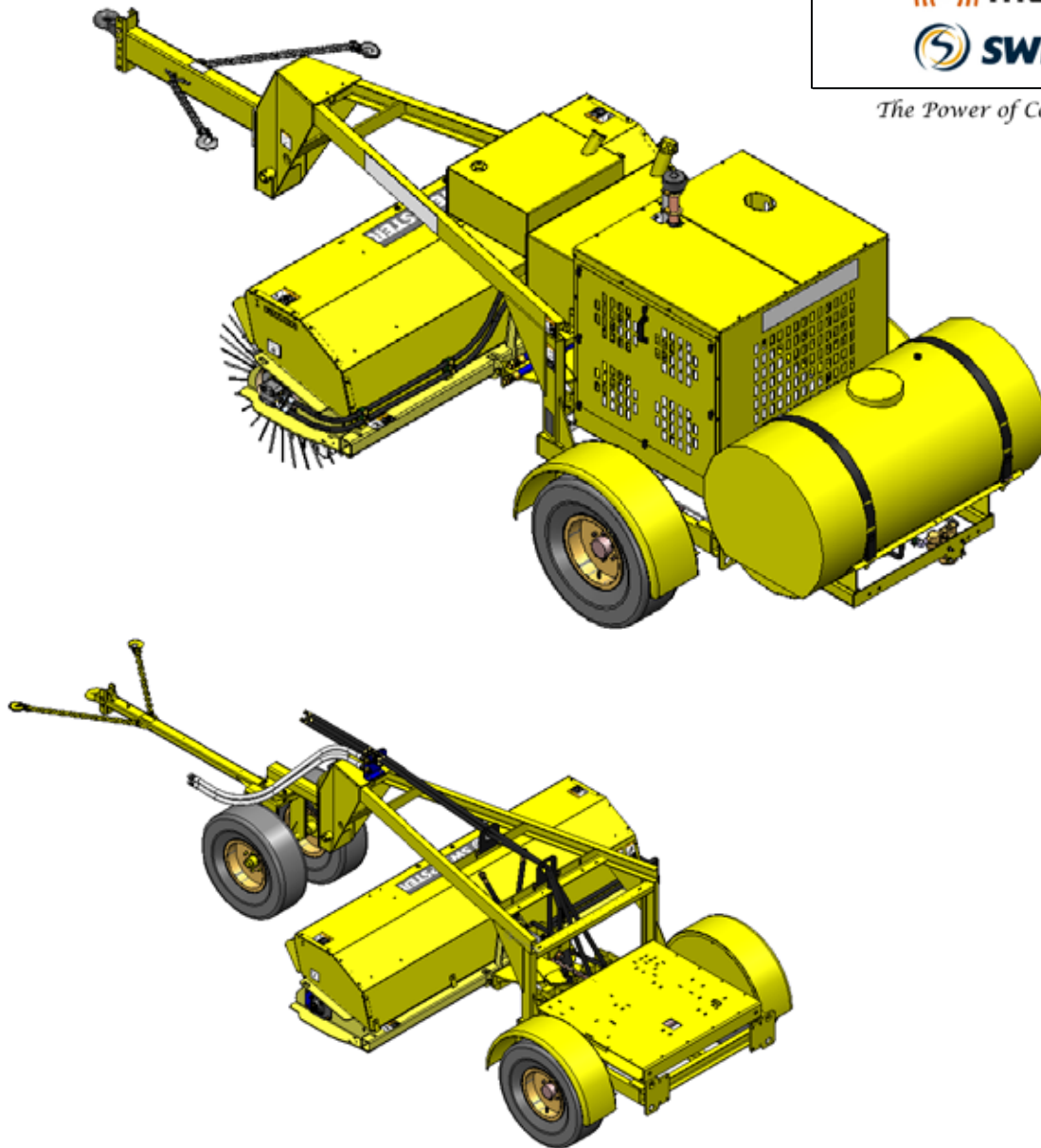




TB Series

Tow Behind Sweeper



PALADIN
LIGHT CONSTRUCTION GROUP

 **BRADCO**

 **FFC**

 **HARLEY**

 **McMILLEN**

 **SWEEPSTER**

The Power of Combined Excellence

Sweepster Serial Number _____

Manual Number: 51-4065
Release Date: July 2009
Serial Number 0930001 and Up

NOTES

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INTRODUCTION

SAFETY STATEMENTS

Purpose of Sweeper

This sweeper is designed solely for the use in construction cleanup, road maintenance 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.

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
2800 North Zeeb Road
Dexter, Michigan 48130
Phone: (734)-996-9116 - (800)-456-7100
Fax: (734) 996-9014
e-mail: sweepster@paladinbrands.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

Terms Used in Manual

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.

Warranty

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

DANGER!



THIS STATEMENT IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

WARNING!



THIS STATEMENT IS USED WHERE SERIOUS INJURY OR DEATH COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

CAUTION!



THIS STATEMENT IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

NOTICE!



THIS STATEMENT IS USED WHERE EQUIPMENT OR PROPERTY DAMAGE COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

THIS SYMBOL BY ITSELF OR USED WITH A SAFETY SIGNAL WORD THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

GENERAL SAFETY PRECAUTIONS

WARNING!



READ MANUAL PRIOR TO INSTALL

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual as well as all manuals related to this equipment and the prime mover thoroughly before beginning installation, operation, or maintenance. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE PRIME MOVERS MANUAL.**

WARNING!



READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing or operating this equipment.



KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to assure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn and hard to read.

GENERAL SAFETY PRECAUTIONS

WARNING!



PROTECT AGAINST FLYING DEBRIS

Always wear proper safety glasses, goggles or a face shield when driving pins in or out or when operation causes dust, flying debris, or any other hazardous material.

WARNING!



LOWER OR SUPPORT RAISED EQUIPMENT

Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or onto blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

WARNING!



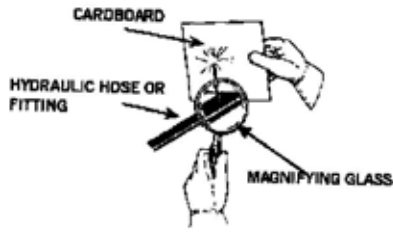
USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime movers operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research immediately to determine proper treatment.

GENERAL SAFETY PRECAUTIONS CONTINUED

- Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks.
**DO NOT USE YOUR HANDS!
SEE ILLUSTRATION.**



WARNING!



DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection System) equipment or device. Any modifications must be authorized in writing by the manufacturer.

WARNING!



SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing, or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tool for the job at hand. Make sure they are in good condition for the task required.

GENERAL SAFETY PRECAUTIONS CONTINUED

- Wear the protective clothing equipment specified by the tool manufacturer.

WARNING!



SAFELY OPERATE EQUIPMENT

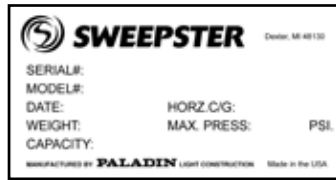
Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your prime movers manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the prime mover.
- Do not operate the equipment from anywhere other than the correct operators position.
- Never leave equipment unattended with the engine running or with this attachment in a raise position.
- Do not alter or remove any safety feature from the prime mover or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

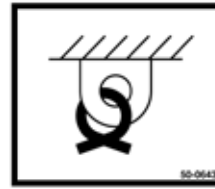
SAFETY SIGNS & LABELS



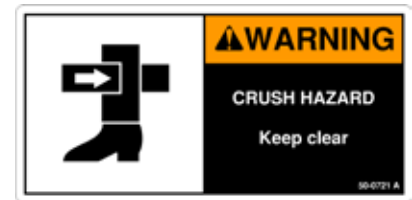
1. 41043



3. 50-0634



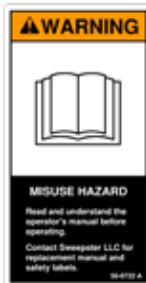
4. 50-0643



5. 50-0721



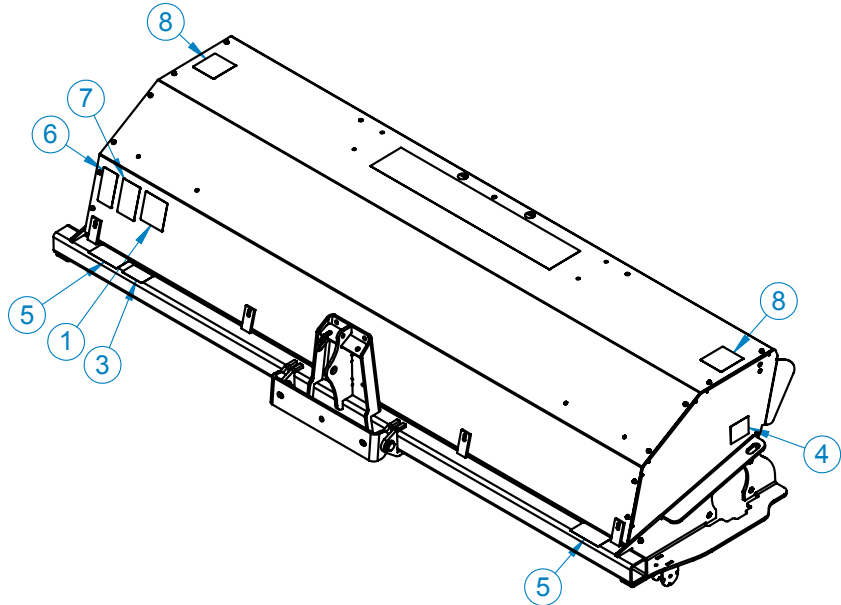
8. 50-0726



6. 50-0722



7. 50-0724



Item	Part	Qty	Description
1.	41043	1	Decal, Warning, Hazardous Dust
3.	50-0634	1	Label, Serial Number
4.	50-0643	2	Label, Tie Down Point
5.	50-0721	2	Label, Warning, Crush Hazard
6.	50-0722	1	Label, Warning, Misuse Hazard
7.	50-0724	1	Label, Warning, High Pressure Fluid
8.	50-0726	2	Label, Warning, Flying Objects

SAFETY SIGNS & LABELS

There are several specific signs on this sweeper. The exact location of the hazards and description of the hazards are reviewed.

Placement or replacement of Safety Signs

1. Clean the area of application with nonflammable solvent, and then wash the same area with soap and water.
2. Allow the surface to fully dry.
3. Remove the backing from the safety sign, exposing the adhesive surface.
4. Apply the safety sign to the position shown in the diagram above and smooth out any bubbles.

Instructions

1. Keep all safety signs clean and legible.
2. Replace all missing, illegible, or damaged safety signs.
3. Replacement parts, for parts with safety signs attached, must also have safety signs attached.
4. Safety signs are available, free of charge, from your dealer or from SWEEPSTER.

SERVICE & REPAIR - SAFETY

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 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.

Do not bend high pressure lines. Do not strike high pressure lines. Do not install bent lines, bent tubes, or kinked hoses. Do not install damaged lines, tubes, or hoses.

Repair damaged or loose lines, tubes and hoses. Leaks can cause fires. See your SWEEPSTER dealer for repair or replacement parts.

Replace the parts if any of the following conditions are present:

- The end fittings are damaged or leaking.
- The outer covering is chafed or cut.
- The reinforcing wire layer is exposed.
- The outer covering is ballooning locally.
- The hose is kinked or crushed.
- The hose has been pulled or stretched.

Make sure that all clamps, guards, and shields are installed correctly.

51-4065

OPERATION

CAUTION!



A SWEEPER IS A DEMANDING MACHINE. Only fully trained operators or trainee operators under supervision of a fully trained person should use this machine.

Before operating sweeper:

- 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 host machine, making sure it is tight.
- Replace any damaged or fatigued hardware with properly rated fasteners.
- Make sure all hydraulic hardware and hydraulic fittings are tight.
- Replace any damaged or fatigued fittings or hoses.
- Check all tire pressures 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 flying debris.
- Be sure all persons not operating the sweeper are clear of the sweeper discharge area.
- Always wear proper apparel such as a long sleeved shirt buttoned at the cuffs; safety glasses, goggles or a face shield; ear protection; and a dust mask.

While operating sweeper:

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

- Before leaving the operators 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 rotating speed that will do the job.
- Keep hands, feet, hair and other 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 primer mover.
- Be aware of 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.
- Only operate the sweeper while you are in the seat of the prime mover. The seat belt must be fastened while you operate the prime mover. Only operate the controls while the engine is running. Protective glasses must be worn while you operate the prime mover and while you operate the sweeper.
- While you operate the sweeper slowly in an open area, check for proper operation of all controls and all protective devices. Note any repairs needed during operation of the sweeper. Report any needed repairs.

Before Each Use

Perform daily maintenance as indicated in Maintenance Schedule.

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

WARNING!



AVOID SERIOUS INJURY. Check for large objects that could harm the operator or others if thrown by the sweeper. Remove these items before operating.

During Use

Carry the sweeper low to the ground so that the operator has good visibility and stability. Avoid any sudden movements from one side to the other side when you carry a sweeper.

Avoid excessive downward pressure on the brush sections to prevent excessive wear. A two to six inch wide pattern is sufficient for most applications. Ensure that the motor and bearing plates are equally adjusted in order to prevent an uneven wear pattern.

Directing Debris

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

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

NOTICE!

AVOID SWEEPER DAMAGE.

Reduce travel speed to avoid hitting immovable objects.

STORAGE

Brush, Engine & Travel Speeds

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

Large Areas

When using an angle broom and 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 to one side.

Snow

Fast brush speeds and slow travel speeds are needed to sweep 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.

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.

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 - 1-2 mph.

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

Increase engine speed if debris becomes very heavy.

NOTICE!

Do not store the sweeper with weight on the brush. Weight will deform the bristles, destroying the sweeping effectiveness.

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.

Set Up Main Frame

For two wheel units only, on level ground adjust hitch height up or down as required to keep the main frame level with the ground.

WARNING!



EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA DUST ALONG WITH OTHER HAZARDOUS DUSTS MAY CAUSE SERIOUS OR FATAL RESPIRATORY DISEASE.

It is recommended to use dust suppression, dust collection and if necessary personal protective equipment during the operation of any attachment that may cause high levels of dust.

LEVELING

Level the sweeper for even brush wear and effective 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 inches (51 mm) above the ground.
3. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
4. Unfasten safety restraints and exit prime mover.
5. Check if the swing assembly is level by using a bubble level. To make corrections:

Scissor swing/plate swing - Turn leveling bolts (A) (figure 1 and 2) in or out in 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.

6. Position the brush head assembly straight ahead. On each side, measure from the brush frame to the ground (figure 3). If measurements are not equal:

Scissor swing - Turn adjustment screw (B) (figure 1) in to lower the right-hand side of the brush head assembly. Turn it out to lower the left-hand side.

Plate swing - 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.

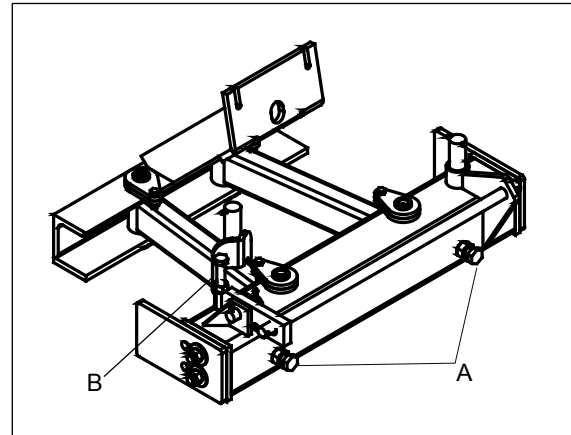


figure 1

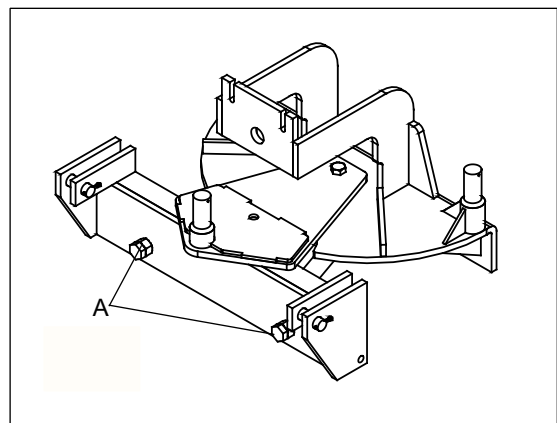


figure 2



figure 3

LEVELING

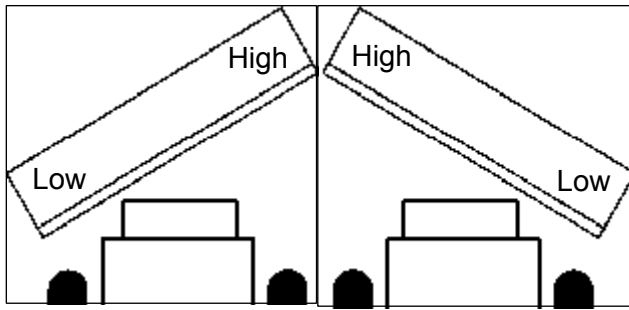


figure 1

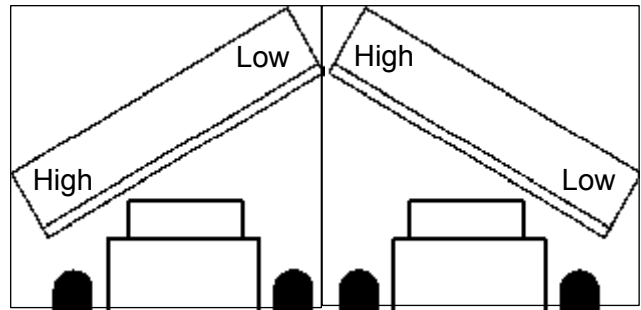


figure 3

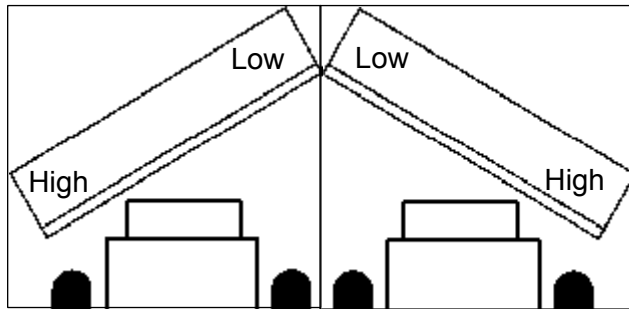


figure 2

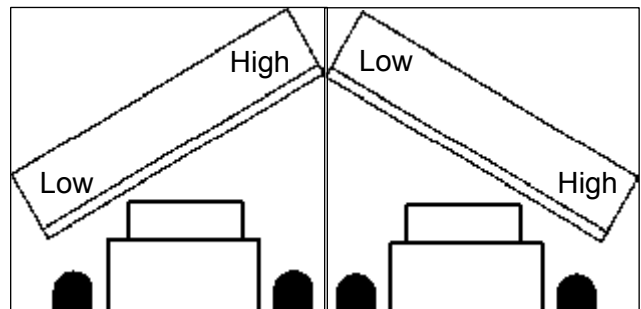


figure 4

7. 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.

Scissor swing - To correct leveling problems in:

- figure 1, turn leveling screws out. (figure 3, A)
- figure 2, turn leveling screws in. (figure 3, A)
- figure 3, turn the adjustment screw in. (figure 3, B)
- figure 4, turn the adjustment screw out. (figure 3, B)

Plate swing - To correct leveling problems shown in:

- figure 1, turn leveling screws out. (figure 4, A)
- figure 2, turn leveling screws in. (figure 4, A)
- figure 3, 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 4, 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.

MAINTENANCE

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 movers parking brake and leave the engine running.
3. Start the sweeper at a slow speed; then, lower it so the boom arms bottom out. 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 from the prime mover. The brush pattern left in the dust should be 2-4 inches wide, running the length of the brush. (figure 1)
5. Adjust the brush pattern as necessary according to the following instructions.
 - a. If the brush pattern is too wide, move chain, attached to spring, forward one link. Repeat on the opposite side. (figure 2)
 - b. If the brush pattern is too narrow, move chain, attached to spring, backward one link. Repeat on the opposite side. (figure 2)
6. Repeat steps # 1 through #5 until the brush pattern is 2-4 inches wide.

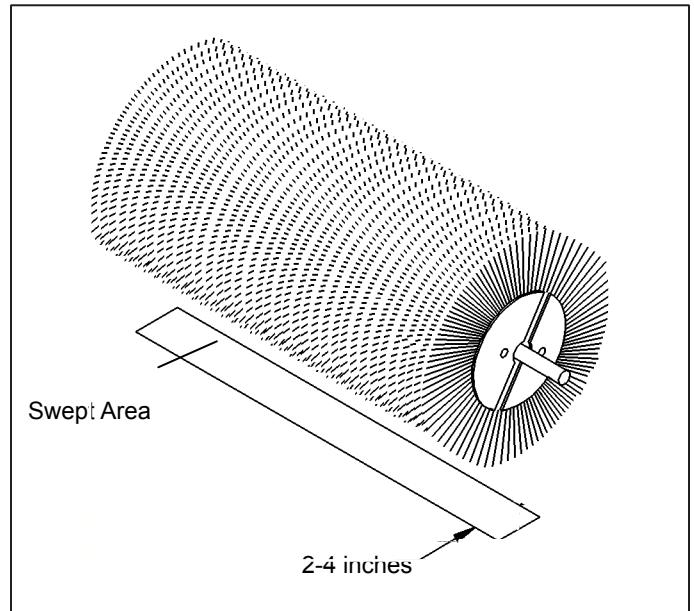


figure 1

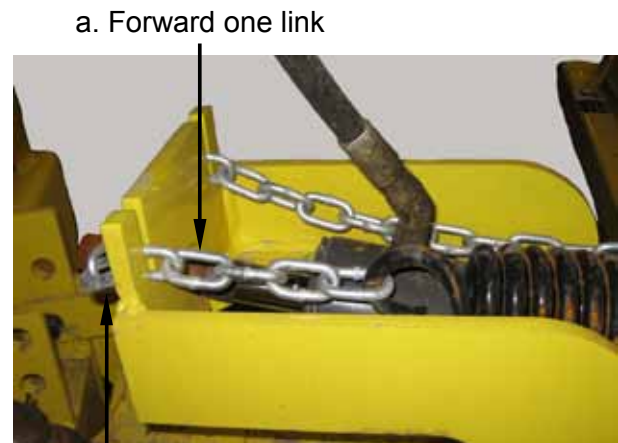


figure 2

b. Backward one link

Worn Section Standard				Reference Information	
Section OD, New	Ring ID	Section OD, Worn	Exposed Bristle, Worn	Bristle Length	Exposed Bristle, New
24	6.38	17	3.8	8.50	7.5
26	8.00	18	4.0	9.00	8.0
32	10.00	22	5.0	11.00	10.0
36	10.00	24	6.0	13.00	12.0
36	10.63	25	6.0	12.69	11.4
46	19.38	34	6.0	13.31	12.1

REPLACING BRUSH SECTIONS

1. Remove motor mount screws. Retain hardware for reinstallation. Remove motor mount(s).
2. Remove bearing mounting plate screws from side. Retain hardware for reinstallation. (Single motor only)
3. Lift sweeper frame leaving core on ground.
4. Remove core from brush head assembly. Remove plate ring core end. Retain hardware for reinstallation.
5. Remove old sections.
6. Install new sections by doing the following:
 - a. Slide the first section onto the core (figure 2). Be sure drive pins (figure 1 and 2) straddle a tube.

NOTE: Drive pins must all angle up or angle down.

- b. Install a second section with drive pins rotated 180° from those on the first section (figure 3).
- c. Continue installing sections, rotating each section 180° until the core is full.

NOTE: If the last section will take more space than is left, but more than 1/2 inch (13mm) remains, nest the last section on the previous one. Do this by placing both sections' drive pins on one tube.

NOTE: With new brushes, bristles may bend into the chain. Trim them to prevent chain derailment.

7. Reattach the section retainer and bearing mounting plate with previously removed hardware.
8. Lay core on ground. Lower frame over core.
9. Reattach bearing mounting plate with hardware removed in step two.
10. Reattach motor mount(s) with hardware removed in step one.



figure 1

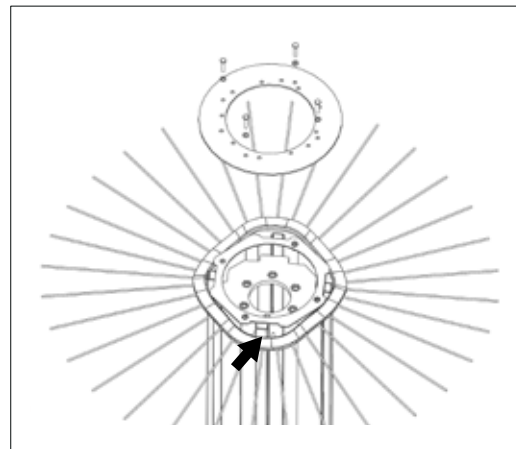


figure 2

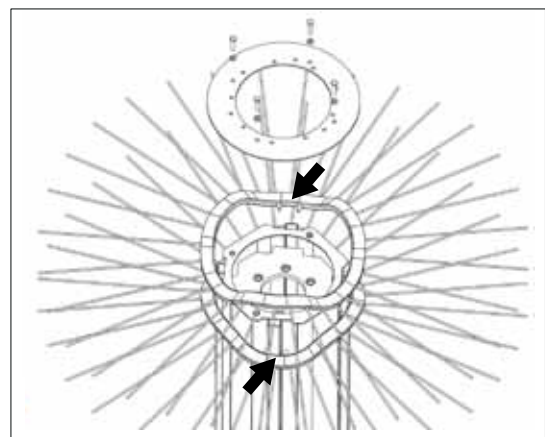


figure 3

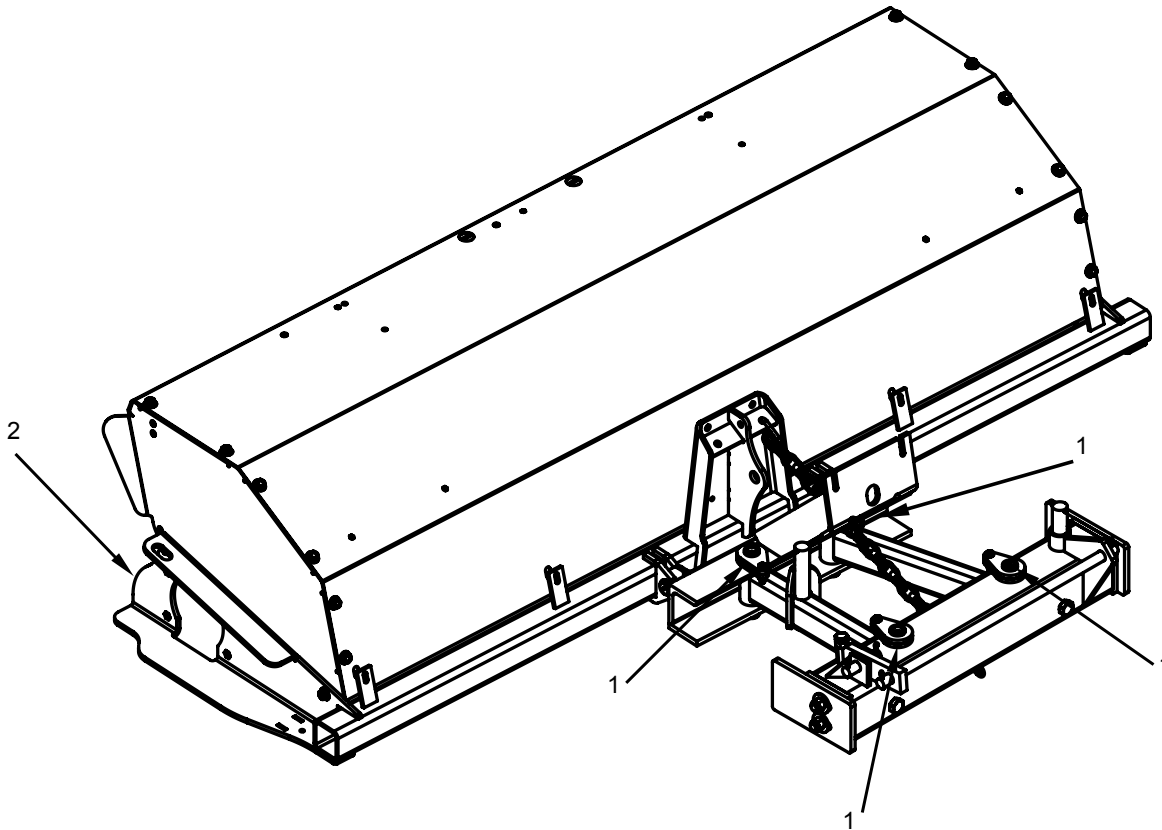
MAINTENANCE SCHEDULE

Procedure	Before Each Use	Weekly	50 Hours	100 Hours	See Engine Manual
Check Hydraulic Oil Level	✓				
Lubricate All Grease Zerks	✓				
Check Brush Pattern	✓				
Check Lights for Proper Operation	✓				
Level Brush Head Assembly	✓				
Inspect Hitch and Hitch Hardware	✓				
Inspect Hitch Safety Chains	✓				
Clean Safety Decals	✓				
Wash and Clean Unit		✓			
Clean Optional Sprinkler System Filter		✓			
Check Battery Connections (Electrolite Level if not Maintenance Free)		✓			
Check Tire Air Pressure and Lug Nuts		✓			
Check and Tighten All Hardware		✓			
Check and Tighten Hydraulic Fittings and Hoses		✓			
Change Hydraulic System Filter			✓		
Change Hydraulic Oil				✓	
Check Engine Oil Level	✓				✓
Clean and Replace Engine Air Filter	✓				✓
Check Engine Oil Level					✓
Clean Engine Fuel Filter (Drain Water Separator)					✓
Check and Repack Spindle Bearings in Axle/Caster			✓		

LUBRICATION POINTS

The following grease fittings should be greased before each use. See figure for locations.

1. Parallel Link Pins (4 Fittings)
2. Outside Bearing (1 Fitting)



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 2-4 inches (51-101mm) wide: see Maintenance Adjusting Brush Pattern
	Travel speed too fast	Travel no more than 5 mph (8 kph) while sweeping (2-3 mph recommended)
	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
	Hydraulic motor is failing	Test hydraulic system: see Troubleshooting: Hydraulic Problems
	Filter plugging	Change or clean filter
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 too slow	Find correct combination of ground and brush speeds: do not travel at more than 5 mph (8 kph)
	Core is bent	Replace core
	Motor mount or bearing mount is loose or installed incorrectly	Make sure motor mounting and/or bearing mount is flush to brush frame arm
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 2-4 inches (51-101mm) wide: see Maintenance: Setting Brush Pattern

TROUBLESHOOTING

Hydraulic Assembly - 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> - Set screw in flow divider on manifold too tight	Loosen jam nut and then turn set screw in until it stops; turn set screw out 1 1/2 turns; tighten jam nut
	<u>Electric valve</u> - No power from controls because wires are broken or disconnected	Reconnect wired 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 inches (51-76mm) 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
	Quick couplers not connected correctly	Disconnect and reconnect
Hydraulic cylinder only extends or only retracts	<u>Electric valve</u> - Set screw in flow divider on manifold out of adjustment	Loosen jam nut and then turn set screw in until it stops; turn set screw out 1 1/2 turns; tighten jam nut
	<u>Electric valve</u> - Dirt or debris in spools	Contact Sweepster Technical Service
	Enabler valve not working	Check electrical connections
Hydraulic cylinder extends or retracts too quickly	<u>Electric valve</u> - Set screw in flow divider on manifold too loose	Loosen jam nut and then turn set screw in until it stops; turn set screw out 1 1/2 turns; tighten jam nut

TROUBLESHOOTING

Spring-Chain Assemblies

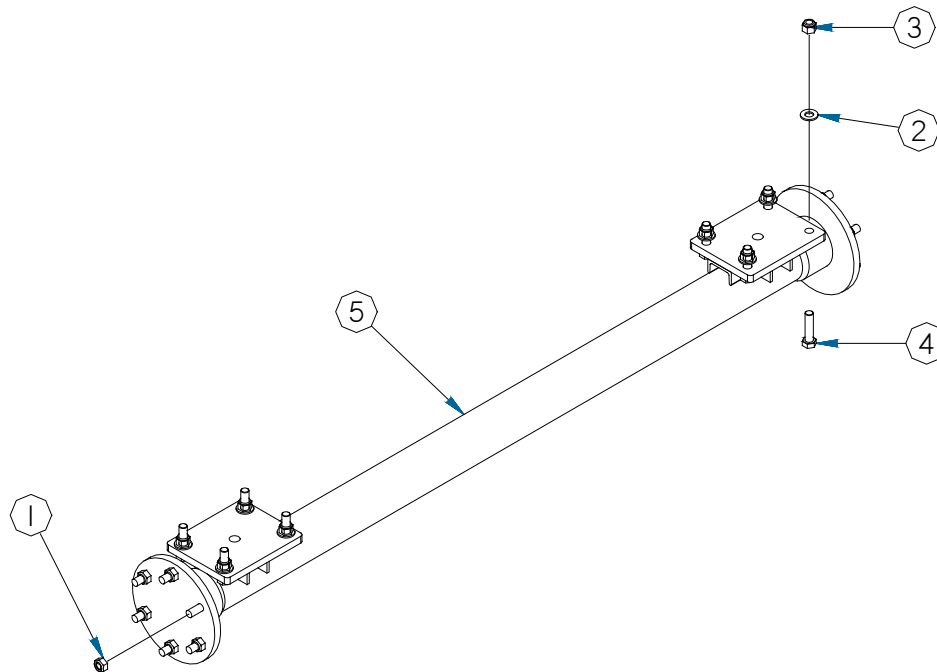
Problem	Possible Cause	Possible Solution
Springs on spring-chain assemblies stretching	Transport chain too loose when traveling between job sites	Adjust according to Adjustment: Transport Chain
	Travel speeds too fast when sweeping	Do not travel at speeds over 5 mph (8 kph)

Hydraulic System

Problem	Possible Cause	Possible Solution
Hydraulic system overheats	Hydraulic oil level too low	Add hydraulic oil to tank until it comes to 2 inches (51mm) from top
	Restriction in hoses	Remove bends in hoses; remove obstructions inside hoses
	Host pump flow rate exceeds maximum rate of broom	Contact host manufacturer for proper flow control method
	Quick couplers not seated correctly	Disconnect and reconnect; Replace with high flow quick couplers
Hydraulic motor seals leak	Back pressure exceeds 1000psi	Contact Sweepster
	Motor is failing	High number of hours on motor; Contact dealer to rebuild or replace

AXLE ASSEMBLY 5200

Your axle may vary from the one depicted.



