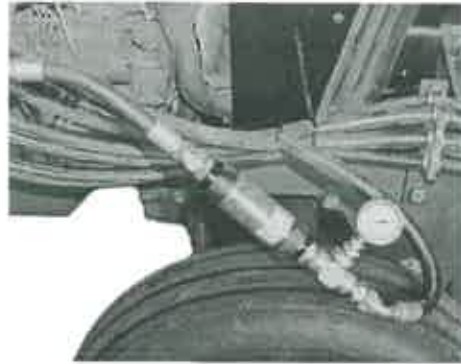


figure 49

Testing Relief Setting

With SWEEPSTER Valves & Hydraulic Swing or Lift

Use these instructions for units that have hydraulic swing and/or lift valve(s) and run valve from SWEEPSTER.

1. Add a T-fitting and pressure gauge (rated at 3000 psi) to the swing or lift circuit.
2. Make sure the tractor is in Neutral with the parking brake on. Start the tractor at idle and engage the sweeper.
3. Swing or lift the sweeper to the maximum stroke of the cylinder.
4. Note the reading on the pressure gauge.
 - If the reading is 2000 psi (138.0 bars) the relief is set properly. Go on to step 7.
 - If the reading is above or below 2000 psi (138.0 bars) go to step 5 to adjust the relief.
5. Remove the cap nut from the relief and loosen the jam nut.

6. With the tractor in Neutral, the parking brake on and the unit running, adjust the relief. To raise the pressure, turn the Allen screw in or to lower it, turn it out.

IMPORTANT – Avoid pump damage. Do not allow pressure to rise above 2000 psi (138.0 bars).

7. Remove the T-fitting and pressure gauge and then reconnect hoses.
8. Go to Testing Pump or Prime Mover Hydraulics.

With Relief on Prime Mover

Follow these instructions for units that use prime mover relief.

1. Add a flow meter, pressure gauge and gate valve on the pressure side of the sweeper hydraulic system.
2. Raise the sweeper. Then, engage the brush.
3. Shut the gate valve and note the reading on the pressure gauge.

IMPORTANT – Avoid pump damage. Do not run test for more than 5 seconds.



figure 50



figure 51

4. Refer to the prime mover manual for proper relief setting. If the pressure gauge reading does not match manufacturer's recommendations, take the prime mover to your dealer for repair.
5. Go to Testing Pump or Prime Mover Hydraulics.

Testing Pump or Prime Mover Hydraulics

Complete the following steps to test the pump (AH/CH/RLH/RLCH with power pack) or prime mover hydraulics (LH/LCH).

1. Place a pressure gauge, flow gauge and gate valve between the brush run valve and the pressure tube on the brush hood (figure 48).
2. Make sure the tractor is in Neutral with the parking brake on. Start the tractor at idle and engage the sweeper.
3. Raise engine speed to 2600 rpm.
4. Note the reading on the flow gauge. Then, shut the gate valve. Note the reading on the pressure gauge.
 - If the flow gauge reads at least 10 gpm (.63 lps) for a single motor unit or 18 gpm (1.14 lps) for a

dual motor unit and the pressure gauge reached 2000 psi (138.0 bars), the pump is functioning properly.

- If the flow and/or pressure did not reach the proper reading, the pump has failed. Take it to your dealer to have it rebuilt or replaced.
5. Remove the pressure gauge, flow gauge and gate valve and reconnect hoses.
 6. Go to Testing Brush Head Motors.

Testing Brush Head Motors

1. Place a pressure gauge and flow gauge between the sweeper or prime mover hydraulic tank and the return tube on the brush hood (figure 49).
2. Make sure the tractor is in Neutral with the parking brake on. Start the tractor at idle and engage the sweeper. Then, adjust the brush to the maximum sweeping pattern.
3. When the brush stalls, note the reading on the flow gauge. If it is 3 gpm (.19 lps) or more, the motor(s) need(s) to be replaced.
4. For dual motor units, isolate each motor and test separately.
 - a. Remove short hoses from tubes.
 - b. Remove hoses from T-fittings on tubes.
 - c. On 1 motor, connect hoses removed from the tubes (figure 50).
 - d. On the other motor, connect the hose from the return tube to the hose on the motor's return port. Connect the hose from the pressure tube to the motor's pressure port (figure 51).
 - e. Make sure the tractor is in Neutral with the parking brake on. Start the tractor at idle and engage the sweeper. Then, adjust the brush to the maximum sweeping pattern.
 - f. When the brush stalls, note the reading on the flow gauge. If it is 3 gpm (.19 lps) or more, the motor need to be replaced.
 - g. Repeat steps 4c-f to test the other motor.

Torqmotor™ Troubleshooting Guide

NOTE: Before troubleshooting any system problem, check service literature published by the equipment and/or component manufacturers. Follow their instructions, if given, for checking any component other than the Torqmotor™ unit.

Preparation

Make your troubleshooting easier by preparing as follows:

- work in a clean, well-lighted place;
- have proper tools and materials nearby;
- have an adequate supply of clean petroleum-based solvent.

WARNING: SINCE SOLVENTS ARE FLAMMABLE, BE EXTREMELY CAREFUL WHEN USING ANY SOLVENT, EVEN A SMALL EXPLOSION OR FIRE COULD CAUSE INJURY OR DEATH.

WARNING: WEAR EYE PROTECTION AND BE SURE TO COMPLY WITH OSHA AND OTHER MAXIMUM AIR PRESSURE REQUIREMENTS.

Preliminary Checks

Hydraulic systems are often trouble-free. Hence, the problem an operator complains of could be caused by something other than the hydraulic components.

Thus, once you have determined that a problem exists, start with the easy-to-check items, such as:

- parts damaged from impact that were not properly repaired, or that should have been replaced; and
- improper replacement parts used in previous servicing
- mechanical linkage problems such as binding, broken, or loose parts or slipping belts

Hydraulic Components

If you think the problem is caused by a hydraulic component, start by checking the easy-to-reach items.

Check all hoses and lines for cracks, hardening, or other signs of wear. Reroute any usable hoses that are kinked, severely bent, or that rest against hot engine parts. Look for leaks, especially at couplings and fittings. Replace any hoses or lines that don't meet system flow and pressure ratings.

Next, go to the reservoir and filter or filters. Check fluid level and look for air bubbles. Check the filter(s). A filter with a maximum 50 micron filtration is recommended for the Torqmotor system.

Visually check other components to see if they are loosely mounted, show signs of leaks, or other damage or wear.

Excessive heat in a hydraulic system can create problems that can easily be overlooked. Every system has its limitation for the maximum amount of temperature. After the temperature is attained and passed, the following can occur:

- oil seal leaks
- loss of efficiency such as speed and torque
- pump loss of efficiency
- pump failure
- hoses become hard and brittle
- hose failure

A normal temperature range means an efficient hydraulic system. Consult the manuals published by equipment and/or component manufacturers for maximum allowable temperature and hydraulic tests that may be necessary to run on the performance of the hydraulic components. The Torqmotor™ is not recommended for hydraulic systems with maximum temperatures above 200°F (93.3°C).

Torqmotor™ Troubleshooting Checklist

Trouble	Cause	Remedy
Oil Leakage	1. Hose fittings loose, worn or damaged.	Check & replace damaged fittings or "O" Rings. Torque to manufacturers specifications.
	2. Oil seal rings (4) deteriorated by excess heat.	Replace oil seal rings by disassembling Torqmotor™ unit.
	3. Special bolt (1, 1A, 1B or 1C) loose or its sealing area deteriorated by corrosion.	(a) Loosen then tighten single bolt to torque specification. (b) Replace bolt.
	4. Internal shaft seal (16) worn or damaged.	Replace seal. Disassembly of Torqmotor™ unit necessary.
	5. Worn coupling shaft (12) and internal seal (16).	Replace coupling shaft and seal by disassembling Torqmotor™ unit.
Significant loss of speed under load	1. Lack of sufficient oil supply	(a) Check for faulty relief valve and adjust or replace as required. (b) Check for and repair worn pump. (c) Check for and use correct oil for temperature of operation.
	2. High internal motor leakage	(a) Replace worn rotor set by disassembling Torqmotor™ unit.
	3. Severely worn or damaged internal splines.	Replace rotor set, drive link and coupling shaft by disassembling Torqmotor™ unit.
	4. Excessive heat.	Locate excessive heat source (usually a restriction) in the system and correct the condition.
Low mechanical efficiency or undue high pressure required to operate Torqmotor™ unit	1. Line blockage	Locate blockage source and repair or replace.
	2. Internal interference	Disassemble Torqmotor™ unit, identify and remedy cause and repair, replacing parts as necessary.
	3. Lack of pumping pressure	Check for and repair worn pump.
	4. Excessive binding or loading in system external to Torqmotor™ unit.	Located source and eliminate cause.

CAUTION: If the hydraulic system fluid becomes overheated [in excess of 200°F (93.3°C)], seals in the system can shrink, harden or crack, thus losing their sealing ability.

Tips for Maintaining the Torqmotor™ Hydraulic System

- Adjust fluid level in reservoir as necessary.
- Encourage all operators to report any malfunction or accident that may have damaged the hydraulic system or component.
- Do not attempt to weld any broken Torqmotor™ component. Replace the component with original equipment only.
- Do not cold straighten, hot straighten, or bend any Torqmotor™ part.
- Prevent dirt or other foreign matter from entering the hydraulic system. Clean the area around and the filler caps before checking oil level.
- Investigate and correct any external leak in the hydraulic system, no matter how minor the leak.
- Comply with manufacturer's specifications for cleaning or replacing the filter.

CAUTION: Do not weld, braze, solder or any way alter any Torqmotor™ component.

CAUTION: Maximum operating pressure must not exceed recommended Torqmotor™ pressure capacity.

CAUTION: Always carefully inspect any system component that may have been struck or damaged during operation or in an accident. Replace any component that is damaged or that is questionable.

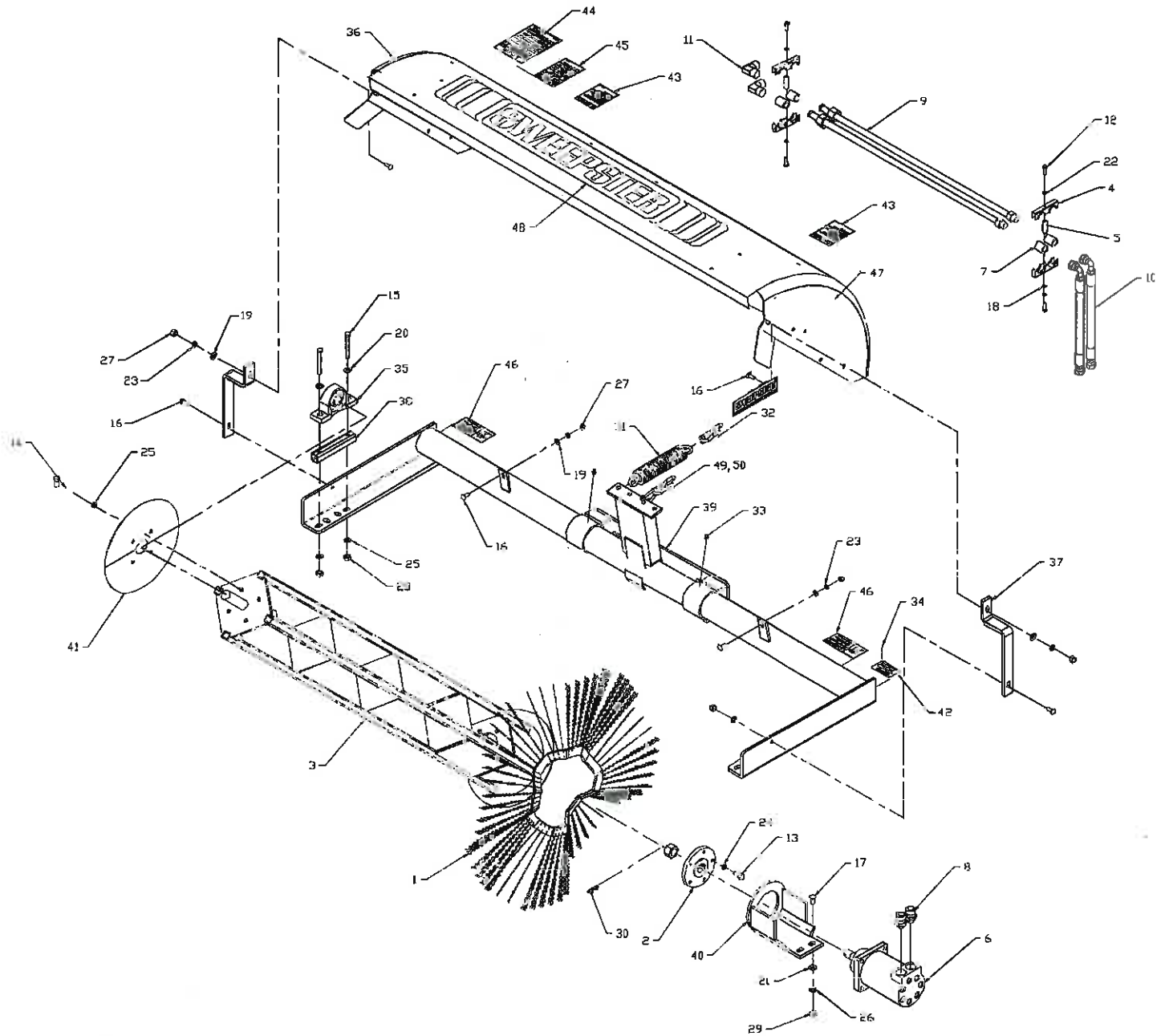
CAUTION: Do not force any coupling onto the Torqmotor™ coupling shaft as this could damage the unit internally.

Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description	
1.	01-0272C	1	Set, Section, Poly, 5	23.	07-0168	6	Washer, Lock, Split, 3/8	
	01-0020C	1	Set, Section, Poly, 6	24.	07-0169	5	Washer, Lock, Split, 7/16	
	01-0079C	1	Set, Section, Poly, 7	25.	07-0170	6	Washer, Lock, Split, 1/2	
	01-0080C	1	Set, Section, Poly, 8	26.	07-1872	2	Washer, Lock, Split, 5/8	
	01-0273C	1	Set, Section, Wire, 5	27.	07-3654	6	Nut, Hex, 3/8-16	
	01-0021C	1	Set, Section, Wire, 6	28.	07-1764	2	Nut, Hex, 1/2-13	
	01-0083C	1	Set, Section, Wire, 7	29.	07-1294	2	Nut, Hex, 5/8-11	
	01-0084C	1	Set, Section, Wire, 8	30.	07-0210	1	Clip, Hairpin, 14 gauge x 1-3/4	
	01-0274C	1	Set, Section, Combination, 5	31.	07-0216	1	Spring, Tension, 1.87 x 10.31	
	01-0022C	1	Set, Section, Combination, 6	32.	07-1558	1	Chain, 1/4, 18 Links	
	01-0081C	1	Set, Section, Combination, 7	33.	07-2681	2	Fitting, Zerk, Drive-In, 1/4	
	01-0082C	1	Set, Section, Combination, 8	34.	07-3624	4	Tack, Metal	
	2.	03-0400	1	Hub, Taper	35.	08-0035	1	Bearing, Assembly, 1-1/4, Round
	3.	01-0278	1	Weld, Core, Section, 5, S32	36.	11-1430	1	Weld, Hood, 5
01-0224		1	Weld, Core, 6, S32		11-1608	1	Weld, Hood, 6	
01-0276		1	Weld, Core, Section, 7, S32		11-1806	1	Weld, Hood, 7	
01-0268		1	Weld, Core, 8, S32		11-1664	1	Weld, Hood, 8	
4.	03-0784	4	Clamp, Hydraulic, Metal, 2 Position	37.	11-1606	2	Bracket, Hood, with Bend	
5.	03-0788	2	Nut, Stack, Socket Head	38.	11-1637	1	Block, Spacer, Bearing	
6.	03-1826	1	Motor, TRW	39.	11-1934	1	Weld, Frame, Brush, 5	
	05-0719		Key, Woodruff		11-1605	1	Weld, Frame, Brush, 6	
	07-2256		Kit, Seal, Motor		11-1868	1	Weld, Frame, Brush, 7	
7.	03-1931	4	Bushing, Split, 3/4		11-1665	1	Weld, Frame, Brush, 8	
8.	03-1939	2	Fitting, Adapter, HP, 7/8 MOR-5/8 MFS		11-2874	1	Weld, Frame, Brush, 9	
9.	03-1967-5	2	Assembly, Tube, Brush Head, 29-1/4, 5, ORFS		11-1621	1	Weld, Frame, Brush, 10	
	03-1967-6	2	Assembly, Tube, Brush Head, Dimension A, 6, ORFS		13-3705	1	Frame, 12, Brush Head	
	03-1967-7	2	Assembly, Tube, Brush Head, 40-3/4, 7, ORFS	40.	11-1837	1	Weld, Mounting, Motor	
	03-1967-8	2	Assembly, Tube, Brush Head, 47-1/4, 8, ORFS	41.	11-9220	1 set	Plate, Retainer, Section, 962200 & Up	
10.	03-1968	2	Hose, 5/8 x 16.125, 2 Wire, 5/8 FFS-5/8 FFS-90	42.	50-0004	2	Label, Plate, Serial Number	
11.	03-2216	2	Fitting, Elbow, HP, 90, 3/4 MFS-3/4 MFS	43.	50-0013-1	1	Label, Danger, Falling Sweeper/Loader	
12.	07-1714	4	Screw, Cap, 5/16-18 x 1	44.	50-0014-1	1	Label, Caution, Read Manual	
13.	07-0034	5	Screw, Cap, 7/16-20 x 1	45.	50-0014-2	1	Label, Warning, Running Sweeper	
14.	07-3670	4	Screw, Cap, 1/2-13 x 1	46.	50-0076-1	2	Label, Caution, Pinch Point	
15.	07-3441	2	Screw, Cap, 1/2-13 x 3-1/2	47.	50-0184	2	Label, Small, White, SWEEPSTER	
16.	07-1717	6	Bolt, Carriage, 3/8-16 x 1-1/4	48.	50-0252	1	Label, Logo, Large, White, Die Cut	
17.	07-0119	2	Bolt, Carriage, 5/8 x 1-3/4	49.	07-2032	1	Clevis, Double Link, 9/32	
18.	07-0153	2	Washer, Flat, 5/16	50.	07-0249	1	Chain, 1/4, 22 Links	
19.	07-0154	4	Washer, Flat, 3/8					
20.	07-0156	2	Washer, Flat, 1/2					
21.	07-3120	2	Washer, Flat, 5/8					
22.	07-3273	4	Washer, Lock, Split, 5/16					

Brush Head Assemblies

S32 – Standard Core

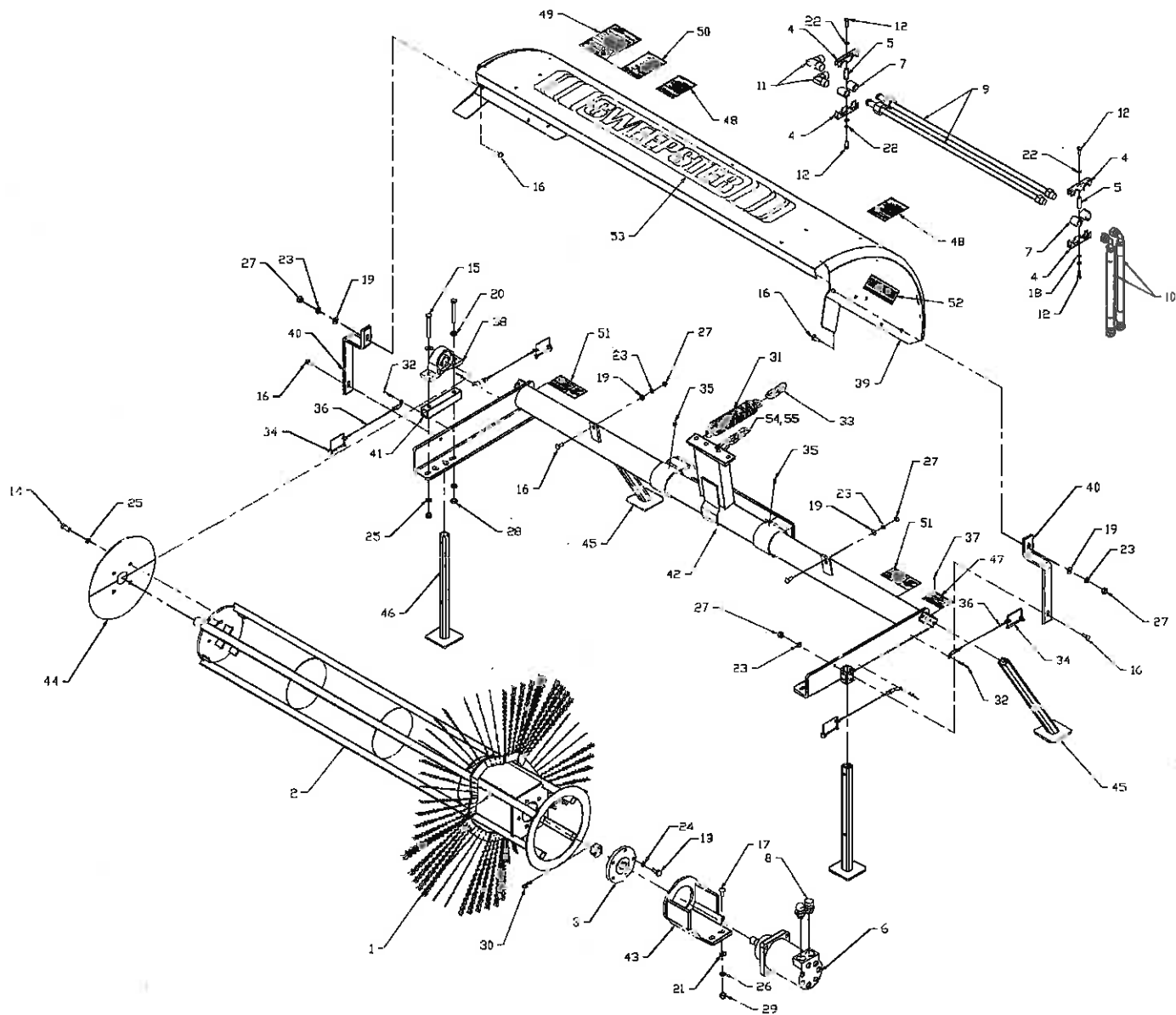


Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description
1.	01-0272C	1	Set, Section, Poly, 5	24.	07-0169	5	Washer, Lock, Split, 7/16
	01-0020C	1	Set, Section, Poly, 6	25.	07-0170	6	Washer, Lock, Split, 1/2
	01-0079C	1	Set, Section, Poly, 7	26.	07-1872	2	Washer, Lock, Split, 5/8
	01-0080C	1	Set, Section, Poly, 8	27.	07-3654	6	Nut, Hex, 3/8-16
	01-0273C	1	Set, Section, Wire, 5	28.	07-1764	2	Nut, Hex, 1/2-13
	01-0021C	1	Set, Section, Wire, 6	29.	07-1294	2	Nut, Hex, 5/8-11
	01-0083C	1	Set, Section, Wire, 7	30.	07-0210	1	Clip, Hairpin, 14 gauge x 1-3/4
	01-0084C	1	Set, Section, Wire, 8	31.	07-0216	1	Spring, Tension, 1.87 x 10.31
	01-0274C	1	Set, Section, Combination, 5	32.	07-1075	4	Rivet, Pop, 3/16 x 3/4
	01-0022C	1	Set, Section, Combination, 6	33.	07-1558	1	Chain, 1/4, 18 Links
	01-0081C	1	Set, Section, Combination, 7	34.	07-1607	4	Pin, Lock, 5/16, Square Bail
	01-0082C	1	Set, Section, Combination, 8	35.	07-2681	2	Fitting, Zerk, Drive-In, 1/4
2.	01-0278	1	Weld, Core, Section, 5, S32	36.	07-3011	4	Lanyard, 1/16, Cable, 1-1/4 Tab x 6
	01-0224	1	Weld, Core, 6, S32	37.	07-3624	4	Tack, Metal
	01-0276	1	Weld, Core, Section, 7, S32	38.	08-0035	1	Bearing, Assembly, 1-1/4, Round
	01-0268	1	Weld, Core, 8, S32	39.	11-1430	1	Weld, Hood, 5
3.	03-0400	1	Hub, Taper		11-1608	1	Weld, Hood, 6
4.	03-0784	4	Clamp, Hydraulic, Metal, 2 Position		11-1806	1	Weld, Hood, 7
5.	03-0788	2	Nut, Stack, Socket Head		11-1664	1	Weld, Hood, 8
6.	03-1826	1	Motor, TRW	40.	11-1606	2	Bracket, Hood, with Bend
	05-0719		Key, Woodruff	41.	11-1637	1	Block, Spacer, Bearing
	07-2256		Kit, Seal, Motor	42.	13-4771	1	Weld, Frame, Brush, 5, with Stand Tubes
7.	03-1931	4	Bushing, Split, 3/4		13-7181	1	Weld, Frame, Brush, 6, with Stand Tubes
8.	03-1939	2	Fitting, Adapter, HP, 7/8 MOR-5/8 MFS		13-7039	1	Weld, Frame, Brush, 7, with Stand Tubes
9.	03-1967-5	2	Assembly, Tube, Brush Head, 29-1/4, 5, ORFS		13-4803	1	Weld, Frame, Brush, 8, with Stand Tubes
	03-1967-6	2	Assembly, Tube, Brush Head, Dimension A, 6, ORFS	43.	11-1837	1	Weld, Mounting, Motor
	03-1967-7	2	Assembly, Tube, Brush Head, 40-3/4, 7, ORFS	44.	11-9220	1 set	Plate, Retainer, Section, 962200 & Up
	03-1967-8	2	Assembly, Tube, Brush Head, 47-1/4, 8, ORFS	45.	13-0798	2	Weld, Leg, Rear
10.	03-1968	2	Hose, 5/8 x 16.125, 2W, 5/8 FFS-5/8 FFS-90	46.	13-0799	2	Weld, Leg, Front
11.	03-2216	2	Fitting, Elbow, HP, 90, 3/4 MFS-3/4 MFS	47.	50-0004	2	Label, Plate, Serial Number
12.	07-1714	4	Screw, Cap, 5/16-18 x 1	48.	50-0013-1	1	Label, Danger, Falling Sweeper/Loader
13.	07-0034	5	Screw, Cap, 7/16-20 x 1	49.	50-0014-1	1	Label, Caution, Read Manual
14.	07-3670	4	Screw, Cap, 1/2-13 x 1	50.	50-0014-2	1	Label, Warning, Running Sweeper
15.	07-3441	2	Screw, Cap, 1/2-13 x 3-1/2	51.	50-0721	2	Label, Warning Crush Hazard
16.	07-1717	6	Bolt, Carriage, 3/8-16 x 1-1/4	52.	50-0184	2	Label, Small, White, SWEEPSTER
17.	07-0119	2	Bolt, Carriage, 5/8 x 1-3/4	53.	50-0252	1	Label, Logo, Large, White, Die Cut
18.	07-0153	2	Washer, Flat, 5/16	54.	07-2032	1	Clevis, Double Link, 9/32
19.	07-0154	4	Washer, Flat, 3/8	55.	07-0249	1	Chain, 1/4, 22 Links
20.	07-0156	2	Washer, Flat, 1/2				
21.	07-3120	2	Washer, Flat, 5/8				
22.	07-3273	4	Washer, Lock, Split, 5/16				
23.	07-0168	6	Washer, Lock, Split, 3/8				

Brush Head Assemblies

S32 with Stands – Standard Core

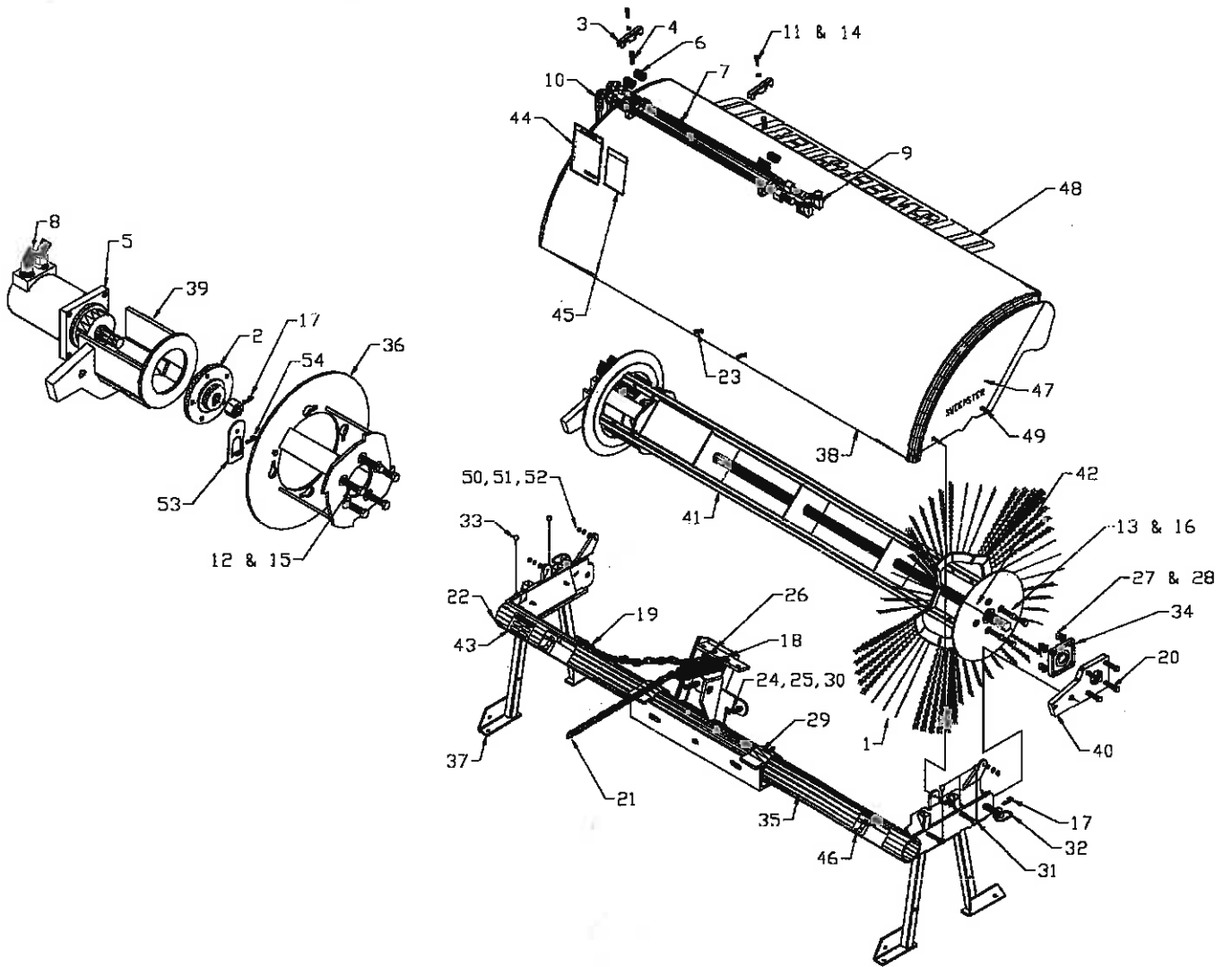


Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description
1.	01-0020C	1	Set, Section, Poly, 6 ft	29.	07-2681	2	Fitting, Zerk, Drive-In, 1/4
	01-0021C	1	Set, Section, Wire, 6 ft	30.	07-3279	2	Washer, Flat, 3/8
	01-0022C	1	Set, Section, Combination, 6 ft	31.	07-3373	4	Pin, Quick Release, .375 x 2.1
2.	03-0400	1	Hub, Taper	32.	07-3374	2	Pin, Latch, .75 x 1.5
3.	03-0784	4	Clamp, Hydraulic	33.	07-3375	4	Lanyard, 1/16 Cable, 1-1/4, Tab, 8, Type C
4.	03-0788	2	Nut, Stake	34.	08-0067	1	Bearing, 1-1/4, 4 Bolt
5.	03-1826	1	Motor, TRW	35.	13-7189	1	Weld, Frame, Brush, 6, Quick Core
	05-0719		Key, Woodruff		13-7478	1	Weld, Frame, Brush 7, Quick Core
	07-2256		Kit, Seal, Motor	36.	13-7237	1	Weld, Drive, Left, Quick Core
6.	03-1931	4	Bushing, Split, 3/4	37.	13-7241	4	Weld, Stand, Quick Core
7.	03-1967-6	2	Assembly, Tube, Brush Head, Dimension A, 6	38.	13-7245	1	Weld, Hood, 6, Quick Core
	03-1967-7	2	Assembly, Tube, Brush Head, 40-3/4, ORFS, 7		13-7477	1	Weld, Hood, 7, Quick Core
8.	03-2030	2	Fitting, Elbow, HP, 45, 7/8 MOR-5/8 MFS	39.	13-7255	1	Weld, Mounting, Motor, Left, Quick Core
9.	03-2216	2	Fitting, Elbow, HP, 90, 3/4 MFS-3/4 MFS	40.	13-7360	1	Plate, Mounting, Bearing, Quick Core
10.	03-2758	2	Hose, 5/8 x 24.25, 2 Wire, 5/8-90 FFS-5/8 FFS	41.	13-7361	1	Weld, Core, 6, S32, Quick Core
11.	07-0016	4	Screw, Cap, 5/16-18 x 1	42.	13-7452	2	Plate, Retainer, 1/2, Quick Core
12.	07-0034	5	Screw, Cap, 7/16-20 x 1	43.	50-0004	1	Label, Plate, Serial Number
13.	07-0042	4	Screw, Cap, 1/2-13 x 1-1/2	44.	50-0014-1	1	Label, Caution, Read Manual
14.	07-0167	4	Washer, Lock, Split, 5/16	45.	50-0014-2	1	Label, Warning, Running Sweeper
15.	07-0169	5	Washer, Lock, Split, 7/16	46.	50-0721	2	Label, Warning Crush Hazard
16.	07-0170	4	Washer, Lock, Split, 1/2	47.	50-0184	2	Label, Small, White, SWEEPSTER
17.	07-0210	3	Clip, Hairpin, 14 gauge x 1-3/4	48.	50-0252	1	Label, Logo, Large, White, Die Cut
18.	07-0216	1	Spring, Tension, 1.87 x 10.31	49.	07-3508	4	Bolt, Carriage, 5/16-18
19.	07-0249	1	Chain, 1/4, 26 Links	50.	07-3509	4	Nut, Hex, 5/16-18
20.	07-1125	4	Screw, Cap, 1/2-13 x 2	51.	07-3510	4	Washer, Lock, Split, 5/16
21.	07-1558	1	Chain, 1/4, 21 Links	52.	07-3511	4	Washer, Flat, 5/16
22.	07-1675	4	Rivet, Pop, 1/8 x 1/4, Alum	53.	13-7560	1	Clip, Retainer, Quick Core, Right
23.	07-1717	2	Bolt, Carriage, 3/8-16 x 1-1/4	54.	07-0699	1	Pin, Cotter, 1/8 x 1-1/4
24.	07-1718	2	Washer, Lock, Split, 3/8				
25.	07-1719	2	Nut, Hex, 3/8-16				
26.	07-1732	1	Shackle, Chain, 5/16, Round Pin				
27.	07-1762	4	Washer, Lock, 1/2				
28.	07-1764	4	Nut, Hex, 1/2-13				

