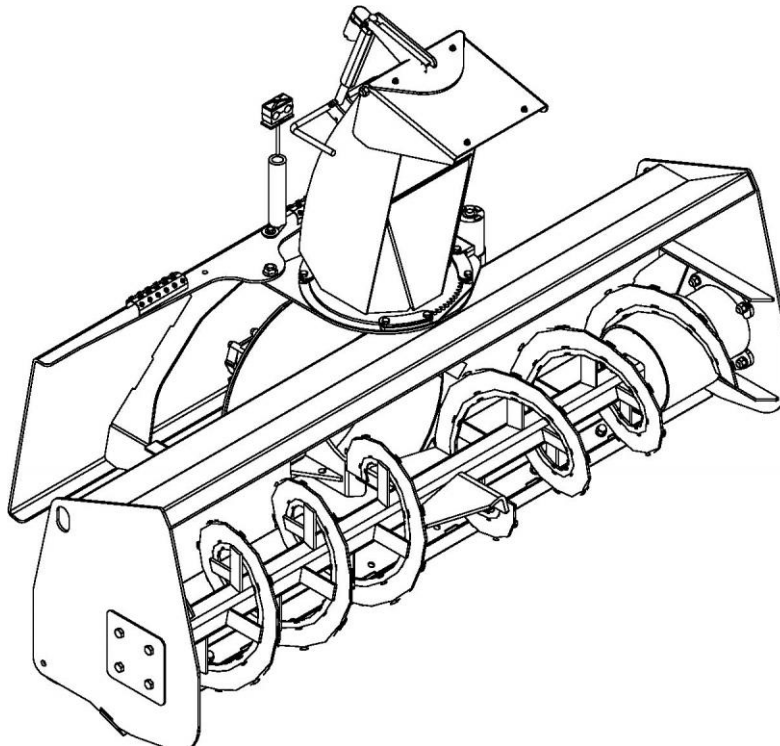




**SPARTAN
EQUIPMENT®**

OPERATOR'S AND PARTS MANUAL

HYDRAULIC SNOW BLOWER



Serial Number: _____

Model Number: _____

Manual Number: 51-4694

Models:

STD: 11048, 11060, 11072, 11078 &
11084 (A through E)

HF: 11072, 11078, 11084 & 11096
(F through H)

Release Date: August 2014

Rev. 1

Notes


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PREFACE

GENERAL INFORMATION

This product was carefully designed and manufactured to give you many years of dependable service. Only minor maintenance (such as cleaning and lubricating) is required to keep it in top working condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product and on any equipment on which the attachment is mounted.

WARNING!  **Never let anyone operate this unit without reading the "Safety Precautions" and "Operating Instructions" sections of this manual. Always choose hard, level ground to park the vehicle on and set the brake so the unit cannot roll.**

Unless noted otherwise, right and left sides are determined from the operator's control position when facing the attachment.

NOTE: The illustrations and data used in this manual were current (according to the information available to us) at the time of printing, however, we reserve the right to redesign and change the attachment as may be necessary without notification.

BEFORE OPERATION

The primary responsibility for safety with equipment falls to the operator. Make sure the equipment is operated only by trained individuals that have read and understand this manual. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or manufacturer to obtain further assistance. Keep this manual available for reference. Provide this manual to any new owners and/or operators

SAFETY ALERT SYMBOL



This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and the safety of others working with you.

SERVICE

Use only manufacturer replacement parts. Substitute parts may not meet the required standards. Record the model and serial number of your unit on the cover of this manual. The parts department needs this information to insure that you receive the correct parts.

SOUND AND VIBRATION

"Sound pressure levels and vibration data for this attachment are influenced by many different parameters; some items are listed below (not inclusive):

- prime mover type, age, condition, with or without cab enclosure and configuration
- operator training, behavior, stress level
- job site organization, working material condition, environment

Based on the uncertainty of the prime mover, operator, and job site, it is impossible to get precise machine and operator sound pressure levels, or vibration levels for this attachment."