Item	Part	Qty	Description
1.	07-0144	12	Nut, Lug, Gr2, 1/2-20 x 5/8
2.	07-1763	8	Washer, Flat, Gr8, 1/2
3.	07-4037	8	Nut, Hex, Nylock, Gr8, 1/2-13
4.	07-5075	8	Screw, HHC, Gr8, 1/2-13 x 2
5.	13-13685	1	Weld, Axle, 5200 lb, with Hydraulic Brakes
	13-14219	1	Weld, Axle, 5200 lb, Standard
	13-16162	1	Weld, Axle, 5200 lb, with Electric Brakes

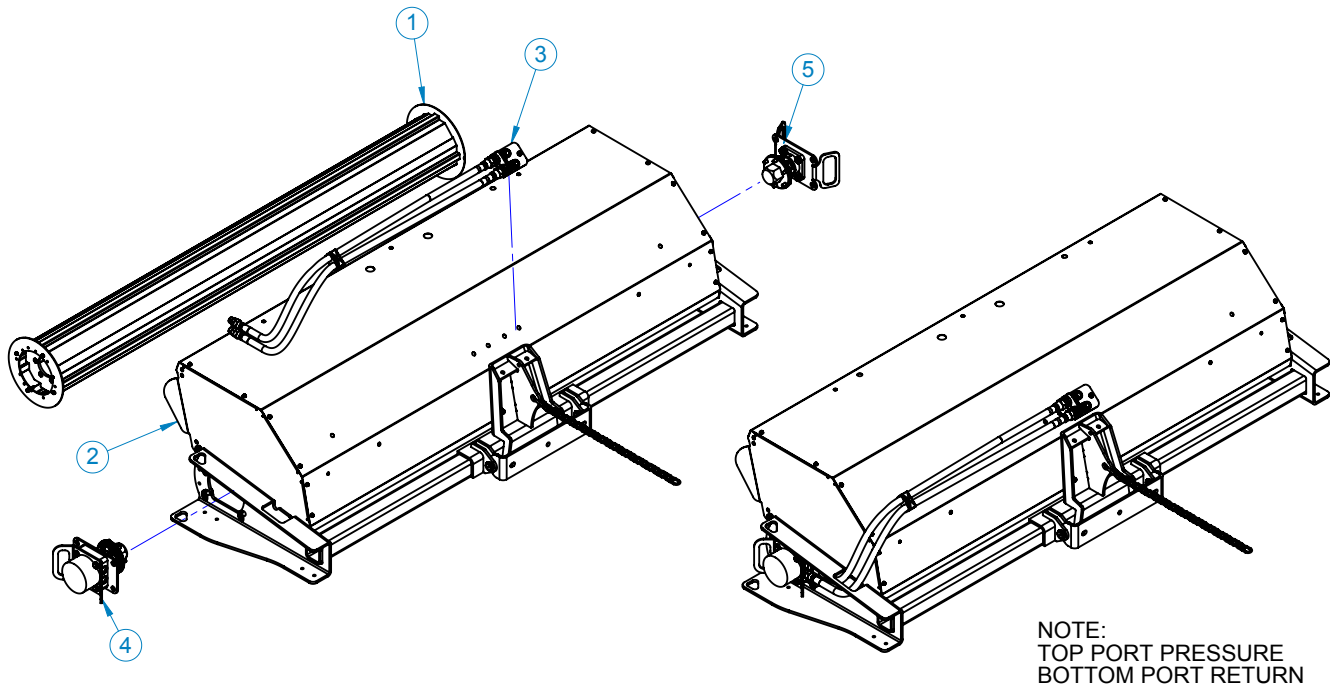
Parts not Shown:

- 05-0846 Inner Bearing
- 05-0842 Outer Bearing
- 05-0847 Seal
- 05-0841 Dust Cap
- 07-6680 Dust Cap, with Grease Port
- 07-6681 Plug for Grease Cap

Torque Specifications:

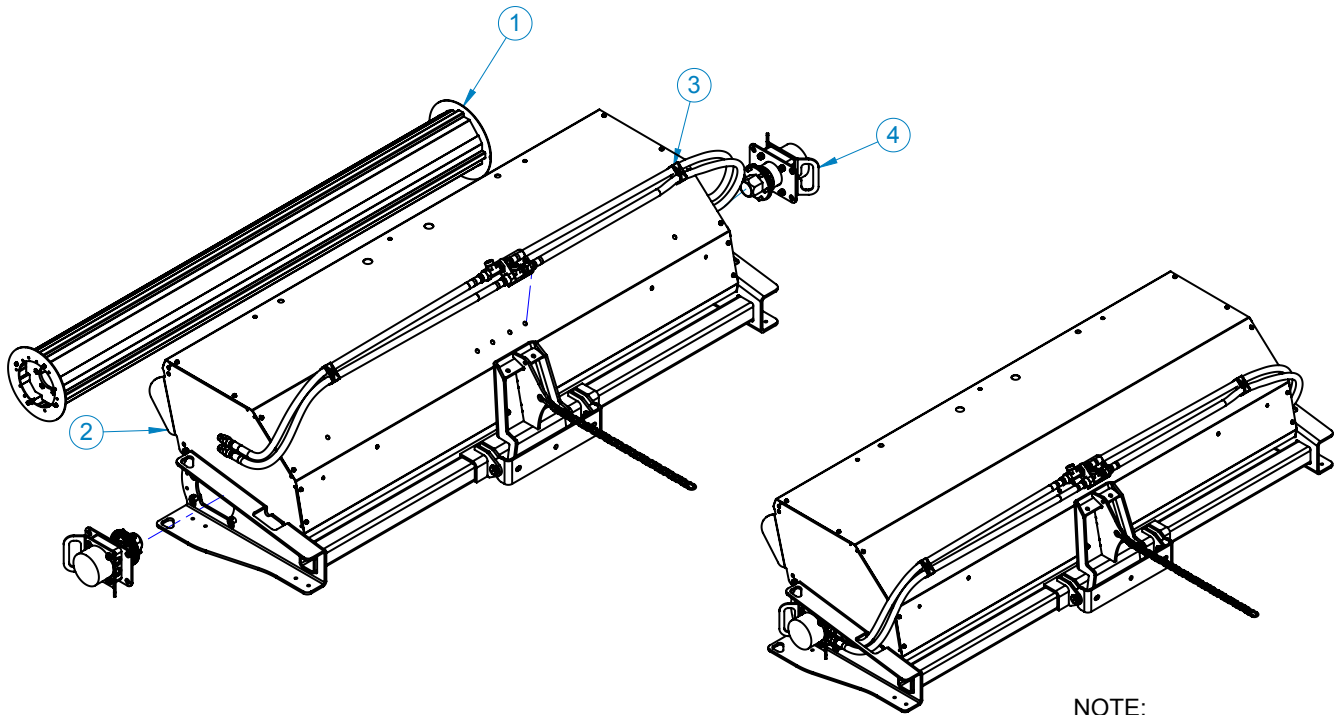
- Castle Nut - 50 lbs-ft
- Lug Nuts - 90 lbs-ft

BRUSH HEAD ASSEMBLY SINGLE MOTOR



Item	Part	Qty	Description
1.	28-10095-7	1	Assembly, Core 10 (7 Ft)
	28-10095-8	1	Assembly, Core 10 (8 Ft)
	28-10095-9	1	Assembly, Core 10 (9 Ft)
2.	28-10309-7	1	Assembly, Brush Frame (7 Ft)
	28-10309-8	1	Assembly, Brush Frame (8 Ft)
	28-10309-9	1	Assembly, Brush Frame (9 Ft)
3.	28-10313-7	1	Assembly, Hoses, Hydraulic (7 Ft)
	28-10313-8	1	Assembly, Hoses, Hydraulic (8 Ft)
	28-10313-9	1	Assembly, Hoses, Hydraulic (9 Ft)
4.	28-9849-1	1	Assembly, Motor, Hydraulic, 18.3 CI
	28-9849-2	1	Assembly, Motor, Hydraulic, 28.3 CI
5.	28-9862	1	Assembly, Idler

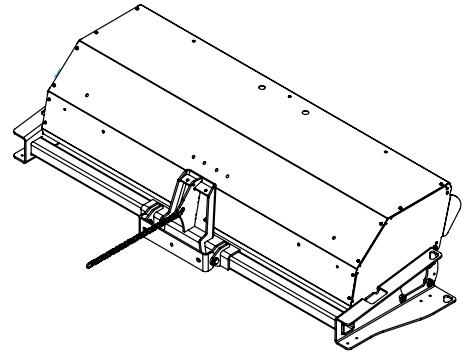
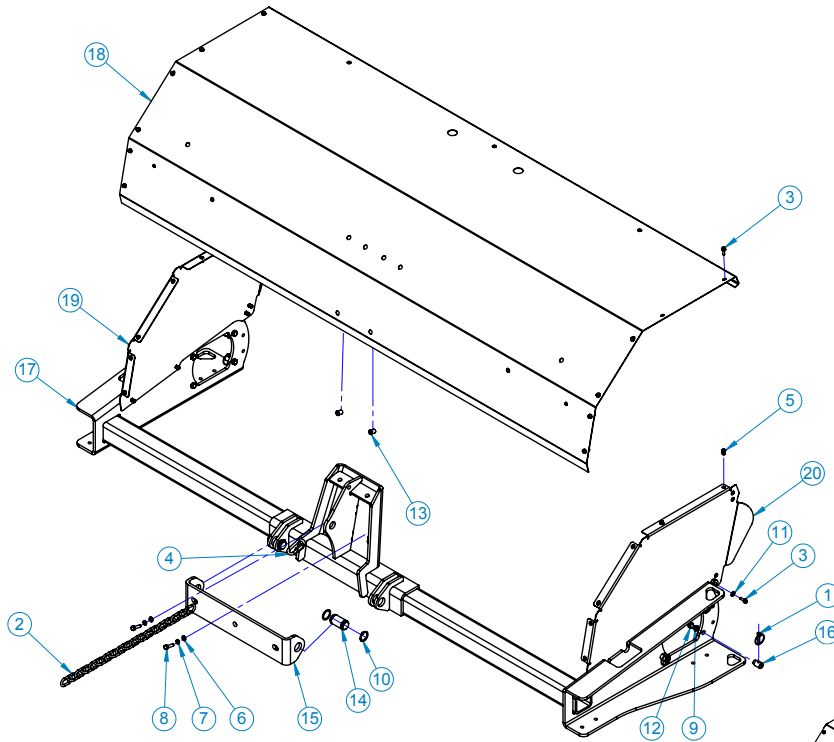
BRUSH HEAD ASSEMBLY DUAL MOTOR



NOTE:
TOP PORT PRESSURE
BOTTOM PORT RETURN

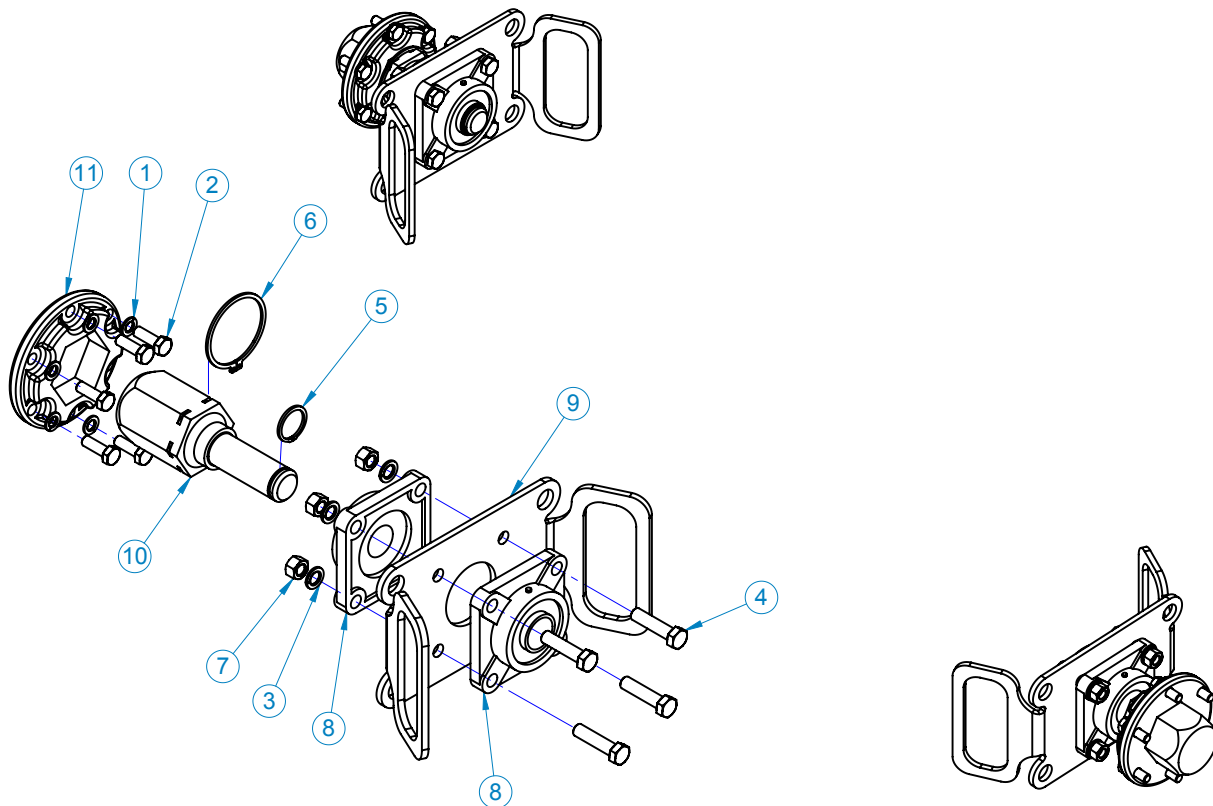
Item	Part	Qty	Description
1.	28-10095-7	1	Assembly, Core (7 Ft)
	28-10095-8	1	Assembly, Core (8 Ft)
	28-10095-9	1	Assembly, Core (9 Ft)
2.	28-10309-7	1	Assembly, Brush Frame, (7 Ft)
	28-10309-8	1	Assembly, Brush Frame, (8 Ft)
	28-10309-9	1	Assembly, Brush Frame, (9 Ft)
3.	28-10314-7	1	Assembly, Hydraulic Hoses, Dual Motor (7 Ft)
	28-10314-8	1	Assembly, Hydraulic Hoses, Dual Motor (8 Ft)
	28-10314-9	1	Assembly, Hydraulic Hoses, Dual Motor (9 Ft)
4.	28-9849-1	2	Assembly, Motor, 18.3 CI

BRUSH FRAME ASSEMBLY



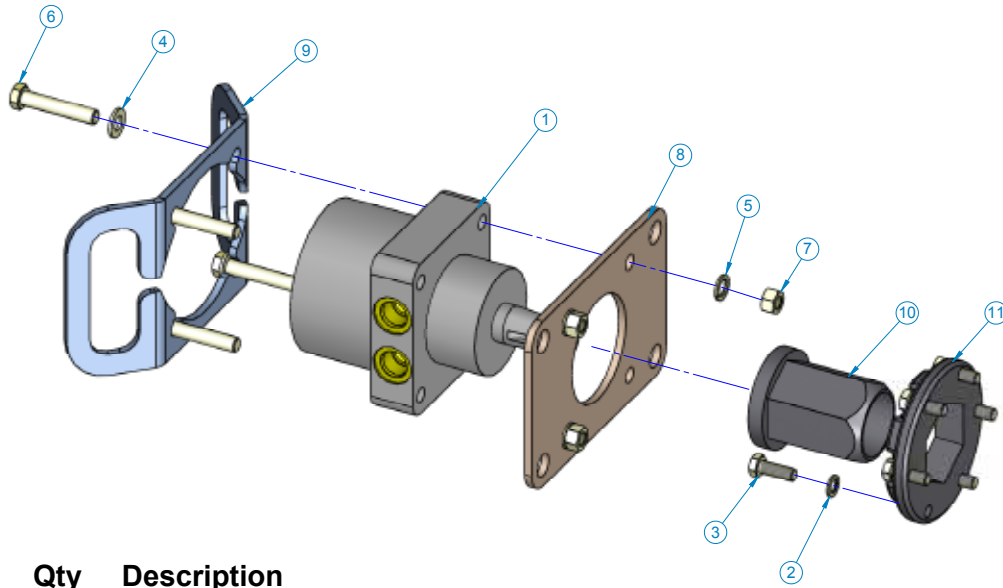
Item	Part	Qty	Description
1.	07-0244	8	Pin, Lynch
2.	07-0249	1	Chain, 1/4, 22 Links
3.	07-2952	18	Screw, HFH, CL10.9, M6-1 x 20
4.	07-3311	1	Link, Quick, 5/16
5.	07-3617	29	Nut, Insert, Hex, M6 x 1
6.	07-3736	2	Washer, Flat, CL8.8, M8
7.	07-3738	2	Washer, Lock, Split, Medium, M8
8.	07-3740	2	Screw, HHC, CL10.9, M8-1.25 x 30mm
9.	07-3747	8	Washer, Lock, Split, Medium, M10
10.	07-3842	4	Ring, Snap
11.	07-4927	6	Washer, Fender, CL8.8, M6
12.	07-6769	8	Screw, HHC, CL10.9, M10-1.5 x 16mm
13.	07-7115	2	Nut, Insert, M8-1.25, 22-10ga
14.	13-10004	2	Pin, Pivot, Lift Arm
15.	13-12617	1	Plate, Mounting, Brush Head, Pivot
16.	13-14083	8	Stud, Mounting, Motor
17.	13-17018-7	1	Weld, Brush Frame (7 Ft)
	13-17018-8	1	Weld, Brush Frame (8 Ft)
	13-17018-9	1	Weld, Brush Frame (9 Ft)
18.	13-17008-7	1	Sheet, Hood (7 Ft)
	13-17008-8	1	Sheet, Hood (8 Ft)
	13-17008-9	1	Sheet, Hood (9 Ft)
19.	13-17009	1	Sheet, Hood, Side, Left
20.	13-17010	1	Sheet, Hood, Side, Right

SHAFT ASSEMBLY



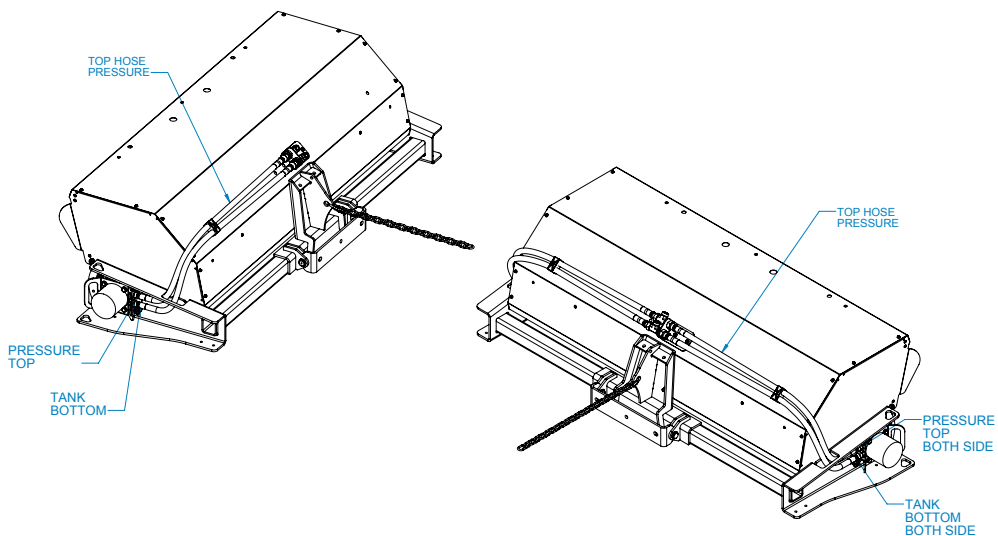
Item	Part	Qty	Description
1.	07-3747	6	Washer, Lock, Split, Medium, M10
2.	07-3749	6	Screw, HHC, CL10.9, M10-1.5 x 30mm
3.	07-3756	4	Washer, Lock, Split, Medium, M12
4.	07-3762	4	Screw, HHC, CL10.9, M12-1.75 x 50mm
5.	07-3842	1	Ring, Snap, 5160-125
6.	07-6196	1	Ring, Snap
7.	07-6766	4	Nut, Hex, CL10.9, M12-1.75
8.	08-0067	2	Bearing, 1 1/4, 4 Bolt
9.	13-14133	1	Plate, Mounting, Bearing
10.	13-14135	1	Hub, Hex, 2 1/2, Single Motor
11.	13-16225	1	Plate, Receiver, Hex, 2.5

MOTOR BUCKET ASSEMBLIES

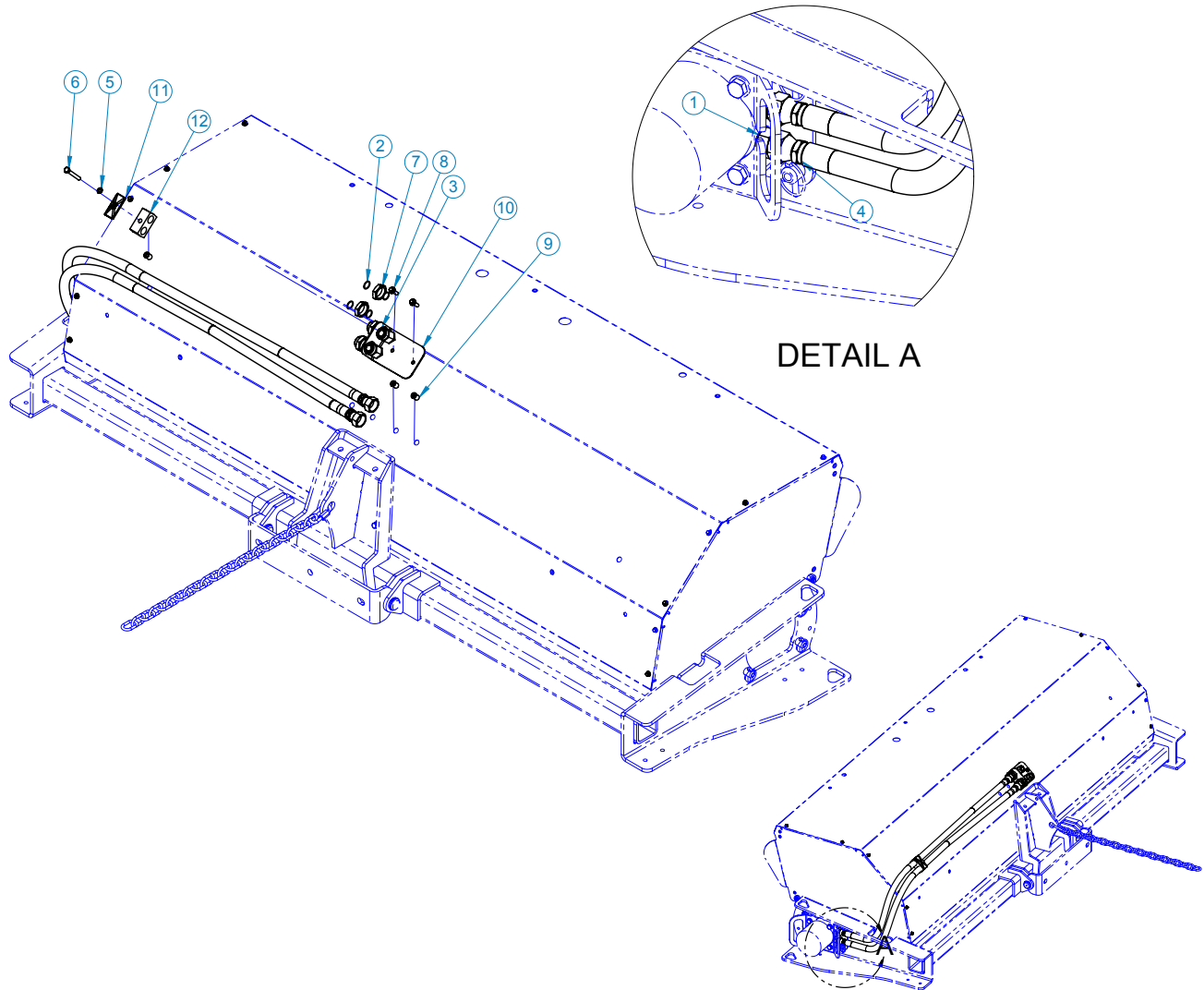


Item	Part	Qty	Description
1.	03-5612	1	Motor, 18.3 CI
	03-5613	1	Motor, 28.3 CI
2.	07-3747	6	Washer, Lock, Split, Medium, M10
3.	07-3749	6	Screw, HHC, CL10.9, M10-1.5 x 30mm
4.	07-3754	4	Washer, Flat, CL10.9, M12
5.	07-3756	4	Washer, Lock, Split, Medium, M12
6.	07-6683	4	Screw, HHC, CL10.9, M12-1.75 x 65mm
7.	07-6766	4	Nut, Hex, CL10.9, M12-1.75
8.	13-14085	1	Plate, Mounting, Motor
9.	13-14086	1	Plate, Handle, Motor
10.	13-15206	1	Hub, Hex, 2 1/2 x 1 1/4 Tapered Bore x 3.75
11.	13-16225	1	Plate, Receiver, Hex, 2.5

MOTOR PORT IDENTIFICATION



HYDRAULIC ASSEMBLIES SINGLE MOTOR

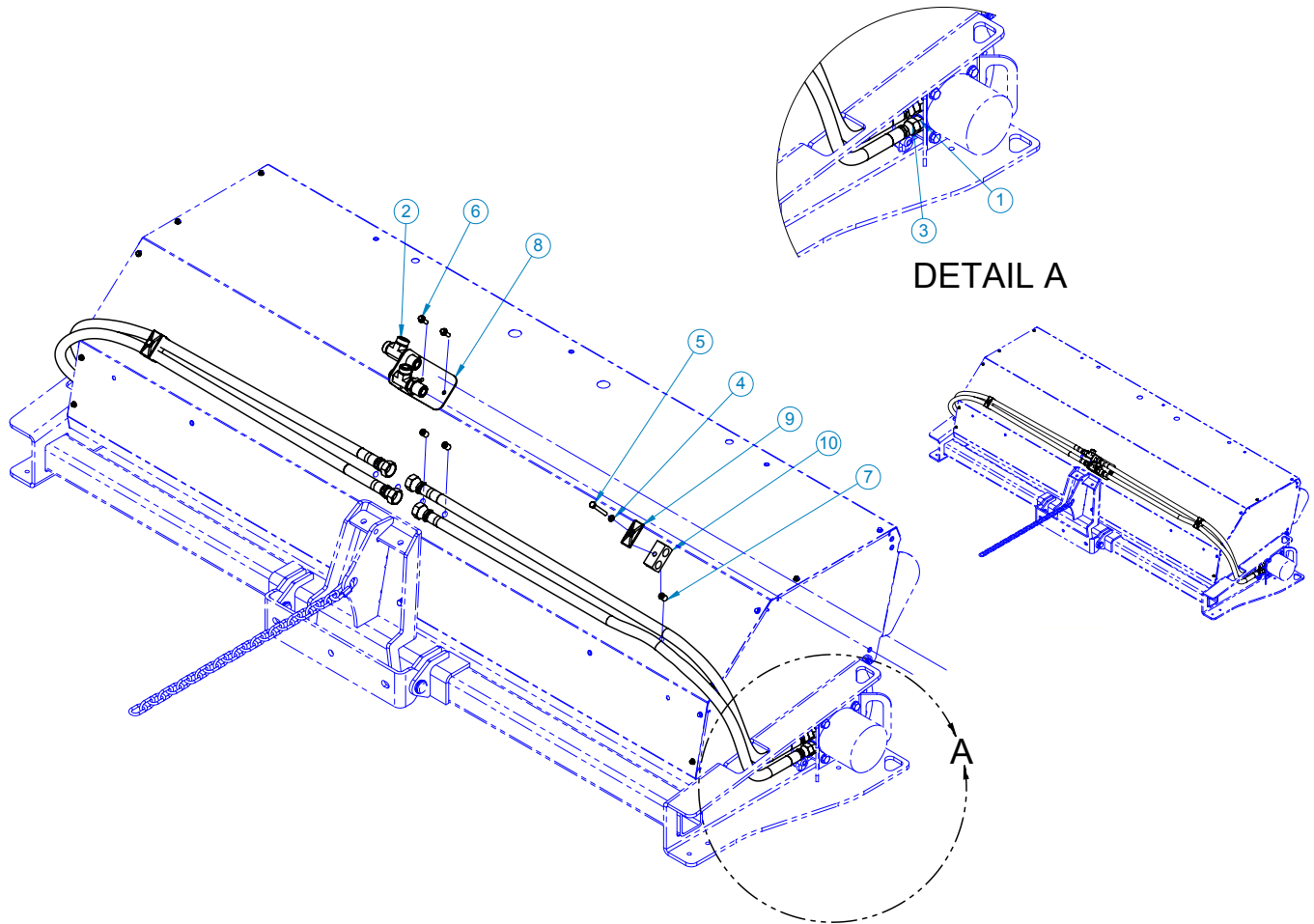


Item	Part	Qty	Description
1.	03-1939	2	Fitting, Adapter, HP, 7/8MOR, 5/8MFS
2.	03-2003	4	O-Ring FS 3/4
3.	03-3531	2	Elbow, 90°, 12MF-12MF
4.	03-5654	2	Hose, .5 x 62, 10FF, 12FF, 3.5K (7 Ft)
	03-5655	2	Hose, .5 x 68, 10FF, 12FF, 3.5K (8 Ft)
	03-5656	2	Hose, .5 x 74, 10FF, 12FF, 3.5K (9 Ft)
5.	07-3738	1	Washer, Lock, Split, Medium, M8
6.	07-5287	1	Screw, HHC, CL10.9, M8-1.25 x 65mm
7.	07-6396	2	Nut, Bulkhead, #12
8.	07-6531	2	Screw, HFH, CL10.9, M8-1.25 x 25mm
9.	07-7115	3	Nut, Insert, M8-1.25, 22-10ga
10.	13-17014	1	Plate, Mounting, Bulkhead, Fittings
11.	RHW8614	1	Cover, Plate
12.	RHW8616	1	Hose, Cradle

Not Shown:

03-3763	2	Hose, .75 x 91, 12FF-12FF, 3K (Pressure and Return from brush head to valve/pump)
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HYDRAULIC ASSEMBLIES DUAL MOTOR



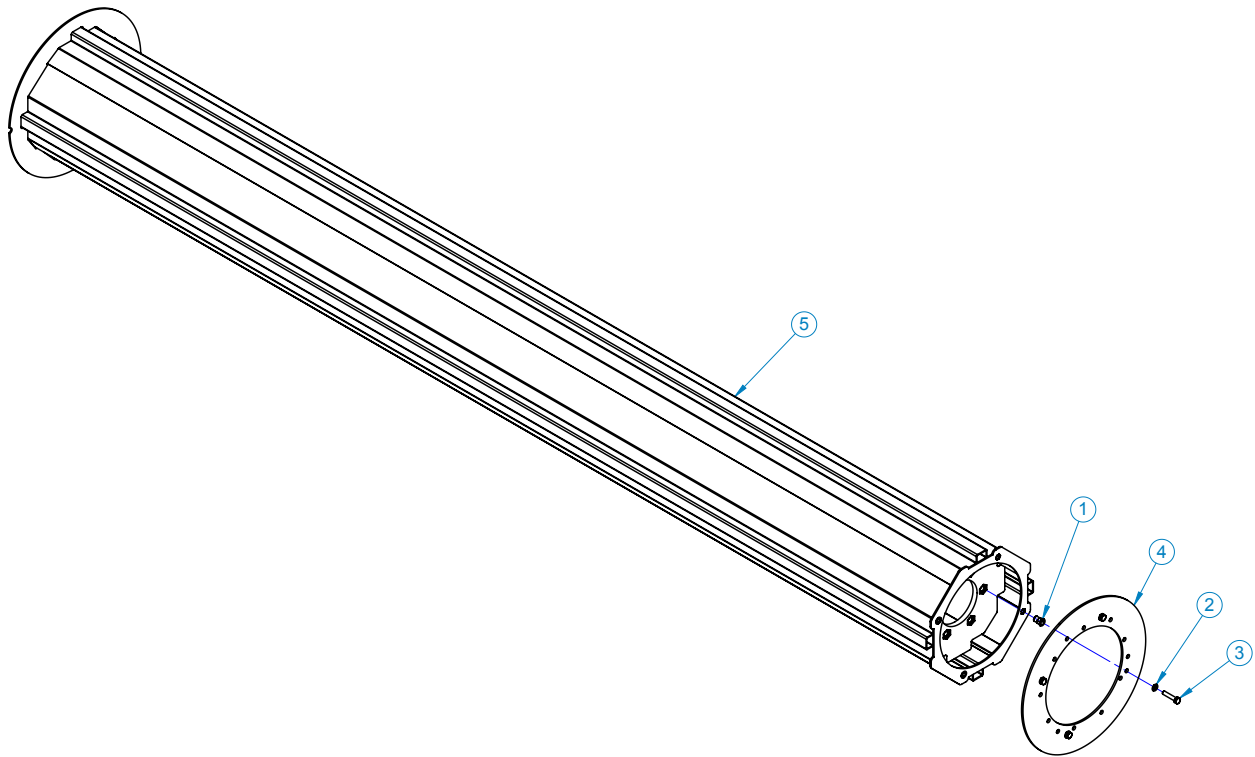
Item	Part	Qty	Description
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1.	03-1939	4	Fitting, Adapter, HP, 7/8MOR, 5/8MFS
2.	03-5160	2	Fitting, Tee, HP, Bulkhead, 12MFS
3.	03-5654	4	Hose, .5 x 62, 10FF, 12FF, 3.5K (7 Ft)
	03-5655	4	Hose, .5 x 68, 10FF, 12FF, 3.5K (8 Ft)
	03-5656	4	Hose, .5 x 74, 10FF, 12FF, 3.5K (9 Ft)
4.	07-3738	2	Washer, Lock, Split, Medium, M8
5.	07-5287	2	Screw, HHC, CL10.9, M8-1.25 x 65mm
6.	07-6531	2	Screw, HFH, CL10.9, M8-1.25 x 25mm
7.	07-7115	4	Nut, Insert, M8-1.25, 22-10ga
8.	13-17014	1	Plate, Mounting, Bulkhead, Fittings
9.	RHW8614	2	Cover, Plate
10.	RHW8616	2	Hose, Cradle

Not Shown:

03-3763	2	Hose, .75 x 91, 12FF-12FF, 3K (Pressure and Return from brush head to valve/pump)
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CORE ASSEMBLIES

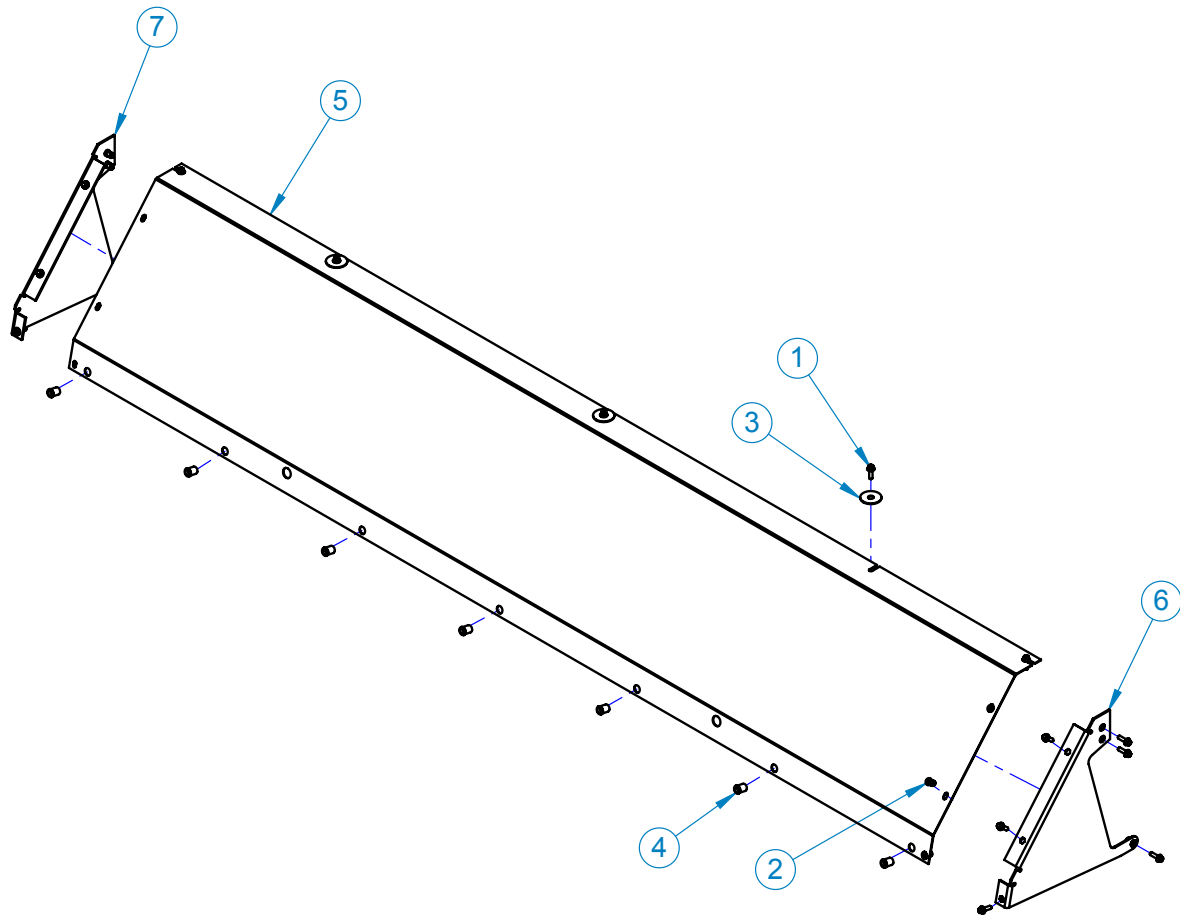


Item	Part	Qty	Description
1.	07-3617	4	Nut, Insert, Hex, M6 x 1
2.	07-3730	4	Washer, Lock, Split, Medium, M6
3.	07-3731	4	Screw, HHC, CL10.9, M6-1 x 30mm
4.	13-13166	1	Plate, Ring, Core, End
5.	13-15866-7	1	Weld, Core, 10 (7 Ft)
	13-15866-8	1	Weld, Core, 10 (8 Ft)
	13-15866-9	1	Weld, Core, 10 (9 Ft)

Not Shown:

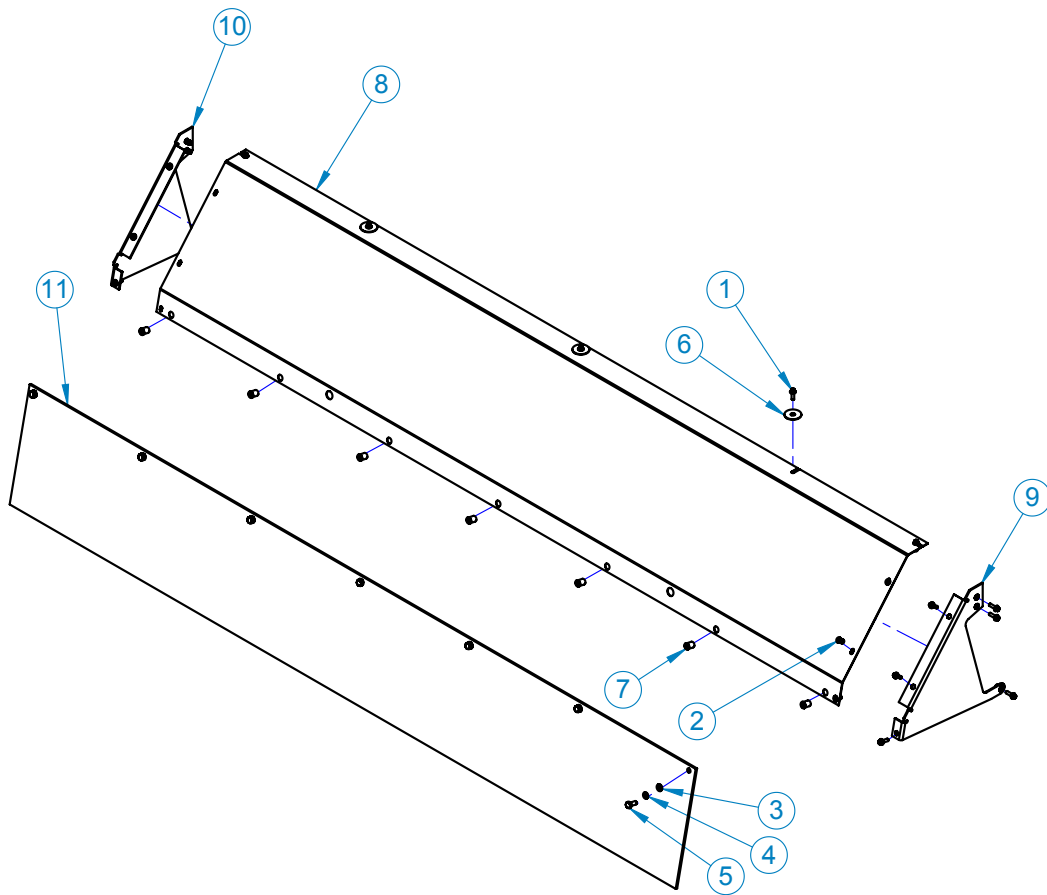
01-1209-7	1	Section, Set, 32, 10, Mixed, Convoluted, 7 ft
01-1209-8	1	Section, Set, 32, 10, Mixed, Convoluted, 8 ft
01-1209-9	1	Section, Set, 32, 10, Mixed, Convoluted, 9 ft
01-1210-7	1	Section, Set, 32, 10, Poly, Convoluted, 7 ft
01-1210-8	1	Section, Set, 32, 10, Poly, Convoluted, 8 ft
01-1210-9	1	Section, Set, 32, 10, Poly, Convoluted, 9 ft
01-1213-7	1	Section, Set, 32, 10, Wire, Convoluted, 7 ft
01-1213-8	1	Section, Set, 32, 10, Wire, Convoluted, 8 ft
01-1213-9	1	Section, Set, 32, 10, Wire, Convoluted, 9 ft

180° HOOD EXTENSION



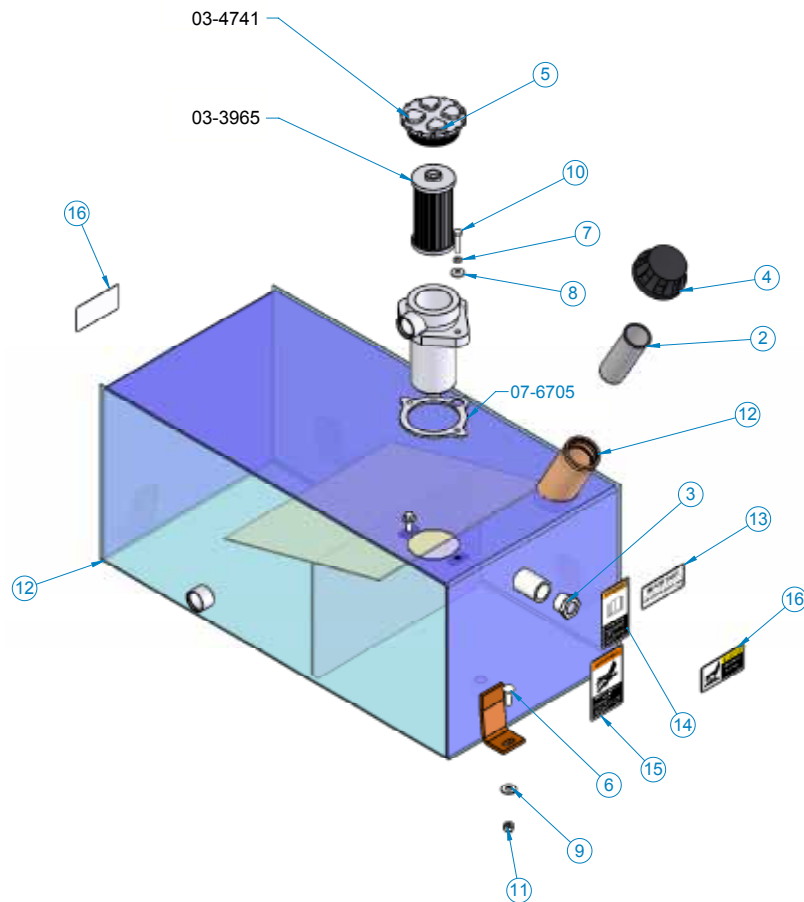
Item	Part	Qty	Description
1.	07-3522	17	Screw, HFH, CL10.9, M6-1 x 20, Whiz Lock
2.	07-3617	12	Nut, Insert, Hex, M6 x 1
3.	07-4942	3	Washer, Fender, 5/16 x 1 1/2
4.	07-7115	7	Nut, Insert, M8-1.25, 22-10ga (7 Ft)
	07-7115	9	Nut, Insert, M8-1.25, 22-10ga (8,9 Ft)
5.	13-17013-7	1	Sheet, Hood, Extension (7 Ft)
	13-17013-8	1	Sheet, Hood, Extension (8 Ft)
	13-17013-9	1	Sheet, Hood, Extension (9 Ft)
6.	13-17011	7	Sheet, Hood, Extension, Side, Left
7.	13-17012	1	Sheet, Hood, Extension, Side, Right

180° HOOD EXTENSION WITH DRAPE



Item	Part	Qty	Description
1.	07-3522	17	Screw, HFH, CL10.9, M6-1 x 20, Whiz Lock
2.	07-3617	12	Nut, Insert, Hex, M6 x 1
3.	07-3736	7	Washer, Flat, CL8.8, M8, (7 Ft)
	07-3736	9	Washer, Flat, CL8.8, M8, (8,9 Ft)
4.	07-3738	7	Washer, Lock, Split, Medium, M8, (7 Ft)
	07-3738	9	Washer, Lock, Split, Medium, M8, (8,9 Ft)
5.	07-3777	7	Screw, HHC, CL10.9, M8-1.25 x 20mm, (7 Ft)
	07-3777	9	Screw, HHC, CL10.9, M8-1.25 x 20mm, (8,9 Ft)
6.	07-4942	3	Washer, Fender, 5/16 x 1 1/2
7.	07-7115	7	Nut, Insert, M8-1.25, .70-3.8mm Grip (7 Ft)
	07-7115	9	Nut, Insert, M8-1.25, .70-3.8mm Grip (8,9 Ft)
8.	13-17013-7	1	Sheet, Hood, Extension (7 Ft)
	13-17013-8	1	Sheet, Hood, Extension (8 Ft)
	13-17013-9	1	Sheet, Hood, Extension (9 Ft)
9.	13-17011	1	Sheet, Hood, Extension, Side, Left
10.	13-17012	1	Sheet, Hood, Extension, Side, Right
11.	13-17030-7	1	Flap, 180° Hood (7 Ft)
	13-17030-8	1	Flap, 180° Hood (8 Ft)
	13-17030-9	1	Flap, 180° Hood (9 Ft)