Brush Head Assemblies

S32 – Quick Change Core

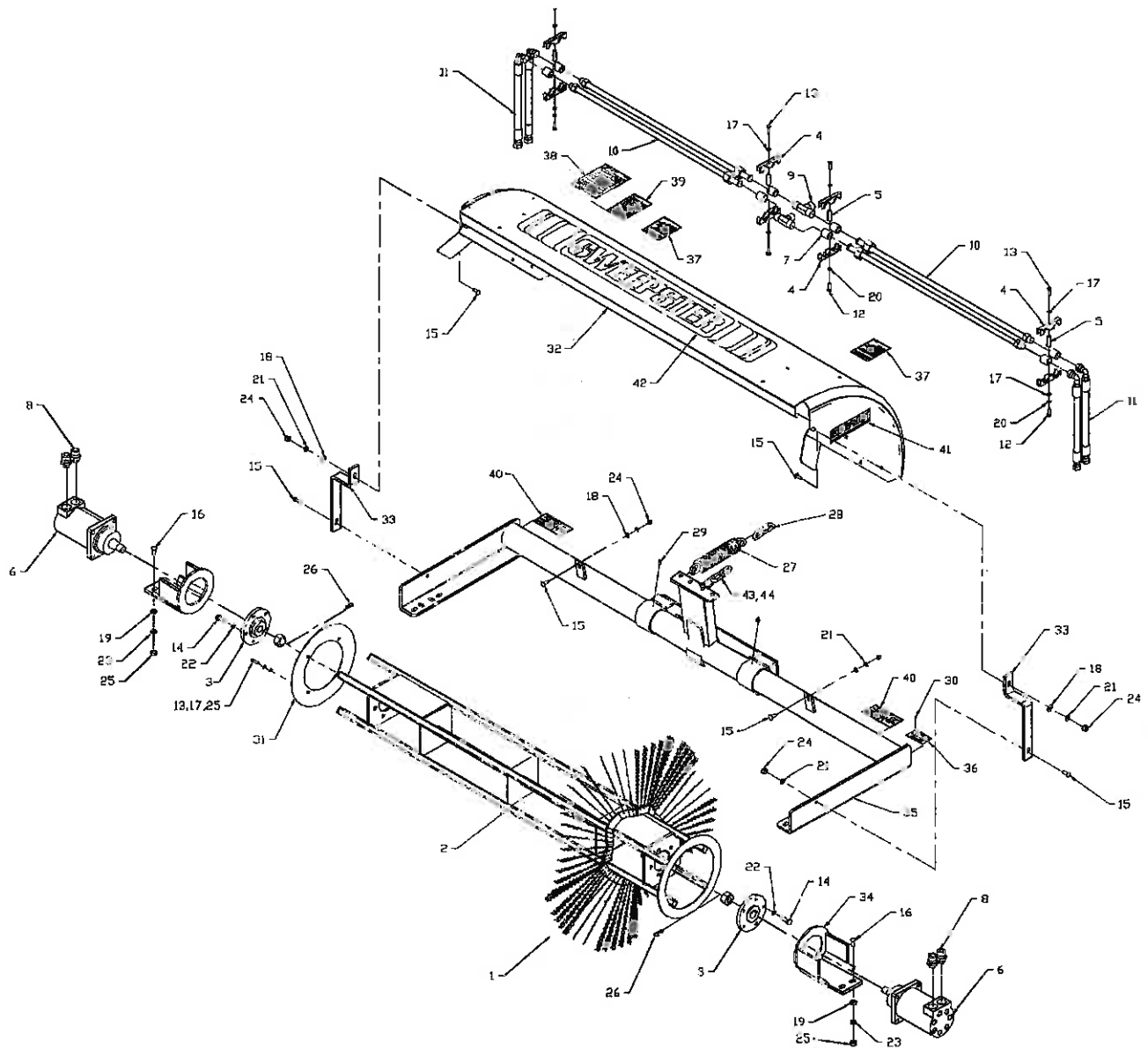


Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description
1.	01-0272C	1	Set, Section, Poly, 5	18.	07-0154	4	Washer, Flat, 3/8
	01-0020C	1	Set, Section, Poly, 6	19.	07-3120	4	Washer, Flat, 5/8
	01-0079C	1	Set, Section, Poly, 7	20.	07-3273	12	Washer, Lock, Split, 5/16
	01-0080C	1	Set, Section, Poly, 8	21.	07-0168	6	Washer, Lock, Split, 3/8
	01-0273C	1	Set, Section, Wire, 5	22.	07-0169	10	Washer, Lock, Split, 7/16
	01-0021C	1	Set, Section, Wire, 6	23.	07-1872	4	Washer, Lock, Split, 5/8
	01-0083C	1	Set, Section, Wire, 7	24.	07-3654	6	Nut, Hex, 3/8-16
	01-0084C	1	Set, Section, Wire, 8	25.	07-1294	4	Nut, Hex, 5/8-11
	01-0274C	1	Set, Section, Combination, 5	26.	07-0210	2	Clip, Hairpin, 14 gauge x 1-3/4
	01-0022C	1	Set, Section, Combination, 6	27.	07-0216	1	Spring, Tension, 1.87 x 10.31
	01-0081C	1	Set, Section, Combination, 7	28.	07-1558	1	Chain, 1/4, 18 Links
	01-0082C	1	Set, Section, Combination, 8	29.	07-2681	2	Fitting, Zerk, Drive-In, 1/4
	01-0002C	27	Section, 32, Poly, 9 (for Combination)	30.	07-3624	4	Tack, Metal
	01-0006C	26	Section, 32, Wire, 9 (for Combination)	31.	11-1149	1	Ring, End, with Holes
2.	01-0277	1	Weld, Core, Section, 5, D32	32.	11-1430	1	Weld, Hood, 5
	01-0287	1	Weld, Core, 6, D32		11-1608	1	Weld, Hood, 6
	01-0250	1	Weld, Core, Section, 7, D32		11-1806	1	Weld, Hood, 7
	01-0426	1	Weld, Core, 8, D32		11-1664	1	Weld, Hood, 8
3.	03-0400	2	Hub, Taper	33.	11-1606	2	Bracket, Hood, with Bend
4.	03-0784	8	Clamp, Hydraulic, Metal, 2 Position	34.	11-1837	2	Weld, Mounting, Motor
5.	03-0788	4	Nut, Stack, Socket Head	35.	11-1934	1	Weld, Frame, Brush, 5
6.	03-1826	2	Motor, TRW		11-1605	1	Weld, Frame, Brush, 6
	05-0719		Key, Woodruff		11-1868	1	Weld, Frame, Brush, 7
	07-2256		Kit, Seal, Motor		11-1665	1	Weld, Frame, Brush, 8
7.	03-1931	8	Bushing, Split, 3/4		11-2874	1	Weld, Frame, Brush, 9
8.	03-1939	4	Fitting, Adapter, HP, 7/8 MOR-5/8 MFS		11-1621	1	Weld, Frame, Brush, 10
9.	03-1940	2	Fitting, Tee, HP, 3/4 MFS-3/4 MFS		13-3705	1	Frame, 12, Brush Head
10.	03-1967-5	4	Assembly, Tube, Brush Head, 29-1/4, 5, ORFS	36.	50-0004	2	Label, Plate, Serial Number
	03-1967-6	4	Assembly, Tube, Brush Head, Dimension A, 6, ORFS	37.	50-0013-1	1	Label, Danger, Falling Sweeper/Loader
	03-1967-7	4	Assembly, Tube, Brush Head, 40-3/4, 7, ORFS	38.	50-0014-1	1	Label, Caution, Read Manual
	03-1967-8	4	Assembly, Tube, Brush Head, 47-1/4, 8, ORFS	39.	50-0014-2	1	Label, Warning, Running Sweeper
11.	03-1968	4	Hose, 5/8 x 16.125, 2 W, 5/8 FFS-5/8 FFS 90	40.	50-0721	2	Label, Warning Crush Hazard
12.	07-0013	4	Screw, Cap, 5/16 x 3/4	41.	50-0184	2	Label, Small, White, SWEEPSTER
13.	07-1714	8	Screw, Cap, 5/16-18 x 1	42.	50-0252	1	Label, Logo, Large, White, Die Cut
14.	07-0034	10	Screw, Cap, 7/16-20 x 1	43.	07-2032	1	Clevis, Double Link, 9/32
15.	07-1717	6	Bolt, Carriage, 3/8-16 x 1-1/4	44.	07-0249	1	Chain, 1/4, 22 Links
16.	07-0119	4	Bolt, Carriage, 5/8 x 1-3/4				
17.	07-0153	4	Washer, Flat, 5/16				

Brush Head Assemblies

D32 – Standard Core

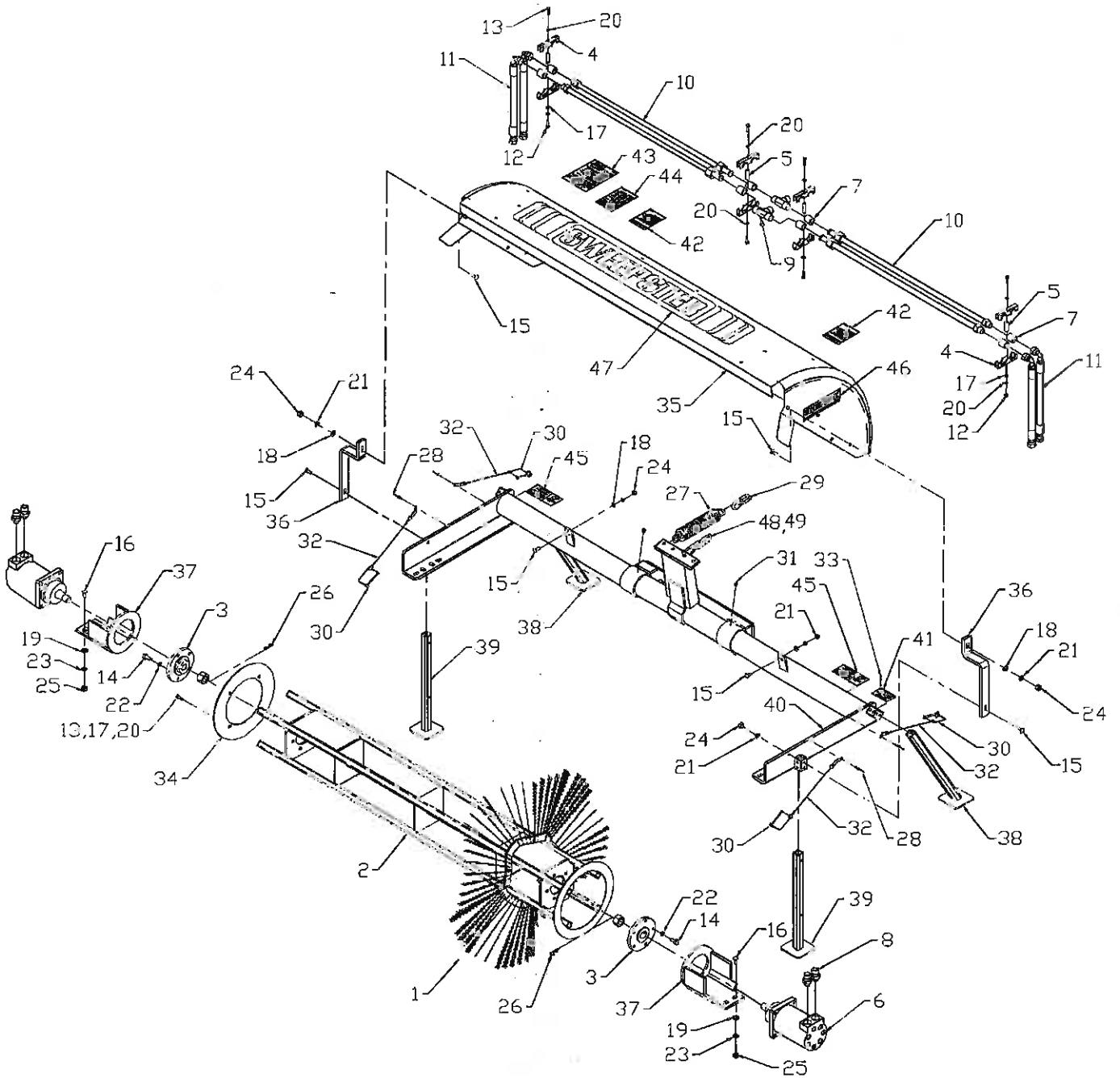


Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description
1.	01-0272C	1	Set, Section, Poly, 5	18.	07-0154	4	Washer, Flat, 3/8
	01-0020C	1	Set, Section, Poly, 6	19.	07-3120	4	Washer, Flat, 5/8
	01-0079C	1	Set, Section, Poly, 7	20.	07-3273	12	Washer, Lock, Split, 5/16
	01-0080C	1	Set, Section, Poly, 8	21.	07-0168	6	Washer, Lock, Split, 3/8
	01-0273C	1	Set, Section, Wire, 5	22.	07-0169	10	Washer, Lock, Split, 7/16
	01-0021C	1	Set, Section, Wire, 6	23.	07-1872	4	Washer, Lock, Split, 5/8
	01-0083C	1	Set, Section, Wire, 7	24.	07-3654	6	Nut, Hex, 3/8-16
	01-0084C	1	Set, Section, Wire, 8	25.	07-1294	4	Nut, Hex, 5/8-11
	01-0274C	1	Set, Section, Combination, 5	26.	07-0210	2	Clip, Hairpin, 14 gauge x 1-3/4
	01-0022C	1	Set, Section, Combination, 6	27.	07-0216	1	Spring, Tension, 1.87 x 10.31
	01-0081C	1	Set, Section, Combination, 7	28.	07-1075	4	Rivet, Pop, 3/16 x 3/4
	01-0082C	1	Set, Section, Combination, 8	29.	07-1558	1	Chain, 1/4, 18 Links
	01-0002C	27	Section, 32, Poly, 9 (for Combination)	30.	07-1607	4	Pin, Lock, 5/16, Square Bail
	01-0006C	26	Section, 32, Wire, 9 (for Combination)	31.	07-2681	2	Fitting, Zerk, Drive-In, 1/4
2.	01-0277	1	Weld, Core, Section, 5, D32	32.	07-3011	4	Lanyard, 1/16, Cable, 1-1/4 Tab x 6
	01-0287	1	Weld, Core, 6, D32	33.	07-3624	4	Tack, Metal
	01-0250	1	Weld, Core, Section, 7, D32	34.	11-1149	1	Ring, End, with Holes
	01-0426	1	Weld, Core, 8, D32	35.	11-1430	1	Weld, Hood, 5
3.	03-0400	2	Hub, Taper		11-1608	1	Weld, Hood, 6
4.	03-0784	8	Clamp, Hydraulic, Metal, 2 Position		11-1806	1	Weld, Hood, 7
5.	03-0788	4	Nut, Stack, Socket Head		11-1664	1	Weld, Hood, 8
6.	03-1826	2	Motor, TRW	36.	11-1606	2	Bracket, Hood, with Bend
	05-0719		Key, Woodruff	37.	11-1837	2	Weld, Mounting, Motor
	07-2256		Kit, Seal, Motor	38.	13-0798	2	Weld, Leg, Rear
7.	03-1931	8	Bushing, Split, 3/4	39.	13-0799	2	Weld, Leg, Front
8.	03-1939	4	Fitting, Adapter, HP, 7/8 MOR-5/8 MFS	40.	13-4771	1	Weld, Frame, Brush, 5, with Stand Tubes
9.	03-1940	2	Fitting, Tee, HP, 3/4 MFS-3/4 MFS		13-7181	1	Weld, Frame, Brush, 6, with Stand Tubes
10.	03-1967-5	4	Assembly, Tube, Brush Head, 29-1/4, 5, ORFS		13-7039	1	Weld, Frame, Brush, 7, with Stand Tubes
	03-1967-6	4	Assembly, Tube, Brush Head, Dimension A, 6, ORFS		13-4803	1	Weld, Frame, Brush, 8, with Stand Tubes
	03-1967-7	4	Assembly, Tube, Brush Head, 40-3/4, 7, ORFS	41.	50-0004	1	Label, Plate, Serial Number
	03-1967-8	4	Assembly, Tube, Brush Head, 47-1/4, 8, ORFS	42.	50-0013-1	2	Label, Danger, Falling Sweeper/Loader
11.	03-1968	4	Hose, 5/8 x 16.125, 2W, 5/8 FFS-5/8 FFS 90	43.	50-0014-1	1	Label, Caution, Read Manual
12.	07-0013	4	Screw, Cap, 5/16 x 3/4	44.	50-0014-2	1	Label, Warning, Running Sweeper
13.	07-1714	8	Screw, Cap, 5/16-18 x 1	45.	50-0721	2	Label, Warning Crush Hazard
14.	07-0034	10	Screw, Cap, 7/16-20 x 1	46.	50-0184	2	Label, Small, White, SWEEPSTER
15.	07-1717	6	Bolt, Carriage, 3/8-16 x 1-1/4	47.	50-0252	1	Label, Logo, Large, White, Die Cut
16.	07-0119	4	Bolt, Carriage, 5/8 x 1-3/4	48.	07-2032	1	Clevis, Double Link, 9/32
17.	07-0153	4	Washer, Flat, 5/16	49.	07-0249	1	Chain, 1/4, 22 Links

Brush Head Assemblies

D32 with Stands – Standard Core

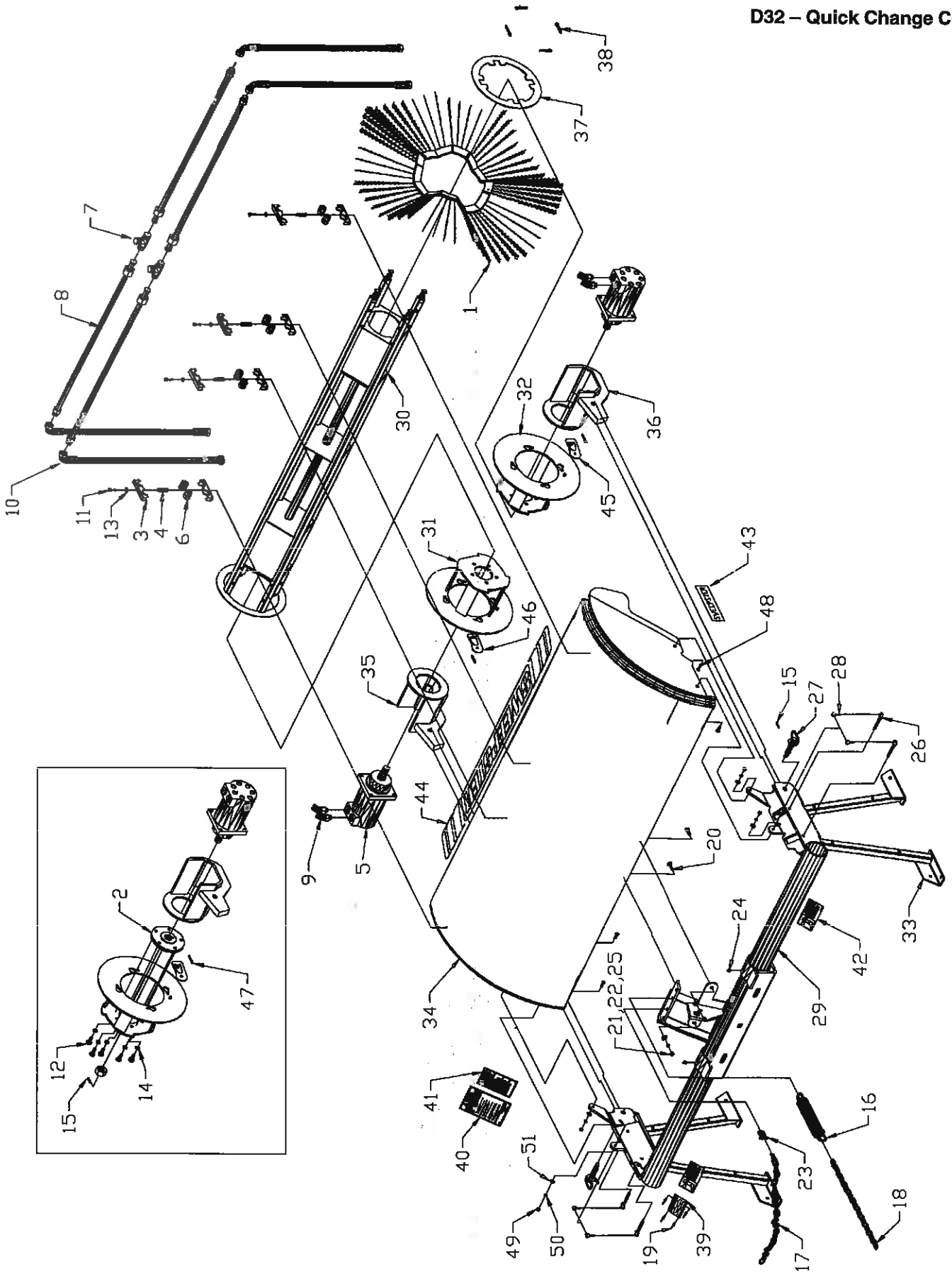


Brush Head Assemblies

Item	Part	Qty	Description	Item	Part	Qty	Description
1.	01-0020C	1	Set, Section, Poly, 6 ft	21.	07-1718	2	Washer, Lock, Split, 3/8
	01-0079C	1	Set, Section, Poly, 7 ft	22.	07-1719	2	Nut, Hex, 3/8-16
	01-0080C	1	Set, Section, Poly, 8 ft	23.	07-1732	1	Shackle, Chain, 5/16, w/Screw Pin
	01-0530C	1	Set, Section, Poly, 9 ft	24.	07-2681	2	Fitting, Zerk, Drive-In, 1/4
	01-0021C	1	Set, Section, Wire, 6 ft	25.	07-3279	2	Washer, Flat, 3/8
	01-0083C	1	Set, Section, Wire, 7 ft	26.	07-3373	4	Pin, Quick Release, .375 x 2.1
	01-0084C	1	Set, Section, Wire, 8 ft	27.	07-3374	2	Pin, Latch, .75 x 1.5
	01-0531C	1	Set, Section, Wire, 9 ft	28.	07-3375	4	Lanyard, 1/16 Cable, 1-1/4, Tab, 8, Type
	01-0022C	1	Set, Section, Combination, 6 ft	29.	13-7189	1	Weld, Frame, Brush, 6, Quick Core
	01-0081C	1	Set, Section, Combination, 7 ft		13-7478	1	Weld, Frame, Brush, 7, Quick Core
	01-0082C	1	Set, Section, Combination, 8 ft		13-7571	1	Weld, Frame, Brush, 8, Quick Core
	01-0532	1	Set, Section, Combination, 9 ft		13-7465	1	Weld, Frame, Brush, 9, Quick Core
2.	03-0400	2	Hub, Taper	30.	13-7666	1	Weld, Core, 6, D32, Quick Core, Rev
3.	03-0784	8	Clamp, Hydraulic, Metal, 2 Position		13-7667	1	Weld, Core, 7, D32, Quick Core, Rev
4.	03-0788	4	Nut, Stake		13-7668	1	Weld, Core, 8, D32, Quick Core, Rev
5.	03-1826	2	Motor, TRW		13-7669	1	Weld, Core, 9, D32, Quick Core, Rev
	05-0719		Key, Woodruff	31.	13-7237	1	Weld, Drive, Left, Quick Core
	07-2256		Kit, Seal, Motor	32.	13-7238	1	Weld, Drive, Right, Quick Core
6.	03-1931	8	Bushing, Split, 3/4	33.	13-7241	4	Weld, Stand, Quick Core
7.	03-1940	2	Fitting, Tee, HP, 3/4 MFS, 3/4 MFS	34.	13-7245	1	Weld, Hood, 6, Quick Core
8.	03-1967-6	4	Assembly, Tube, Brush Head, Dimension A, 6, ORFS, Dual Motor		13-7477	1	Weld, Hood, 7, D32, Quick Core
	03-19677	4	Assembly, Tube, Brush Head, 40-3/4, 7, ORFS, Dual Motor		13-7514	1	Weld, Hood, 8, D32, Quick Core
	03-1967-8	4	Assembly, Tube, Brush Head, 47-1/4, 8, ORFS, Dual Motor		13-7464	1	Weld, Hood, 9, D32, Quick Core
	03-1967-9	4	Assembly, Tube, Brush Head, 52-3/4, 9, ORFS, Dual Motor	35.	13-7255	1	Weld, Mounting, Motor, Left, Quick Core
9.	03-2030	4	Fitting, Elbow, HP, 45, 7/8 MOR-5/8 MFS	36.	13-7256	1	Weld, Mounting, Motor, Right, Quick Core
10.	03-2758	4	Hose, 5/8 x 24.25, 2 Wire, 5/8 90 FFS-5/8 FFS	37.	13-7664	1	Plate, Retainer, Quick Core
11.	07-0016	8	Screw, Cap, 5/16-18 x 1	38.	07-3603	4	Pin, Cotter, 1/4 x 1-1/2
12.	07-0034	10	Screw, Cap, 7/16-20 x 1	39.	50-0004	1	Label, Plate, Serial Number, Alum
13.	07-0167	8	Washer, Lock, Split, 5/16	40.	50-0014-1	1	Label, Caution, Read Manual
14.	07-0169	10	Washer, Lock, Split, 7/16	41.	50-0014-2	1	Label, Warning, Running Sweeper
15.	07-0210	4	Clip, Hairpin, 14 gauge x 1-3/4	42.	50-0721	2	Label, Warning Crush Hazard
16.	07-0216	1	Spring, Tension, 1.87 x 10.31	43.	50-0184	2	Label, Small, White, SWEEPSTER
17.	07-0249	1	Chain, 1/4, 26 Links	44.	50-0252	1	Label, Logo, Large, White, Die Cut
18.	07-1558	1	Chain, 1/4, 21 Links	45.	13-7559	1	Clip, Retainer, Quick Core, Left
19.	07-1675	4	Rivet, Pop, 1/8 x 1/4	46.	13-7560	1	Clip, Retainer, Quick Core, Right
20.	07-1717	2	Boit, Carriage, 3/8-16 x 1-1/4	47.	07-0699	2	Pin, Cotter, 1/8 x 1-1/4
				48.	07-3508	4	Bolt, Carriage, 5/16-18 x 1-1/4
				49.	07-3509	4	Nut, Hex, 5/16-18
				50.	07-3510	4	Washer, Lock, Split, 5/16, High Alloy
				51.	07-3511	4	Washer, Flat, 5/16