SAFETY STATEMENTS

DANGER!



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

WARNING!



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

CAUTION!



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

NOTICE!

NOTICE INDICATES A PROPERTY DAMAGE MESSAGE.



THIS SYMBOL BY ITSELF OR USED WITH A WARNING 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.

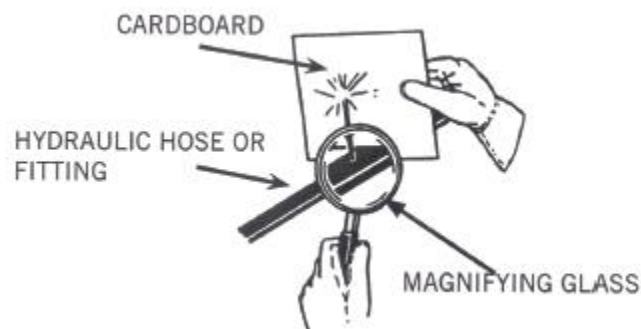
WARNING! USE CARE WITH HYDRAULIC FLUID PRESSURE

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.
- 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.



GENERAL SAFETY PRECAUTIONS

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.

-Wear the protective 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.

EQUIPMENT SAFETY PRECAUTIONS

WARNING! REMOVE PAINT BEFORE WELDING OR HEATING.

Hazardous fumes/dust can be generated when paint is heated by welding, soldering or using a torch. Do all work outside or in a well ventilated area and dispose of paint and solvent properly. Remove paint before welding or heating.

When sanding or grinding paint, avoid breathing the dust. Wear an approved respirator. If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

WARNING! END OF LIFE DISPOSAL.

At the completion of the useful life of the unit, drain all fluids and dismantle by separating the different materials (rubber, steel, plastic, etc.). Follow all federal, state and local regulations for recycling and disposal of the fluid and components.

WARNING! KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.

DANGER! ROTATING OBJECTS

Never allow anyone to reach into, kick into, or otherwise come in contact with a rotating auger or with a non-rotating clogged auger. The auger can crush and/or dismember. Keep everyone clear of the auger until the prime mover engine is off and the hydraulic pressure has been relieved.

Never allow anyone to reach into the chute, force objects (i.e. bars, poles, etc.) down the chute, kick into the fan, or otherwise come in contact with a rotating fan or with a non-rotating clogged fan. The fan can throw objects at a lethal speed and can dismember. Keep everyone clear of the fan until the prime mover engine is off and the hydraulic pressure has been relieved.

CAUTION! AVOID ELECTRICAL SHOCK

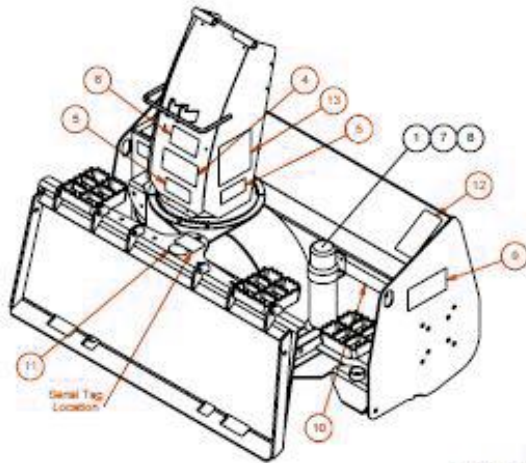
To avoid electrical shock during the wiring harness installation, remove the ground cable from the battery of your prime mover.