HYDRAULIC TANK

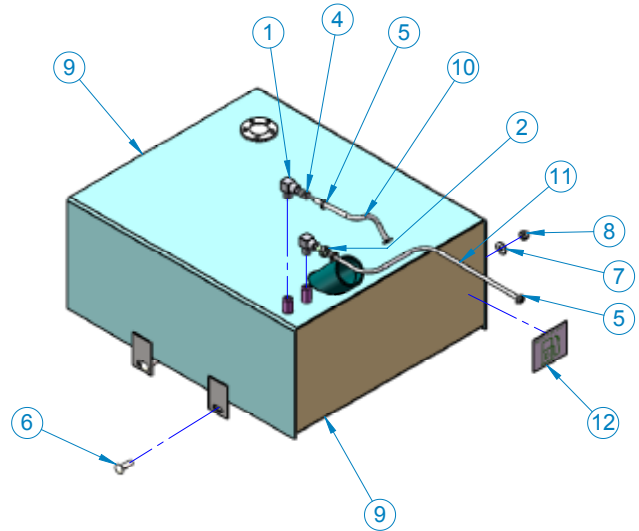


Item	Part	Qty	Description
1.	03-3678	1	Fitting, Plug, Socket Head, 3/4MOR
2.	03-4642	1	Strainer, Filler Spout
3.	03-4709	1	Gauge, Sight, Window, 1 Inch NPT
4.	03-5055	1	Cap, Breather
5.	03-5056	1	Filter, Hydraulic, Return Line, In-Tank
6.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
7.	07-3273	2	Washer, Lock, Split, Medium, 5/16
8.	07-3275	2	Washer, Flat, Gr8, 5/16
9.	07-3279	4	Washer, Flat, Gr8, 3/8
10.	07-3647	2	Screw, HHC, Gr8, 5/16-18 x 1 1/2
11.	07-4036	4	Nut, Hex, Nylock, 3/8-16
12.	13-15186	1	Weld, Tank, Hydraulic
13.	50-0547	1	Label, Important, Use Dexter III or ISO VG36
14.	50-0722	1	Label, Warning, Misuse Hazard
15.	50-0724	1	Label, Warning, High Pressure Fluid Hazard
16.	50-0777	2	Label, Caution, Hot Surface

DIESEL FUEL TANK

Serial # 1021100 and Lower

Item	Part	Qty	Description
1.	03-1069-4	2	Elbow, 90, 4FP-4MP
2.	03-1309	1	Fitting, 2FP-4MP
3.	03-1669	1	Barb, 3, 2MP, BR
4.	03-1701	1	Barb, 5, 4MP, BR
5.	07-0538	4	Clamp, Screw, MM-4 1/4-5/8
6.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
7.	07-3279	4	Washer, Flat, Gr8, 3/8
8.	07-4036	4	Nut, Hex, Nylock, 3/8-16
9.	07-7497	1	Tank, Fuel, w/Locking Fuel Cap
10.	09-0096	6ft	Hose, Fuel, 5/16
11.	09-0097	6ft	Hose, Fuel, 3/16
12.	50-0771	1	Label, Diesel Fuel Only



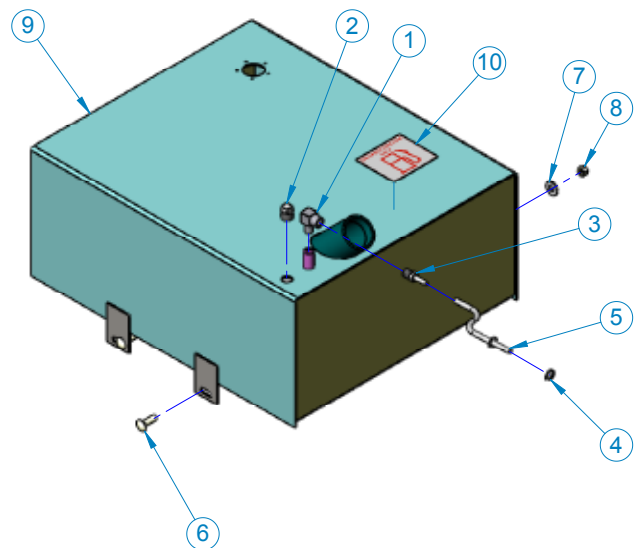
Not Shown:

07-7570 Key, for 07-7497 Fuel Tank Cap

GAS FUEL TANK

Serial # 1021100 and Lower

Item	Part	Qty	Description
1.	03-1069-4	2	Elbow, 90, 4FP-MP
2.	03-1182-4	1	Plug, Square Head, 8P
3.	03-3231	1	Barb, 4, 4MP, BR
4.	07-0538	2	Clamp, Screw, MM-4 1/4-5/8
5.	07-1095	8 ft	Hose, Fuel, Neoprene
6.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
7.	07-3279	4	Washer, Flat, Gr8, 3/8
8.	07-4036	4	Nut, Hex, Nylock, 3/8-16
9.	07-7497	1	Tank, Fuel, w/Locking Fuel Cap
10.	50-0770	1	Label, Unleaded Gasoline Only

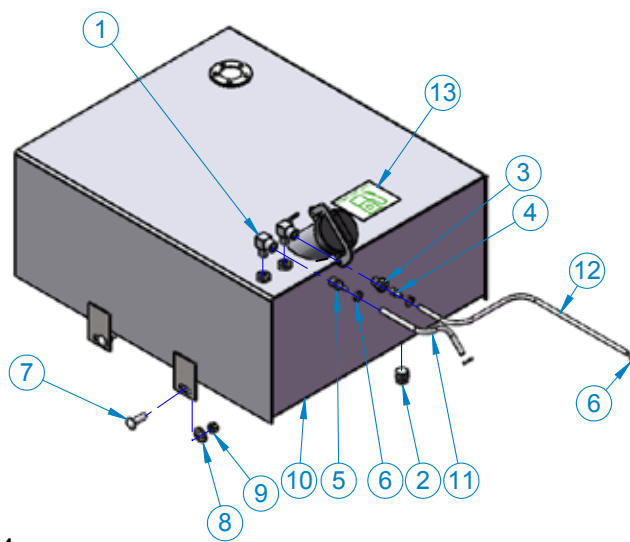


Not Shown:

07-7570 Key, for 07-7497 Fuel Tank Cap

DIESEL FUEL TANK

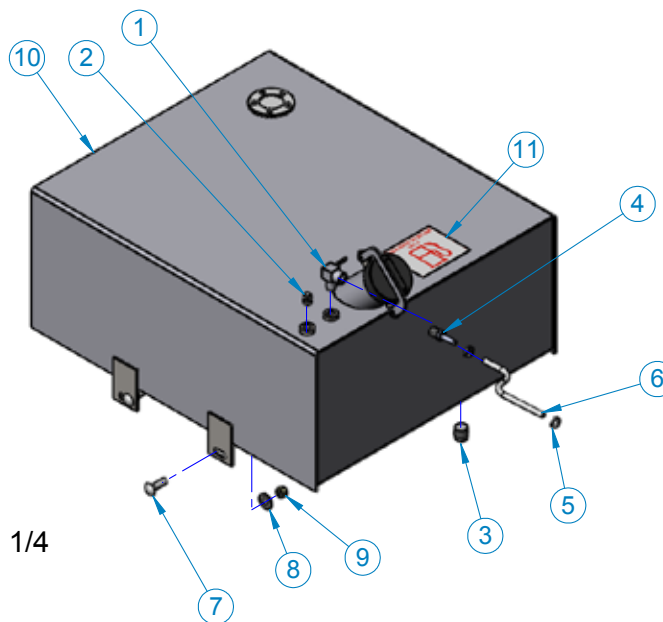
Serial # 1021100 and Up



Item	Part	Qty	Description
1.	03-1069-4	2	Elbow, 90, 4FP-4MP
2.	03-1182-4	1	Plug, Square Head, 8P
3.	03-1309	1	Fitting, 2FP-4MP
4.	03-1669	1	Barb, 3, 2MP, BR
5.	03-1701	1	Barb, 5, 4MP, BR
6.	07-0538	4	Clamp, Screw, MM-4 1/4-5/8
7.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
8.	07-3279	4	Washer, Flat, Gr8, 3/8
9.	07-4036	4	Nut, Hex, Nylock, 3/8-16
10.	07-7767	1	Tank, Fuel, w/Locking ISO Fuel Cap
11.	09-0096	6ft	Hose, Fuel, 5/16
12.	09-0097	6ft	Hose, Fuel, 3/16
13.	50-0771	1	Label, Diesel Fuel Only

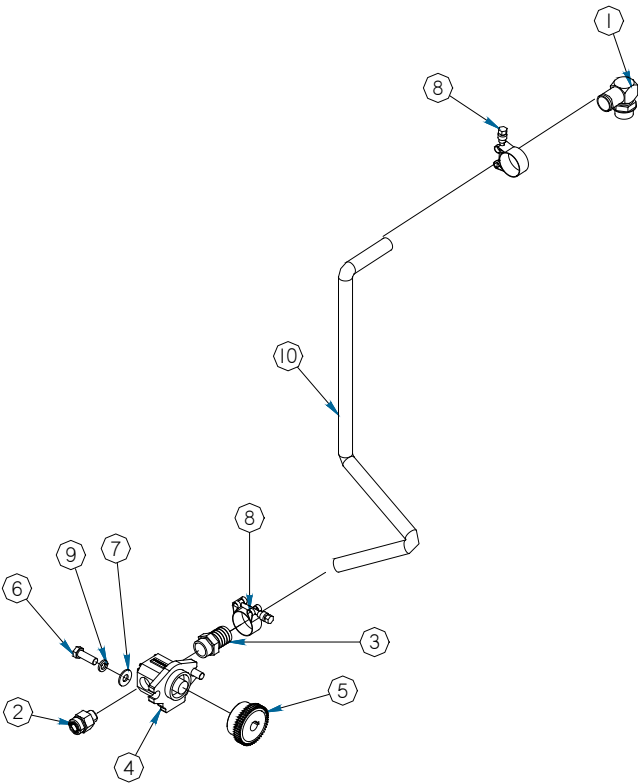
GAS FUEL TANK

Serial # 1021100 and Up



Item	Part	Qty	Description
1.	03-1069-4	1	Elbow, 90, 4FP-MP
2.	03-1182-4	1	Plug, Square Head, 8P
3.	03-1182-4	1	Plug, Square Head, 8P
4.	03-3231	1	Barb, 4, 4MP, BR
5.	07-0538	2	Clamp, Screw, MM-4 1/4-5/8
6.	07-1095	8 ft	Hose, Fuel, Neoprene
7.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
8.	07-3279	4	Washer, Flat, Gr8, 3/8
9.	07-4036	4	Nut, Hex, Nylock, 3/8-16
10.	07-7767	1	Tank, Fuel, w/Locking ISO Fuel Cap
11.	50-0770	1	Label, Unleaded Gasoline Only

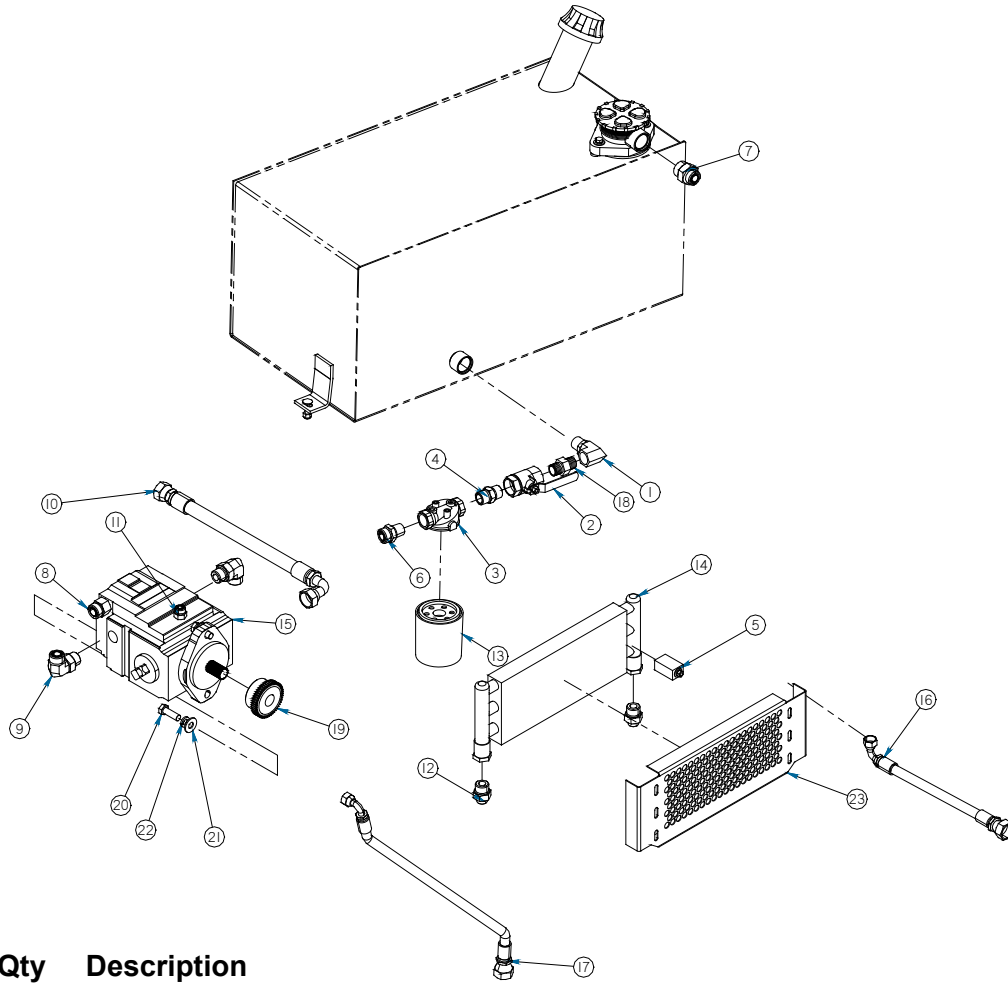
PUMP ASSEMBLIES



Item	Part	Qty	Description
1.	03-0710	1	Fitting, Barb, HP, 90°, 1 1/4, 1 5/16MOR
2.	03-1945	1	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS
3.	03-5038	1	Fitting, Barb, 1 1/4, 1 5/16
4.	03-2736	1	Pump, Prince, 12gpm@2000rpm
	03-2623	1	Pump, Prince, 20gpm@3000rpm
5.	05-1406	1	Hub, Splined, Adapter, 7/8-13 Spline
6.	07-0045	2	Screw, HHC, Gr8, 1/2-13 x 1 1/2
7.	07-0156	2	Washer, Flat, Gr8, 1/2
8.	07-1192	2	Clamp, T-Bolt, 1 1/4
9.	07-1762	2	Washer, Lock, Split, Medium, 1/2
10.	09-0020	3 ft	Hose, Suction, 1 1/4

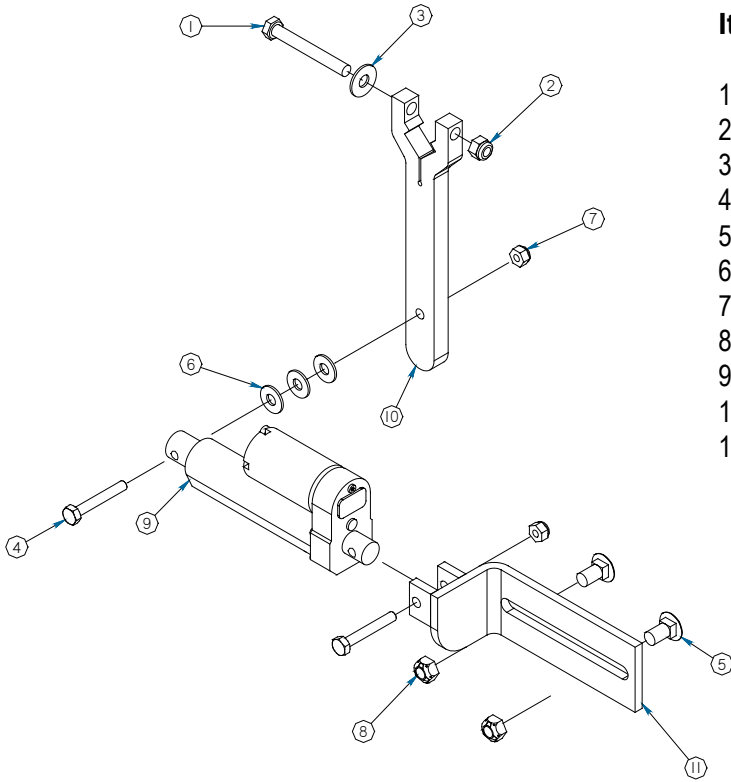
Not Shown : 03-2913 Kit, Seal, for 03-2736 Pump, Prince

HYDRAULIC PUMP ASSEMBLY

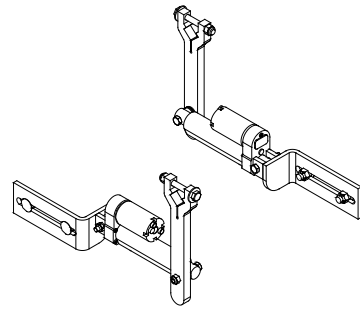


Item	Part	Qty	Description
1.	03-0366	1	Fitting, Elbow, HP, 90°, 1 5/16MOR, 1FP
2.	03-0569	1	Valve, Shut-Off, Ball, 3/4
3.	03-0745	1	Filter, Head, 1-12MNT, 25gpm, 3/4NPT Ports
4.	03-1022-10	1	Fitting, Nipple, HP, Hex, 3/4MP, 3/4MP
5.	03-1086	1	Kit, Mounting, Oil, Cooler
6.	03-1943	1	Fitting, Adapter, HP, 3/4MFS, 3/4MP
7.	03-2035	1	Fitting, Adapter, HP, 3/4MFS, 1 5/16MOR
8.	03-2148	1	Fitting, Adapter, HP, 3/4MFS, 3/4MOR
9.	03-2177	2	Fitting, Elbow, HP, 90°, 3/4MFS, 1 1/16MOR
10.	03-3390	1	Hose, 3/4 x 24, 2W, 3/4FFS, 3/4FFS90
11.	03-3514	1	Fitting, Adapter, HP, 1/2MFS, 1/2MOR
12.	03-3515	2	Fitting, Adapter, HP, 1/2MFS, 3/4MOR
13.	03-3713	1	Filter, Hydraulic, 12MNT, 547 Square Inch Media
14.	03-4232	1	Cooler, 1800BTU, 2-12gpm, #12SAE
15.	03-4633	1	Pump, Hydraulic, Eaton, 2.48 Cubic
16.	03-5003	1	Hose, 1/2 x 60, TC, 1/2FFS, 3/4FFS90
17.	03-5004	1	Hose, 1/2 x 50, TC, 1/2FFS, 1/2FFS90
18.	03-5228	1	Fitting, Nipple, HP, Hex, 1MP, 3/4MP
19.	05-1407	1	Hub, Splined, Adapter, 1-15 Spline
20.	07-0045	2	Screw, HHC, Gr8, 1/2-13 x 1 1/2
21.	07-0156	2	Washer, Flat, Gr8, 1/2
22.	07-1762	2	Washer, Lock, Split, Medium, 1/2
23.	11-7258	1	Shield, Cooler, Oil

DRIVE PUMP

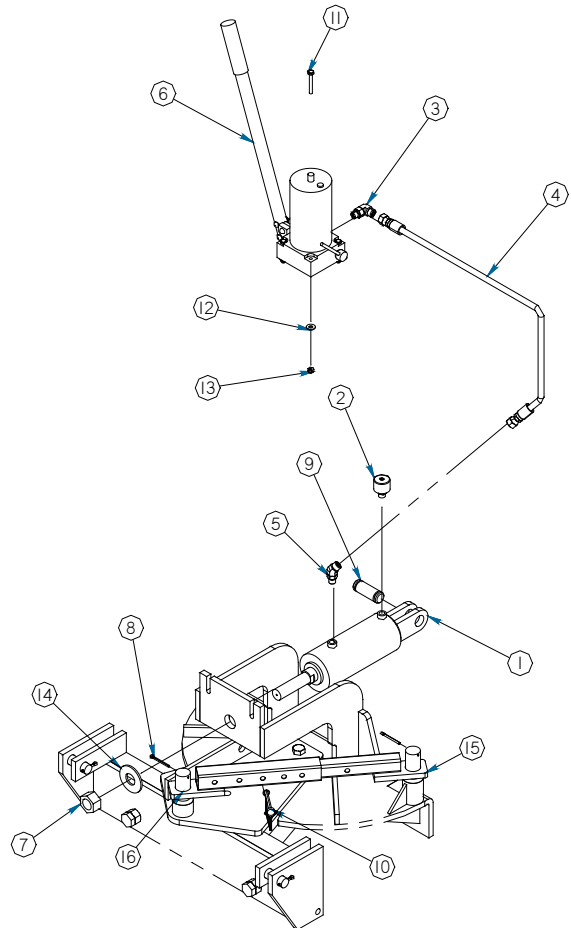


Item	Part	Qty	Description
1.	07-1784	1	Screw, HHC, Gr8, 5/16-18 x 2 1/2
2.	07-3270	1	Nut, Hex, Nylock, Gr8, 5/16-18
3.	07-3275	1	Washer, Flat, Gr8, 5/16
4.	07-3640	2	Screw, HHC, Gr8, 1/4-20 x 1 3/4
5.	07-3702	2	Bolt, Carriage, Gr5, 3/8-16 x 1
6.	07-4032	3	Washer, Flat, Gr8, 1/4
7.	07-4033	2	Nut, Nylock, Gr8, 1/4-20
8.	07-5370	2	Nut, Hex, Lock, Gr8, 3/8-16
9.	07-7222	1	Actuator, 2 Inch Stroke
10.	13-13934	1	Plate, Pump, Control
11.	13-2296	1	Weld, Mounting, Actuator, Pump



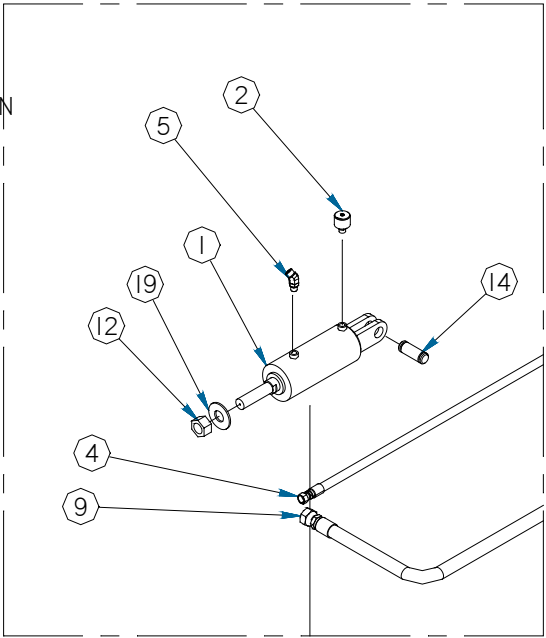
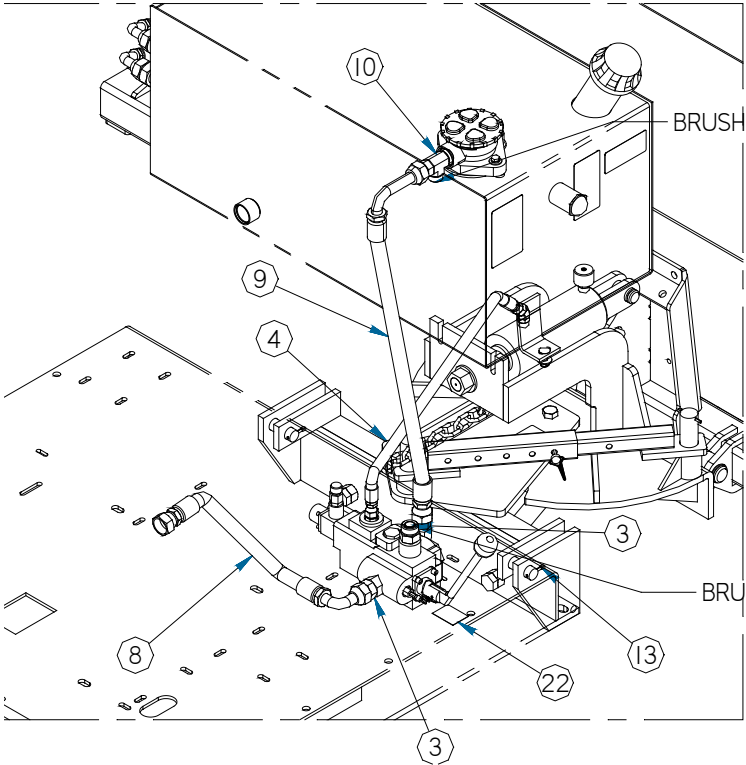
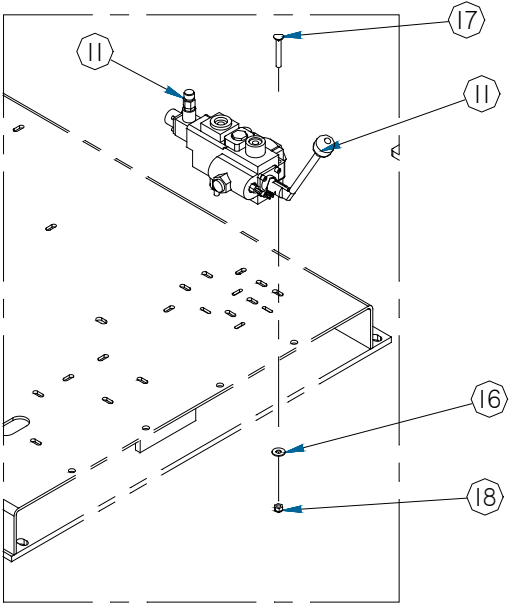
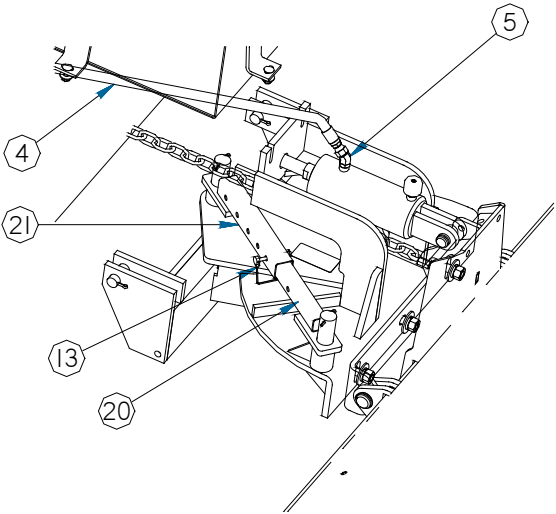
MANUAL LIFT

Item	Part	Qty	Description
1.	03-1928-1	1	Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
3.	03-2092	1	Fitting, Elbow, HP, 90°, 9/16MOR, 3/8MFS
4.	03-2093	1	Hose, 3/8 x 48, 1W, 3/8FFS, 3/8FFS
5.	03-2115	1	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
6.	03-3375	1	Pump, Hand, Brand, 9/16 O-Ring
7.	07-0186	1	Nut, Hex, Gr8, 1-14
8.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
9.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
10.	07-2105	1	Pin, Lock, 3/8 Square Bail
11.	07-3022	4	Screw, HHC, Gr8, 1/4-20 x 2
12.	07-4032	4	Washer, Flat, Gr8, 1/4
13.	07-4033	4	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4040	1	Washer, Flat, Gr8, 1
15.	13-10504	1	Weld, Link, Inner, Manual Angle
16.	13-4200	1	Weld, Link, Outer, Manual Angle



NOTES

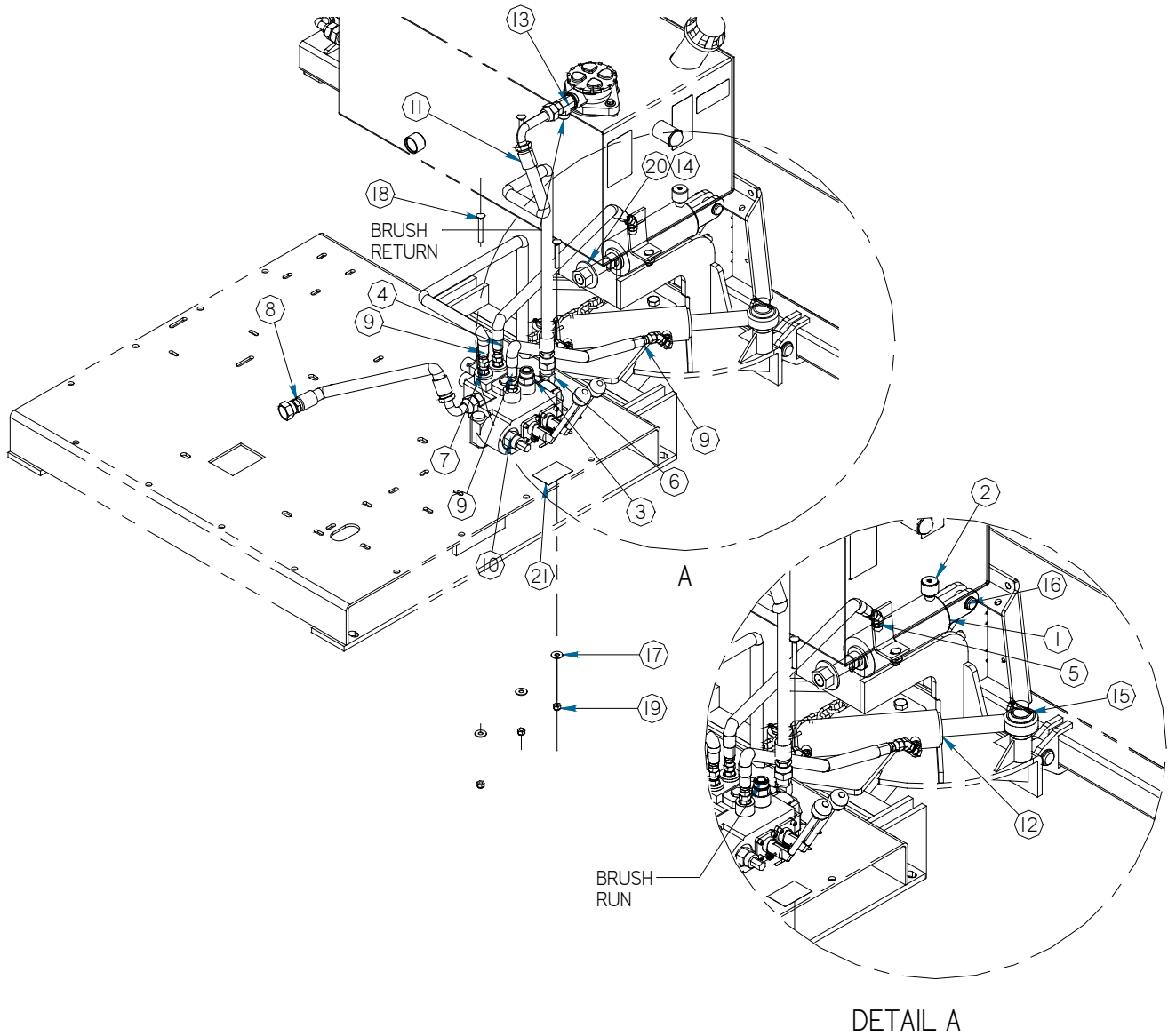
MANUAL VALVE RUN/LIFT



MANUAL VALVE RUN/LIFT

Item	Part	Qty	Description
1.	03-1928-11		Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
3.	03-1945	1	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS
4.	03-2093	1	Hose, 3/8 x 48, 1W, 3/8FFS, 3/8FFS
5.	03-2115	1	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
6.	03-2177	1	Fitting, Elbow, HP, 90°, 3/4MFS, 1 1/16MOR
7.	03-2291	1	Fitting, Adapter, HP, 3/8MFS, 9/16MOR
8.	03-2556	1	Hose, 3/4 x 24, 2W, 3/4FFS, 3/4FFS90
9.	03-3390	1	Hose, 3/4 x 30, TC, 3/4FFS, 3/4FFS90
10.	03-5170	1	Fitting, Tee Run, 16MOR, 12MFS
11.	03-5225	1	Valve, Prince, One Spool, with Handles
12.	07-0186	1	Nut, Hex, Gr8, 1-14
13.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
14.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
15.	07-2105	1	Pin, Lock, 3/8 Square Bail
16.	07-3279	3	Washer, Flat, Gr8, 3/8
17.	07-3703	3	Bolt, Carriage, Gr5, 3/8-16 x 2 1/4
18.	07-4036	3	Nut, Hex, Nylock, 3/8-16
19.	07-4040	1	Washer, Flat, Gr8, 1
20.	13-10504	1	Weld, Link, Inner, Manual Angle
21.	13-4200	1	Weld, Link, Outer, Manual Angle
22.	50-0774	1	Label, Controls, Manual Valves, Lift/Run

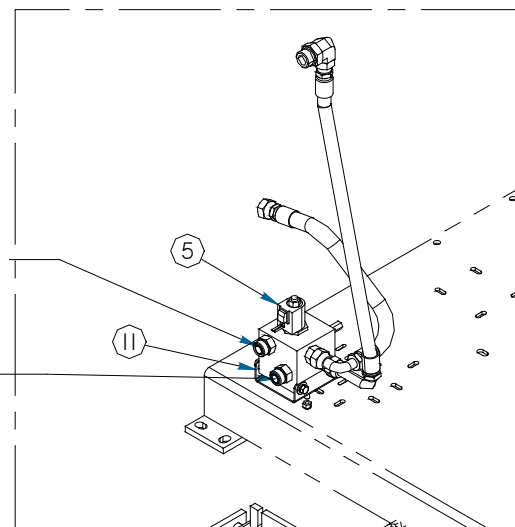
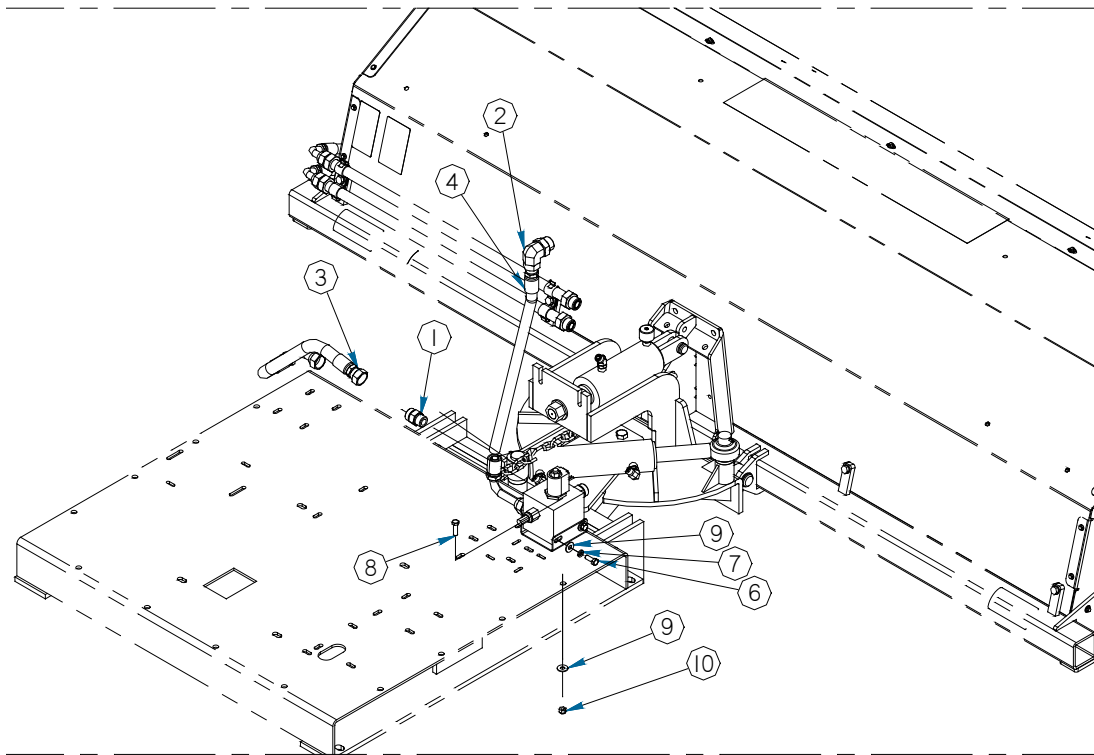
MANUAL VALVE SWING/RUN/LIFT



MANUAL VALVE SWING/RUN/LIFT

Item	Part	Qty	Description
1.	03-1928-11		Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
3.	03-1945	2	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS
4.	03-2093	1	Hose, 3/8 x 48, 1W, 3/8FFS, 3/8FFS
5.	03-2115	3	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
6.	03-2177	1	Fitting, Elbow, HP, 90°, 3/4MFS, 1 1/16MOR
7.	03-2291	3	Fitting, Adapter, HP, 3/8MFS, 9/16MOR
8.	03-2556	1	Hose, 3/4 x 24, 2W, 3/4FFS, 3/4FFS90
9.	03-2978	2	Hose, 3/8 x 37 1/4, 1W, 3/8FFS, 3/8FFS
10.	03-3138	1	Valve, Prince, 2 Spool, with Handles
11.	03-3390	1	Hose, 3/4 x 30, TC, 3/4FFS, 3/4FFS90
12.	03-4887	1	Cylinder, Hydraulic, 2 1/2 Bore, 7 1/2 Stroke, 3500psi
13.	03-5170	1	Fitting, Tee Run, 16MOR, 12MFS
14.	07-0186	1	Nut, Hex, Gr8, 1-14
15.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
16.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
17.	07-3279	3	Washer, Flat, Gr8, 3/8
18.	07-3703	3	Bolt, Carriage, Gr5, 3/8-16 x 2 1/4
19.	07-4036	3	Nut, Hex, Nylock, 3/8-16
20.	07-4040	1	Washer, Flat, Gr8, 1
21.	50-0773	1	Label, Controls, Manual Valves, Swing & Lift/Run

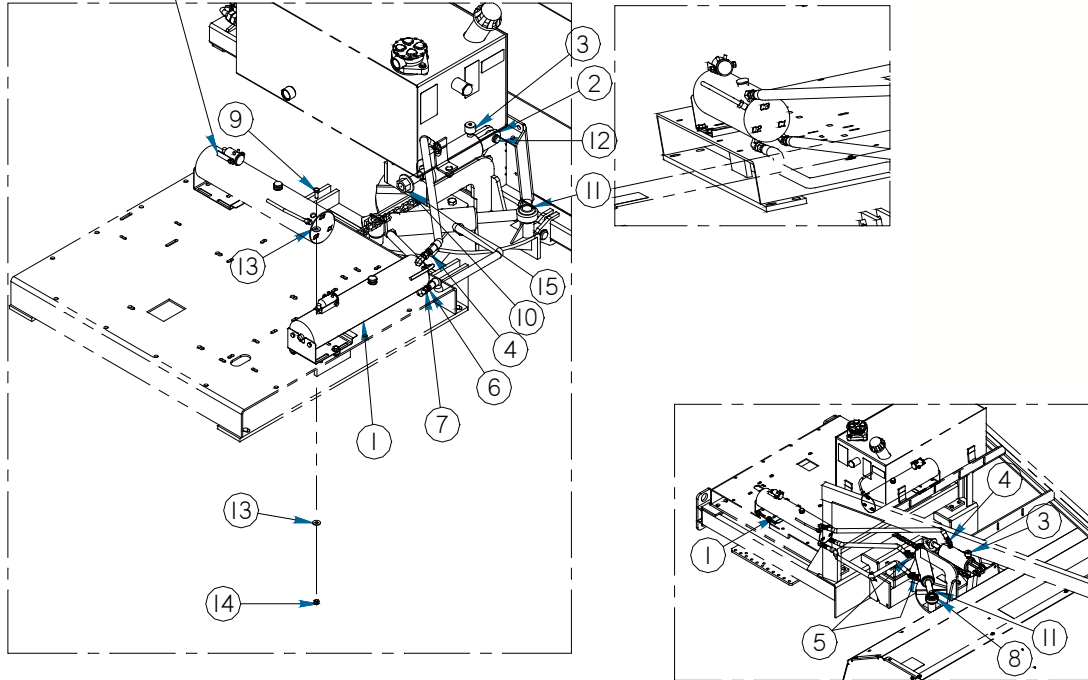
ELECTRIC VALVE WITH RELIEF



Item	Part	Qty	Description
1.	03-1945	4	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS
2.	03-1956	1	Fitting, Elbow, HP, 90°, 1 5/16MOR, 3/4MFS
3.	03-2556	1	Hose, 3/4 x 24, 2W, 3/4FFS, 3/4FFS90
4.	03-3390	1	Hose, 3/4 x 30, Tc, 3/4FFS, 3/4FFS90
5.	03-4142	1	Manifold, 12 Volt, Run/Relief
6.	07-0018	4	Screw, HHC, Gr8, 3/8-16 x 1
7.	07-1718	4	Washer, Lock, Split, Medium, 3/8
8.	07-2116	2	Screw, HHC, Gr8, 3/8-16 x 1 1/4
9.	07-3279	8	Washer, Flat, Gr8, 3/8
10.	07-4036	2	Nut, Hex, Nylock, 3/8-16
11.	13-15085	1	Plate, Mounting, Valve