Brush Head Assemblies

D32 – Quick Change Core

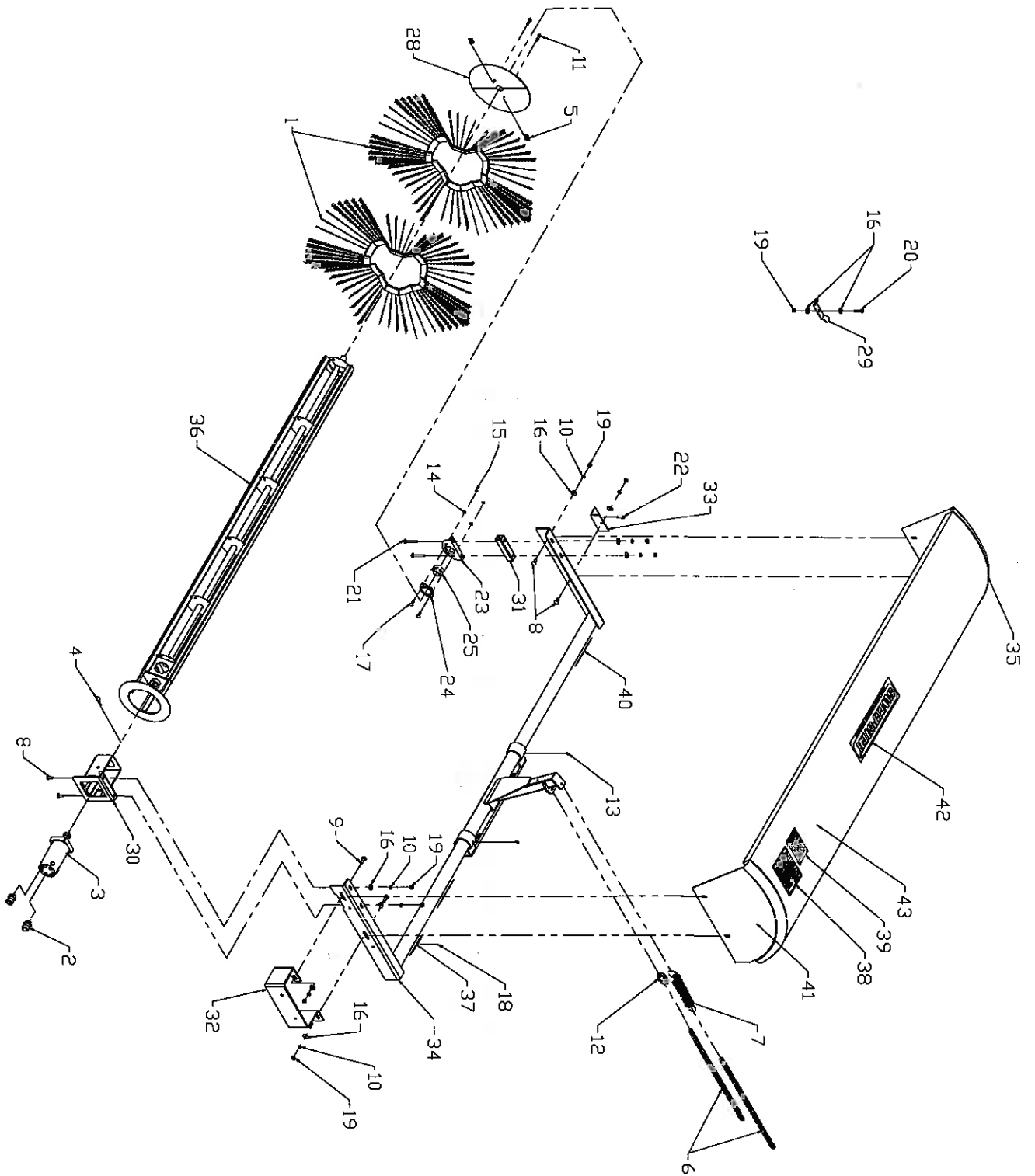


Brush Head Assemblies

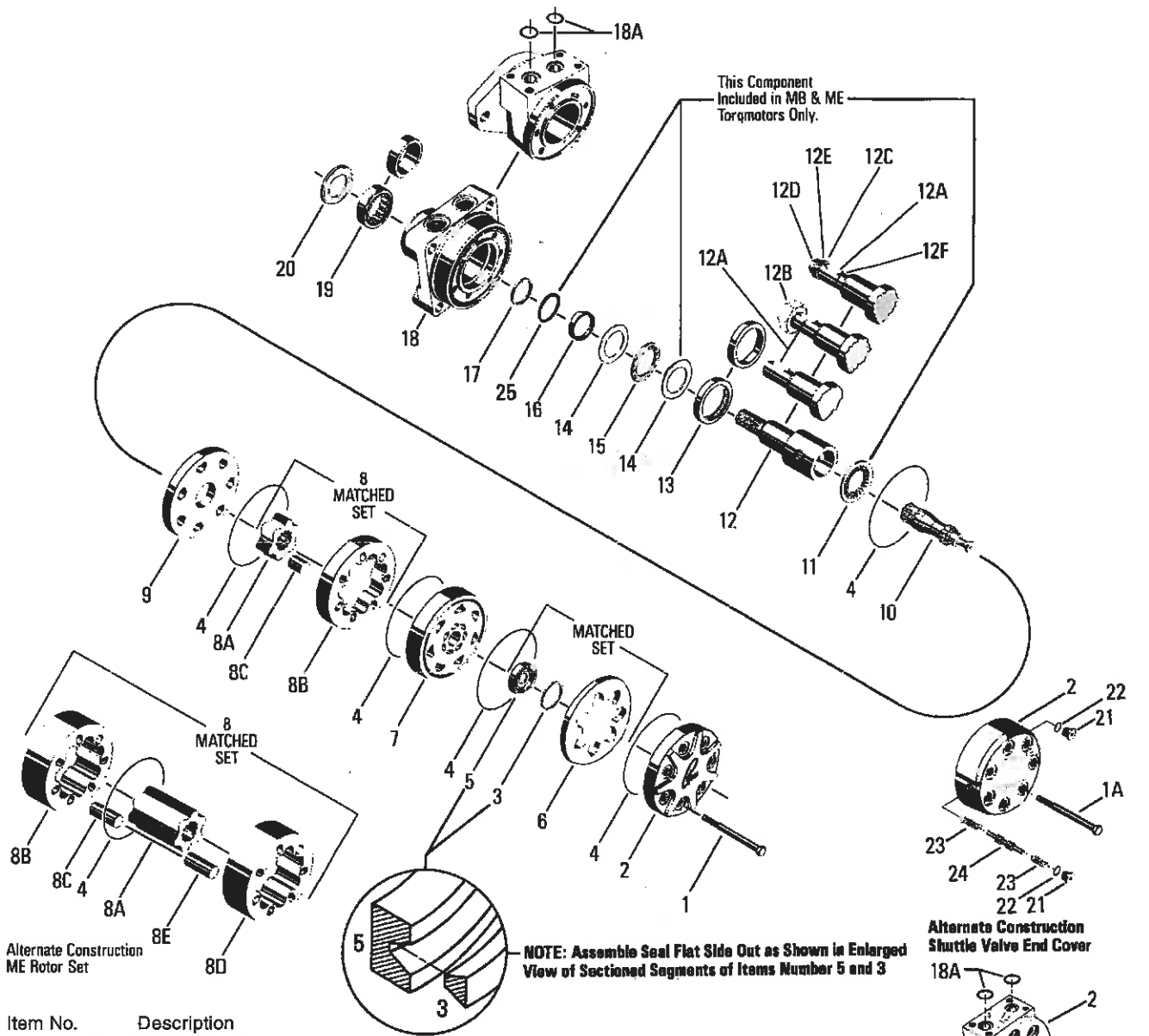
Item	Part	Qty	Description
1.	01-0506C	24	Section, 30, 6 3/8, Poly, Convoluted (7 Foot Combination)
	01-0507C	23	Section, 30, 6 3/8, Wire, Convoluted (7 Foot Combination)
	01-0506C	21	Section, 30, 6 3/8, Poly, Convoluted (6 Foot Combination)
	01-0507C	19	Section, 30, 6 3/8, Wire, Convoluted (6 Foot Combination)
	01-0506C	17	Section, 30, 6 3/8, Poly, Convoluted (5 Foot Combination)
	01-0507C	16	Section, 30, 6 3/8, Wire, Convoluted (5 Foot Combination)
2.	03-2148	2	Fitting, Adapter, HP, 3/4MFS, 3/4MOR
3.	03-2743	1	Motor, Hydraulic, 12/15, 1 in, Left
4.	07-0210	1	Clip, Hairpin, 14 Gauge x 1 3/4
5.	07-0240	2	Nut, Lock, Stamped, 5/16-18
6.	07-0249	2	Chain, 1/4 x 22 Links
7.	07-1602	1	Spring, 1 3/4 x 6 1/2
8.	07-1716	4	Bolt, Carriage, 3/8-16 x 1
9.	07-1717	2	Bolt, Carriage, 3/8-16 x 1 1/4
10.	07-1718	9	Washer, Lock, Split, 3/8
11.	07-1973	2	Screw, Cap, 5/16-18 x 1 1/4
12.	07-2032	1	Clevis, Double Link, 9/32
13.	07-3112	2	Fitting, Zerk, 1/4-29, Self Tap
14.	07-3273	2	Washer, Lock, Split, 5/16
15.	07-3278	2	Nut, Hex, 5/16-18
16.	07-3279	10	Washer, Flat, 3/8
17.	07-3436	2	Screw, Cap, 5/16-18 x 3/4
18.	07-3624	4	Tack, Metal, 31 Series
19.	07-3654	9	Nut, Hex, 3/8-16
20.	07-3655	1	Screw, Cap, 3/8-16 x 1 1/2
21.	07-3704	2	Bolt, Carriage, 3/8-16 x 2 1/2
22.	07-4262	1	Bolt, Lag, 5/16 x 1 1/2
23.	08-0003	1	Flange, Bearing, PBS Only
24.	08-0005	1	Flange, Bearing, 2 Hole
25.	08-0006	1	Bearing, 1 Round, W/Collar Only
28.	11-1804	1	Plate, Retainer, Section, Set
29.	11-1929	1	Bracket, Hose, Metal, Hood
30.	13-3352	1	Weld, Mounting, Motor
31.	13-3353	1	Tube, Square, Spacer
32.	13-3364	1	Weld, Shield, Motor, Brush
33.	13-3427	1	Plate, 10 Gauge x 3 x 4, Bent, W/Hole
34.	13-7860	1	Weld, Frame, Brush, S30, 7 Foot
	13-8331	1	Weld, Frame, Brush, S30, 6 Foot
	13-7704	1	Weld, Frame, Brush, S30, 5 Foot
35.	13-7862	1	Weld, Hood, S30, 7 Foot
	13-8330	1	Weld, Hood, S30, 6 Foot
	13-7709	1	Weld, Hood, S30, 5 Foot
36.	13-7865	1	Weld, Core, 84
	13-3349	1	Weld, Core, 72
	13-3348	1	Weld, Core, 60
37.	50-0004	1	Label, Plate, Serial Number
38.	50-0014-1	1	Label, Caution, Read Manual
39.	50-0014-2	1	Label, Warning, Running, Sweeper
40.	50-0721	2	Label, Warning Crush Hazard
41.	50-0184	2	Label, Logo, Sweepster
42.	50-0185	1	Label, Logo, Sweepster
43.	50-0725	1	Label, Warning, High Pressure Fluid Hazard

Brush Head Assemblies

S30 – Standard Core



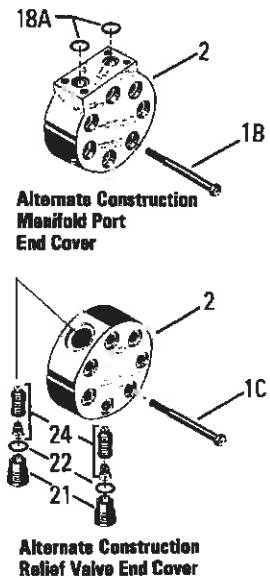
Torqmotor™ Exploded Assembly View—Typical



- | Item No. | Description |
|----------|------------------------|
| 1. | Special Bolts (5 or 7) |
| 1A. | Special Bolts (7) |
| 1B. | Special Bolts (7) |
| 1C. | Special Bolts (7) |
| 2. | End Cover |
| 3. | Seal Ring-Commutator |
| 4. | Seal (5) |
| 5. | Commutator |
| 6. | Commutator Ring |
| 7. | Manifold |
| 8. | Rotor Set |
| 8A. | Rotor |
| 8B. | Stator or Stator Half |
| 8C. | Vane (7) |
| 8D. | Stator Half |
| 8E. | Vane (7) |
| 9. | Wear Plate |
| 10. | Drive Link |

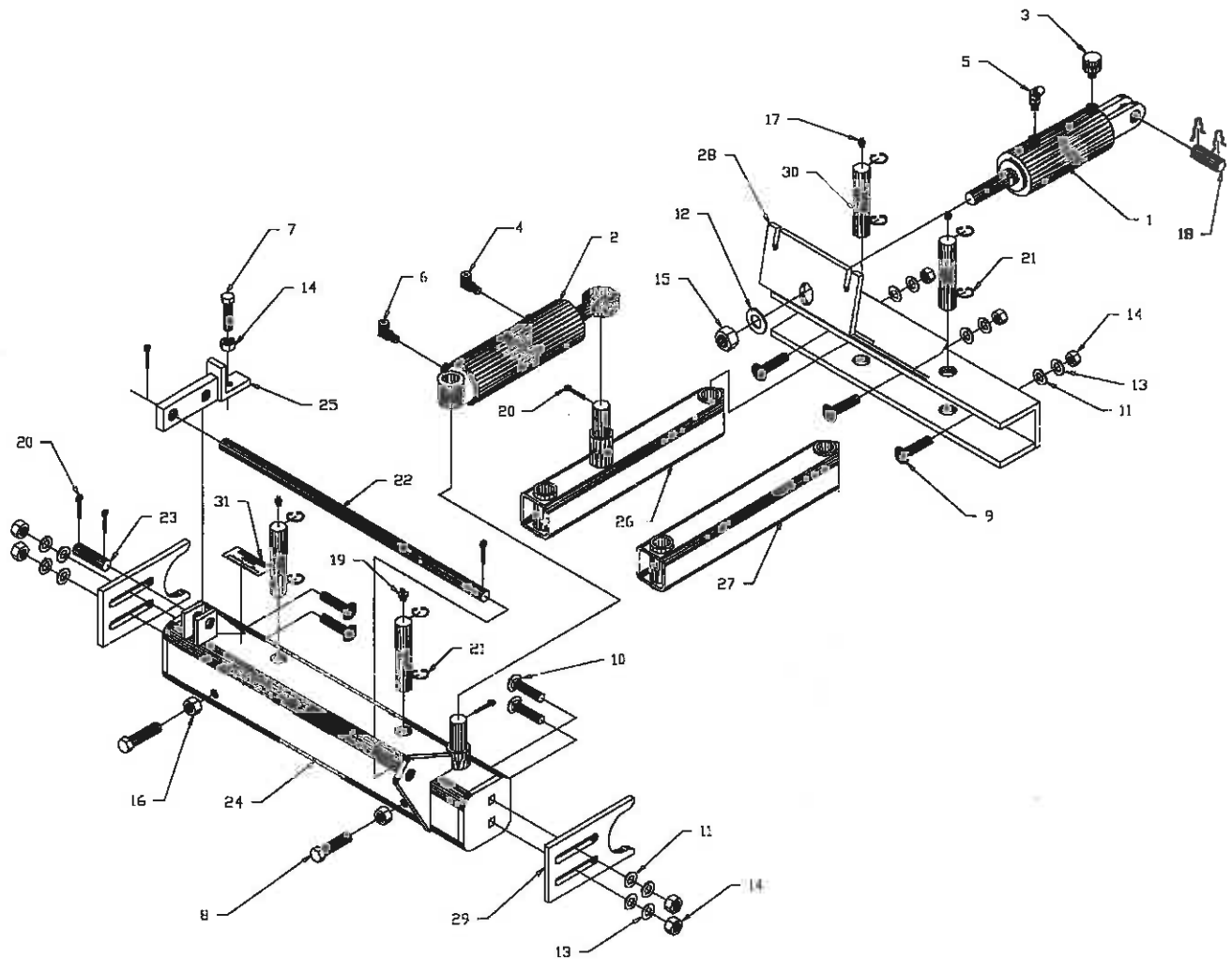
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|------|------------------------|
| 11. | Thrust Bearing |
| 12. | Coupling Shaft |
| 12A. | Key |
| 12B. | Nut |
| 12C. | Washer |
| 12D. | Boit |
| 12E. | Lock washer |
| 12F. | Retaining Ring |
| 13. | Bearing/Bushing, Inner |
| 14. | Thrust Washer |
| 15. | Thrust Bearing |
| 16. | Seal |
| 17. | Backup Washer |

- | | |
|------|---------------------------|
| 18. | Housing |
| 18A. | O-Ring (2) |
| 19. | Bearing/Bushing, Outer |
| 20. | Dirt & Water Seal |
| 21. | Plug (2) |
| 22. | O-Ring (2) |
| 23. | Spring |
| 24. | Valve (Shuttle or Relief) |
| 25. | Backup Washer |



Swing Assemblies

Scissor Swing Assembly 11-0790

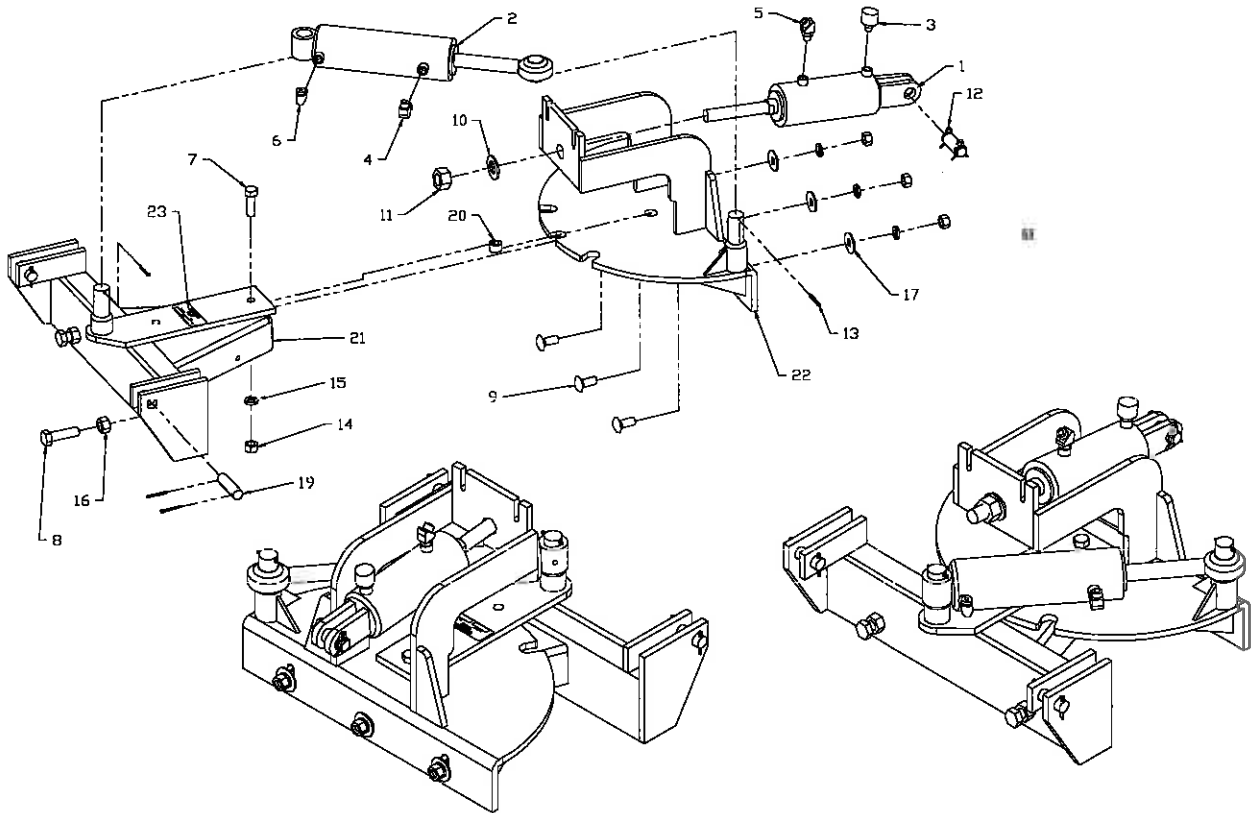


Item	Part	Qty	Description
1.	03-1928	1	Cylinder, Hydraulic, 3-Bore, 4-1/2 Stroke
2.	03-1929	1	Cylinder, Hydraulic, 3-Bore, 7-1/2 Stroke
3.	03-1932	1	Fitting, Plug, Vent, 9/16-18 MOR
4.	03-2092	1	Fitting, Elbow, HP, 90, 9/16 MOR, 3/8 MFS
5.	03-2115	1	Fitting, Elbow, HP, 45, 9/16 MOR, 3/8 MFS
6.	03-2345	1	Fitting, Orifice, .078, Elbow, 90, HP, 9/16 MOR, 3/8 MFS
7.	07-0069	1	Screw, Cap, 5/8-11 x 3
8.	07-0080	2	Screw, Cap, Tap, 3/4-10 x 3
9.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
10.	07-0120	4	Bolt, Carriage, 5/8-11 x 2
11.	07-0158	7	Washer, Flat, 5/8
12.	07-0159	1	Washer, Flat, 1
13.	07-0171	7	Washer, Lock, Split, 5/8
14.	07-0185	8	Nut, Hex, 5/8-11
15.	07-0186	1	Nut, Hex, 1-1/4

Item	Part	Qty	Description
16.	07-0189	2	Nut, Hex, 3/4-10
17.	07-0223	3	Fitting, Zerk, Straight, 1/8 NPT
18.	07-0539	1	Pin, Clevis, 1, w/ Hairpin Clip, Both End
19.	07-0563	1	Fitting, Zerk, 90, NPT
20.	07-0786	6	Pin, Cotter, 3/16 x 1-1/2
21.	07-3842	8	Ring, Snap
22.	11-0023	1	Pin, 7/8 x 27-5/8
23.	11-0459	1	Pin, 7/8 x 3, 2 Holes
24.	11-0789	1	Weld, Frame, Swing, AH, Rear
25.	11-0799	1	Weld, Bracket, Leveling
26.	11-0800	1	Weld, Arm, Swing, AH, w/ Pin
27.	11-0803	1	Weld, Arm, Swing, AH, No Pin
28.	11-1677	1	Weld, Frame, Swing, AH
29.	11-3813	2	Plate, Adjustment, Brush Head, AH
30.	11-3993	4	Pin, 1-1/4 x 6, for Zerk
31.	50-0249	1	Label, Plate, Part Number/Date

Swing Assemblies

Plate Swing for Tractors Assembly 28-4612



Item	Part	Qty	Description
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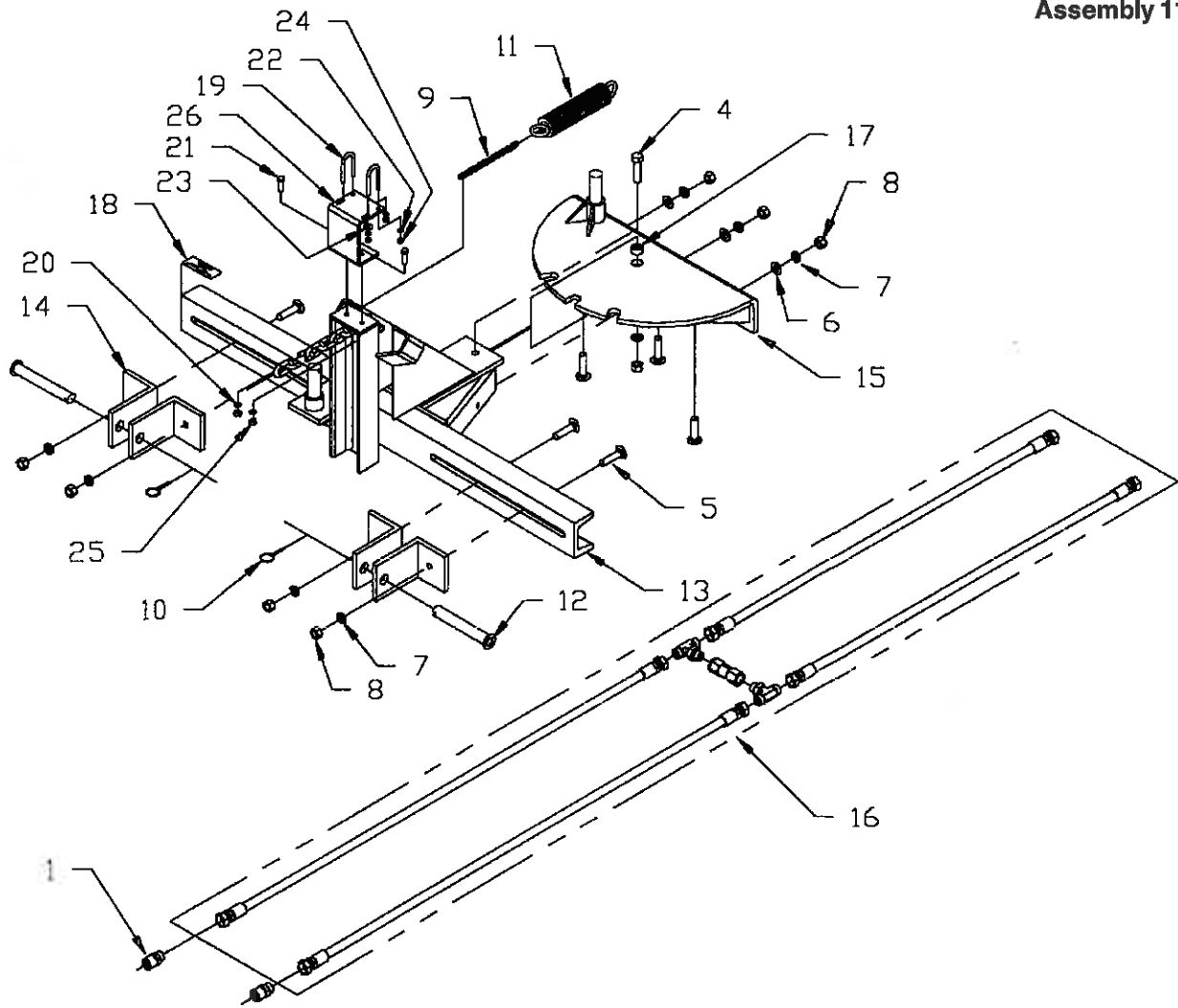
1.	03-1928	1	Cylinder, Hydraulic, 3Bore, 4 1/2 Stroke
2.	03-1929	1	Cylinder, Hydraulic, 3 Bore, 7 1/2 Stroke
3.	03-1932	1	Fitting, Vent, 9/16 MOR, W/Bell Cap
4.	03-2092	1	Fitting, Elbow, HP, 90, 9/16 MOR, 3/8 MFS
5.	03-2115	1	Fitting, Elbow, HP, 45, 9/16 MOR, 3/8 MFS
6.	03-2345	1	Fitting, Orifice, .078, Elbow, 90, HP, 9/16 MOR, 3/8 MFS
7.	07-0066	1	Screw, Cap, 5/8-11 x 2
8.	07-0079	2	Screw, Cap, Tap, 3/4-10 x 2 1/2
9.	07-0118	3	Bolt, Carriage, 5/8-11 x 1 1/2
10.	07-0159	1	Washer, Flat, 1
11.	07-0186	1	Nut, Hex, 1-14

Item	Part	Qty	Description
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12.	07-0539	1	Pin, Clevis, 1, W/Hclip Both Ends
13.	07-0786	6	Pin, Cotter, 3/16 x 1 1/2
14.	07-1294	4	Nut, Hex, 5/8-11
15.	07-1872	4	Washer, Lock, Split, 5/8
16.	07-3066	2	Nut, Hex, 3/4-10
17.	07-3120	3	Washer, Flat, 5/8
19.	11-0459	2	Pin, 7/8 x 3, 2 Holes
20.	11-1854	1	Bushing, 1 x 5/8 x 5/8
21.	13-10476	1	Weld, Swing Frame, CH, 1999
22.	13-10477	1	Weld, Plate, Swing, CH, 1999
23.	50-0249	1	Label, Plate, Part #

Swing Assemblies

**For LH/LCH without Quick Attach Mounting
Assembly 11-4029**



Item	Part	Qty	Description
1.	03-1945	2	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MFS
4.	07-2855	1	Screw, Cap, 5/8 x 2-1/2
5.	07-0119	7	Bolt, Carriage, 5/8 x 1-3/4
6.	07-3120	3	Washer, Flat, 5/8
7.	07-1872	8	Washer, Lock, Split, 5/8
8.	07-1294	8	Nut, Hex, 5/8-11
9.	07-0216	1	Spring, Tension, 1.87 x 10.31
10.	07-0244	2	Pin, Link, #1600
11.	07-1558	1	Chain, 1/4, 18 Links
12.	11-0980	2	Weld, Pin, Mounting, LH
13.	11-1682	1	Weld, Frame, Swing, LH
14.	11-7334	4	Angle, Mounting, LH, w/ Ha, 1/2 x 4 x 6
15.	11-9080	1	Weld, Plate, Swing

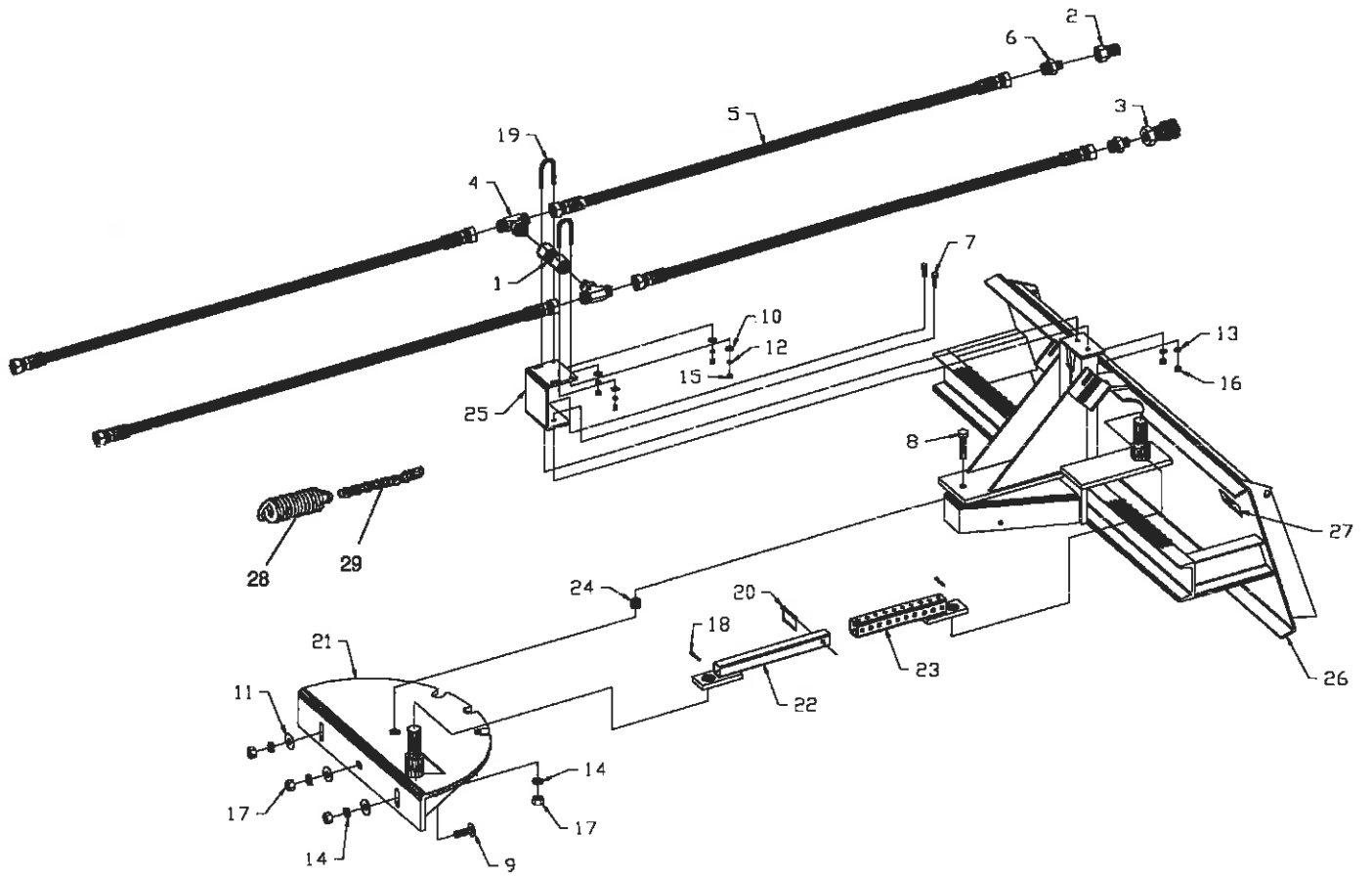
Item	Part	Qty	Description
16.	13-3110	1	Kit, Hose, LH/LCH, No Quick Couplers, ORFS Hoses, Check Valve
17.	13-4657	1	Bushing, 1 x 5/8 x .562
18.	50-0249	1	Label, Plate, Part Number/Date
19.	07-1153	2	Bolt, U, 5/16-18 x 1-3/8 x 2-1/8
20.	07-1718	2	Washer, Lock Split, 3/8
21.	07-2116	2	Screw, Cap, 3/8-16 x 1-1/4
22.	07-3273	4	Washer, Lock, Split, 5/16
23.	07-3275	2	Washer, Flat, 5/16
24.	07-3278	4	Nut, Hex, 5/16-18
25.	07-3654	2	Nut, Hex, 3/8-16
26.	13-7289	1	Plate, Mounting, Check Valve

Swing Assemblies

Item	Part	Qty	Description
1.	03-1816	1	Valve, Check, Inline, 1-1/16, OR
2.	03-1842	1	Fitting, Quick Coupler, M, 1/2 FP
3.	03-1843	1	Fitting, Quick Coupler, F, 1/2 FP
4.	03-1950	2	Fitting, Tee, HP, MB, 3/4 MFS
5.	03-1963	4	Hose, 3/4 x 56, 2 Wire, 3/4 FFS-3/4 FFS
6.	03-2031	2	Fitting, Adapter, HP, 3/4 MFS-1/2 MP
7.	07-0025	2	Screw, Cap, 3/8-16 x 1-1/4
8.	07-0065	1	Screw, Cap, 5/8 x 2-1/2
9.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
10.	07-0153	4	Washer, Flat, 5/16
11.	07-0158	3	Washer, Flat, 5/8
12.	07-0167	4	Washer, Lock, Split, 5/16
13.	07-0168	6	Washer, Lock, Split, 3/8
14.	07-0171	4	Washer, Lock, Split, 5/8
15.	07-0182	4	Nut, Hex, 5/16-18
16.	07-0183	2	Nut, Hex, 3/8-16
17.	07-0185	4	Nut, Hex, 5/8-11
18.	07-0206	2	Pin, Cotter, 3/16 x 2
19.	07-1153	2	Bolt, U, 5/16-18 x 1-3/8 x 2-1/8
20.	07-2105	1	Pin, Lock, 3/8 Square Bail
21.	11-9080	1	Weld, Plate, Swing
22.	13-4199	1	Weld, Link, In, 15-1/4-21-1/4
23.	13-4200	1	Weld, Link, Out, 15-1/4-21-1/4
24.	13-4657	1	Bushing, 1 x 5/8 x .562
25.	13-7289	1	Plate, Mounting, Check Valve
26.	11-3241	1	Weld, Frame, Mounting, LH Swing, 200, Quick Attach
	13-0057	1	Weld, Frame, Mounting, LCH, Quick Attach, Caterpillar 416
	13-0782	1	Weld, Frame, Mounting, LH, Quick Attach, Toyota
	13-0958	1	Weld, Frame, Mounting, Kramer 612
	13-1479	1	Weld, Frame, Mounting, LH, Kubota, Quick Attach
	13-1800	1	Weld, Frame, Mounting, LH, JCB 530B
	13-2128	1	Weld, Frame, Mounting, LH, Quick Attach, Trak 1350
	13-2461	1	Weld, Frame, Mounting, LH, Quick Attach, New Holland 555/775
	13-2468	1	Weld, Frame, Mounting, LH, Quick Attach, Melroe 974
	13-2778	1	Weld, Frame, Mounting, LH, Quick Attach, Prime Mover 1300
	13-2780	1	Weld, Frame, Mounting, LH, Quick Attach, Trak, 6036
	13-2794	1	Weld, Frame, Mounting, LH, Quick Attach, Melroe 943
	13-2795	1	Weld, Frame, Mounting, LH, Quick Attach, Case Coupler 1840, after 7/89
	13-7381	1	Weld, Frame, Mounting, LH, Quick Attach, New Holland, L550/L780
27.	50-0249	1	Label, Plate, Part Number/Date
28.	07-0216	1	Spring, Tension, 1.87 x 10.31
29.	07-1558	1	Chain, 1/4, 21 Links