Be aware that turning off the prime mover key does not cut the power to the chute rotation motor or to the chute deflector actuator. With the switches for these devices being powered 100 of the time, care must be taken to not engage these switches:

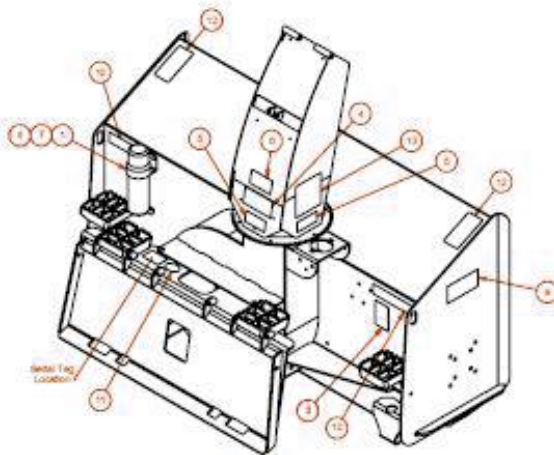
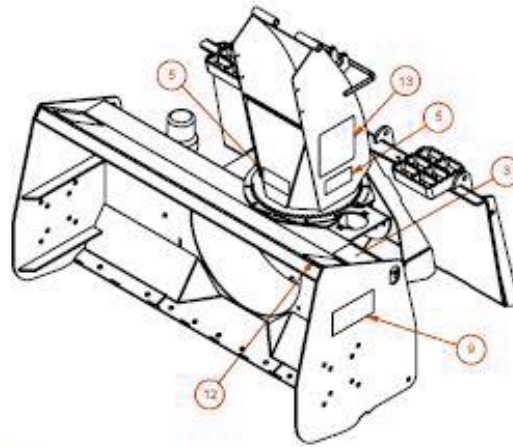
- accidentally at any time, especially when entering or leaving the prime mover operator's position, or
- when others are working on or near the actuator, the deflector, the chute, or any other part of this product that could cause personal injury if the switch or switches are engaged.

Avoid pinch points and be aware of rotating parts when manually turning the fan or auger.

SAFETY DECAL LOCATIONS



Standard Flow



High Flow

Item	Part	Qty	Description
1.	07-8869	1	Manual Holder
3.	50-0724	1	Decal, Warning, High Pressure Fluid
4.	50-0727	1	Decal, Warning, Flying Objects
5.	50-0737	3	Decal, Warning, Pinch Point Hazard
6.	50-10017	1	Decal, Warning Avoid Serious Injury
7.	P100403	2	Screw, HHC, Gr5 1/4-20 x 3/4
8.	P158003	2	Nut, Elastic Lock, 1/4
9.	RDL3118	2	Decal, Logo, FFC, Medium
10.	RDL3131	2	Red Reflective Tape, 2 x 6
12.	RDL3161	2	Decal, Warning, Auger
13.	RDL3163	2	Decal, Danger Rotating Fan

INSTRUCTIONS

Keep all safety signs clean and legible.

Replace all missing, illegible, or damaged safety signs.

Replacement parts for parts with safety signs attached must also have safety signs attached.

Safety signs are available, free of charge, from your dealer or from SPARTAN.

PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

1. Clean the area of application with non-flammable 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.

SAFETY DECALS



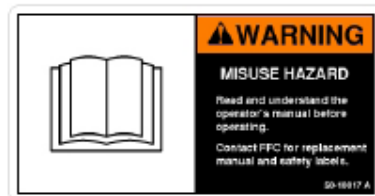
3. 50-0724
WARNING! HIGH PRESSURE FLUID



4. 50-0727
WARNING! FLYING OBJECTS



5. 50-0737
WARNING! PINCH POINT



6. 50-10017
WARNING! READ MANUAL



10. RDL3131
RED REFLECTIVE MARKER



12. RDL3161
DANGER! ROTATING AUGER



13. RDL3163
DANGER! ROTATING FAN

INSTALLATION & SET-UP

WARNING! READ MANUAL PRIOR TO INSTALLATION



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 MOVER'S MANUAL(S).**

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your prime mover and all workers involved in the mounting process.
2. Refer to the operator's manual(s) for your prime mover, loader, and quick-attach and follow the mounting instructions contained therein.
3. Carefully raise the loader and cycle the tilt cylinders to check clearances and to verify that all mounting procedures have been successfully completed.