MONARCH VALVE

POSITION
MONARCH
HERE FOR
HONDA & ROBIN
ENGINE
AND KUBOTA WITH
GEAR PUMP

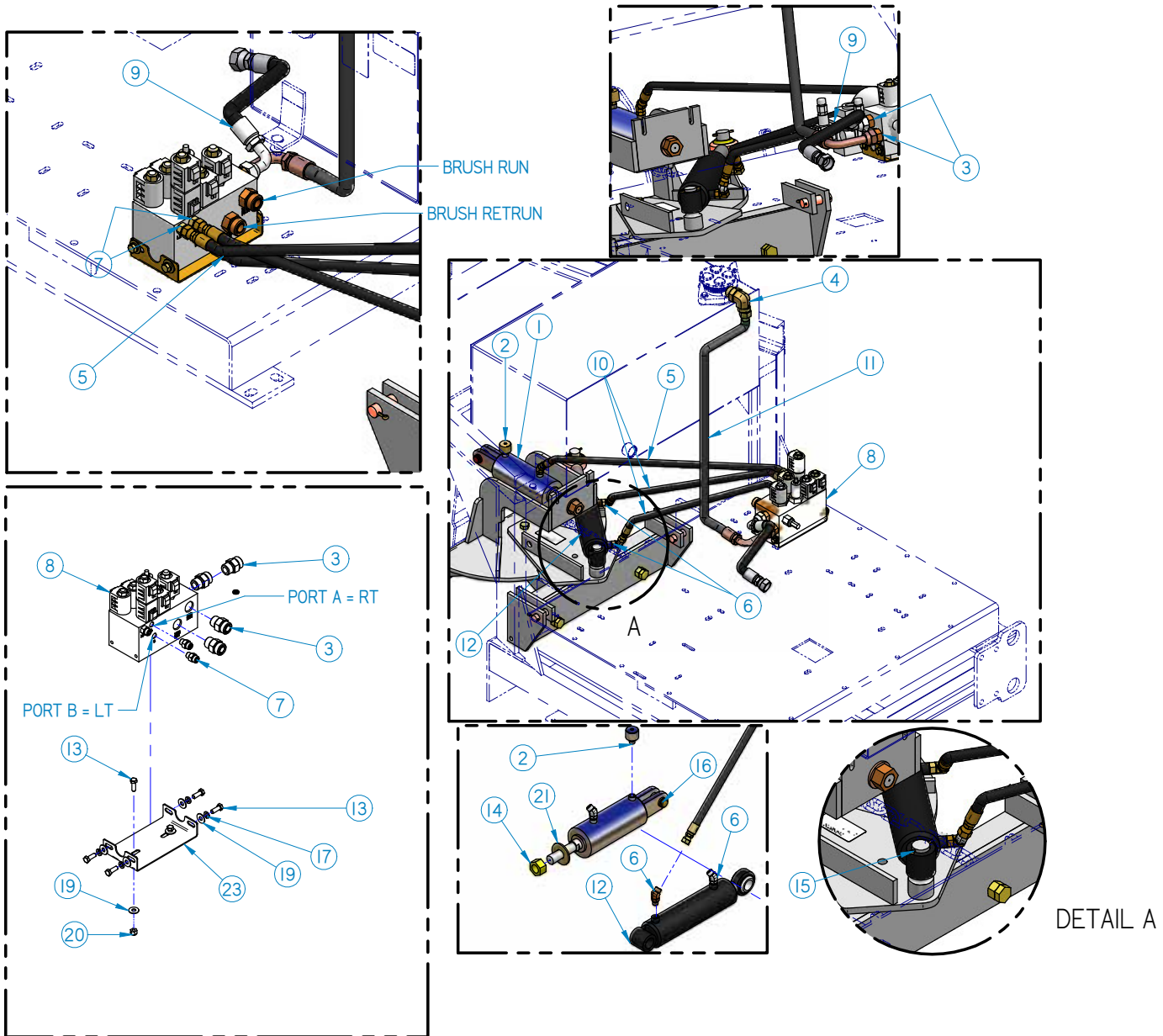


Item	Part	Qty	Description
1.	03-1733	1	System, Hydraulic, Monarch
2.	03-1928-1	1	Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
3.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
4.	03-2093	1	Hose, 3/8 x 48, 1W, 3/8FFS, 3/8FFS
5.	03-2115	3	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
6.	03-2978	2	Hose, 3/8 x 37, 1/4, 1W, 3/8FFS, 3/8FFS
7.	03-3578	3	Fitting, Elbow, HP, 90°, 1/4MP, 3/8MFS
8.	03-4887	1	Cylinder, Hydraulic, 2 1/2 Bore, 7 1/2 Stroke
9.	07-0018	4	Screw, HHC, Gr8, 3/8-16 x 1
10.	07-0186	1	Nut, Hex, Gr8, 1-14
11.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
12.	07-0539	1	Pin, Clevis, Gr2, 1, Hairclip, Both Ends
13.	07-3279	8	Washer, Flat, Gr8, 3/8
14.	07-4036	4	Nut, Hex, Nylock, 3/8-16
15.	07-4040	1	Washer, Flat, Gr8, 1

Not Shown :

07-4425	1	Cable, Battery, #4 x 32, 3/8 Eye both ends
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ELECTRIC VALVE SWING/RUN/LIFT



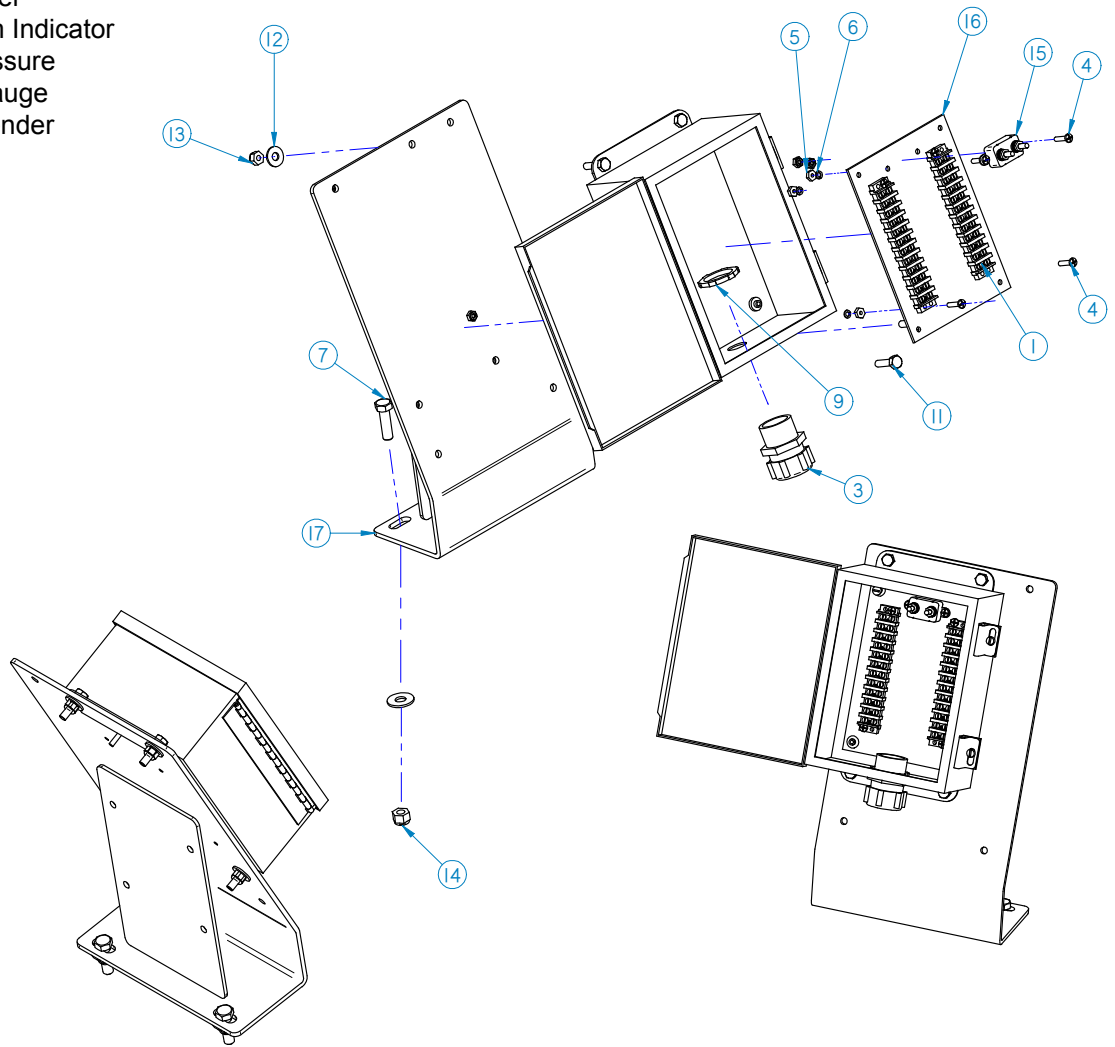
ELECTRIC VALVE SWING/RUN/LIFT

Item	Part	Qty	Description
1.	03-1928-1	1	Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
3.	03-1945	4	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS
4.	03-1956	1	Fitting, Elbow, HP, 90°, 1 5/16MOR, 3/4MFS
5.	03-2093	1	Hose, 3/8 x 48, 1W, 3/8FFS, 3/8FFS
6.	03-2115	3	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
7.	03-2291	3	Fitting, Adapter, HP, 3/8MFS, 9/16MOR
8.	03-2364-2	1	Manifold, 12 Volt
9.	03-2556	1	Hose, 3/4 x 24, 2W, 3/4FFS, 3/4FFS90
10.	03-2978	2	Hose, 3/8 x 37 1/4, 1W, 3/8FFS, 3/8FFS
11.	03-3390	1	Hose, 3/4 x 30, TC, 3/4FFS, 3/4FFS90
12.	03-4887	1	Cylinder, Hydraulic, 2 1/2 Bore, 7 1/2 Stroke, 3500psi
13.	07-0018	6	Screw, HHC, Gr8, 3/8-16 x 1
14.	07-0186	1	Nut, Hex, Gr8, 1-14
15.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
16.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
17.	07-1718	4	Washer, Lock, Split, Medium, 3/8
18.	07-2709	3	Diode, NTE-5814
19.	07-3279	8	Washer, Flat, Gr8, 3/8
20.	07-4036	2	Nut, Hex, Nylock, 3/8-16
21.	07-4040	1	Washer, Flat, Gr8, 1
22.	07-7279	1	Terminal, Butt, 8ga, Nonins
23.	13-14981	1	Plate, Mounting, Valve

JUNCTION BOX ASSEMBLY

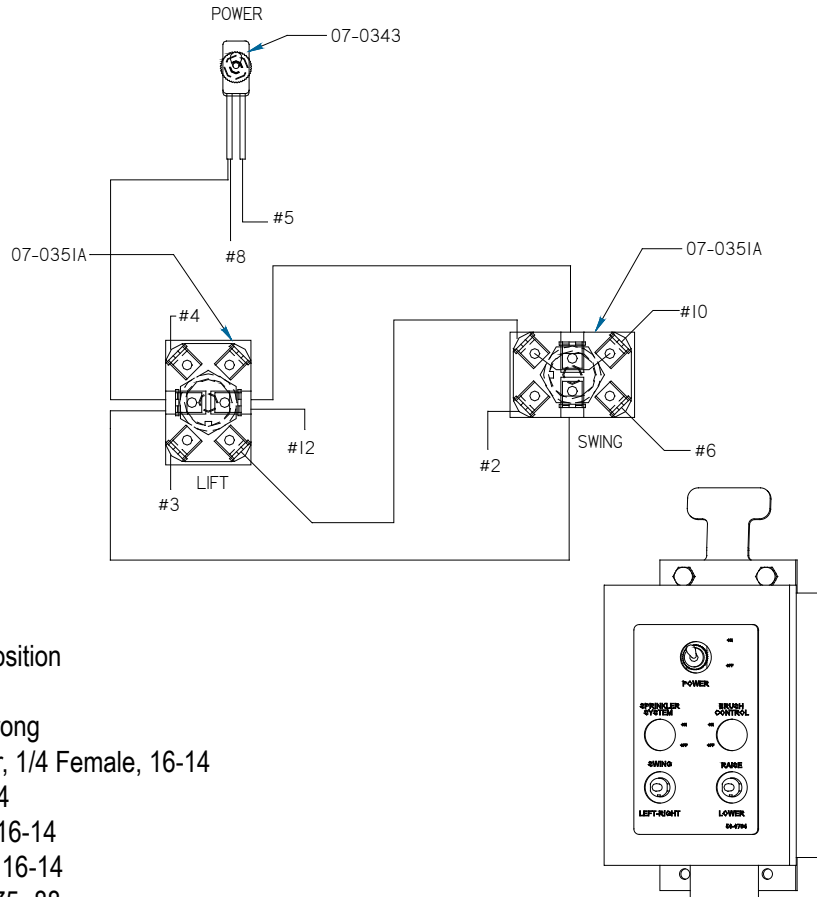
Gauges for Kubota Engines Only:

- 07-7200 Hour Meter
- 07-7202 Water Temperature
- 07-7203 Sender, Temperature
- 07-7205 Sender, Oil Pressure
- 07-7201 Voltmeter
- 07-2076 Vacuum Indicator
- 07-7204 Oil Pressure
- 07-7206 Fuel Gauge
- 07-7207 Fuel Sender



Item	Part	Qty	Description	Item	Part	Qty	Description
1.	07-0836	2	Terminal, Block, 12 Post	10.	07-3279	2	Washer, Flat, Gr8, 3/8
2.	07-1476	1	Box, Junction, 4 x 6 x 8	11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
	07-1962	1	Box, Junction, 10 x 8 x 6, Hinged Cover, for Gauges	12.	07-4032	4	Washer, Flat, Gr8, 1/4
3.	07-1598	1	Strain, Relief, 1, .875-.985	13.	07-4033	4	Nut, Hex, Nylock, Gr8, 1/4-20
4.	07-1904	6	Screw, Phillips, Gr2, 8-32 x 3/4	14.	07-4036	2	Nut, Hex, Nylock, 3/8-16
5.	07-1906	6	Nut, Hex, Gr2, 8-32	15.	07-5071	1	Circuit, Breaker, 30 amp, Reset
6.	07-1907	6	Washer, Lock, Gr2, 8	16.	13-15413	1	Plate, Mounting, Terminal Block
7.	07-2116	2	Screw, HHC, Gr8, 3/8-16 x 1 1/4		13-15412	1	Plate, Mounting, Terminal Block, for Gauges
8.	07-2198	6ft	Wire, Cord, 16ga-24	17.	13-15420	1	Weld, Mounting, Electrical
9.	07-2500	1	Nut, Strain, Relief, 1				

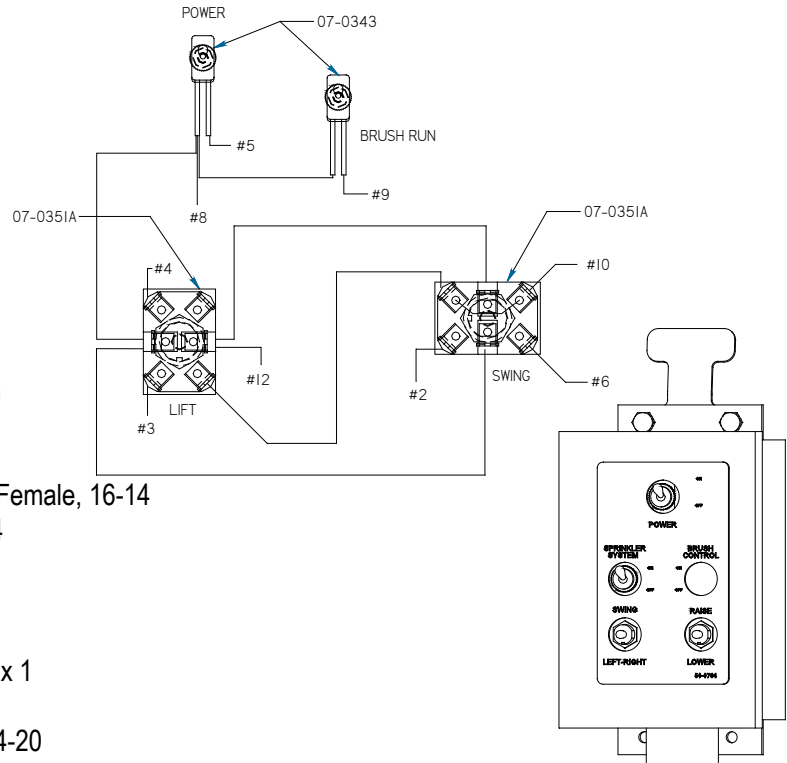
CONTROL BOX - POWER/SWING/LIFT



Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	8	Terminal, Connector, 1/4 Female, 16-14
5.	07-0867	2	Terminal, Butt, 16-14
6.	07-0916	1	Terminal, Ring, #8, 16-14
7.	07-0926	15	Terminal, Spade, 6, 16-14
8.	07-1477	2	Strain, Relief, 3/4, .75-.88
9.	07-2135	40 ft	Wire, Cord, 16ga
10.	07-2245	2	Nut, Strain, Relief, 3/4
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
16.	07-5161	5	Clamp, Rubber Coated, 5/8 x 1/2
17.	13-15901	1	Plate, Mounting, Control Box
18.	50-0764	1	Label, Control Box, Electrical
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

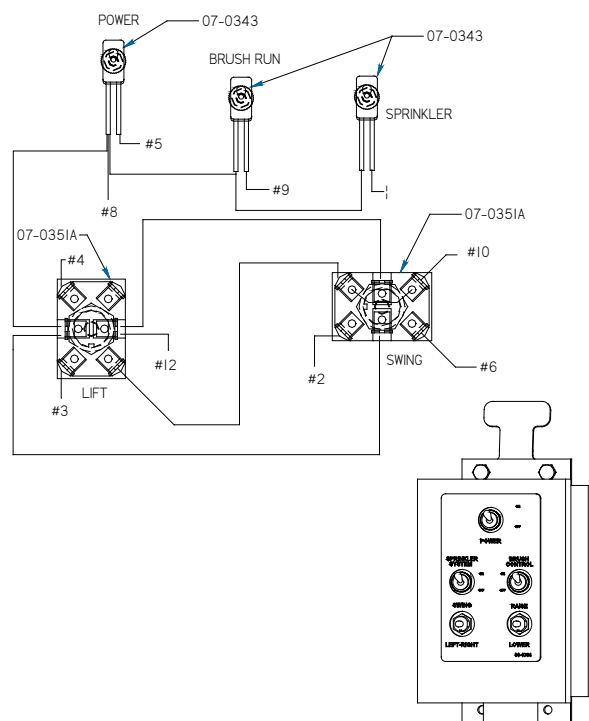
Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

CONTROL BOX - GEAR PUMP/POWER/SWING/LIFT/RUN



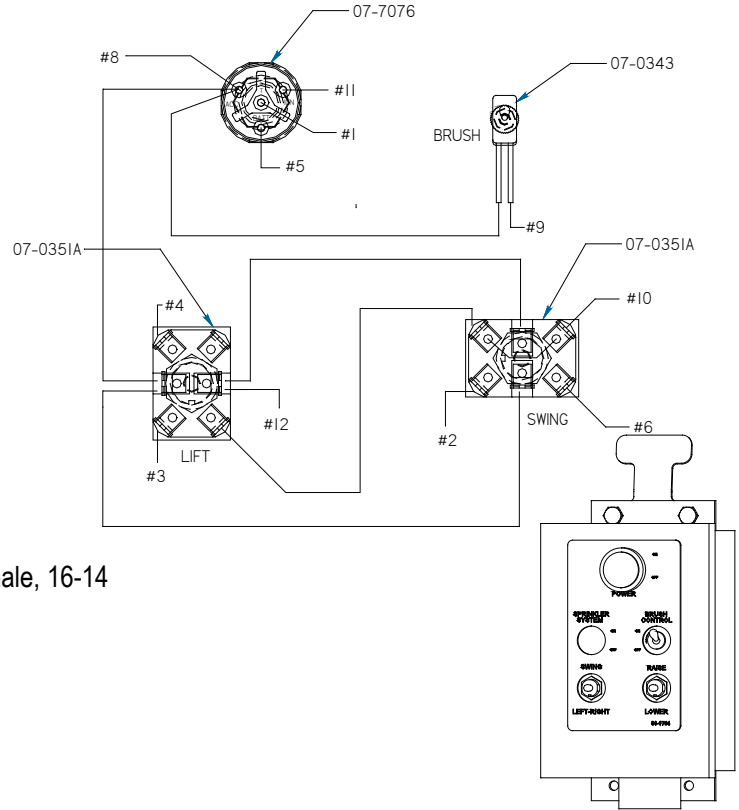
Item	Part	Qty	Description
1.	07-0343	2	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	8	Terminal, Connector, 1/4 Female, 16-14
5.	07-0926	15	Terminal, Spade, 6, 16-14
6.	07-1477	2	Strain, Relief, 3/4, .75-.88
7.	07-2135	40 ft	Wire, Cord, 16ga
8.	07-2245	2	Nut, Strain, Relief, 3/4
9.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
10.	07-4032	2	Washer, Flat, Gr8, 1/4
11.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
12.	07-4038	2	Washer, Lock, Split, Medium, 1/4
13.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
14.	07-5161	5	Clamp, Rubber Coated, 5/8 x 1/2
15.	13-15901	1	Plate, Mounting, Control Box
16.	50-0764	1	Label, Control Box, Electrical
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

CONTROL BOX - POWER/SWING/LIFT/RUN/SPRINKLER



Item	Part	Qty	Description
1.	07-0343	3	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	6	Terminal, Connector, 1/4 Female, 16-14
5.	07-0867	4	Terminal, Butt, 16-14
6.	07-0926	15	Terminal, Spade, 6, 16-14
7.	07-1477	2	Strain, Relief, 3/4, .75-.88
8.	07-2135	40 ft	Wire, Cord, 16ga
9.	07-2245	2	Nut, Strain, Relief, 3/4
10.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
11.	07-4032	2	Washer, Flat, Gr8, 1/4
12.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
13.	07-4038	2	Washer, Lock, Split, Medium, 1/4
14.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
15.	07-5161	5	Clamp, Rubber Coated, 5/8 x 1/2
16.	13-15901	1	Plate, Mounting, Control Box
17.	50-0764	1	Label, Control Box, Electrical
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

CONTROL BOX - GEAR PUMP/ IGNITION/SWING/LIFT/RUN/

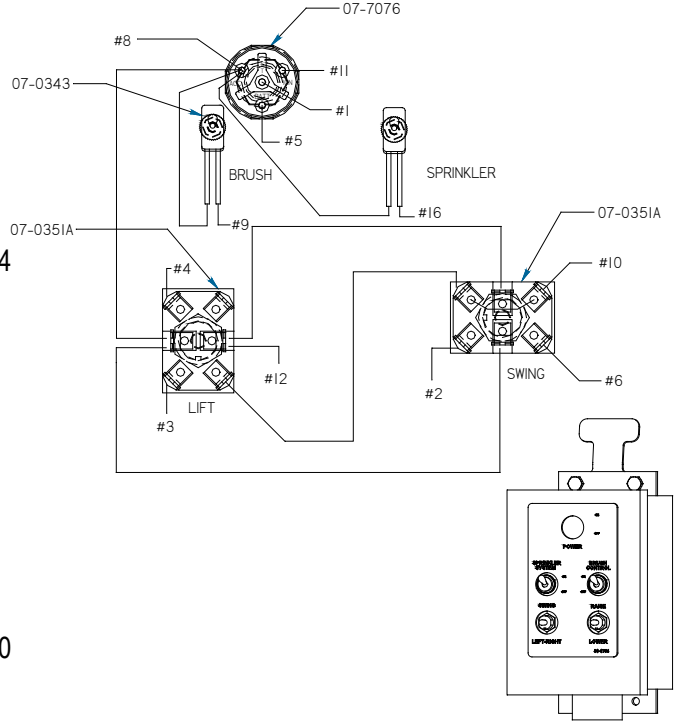


Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	8	Terminal, Connector, 1/4 Female, 16-14
5.	07-0867	2	Terminal, Butt, 16-14
6.	07-0916	10	Terminal, Ring, #8, 16-14
7.	07-0926	15	Terminal, Spade, 6, 16-14
8.	07-1477	2	Strain, Relief, 3/4, .75-.88
9.	07-2135	40 ft	Wire, Cord, 16ga
10.	07-2245	2	Nut, Strain, Relief, 3/4
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
16.	07-5161	5	Clamp, Rubber Coated, 5/8 x 1/2
17.	07-7076	1	Switch, Ignition, Four Position
18.	13-15901	1	Plate, Mounting, Control Box
19.	50-0764	1	Label, Control Box, Electrical
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

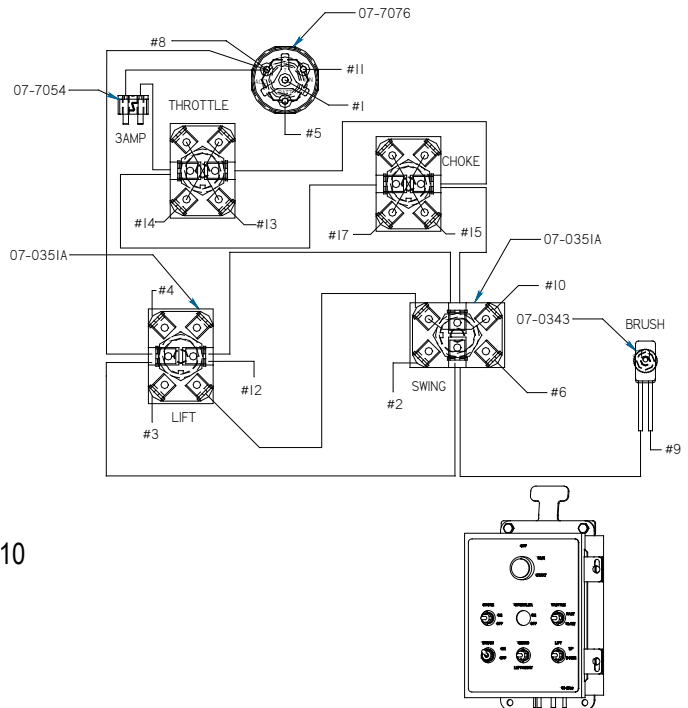
CONTROL BOX - GEAR PUMP/IGNITION/SWING/LIFT/RUN/ SPRINKLER

Item	Part	Qty	Description
1.	07-0343	2	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	8	Terminal, Connector, 1/4 Female, 16-14
5.	07-0867	4	Terminal, Butt, 16-14
6.	07-0916	12	Terminal, Ring, #8, 16-14
7.	07-0926	15	Terminal, Spade, 6, 16-14
8.	07-1477	2	Strain, Relief, 3/4, .75-.88
9.	07-2135	40 ft	Wire, Cord, 16ga
10.	07-2245	2	Nut, Strain, Relief, 3/4
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
16.	07-5161	5	Clamp, Rubber Coated, 5/8 x 1/2
17.	07-7076	1	Switch, Ignition, Four Position
18.	13-15901	1	Plate, Mounting, Control Box
19.	50-0764	1	Label, Control Box, Electrical
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

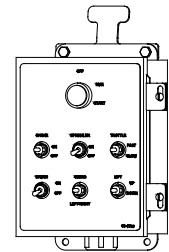
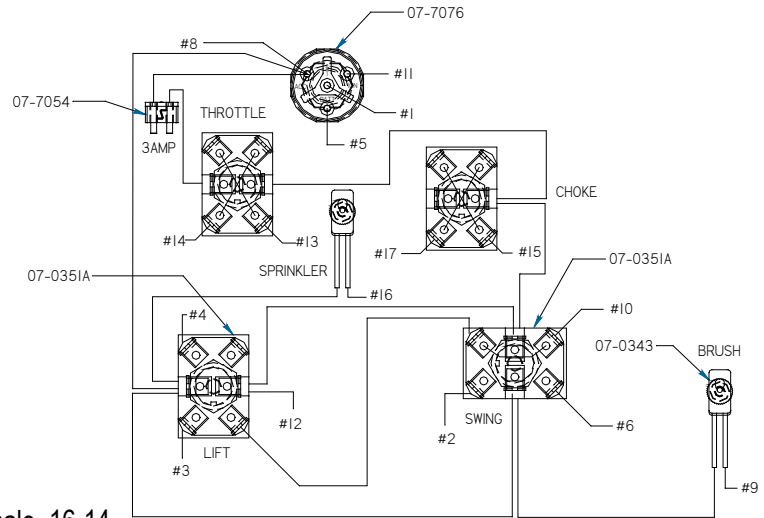


CONTROL BOX - GEAR PUMP/IGNITION/THROTTLE/CHOKE/ SWING/LIFT/RUN

Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351A	4	Switch, Toggle, 6 Prong
3.	07-0867	4	Terminal, Butt, 16-14
4.	07-0916	12	Terminal, Ring, #8, 16-14
5.	07-0926	23	Terminal, Spade, 6, 16-14
6.	07-1476	1	Box, Junction, 4 x 6 x 8
7.	07-1598	2	Strain, Relief, 1, .875-.985
8.	07-2198	40 ft	Wire, Cord, 16ga
9.	07-2500	2	Nut, Strain, Relief, 1 Inch
10.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
11.	07-4032	2	Washer, Flat, Gr8, 1/4
12.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
13.	07-4038	2	Washer, Lock, Split, Medium, 1/4
14.	07-4186	1	Holder, Fuse
15.	07-4222	8	Terminal, Connector, 1/4 Female, 12-10
16.	07-5329	5	Clamp, Rubber Coat
17.	07-7054	1	Fuse, Blade, 3 amp
18.	07-7076	1	Switch, Ignition, Four Position
19.	13-15900	1	Plate, Mounting, Control Box
20.	50-0766	1	Label, Control Box, Gas
N/S	07-7195	1	Key, for 07-7076, Ignition Switch



CONTROL BOX - GEAR PUMP/IGNITION/THROTTLE/CHOKE/ SWING/LIFT/RUN/SPRINKLER

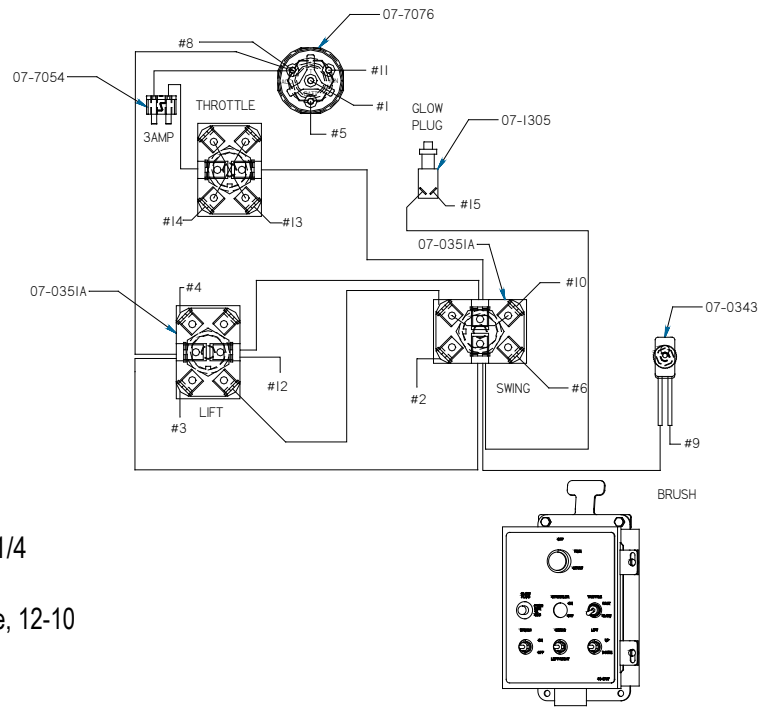


Item	Part	Qty	Description
1.	07-0343	2	Switch, Toggle, 2 Position
2.	07-0351A	4	Switch, Toggle, 6 Prong
3.	07-0812	21	Terminal, Connector, 1/4 Female, 16-14
4.	07-0867	1	Terminal, Butt, 16-14
5.	07-0916	12	Terminal, Ring, #8, 16-14
6.	07-0926	15	Terminal, Spade, 6, 16-14
7.	07-1476	1	Box, Junction, 4 x 6 x 8
8.	07-1598	2	Strain, Relief, 1, .875-.985
9.	07-2198	40 ft	Wire, Cord, 16ga
10.	07-2500	2	Nut, Strain, Relief, 1 Inch
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4186	1	Holder, Fuse
16.	07-4222	8	Terminal, Connector, 1/4 Female, 12-10
17.	07-5329	5	Clamp, Rubber Coat
18.	07-7054	1	Fuse, Blade, 3 amp
19.	07-7076	1	Switch, Ignition, Four Position
20.	13-15900	1	Plate, Mounting, Control Box
21.	50-0766	1	Label, Control Box, Gas
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

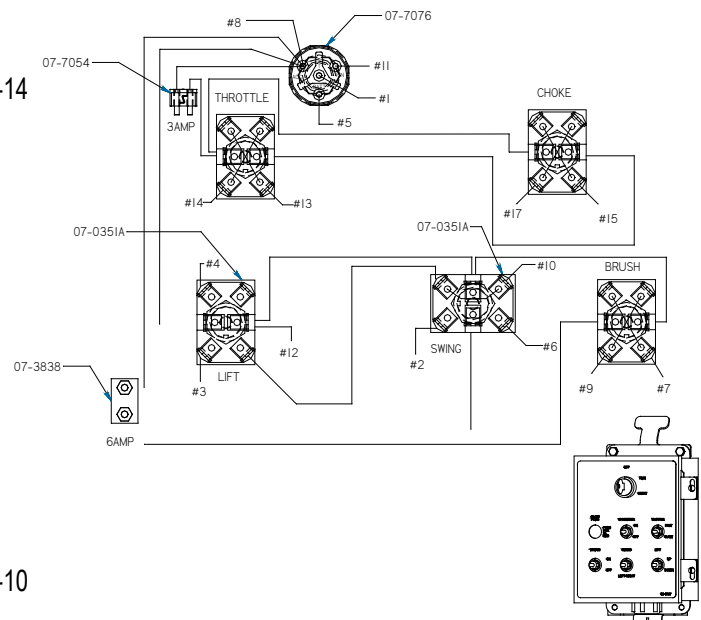
CONTROL BOX - GEAR PUMP/IGNITION/THROTTLE/GLOW PLUG/ SWING/LIFT/RUN

Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351A	3	Switch, Toggle, 6 Prong
3.	07-0867	1	Terminal, Butt, 16-14
4.	07-0916	12	Terminal, Ring, #8, 16-14
5.	07-0926	15	Terminal, Spade, 6, 16-14
6.	07-1305	1	Switch, Starter, Universal
7.	07-1476	1	Box, Junction, 4 x 6 x 8
8.	07-1477	2	Strain, Relief, 3/4, .75-.88
9.	07-2135	40 ft	Wire, Cord, 16ga
10.	07-2245	2	Nut, Strain, Relief, 3/4
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4186	1	Holder, Fuse
16.	07-4222	6	Terminal, Connector, 1/4 Female, 12-10
17.	07-5161	5	Clamp, Rubber Coat
18.	07-7054	1	Fuse, Blade, 3 amp
19.	07-7076	1	Switch, Ignition, Four Position
20.	13-15900	1	Plate, Mounting, Control Box
21.	50-0767	1	Label, Control Box, Diesel
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

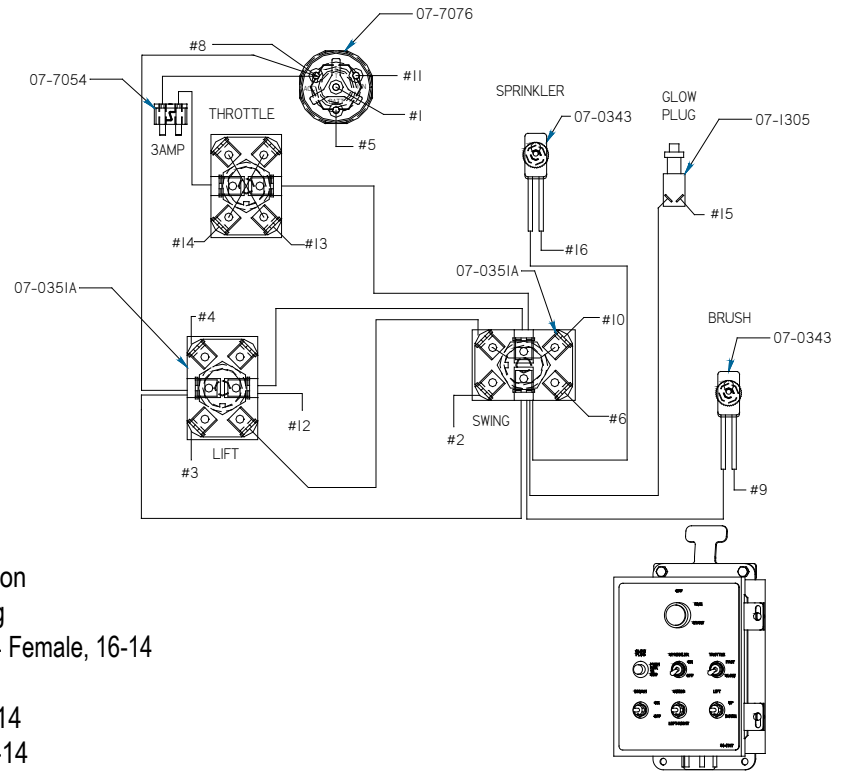


CONTROL BOX - HYDROSTATIC/IGNITION/THROTTLE/CHOKE/ SWING/LIFT/RUN

Item	Part	Qty	Description
1.	07-0351A	5	Switch, Toggle, 6 Prong
2.	07-0812	21	Terminal, Connector, 1/4 Female, 16-14
3.	07-0916	10	Terminal, Ring, #8, 16-14
4.	07-0926	23	Terminal, Spade, 6, 16-14
5.	07-1476	1	Box, Junction, 4 x 6 x 8
6.	07-1598	2	Strain, Relief, 1, .875-.985
7.	07-2198	40 ft	Wire, Cord, 16ga
8.	07-2500	2	Nut, Strain, Relief, 1 Inch
9.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
10.	07-3838	1	Circuit, Breaker, 6A, Type II
11.	07-3839	1	Bracket, Circuit, Breaker
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4186	1	Holder, Fuse
16.	07-4222	6	Terminal, Connector, 1/4 Female, 12-10
17.	07-5329	5	Clamp, Rubber Coat
18.	07-7054	1	Fuse, Blade, 3 amp
19.	07-7076	1	Switch, Ignition, Four Position
20.	13-15900	1	Plate, Mounting, Control Box
21.	50-0767	1	Label, Control Box, Diesel
N/S	07-7195	1	Key, for 07-7076, Ignition Switch