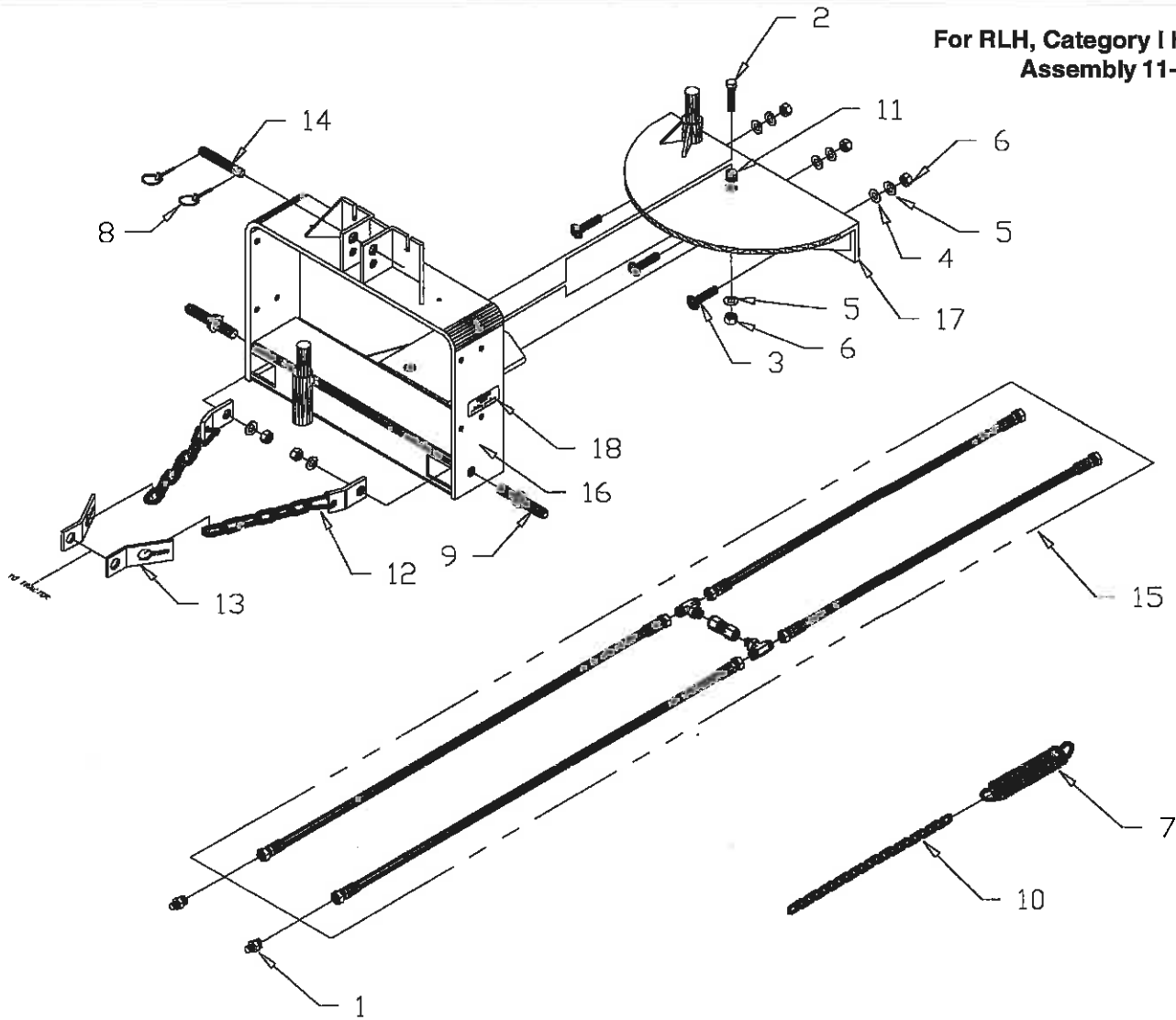
Swing Assemblies

For LH/LCH with Quick Attach Mounting
Assembly 11-5034



Swing Assemblies

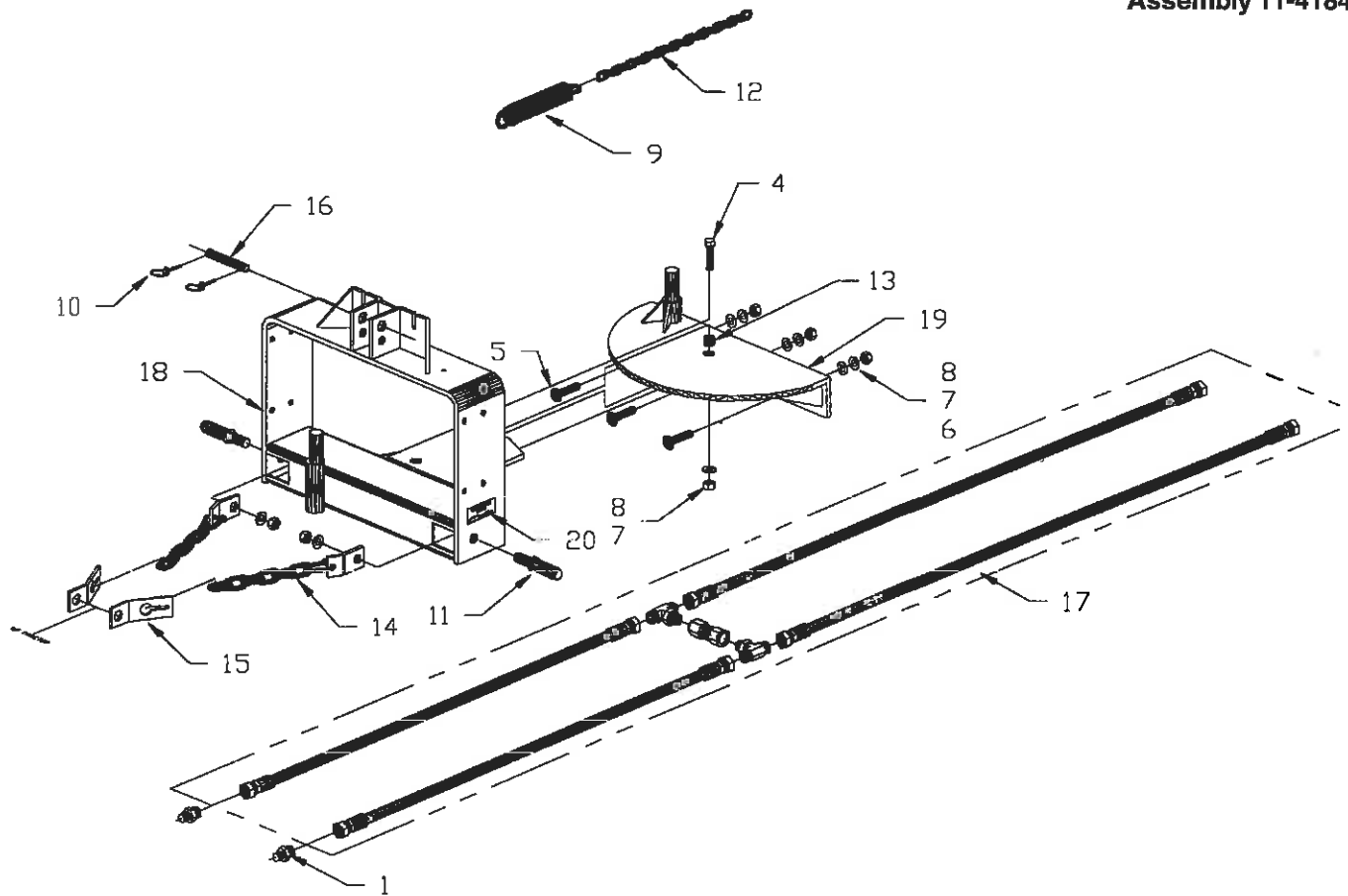
**For RLH, Category I Hitch
Assembly 11-4183**



Item	Part	Qty	Description
1.	03-1943	2	Fitting, Adapter, HP, 3/4 MFS, 3/4 MP
2.	07-0065	1	Screw, Cap, 5/8 x 2-1/2
3.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
4.	07-0158	3	Washer, Flat, 5/8
5.	07-0171	4	Washer, Lock, Split, 5/8
6.	07-0185	4	Nut, Hex, 5/8-11
7.	07-0216	1	Spring, Tension, 1.87 x 10.31
8.	07-0244	2	Pin, Link, #1600
9.	07-0285	2	Pin, Link, Category I
10.	07-1558	1	Chain, 1/4, 18 Links
11.	11-1854	1	Bushing, 1 x 5/8 x 5/8
12.	11-1889	2	Weld, Chain, with Plates
13.	13-0440	2	Bracket, Chain, Toplink, 3-Point
14.	13-2002	1	Pin, Toplink, 3-Point
15.	13-3110	1	Kit, Hose, No Quick Couplers, ORFS Hoses, Check Valve
16.	13-4676	1	Weld, Frame, Swing, RLH
17.	13-4823	1	Weld, Swing, Plate, CV
18.	50-0249	1	Label, Plate, Part Number/Date

Swing Assemblies

**For RLH, Category II Hitch
Assembly 11-4184**



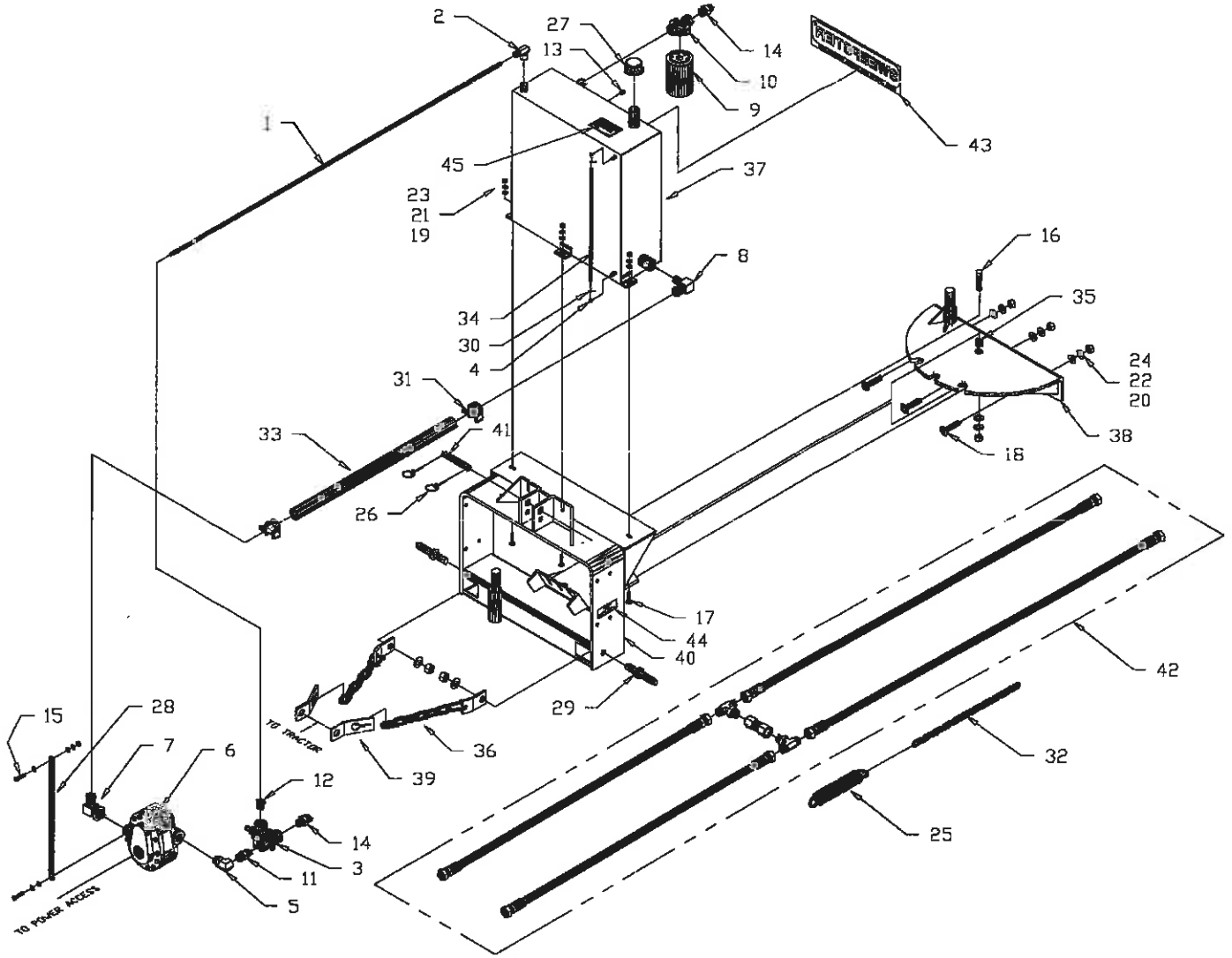
Item	Part	Qty	Description
1.	03-1945	2	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MFS
4.	07-0063	1	Screw, Cap, 5/8-11 x 2
5.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
6.	07-0158	3	Washer, Flat, 5/8
7.	07-0171	4	Washer, Lock, Split, 5/8
8.	07-0185	4	Nut, Hex, 5/8-11
9.	07-0216	1	Spring, Tension, 1.87 x 10.31
10.	07-0244	2	Pin, Link, #1600
11.	07-0688	2	Pin, Category II, Hitch, 7/8
12.	07-1558	1	Chain, 1/4, 18 Links
13.	11-1854	1	Bushing, 1 x 5/8 x 5/8
14.	11-1889	2	Weld, Chain, with Plates
15.	13-0440	1	Bracket, Chain, Toplink, 3-Point
16.	13-2002	1	Pin, Toplink, 3-Point
17.	13-3110	1	Kit, Hose, No Quick Couplers, ORFS Hoses, Check Valve
18.	13-4676	1	Weld, Frame, Swing, RLH
19.	13-4823	1	Weld, Swing, Plate, CV
20.	50-0249	1	Label, Plate, Part Number/Date

Swing Assemblies

Item	Part	Qty	Description
1.	03-0124	1	Hose, 1/2 x 60, 1 Wire, 1/2 MP, 1/2 MP
2.	03-0128	1	Fitting, Elbow, HP, 90, 1/2 MP, 1/2 FPS
3.	03-0129	1	Valve, Relief, 3/4 Ports
4.	03-0454	2	Fitting, Barb, HP, 90, 1/4, 1/8 MP
5.	03-0577	1	Fitting, Elbow, HP, 90, 1-1/16 MOR, 3/4 FP
6.	03-0597	1	Pump, PTO, 20 gpm (RLCH)
	03-0691	1	Pump, PTO, 12 gpm (RLH)
7.	03-0710	1	Fitting, Barb, HP, 90, 1-1/4, 1-5/16 MOR
8.	03-0711	1	Fitting, Barb, HP, 90, 1-1/4, 1 MP
9.	03-0744	1	Filter, Element, 25 M, Spin-On
10.	03-0745	1	Filter, Base, Spin-On
11.	03-1022-10	1	Fitting, Nipple, HP, Hex, 3/4 MP, 3/4 MP
12.	03-1068-9	1	Fitting, Reducer Bushing, HP, 3/4 x 1/2
13.	03-1182-1	1	Fitting, Plug, BP, Square, 1/8
14.	03-1943	2	Fitting, Adapter, HP, 3/4 MFS, 3/4 MP
15.	07-0025	2	Screw, Cap, 3/8-16 x 1-1/4
16.	07-0065	1	Screw, Cap, 5/8 x 2-1/2
17.	07-0114	3	Bolt, Carriage, 3/8-16 x 1-1/4
18.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
19.	07-0154	6	Washer, Flat, 3/8
20.	07-0158	3	Washer, Flat, 5/8
21.	07-0168	5	Washer, Lock, Split, 3/8
22.	07-0171	4	Washer, Lock, Split, 5/8
23.	07-0183	4	Nut, Hex, 3/8-16
24.	07-0185	4	Nut, Hex, 5/8-11
25.	07-0216	1	Spring, Tension, 1.87 x 10.31
26.	07-0244	2	Pin, Link, #1600
27.	07-0245	1	Cap, Breather, Hydraulic Tank
28.	07-0246	2	Chain, 1/4, 13 Links
29.	07-0285	2	Pin, Link, Category I
30.	07-0551	2	Clamp, Spring, 1/4 Hose
31.	07-1192	2	Clamp, T-Bolt, 1-1/4
32.	07-1558	1	Chain, 1/4, 18 Links
33.	09-0020	5 ft	Hose, Suction, 1-1/4, Bulk
34.	09-0054	1.6 ft	Tube, Bulk, Poly, 3/8, 1/4, Sight Gauge
35.	11-1854	1	Bushing, 1 x 5/8 x 5/8
36.	11-1889	2	Weld, Chain, w/ Plates
37.	11-7689	1	Weld, Tank, 3-Point
38.	11-9080	1	Weld, Plate, Swing
39.	13-0440	2	Bracket, Chain, Toplink, 3-Point
40.	13-7910	1	Weld, Frame, Mounting & Swing, RLCH for Hydraulic Tank
	13-0844	1	Weld, Frame, Swing, RLH for Hydraulic Tank
41.	13-2002	1	Pin, Toplink, 3-Point
42.	13-3110	1	Kit, Hose, No Quick Coupler, ORFS Hoses, Check Valve
43.	50-0184	1	Label, Small, White, SWEEPSTER
44.	50-0249	1	Label, Plate, Part Number/Date
45.	50-0272	1	Label, Oil, ISO VG 46

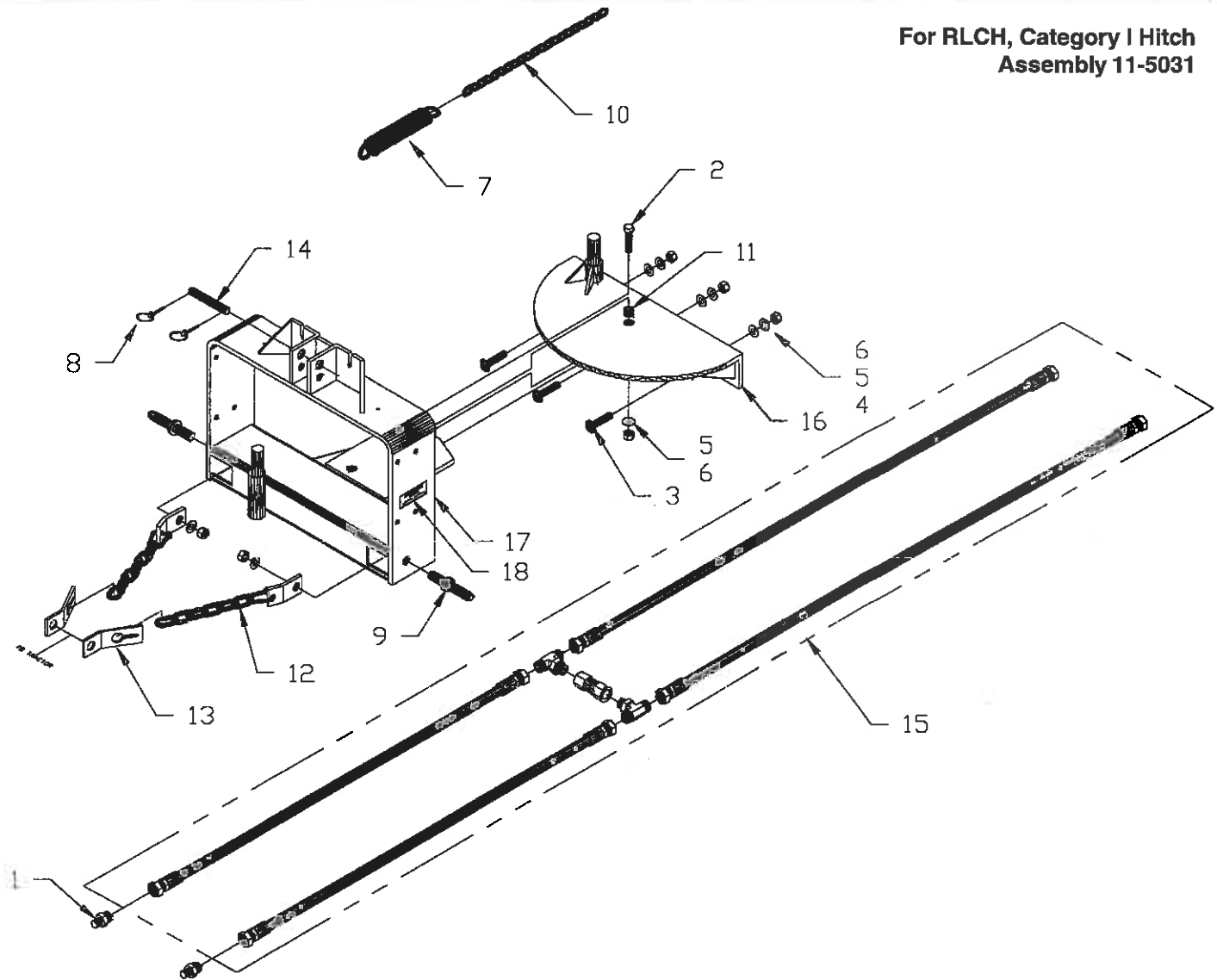
Swing Assemblies

For RLH/RLCH, Category I Hitch
Assemblies 11-4200 (RLH) & 11-4202 (RLCH)
With Power Pack

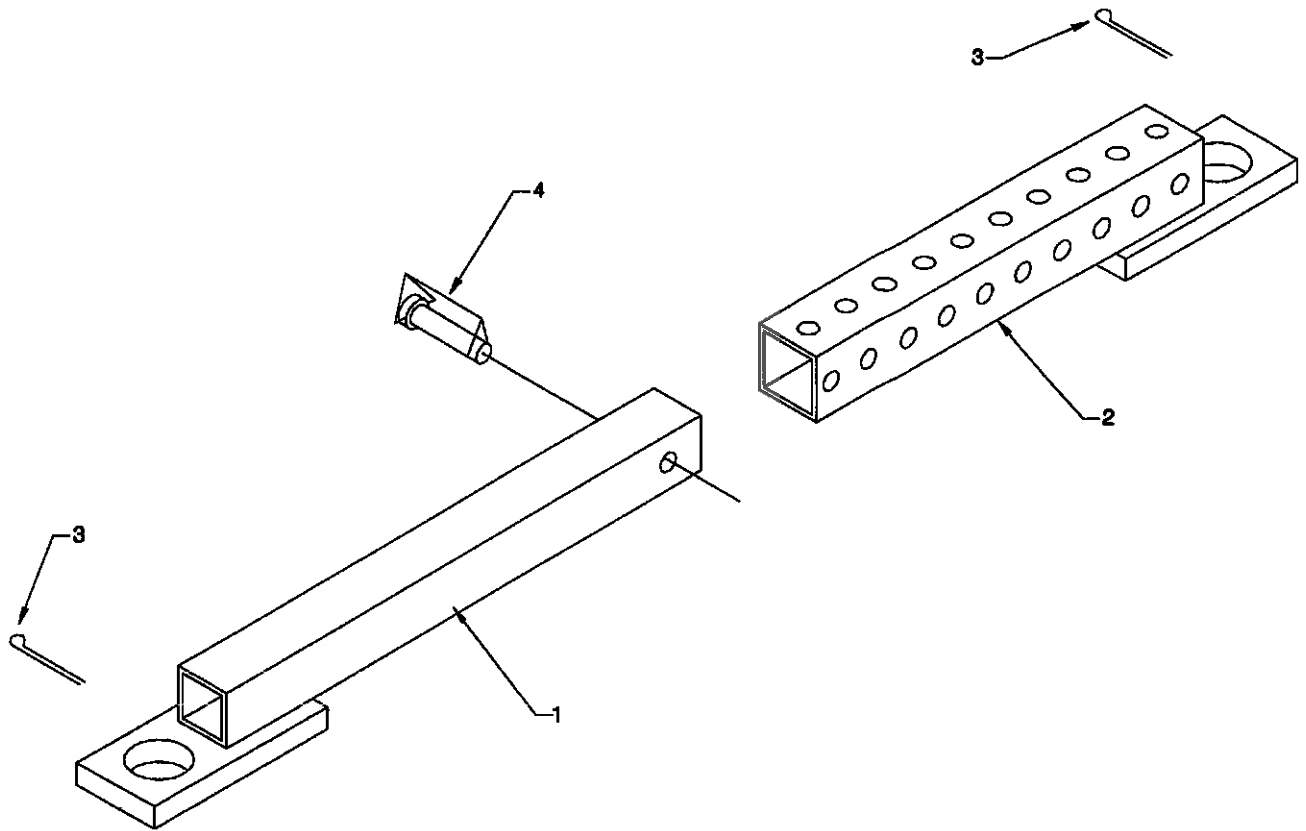


Swing Assemblies

For RLCH, Category I Hitch
Assembly 11-5031



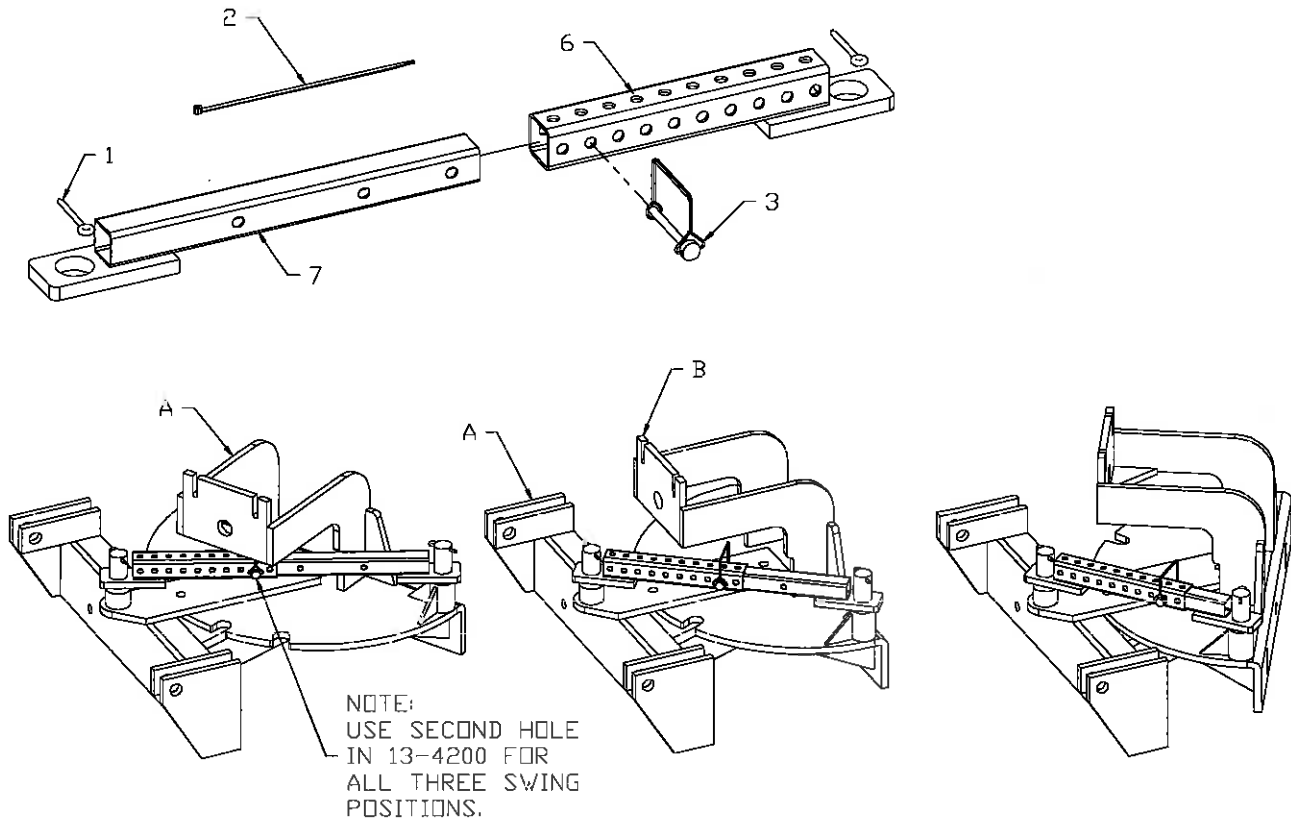
Item	Part	Qty	Description
1.	03-1943	2	Fitting, Adapter, HP, 3/4 MFS, 3/4 MP
2.	07-0065	1	Screw, Cap, 5/8 x 2-1/2
3.	07-0119	3	Bolt, Carriage, 5/8 x 1-3/4
4.	07-0158	3	Washer, Flat, 5/8
5.	07-0171	4	Washer, Lock, Split, 5/8
6.	07-0185	4	Nut, Hex, 5/8-11
7.	07-0216	1	Spring, Tension, 1.87 x 10.31
8.	07-0244	2	Pin, Link, #1600
9.	07-0285	2	Pin, Link, Cat 1
10.	07-1558	1	Chain, 1/4, 18 Links
11.	11-1854	1	Bushing, 1 x 5/8 x 5/8
12.	11-0889	2	Weld, Chain, w/ Plates
13.	13-0440	2	Bracket, Chain, Toplink, 3-Point
14.	13-2002	1	Pin, Toplink, 3-Point
15.	13-3110	1	Kit Hose, No QC, ORFS Hoses, Check Valve
16.	13-4823	1	Weld, Swing, Plate, CV
17.	13-7911	1	Weld, Frame, Mounting & Swing, RLCH, No Hydraulics
18.	50-0249	1	Label, Plate, Part Number/Date



Item	Part	Qty	Description
1.	13-4199	1	Weld, Link, Inner
2.	13-4200	1	Weld, Link, Outer
3.	07-0206	2	Pin, Cotter, 3/16 x 2
4.	07-2105	1	Pin, Lock, 3/8 Square

Manual Angle Kit (CH Swing Only)

Assembly 28-4627



Item	Part	Qty	Description
1.	07-0206	2	Pin, Cotter, 3/16 x 2
2.	07-0678	1	Tie, 7 1/2
3.	07-2105	1	Pin, Lock, 3/8 Square
6.	13-4200	1	Weld, Link, Outer, 15 1/4-21 1/4
7.	13-10504	1	Weld, Link, Inner, Manual Angle, CH Swing
A.	13-10476	1	Weld, Swing, Frame, CH
B.	13-10477	1	Weld, Plate, Swing, CH