NOTICE! *Lubricate all grease fittings before connecting this product to your prime mover's hydraulic system. Refer to HYDRAULIC SNOW BLOWER MAINTENANCE and follow the instructions*

WIRING HARNESS INSTALLATION

MATERIALS NEEDED: Nylon cable ties

1. Park your prime mover on a level surface with this product properly attached.
2. Place your prime mover's transmission in "Park" and engage the parking brake.
3. Lower this product onto the level surface.
4. Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
5. Attach the control box to the left side screen of your prime mover's roll-over protective structure (ROPS). Use the magnet on back of the control box to secure the control box so that the box is flat against the screen, the toggle switches are on the top, and the wiring harness cables are on the bottom.

WARNING!



Failure to obey the following procedures could result in death or serious injury. Before doing any work on your prime mover's battery, read and understand all prime mover instructions and safety signs for your prime mover's electrical system. Pay special attention to hazard avoidance and remedial action related to explosive gas and acid.

INSTALLATION & SET-UP

CAUTION!



Failure to obey the following procedures may result in personal injury.

- To avoid electrical shock during the wiring harness installation, remove the ground cable from the battery of your prime mover.

6. Remove the ground cable from the negative (-) post of your prime mover's battery.
7. Remove the nut from the POSITIVE (+) cable clamp on the battery and slide the RED wire ring terminal from the wiring harness cable over the positive (+) cable clamp bolt. Secure the ring terminal with the nut.
8. Remove the nut from the NEGATIVE (-) cable clamp on the ground cable and slide the BLACK wire ring terminal from the wiring harness cable over the negative (-) cable clamp bolt.
9. Reinstall the ground cable on the negative post of the battery and secure the ring terminal and the ground cable with the nut removed in the previous step.
10. Secure the wiring harness cable from the battery to the control box with your nylon cable ties.
11. Feed the wiring harness cable:
 - a) back to the left-rear area of your prime mover,
 - b) past the loader arm's rear hinge point by following the hydraulic hoses where possible, and
 - c) down the loader arm following the hydraulic lines.
12. Allow sufficient slack in the cable at the hinge point to provide for a full range of motion of the loader arms. Use your nylon cable ties to secure the cable to the loader frame below the hinge point and back to the control box.

HYDRAULIC SNOW BLOWER HYDRAULIC CONNECTION

READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any Snow Blower hydraulic connection. 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.

1. Disconnect the hydraulic hose quick couplers from one another and attach the quick couplers to your prime mover as per the instructions in your prime mover's operator's manual.
(Also see [Hydraulic Hose Connections](#) in the SERVICE section.)
2. Carefully raise the loader and cycle the tilt cylinders to check hose clearances and to check for any interference. Operate the chute and deflector on this product to make the same checks. Cycle the
- 3 hydraulic cylinder(s) on this product several times from fully retracted to fully extended until all air has
- been completely removed from the cylinder(s).

WARNING! Do not lock the auxiliary hydraulics of your prime mover in the "ON" position.



Failure to obey this warning could result in death or serious injury.

INSTALLATION & SET-UP



READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any Snow Blower setup. 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.

SKID SHOE ADJUSTMENT

Determine what type of surface is beneath the snow where your Hydraulic Snow Blower is being operated.

If the surface is hard and smooth, like concrete or asphalt, the skid shoe placement as shipped from the factory (i.e. in their highest position) is correct.

If the surface is soft or uneven, then a lower position should be used.