CONTROL BOX - GEAR PUMP/IGNITION/THROTTLE/GLOW PLUG/ SWING/LIFT/RUN/SPRINKLER

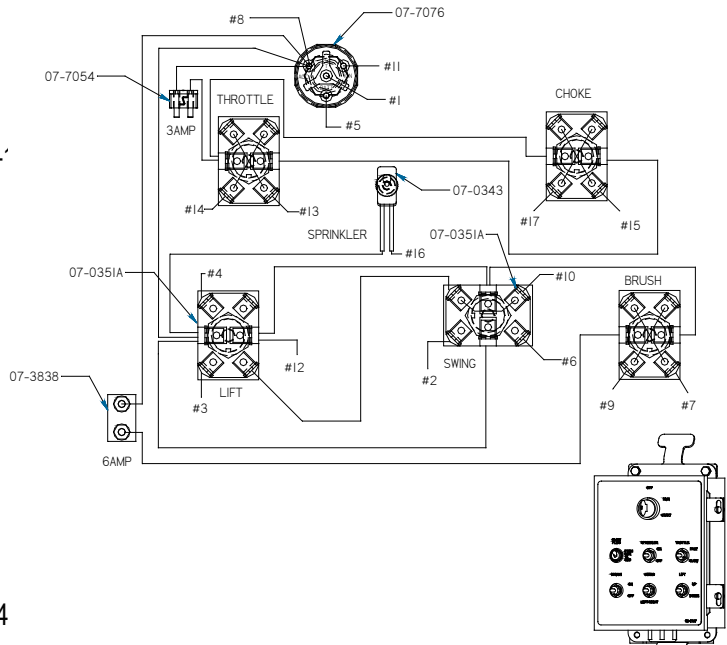


Item	Part	Qty	Description
1.	07-0343	2	Switch, Toggle, 2 Position
2.	07-0351A	3	Switch, Toggle, 6 Prong
3.	07-0812	17	Terminal, Connector, 1/4 Female, 16-14
4.	07-0867	1	Terminal, Butt, 16-14
5.	07-0916	12	Terminal, Ring, #8, 16-14
6.	07-0926	15	Terminal, Spade, 6, 16-14
7.	07-1305	1	Switch, Starter, Universal
8.	07-1476	1	Box, Junction, 4 x 6 x 8
9.	07-1598	2	Strain, Relief, 1, .875-.985
10.	07-2135	40 ft	Wire, Cord, 16ga
11.	07-2500	2	Nut, Strain, Relief, 1 Inch
12.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
13.	07-4032	2	Washer, Flat, Gr8, 1/4
14.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
15.	07-4038	2	Washer, Lock, Split, Medium, 1/4
16.	07-4186	1	Holder, Fuse
17.	07-4222	6	Terminal, Connector, 1/4 Female, 12-10
18.	07-5161	5	Clamp, Rubber Coat
19.	07-7054	1	Fuse, Blade, 3 amp
20.	07-7076	1	Switch, Ignition, Four Position
21.	13-15900	1	Plate, Mounting, Control Box
22.	50-0767	1	Label, Control Box, Diesel
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3,#6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

CONTROL BOX - HYDROSTATIC/IGNITION/THROTTLE/CHOKE/ SWING/LIFT/RUN/SPRINKLER

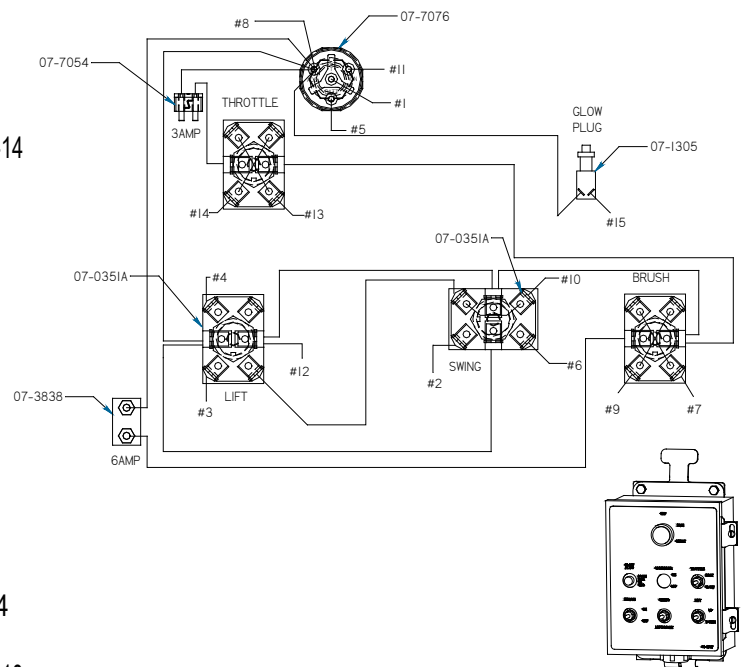
Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351A	5	Switch, Toggle, 6 Prong
3.	07-0812	21	Terminal, Connector, 1/4 Female, 16-'
4.	07-0867	1	Terminal, Butt, 16-14
5.	07-0916	10	Terminal, Ring, #8, 16-14
6.	07-0926	23	Terminal, Spade, 6, 16-14
7.	07-1476	1	Box, Junction, 4 x 6 x 8
8.	07-1598	2	Strain, Relief, 1, .875-.985
9.	07-2198	40 ft	Wire, Cord, 16ga
10.	07-2500	2	Nut, Strain, Relief, 1 Inch
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-3838	1	Circuit, Breaker, 6A, Type II
13.	07-3839	1	Bracket, Circuit, Breaker
14.	07-4032	2	Washer, Flat, Gr8, 1/4
15.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
16.	07-4038	2	Washer, Lock, Split, Medium, 1/4
17.	07-4186	1	Holder, Fuse
18.	07-4222	8	Terminal, Connector, 1/4 Female, 12-10
19.	07-5329	5	Clamp, Rubber Coat
20.	07-7054	1	Fuse, Blade, 3 amp
21.	07-7076	1	Switch, Ignition, Four Position



22.	13-15900	1	Plate, Mounting, Control Box
23.	50-0767	1	Label, Control Box, Diesel
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

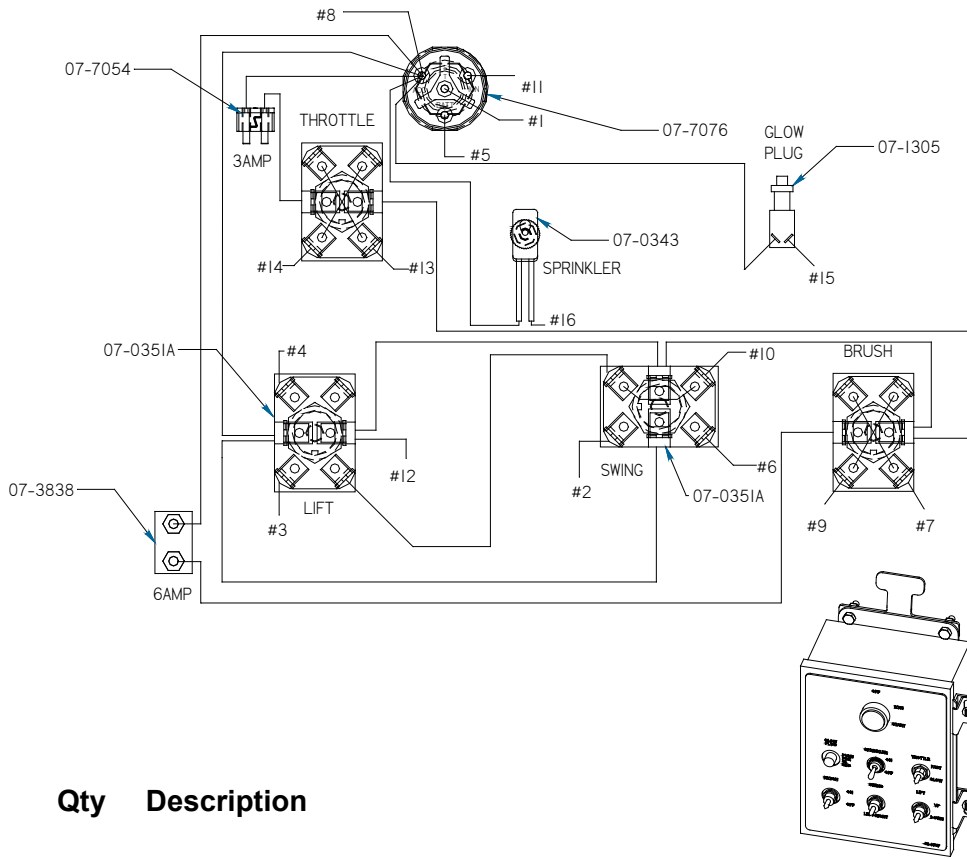
CONTROL BOX - HYDROSTATIC/IGNITION/THROTTLE/GLOW PLUG/SWING/LIFT/RUN

Item	Part	Qty	Description
1.	07-0351A	4	Switch, Toggle, 6 Prong
2.	07-0812	17	Terminal, Connector, 1/4 Female, 16-14
3.	07-0916	11	Terminal, Ring, #8, 16-14
4.	07-0926	23	Terminal, Spade, 6, 16-14
5.	07-1305	1	Switch, Starter, Universal
6.	07-1476	1	Box, Junction, 4 x 6 x 8
7.	07-1598	2	Strain, Relief, 1, .875-.985
8.	07-2198	40 ft	Wire, Cord, 16ga
9.	07-2500	2	Nut, Strain, Relief, 1 Inch
10.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
11.	07-3838	1	Circuit, Breaker, 6A, Type II
12.	07-3839	1	Bracket, Circuit, Breaker
13.	07-4032	2	Washer, Flat, Gr8, 1/4
14.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
15.	07-4038	2	Washer, Lock, Split, Medium, 1/4
16.	07-4186	1	Holder, Fuse
17.	07-4222	6	Terminal, Connector, 1/4 Female, 12-10
18.	07-5161	5	Clamp, Rubber Coated
19.	07-7054	1	Fuse, Blade, 3 amp
20.	07-7076	1	Switch, Ignition, Four Position



21.	13-15900	1	Plate, Mounting, Control Box
22.	50-0767	1	Label, Control Box, Diesel
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

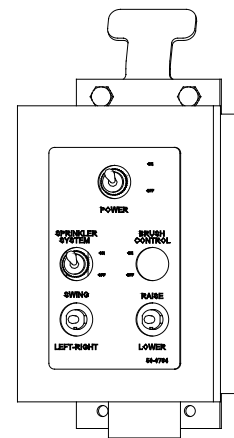
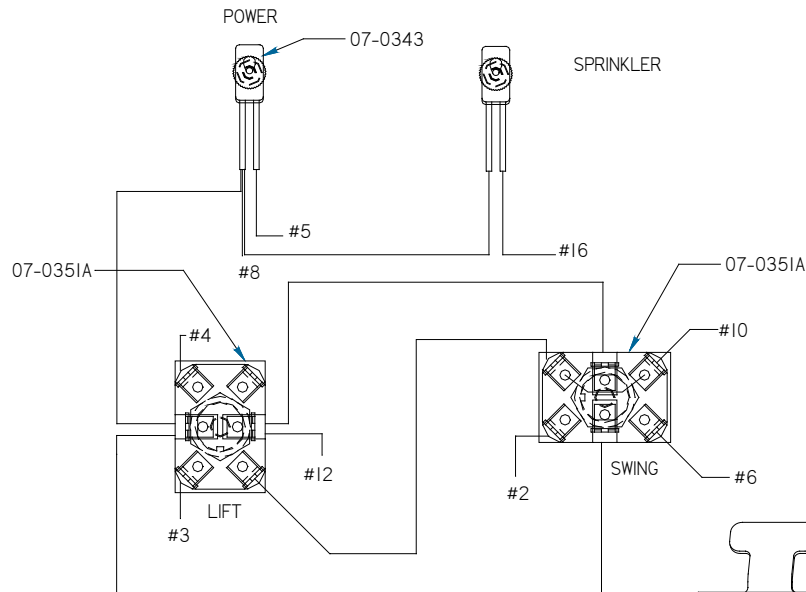
CONTROL BOX - HYDROSTATIC/IGNITION/THROTTLE/GLOW PLUG/SWING/LIFT/RUN/SPRINKLER



Item	Part	Qty	Description
1.	07-0343	1	Switch, Toggle, 2 Position
2.	07-0351A	4	Switch, Toggle, 6 Prong
3.	07-0812	17	Terminal, Connector, 1/4 Female, 16-14
4.	07-0867	1	Terminal, Butt, 16-14
5.	07-0916	12	Terminal, Ring, #8, 16-14
6.	07-0926	23	Terminal, Spade, 6, 16-14
7.	07-1305	1	Switch, Starter, Universal
8.	07-1476	1	Box, Junction, 4 x 6 x 8
9.	07-1598	2	Strain, Relief, 1, .875-.985
10.	07-2198	40 ft	Wire, Cord, 16ga
11.	07-2500	2	Nut, Strain, Relief, 1 Inch
12.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
13.	07-3838	1	Circuit, Breaker, 6A, Type II
14.	07-3839	1	Bracket, Circuit, Breaker
15.	07-4032	2	Washer, Flat, Gr8, 1/4
16.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
17.	07-4038	2	Washer, Lock, Split, Medium, 1/4
18.	07-4186	1	Holder, Fuse
19.	07-4222	6	Terminal, Connector, 1/4 Female, 12-10
20.	07-5329	5	Clamp, Rubber Coat
21.	07-7054	1	Fuse, Blade, 3 amp
22.	07-7076	1	Switch, Ignition, Four Position
23.	13-15900	1	Plate, Mounting, Control Box
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

Wire/Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

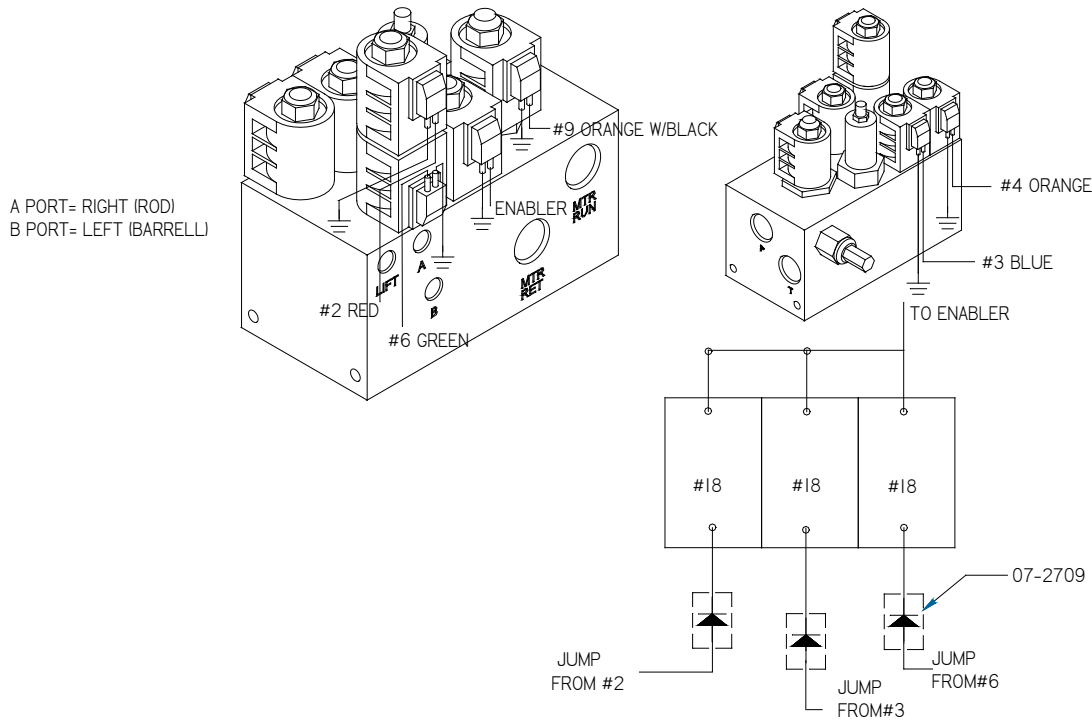
CONTROL BOX - POWER/SWING/LIFT/SPRINKLER



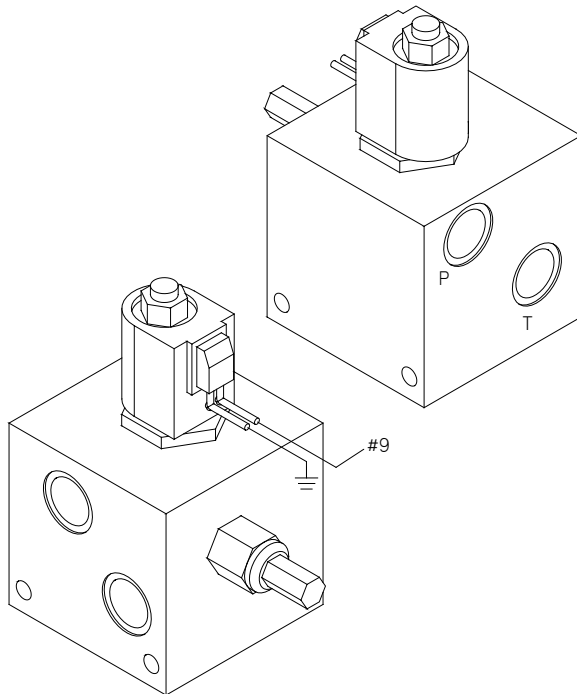
Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

Item	Part	Qty	Description
1.	07-0343	2	Switch, Toggle, 2 Position
2.	07-0351	1	Box, Control
3.	07-0351A	2	Switch, Toggle, 6 Prong
4.	07-0812	8	Terminal, Connector, 1/4 Female, 16-14
5.	07-0867	2	Terminal, Butt, 16-14
6.	07-0916	1	Terminal, Ring, #8, 16-14
7.	07-0926	15	Terminal, Spade, 6, 16-14
8.	07-1477	2	Strain, Relief, 3/4, .75-.88
9.	07-2135	40ft	Wire, Cord, 16ga-16
10.	07-2245	2	Nut, Strain, Relief, 3/4
11.	07-3637	4	Screw, HHC, Gr8, 1/4-20 x 1
12.	07-4032	2	Washer, Flat, Gr8, 1/4
13.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4222	4	Terminal, Connector, 1/4 Female, 12-10
16.	07-5161	5	Clamp, Rubber, Coated, 5/8 x 1/2
17.	13-15901	1	Plate, Mounting, Control
18.	50-0764	1	Label, Control, Box, Tow
N/S	07-7195	1	Key, for 07-7076, Ignition Switch

MANIFOLD VALVE - RUN/SWING/LIFT

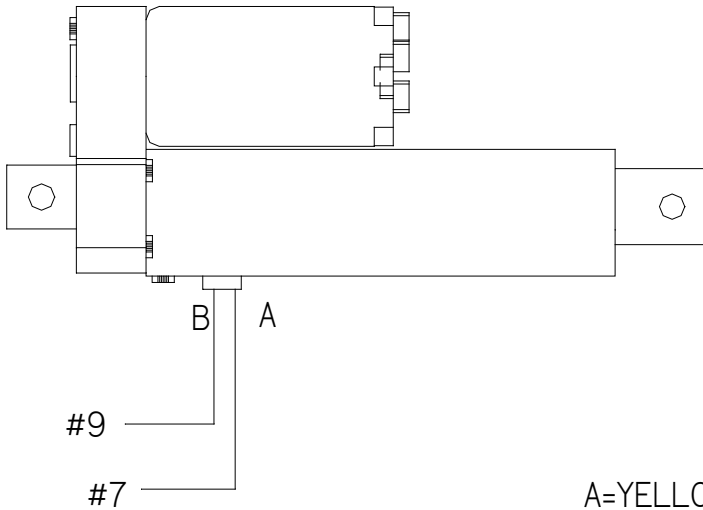


MANIFOLD VALVE - RUN WITH RELIEF



Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

BRUSH RUN, HYDROSTATIC PUMP

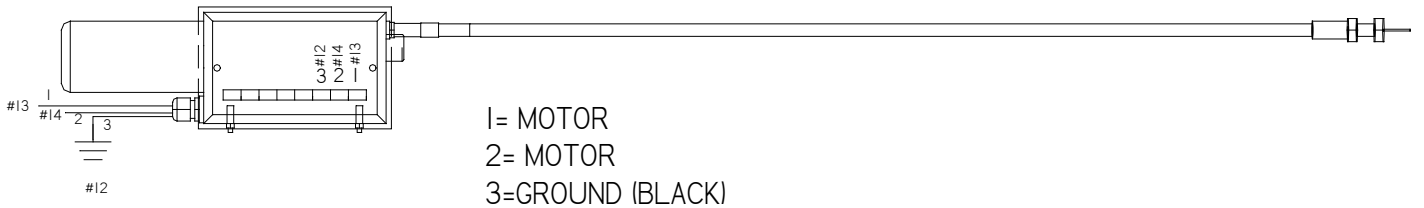


A=YELLOW
B=RED

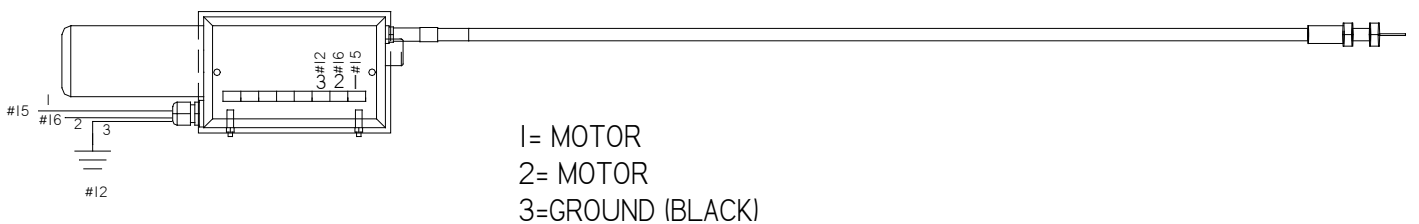
Wire/ Terminal Number	Control Box Wire Color	Function	Junction Box Wire Color Going Out
1	Black w/Red	Start	Black w/Red
2	Red	Right Swing	Red
3	Blue	Lift	Blue
4	Orange-Yellow	Lower	Orange/Yellow
5	White	Battery	White
6	Green	Left Swing	Green
7	Red w/ Black	Brush Control	Red w/Black
8	Blue w/Black	Accessories	Blue w/Black
9	Orange w/Black	Brush Control	Orange w/Black
10	White w/Black	Left Small Post-Monarch	White w/Black
11	Green w/Black	Ignition	Green w/Black
12	Black	Ground	Black
13	Red w/White	Throttle	Red W/White
14	Black w/White	Throttle	Black W/White
15	Green w/White	Choke Glow Plug	Green w/White
16	Blue w/White	Sprinkler	Blue w/White
17	Orange w/ Green	Choke	Orange w/Green
18	#2,#3, #6 Jumper	Enabler Valve on 03-2364-2	White w/Black/ Red
19		Water Temperature Gauge	Blue w/Red
20		Oil Pressure Gauge	Orange w/Red
21		Fuel Gauge	White w/Red
22		Oil Pressure Shut Down	Black w/Red/ White
23			Red w/Green
24		Water Temperature Shut Down	Red w/Black/ White

WIRING FOR ACTUATOR THROTTLE/CHOKE

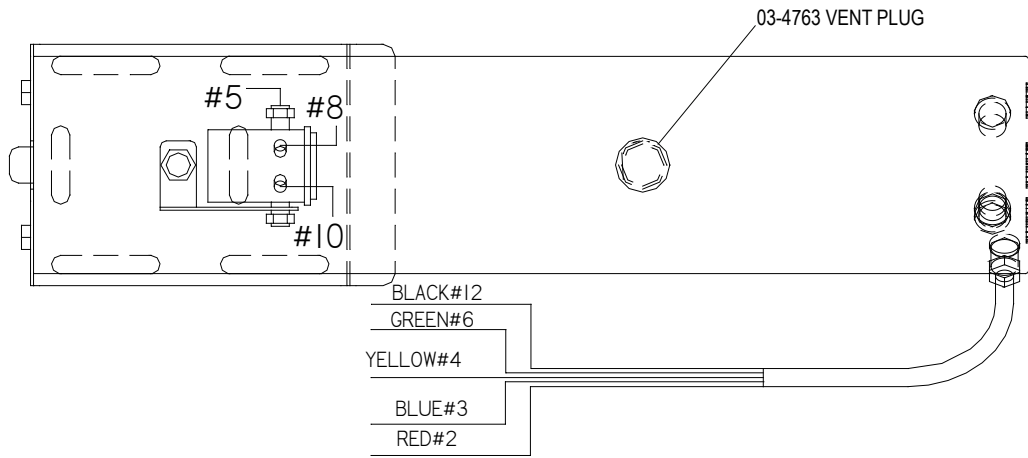
THROTTLE



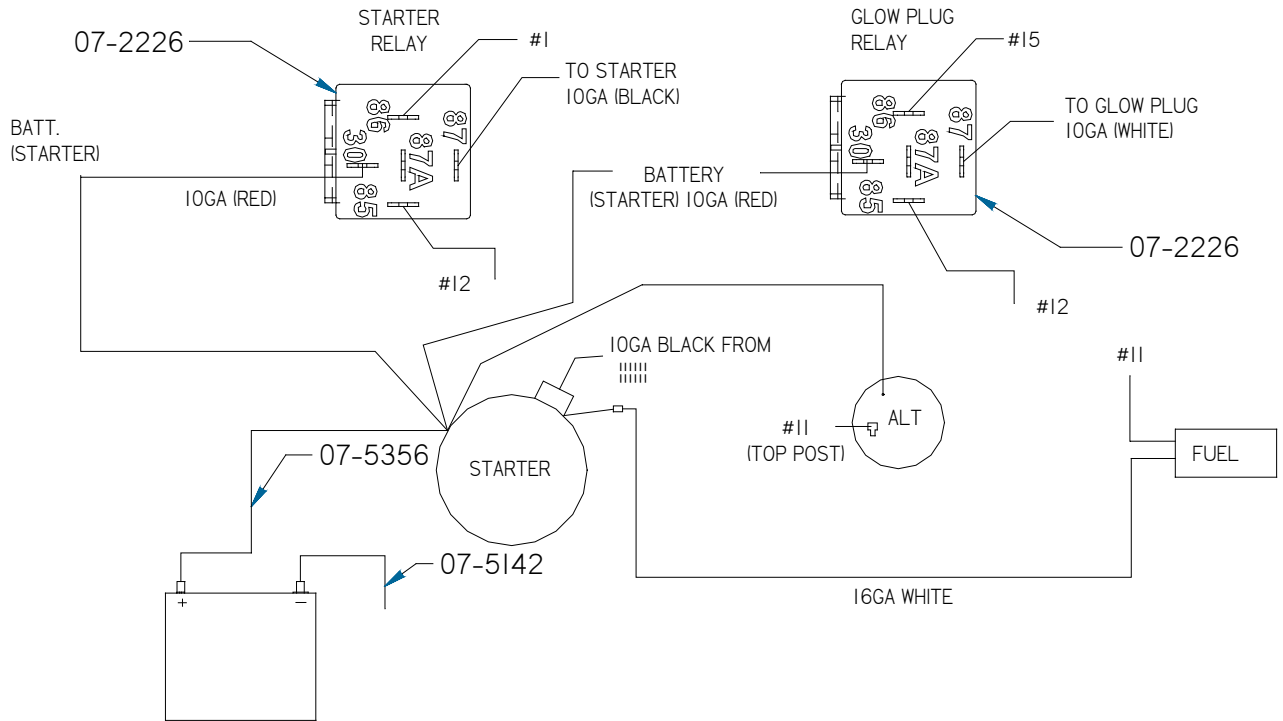
CHOKE



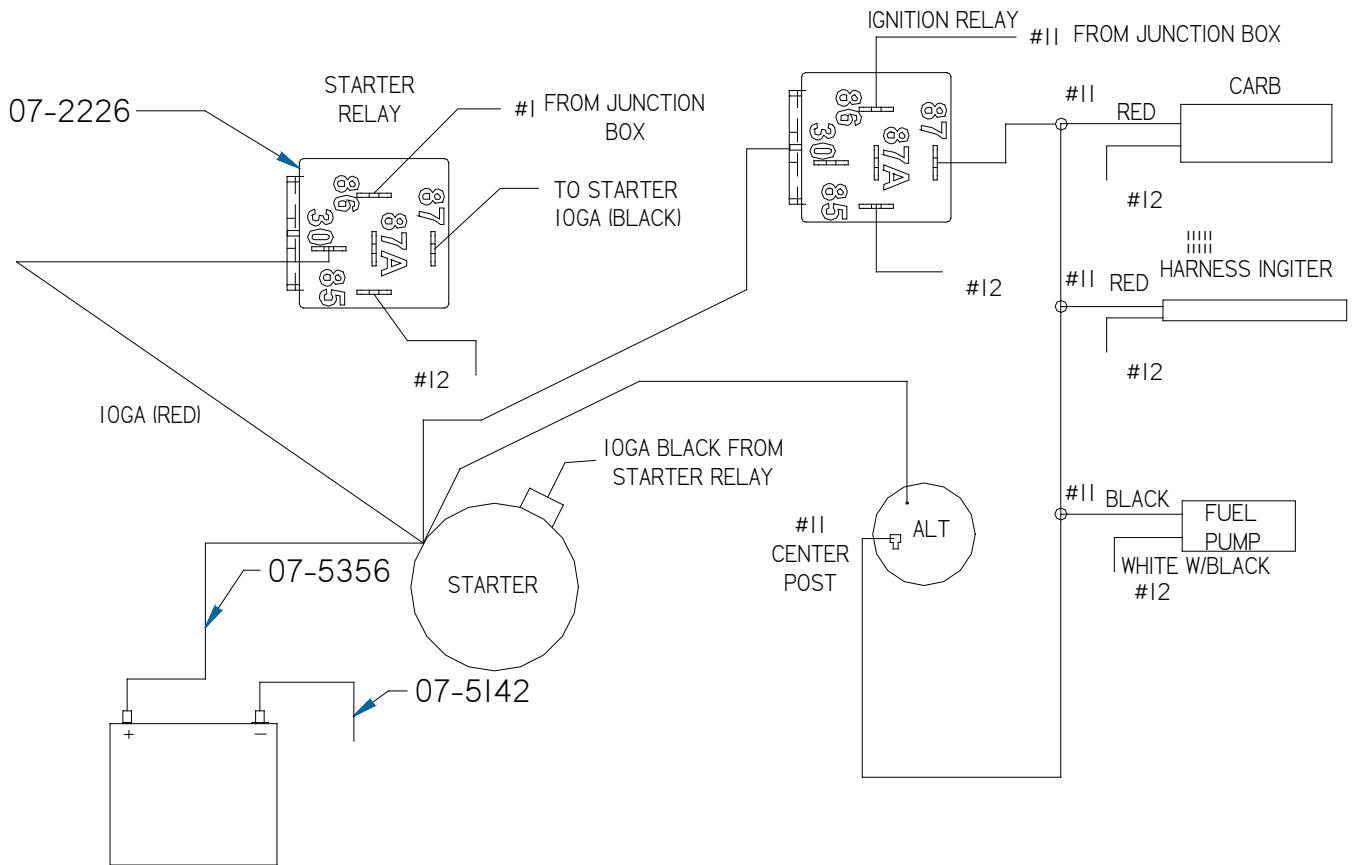
WIRING FOR MONARCH SYSTEM



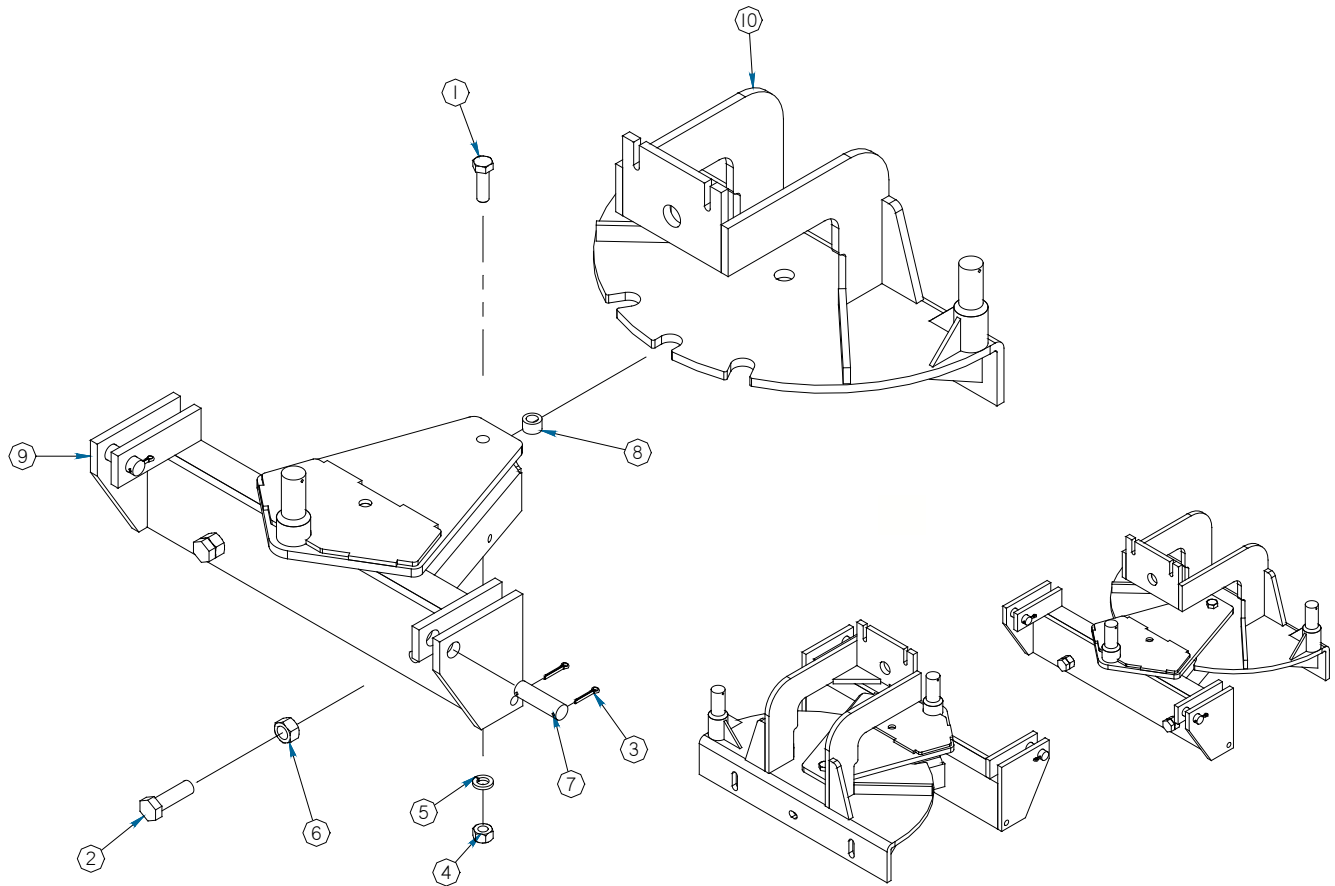
WIRING FOR KUBOTA DIESEL



WIRING FOR KUBOTA WG972

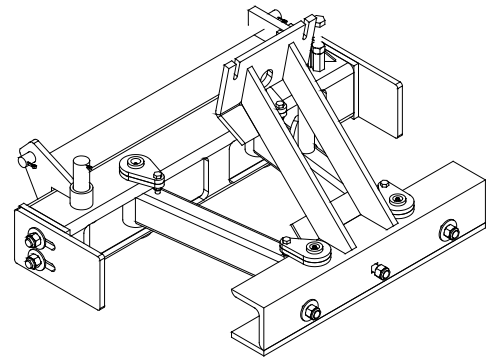
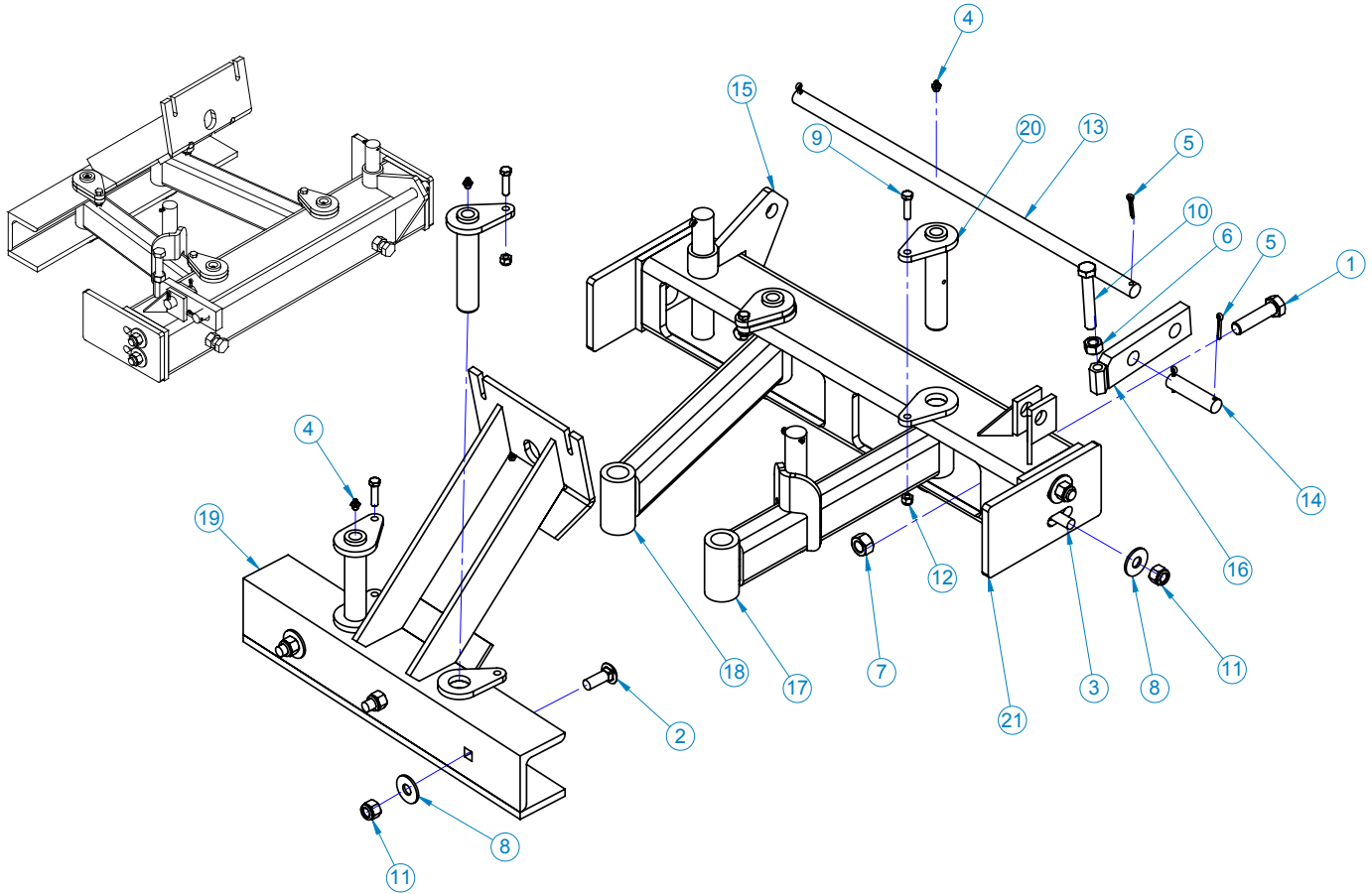


SWING ASSEMBLY



Item	Part	Qty	Description
1.	07-0066	1	Screw, HHC, Gr8, 5/8-11 x 2
2.	07-0079	2	Screw, HHC, Tap, Gr5, 3/4-10 x 2 1/2
3.	07-0786	4	Pin, Cotter, Gr2, 3/16 x 1 1/2
4.	07-1294	1	Nut, Hex, Gr8, 5/8-11
5.	07-1872	1	Washer, Lock, Split, Medium, 5/8
6.	07-3066	2	Nut, Hex, Gr8, 3/4-10
7.	11-0459	2	Pin, 7/8 x 3, 2 Holes
8.	11-1854	1	Bushing, 1 x 5/8 x 5/8
9.	13-10476	1	Weld, Swing, Frame
10.	13-10477	1	Weld, Plate, Swing