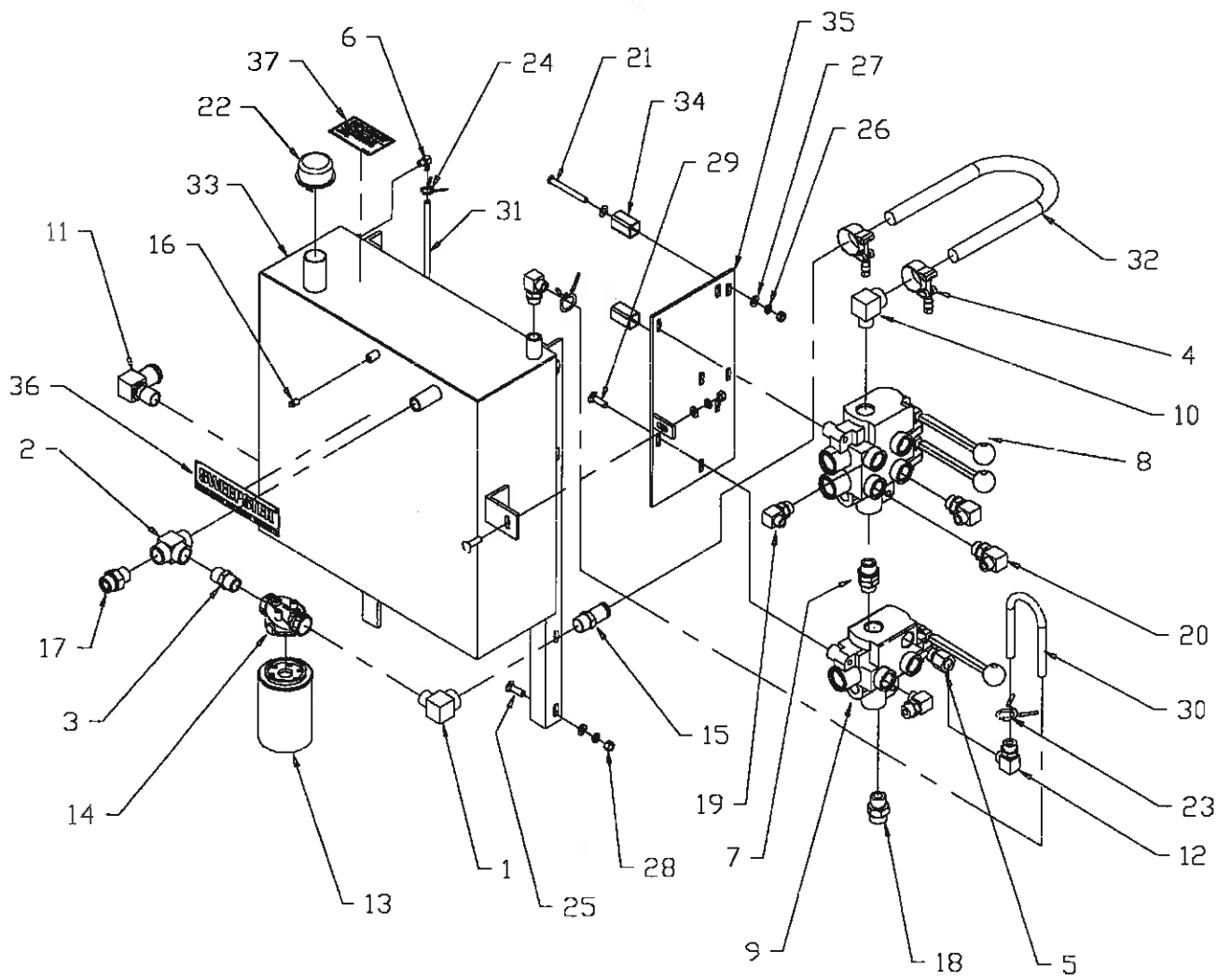
Tank Assemblies

Item	Part	Qty	Description
1.	03-0029	1	Fitting, Street Elbow, BP, 90, 3/4
2.	03-0053	1	Fitting, Tee, BP, 3/4 FP, All End
3.	03-0054	1	Fitting, Nipple, BP, Close, 3/4
4.	03-0056	2	Clamp, Screw, H2O, 13/16-1-3/4
5.	03-0172	1	Fitting, Adapter, HP, 7/8 MOR-1/2 FP
6.	03-0454	2	Fitting Barb, HP, 90, 1/4-1/8 MP
7.	03-0573	1	Fitting, Union, HP, Brush Head, 3/4, M37, with 2 O-Rings
8.	03-0601	1	Valve, 2 Spool, Run/Swing, with Handles
	03-0665		Handle, Valve, No Hole
	13-8603		Handle, Valve, with Hole
	03-0666		Kit, Pin/Clip, for Mounting Handle
	03-1272		Kit, Relief
9.	03-0602	1	Valve, 3 Way, 1 Spool, Lift, with Handles
	03-0665		Handle, Valve, No Hole
	13-8603		Handle, Valve, with Hole
	03-0666		Kit, Pin/Clip, for Mounting Handle
	03-1272		Kit, Relief
10.	03-0709	1	Fitting, Barb, HP, 90, 1-1-1/16 MOR
11.	03-0711	1	Fitting, Barb, HP, 90, 1-1/4-1 MP
12.	03-0714	2	Fitting, Barb, HP, 90, 5/8-1/2 MP
13.	03-0744	1	Element, Filter, Hydraulic, 25 m, Spin-On
14.	03-0745	1	Filter, Base, Spin-On
15.	03-0869	1	Fitting, Barb, HP, 1-3/4 MP
16.	03-1182-1	1	Fitting, Plug, BP, Square, 1/8
17.	03-1943	1	Fitting, Adapter, HP, 3/4 MFS-3/4 MP
18.	03-1945	1	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MFS
19.	03-1946	1	Fitting, Elbow, HP, 90, 7/8 MOR-3/4 MFS
20.	03-1953	3	Fitting, Elbow, HP, 90, 7/8 MOR-3/8 MFS
21.	07-0033	2	Screw, Cap, 3/8 x 3-1/4
22.	07-0245	1	Cap, Breather, Hydraulic Tank
23.	07-0547	2	Clamp, Spring, 7/8 Hose
24.	07-0551	2	Clamp, Spring, 1/4 Hose
25.	07-1717	5	Bolt, Carriage, 3/8-16 x 1-1/4
26.	07-1718	13	Washer, Lock, Split, 3/8
27.	07-3279	9	Washer, Flat, 3/8
28.	07-3654	13	Nut, Hex, 3/8-16
29.	07-3704	6	Bolt, Carriage, 3/8-16 x 2-1/2
30.	09-0028	1.4 ft	Hose, Heater, 5/8
31.	09-0054	1.5 ft	Tube, Bulk, 3/8-1/4, Sight Gage
32.	09-0066	.5 ft	Hose, 1 Fiber, Braid
33.	11-0765	1	Weld, Tank, Hydraulic
34.	11-1932	2	Spacer, Tube, 1 x 1-3/4, Valve
35.	11-3541	1	Weld, Mounting, Valve
36.	50-0184	1	Label, Small, White, Logo
37.	50-0272	1	Label, Oil, ISO VG-46

Tank Assemblies

For AH & CH with Manual Valves
Assembly 11-5309

52-0585



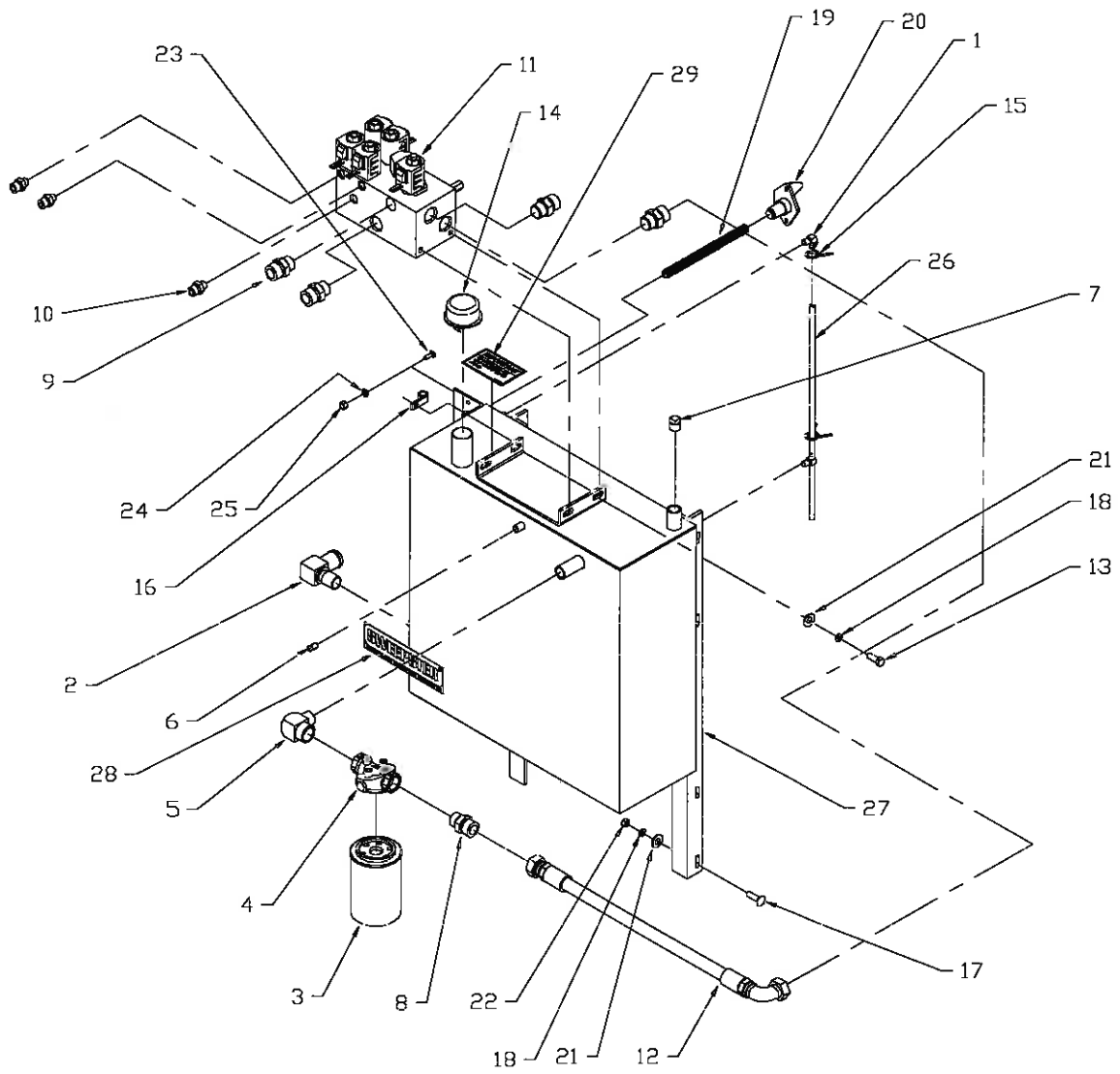
Tank Assemblies

Item	Part	Qty	Description
1.	03-0454	2	Fitting Barb, HP, 90, 1/4-1/8 MP
2.	03-0711	1	Fitting, Barb, HP, 90, 1-1/4-1 MP
3.	03-0744	1	Element, Filter, Hydraulic, 25 m, Spin-On
4.	03-0745	1	Filter, Base, Spin-On
5.	03-1039	1	Fitting, Street Elbow, HP, 90, 3/4
6.	03-1182-1	1	Fitting, Plug, BP, Square, 1/8
7.	03-1182-4	1	Fitting, Plug, BP, Square, 1/2
8.	03-1943	1	Fitting, Adapter, HP, 3/4 MFS-3/4 MP
9.	03-1945	4	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MFS
10.	03-2291	3	Fitting, Adapter, HP, 3/8 MFS-9/16 MOR
11.	03-2364*	1	Manifold, 12 volt, Swing/Lift/Run
12.	03-2394	1	Hose, 3/4 x 16, 1 Wire, 3/4-90 FFS-3/4 FFS
13.	07-0018	4	Screw, Cap, 3/8-15 x 1
14.	07-0245	1	Cap, Breather, Hydraulic Tank
15.	07-0551	2	Clamp, Spring, 1/4 Hose
16.	07-1177	1	Clamp, Rubber Coated, 1/2
17.	07-1717	4	Bolt, Carriage, 3/8-16 x 1-1/4
18.	07-1718	8	Washer, Lock, Split, 3/8
19.	07-1834	1.2 ft	Loom, .500
20.	07-2898	1	Connector, 6 Pole Socket
21.	07-3279	8	Washer, Flat, 3/8
22.	07-3654	4	Nut, Hex, 3/8-16
23.	07-3690	2	Bolt, Carriage, 1/4-20 x 3/4
24.	07-4038	2	Washer, Lock, Split, 1/4
25.	07-4039	2	Nut, Hex, 1/4-20
26.	09-0054	1.5 ft	Tube, Bulk, 3/8-1/4, Sight Gage
27.	13-4018	1	Weld, Tank, with Solenoid Valve
28.	50-0184	1	Label, Small, White, Logo
29.	50-0272	1	Label, Oil, ISO VG-46

* See Valve Packages: Electric Valves, Manifold for parts list.

Tank Assemblies

For AH & CH with Electric Valves
Assembly 11-5363



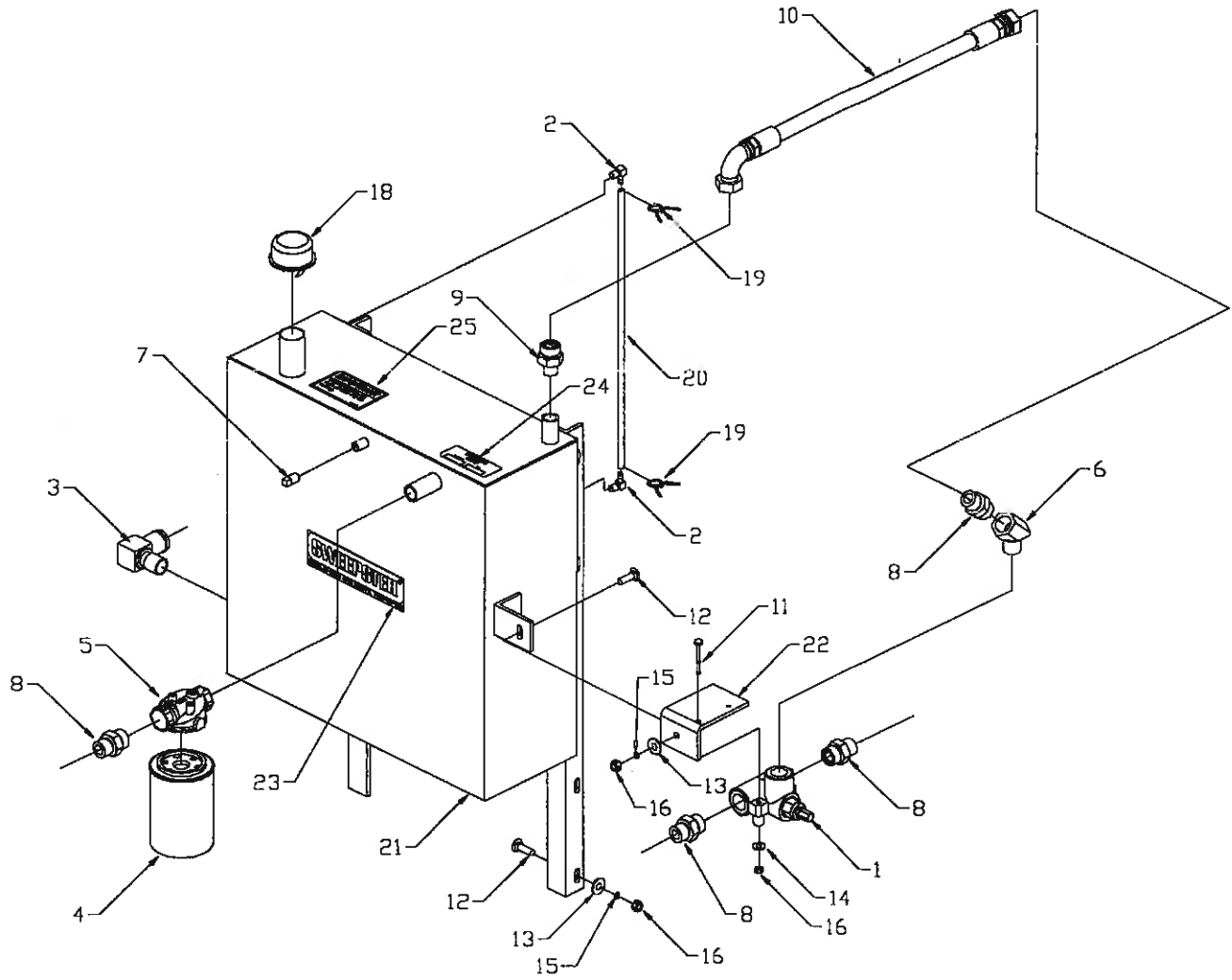
Tank Assemblies

Item	Part	Qty	Description
1.	03-0129	1	Valve, Relief, 3/4 Ports
2.	03-0454	2	Fitting Barb, HP, 90, 1/4-1/8 MP
3.	03-0711	1	Fitting, Barb, HP, 90, 1-1/4-1 MP
4.	03-0744	1	Element, Filter, Hydraulic, 25 m, Spin-On
5.	03-0745	1	Filter, Base, Spin-On
6.	03-1054	1	Fitting, Street Elbow, HP, 45, 3/4 P
7.	03-1182-1	1	Fitting, Plug, BP, Square, 1/8
8.	03-1943	4	Fitting, Adapter, HP, 3/4 MFS-3/4 MP
9.	03-2031	1	Fitting, Adapter, HP, 3/4 MFS-1/2 MP
10.	03-2394	1	Hose, 3/4 x 16, 1 Wire, 3/4-90 FFS-3/4 FFS
11.	07-3022	2	Screw, Cap, 1/4-20 x 2
12.	07-1717	4	Bolt, Carriage, 3/8-16 x 1-1/4
13.	07-3279	4	Washer, Flat, 3/8
14.	07-4038	2	Washer, Lock, Split, 1/4
15.	07-1718	5	Washer, Lock, Split, 3/8
16.	07-3654	5	Nut, Hex, 3/8-16
17.	07-4039	2	Nut, Hex, 1/4-20
18.	07-0245	1	Cap, Breather, Hydraulic Tank
19.	07-0551	2	Clamp, Spring, 1/4 Hose
20.	09-0054	1.5 ft	Tube, Bulk, 3/8-1/4, Sight Gage
21.	11-0765	1	Weld, Tank, Hydraulic
22.	13-7091	1	Plate, .25 x 3.00 x 6.00
23.	50-0249	1	Label, Plate, Part Number/Date
24.	50-0272	1	Label, Oil, ISO VG-46

Tank Assemblies

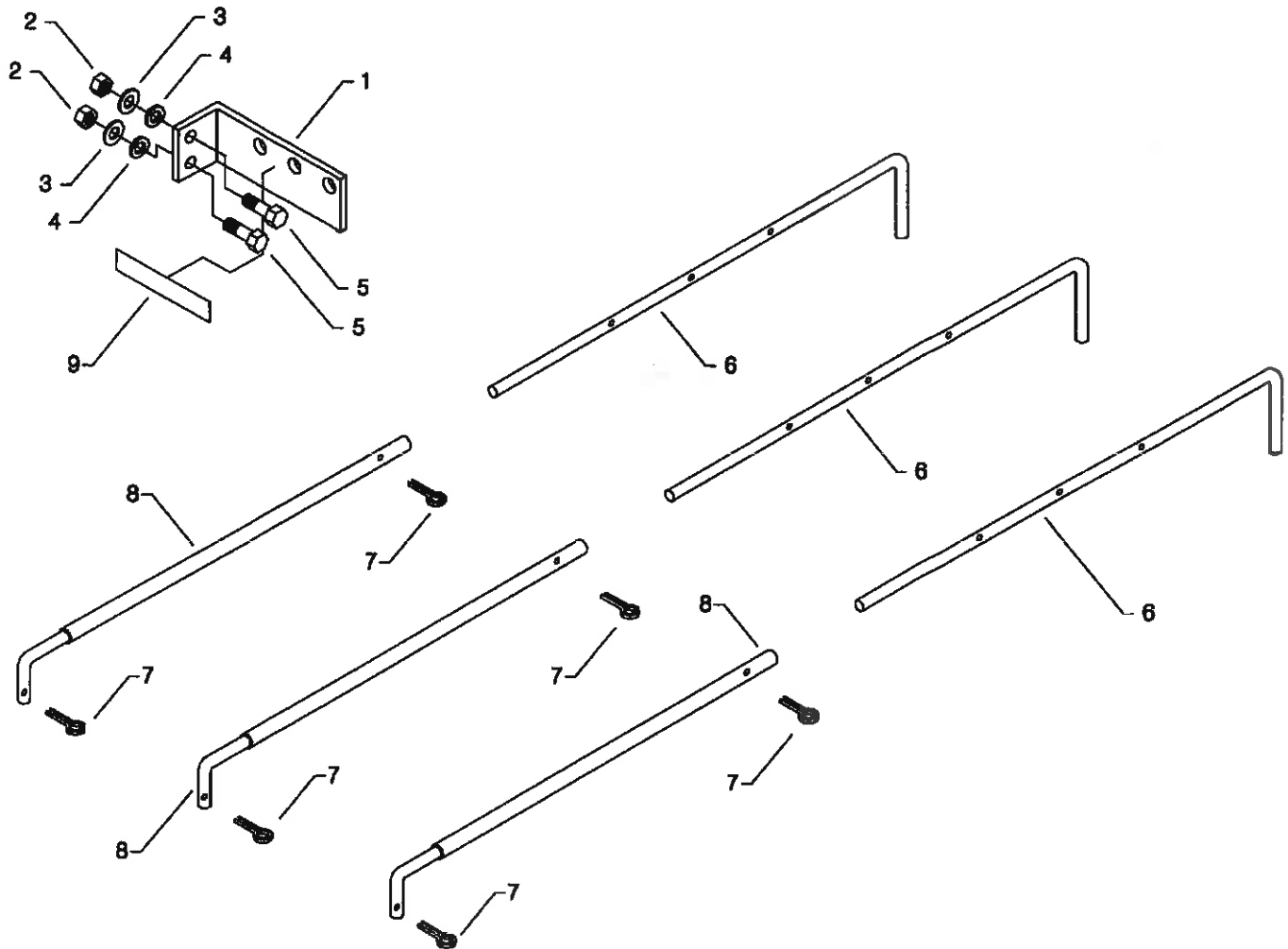
52-0162

For AH & CH with No Valves
Assembly 11-5364



Valve Packages

Control Rods for Manual Valves Assembly 11-5300



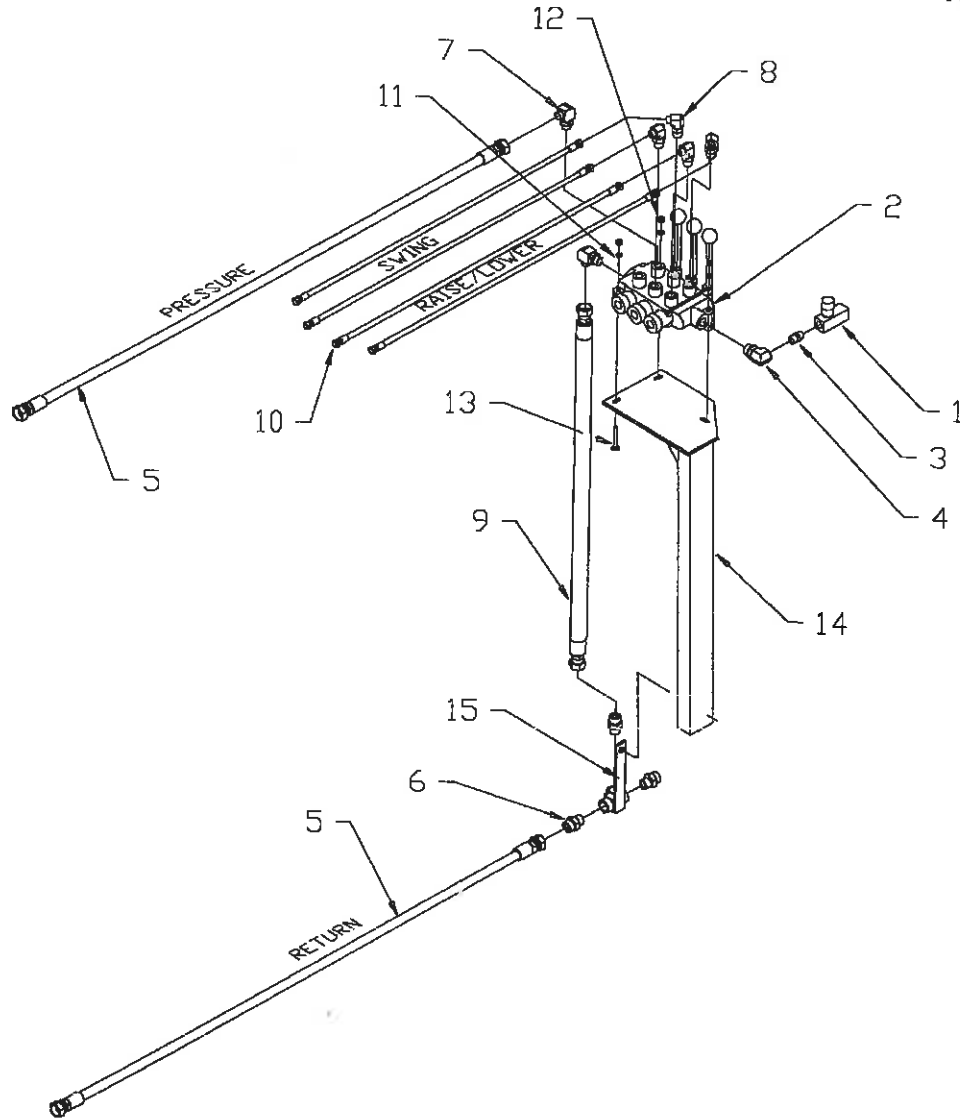
Item	Part	Qty	Description
1.	11-0890	1	Bracket, Control Rod
2.	07-0183	2	Nut, Hex, 3/8
3.	07-0168	2	Washer, Lock, Split, 3/8
4.	07-0154	2	Washer, Flat, 3/8
5.	07-0024	2	Screw, Cap, 3/8 x 1
6.	13-4245	3	Rod, Bent Control
7.	07-0205	6	Pin, 1/8 x 1 Cotter
8.	13-4246	3	Weld, Control Rod
9.	50-0162	1	Label, Control Rod

Valve Packages

Manual Valves

For AHH & CHH with Closed Center Hydraulic Systems
 Assembly 11-4773

52-0602



Item	Part	Qty	Description
1.	03-0072	1	Valve, Needle, 1/2 FP, Flow Meter
2.	03-0605	1	Valve, Closed Center, O-Ring Ports
	03-0665		Handle, Valve, No Hole
	03-0666		Kit, Pin/Clip, for Mounting Handle
	03-1272		Kit, Relief
3.	03-1022-7	1	Fitting, Nipple, HP, Hex, 1/2
4.	03-1076	1	Fitting, Elbow, HP, 90, 1-1/16 MOR-1/2 FPS
5.	03-1918	2	Hose, 3/4 x 156, 2 Wire, 3/4 FFS-3/4 FFS
6.	03-1943	3	Fitting, Adapter, HP, 3/4 MFS-3/4 MP
7.	03-1946	2	Fitting, Elbow, HP, 90, 7/8 MOR-3/4 MFS
8.	03-1953	4	Fitting, Elbow, HP, 90, 7/8 MOR-3/8 MFS
9.	03-2268	1	Hose, 3/4 42, 2 W, 3/4 FFS-3/8 FFS

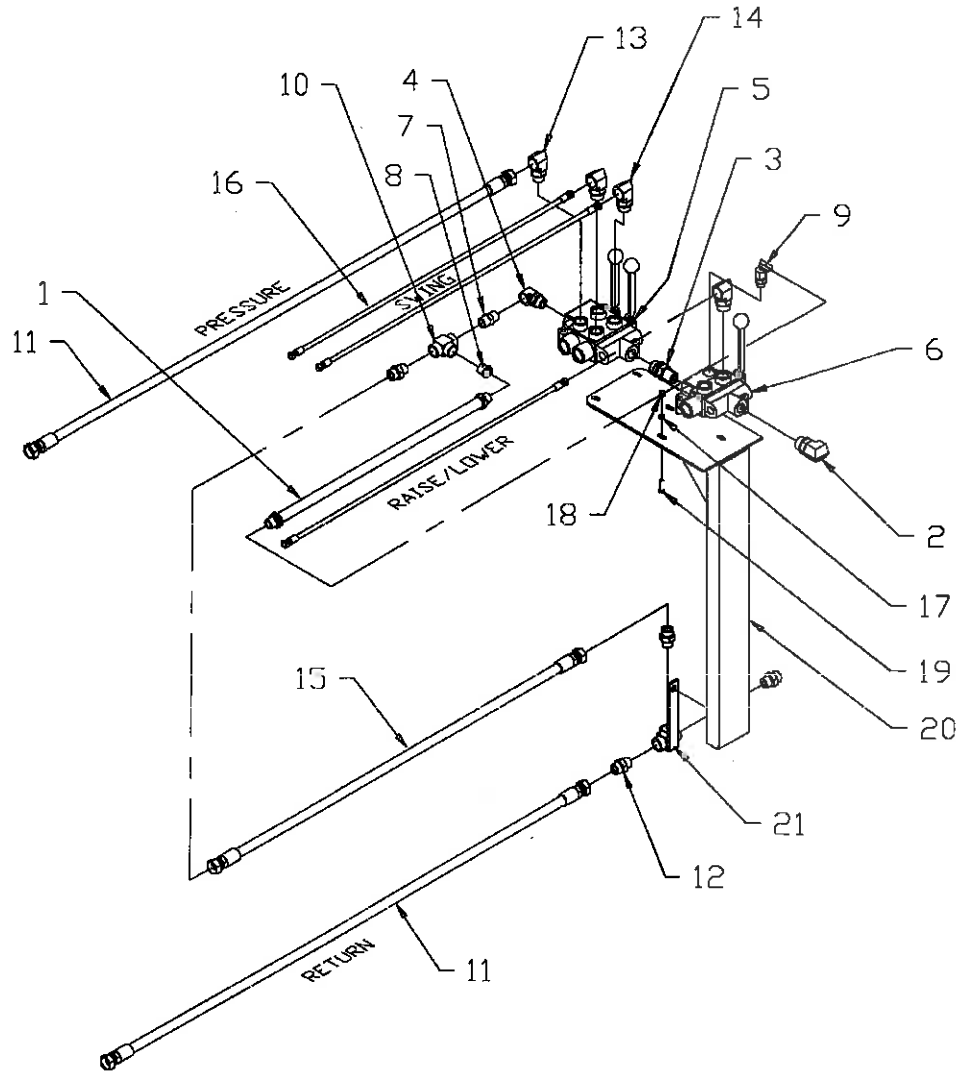
Item	Part	Qty	Description
10.	03-2340	4	Hose, 3/8 x 144, 1 Wire, 3/8 FFS-3/8 FFS
11.	07-1718	3	Washer, Lock Split, 3/8
12.	07-3654	3	Nut, Hex, 3/8-16
13.	07-3704	3	Bolt, Carriage, 3/8-16 x 2-1/2
14.	13-4209	1	Weld, Mounting, V, Pedestal, Closed Center
15.	13-4226	1	Weld, Mounting, Tee, Hydraulic, Universal

Not Shown

	03-2115	1	Fitting, Elbow, HP, 45, 9/16 MOR-3/8 MFS
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Valve Packages

Manual Valves For AHH & CHH with Open Center Hydraulic Systems Assembly 11-4772



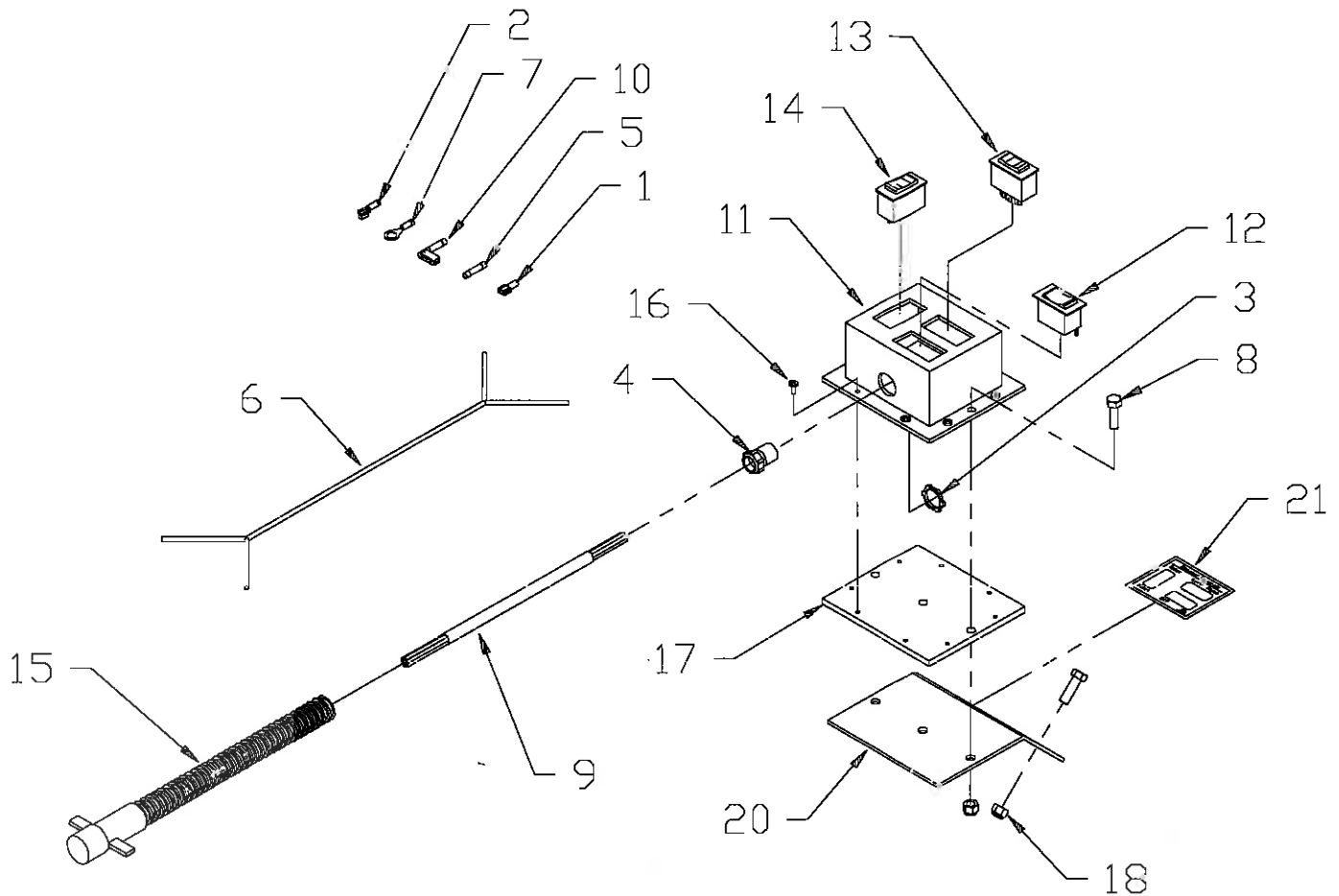
52-0586

Item	Part	Qty	Description
1.	03-0427	1	Hose, 1/2 x 18, 1 Wire, 1/2 MP-1/2 MP
2.	03-0563	1	Fitting, Elbow, HP, 90, 1-1/16 MOR-3/4 FPS
3.	03-0573	1	Fitting, Union, HP, BHD, 3/4 M37, with O-Rings
4.	03-0577	1	Fitting, Elbow, Hp, 90, 1-1/16 MOR-3/4 FP
5.	03-0601	1	Valve, 2 Spool, Run/Swing, with Handles
	03-0665		Handle, Valve, No Hole
	03-0666		Kit, Pin/Clip, for Mounting Handle
	03-1272		Kit, Relief
6.	03-0602	1	Valve, 3 Way, 1 Spline, Lift, with Handles
	03-0665		Handle, Valve, No Hole
	03-0666		Kit, Pin/Clip, for Mounting Handle
	03-1272		Kit, Relief
7.	03-1022-10	1	Fitting, Nipple, HP, Hex, 3/4 MP-3/4 MP