Changing the position of the skid shoes should be performed as follows:

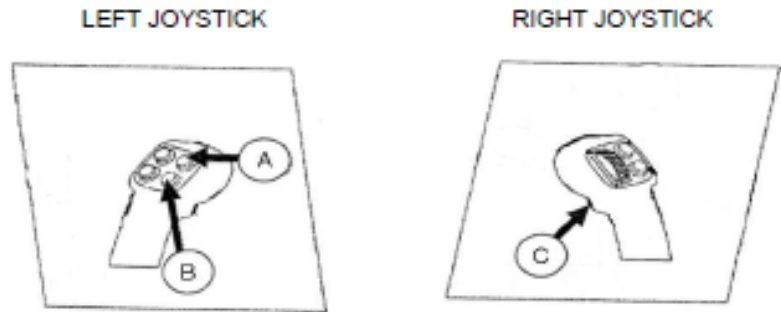
1. Park your prime mover on a level surface with this product properly attached.
2. Place your prime mover's transmission in "Park" and engage the parking brake.
3. Lower this product's cutting edge onto wood or steel blocking that is adequate to safely hold the base of the skid shoes 2.5" to 3" off of the level surface OR tilt the snow blower forward (keeping the loader arms locked to the attachment mounting plate), holding the skid shoes 2.5" to 3" off the ground.
4. Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.

OPERATION

JOY STICK ILLUSTRATIONS

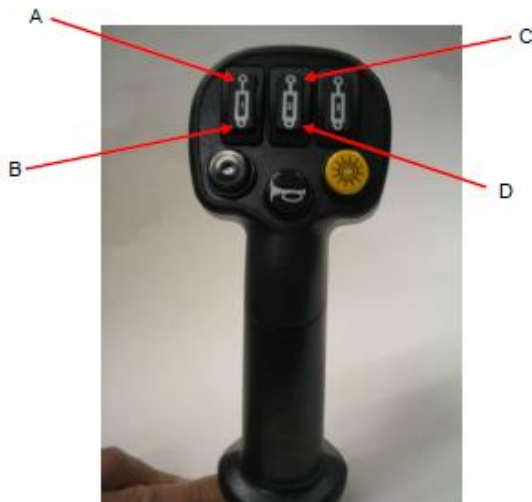
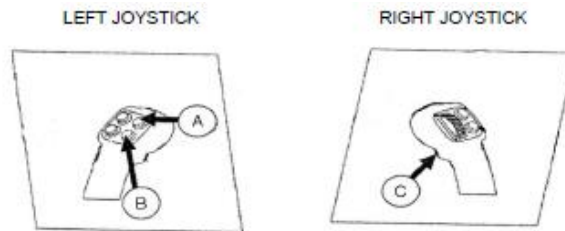
Caterpillar Joy Stick

Deflector UP: Button A
Deflector DOWN: Button B
Chute Rotation RIGHT: Button C & Button B
Chute Rotation LEFT: Button C & Button A



Caterpillar Joy Stick

Deflector UP: Button A
Deflector DOWN: Button B
Chute Rotation RIGHT: Button C & Button B
Chute Rotation LEFT: Button C & Button A