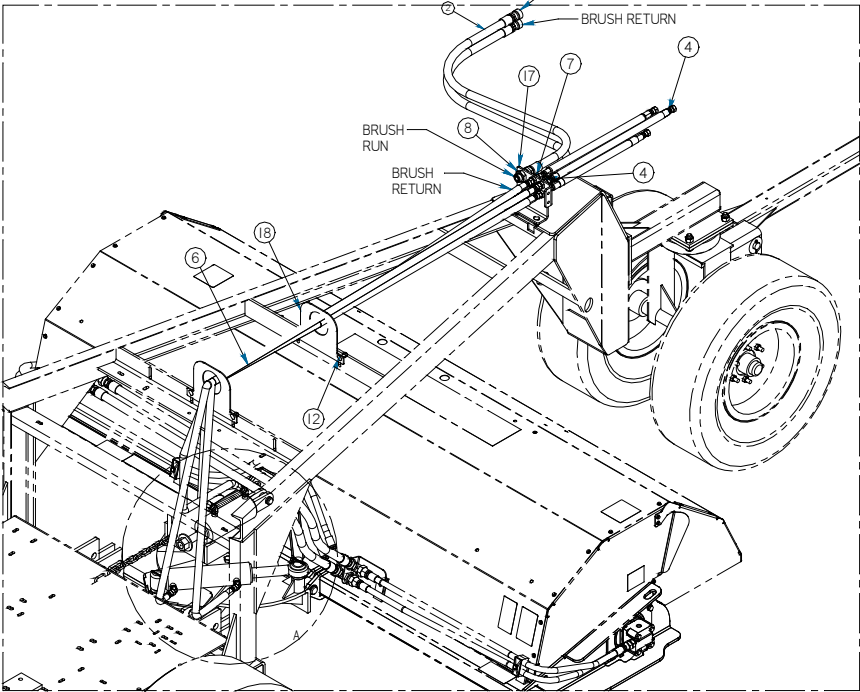
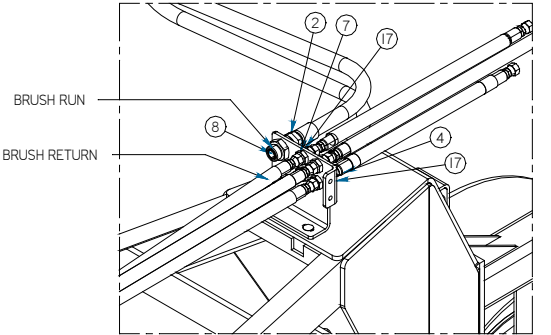
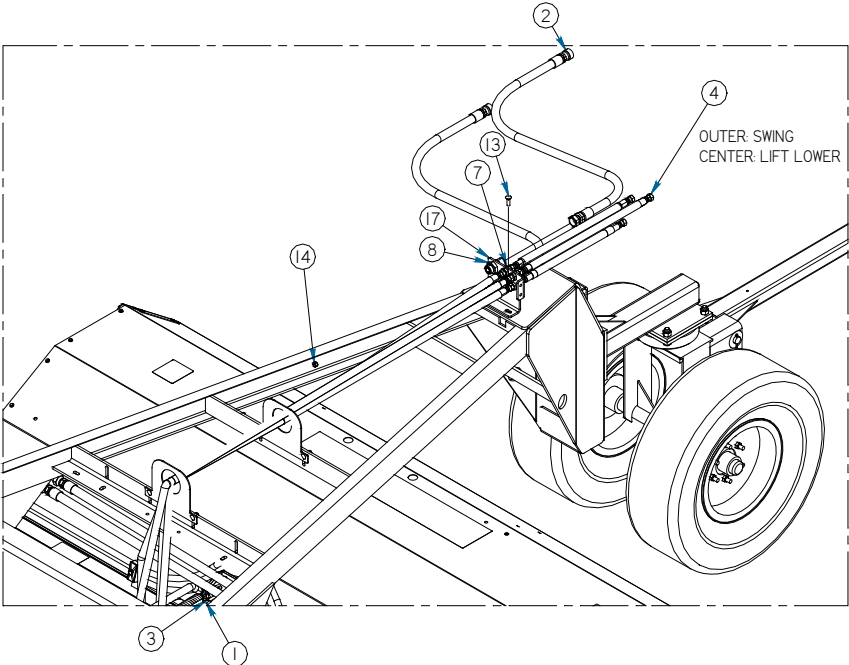
SCISSOR SWING ASSEMBLY



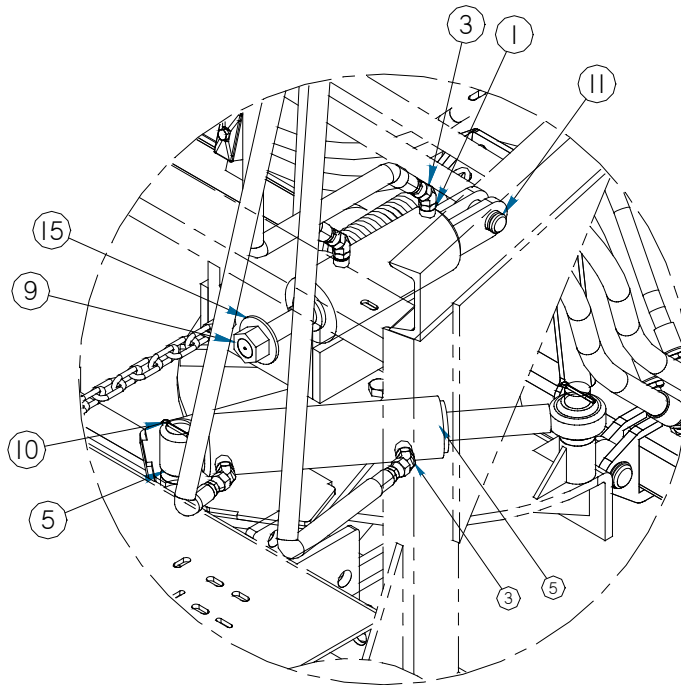
Item	Part	Qty	Description
1.	07-0080	2	Screw, HHC, Tap, Gr5, 3/4-10 x 3
2.	07-0119	3	Bolt, Carriage, Gr5, 5/8-11 x 1 3/4
3.	07-0120	4	Bolt, Carriage, Gr5, 5/8-11 x 2
4.	07-0223	4	Fitting, Zerk, Straight, 1/8NPT
5.	07-0786	6	Pin, Cotter, Gr2, 3/16 x 1 1/2
6.	07-1294	1	Nut, Hex, Gr8, 5/8-11
7.	07-3066	2	Nut, Hex, Gr8, 3/4-10
8.	07-3120	6	Washer, Flat, Gr8, 5/8
9.	07-3655	4	Screw, HHC, Gr8, 3/8-16 x 1 1/2
10.	07-3934	1	Screw, Tap, Gr5, 5/8-11 x 4
11.	07-4031	7	Nut, Hex, Nylock, Gr8, 5/8-11
12.	07-4036	4	Nut, Hex, Nylock, 3/8-16
13.	11-0023	1	Pin, 7/8 x 27 5/8
14.	11-0459	1	Pin, 7/8 x 3, 2 Holes
15.	11-0789	1	Weld, Frame, Swing, Rear
16.	11-0799	1	Weld, Bracket, Leveling, Adjustment
17.	11-0800	1	Weld, Arm, Swing, with Pin
18.	11-0803	1	Weld, Arm, Swing, without Pin
19.	11-1677	1	Weld, Frame, Swing
20.	13-15600	4	Weld, Pin, Frame, Swing
21.	13-15678	2	Plate, Adjustment

NOTES

HYDRAULIC 4X4 RUN/SWING/LIFT



HYDRAULIC 4X4 RUN/SWING/LIFT



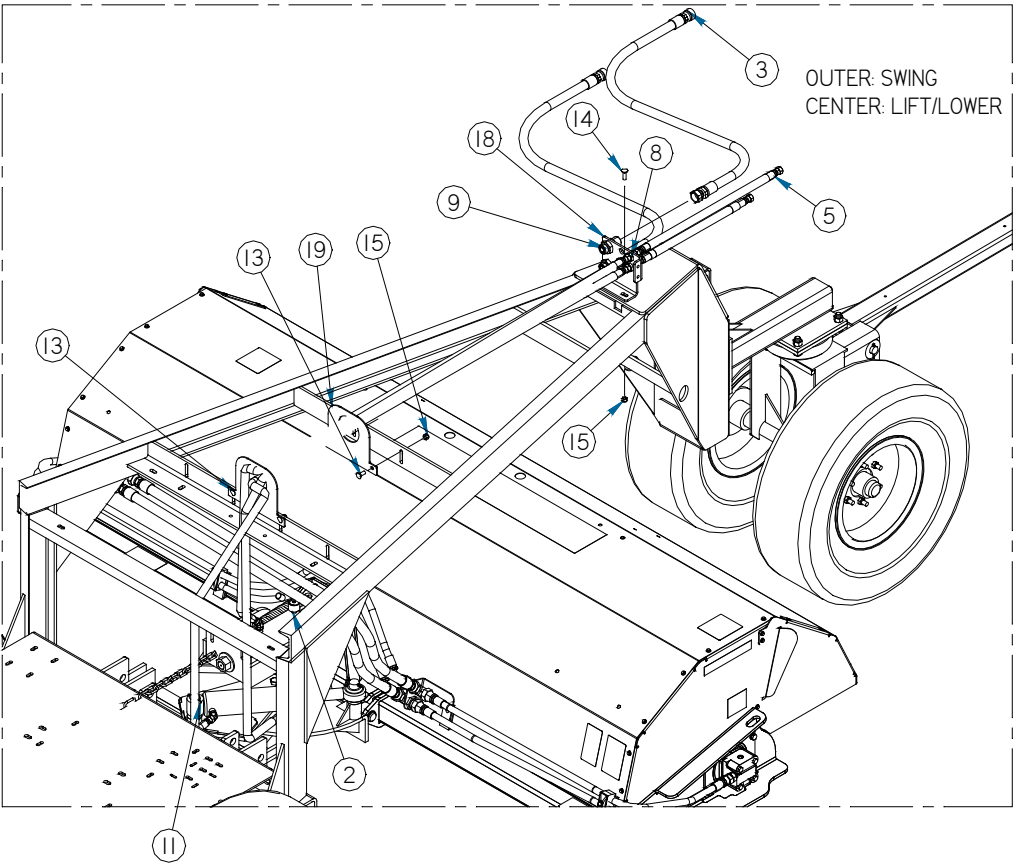
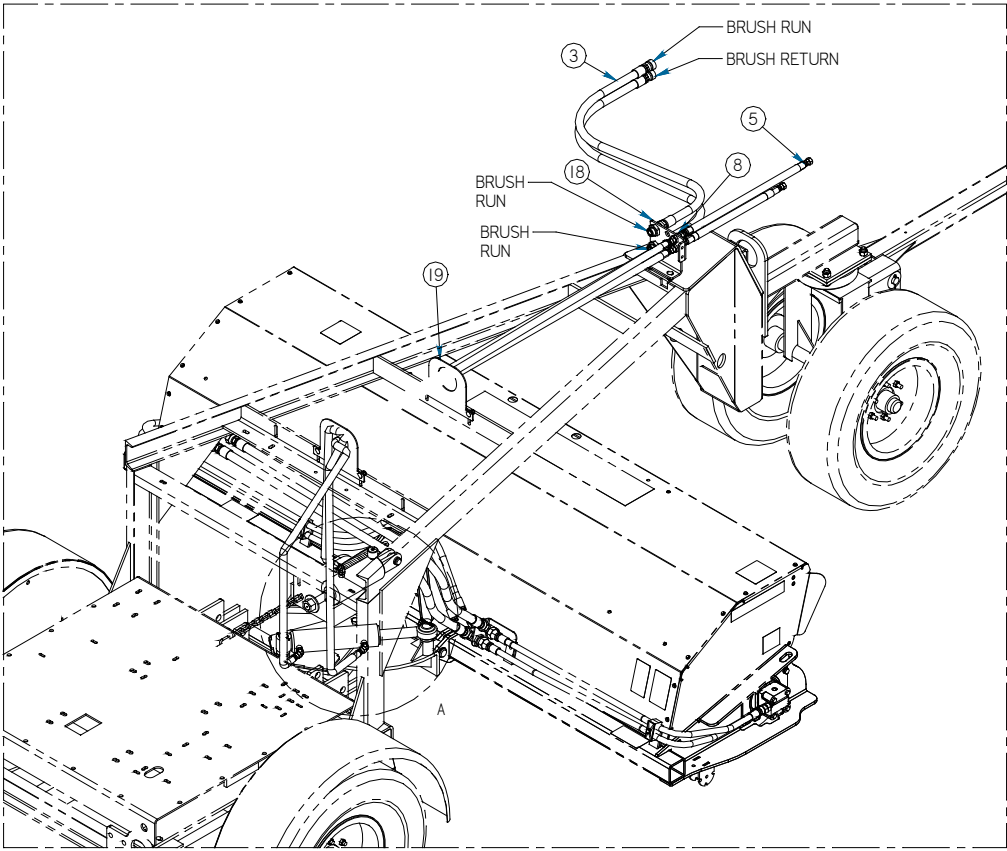
DETAIL A

Item	Part	Qty	Description
1.	03-1928-1	1	Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1959	2	Hose, 3/4 x 120, 2 W, 3/4FFS, 3/4FFS
3.	03-2115	4	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
4.	03-3345	4	Hose, 3/8 x 120, TC, 3/8FFS, 3/8FFS
5.	03-4887	1	Cylinder, Hydraulic, 2 1/2 Bore, 7 1/2 Stroke
6.	03-5406	4	Hose, 3/8 x 96, 2W, 6FFS, 6FFS
7.	03-9536	4	Fitting, Bulkhead, 3/8MFS, 3/8MFS
8.	03-9539	2	Fitting, Bulkhead, 12MFS, 12MFS
9.	07-0186	1	Nut, Hex, Gr8, 1-14
10.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
11.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
12.	07-1716	4	Bolt, Carriage, Gr5, 3/8-16 x 3/4
13.	07-1717	2	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
14.	07-4036	6	Nut, Hex, Nylock, 3/8-16
15.	07-4040	1	Washer, Flat, Gr8, 1
17.	13-15840	1	Plate, Mounting, Bulkhead
18.	13-15897	2	Plate, Hose, Support

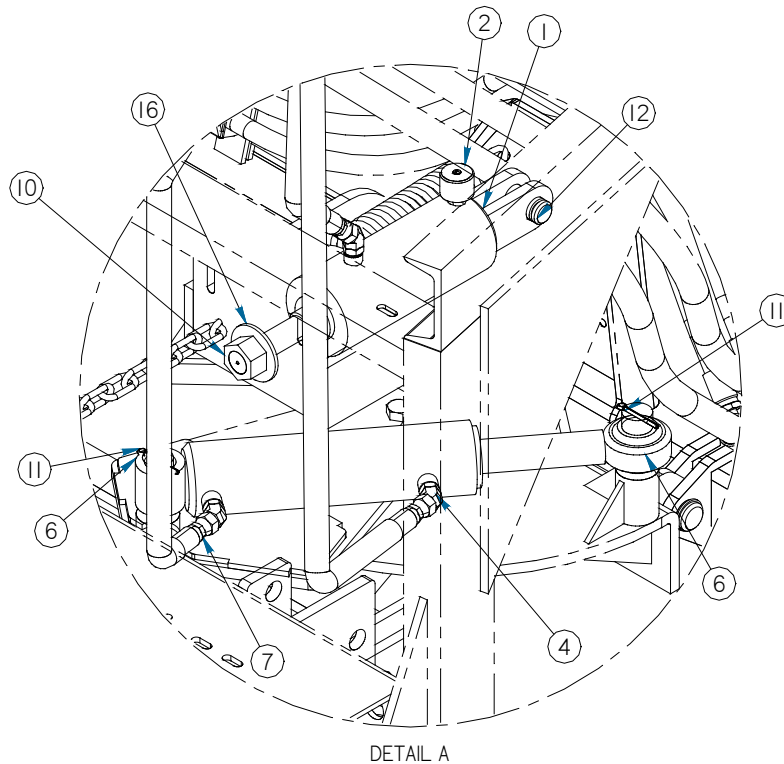
Not Shown:

09-0088 1.833 ft Trim, Battery, Box

HYDRAULIC 3X4 RUN/SWING/LIFT



HYDRAULIC 3X4 RUN/SWING/LIFT

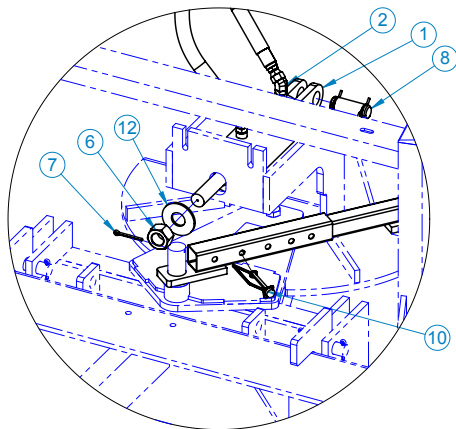


Item	Part	Qty	Description
1.	03-1928-1	1	Cylinder, Hydraulic, 3 Bore, 4 1/2 Stroke
2.	03-1932	1	Fitting, Vent, 9/16MOR, with Bell Cap
3.	03-2115	3	Fitting, Elbow, HP, 45°, 9/16MOR, 3/8MFS
4.	03-3345	3	Hose, 3/8 x 120, TC, 3/8FFS, 3/8FFS
5.	03-4616	2	Hose, 3/4 x 120, TC, 3/4FFS, 3/4FFS
6.	03-4887	1	Cylinder, Hydraulic, 2 1/2 Bore, 7 1/2 Stroke
7.	03-5406	3	Hose, 3/8 x 96, 2W, 6FFS, 6FFS
8.	03-9536	3	Fitting, Bulkhead, 3/8MFS, 3/8MFS
9.	03-9539	2	Fitting, Bulkhead, 12MFS, 12MFS
10.	07-0186	1	Nut, Hex, Gr8, 1-14
11.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
12.	07-0539	1	Pin, Clevis, Gr2, 1, with Hairclip, Both Ends
13.	07-1716	4	Bolt, Carriage, Gr5, 3/8-16 x 3/4
14.	07-1717	2	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
15.	07-4036	6	Nut, Hex, Nylock, 3/8-16
16.	07-4040	1	Washer, Flat, Gr8, 1
18.	13-15840	1	Plate, Mounting, Bulkhead
19.	13-15897	2	Plate, Hose, Support

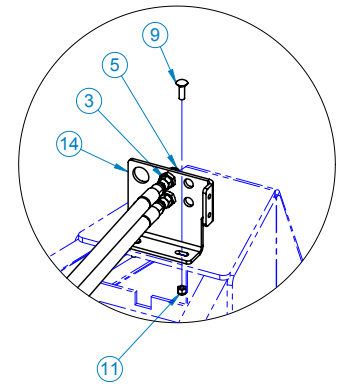
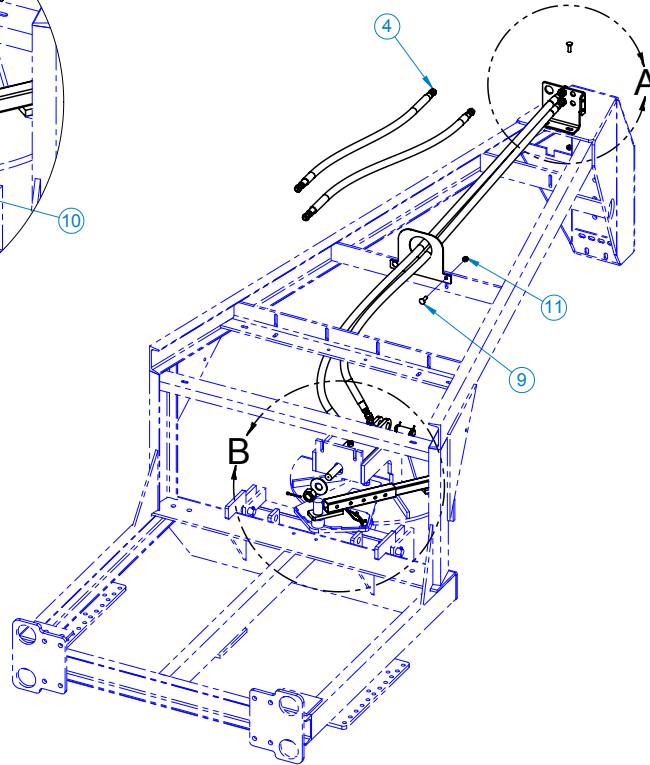
Not Shown:

09-0088 1.833 ft Trim, Battery, Box

REMOTE HYDRAULIC LIFT/MANUAL ANGLE



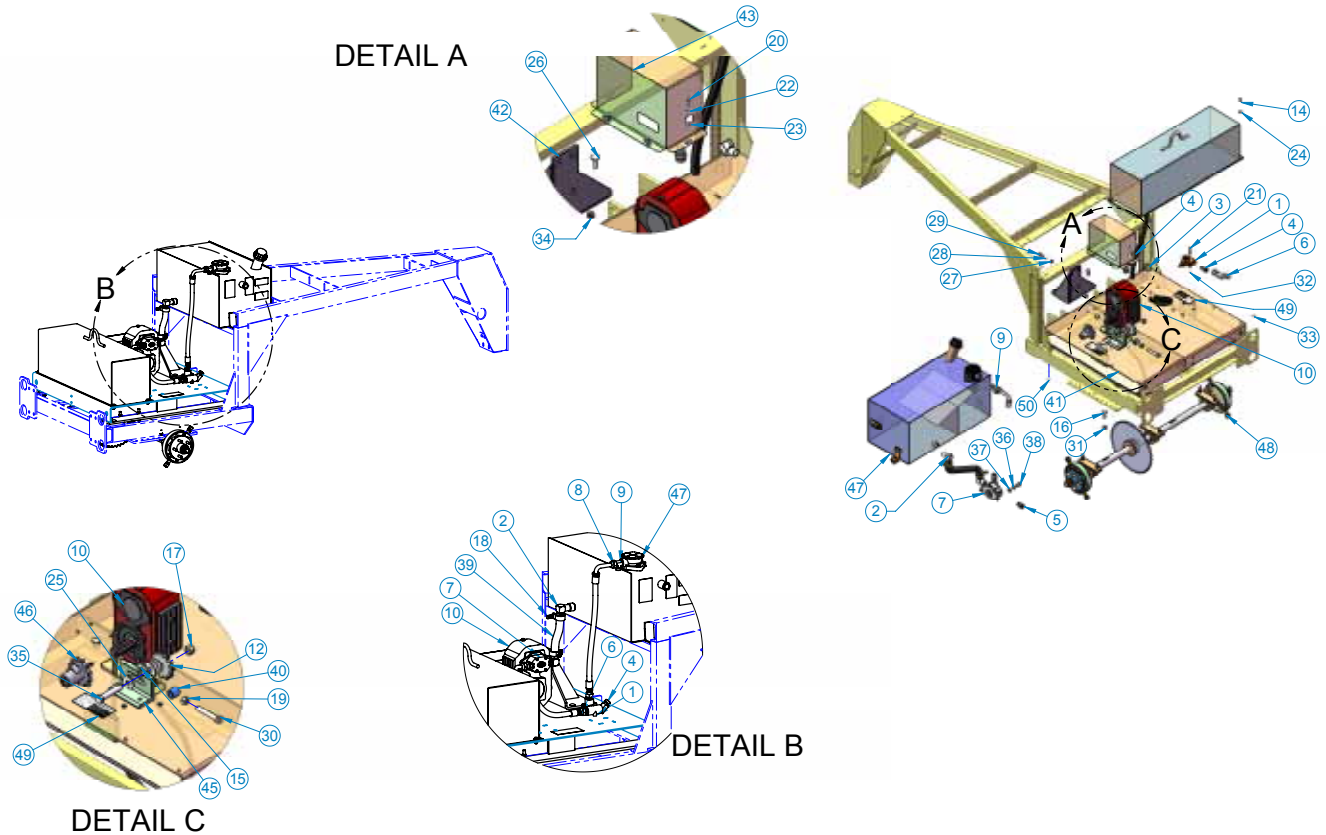
DETAIL B



DETAIL A

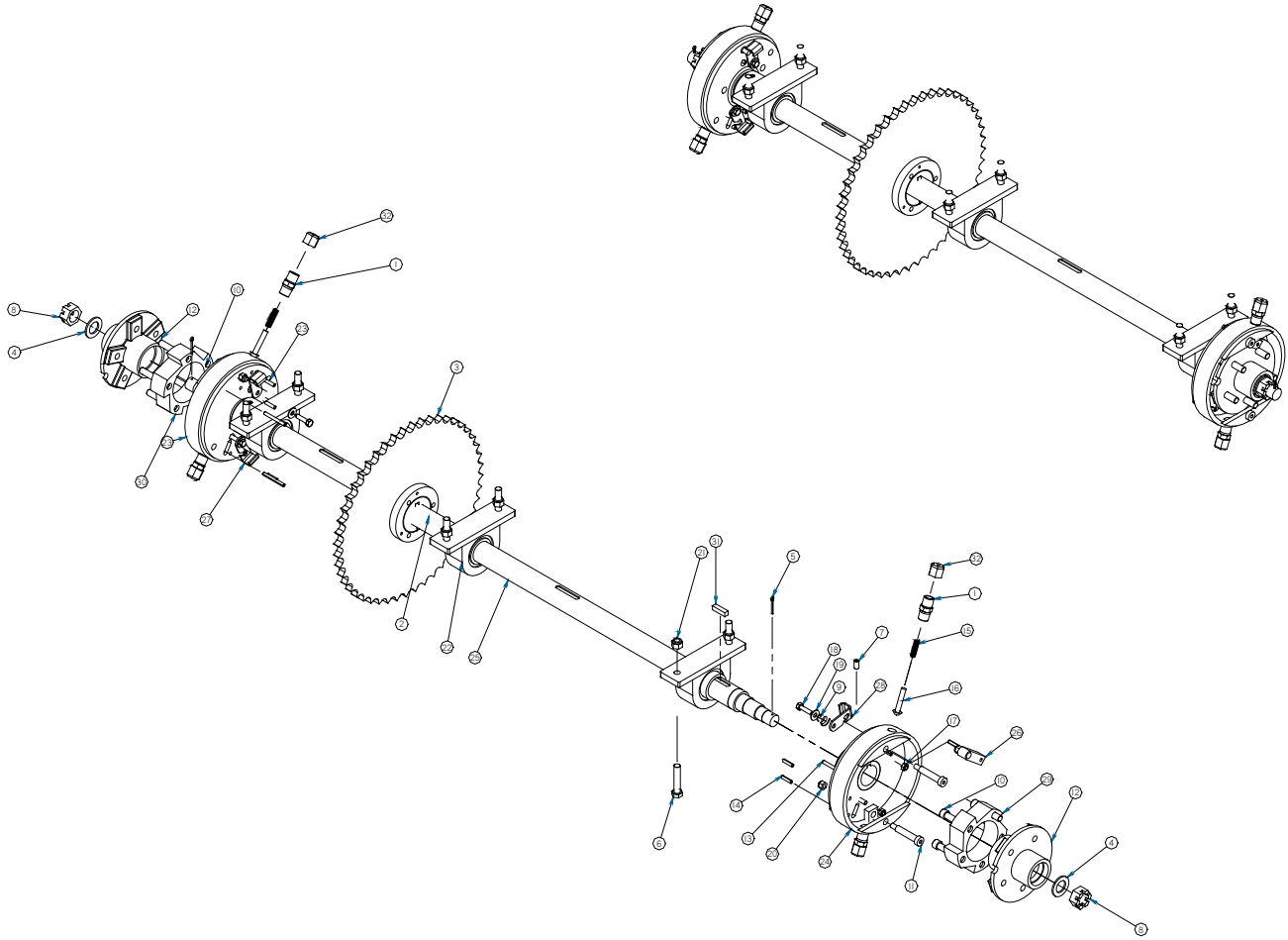
Item	Part	Qty	Description
1.	03-1928-1	1	Cylinder, 3 x 1.13 x 4.5
2.	03-2115	2	Fitting, Elbow, HP, 45, 9/16MOR, 3/8MFS
3.	03-5369	2	Hose, .38 x 78, 6FF-6FF, 3K, TC
4.	03-5406	2	Hose, .38 x 96, 6FF-6FF, 4.75K
5.	03-9536	2	Fitting, Bulkhead, 3/8MFS, 3/8MFS
6.	07-0186	1	Nut, Hex, Gr8, 1-12
7.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
8.	07-0539	1	Pin, Clevis, Gr2, 1, W/Clip both ends
9.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
10.	07-2105	1	Pin, Lock, 3/8 Square Bail
11.	07-4036	4	Nut, Hex, Nylock, Gr8, 3/8-16
12.	07-4040	1	Washer, Flat, Gr8, 1
13.	09-0088	.92	Trim, Battery, Box
14.	13-15840	1	Plate, Mounting, Bulkhead
15.	13-15897	1	Plate, Hose, Support
16.	13-4199	1	Weld, Link, Inner, Manual, Angle
17.	13-4200	1	Weld, Link, Outer, Manual, Angle

TRACTION DRIVE HYDRAULIC ASSEMBLY



Item	Part	Qty	Description	Item	Part	Qty	Description
1.	03-0129	1	Valve, Relief, 3/4MP Ports	27.	07-3754	4	Washer, Flat, CL10.9, M12
2.	03-0710	2	Fitting, Barb, HP, 90°, 1 1/4, 1 5/16MOR	28.	07-3756	4	Washer, Lock, Split, M12
3.	03-1054	1	Fitting, Street Elbow, HP, 45°, 3/4P	29.	07-3758	4	Screw, HHC, CL10.9, M12-1.75 x 30mm
4.	03-1943	3	Fitting, Adapter, HP, 3/4MFS, 3/4MP	30.	07-3934	1	Screw, Tap, Gr5, 5/8-11 x 4
5.	03-1945	1	Fitting, Adapter, HP, 1 1/16MOR, 3/4MFS	31.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11
6.	03-2556	1	Hose, 3/5 x 25, 2W, 3/4FFS, 3/4FFS90	32.	07-4033	2	Nut, Hex, Nylock, Gr8, 1/4-20
7.	03-2736	1	Pump, Prince, 9.8 @ 2000rpm	33.	07-4036	4	Nut, Hex, Nylock, Gr8, 3/8-16
8.	03-3390	1	Hose, 3/4 x 30, TC, 3/4FFS, 3/4FFS90	34.	07-4037	6	Nut, Hex, Nylock, Gr8, 1/2-13
9.	03-5170	1	Fitting, Tee, Run, 16MOR, 12MFS	35.	07-4213	1	Screw, HHC, Gr8, 3/4-10 x 4
10.	05-1359	1	Gearbox, Increaser, 5:1, Bondioli	36.	07-4227	2	Washer, Lock, Split, M14
12.	06-0315	1	Sprocket	37.	07-4228	2	Washer, Flat, CL8.8, M14
13.	06-0492	1	Chain, #80, 68 Links	38.	07-7130	2	Screw, HHC, CL10.9, M14-2 x 35mm
14.	07-0018	4	Screw, HHC, Gr8, 3/8-16 x 1	39.	09-0020	1	Hose, Suction, 1 1/4
15.	07-0045	2	Screw, HHC, Gr8, 1/2-13 x 1 1/2	40.	11-9699	1	Bushing, Swing, Pins
16.	07-0119	8	Bolt, Carriage, Gr5, 5/8-11 x 1 3/4	41.	13-15499	1	Weld, Skid, Traction Drive
17.	07-0146	1	Nut, Hex, Nylock, Gr2, 3/4-10	42.	13-15909	1	Weld, Gearbox, Mount
18.	07-1192	2	Clamp, T-Bolt, 1 1/4	43.	13-15959	1	Weld, Shield, Input
19.	07-1294	1	Nut, Hex, Gr8, 5/8-11	44.	13-16052	1	Weld, Weight Box, 870 lb
20.	07-1714	4	Screw, HHC, Gr8, 5/16-18 x 1	45.	13-16056	1	Weld, Mounting, Chain Tightener
21.	07-3022	2	Screw, HHC, Gr8, 1/4-20 x 2	46.	13-16698	1	Weld, Sprocket, QD, 80A12, Harden
22.	07-3273	4	Washer, Lock, Split, Medium, 5/16	47.	28-0120	1	Kit, Hydraulic, Tank
23.	07-3275	4	Washer, Flat, Gr8, 5/16	48.	28-0199	1	Assembly, Axle
24.	07-3279	4	Washer, Flat, Gr8, 3/8	49.	50-0069-1	2	Label, Import, Engage, Disengage
25.	07-3684	1	Washer, Flat, Gr8, 3/4	50.	RHW8642	4	Nut, Rivet, 5/16-18, .15-.312 Grip
26.	07-3708	4	Bolt, Carriage, Gr5, 1/2-13 x 1 1/2	Not Shown:	06-0246	1	Chain, #80, 1/2 Link

AXLE TRACTION DRIVE



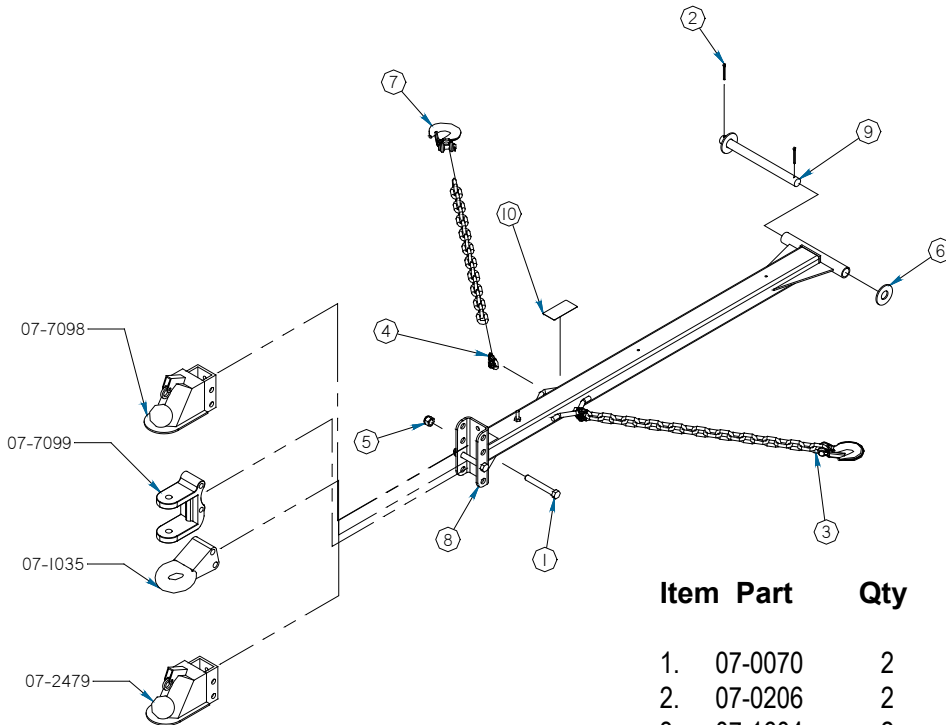
Item	Part	Qty	Description
1.	03-1022-7	4	Fitting, Nipple, HP, Hex, 1/2
2.	05-1278	1	Bushing, 1 3/4, 6 Spline
3.	06-0490	1	Sprocket, Rim Only
4.	07-0686	2	Washer, Machine, 1 3/4-1 1/32
5.	07-0699	2	Pin, Cotter, Gr2, 1/8 x 1 1/4
6.	07-1124	6	Screw, HHC, Gr8, 1/2-13 x 2 1/2
7.	07-1279	2	Screw, Set, Gr5, 3/8-16 x 3/4
8.	07-1366	2	Nut, Hex, Jam, Castle, Gr2, 1-14
9.	07-1591	4	Spring, Compression Cone, #92
10.	07-1593	10	Screw, Socket Head, Gr5, 1/2-20 x 3
11.	07-1594	4	Bolt, Shoulder, 3/8-16, 1/2 x 2 1/4
12.	07-1608	2	Assembly, Hub
13.	07-1749	4	Pin, Spring, Lock, Gr2, 1/4 x 2 1/4
14.	07-1750	8	Pin, Spring, Lock, Gr2, 1/4 x 1
15.	07-1786	4	Spring, Compression, .48 x 2
16.	07-1787	4	Rivet, Steel, 3/8 x 2
17.	07-1810	4	Nut, Hex, Lock, Gr8, 5/16-18
18.	07-1973	4	Screw, HHC, Gr8, 5/16-18 x 1 1/4
19.	07-3275	4	Washer, Flat, Gr8, 5/16
20.	07-4036	4	Nut, Hex, Nylock, 3/8-16

Item	Part	Qty	Description
21.	07-4037	6	Nut, Hex, Nylock, Gr8, 1/2-13
22.	08-0056	3	Bearing, 1 3/4
23.	11-9251	1	Weld, Wheel, Ratchet, Right
24.	11-9252	1	Weld, Wheel, Ratchet, Left
25.	11-9253	1	Axle, Traction Drive
26.	11-9254	4	Pawl
27.	11-9255	2	Latch, Left
28.	11-9256	2	Latch, Right
29.	11-9257	1	Cam, Pawl, Right
30.	11-9258	1	Cam, Pawl, Left
31.	11-9899	3	Key, 3/8 x 1 3/8
32.	13-0576	4	Cap

Not Shown:

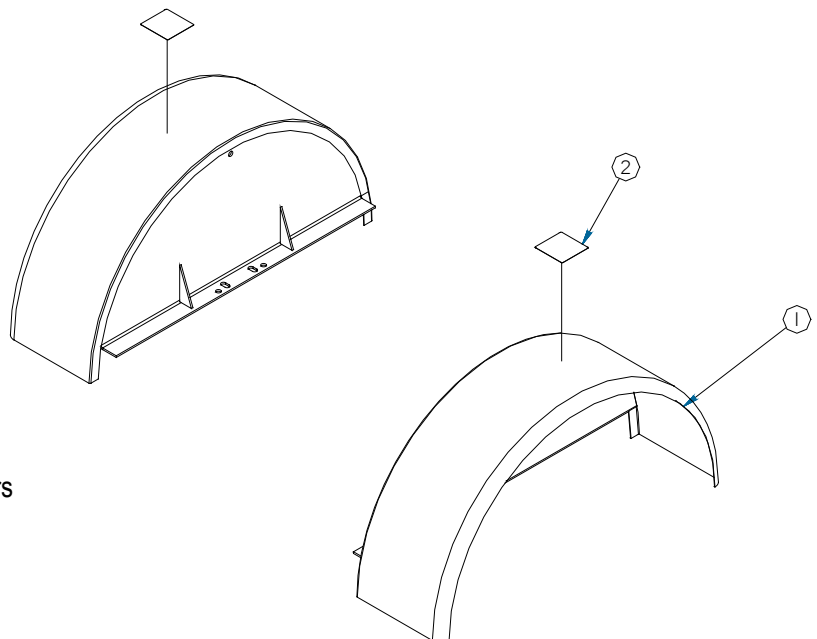
07-1363	Outer Race
05-1162	Inner Race
05-1467	Seal
07-1368	Dust Cap
08-0204	Outer Bearing
08-0205	Inner Bearing

HITCH TOWBAR



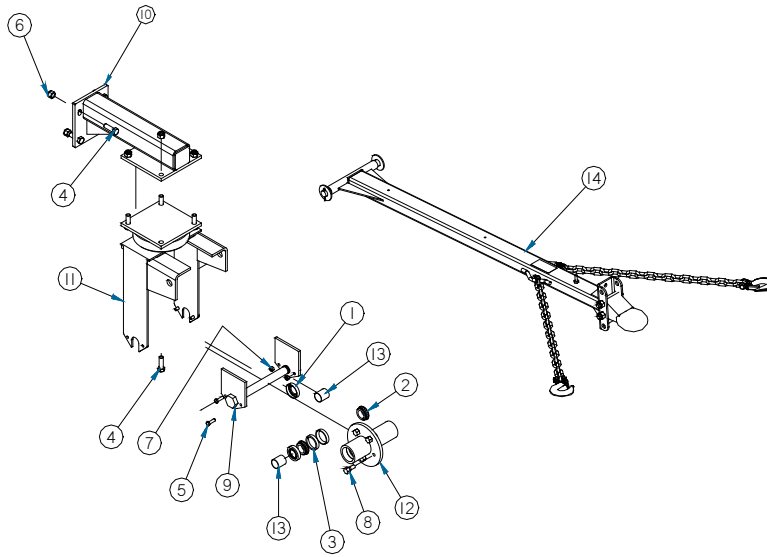
Item	Part	Qty	Description
1.	07-0070	2	Screw, HHC, Gr8, 5/8 x 4 1/2
2.	07-0206	2	Pin, Cotter, Gr2, 3/16 x 2
3.	07-1604	2	Chain, Gr43, 3/8, 40 Links
4.	07-2032	2	Clevis, Gr80, Double Link, 9/32
5.	07-4031	2	Nut, Hex, Nylock, Gr8, 5/8-11
6.	07-4040	2	Washer, Flat, Gr8, 1
7.	07-4815	2	Hook, Slip, with 3/8 Clevis
8.	13-15964	1	Weld, Hitch, Towbar
9.	13-15976	1	Pin, Hitch, Towbar
10.	50-0042	1	Label, Warning, Hitch