Item	Part	Qty	Description
8.	03-1068-9	1	Fitting, Reducer Bushing, HP, 3/4 x 1/2
9.	03-1204	1	Fitting, Elbow, HP, 45 7/8 MOR-1/2 FPS
10.	03-1312	1	Fitting, Tee, HP, 3/4 FP, All Ends
11.	03-1918	2	Hose, 3/4 x 156, 2 Wire, 3/4 FFS-3/4 FFS
12.	03-1943	4	Fitting, Adapter, HP, 3/4 MFS-3/4 MP
13.	03-1946	1	Fitting, Elbow, HP, 90, 7/8 MOR-3/4 MFS
14.	03-1953	3	Fitting, Elbow, HP, 90, 7/8 MOR-3/8 MFS
15.	03-1963	1	Hose, 3/4 x 56, 2 Wire, 3/4 FFS-3/4 FFS
16.	03-2340	3	Hose, 3/8 x 144, 1 Wire, 3/8 FFS-3/8 FFS
17.	07-1718	6	Washer, Lock Split, 3/8
18.	07-3654	6	Nut, Hex, 3/8-16
19.	07-3704	6	Bolt, Carriage, 3/8-16 x 2-1/2
20.	13-3900	1	Weld, Mounting, Valve, Pedestal
21.	13-4226	1	Weld, Mounting, Tee, Hydraulic

Valve Packages

Electric Valves – Switch Assembly 13-4022

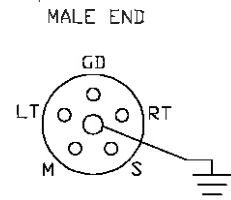
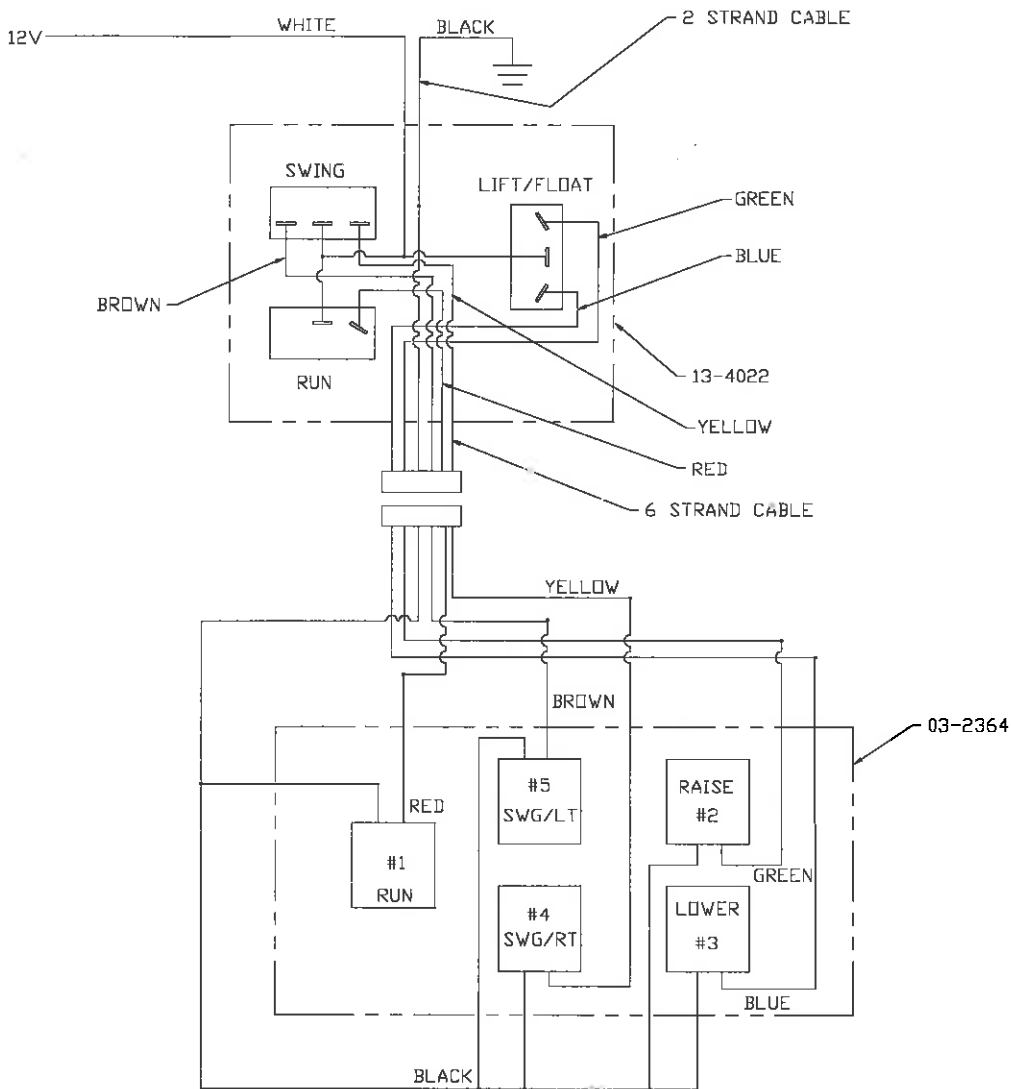


Item	Part	Qty	Description
1.	07-0812	3	Terminal, Connector, 1/4, F16-14
2.	07-0815	2	Terminal, Connector, 1/4M-F, 16-14
3.	07-0856	1	Nut, Lock, 1/2, F/Strain Relief
4.	07-0857	1	Strain, Relief, 1/2, BRN, 16/12
5.	07-0867	1	Terminal, Butt, Spline, 16-14
6.	07-0917	13 ft	Wire, Cord, 16 Gauge, 2 Cond
7.	07-0929	1	Terminal, Ring, 3/8, 16-14
8.	07-1714	4	Screw, Cap, 5/16-18 x 1
9.	07-2133	16 ft	Wire, Cord, 16 Gauge, 6 Cond, Trailer Cord
10.	07-2264	5	Terminal, 90°, Flag, 16-14
11.	07-2893	1	Box, 3 Switch, Monarch
12.	07-2894	1	Switch, Rocker, SPST, On-Off, Red, Broom
13.	07-2895	1	Switch, Rocker, SPDT, (On)-Off-(On), Swing Left/Right
14.	07-2896	1	Switch, Rocker, SPDT, (On)-Off-On, Raise-Off-Lower [Detented Side]
15.	07-2897	1	Connector, 6 Pole, Plug
16.	07-2908	8	Screw, Sel-Tap, 8-16 x 3/8
17.	07-2909	1	Plate, Plastic, Monarch
18.	07-3270	4	Nut, Hex, Nylock, 5/16-18
20.	13-4023	1	Plate, Mounting, Control Box
21.	50-0207	1	Label, Electric Control, Sweeper

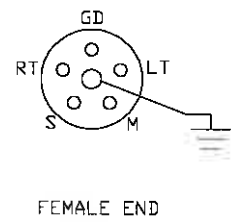
() = Momentary Spring Centered

Valve Packages

Electric Valves – Wiring Schematic Assembly 13-4022

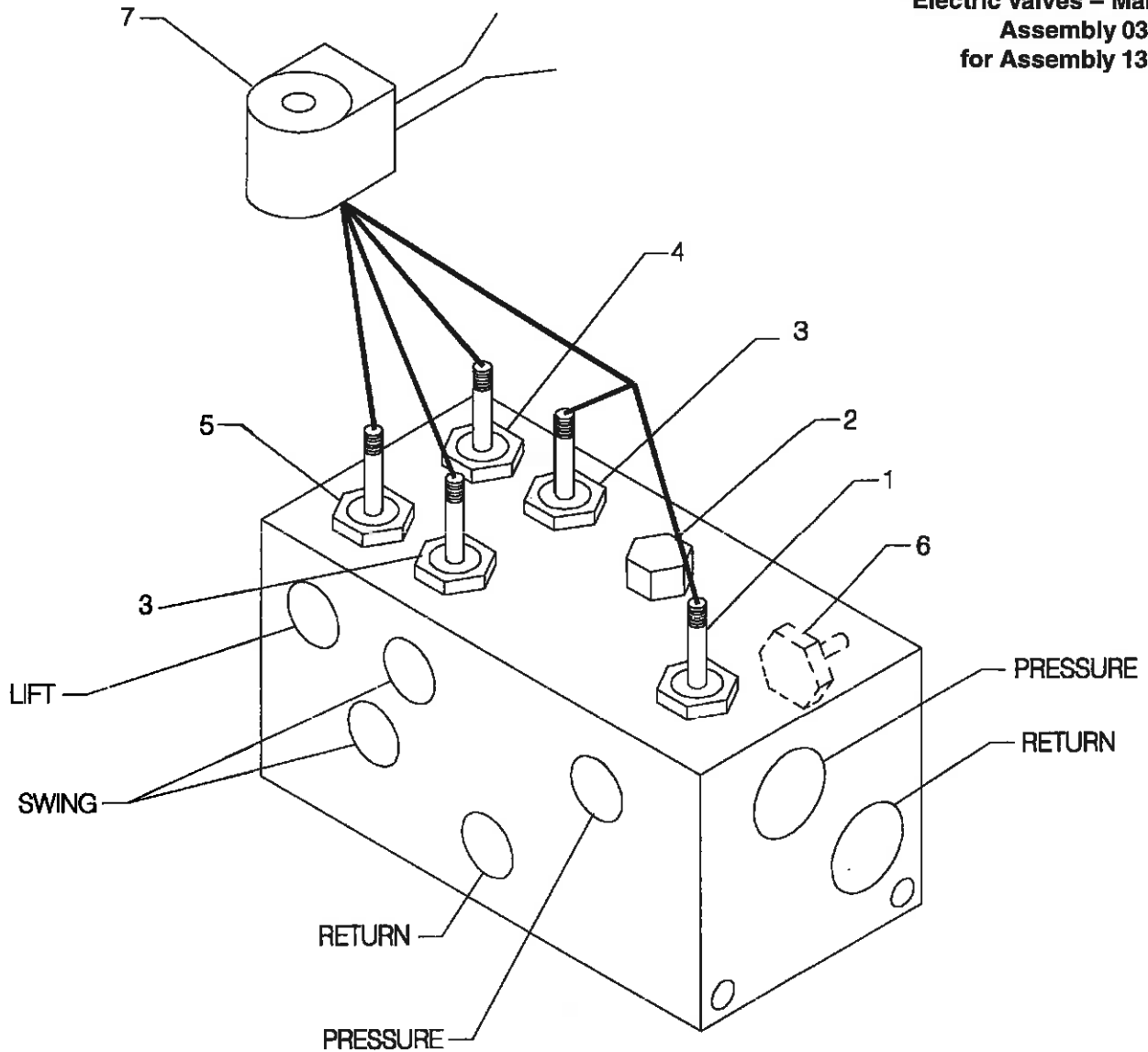


COIL/POST	COLOR	FUNCTION
#1=GD	RED	RUN
#2=M	GREEN	RAISE
#3=S	BLUE	LOWER
#4=RT	YELLOW	SWG/RT
#5=LT	BROWN	SWG/LT



Valve Packages

**Electric Valves – Manifold
Assembly 03-2364
for Assembly 13-4022**



Item	Part	Qty	Description
1.	07-3081 03-2926	1	Valve, Cartridge, Brush Motor, Manifold Block Kit, Seal, for 07-3081/07-3082
2.	07-3082 03-2926	1	Valve, Cartridge, Flow Divider, Manifold Block Kit, Seal, for 07-3081/07-3082
3.	07-3080 03-1509	2	Valve, Cartridge, Swing, Left/Right, Manifold Block Kit, Seal, for 07-3078/073079/07-3080
4.	07-3078 03-1509	1	Valve, Cartridge, Up, Manifold Block Kit, Seal, for 07-3078/073079/07-3080
5.	03-1396 03-1509	1	Valve, Cartridge, Down, Manifold Block Kit, Seal, for 07-3078/07-3079/07-3080
6.	07-3148 03-2927	1	Valve, Cartridge, Relief, Manifold Block Kit, Seal, for 07-3148
7.	07-3077 07-3354	5	Coil, 12 volt, Delta, Manifold Block Coil, 24 volt, Delta, Manifold Block

Installation

1. Remove the brush head assembly from the swing assembly, if installed.
2. Insert the mounting angle between the brush head assembly and the swing assembly.
3. Fasten the brush head assembly, mounting angle and swing assembly together with a 5/8-11 x 2 in. cap screw, flat washer, lock washer and nut in the center hole and 2, 5/8-11 x 2 in. carriage bolts, flat washers, lock washers and nuts in the outer holes.
4. Go to Leveling with Caster Kit.



figure 52

RLH/RLCH – Adjust the toplinek. If the rear of the swing assembly is high, lengthen the toplinek. If low, shorten the toplinek.

Leveling with Caster Kit

Level the sweeper after installation and before each use for efficient sweeping and longest brush life.

CAUTION – Avoid injury. Before adjusting the sweeper, always turn off the sweeper and the prime mover engine and remove the key.

1. Move the sweeper to a flat, paved surface.
2. Lower the brush head assembly so casters rest on the ground.
3. Check if the swing assembly is level by using a bubble level. To make corrections:

LH/LCH with quick attach mounting – Adjust tilt cylinders. If the front of the swing assembly is high, extend tilt cylinders. If low, retract cylinders.

LH/LCH without quick attach mounting – Lower loader arms enough to take weight off the mounting chain; adjust the chain to make the assembly level. If the front of the swing assembly is high, add links between the upright and loader's cross member. If low, decrease the number of links between the upright and loader's cross member. Raise the brush head assembly.

4. Position the brush head assembly straight ahead. On each side, measure from the brush frame to the ground (figure 52). If measurements are not equal, loosen hardware that attaches the swing assembly to the brush head assembly; lower the high side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
5. Measure to see if the brush head assembly is level when angled. First, angle the brush head to the right. Measure as in step 4. Then, angle the brush head to the left. Measure again. If measurements are equal, the sweeper is level. If not, proceed with this step.

LH/LCH without quick attach mounting – To correct leveling problems shown in:

- figure 53, extend tilt cylinders.
- figure 54, retract tilt cylinders.

Option – Caster Kit

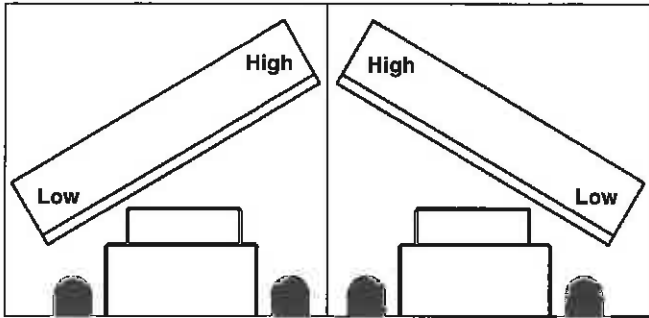


figure 53

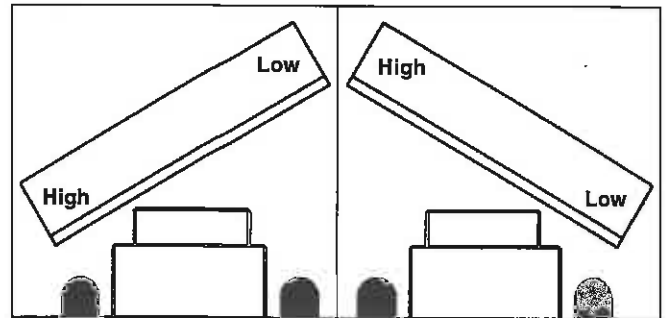


figure 55

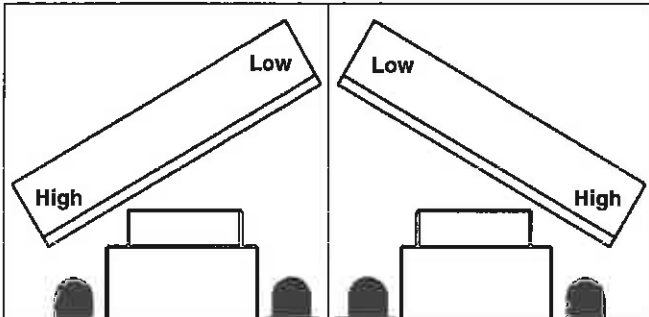


figure 54

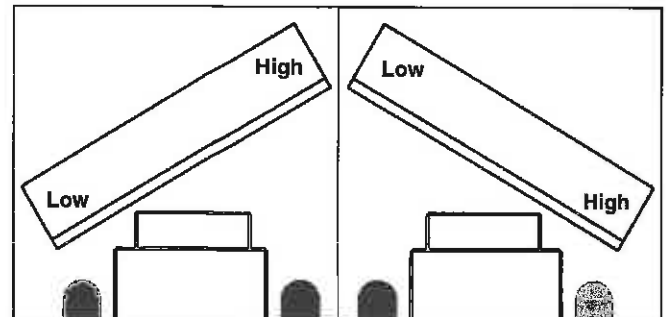


figure 56

- figure 55, loosen hardware that attaches the swing assembly to the brush head assembly; lower the left-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
- figure 56, loosen hardware that attaches the swing assembly to the brush head assembly; lower the right-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.

LH/LCH without quick attach mounting – To correct leveling problems shown in:

- figure 53, add links between the upright and loader's cross member.
- figure 54, decrease the number of links between the upright and loader's cross member.

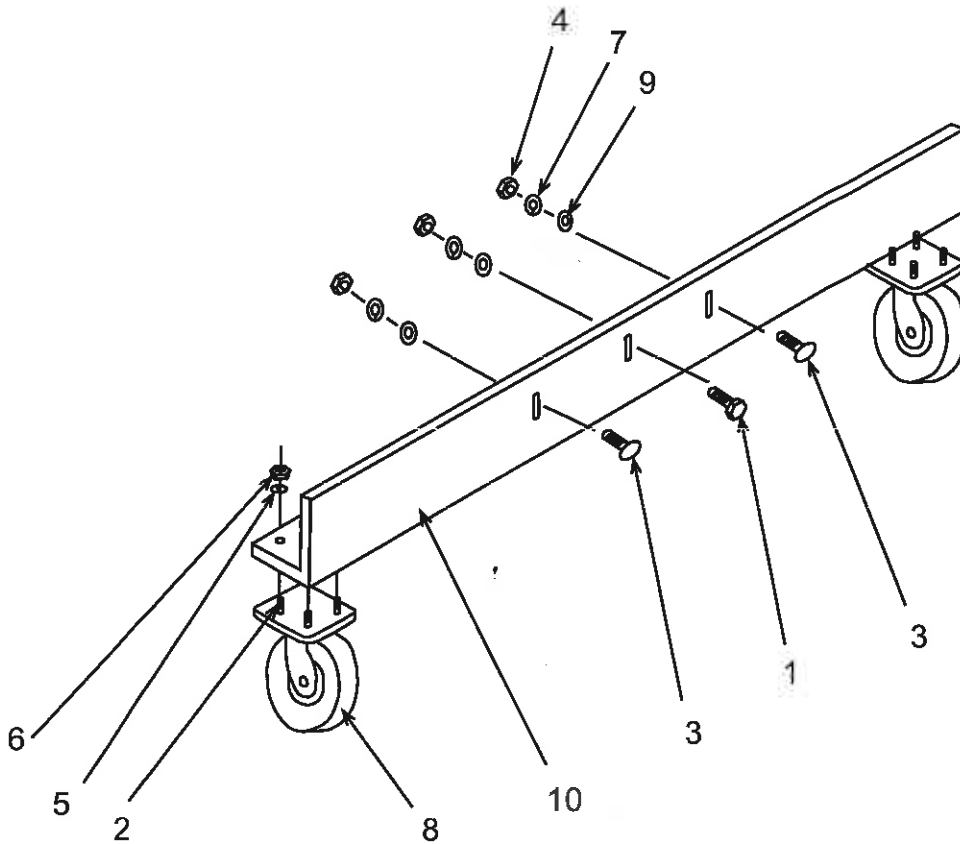
- figure 55, loosen hardware that attaches the swing assembly to the brush head assembly; lower the left-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.
- figure 56, loosen hardware that attaches the swing assembly to the brush head assembly; lower the right-hand side of the brush head until both sides are an equal distance above the ground. Tighten the hardware.

RLH/RLCH – To correct leveling problems in:

- figure 53, shorten the hitch toplink.
- figure 54, lengthen the hitch toplink.
- figure 55, lower the adjustable hitch arm.
- figure 56, raise the adjustable hitch arm.

Option – Caster Kit

For LH, LCH, RLH & RLCH
To order, ask for kit 13-1603.



Item	Part	Qty	Description
1.	07-0066	1	Screw, Cap, 5/8-11 x 2
2.	07-0117	8	Bolt, Carriage, 1/2 x 2
3.	07-0120	2	Bolt, Carriage, 5/8-11 x 2
4.	07-1294	3	Nut, Hex, 5/8-11
5.	07-1762	8	Washer, Lock, Split, 1/2
6.	07-1764	8	Nut, Hex, 1/2-13
7.	07-1872	3	Washer, Lock, Split, 5/8
8.	07-1892	2	Caster, Assembly, 8 in.
9.	07-3120	2	Washer, Flat, 5/8
10.	13-1602	1	Angle, Mounting, Caster

Option – Dirt Deflectors

Installation

1. Clamp the extension plate to the front edge of the hood, centered from left to right. The top edge of the extension plate must be 2 1/2 in. (64 mm) from the bend in the hood (figure 57).
2. Transfer punch holes from the extension plate to the hood. Remove the extension plate and drill holes with a 13/32 in. bit.
3. Place the rubber flap and then the retainer plate on the bottom edge of the extension plate (figure 58). Insert 3/8 x 1 in. carriage bolts into all holes except the last on each end. Secure with lock washers and nuts.
4. Attach the extension plate to the hood with carriage bolts, lock washers and nuts. Do not tighten the hardware.
5. On 1 side of the sweeper, remove the screw that secures the hood arm to the brush frame (figure 59). Place the mounting arm on the hood arm. Secure these parts to the brush frame with a 3/8 x 1 1/2 in. carriage bolt, a lock washer and a nut.
6. Repeat step 5 on the other side of the sweeper.
7. On both sides of the sweeper, attach the mounting arms to the outside holes in the extension plate and flap assembly. Use 3/8 x 1 in. carriage bolts, lock washers and nuts.
8. Tighten all hardware.

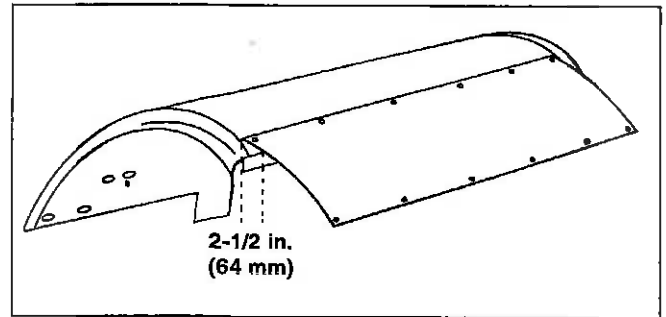


figure 57

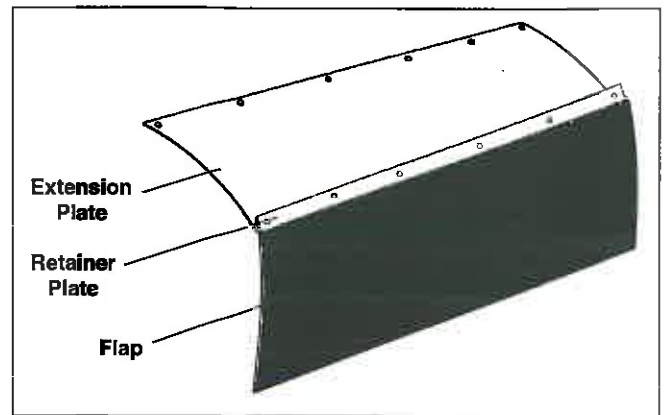


figure 58



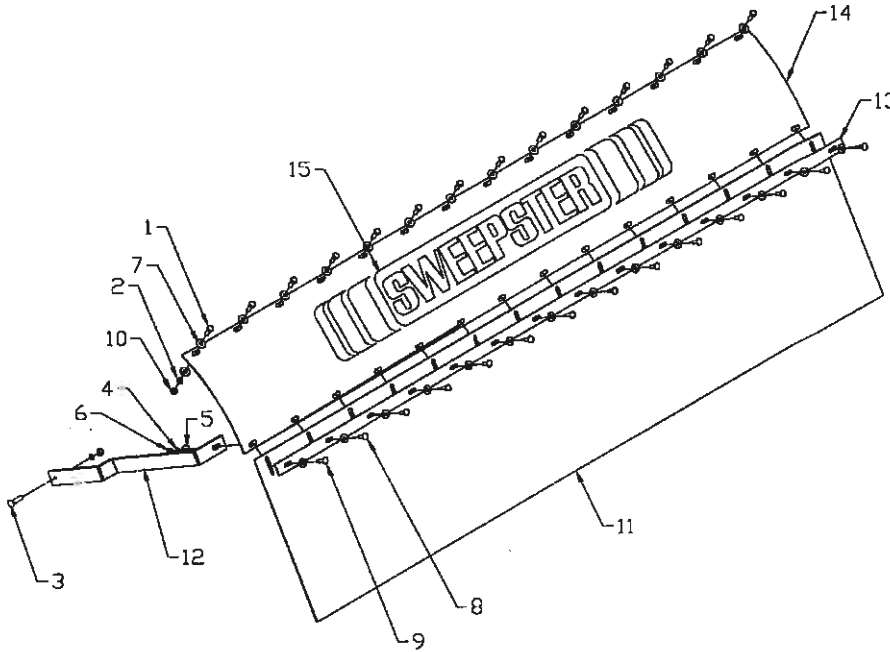
figure 59

Option – Dirt Deflectors

For AH, CH, LH & LCH

To order, ask for kit 11-5921 (5 ft [1.3 m]), 11-5709 (6 ft [1.5 m]),
13-3121 (7 ft [1.8 m]), 13-3120 (8 ft [2.0 m]) or 13-4998 (10 ft [2.5 m]).

52-054B



Item	Part	Qty	Description
1.	07-0018	10	Screw, Cap, 3/8-16 x 1 (5)
	07-0018	12	Screw, Cap, 3/8-16 x 1 (6)
	07-0018	14	Screw, Cap, 3/8-16 x 1 (7)
	07-0018	16	Screw, Cap, 3/8-16 x 1 (8)
	07-0018	20	Screw, Cap, 3/8-16 x 1 (10)
2.	07-1718	12	Washer, Lock, Split, 3/8 (5)
	07-1718	14	Washer, Lock, Split, 3/8 (6)
	07-1718	16	Washer, Lock, Split, 3/8 (7)
	07-1718	18	Washer, Lock, Split, 3/8 (8)
	07-1718	22	Washer, Lock, Split, 3/8 (10)
3.	07-1730	2	Bolt, Carriage, 3/8-16 x 1-1/2
4.	07-3273	10	Washer, Lock, Split, 5/16 (5)
	07-3273	12	Washer, Lock, Split, 5/16 (6)
	07-3273	14	Washer, Lock, Split, 5/16 (7)
	07-3273	16	Washer, Lock, Split, 5/16 (8)
	07-3273	20	Washer, Lock, Split, 5/16 (10)
5.	07-3275	10	Washer, Flat, 5/16 (5)
	07-3275	12	Washer, Flat, 5/16 (6)
	07-3275	14	Washer, Flat, 5/16 (7)
	07-3275	16	Washer, Flat, 5/16 (8)
	07-3275	20	Washer, Flat, 5/16 (10)
6.	07-3278	10	Nut, Hex, 5/16-18 (5)
	07-3278	12	Nut, Hex, 5/16-18 (6)
	07-3278	14	Nut, Hex, 5/16-18 (7)
	07-3278	16	Nut, Hex, 5/16-18 (8)
	07-3278	20	Nut, Hex, 5/16-18 (10)
7.	07-3279	20	Washer, Flat, 3/8 (5)
	07-3279	24	Washer, Flat, 3/8 (6)
	07-3279	28	Washer, Flat, 3/8 (7)

Item	Part	Qty	Description
	07-3279	32	Washer, Flat, 3/8 (8)
	07-3279	40	Washer, Flat, 3/8 (10)
8.	07-3438	8	Nut, Hex, 5/16-18 x 1 (5)
	07-3438	10	Nut, Hex, 5/16-18 x 1 (6)
	07-3438	12	Nut, Hex, 5/16-18 x 1 (7)
	07-3438	14	Nut, Hex, 5/16-18 x 1 (8)
	07-3438	18	Nut, Hex, 5/16-18 x 1 (10)
9.	07-3508	2	Bolt, Carriage, 5/16-18 x 1-1/4
10.	07-3654	12	Nut, Hex, 3/8-16 (5)
	07-3654	14	Nut, Hex, 3/8-16 (6)
	07-3654	16	Nut, Hex, 3/8-16 (7)
	07-3654	18	Nut, Hex, 3/8-16 (8)
	07-3654	20	Nut, Hex, 3/8-16 (10)
11.	13-8900	5	Flap, 5, Dirt Deflector
	09-0043-2	1	Flap, 6, Dirt Deflector
	09-0043-1	1	Flap, 7, Dirt Deflector
	09-0043	1	Flap, 8, Dirt Deflector
	09-0155	1	Flap, 10, Dirt Deflector
12.	11-7285	2	Arm, Mounting, Deflector
	13-8901	1	Plate, Retainer, Deflector (5)
13.	13-0752-3	1	Plate, Retainer, Deflector (6)
	13-0752-2	1	Plate, Retainer, Deflector (7)
	13-0752-1	1	Plate, Retainer, Deflector (8)
	13-4997	1	Plate, Retainer, Deflector (10)
14.	13-8899	1	Plate, Extension, for 120 Hood (5)
	13-7266	1	Plate, Extension, for 120 Hood (6)
	11-7284-1	1	Plate, Extension, for 120 Hood (7)
	11-7284	1	Plate, Extension, for 120 Hood (8)
	13-4996	1	Plate, Extension, for 120 Hood (10)
15.	50-0252	1	Label, Logo, Large, White

Installation

NOTE – Refer to figure 60 during installation. Figure 61 shows a deflector fully installed.

1. Attach each angle to the deflector shield with a 3/8-16 x 1 1/4 in. carriage bolt, flat washer, lock washer and hex nut. Do not tighten the hardware completely.
2. Position the deflector shield behind the mounting assembly.
3. Fasten each of the 2 center angles to the assembly with a 3/8-16 x 1 1/4 in. carriage bolt, lock washer and hex nut. Holes are predrilled in the assembly.
4. Use a transfer punch to locate holes in the assembly for the outer angles. Drill holes with a 13/32 in. bit.
5. Fasten each of the outer angles with a 3/8-16 x 1 1/4 in. carriage bolt, lock washer and hex nut. Holes are cut in the opposite (front) side of the mounting assembly to make it easier to attach washers and nuts.
6. Tighten all hardware securely.