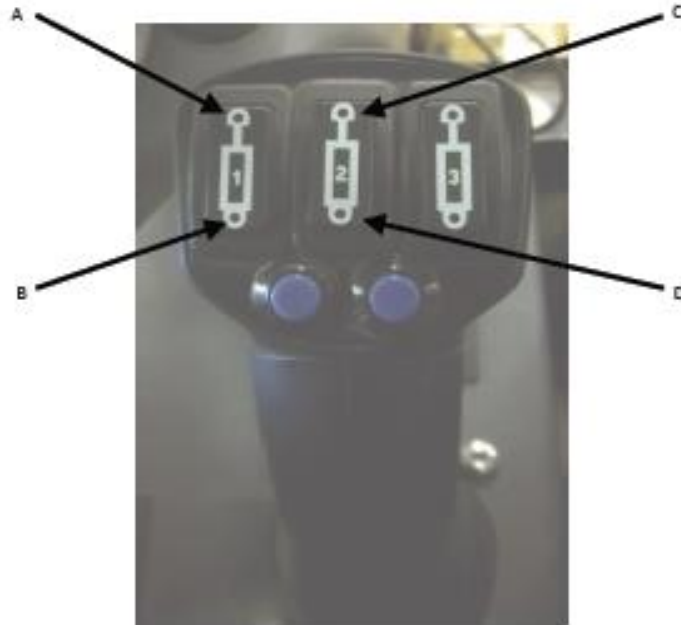


Gehl Joy Stick

Deflector UP: Button A
Deflector DOWN: Button B
Chute Rotation RIGHT: Button C
Chute Rotation LEFT: Button D

OPERATION

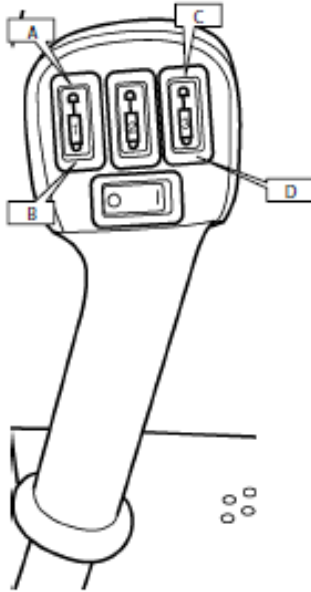
Gehl RT Track Loader Joy Stick



Chute Rotation LEFT: Button A
Chute Rotation RIGHT: Button B
Deflector UP: Button C
Deflector DOWN: Button D

OPERATION

JOY STICK ILLUSTRATIONS

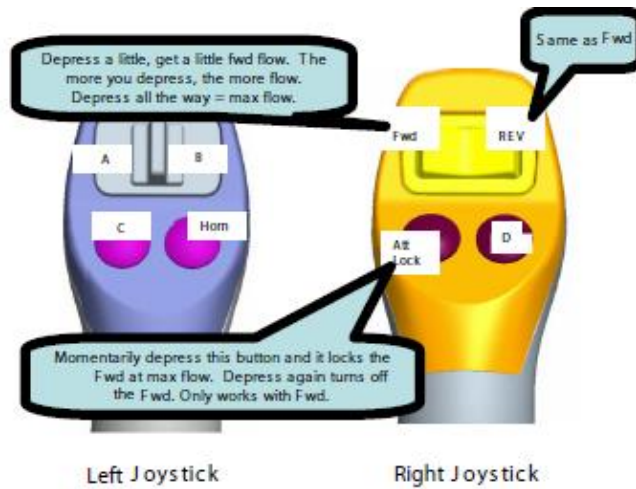


Case/New Holland Joy Stick

- Deflector UP: Button A
- Deflector DOWN: Button B Chute
- Rotation RIGHT: Button C Chute
- Rotation LEFT: Button D

Komatsu Joy Stick

- Deflector UP: Button A
- Deflector DOWN: Button B Chute
- Rotation RIGHT: Button C Chute
- Rotation LEFT: Button D



OPERATION

Intended Use

This snow blower has been designed and built to push loose snow. 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.

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.

DANGER!



Failure to obey the following procedures WILL result in death or serious injury.

- Never allow anyone to reach into, kick into, or otherwise come in contact with a rotating auger or with a non-rotating clogged auger. The auger can crush and/or dismember. Keep everyone clear of the auger until the prime mover engine is off and the hydraulic pressure has been relieved.
- Never allow anyone to reach into the chute, force objects (i.e. bars, poles, etc.) down the chute, kick into the fan, or otherwise come in contact with a rotating fan or with a non-rotating clogged fan. The fan can throw objects at a lethal speed and can dismember. Keep everyone clear of the fan until the prime mover engine is off and the hydraulic pressure has been relieved.

WARNING!



Failure to obey the following procedures could result in death or serious injury.