FENDER ASSEMBLY



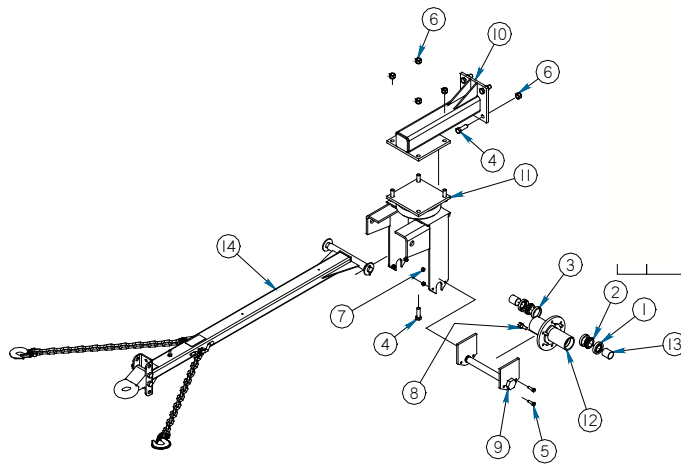
Item	Part	Qty	Description
1.	13-15040	2	Weld, Fender, Mounting
2.	50-0733	2	Label, Warning, No Riders

SINGLE CASTER ASSEMBLY 5 BOLT



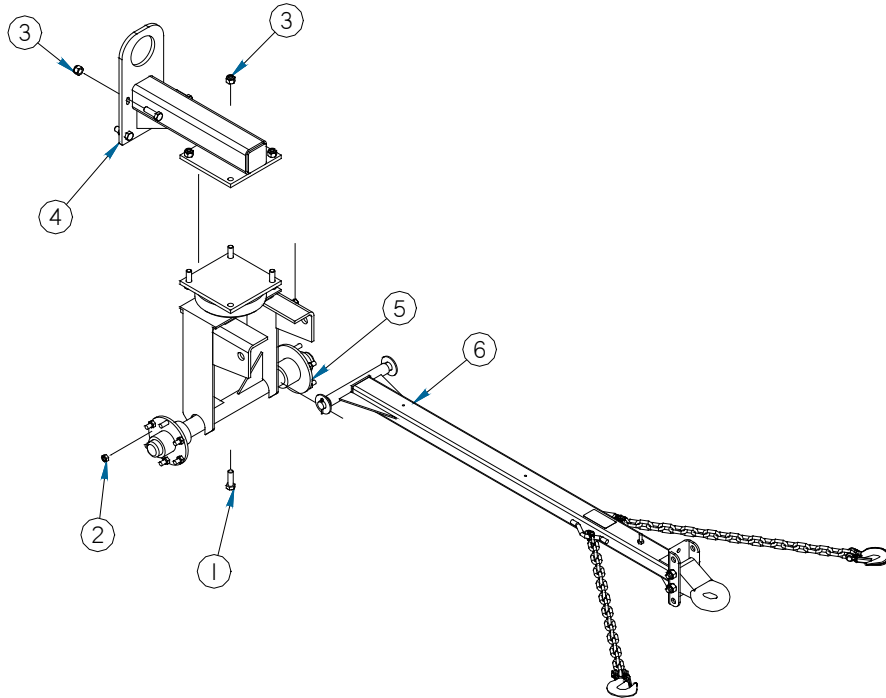
Item	Part	Qty	Description	Item	Part	Qty	Description
1.	05-0535	2	Seal, Oil	8.	07-7117	5	Bolt, Wheel, 1/2-20 x 7/8
2.	05-0536	2	Bearing	9.	07-7122	1	Kit, Mounting
3.	05-0537	2	Bearing, Race	10.	13-15182	1	Weld, Hitch, Conversion, to 3/4 Wheel
4.	07-0066	8	Screw, HHC, Gr8, 5/8-11 x 2	11.	13-15991	1	Weld, Frame, Caster, Mounting
5.	07-2116	4	Screw, HHC, Gr8, 3/8-16 x 1 1/4	12.	13-15996	1	Weld, Hub, Caster, Single, 5 Bolt
6.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11	13.	13-15999	2	Tube, Spacer, Caster
7.	07-4036	4	Nut, Hex, Nylock, 3/8-16	14.	28-0197	1	Assembly, Hitch, Towbar

SINGLE CASTER ASSEMBLY 6 BOLT



Item	Part	Qty	Description	Item	Part	Qty	Description
1.	05-0535	2	Seal, Oil	9.	07-7122	1	Kit, Mounting, for Swivel
2.	05-0536	2	Bearing	10.	13-15182	1	Weld, Hitch, Conversion, to 3/4 Wheel
3.	05-0537	2	Bearing, Race	11.	13-15991	1	Weld, Frame, Caster, Mounting
4.	07-0066	8	Screw, HHC, Gr8, 5/8-11 x 2	12.	13-15997	1	Weld, Hub, Caster
5.	07-2116	4	Screw, HHC, Gr8, 3/8-16 x 1 1/4	13.	13-15999	2	Tube, Spacer, for 6 Bolt
6.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11	14.	28-0197	1	Assembly, Hitch, Towbar
7.	07-4036	4	Nut, Hex, Nylock, 3/8-16				
8.	07-7117	6	Bolt, Wheel, 1/2-20 X 7/8				

DUAL CASTER ASSEMBLY

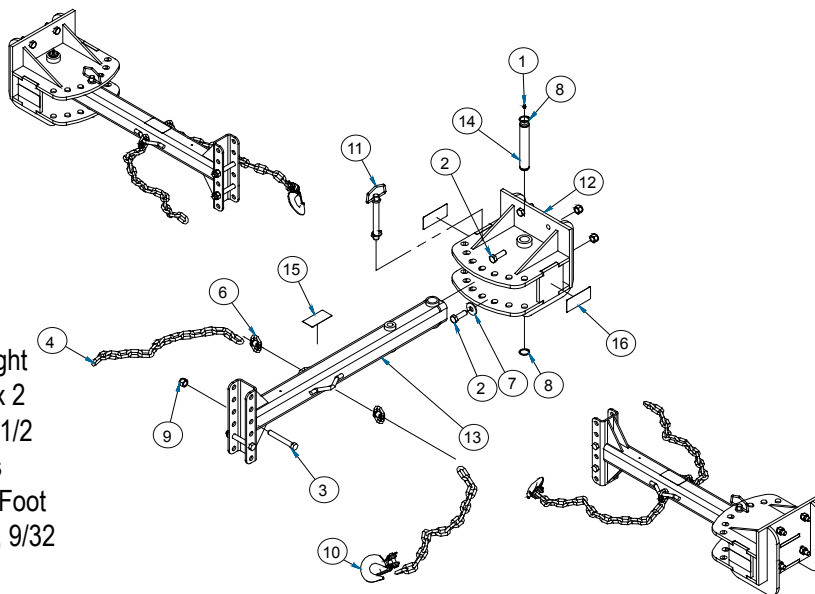


Item	Part	Qty	Description
1.	07-0066	8	Screw, HHC, Gr8, 5/8-11 x 2
2.	07-0144	10	Nut, Lug, Gr2, 1/2-20 x 5/8 (5 Bolts)
	07-0144	12	Nut, Lug, Gr2, 1/2-20 x 5/8 (6 Bolts)
3.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11
4.	13-15182	1	Weld, Hitch, Conversion, to 3/4 Wheel
5.	13-16015	1	Weld, Caster, Dual, with 5 Bolts
	13-15535	1	Weld, Caster, Dual, with 6 Bolts
6.	28-0197	1	Assembly, Hitch, Towbar

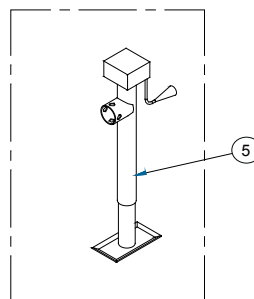
Not Shown:

05-1467	Seal
07-1368	Dust Cap
08-0204	Outer Bearing
08-0205	Inner Bearing

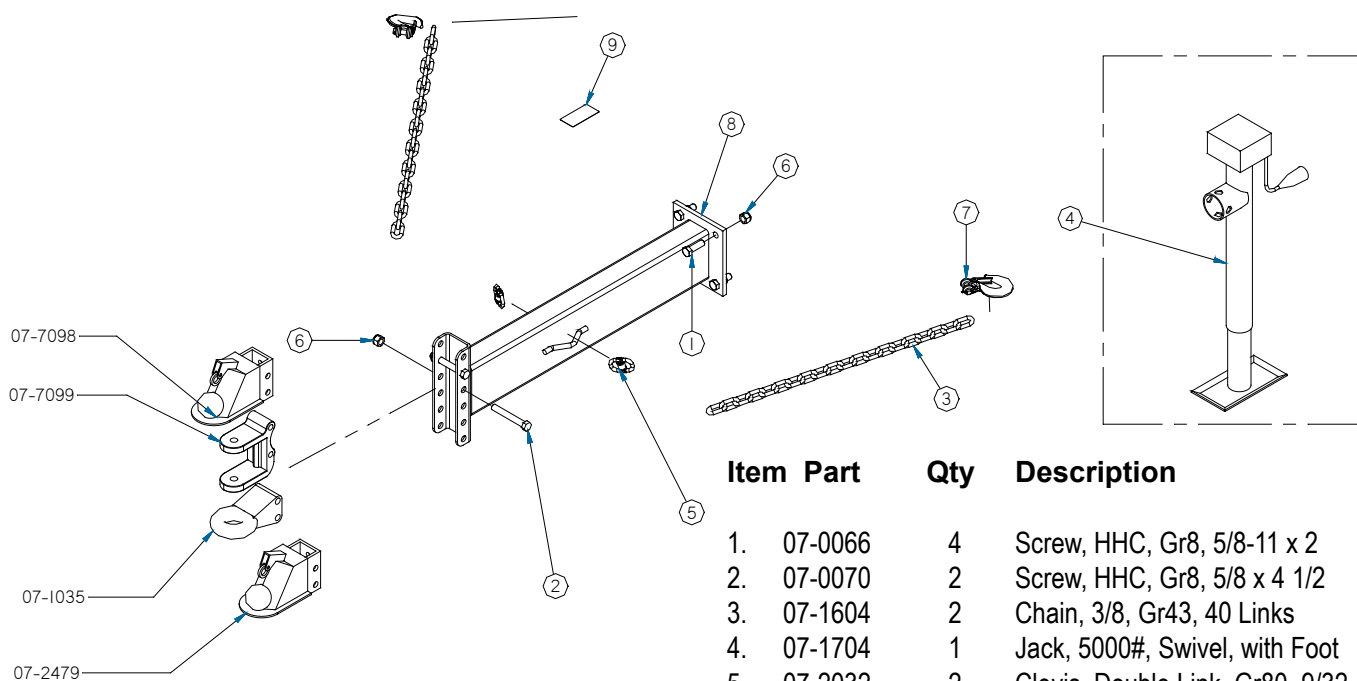
HITCH 2 WHEEL SIDE ADJUSTABLE



Item	Part	Qty	Description
1.	05-0763	1	Fitting, Zerk, 1/4-28, Straight
2.	07-0066	4	Screw, HHC, Gr8, 5/8-11 x 2
3.	07-0070	2	Screw, HHC, Gr8, 5/8 x 4 1/2
4.	07-1604	2	Chain, Gr43, 3/8, 40 Links
5.	07-1704	1	Jack, 5000#, Swivel, with Foot
6.	07-2032	2	Clevis, Double Link, Gr80, 9/32
7.	07-3120	2	Washer, Flat, Gr8, 5/8
8.	07-3842	2	Ring, Snap
9.	07-4031	6	Nut, Hex, Nylock, Gr8, 5/8-11
10.	07-4815	1	Hook, Slip, with 3/8 Clevis
11.	07-7091	1	Pin, Hitch, 3/4 x 6 1/4, with Linch Pin
12.	13-15799	1	Weld, Hitch, Adjustable
13.	13-15804	1	Weld, Hitch, Pivot, Tube
14.	13-15810	1	Pin, Hitch, Pivot
15.	50-0042	1	Label, Warning, Hitch
16.	50-0737	2	Label, Warning, Pinch Point Hazard

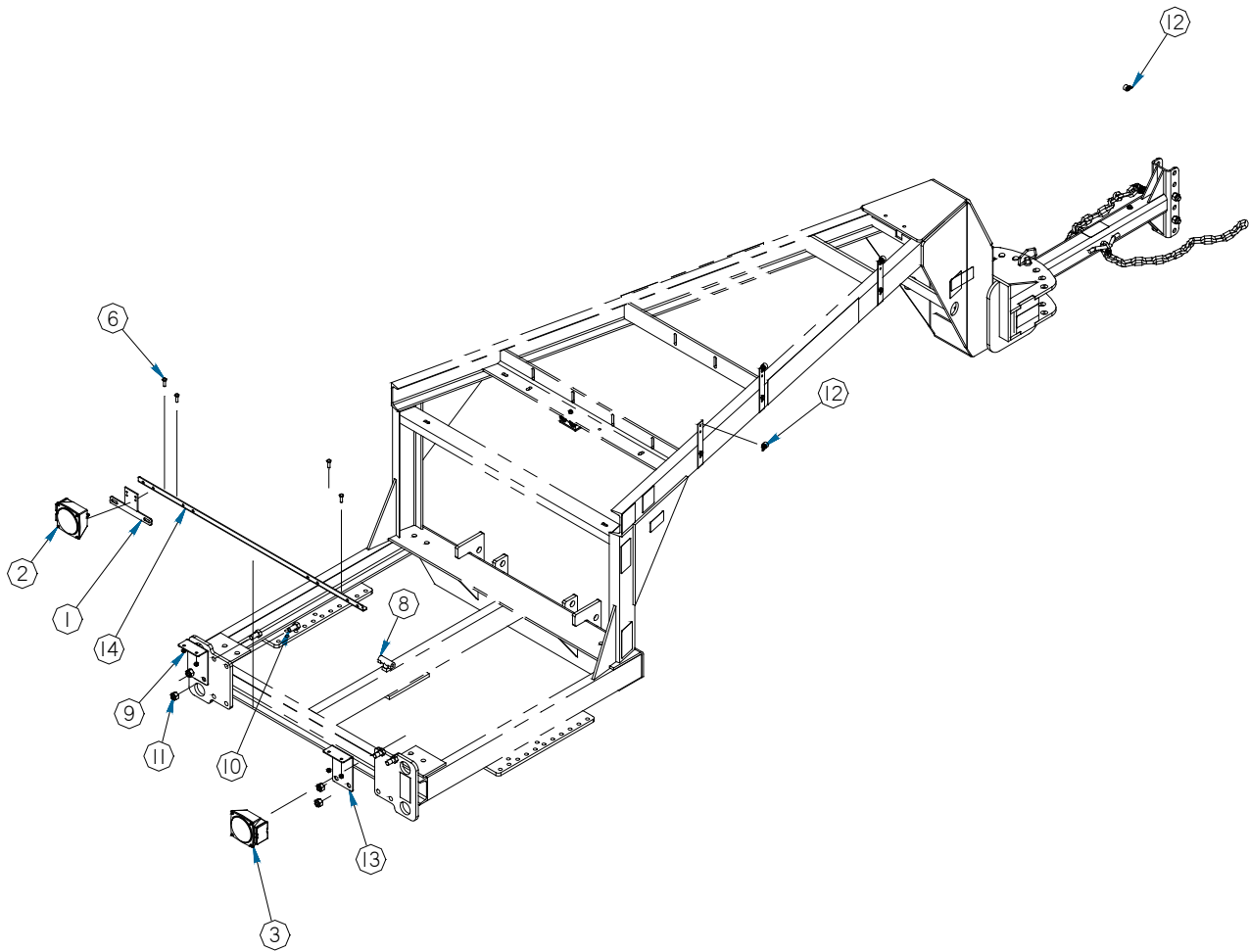


HITCH 2 WHEEL FIXED



Item	Part	Qty	Description
1.	07-0066	4	Screw, HHC, Gr8, 5/8-11 x 2
2.	07-0070	2	Screw, HHC, Gr8, 5/8 x 4 1/2
3.	07-1604	2	Chain, 3/8, Gr43, 40 Links
4.	07-1704	1	Jack, 5000#, Swivel, with Foot
5.	07-2032	2	Clevis, Double Link, Gr80, 9/32
6.	07-4031	6	Nut, Hex, Nylock, Gr8, 5/8-11
7.	07-4815	2	Hook, Slip, with 3/8 Clevis
8.	13-16069	1	Weld, Hitch, Extension 36 Inches
9.	50-0042	1	Label, Warning, Hitch

SINGLE TAIL LIGHT

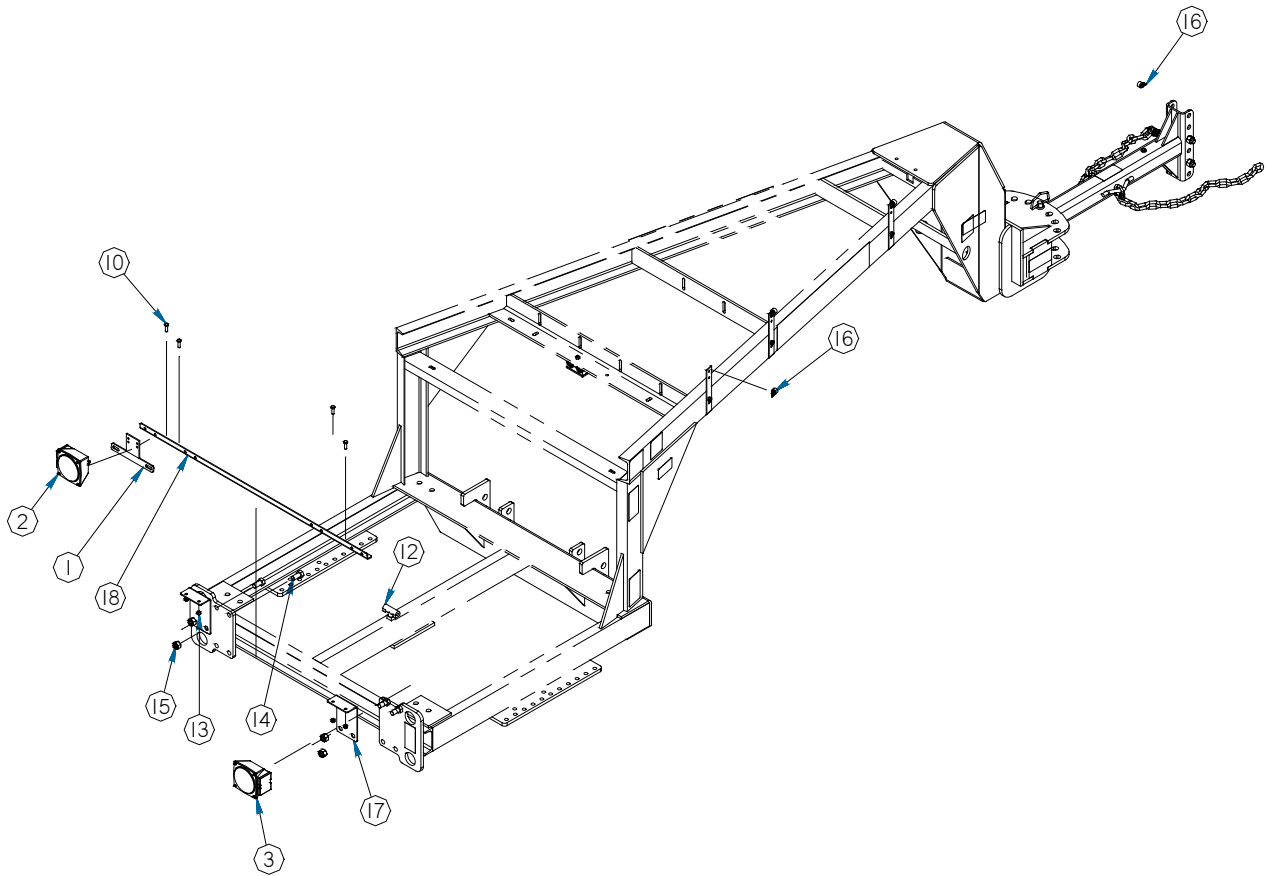


Item	Part	Qty	Description
1.	07-0353	1	Holder, License, Plate
2.	07-0358A	1	Light, Tail, Left
3.	07-0358B	1	Light, Tail, Right
6.	07-1714	4	Screw, HHC, Gr8, 5/16-18 x 1
8.	07-1836	1	Loom, Tee, Flex, Guard, .35
9.	07-3270	4	Nut, Hex, Nylock, Gr8, 5/16-18
10.	07-3678	4	Screw, HHC, Gr8, 5/8-11 x 1 1/4
11.	07-4031	4	Nut, Hex, Nylock, Gr8, 5/8-11
12.	07-5161	4	Clamp, Rubber Coated, 5/8 x 1/2
13.	13-15510	2	Plate, Mounting, Tail light
14.	13-15511	1	Plate, Tail Light, Mounting, Bar

Not Shown:

07-0824	1	Wire, Harness, 4 Wire, Rectangular Trunk
07-0825	1	Wire, Harness, 4 Wire, Rectangular Wishbone
07-1835	19 ft	Loom, Flex, Guard, .35

DUAL TAIL LIGHT



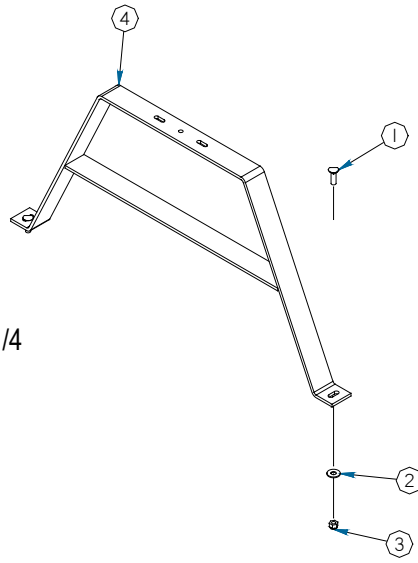
Item	Part	Qty	Description
1.	07-0353	1	Holder, License, Plate
2.	07-0358A	1	Light, Tail, Left
3.	07-0358B	1	Light, Tail, Right
10.	07-1714	4	Screw, HHC, Gr8, 5/16-18 x 1
12.	07-1836	1	Loom, Tee, Flex, Guard, .35
13.	07-3270	4	Nut, Hex, Nylock, Gr8, 5/16-18
14.	07-3678	4	Screw, HHC, Gr8, 5/8-11 x 1 1/4
15.	07-4031	4	Nut, Hex, Nylock, Gr8, 5/8-11
16.	07-5161	4	Clamp, Rubber Coated, 5/8 x 1/2
17.	13-15510	2	Plate, Mounting, Tail light
18.	13-15511	1	Plate, Tail Light, Mounting, Bar

Not Shown:

07-0833	4 ft	Wire, Yellow, 16ga
07-0839	40 ft	Wire, Cord, Trailer 7
07-0903	8 ft	Wire, Brown, 14ga
07-0961	.5 ft	Wire, Black, 16ga
07-0971	1ea	Connector, 7 Pole Plug
07-0988	4 ft	Wire, Green, 16ga
07-1835	8 ft	Loom, Flex, Guard, .35

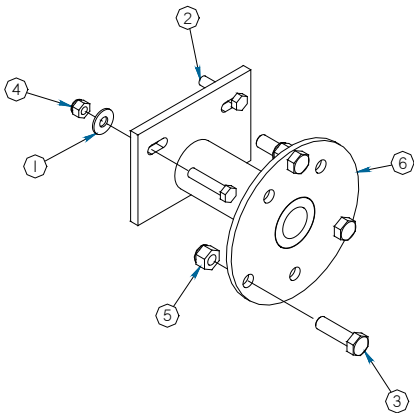
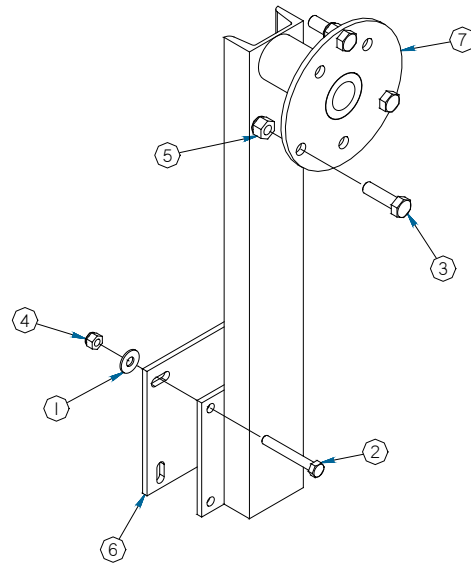
STROBE MOUNTING ASSEMBLY

Item	Part	Qty	Description
1.	07-1717	2	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4
2.	07-3279	2	Washer, Flat, Gr8, 3/8
3.	07-4036	2	Nut, Hex, Nylock, 3/8-16
4.	13-15935	1	Weld, Mounting, Strobe Light



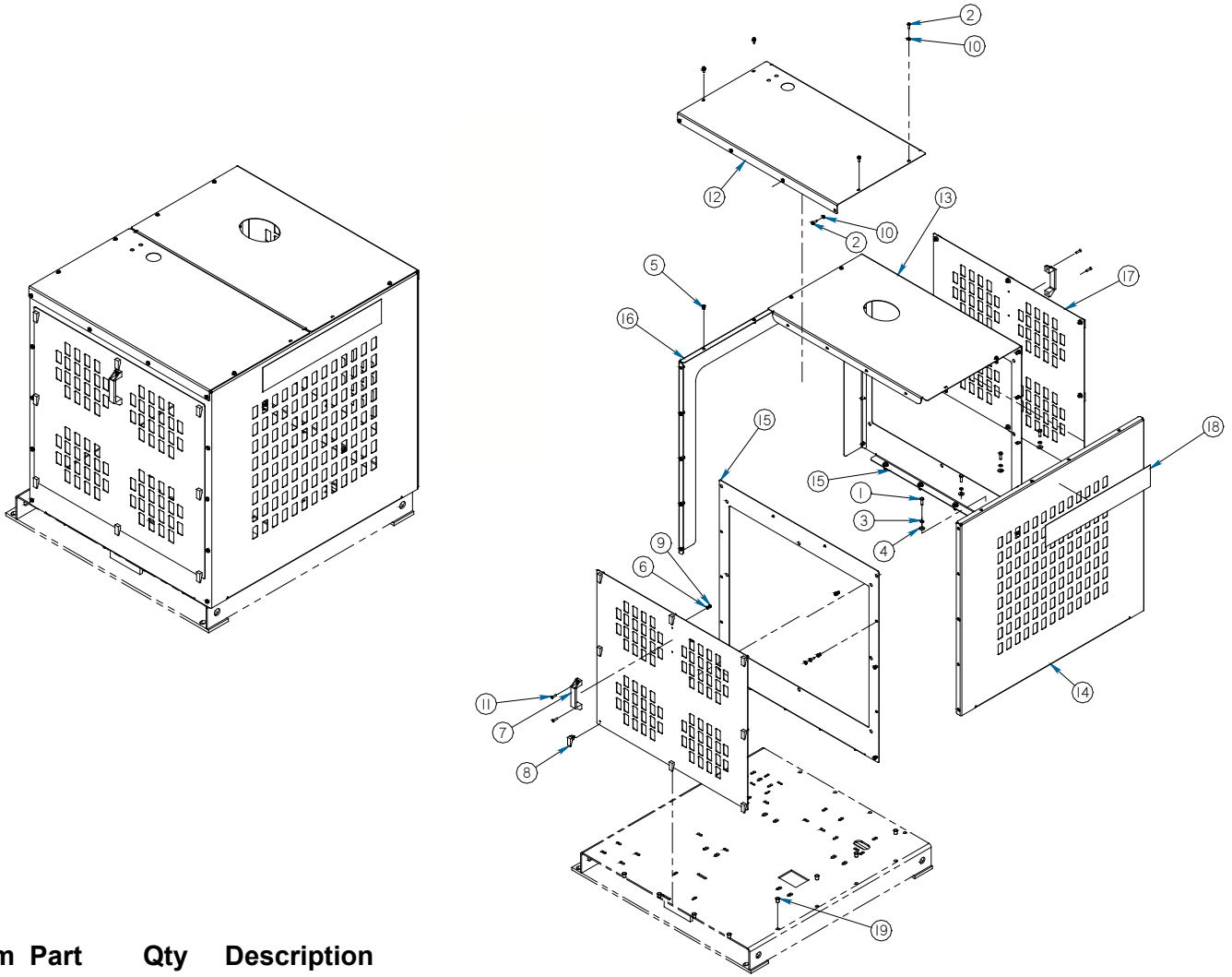
SPARE TIRE MOUNTING

Item	Part	Qty	Description
1.	07-3279	4	Washer, Flat, Gr8, 3/8
2.	07-3659	4	Screw, HHC, Gr8, 3/8-16 x 2 3/4
3.	07-3671	3	Screw, HHC, Gr8, 1/2-13 x 1 3/4
4.	07-4036	4	Nut, Hex, Nylock, 3/8-16
5.	07-4037	3	Nut, Nylock, Gr8, 1/2-13
6.	13-16092	1	Plate, Mounting, Spare Tire
7.	13-16093	1	Weld, Mounting, Spare Tire

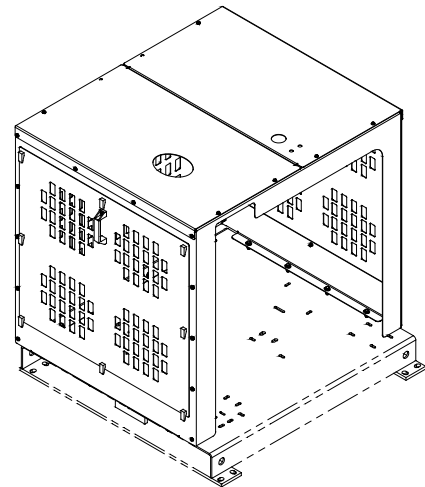


Item	Part	Qty	Description
1.	07-3279	2	Washer, Flat, Gr8, 3/8
2.	07-3656	2	Screw, HHC, Gr8, 3/8-16 x 1 3/4
3.	07-3671	3	Screw, HHC, Gr8, 1/2-13 x 1 3/4
4.	07-4036	2	Nut, Hex, Nylock, 3/8-16
5.	07-4037	3	Nut, Nylock, Gr8, 1/2-13
6.	13-16090	1	Weld, Mounting, Spare Tire, Front

SHROUD KUBOTA ENGINE



Item	Part	Qty	Description
1.	07-1714	12	Screw, HHC, Gr8, 5/16-18 x 1
2.	07-2952	32	Screw, HFH, CL, M6-1 x 20
3.	07-3273	12	Washer, Lock, Split, Medium, 5/16
4.	07-3275	12	Washer, Flat, Gr8, 5/16
5.	07-3617	32	Nut, Insert, Hex, M6 x 1
6.	07-3728	4	Washer, Flat, CL8.8, M6
7.	07-4202	2	Handle, Plastic
8.	07-4361	16	Latch, Swell, Single Handle
9.	07-4530	4	Nut, Hex, Nylock, CL8.8, M6 x 1
10.	07-4905	32	Washer, Lock, Star, 1/4
11.	07-5284	4	Screw, Socket Head, Flat, M6 x 1.25mm
12.	13-15828	1	Sheet, Top, Left
13.	13-15829	1	Sheet, Top, Right (Kubota V1505)
	13-16194	1	Sheet, Top, Right (Kubota WG972)
14.	13-15830	1	Sheet, Rear
15.	13-15831	2	Sheet, Side
16.	13-15832	1	Sheet, Front
17.	13-15833	2	Sheet, Door
18.	50-0192	1	Label, Logo, Sweepster, Large
19.	RHW8642	12	Nut, Rivet, 5/16-18, .15-.312 Grip

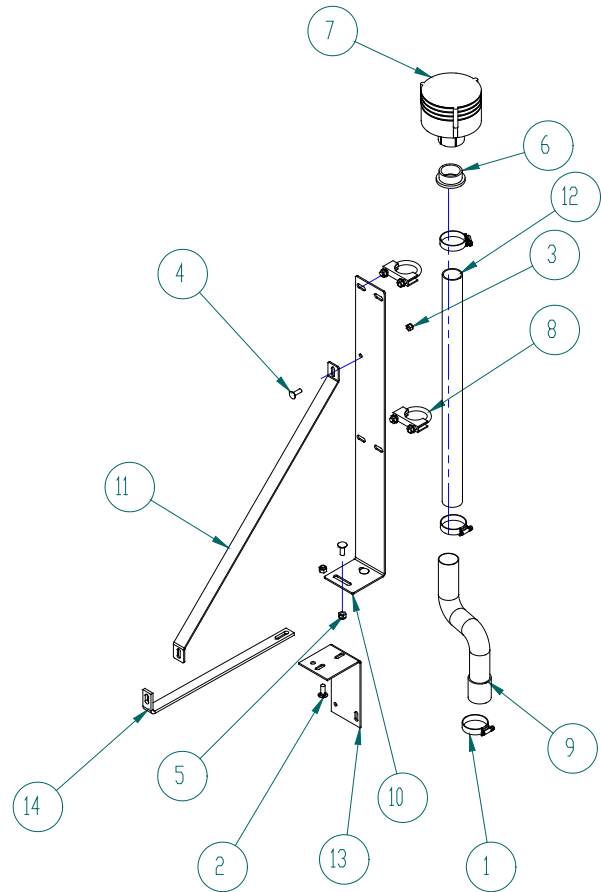


PRE-CLEANERS

Kit 28-0153 for Kubota WG972

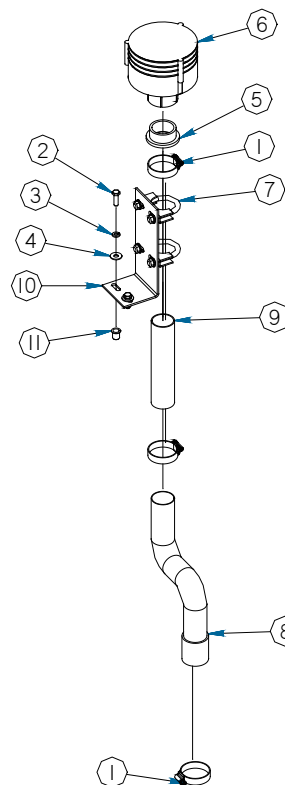
Kit 28-0152 for Kubota V1505

Item	Part	Qty	Description
1.	07-1188	3	Clamp, Screw, #H28, 1 5/16-2 1/4
2.	07-1716	3	Bolt, Carriage, Gr5, 3/8-16 x 1
3.	07-3270	1	Nut, Hex, Nylock, Gr8, 5/16-18
4.	07-3438	1	Bolt, Carriage, Gr5, 5/16-18 x 1
5.	07-4036	3	Nut, Hex, Nylock, Gr8, 3/8-16
6.	07-5431	1	Adapter, Rubber, Insert, 2-1 3/4
7.	07-5856	1	Cleaner, Air, Pre, TIII, 2 Inch, 15-75CFM
8.	07-5857	2	Clamp, Muffler, 1.75
9.	07-5868	1	Tube, Flex, 24 x 2 x 1.75
10.	13-16183	1	Plate, Mounting, Kubota, WG972
	13-16172	1	Plate, Mounting, Kubota, V1505
11.	13-16184	1	Plate, Support, Kubota, WG972
	13-16173	1	Plate, Support, Kubota, V1505
12.	13-16223	1	Tube, Round, 1 3/4 x 12ga x 24
13.	13-7543	1	Plate, Mounting, Air Cleaner (V1505 Only)
14.	13-8229	1	Brace, Radiator (V1505 Only)

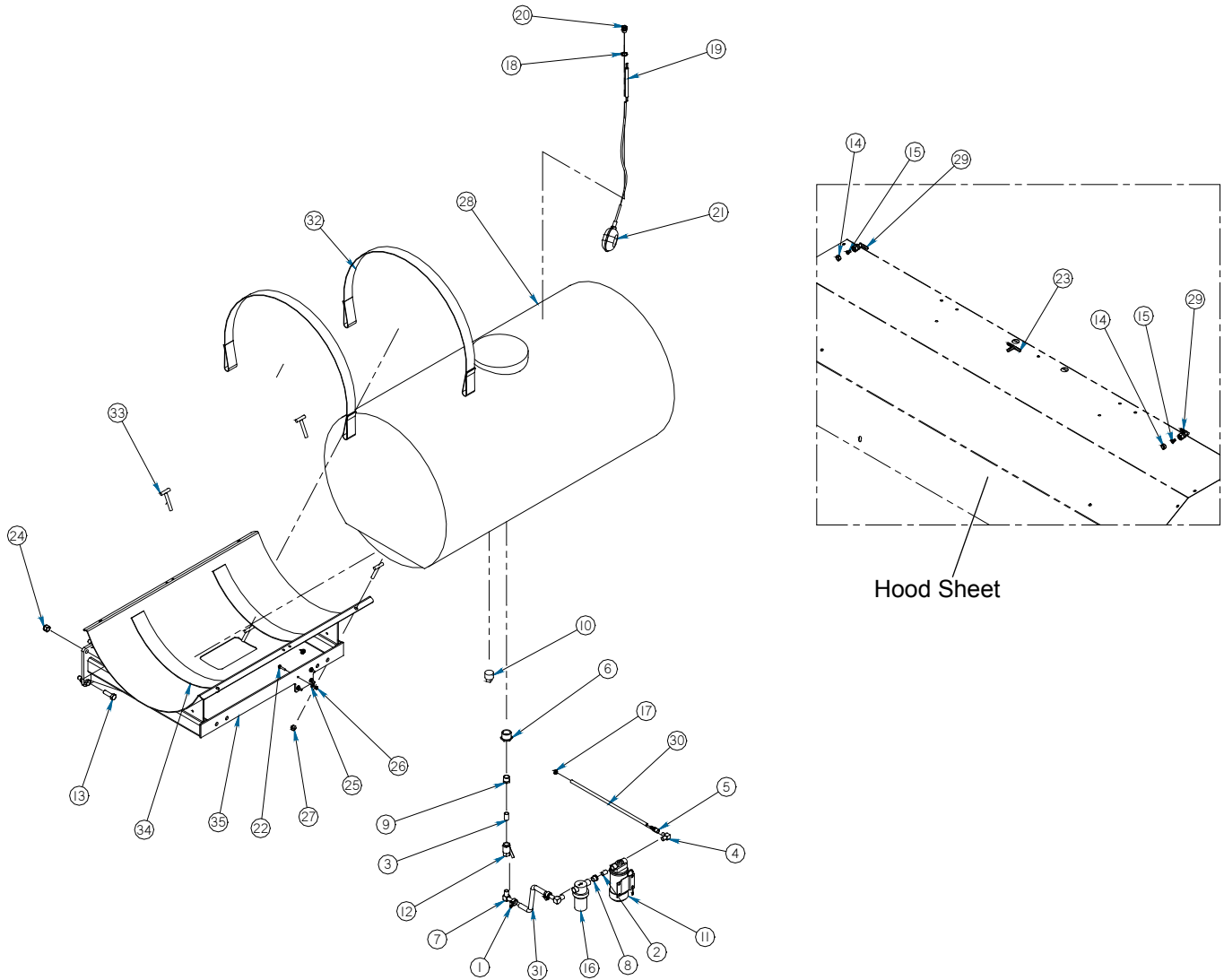


**Kit 28-0188 for Kubota V1505 & WG972
with a Shroud**

Item	Part	Qty	Description
1.	07-1188	3	Clamp, Screw, #H28, 1 5/16-2 1/4
2.	07-1714	2	Screw, HHC, Gr8, 5/16-18 x 1
3.	07-3273	2	Washer, Lock, Split, Medium, 5/16
4.	07-3275	2	Washer, Flat, Gr8, 5/16
5.	07-5431	1	Adapter, Rubber, Insert, 2-1 3/4
6.	07-5856	1	Cleaner, Air, Pre-TIII, 2 Inch, 15-75CFM
7.	07-5857	2	Clamp, Muffler, 1.75
8.	07-5868	1	Tube, Flex, 24 x 20 x 1.75
9.	13-12341	1	Tube, 1.75 x 7.5
10.	13-16159	1	Plate, Mounting, Pre-Cleaner Tube
11.	RHW8645	2	Nut, Rivet, 5/16-18, .27-.15 Grip