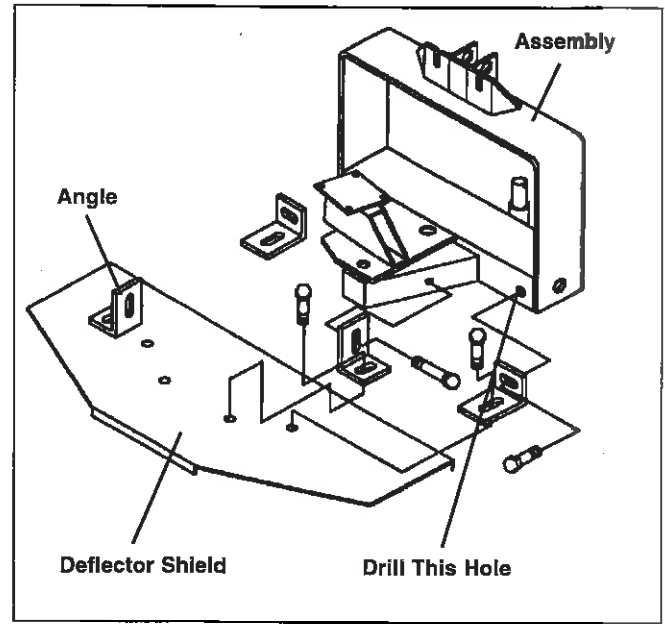


figure 60

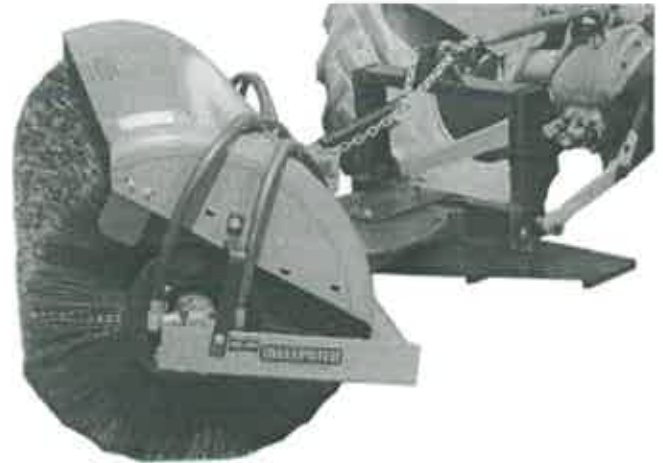
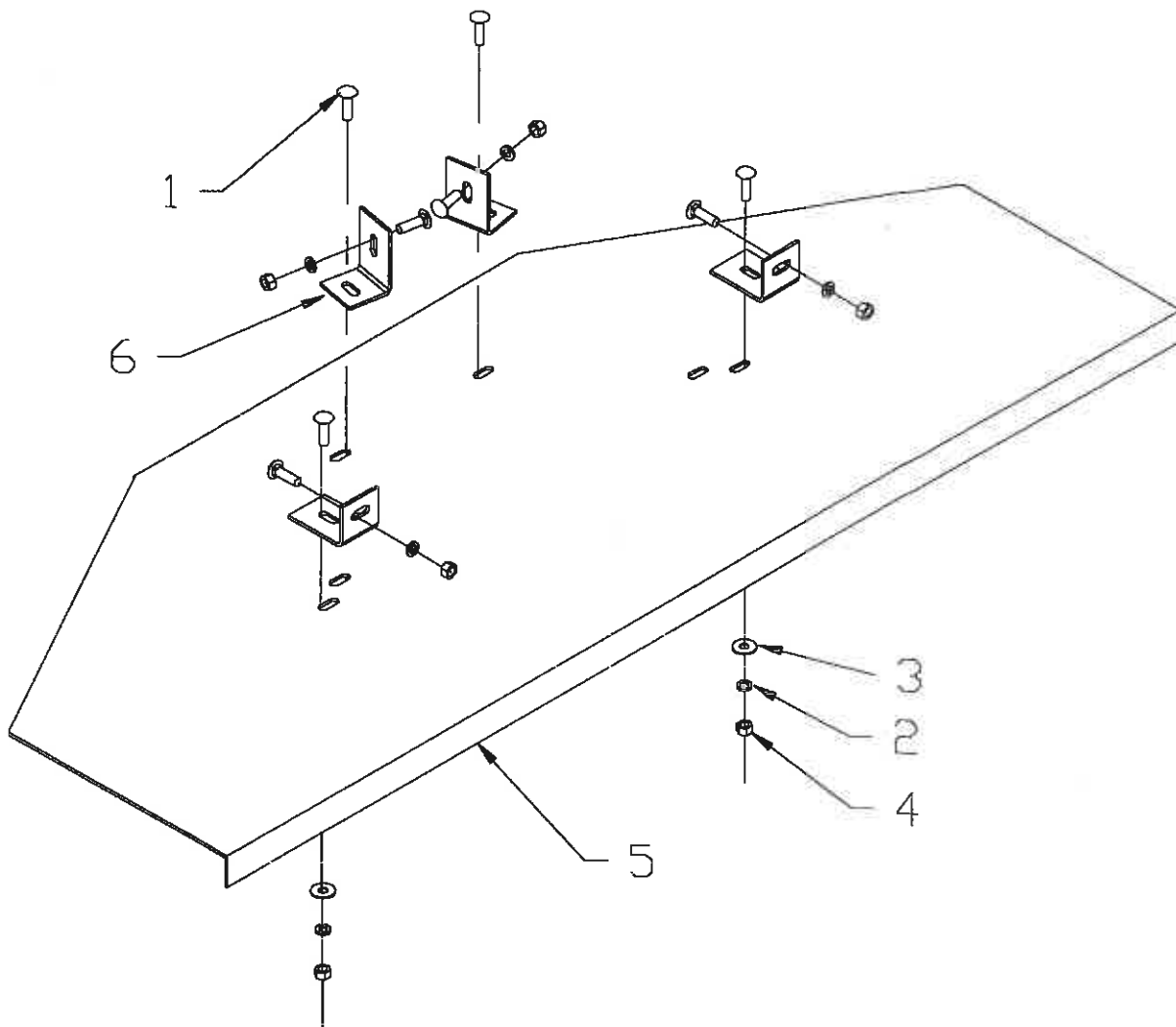


figure 61

Option – Dirt Deflectors

For RLH & RLCH
To order, ask for kit RHFADD.

52-0663



Item	Part	Qty	Description
1.	07-1717	8	Bolt, Carriage, 3/8-16 x 1-1/4
2.	07-0168	8	Washer, Lock, Split, 3/8
3.	07-3279	4	Washer, Flat, 3/8
4.	07-3654	8	Nut, Hex, 3/8-16
5.	11-9491	1	Deflector, Dirt
6.	13-0351	4	Angle, Mounting, Dirt Deflector

Option – Hydraulic Angle with Electric Valves for LH/LCH

Installation

Refer to figure 62 during installation.

1. Disconnect hoses from the prime mover and brush head tubes. Remove the check valve and T-fittings that connect 56 in. hoses to 78 in. hoses.

IMPORTANT – Avoid damage to wiring and hoses. Route away from hot and/or moving parts when installing.

2. Install the control box.
 - a. Find a convenient location on the prime mover to mount the control box.
 - b. Drill mounting holes with a 11/32 in. bit.
 - c. Attach the control box with 4, 5/16-18 x 1 in. cap screws, lock washers and nuts.
 - d. Connect the white power wire from the control box to accessory on the ignition switch or to the fuse box.
 - e. Add an in-line 20-amp circuit breaker to protect the wire harness in case of a short.
 - f. Attach the black wire to a good ground such as the prime mover frame.
3. Install the manifold.
 - a. Attach the mounting bracket to the top of the swing assembly with 2, 3/8 x 1 in. screws, flat washers, lock washers and nuts.

NOTE – If necessary, transfer punch hole locations from the mounting bracket to the swing assembly. Drill holes with a 13/32 in. bit.

- b. Mount the manifold on the mounting bracket with 4, 3/8 x 1 in. screws, flat washers and lock washers. On the front right set of hardware, also attach a clamp. Place wires from coils in the clamp.
 - c. Install 6 adapter fittings in the manifold.
4. Install the swing cylinder and hoses.
 - a. Remove the manual swing kit from the swing plate and mounting frame.
 - b. Attach the cylinder to the swing plate and mounting frame. Secure with cotter pins. The rod end goes on the swing plate.

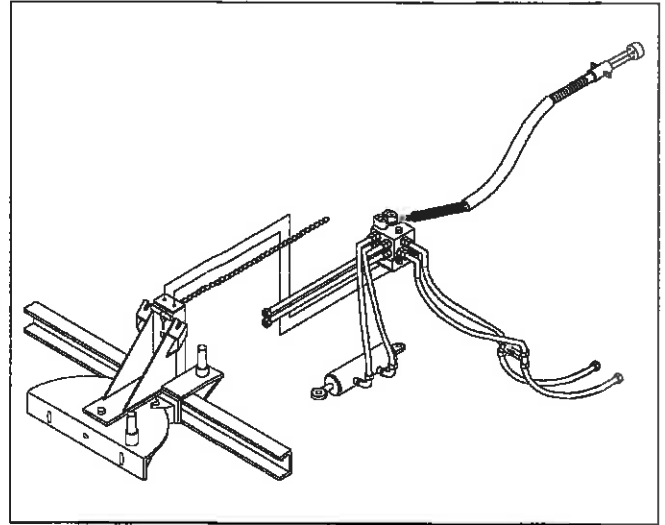


figure 62

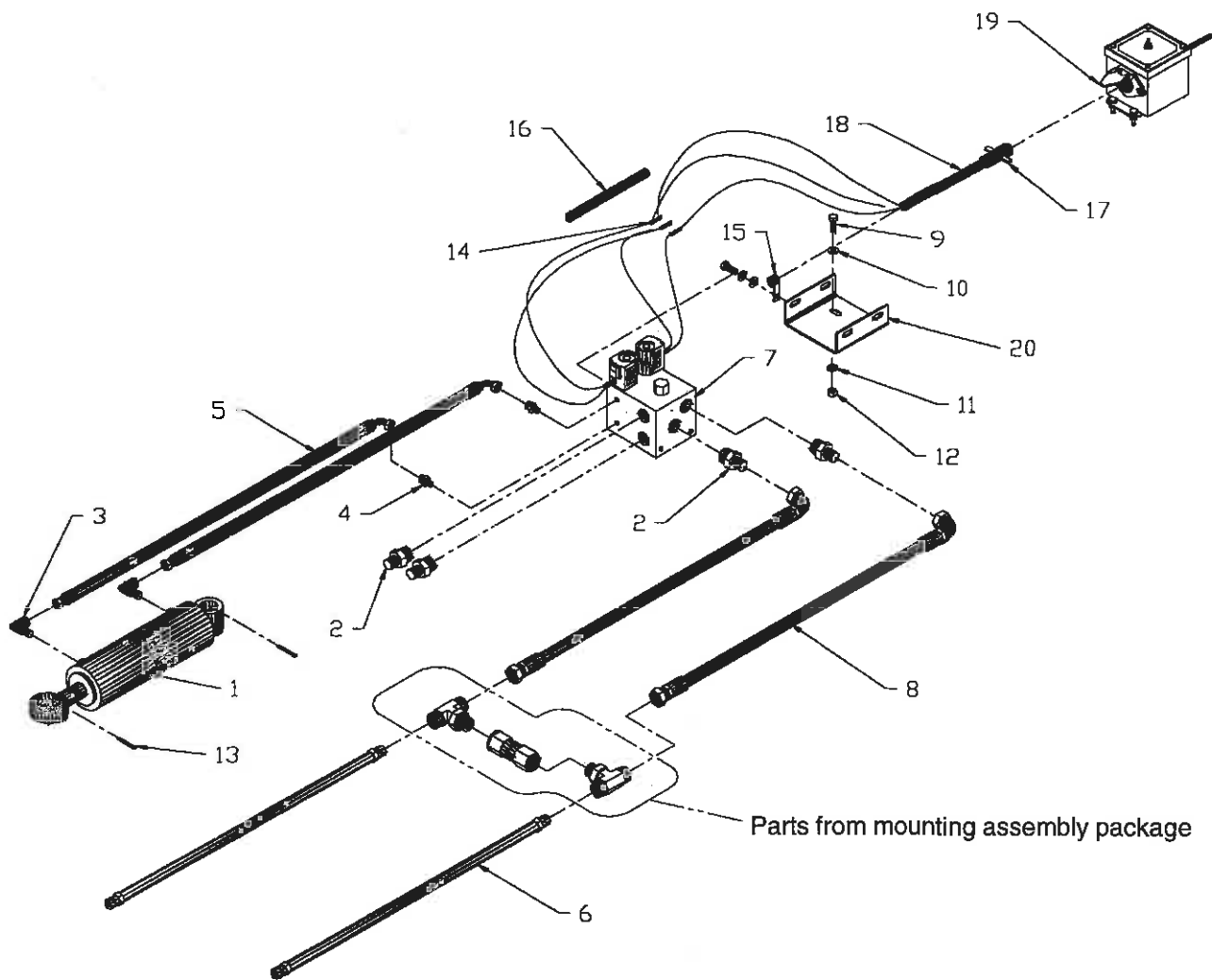
- c. Install elbow fittings on the cylinder. Then, connect the straight ends of the 32 in. hoses to the elbow fittings and 90° elbows to the manifold. The rod end goes to the top port and the barrel end connects to the bottom port.

IMPORTANT – Avoid cylinder combustion. Bleed air from the cylinder before use.

5. Connect hydraulic hoses to the brush head assembly, manifold and prime mover.
 - a. Attach hoses to fittings on brush head tubes and to manifold ports. The hose from the top tube goes to the port marked MR and the hose from the bottom tube connects to the port marked MP.
 - b. Connect 24 in. hoses to manifold ports marked P and T. Elbow fittings go on the manifold.
 - c. Install T-fittings and the check valve on the straight ends of 24 in. hoses. Make sure the arrow on the check valve points toward the hose on the P port.
 - d. Connect 36 in. hoses to T-fittings and to the prime mover's hydraulic supply. The line from the P port goes to the pressure line and the line from the T port connects to the return line.
6. Operate the system at a slow speed to check for any leaks or other problems. Make corrections before using the sweeper.

Option – Hydraulic Angle with Electric Valves for LH/LCH

To order, ask for assemblies 11-5306 or 11-5328 (12 volt)
11-5323 or 11-5339 (24 volt)



52-0329

Parts from mounting assembly package

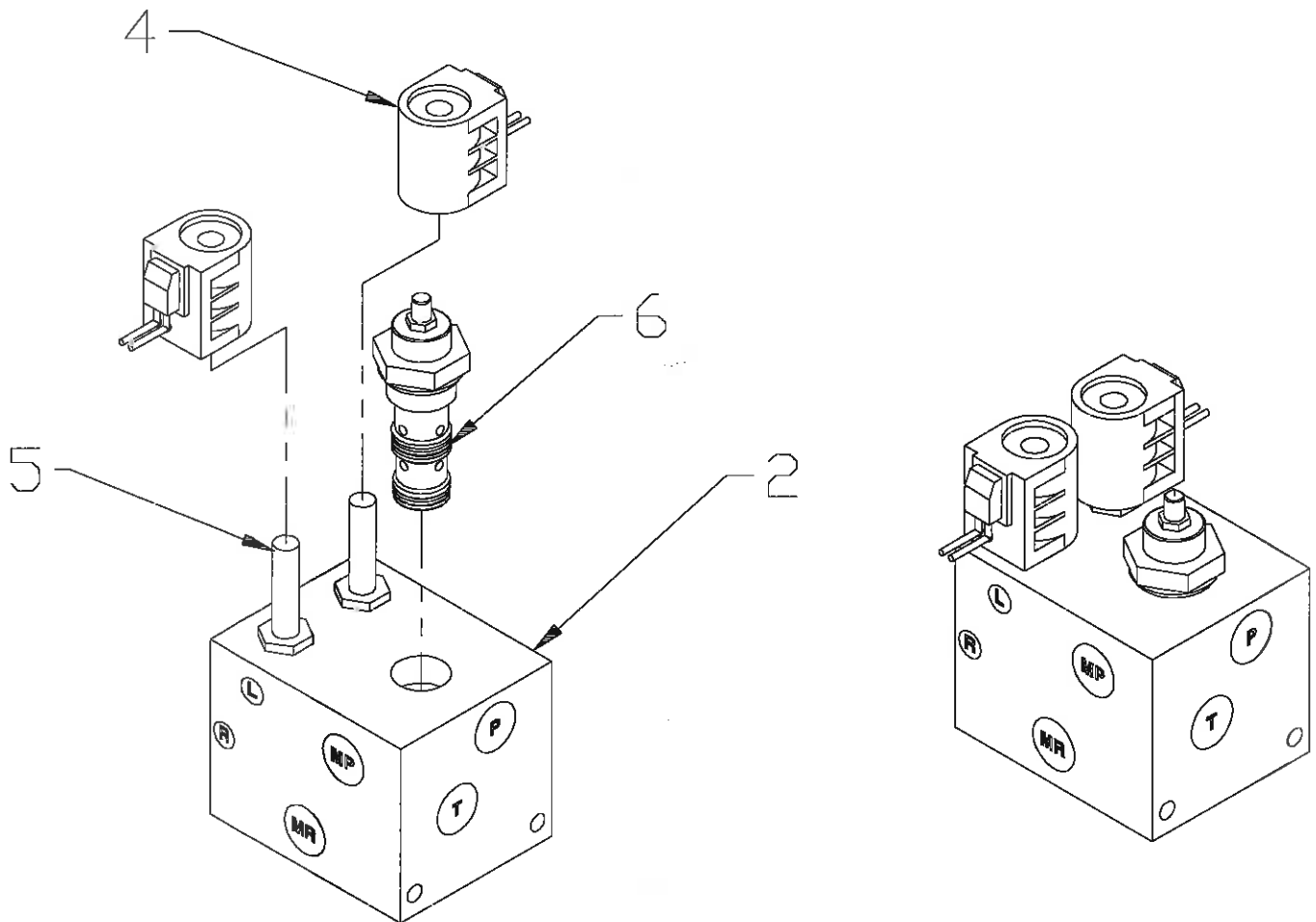
Item	Part	Qty	Description
1.	03-1929*	1	Cylinder, Hydraulic, 3-Bore, 7-1/2 Stroke
2.	03-1945	4	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MFS
3.	03-2092	2	Fitting, Elbow, HP, 90, 9/16 MOR, 3/8 MFS
4.	03-2291	2	Fitting, Adapter, HP, 3/8 MFS, 9/16 MOR
5.	03-2352	2	Hose, 3/8 x 32, 2 Wire, 3/8 FFS-90, 3/8 FS
6.	03-2474	2	Hose, 3/4 x 36, 2 Wire, 3/4 FFS, 3/4 FFS
7.	03-2543	1	Manifold, 12 volt, Swing, w/ Screen (for 11-5306 & 11-5328)
	03-2742	1	Manifold, 24 volt, Swing, w/ Screen (for 11-5323 & 11-5339)
8.	03-2556	2	Hose, 3/4 x 24, 2 Wire, 3/4-90 OFFS, 3/4 FFS
9.	07-0024	6	Screw, Cap, 3/8 x 1
10.	07-0154	6	Washer, Flat, 3/8
11.	07-0168	6	Washer, Lock, Split, 3/8

Item	Part	Qty	Description
12.	07-0183	2	Nut, Hex, 3/8-16
13.	07-0206	2	Pin, Cotter, 3/16 x 2
14.	07-0867	3	Terminal, Butt, Split, 16-14
15.	07-1177	1	Clamp, Rubber Coat, 1/2
16.	07-1834		.75 ft Loom, Flex, Guard, .500
17.	07-2153	1	Connector, Trailer, 4-Prong, w/ Guard
18.	07-2920	12 ft	Wire, Bulk, Cord, 12 gauge,
19.	11-4443	1	Assembly, Control Box, Hydraulic Swing, Electric Solenoid Valve
20.	13-4428	1	Bracket, Manifold Block, w/ Electric Solenoid Valve, Bolt-On

* Not included with assemblies 11-5328 and 11-5339

Option – Hydraulic Angle with Electric Valves for LH/LCH

**Manifold
Assemblies 11-5306 & 11-5328 (12 volt)
11-5323 & 11-5339 (24 volt)**



Item	Part	Qty	Description
2.	03-2543	1	Manifold, 12 volt, Swing, with Screen
	03-2742	1	Manifold, 24 volt, Swing, with Screen
4.	07-3077	2	Coil, 12 volt, Delta, Manifold Block
	07-3354	2	Coil, 24 volt, Delta, Manifold Block
5.	07-3080	2	Valve, Cartridge, Swing, Left/Right, Manifold Block
	03-1509		Kit, Seal, for 07-3080
6.	07-3082	1	Valve, Cartridge, Flow Divider, Manifold Block
	03-2926		Kit, Seal, for 07-3082

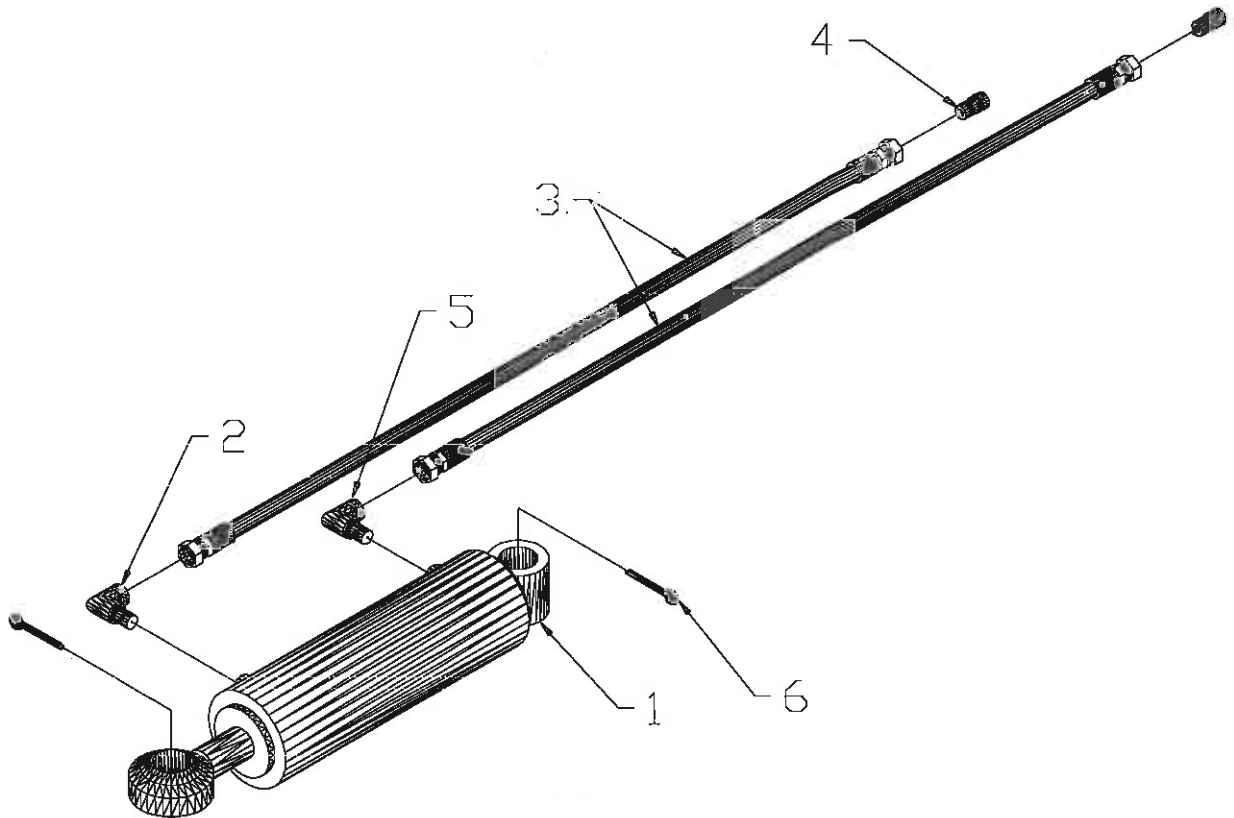
Installation

1. Install the cylinder with the barrel end on the mounting frame pin and the rod end on the swing plate pin. Secure with cotter pins.
2. Attach fittings to the cylinder with the elbow fitting on the rod-end port and the orifice fitting on the barrel-end port.
3. Connect a hose to each fitting on the cylinder.
4. Attach adapter fittings to the hose ends.
5. Connect the adapter fittings to the prime mover remote valve.

NOTE – Other hydraulic equipment to fit specific tractors, such as quick couplers and valves, is customer supplied.

Option – Hydraulic Angle-Field Installed for LH

Assemblies 11-4297 & 11-4298



Ref	Part	Qty	Description
1.	03-1929	1	Cylinder, Hydraulic, 3-Bore, 7-1/2 Strk
2.	03-2092	1	Fitting, Elbow, HP, 90°, 9/16 MOR, 3/8 MFS
3.	03-2155	2	Hose, 1/4 x 72, 1W, 3/8 FFS, 3/8 FFS (11-4298)
	03-2158	2	Hose, 1/4 x 144, 1 W, 3/8 FFS, 3/8 FFS (11-4297)
4.	03-2159	2	Fitting, Adapter, HP, 3/8 MFS, 1/4 MP
5.	03-2345	1	Fitting, Orifice, .078, Elbow 90°, HP, 9/16MOR, 3/8 MFS
6.	07-0206	2	Pin, Cotter, 3/16 x 2

Option – Power Pack for 3-Point Hitch

Installation

NOTE – Installing this power pack makes the 3-point hitch unavailable for other implements.

1. Install mounting, swing and brush head assemblies according to instructions located earlier in this manual.
 2. Remove the implement from the 3-point hitch, if installed.
 3. Install the pump on the PTO shaft (figure 63).
 4. Attach the chain to the pump and to the tractor. Make sure that the pump can move slightly but that it cannot slide off the PTO shaft.
 5. Place the barb fitting in the pump inlet but do not tighten completely. Install the pump relief and elbow fitting on the pump outlet; tighten these fittings.
 6. Install the tank assembly (figure 64) on the 3-point hitch using 2 link pins. Secure with lynch pins.
 7. Attach the suction hose to the pump inlet and tank outlet; secure with clamps. Tighten the barb fitting on the pump.
 8. Connect the 156 in. pressure hose to the elbow fitting on the pump relief; tighten the fitting.
 9. Connect the 204 in. return hose to the filter base.
 10. Connect the 60 in. bypass hose to the relief valve on the pump and the elbow fitting on the tank.
 11. Route pressure and return hoses underneath the tractor to the front.
- IMPORTANT** – Avoid hose damage. Keep hoses away from hot and/or moving parts.
12. Connect hydraulic hoses by following instructions earlier in this manual.



figure 63

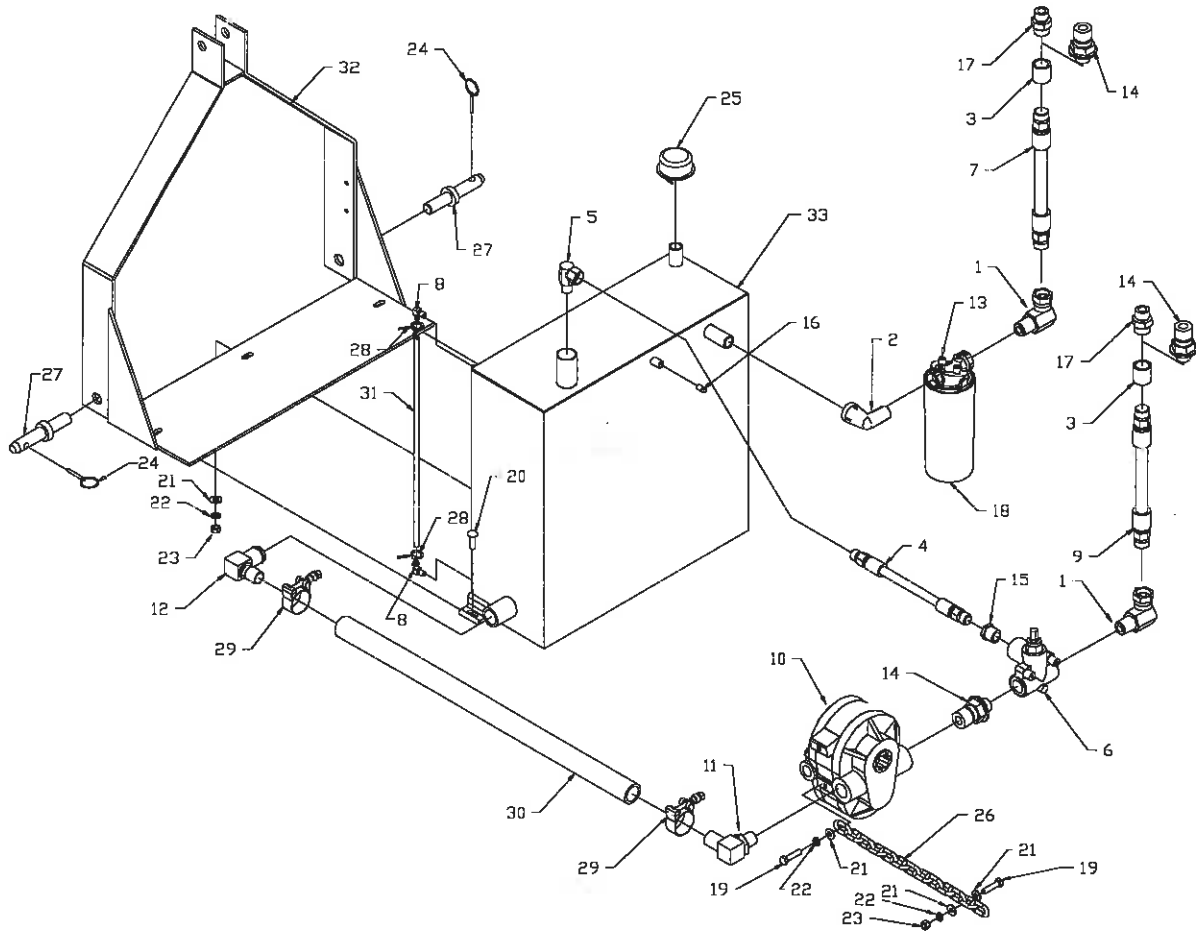


figure 64

Option – Power Pack for 3-Point Hitch

For AH, CH, LH & LCH

To order, ask for kit 11-7690 (12 gpm [.76 lps]) or 11-7691 (20 gpm [1.01 lps]).



52-0417

Item	Part	Qty	Description
1.	03-0016	2	Fitting, Elbow, HP, 90, 3/4 MP, 3/4 FPS
2.	03-0029	1	Fitting, Street Elbow, BP, 90, 3/4
3.	03-0051	2	Fitting, Coupling, BP, 3/4, Both End
4.	03-0124	1	Hose, 1/2 x 60, 1 Wire, 1/2 MP, Both End
5.	03-0128	1	Fitting, Elbow, HP, 90, 1/2 MP, 1/2 FPS
6.	03-0129	1	Valve, Relief, 3/4 Ports
7.	03-0404	1	Hose, 3/4 x 204, 1 Wire, 3/4 MP
8.	03-0454	2	Fitting, Barb, HP, 90, 1/4, 1/8 MP
9.	03-0586	1	Hose, 3/4 x 156, 2 Wire, 3/4 MP, 3/4 MP
10.	03-0597	1	Pump, PTO, 20 gpm
	03-0691	1	Pump, PTO, 12 gpm
11.	03-0710	1	Fitting, Barb, HP, 90, 1-1/4, 1-5/16 MOR
12.	03-0711	1	Fitting, Barb, HP, 90, 1-1/4, 1 MP
13.	03-0745	1	Filter, Base, Spin-On
14.	03-0938	3	Fitting, Adapter, HP, 1-1/16 MOR, 3/4 MP
15.	03-1068-9	1	Fitting, Reducer Bushing, HP, 3/4 x 1/2
16.	03-1182-1	1	Fitting, Plug, BP, Square, 1/8

Item	Part	Qty	Description
17.	03-1943	2	Fitting, Adapter, HP, 3/4 MFS, 3/4 MF
18.	03-2415	1	Filter, Element, 10M, Spin-On
19.	07-3655	2	Screw, Cap, 3/8 x 1-1/2
20.	07-1717	3	Bolt, Carriage, 3/8-16 x 1-1/4
21.	07-3279	5	Washer, Flat, 3/8
22.	07-1718	5	Washer, Lock, Split, 3/8
23.	07-3654	4	Nut, Hex, 3/8-16
24.	07-0244	2	Pin, Linch, #1600
25.	07-0245	1	Cap, Breather, Hydraulic Tank
26.	07-0246	1	Chain, 1/4 x 13 Links
27.	07-0285	2	Pin, Link, Cat I
28.	07-0551	2	Clamp, Spring, 1/4, Hose
29.	07-1192	2	Clamp, T-Bolt, 1-1/4
30.	09-0020	5 ft	Hose, Suction, 1-1/4, Bulk
31.	09-0054	1.5 ft	Tube, Bulk, 3/8, 1/4, Sight Gage
32.	11-7688	1	Weld, Mounting, Tank, 3-Point
33.	11-7689	1	Weld, Tank, 3-Point

Option – Sprinkler System

Installation

NOTE – This kit does not contain a water tank. To purchase a tank from SWEEPSTER, ask for tank 07-3150 (25 gal [95 liter]) or kit 11-5734 (200 gal [757 liter]) for 3-point hitch mounting.