SPRINKLER ASSEMBLY

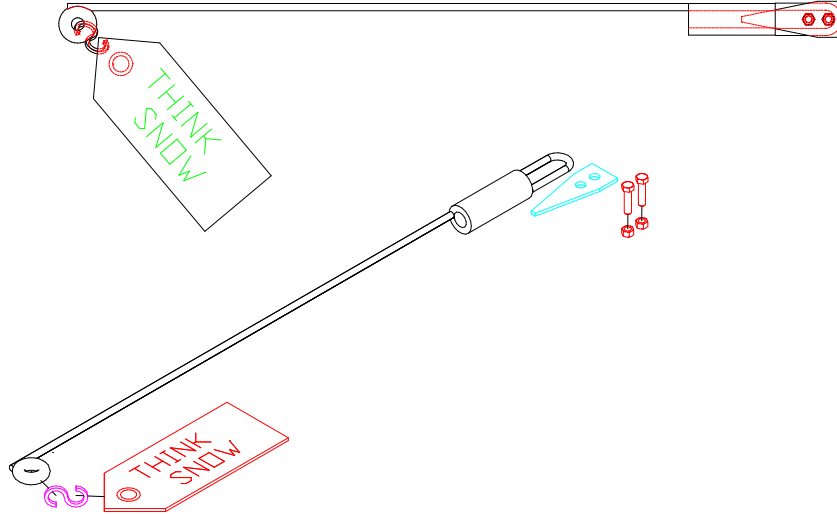


Item	Part	Qty	Description	Item	Part	Qty	Description
1.	03-0059	2	Clamp, Screw, HS12, 11/16-1 1/4	19.	07-0917	8 ft	Wire, Cord, 16ga
2.	03-0076	1	Fitting, Nipple, BP, Close, 3/8	20.	07-1427	1	Strain, Relief, 1/2, White
3.	03-0152	1	Fitting, Nipple, BP, Close, 1/2	21.	07-1700	1	Switch, Pump, Shutoff, Auto
4.	03-0181	1	Fitting, Street Elbow, BP, 90°, 3/8	22.	07-3638	4	Screw, HHC, Gr8, 1/4-20 x 1 1/4
5.	03-0457	1	Fitting, Barb, Nylon, 3/8, 3/8MP	23.	07-3869	1	Fitting, Barb, Tee, Nylon, 3/8
6.	03-0572	1	Fitting, Reducerbushing, BP, 1 1/4 x 3/4	24.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11
7.	03-0714	2	Barb, HP, 90°, 5/8, 1/2MP	25.	07-4032	4	Washer, Flat, Gr8, 1/4
8.	03-0819	1	Fitting, Reducerbushing, HP, 1/2, 3/8	26.	07-4033	4	Nut, Hex, Nylock, Gr8, 1/4-20
9.	03-1068-9	1	Fitting, Reducerbushing, HP, 3/4, 1/2	27.	07-4037	4	Nut, Hex, Nylock, Gr8, 1/2-13
10.	03-1182-7	1	Fitting, Plug, BP, Square, 1 1/4MP	28.	07-4674	1	Tank, Water, 150 gal
11.	03-1326	1	Pump, Flojet, Water, 2.1gpm, 12 Volt	29.	07-4862	2	Nozzle, Elbow, without Clamp
12.	03-1392	1	Valve, Shut Off, Ball, 1/2	30.	07-5127	25 ft	Hose, Clear, Vinyl, 3/8
13.	07-0066	8	Screw, HHC, Gr8, 5/8-11 x 2	31.	09-0028	1 ft	Hose, Heater, 5/8
14.	07-0413	2	Nozzle, Cap, Nylon	32.	09-0213	2	Strap, Nylon, 2 x 57
15.	07-0414	2	Nozzle, Tip, Brass, 1.5	33.	13-10081	4	Weld, Bolt, Tee, 3 1/2
16.	07-0532	1	Strainer, Hypro, Water	34.	13-12210	2	Rubber, Neoprene, 1/8 x 3 x 30
17.	07-0538	6	Clamp, Screw, MM-4 1/4-5/8	35.	13-15096	1	Weld, Mounting, Water, Tank, Standard
18.	07-0856	1	Nut, Lock, Strain Relief, 1/2		13-16198	1	Weld, Mounting, Water, Tank, TH Style

Not Shown : 07-3420 Cap, Water, Tank

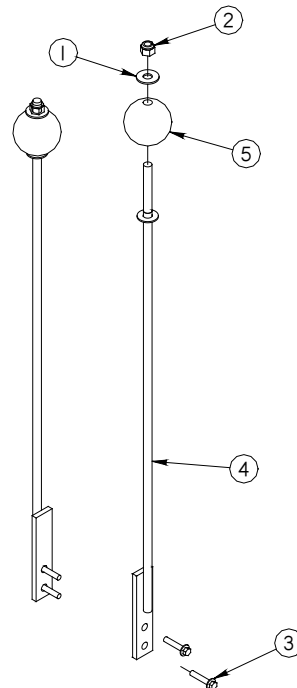
SIGHT INDICATORS

Kit: 11-5897

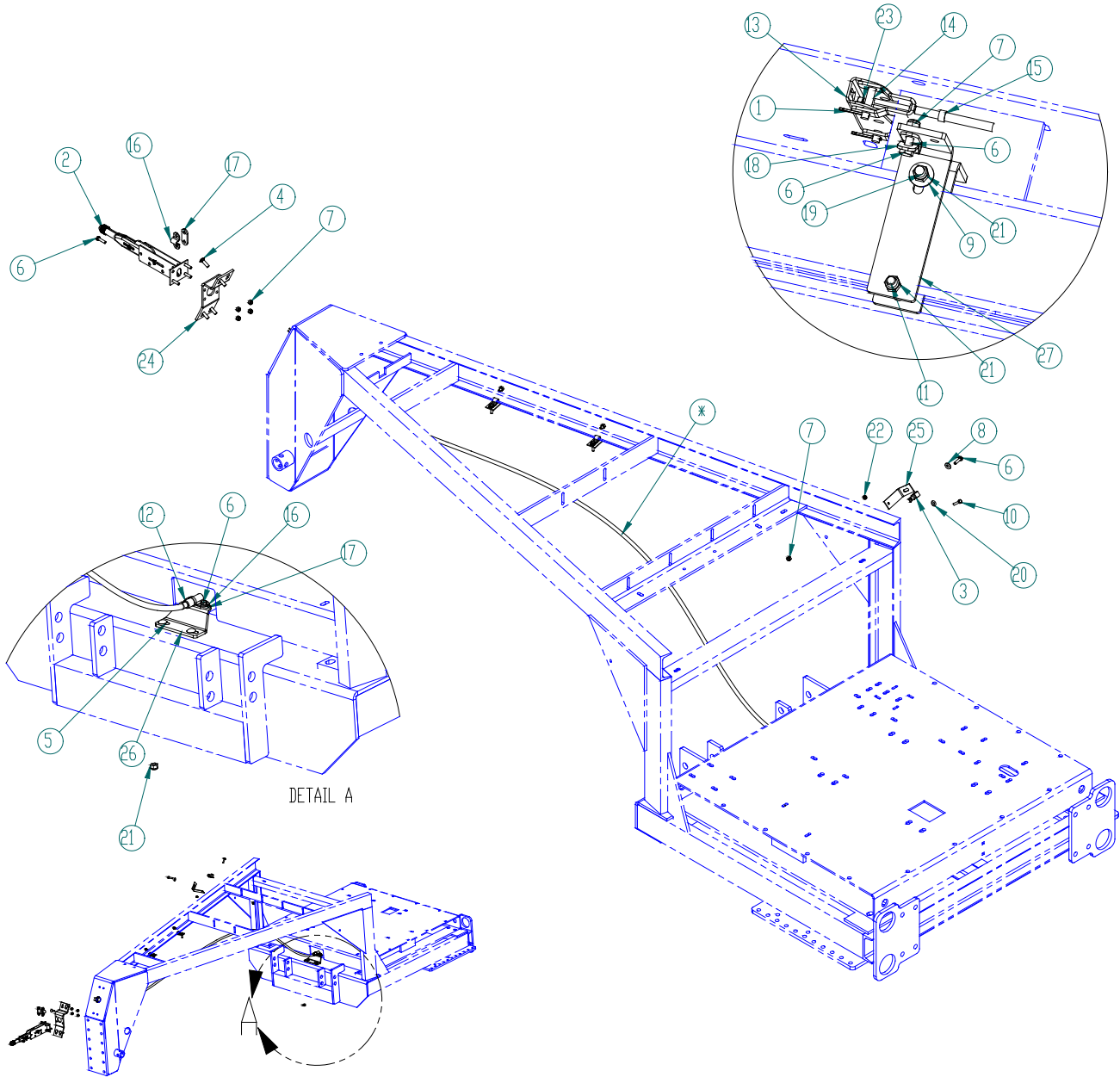


Kit: 28-9965

Item	Part	Qty	Description
1.	07-3279	2	Washer, Flat, Gr8, 3/8
2.	07-4036	2	Nut, Hex, Nylock, 3/8-16
3.	07-6597	4	Screw, HFH, CL10.9, M6-1 x 30
4.	13-14857	2	Weld, Sight Indicator
5.	13-9567	2	Ball, 2 1/8, Red, with Hole

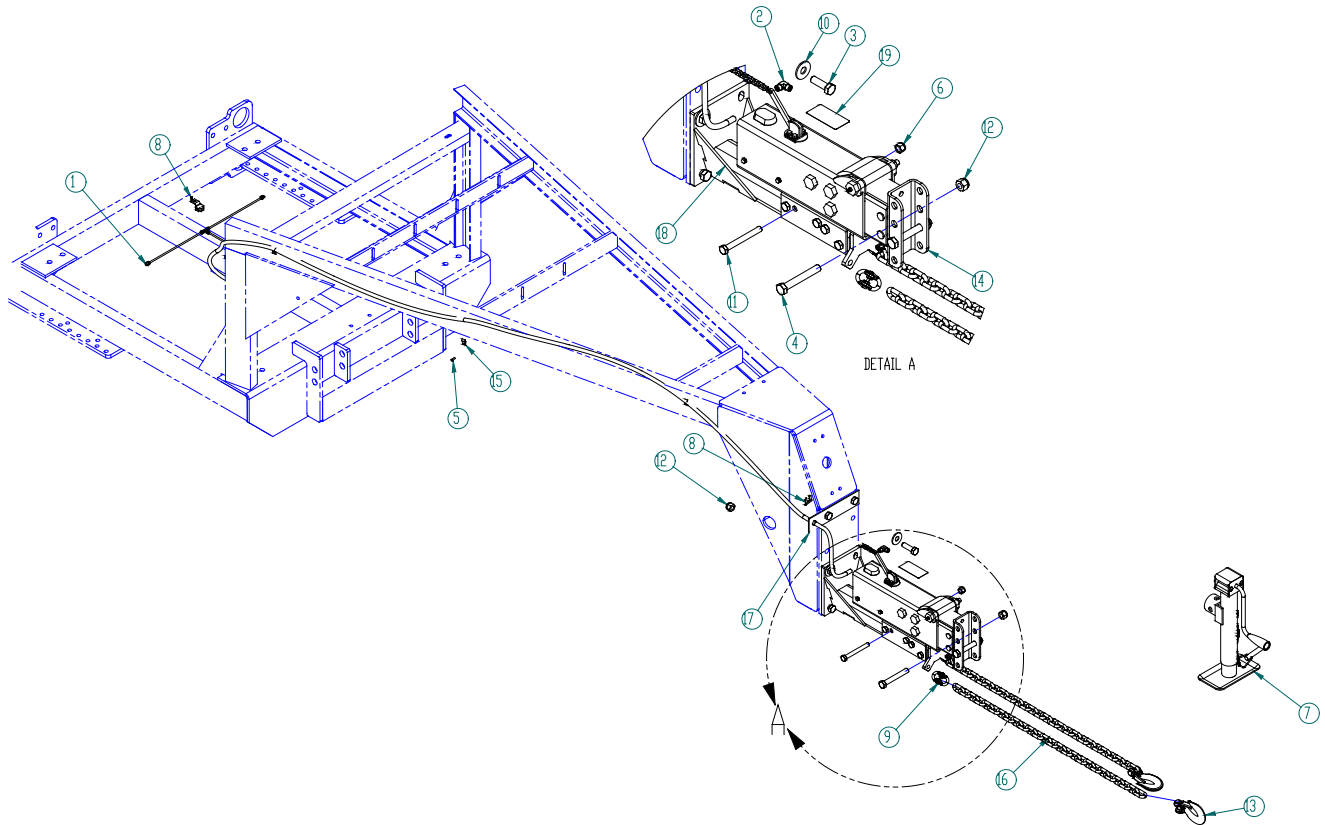


PARKING BRAKE ASSEMBLY



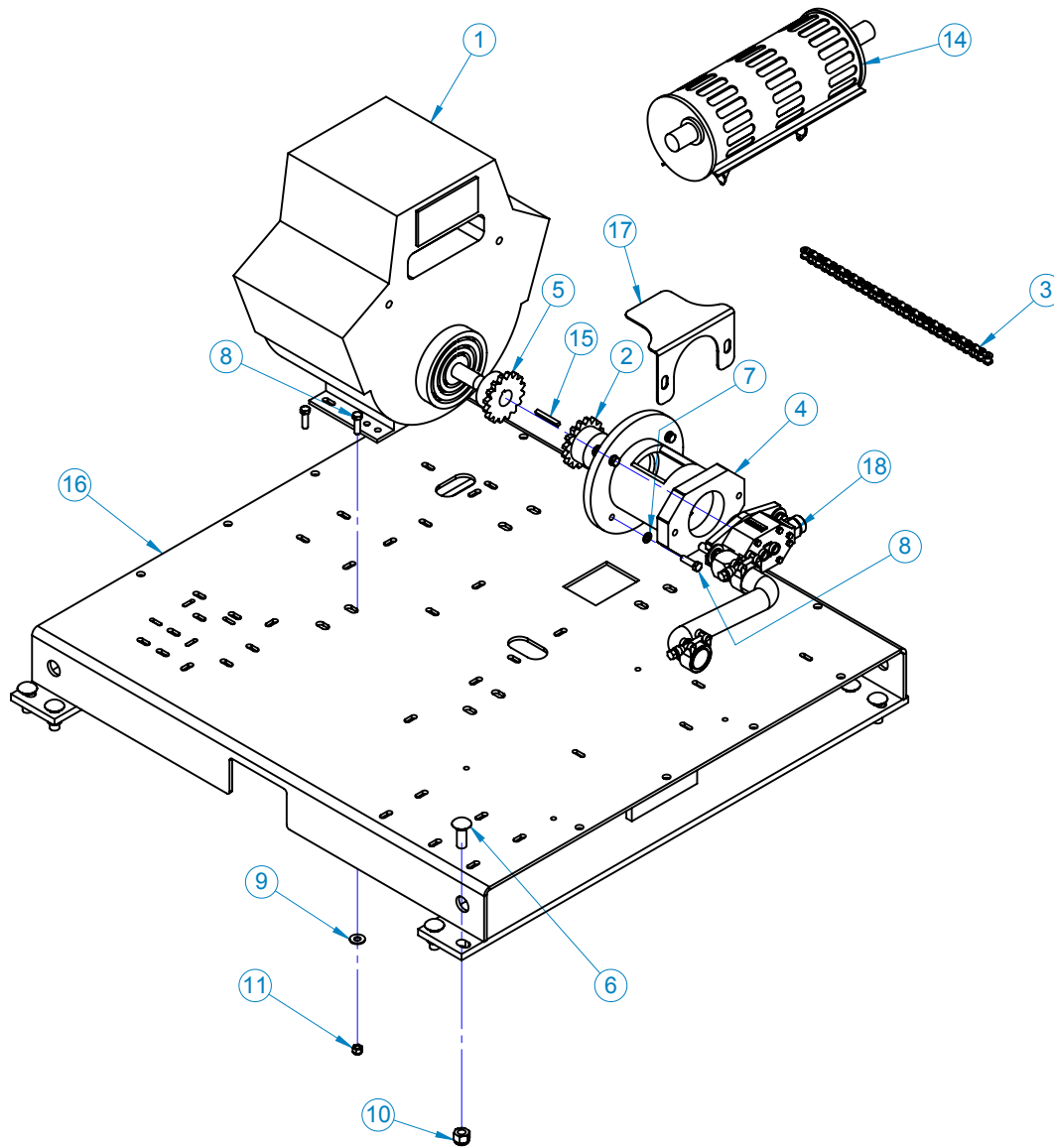
Item	Part	Qty	Description	Item	Part	Qty	Description
1.	07-0205	2	Pin, Cotter, Gr2, 1/8 x 1	14.	07-3983	2	Pin
2.	07-1079	1	Lever, Brake, Park, with Spacer	15.	07-3984	2	Rear, Brake, Cable
3.	07-1177	3	Clamp, Rubber, Coat, 1/2 x 3/4	16.	07-3985	2	Clamp, Cable
4.	07-1717	4	Bolt, Carriage, Gr5, 3/8-16 x 1 1/4	17.	07-3986	2	Link, Spacer,
5.	07-1730	2	Bolt, Carriage, Gr5, 3/8-16 x 1 1/2	18.	07-3987	2	Clamp, Cable
6.	07-1973	11	Screw, HHC, Gr8, 5/16-18 x 1 1/4	19.	07-4030	1	Bolt, Carriage, Gr5, 3/8-16 x 3
7.	07-3270	11	Nut, Hex, Nylock, Gr8, 5/16-18	20.	07-4032	3	Washer, Flat, Gr8, 1/4
8.	07-3275	3	Washer, Flat, Gr8, 5/16	21.	07-4036	8	Nut, Hex, Nylock, Gr8, 3/8-16
9.	07-3279	1	Washer, Flat, Gr8, 3/8	22.	07-4039	3	Nut, Hex, Gr8, 1/4
10.	07-3638	3	Screw, HHC, Gr8, 1/4-20 x 1 1/4	23.	07-4859	1	Nut, Hex, Jam, Gr8, 5/16-24
11.	07-3660	1	Screw, HHC, Gr8, 3/8-16 x 3	24.	13-15517	1	Plate, Mounting, Parking Brake
12.	07-3981	1	Cable, Front	25.	13-16027	3	Plate, Mounting, Control Cable
13.	07-3982	1	Equalizer	26.	13-16571	1	Plate, Mounting, Cable, Front
				27.	13-16572	2	Plate, Mounting, Cable, Rear

SURGE BRAKE ASSEMBLY



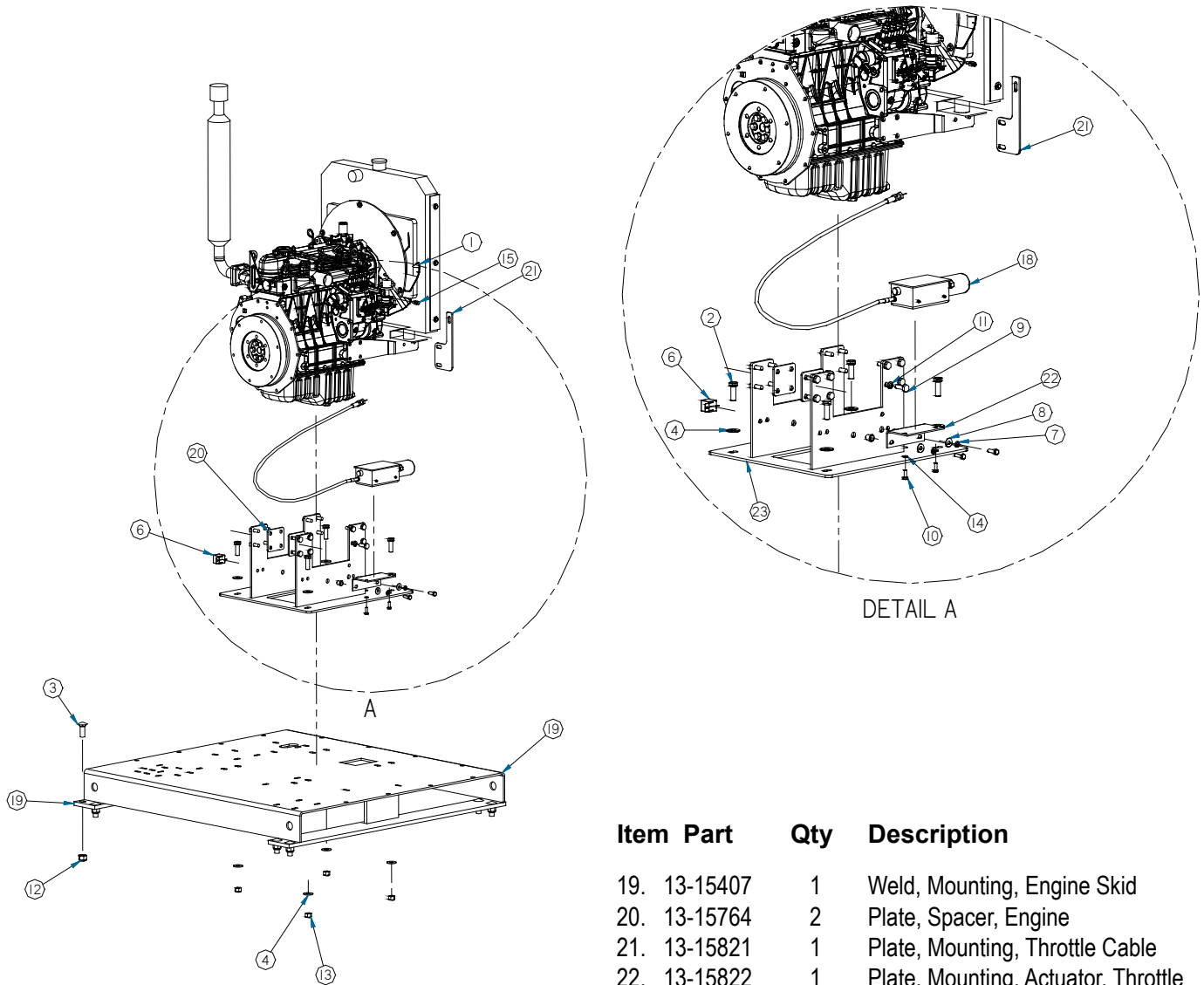
Item	Part	Qty	Description
1.	03-1152	6	Fitting, Nut, Brake, HP, 3/16MIV
2.	03-5532	1	Elbow, 2MP, 2FP
3.	07-0066	6	Screw, HHC, Gr8, 5/8-11 x 2
4.	07-0070	2	Screw, HHC, Gr8, 5/8 x 4 1/2
5.	07-1075	6	Rivet, Pop, Gr2, 3/16 x .626-.750 Grip
6.	07-1289	5	Nut, Hex, Nylock, Gr8, 1/2-20
7.	07-1704	1	Jack, 5000# SD Swivel, with Foot
8.	07-2027	1	Kit, Plumbing, Brakes, Surge
9.	07-2032	2	Clevis, Double Link, Gr80, 9/32
10.	07-3120	2	Washer, Flat, Gr8, 5/8
11.	07-3675	5	Screw, HHC, Gr8, 1/2-13 x 4 1/2
12.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11
13.	07-4815	2	Hook, Slip, with 3/8 Clevis & Latch for Safety Chains
14.	07-7348	1	Actuator, Model, 10 Bolt
15.	11-8247	4	Clip, Brake, Line
16.	13-11195	2	Chain, 3/8, 26 Links, High Test
17.	13-16576	1	Plate, Mounting, Brake Hose
18.	13-16580	1	Weld, Hitch
19.	50-0042	1	Label, Warning, Hitch

HONDA ENGINE 24 HP



Item	Part	Qty	Description	Item	Part	Qty	Description
1.	03-9591	1	Engine, Honda, 24hp, Air Cooled	14.	07-7036	1	Muffler, for Honda Gx670
2.	05-0326	1	Coupling, Half, 13 Spline	15.	13-1321	1	Key, 1/4 x 1/4 x 2
3.	05-0328	1	Chain, Coupling	16.	13-15407	1	Weld, Mounting, Engine Skid
4.	05-1443	1	Pump, Mounting	17.	13-16823	1	Plate, Shield, Pump, Honda, GX670
5.	05-1451	1	Coupling, Half	18.	28-0169	1	Kit, Pump, 12gpm
6.	07-0119	8	Bolt, Carriage, Gr5, 5/8-11 x 1 3/4	Not Shown:			
7.	07-1718	4	Washer, Lock, Split, Medium, 3/8	07-5356	1	Cable, Battery, 3/8 Eye Positive Post	
8.	07-2116	8	Screw, HHC, Gr8, 3/8-16 x 1 1/4	07-5417	1	Cable, Battery, 3/8 Eye Negative Post	
9.	07-3279	4	Washer, Flat, Gr8, 3/8	07-7238	1	Filter, Element, Air	
10.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11	07-7239	1	Filter, Oil	
11.	07-4036	4	Nut, Hex, Nylock, 3/8-16	07-7276	1	Ignition Switch Key	

KUBOTA DIESEL V1505



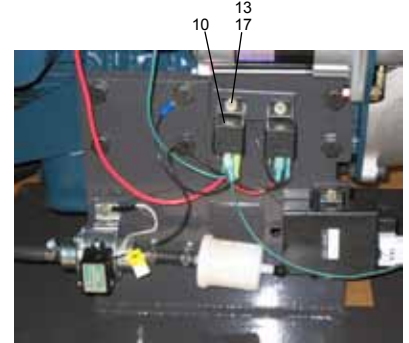
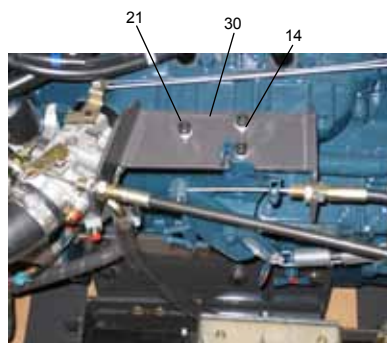
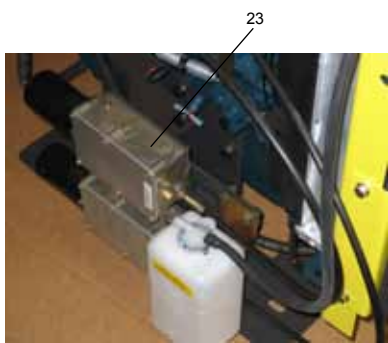
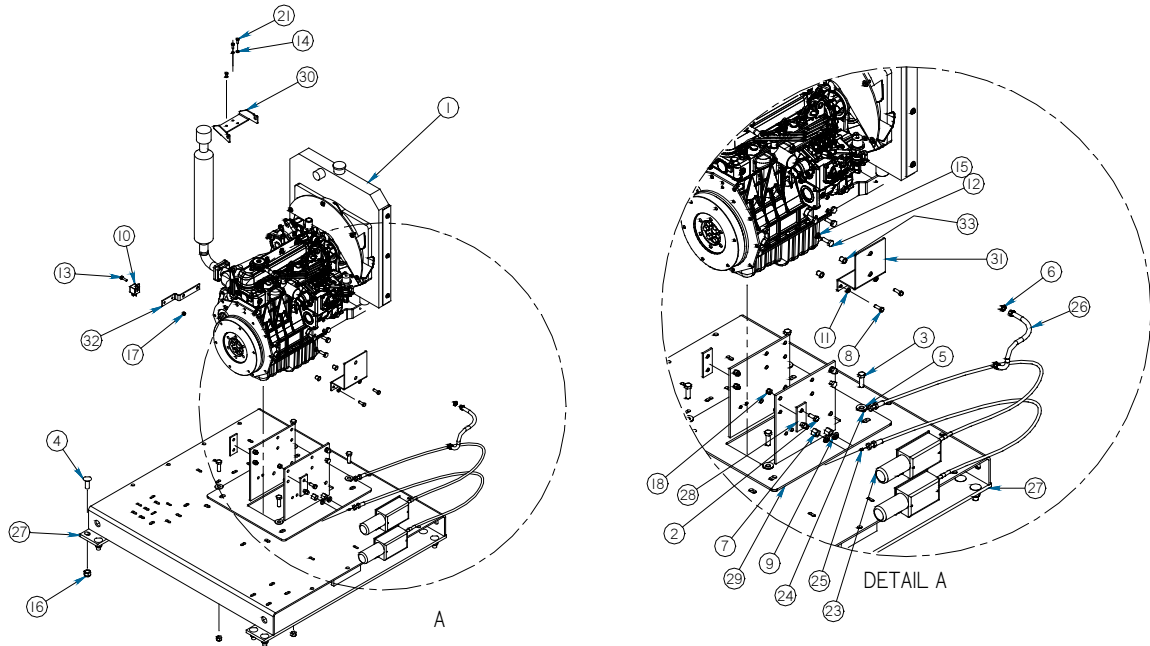
Item	Part	Qty	Description
1.	03-9592	1	Engine, Kubota, V1505, 33hp
2.	07-0045	4	Screw, HHC, Gr8, 1/2-13 x 1 1/2
3.	07-0119	8	Bolt, Carriage, Gr5, 5/8-11 x 1 3/4
4.	07-0156	8	Washer, Flat, Gr8, 1/2
5.	07-1714	2	Screw, HHC, Gr8, 5/16-18 x 1
6.	07-2226	2	Relay, Bosch, 12 volt
7.	07-3273	2	Washer, Lock, Split, Medium, 5/16
8.	07-3275	2	Washer, Flat, Gr8, 5/16
9.	07-3429	16	Screw, HHC, CL10.9, M10-1.25 x 30mm
10.	07-3432	2	Screw, HHC, Gr8, 1/4-20 x 3/4
11.	07-3747	16	Washer, Lock, Split, Medium, M10
12.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11
13.	07-4037	4	Nut, Hex, Nylock, Gr8, 1/2-13
14.	07-4038	2	Washer, Lock, Split, Medium, 1/4
15.	07-4776	1	Core, Fitting, Engine Throttle
18.	07-7049	1	Actuator, Throttle, with Cable

Item	Part	Qty	Description
19.	13-15407	1	Weld, Mounting, Engine Skid
20.	13-15764	2	Plate, Spacer, Engine
21.	13-15821	1	Plate, Mounting, Throttle Cable
22.	13-15822	1	Plate, Mounting, Actuator, Throttle
23.	13-7539	1	Weld, Motor Mount
24.	RHW8642	2	Nut, Rivet, 5/16-18, .15-.312 Grip

Not Shown:

07-5142	1	Cable, Battery, 3/8 Eye, Negative Post
07-5356	1	Cable, Battery, 3/8 Eye, Positive Post
06-0488	1	Belt, Fan
07-4021	1	Filter, Element, Outer
07-4022	1	Filter, Element, Inner
07-4023	1	Filter, Engine, Oil
07-4024	1	Filter, Fuel
07-6195	1	Starter
07-7285	1	Fan, High Capacity, Suction
07-7446	1	Fuel, Solenoid
07-7802	1	Fuel Pump, Mechanical (Serial # 1013000 and Lower)
07-7803	1	Fuel Pump, Electric (Serial # 1013001 and Up)
07-7192	1	Fuel Filter (Serial # 1013001 & Up)

KUBOTA GAS WG972



Item	Part	Qty	Description	Item	Part	Qty	Description
1.	03-9595	1	Engine, Kubota, WG972, 31hp	24.	07-7180	1	Screw, Set, M4-.5 x 8mm
2.	07-0018	2	Screw, HHC, Gr8, 3/8-16 x 1	25.	07-7181	1	Screw, Set, M6-1 x 10mm
3.	07-0045	4	Screw, HHC, Gr8, 1/2-13 x 1 1/2	26.	09-0096	3ft	Hose, Fuel, 5/16
4.	07-0119	8	Bolt, Carriage, Gr5, 5/8-11 x 1 3/4	27.	13-15407	1	Weld, Mounting, Engine Skid
5.	07-0156	8	Washer, Flat, Gr8, 1/2	28.	13-16112	2	Plate, Spacer, Engine
6.	07-0538	4	Clamp, Screw, MM-4 1/4-5/8	29.	13-16113	1	Weld, Mounting, Engine
7.	07-1093	2	Nut, Hex, HI, Gr5, 1/2-20	30.	13-16136	1	Plate, Mounting, Cable, Throttle/Choke
8.	07-1714	2	Screw, HHC, Gr8, 5/16-18 x 1	31.	13-16137	1	Plate, Mounting, Trottle, Choke
9.	07-1762	2	Washer, Lock, Split, Medium, 1/2	32.	13-16237	1	Plate Mounting, Relay
10.	07-2226	2	Relay, Bosch, 12 volt	33.	RHW8642	2	Nut, Rivet, 5/16-18, .15-.312 Grip
11.	07-3273	4	Washer, Lock, Split, Medium, 5/16	Not Shown:			
12.	07-3429	12	Screw, HHC, CL10.9, M10-1.25 x30mm	07-5142	1	Cable, Battery, 3/8 Eye, Negative Post	
13.	07-3637	6	Screw, HHC, Gr8, 1/4-20 x 1	07-5356	1	Cable, Battery, 3/8 Eye, Positive Post	
14.	07-3730	3	Washer, Lock, Split, Medium, M6	06-0493	1	Belt, Fan	
15.	07-3747	12	Washer, Lock, Split, Medium, M10	07-7189	1	Filter, Air	
16.	07-4031	8	Nut, Hex, Nylock, Gr8, 5/8-11	07-7190	1	Filter, Oil, Engine	
17.	07-4033	6	Nut, Hex, Nylock, Gr8, 1/4-20	07-7191	1	Filter, Fuel	
18.	07-4036	2	Nut, Hex, Nylock, 3/8-16	07-7192	1	Pump, Fuel	
19.	07-4037	4	Nut, Hex, Nylock, Gr8, 1/2-13	07-7284	1	Starter	
21.	07-5337	3	Screw, HHC, CL8.8, M6-1 x 16mm	07-7376	1	Electronic, Ignitor	
23.	07-7049	2	Actuator, Throttle, with Cable	07-7772	1	Wire Harness Ignition	

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLES


Use the following charts when determining bolt torque specifications when special torques are not given. Always use grade 5 or better when replacing bolts.

SAE BOLT TORQUE SPECIFICATIONS


NOTE: The following torque values are for use with extreme pressure lubricants, plating or hard washer applications increase torque 15% when using hardware that is unplated and either dry or lubricated with engine oil.

Bolt Size		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE				Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters		
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	
1/4	6.35	8	9	11	12	10	13	14	18	
5/16	7.94	14	17	19	23	20	25	27	34	
3/8	9.53	30	36	41	49	38	46	52	62	
7/16	11.11	46	54	62	73	60	71	81	96	
1/2	12.70	68	82	92	111	94	112	127	152	
9/16	14.29	94	112	127	152	136	163	184	221	
5/8	15.88	128	153	174	207	187	224	254	304	
3/4	19.05	230	275	312	373	323	395	438	536	
7/8	22.23	340	408	461	553	510	612	691	830	
1	25.40	493	592	668	803	765	918	1037	1245	
1-1/8	25.58	680	748	922	1014	1088	1224	1475	1660	
1-1/4	31.75	952	1054	1291	1429	1547	1700	2097	2305	
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135	
1-1/2	38.10	1649	1870	2236	2535	2686	3026	3642	4103	


GRADE 2



GRADE 5






GRADE 8



METRIC BOLT TORQUE SPECIFICATIONS

NOTE: The following torque values are for use with metric hardware that is unplated and either dry or lubricated with engine oil. Reduce torque 15% when using hardware that has extreme pressure lubricants, plating or hard washer applications.

Bolt head identification marks as per grade.		
		

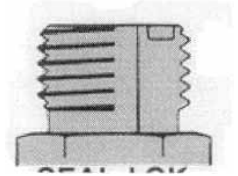
Size of Bolt	Grade No.	Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-
	8.8		5.8-4	7.9-12.7		-	-
	10.9		7.2-10	9.8-13.6		-	-
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23
	8.8		17-22	23-29.8		19-27	25.7-36.6
	10.9		20-26	27.1-35.2		22-31	29.8-42
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3
	8.8		34-40	46.1-54.2		35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6
	8.8		51-59	69.1-79.9		56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7
	8.8		81-93	109.8-126		90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.5-112.5
	8.8		116-130	157.2-176.2		120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5
	8.8		150-168	203.3-227.6		177-199	239.8-269.6
	10.9		175-194	237.1-262.9		202-231	273.7-313
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3
	8.8		186-205	252-277.8		206-242	279.1-327.9
	10.9		213-249	288.6-337.4		246-289	333.3-391.6

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.

HYDRAULIC TORQUE SPECIFICATIONS

Face Seal: Assembly, Tube to Fitting

NOTICE - Face seal fittings have the most reliable sealing method and therefore, should be used whenever possible.



Installation

1. Make sure threads and sealing surfaces are free of burrs, nicks, scratches, or foreign materials.
2. Install proper SAE O-ring to end of fitting if not already installed. Ensure O-ring is fully seated and retained properly.
3. Lubricate O-ring with a light coating of clean hydraulic oil.
4. Position tube and nut squarely on face seal of fitting and tighten nut finger tight.
5. Using appropriate torquing device, tighten to given torque rating from the table below.

Torque Values

SAE Dash Size	Tube Side Thread Size	In-lbs	Ft-lbs
-4	9/16 - 18	220 ± 10	18 ± 1
-6	11/16 - 16	320 ± 25	27 ± 2
-8	13/16 - 16	480 ± 25	40 ± 2
-10	1 - 14	750 ± 35	63 ± 3
-12	1 3/16 - 12	1080 ± 45	90 ± 4
-16	1 7/16 - 12	1440 ± 90	120 ± 8
-20	1 11/16 - 12	1680 ± 90	140 ± 8
-24	2 - 12	1980 ± 100	165 ± 8

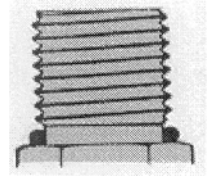
NOTE - ft-lb may be converted to Newton Meters by multiplying by 1.35582.

NOTE - in-lbs may be converted to Newton Meters by multiplying by 0.11298.

HYDRAULIC TORQUE SPECIFICATIONS

Straight Thread O-ring Fitting: Assembly, Fitting to Port

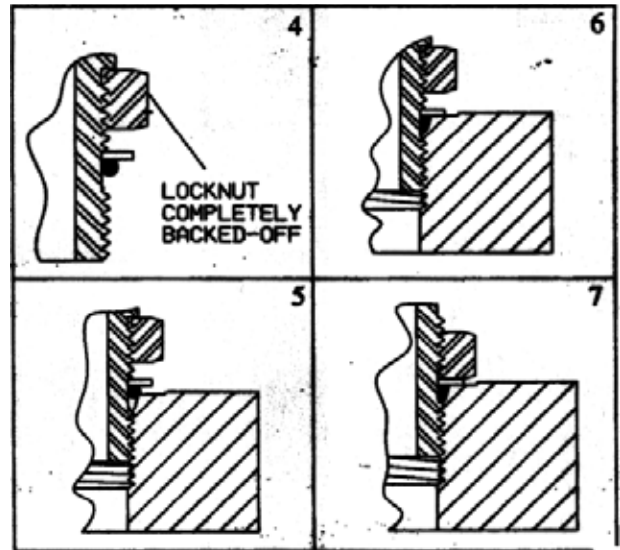
NOTE - Straight thread o-ring fittings are utilized to adapt hydraulic systems to motors, pumps, cylinders, and valves.



Installation (Adjustable Fitting)

1. Make sure threads and sealing surfaces are free of burrs, nicks, scratches, or any foreign materials.
2. Install proper SAE o-ring on port end of fitting if not already installed. Ensure o-ring is fully seated and retained properly.
3. Lubricate o-ring with a light coating of clean hydraulic oil.
4. Back off nut as far as possible and push washer up as far as possible. (figure 4 & 5)
5. Screw fitting into port. Hand tighten fitting until backup washer contacts face of port. (figure 6)
6. To position the fitting, unscrew to desired position, but not more than one full turn.
7. Hold fitting in position with wrench. Using appropriate torquing device, tighten nut to given torque rating from table. (figure 7)

Fitting Size	SAE Port Thread Size	In-lbs	Ft-lbs
-4	7/16 - 20	190 ± 10	16 ± 1
-6	9/16 - 18	420 ± 15	35 ± 1
-8	3/4 - 14	720 ± 25	60 ± 2
-10	7/8 - 14	1260 ± 50	105 ± 5
-12	1 1/16 - 12	1680 ± 75	140 ± 6
-16	1 5/16 - 12	2520 ± 100	210 ± 8
-20	1 5/8 - 12	3100 ± 150	260 ± 12
-24	1 7/8 - 12	3800 ± 150	315 ± 12



NOTE - ft-lb may be converted to Newton Meters by multiplying by 1.35582.

NOTE - in-lbs may be converted to Newton Meters by multiplying by 0.11298.

GLOSSARY

angle or angle assembly - portion of the sweeper that allows the brush head assembly to angle.

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.

castellated - having battlements like a castle.

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

core - weldment that holds brush sections.

danger - indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

F - female.

FS - face seal.

front - side that is in front when facing the normal forward direction of travel of the machine.

gpm - gallons per minute.

HP - high pressure.

hood - brush shield.

hydraulic angle kit - means of swinging an assembly hydraulically

in. - inch.

kph - kilometers per hour.

lb - pounds.

left-hand - side that is on 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.

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

NPT - national pipe thread.

note - indicates supplementary information.

notice - used for instructions when machine damage may be involved.

psi - pounds per square inch.

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

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 - side that is in the rear when facing the normal forward direction of travel of the machine.

retainer - removable plate or set of plates that keep sections on the core.

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

GLOSSARY

section - single brush wafer.

section set - replacement brush wafers.

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 components off the ground when the sweeper is dismounted.

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

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.

WARRANTY

Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction¹, has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twelve (12) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

LIMITATIONS AND EXCLUSIONS.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.

¹*Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.*