1. Fasten the spraybar assembly to holes predrilled in the top edge of the hood. Use 4, 3/8-16 x 1 in. carriage bolts, flat washers, lock washers and nuts.
2. Mount the water tank. Placing it on the 3-point hitch is best for most applications.
3. Mount the pump within 7 ft (2.1 m) of the water tank.
4. Install electric controls (figure 65).

- a. Find a convenient spot on the prime mover dash to place the toggle switch. Drill a hole with a 13/32 in. bit. Install the switch.

IMPORTANT – Avoid prime mover damage. Check behind the dash to make sure that you will not drill into wires or other parts.

- b. Attach the wire cord to wires on the pump using butt end connectors. Black goes to black and white connects to red.
- c. Route the wire cord to the toggle switch.

IMPORTANT – Avoid wire damage. Route wire away from hot and/or moving parts.

- d. Strip 3 in. (76 mm) of insulation off the wire cord near the switch, taking care not to damage any wires. Cut the white wire. Attach both ends to wires on the toggle switch using butt end connectors.

- e. Route the wire cord to the fuse box keeping it away from hot and/or moving parts.

- f. Connect the white wire to a 15-20 amp fuse or Accessory on the ignition.

- g. Attach the black wire to the tractor frame using the terminal ring to ground the system.

5. Connect the water system. Use thread seal tape at connections.

- a. Attach a 3/8 in. barb fitting to the outlet on the pump.

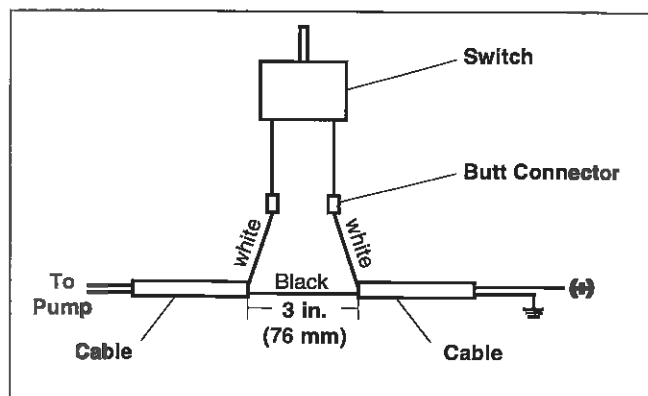


figure 65

- b. Install 2, 1/2 in.–3/8 in. reducer bushing fittings on the strainer outlet and inlet.
- c. Use a 3/8 in. nipple fitting to connect the strainer outlet to the pump inlet.
- d. Attach a 5/8 in. barb fitting to the strainer inlet.
- e. Connect the 5/8 in. hose to the barb fitting on the strainer. Secure with a 7/8 in. spring clamp.
- f. Attach a 5/8 in. barb fitting to the water tank. Purchase extra fittings, if needed, to adapt the fitting to the tank.
- g. Connect the 5/8 in. hose to the 5/8 in. barb fitting. Secure with a 7/8 in. spring clamp.
- h. Attach the 3/8 in. hose to the pump outlet. Secure with a 5/8 in. spring clamp.
- i. Route the 3/8 in. hose to the spraybar. Connect the hose to the spraybar and secure with a 5/8 in. spring clamp.

IMPORTANT – Avoid hose damage. Route hoses away from hot and/or moving parts.

6. Fill the water tank.
7. Turn on the pump.
8. Adjust nozzles to create a fine curtain of water that falls 8-10 in. (203-254 mm) away from the brush.

NOTE – The sprinkler system is designed to spray a fine mist of water to keep dust at a minimum. It will not saturate the sweeping area with water.

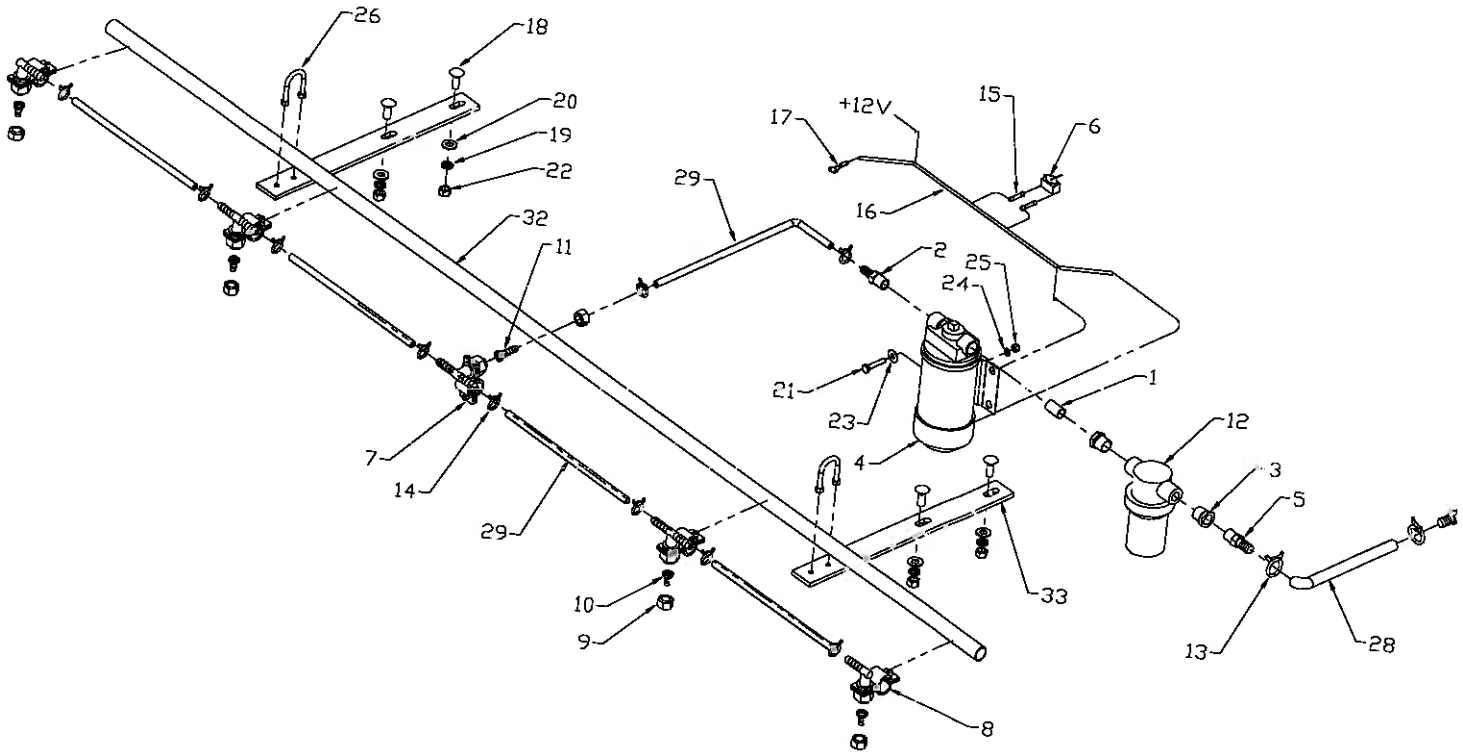
9. Check for leaks or other problems. Make corrections if necessary.

Option – Sprinkler System

Item	Part	Qty	Description
1.	03-0076	1	Fitting, Nipple, BP, Close, 3/8
2.	03-0457	1	Fitting, Barb, Nylon, 3/8–3/8 MP
3.	03-0819	2	Fitting, Reducer Bushing, BP, 1/2–3/8
4.	03-1326	1	Pump, Fojet, Water, 2.9 gpm, 12 volt
	03-2558	1	Pump, Fojet, Water, 2.9 gpm, 24 volt
5.	03-1709	2	Fitting, Barb, Nylon, 5/8–3/8 MP
6.	07-0343	1	Switch, Toggle, 2 Position
7.	07-0411	3	Nozzle, Tee, with Clamp (5/6/7)
	07-0411	5	Nozzle, Tee, with Clamp (8/9/10)
8.	07-0412	2	Nozzle, Elbow, with Clamp
9.	07-0413	5	Nozzle, Cap, Nylon (5/6/7)
	07-0413	7	Nozzle, Cap, Nylon (8/9/10)
10.	07-0414	4	Nozzle, Tip, Brass (5/6/7)
	07-0414	6	Nozzle, Tip, Brass (8/9/10)
11.	07-0417	1	Fitting, Barb, Brass, 3/8
12.	07-0532	1	Strainer, Hypro, Water
13.	07-0547	2	Clamp, Spring, 7/8 Hose
14.	07-0549	10	Clamp, Spring, 5/8 Hose (5/6/7)
	07-0549	14	Clamp, Spring, 5/8 Hose (8/9/10)
15.	07-0867	4	Terminal, Butt
16.	07-0917	20 ft	Wire, Bulk, Cord, 16 gauge
17.	07-0929	1	Terminal, Ring, 3/8, 16-14
18.	07-1716	4	Bolt, Carriage, 3/8-16 x 1
19.	07-1718	4	Washer, Lock, Split, 3/8
20.	07-3279	4	Washer, Flat, 3/8
21.	07-3638	4	Screw, Cap, 1/4-20 x 1-1/4
22.	07-3654	4	Nut, Hex, 3/8-16
23.	07-4032	4	Washer, Flat, 1/4
24.	07-4038	4	Washer, Lock, Split, 1/4
25.	07-4039	4	Nut, Hex, 1/4-20
26.	07-4673	2	U-Bolt, STD, 1/4-20 x 1
28.	09-0028	7 ft	Hose, Heater, 5/8 (5/6/7/9/10)
	09-0028	10 ft	Hose, Heater, 5/8 (8)
29.	09-0056	23.75 ft	Hose, Heater, 3/8 (5)
	09-0056	25 ft	Hose, Heater, 3/8 (6)
	09-0056	26.25 ft	Hose, Heater, 3/8 (7)
	09-0056	27.5 ft	Hose, Heater, 3/8 (8)
	09-0056	28.75 ft	Hose, Heater, 3/8 (9)
	09-0056	29 ft	Hose, Heater, 3/8 (10)
32.	13-2164	1	Tube, RD, 7/8 x 16 Gauge x 60 (5)
	11-6684	1	Tube, RD, 7/8 x 16 Gauge x 72 (6/7)
	13-2821	1	Tube, RD, 7/8 x 16 Gauge x 93 (8)
	13-2802	1	Tube, RD, 7/8 x 16 Gauge x 104 (9/10)
33.	13-10076	2	Plate, Mounting, Sprinkler Bar, Adj

Option – Sprinkler System

To order 12 volt, ask for kit 11-4190 (5 ft [1.3 m]),
11-4045 (6 ft [1.5 m]), 11-4171 (7 ft [1.8 m]),
11-4062 (8 ft [2.0 m]), 11-4262 (9 ft [2.3 m]),
or 11-4271 (10 ft [2.5 m]).
To order 24 volt, ask for kit 11-4379 (8/9 ft)
or 11-5924 (10 ft)



Option – Sprinkler Tank for 3-Point Hitch

Installation

1. Position the water tank mounting and assembly behind the tractor.
 2. Place hitch pins, which are a part of the tank mounting, in hitch arms. Secure with klik pins.
 3. Attach the hitch topline to the tank mounting (figure 66). Hardware is not provided.
 4. Raise the hitch as high as possible.
 5. Level the tank assembly from back to front with the topline.
 6. Attach the pump, which is included with the sprinkler system, to the plate on the right-hand side of the mounting. Use hardware provided with the sprinkler kit.
 7. Install the sprinkler system by following instructions included with those parts.
-

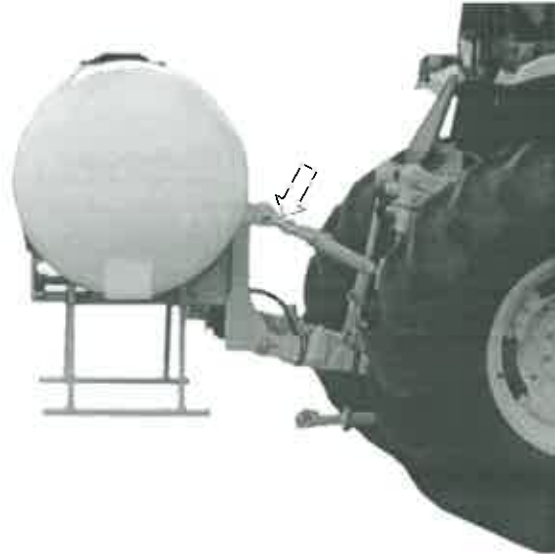
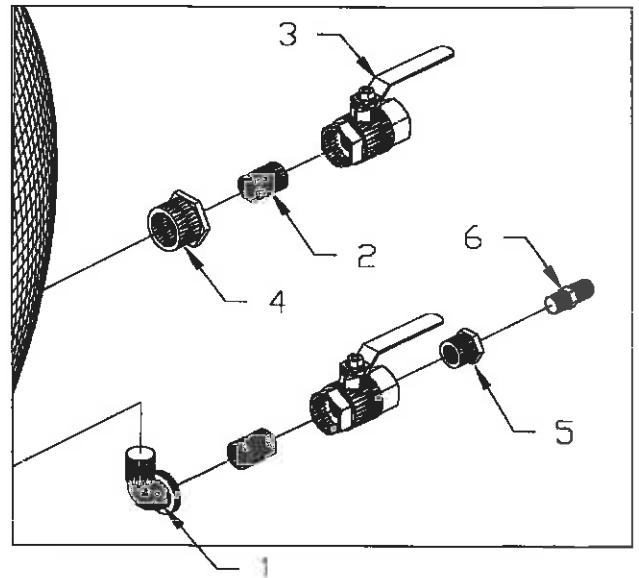
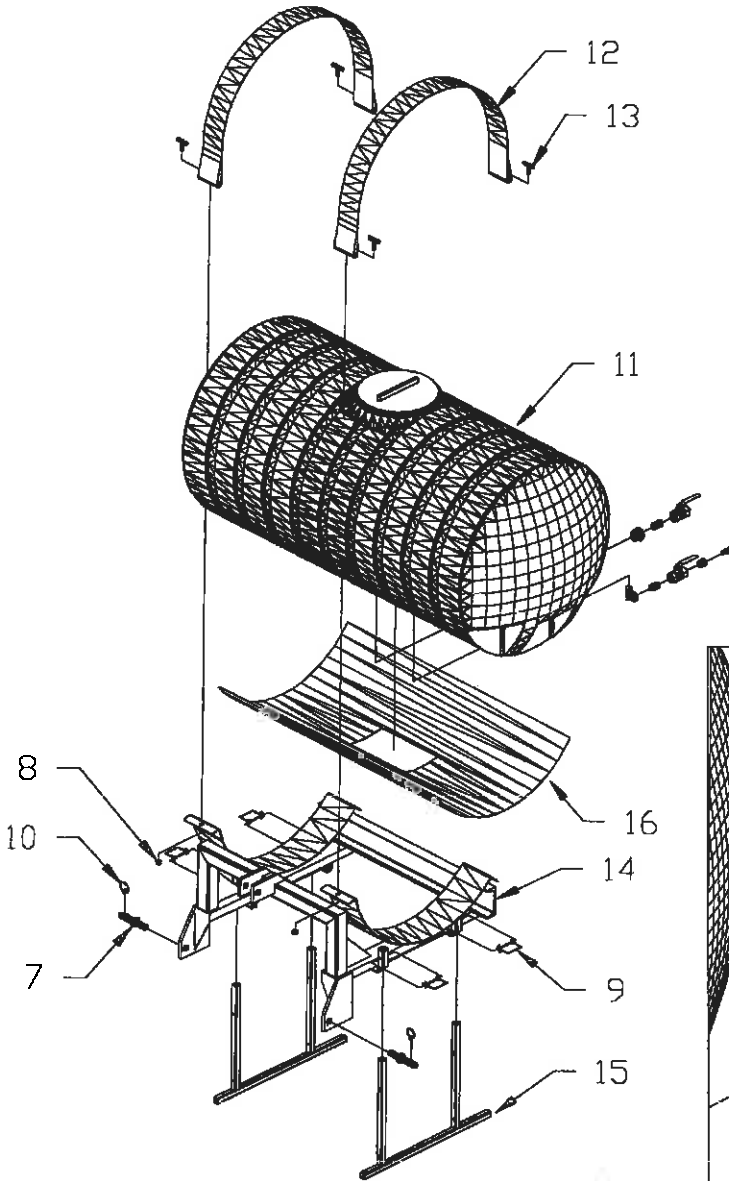


figure 66

Option – Sprinkler Tank for 3-Point Hitch

52-0311

To order, ask for kit 11-5734.



Item	Part	Qty	Description
1.	03-0029	1	Fitting, Street Elbow, BP, 90, 3/4
2.	03-0054	2	Fitting, Nipple, BP, Close, 3/4
3.	03-0569	2	Valve, Shut-Off, Ball, 3/4
4.	03-0572	1	Fitting, Reducer Bushing, BP, 1-1/4, 3/4
5.	03-1068-9	1	Fitting, Reducer Bushing, BP, 3/4 x 1/2
6.	03-1226	1	Fitting, Barb, HP, 5/8, 1/2 MP
7.	07-0285	2	Pin, Link, Cat I
8.	07-1303	4	Nut, Hex, 1/2-13, Nylock
9.	07-1607	4	Pin, Lock, 5/16, Square Bail
10.	07-2843	2	Pin, Klik, 3/16 x 1-5/8
11.	07-3592	1	Assembly, Tank, Water, 200 gal
12.	09-0058	2	Strap, Nylon, Tank, Water
13.	11-7417	4	Weld, Bolt, Tee, 1-1/2
14.	13-2139	1	Weld, Mounting, Tank
15.	13-2152	2	Weld, Stand
16.	13-2155	1	Liner, Tank, 200 gal

Installation

1. On 1 side of the brush head assembly, remove hardware that holds the bottom of the hood arm bracket on the brush frame (figure 67).
2. Place the stand weldment on the brush frame and the hood arm on top of it. Fasten parts to the brush frame with a 3/8-16 x 2 in. carriage bolt and the lock washer and nut removed from the hood arm.
3. Align the stand weldment with the brush frame and clamp in place. Transfer punch holes to the brush frame. Remove the weldment. Drill holes with a 13/32 in. bit.
4. Fasten the stand weldment to the brush frame with 3, 3/8-16 x 1 1/4 in. cap screws, lock washers and nuts.
5. Repeat steps 1-4 on the other side of the brush head assembly.
6. Raise the sweeper.
7. Insert stands into tubes on stand weldments. Secure stands with lock pins.

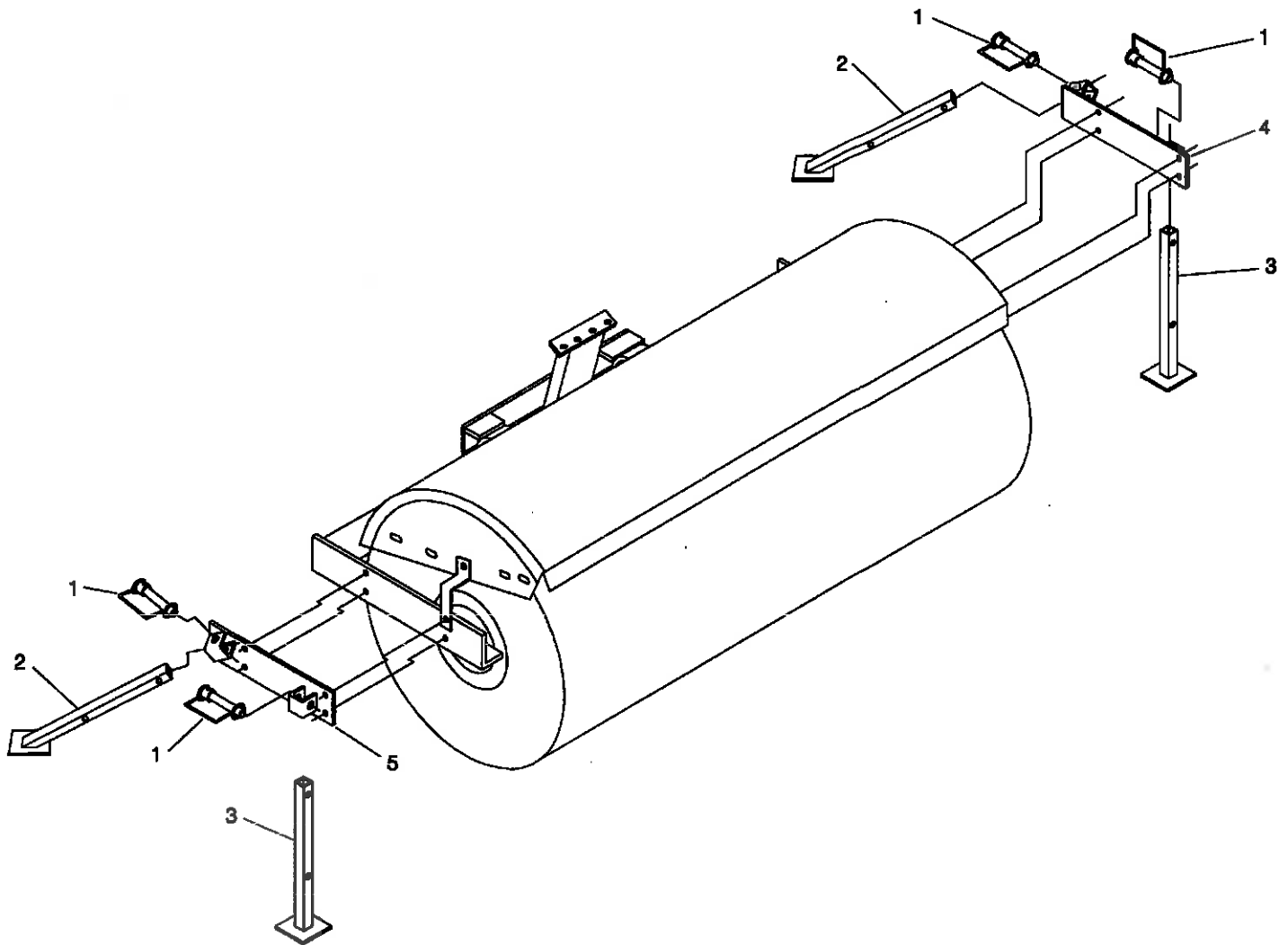
NOTE – Stands are designed to keep the brush off the ground when the sweeper is dismounted. When the sweeper is installed, slide stands up in the tubes to keep them out of the way.



figure 67

Option – Stands

To order, ask for kit 11-4281.



Item	Part	Qty	Description
1.	07-1607	4	Pin, Lock, 5/16, Square Bail
2.	13-0798	2	Weld, Leg, Rear
3.	13-0799	2	Weld, Leg, Front
4.	13-2944	1	Weld, Stand, Bolt-On, Left
5.	13-2945	1	Weld, Stand, Bolt-On, Right

Not Shown

07-3702	2	Bolt, Carriage, 3/8-16 x 2
07-1718	6	Washer, Lock, Split, 3/8
07-2116	6	Screw, Cap, 3/8-16 x 1-1/4
07-3654	6	Nut, Hex, 3/8-16

Torque Values

Bolt Torque Specifications

Body Size Grade 5	Ft-lbs		Body Size Class 8.8	Ft-lbs
1/4 - 20	6 ± 1		M6 - 1.0	5 ± 1
- 28	7 ± 1		n/a	-
5/16 - 18	13 ± 3		n/a	-
- 24	14 ± 3		n/a	-
3/8 - 16	23 ± 5		M8 - 1.25	14 ± 3
- 24	26 ± 5		- 1.0	-
7/16 - 14	37 ± 8		M10 - 1.5	29 ± 6
- 20	41 ± 9		- 0.75	-
1/2 - 13	56 ± 11		M12 - 1.75	50 ± 10
- 20	63 ± 12		- 1.0	-
9/16 - 12	82 ± 14		M14 - 2.0	80 ± 14
- 18	91 ± 16		- 1.5	-
5/8 - 11	113 ± 20		M16 - 2.0	125 ± 22
- 18	127 ± 23		- 1.5	-
3/4 - 10	201 ± 26		n/a	-
- 16	223 ± 29		n/a	-
7/8 - 9	321 ± 41		M20 - 2.5	244 ± 31
- 14	355 ± 46		- 1.5	-
1 - 8	483 ± 62		M24 - 3.0	422 ± 54
- 12	528 ± 68		- 2.0	-

Body Size Grade 8	Ft-lbs		Body Size Class 10.9	Ft-lbs
1/4 - 20	9 ± 2		M6 - 1.0	8 ± 1
- 28	10 ± 2		n/a	-
5/16 - 18	18 ± 4		n/a	-
- 24	20 ± 4		n/a	-
3/8 - 16	32 ± 7		M8 - 1.25	20 ± 4
- 24	37 ± 8		- 1.0	-
7/16 - 14	52 ± 11		M10 - 1.5	40 ± 8
- 20	58 ± 12		- 0.75	-
1/2 - 13	80 ± 16		M12 - 1.75	69 ± 14
- 20	90 ± 18		- 1.0	-
9/16 - 12	115 ± 20		M14 - 2.0	110 ± 20
- 18	128 ± 23		- 1.5	-
5/8 - 11	159 ± 28		M16 - 2.0	173 ± 31
- 18	180 ± 32		- 1.5	-
3/4 - 10	282 ± 36		n/a	-
- 16	315 ± 41		n/a	-
7/8 - 9	454 ± 59		M20 - 2.5	337 ± 44
- 14	500 ± 65		- 1.5	-
1 - 8	681 ± 88		M24 - 3.0	583 ± 75
- 12	746 ± 97		- 2.0	-

Foot-pounds may be converted to Newton Meters by multiplying by 1.35582.

Foot-pounds may be converted to Inch-pounds by dividing by 12.

If the nut and screw are not the same grade, the lower grade will always be used.

NOTE – Nylock nuts are utilized when greater resistance to vibrating loose is required, and greater operating temperatures are not a factor. In addition, like lock nuts, nylock nuts have a safety feature that if the bolt does vibrate loose, the nut will remain on the screw. Install nylock nuts to the standard torque shown above.

Warranty Information

Warranty Registration

Return form to 1-734-996-9014



PALADIN LIGHT CONSTRUCTION

Warranty Registration Form and Delivery Inspection Report

IMPORTANT! Warranty Void if card is not returned with 10 days.
All Applicable sections must be filled in.

This section to be filled out and signed by Dealer at time of delivery.

Warranty Registration

Customer's Name _____	Dealer's Name _____
Address _____	Address _____
City _____ State _____ Zip _____	City _____ State _____ Zip _____
Phone _____	CHECK ONE:
Loader / Tractor Model _____	Construction Use _____
Delivery Date _____	Agricultural Use _____
Model or Part # _____	Landscape Use _____
Serial # _____	Other _____

Dealer Inspection (check items applicable)

- | | |
|--|--|
| <input type="checkbox"/> All Decals installed (see operator's manual)
<input type="checkbox"/> Hydraulic fittings tight and free of leaks
<input type="checkbox"/> Fasteners tight | <input type="checkbox"/> Review Operating and Safety Instructions
<input type="checkbox"/> Guards and covers in place and secure
<input type="checkbox"/> Does Product Function Properly |
|--|--|

I have thoroughly instructed the buyer on the above described equipment. This review included: The Operator's manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. signature _____

This section to be completed and signed by the customer

	1 Excellent	2 Good	3 Average	4 Unsatisfactory	5 Poor
QUALITY ASSURANCE RATING					
Question:		Sweepster		Local Dealer	
Quality of Product: Appearance		_____			
Construction		_____			
Quality of Service		_____			
Value (Priced Fairly)		_____			
Does it perform as claimed		_____			

The above described equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____ Owner's signature _____

NOTE! Make one copy each for the dealer's and owner's records. Mail original to Sweepster.

Comments: _____

Sweepster, Inc
 2800 N. Zeeb Rd.
 Dexter, MI 48130-9499
 800-456-7100
 fax 734-996-9014



SWEEPSTER LLC Limited 12 Month Warranty

Thank you for purchasing a Sweepster, LLC. product. Warranty protection is valid only when this Warranty Registration is completed and signed by the customer and dealer, and mailed to Sweepster LLC. I hereby acknowledge that I have received a copy of the owners Limited Warranty and I accept the terms therein.

For a period of 12 months from the date of delivery of product to the original user, Sweepster, LLC. warrants each product to be free from manufacturing defects, subject to the limitations contained in this policy.

This warranty does not apply to defect caused, in whole or in part, by unreasonable use while in the possession of the user, including, but not limited to: failure to properly set up product; failure to provide reasonable and necessary maintenance; normal wear; routine tune ups or adjustments; improper handling or accidents; operation at speed or load conditions contrary to published specification; improper or insufficient lubrication; improper storage. This warranty is also not a guarantee that performance of each product will meet the expectations of the purchaser.

Sweepster, LLC. shall not be liable for consequential damages of any kind, including, but not limited to: consequential labor costs or transportation charges in connection with the replacement or repair of defective parts; lost time or expense which may have accrued because of said defects. In no event shall Sweepster, LLC.'s total liability hereunder exceed the product purchase price.

Sweepster, LLC. makes no warranty with respect to trade accessories or any component or accessory of the product which was not manufactured by Sweepster, LLC. including any purchased components of any kind. These are subject to the warranties of their respective manufacturers. The warranty will be considered void if the product or any part of the product is modified or repaired in any way not expressly authorized by Sweepster, LLC. or if closed components are disassembled prior to return. Closed components include, but are not limited to: gearboxes, hydraulic pumps, motors, cylinders, and actuators.

Our obligation under the warranty is expressly limited, at our option, to the replacement or repair at Sweepster, LLC or at a service facility designated by us, or such part or parts as inspection shall disclose to have been defective. We are not responsible for unauthorized repairs or replacements. Any implied or statutory warranties, including any warranty of merchantability or fitness for a particular purpose, are expressly limited to the duration of this written warranty. We make no other express or implied warranty, nor is anyone authorized to make any on our behalf. This warranty cannot be extended, broadened, or changed except in writing by an authorized officer of Sweepster, LLC.

Glossary – Terms & Abbreviations

BP – black pipe

brush head assembly – assembly that includes the core, hood and brush frame.

brush pattern – area of dirt removed from sweeping surface; with a properly adjusted sweeper, the pattern is the same width for the entire length.

caution – indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CV – constant velocity; usually refers to a drive shaft.

core – weldment that holds brush sections.

dirt deflector – kit made of metal and/or rubber parts designed to direct debris away from the operator.

F – female.

FS – face seal.

front pump unit – sweeper in which the pump is mounted on a front PTO.

gpm – gallons per minute.

HP – high pressure.

hood – brush shield.

hydraulic angle kit – means of swinging the brush head assembly hydraulically.

important – used for instructions when machine damage may be involved.

in. – inches.

kph – kilometers per hour.

lb – pounds.

left-hand – side that is on the left when facing the normal forward direction of travel of the machine.

lift cylinder – means of raising the brush head assembly hydraulically.

lps – liters per second.

M – male.

mm – millimeters.

mph – miles per hour.

manual angle kit – means of swinging the brush head assembly mechanically.

mid pump unit – sweeper in which the pump is mounted on the mid PTO.

mounting assembly – portion of the sweeper that attaches to the prime mover; designed specifically for each prime mover.

NPT – national pipe thread.

note – indicates supplementary information.

OR – O-ring.

psi – pounds per square inch.

PTO – power take off; shaft on the prime mover used to drive attachments.

plate swing – swing assembly that includes a half-moon plate.

power pack – auxiliary hydraulic packaged used when prime mover hydraulics do not have enough flow available.

prime mover – refers to the tractor, truck, loader or other vehicle to which a sweeper is attached.

qty – quantity.

quick change core – core designed in a way that allows brush sections to be changed without removing hoses from motors.

rpm – revolutions per minute.

rear pump unit – sweeper in which the pump is mounted on a rear PTO.

retainer – removable plate or set of plates that keeps sections on the core.

right-hand – side that is on the right when facing the normal forward direction of travel of the machine.

scissor swing – swing assembly that includes 2 pivoting arms.

Glossary – Terms & Abbreviations

section – single brush wafer.

section set – replacement brush wafers.

spring-chain assembly – assembly that helps keep the sweeper in proper adjustment yet allows it to pivot up and down.

sprinkler system – system that sprays water ahead of the sweeper; used to reduce dust.

sprinkler tank – assembly that includes the water reservoir and mounting used in a sprinkler system.

stands – devices designed to keep the brush off the ground when the sweeper is dismounted.

swing assembly – portion of the sweeper that allows the brush head assembly to angle.

swing cylinder – means of angling the brush head assembly hydraulically.

tank assembly, hydraulic – assembly that includes the hydraulic reservoir, filter and fittings; may also incorporate valves.

transport chain – chain that supports the weight of the brush head assembly during transport between work sites and during adjustment of the spring-chain assemblies.

warning – indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

weld – weldment.

windrow – pile of debris.

zerk – grease fitting.

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