- Never place any object (i.e. bar, pole, stick, etc.) down the chute until the prime mover engine is off and the hydraulic pressure has been relieved.
- Do not operate this product until all others are clear of the entire discharge area. Foreign objects and pieces of ice are generally thrown farther than snow. High Flow Snow Blowers are capable of throwing material up to 45 feet.
- Do not operate this product when blowing or thrown snow restricts visibility.
- Do not lock the auxiliary hydraulics in the "ON" position.
- Never lift this product (a.) above the operator's eye level or (b.) to a height where visibility is obstructed, whichever is lower.

CAUTION!



Failure to obey the following procedures may result in personal injury.

- Be aware that turning off the power unit key does not cut the power to the winch or to the actuator. With the switches for these devices being powered 100 of the time, care must be taken to not engage these switches:
 - a) Accidentally at any time, especially when entering or leaving the prime mover operator's position, or
 - b) When others are working on or near the actuator, the deflector, the winch, the chute, or any other part of this product that could cause personal injury if the switches are engaged.

1. Try to remove snow as soon as possible after the snow falls; snow becomes more compact (and more difficult to throw) the longer it lies on the ground.

OPERATION

2. To maximize the snow moving capabilities, try to remove snow before the accumulation reaches 12 inches.

NOTICE! *Placing the loader arm hydraulics in the float position decreases the prime mover's capability to provide the desired hydraulic flow and pressure to your snow blower's motors. Snow throwing performance will therefore be reduced.*

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.

3. Always rotate the chute and adjust the deflector so that the thrown snow is directed into open areas.

NOTICE! • *Holding the toggle switches in the powered position after the actuator has reached the end of that device's cycle of movement, and/or*



- *Applying force on the deflector from any source, other than blown snow, that will cause the deflector to either compress or extend the deflector's actuator, and/or*
- *Using your Snow Blower as a snow "plow" CAN result in damage to this product and WILL void all SPARTAN warranties.*

4. Never direct the discharge at buildings, automobiles, trees, or any other item that may be damaged by thrown snow.
5. When blowing snow, approach the snow with the wind at the operator's back whenever possible.
6. When clearing a large area, cut the first pass on the upwind side and work downwind.
7. If an excessive amount of snow is being pushed in front of the auger housing, **SLOW DOWN!!** Allow the auger and fan enough time to properly collect and throw the snow.
8. If a foreign object becomes wedged in the auger, the auxiliary hydraulics on the prime mover may be reversed to reverse the auger. Reversing the auger rotation may remove the obstruction.
9. If a foreign object becomes wedged in the fan:
 - a) Move to a level surface, place your prime mover's transmission in "Park" and engage the parking brake.
 - b) Lower this product onto the level surface.
 - c) Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
 - d) Disconnect the hydraulic fittings from your prime mover and reconnect those fittings to each other.

OPERATION

Hydraulic Snow Blower Operation

CAUTION!



Failure to obey the following procedures may result in personal injury.

- Avoid pinch points and be aware of rotating parts when manually turning fan or auger.

- e) The fan can then be manually turned in a reverse rotation, allowing the foreign object to be removed.
- f) Once the fan is free, reconnect the hydraulic fittings as per the instructions in the HYDRAULIC CONNECTION section of this manual.

General Storage:

Storage:

Clean the unit thoroughly, removing all snow, dirt and grease.
Inspect for visible signs of wear, breakage or damage. Order any parts required and make the necessary repairs to avoid delays upon removal from storage.
Tighten loose nuts, capscrews and hydraulic connections.
Coat exposed portions of the cylinder rods with grease.
Lubricate grease fittings.
Seal hydraulic system from contaminants and secure **all** hydraulic hoses off the ground to help prevent damage.
Store unit in a dry and protected place. Leaving the unit outside **will** materially shorten its life.

Additional Precautions for Long Term Storage:

Touch up all unpainted surfaces with paint to avoid rust.
Inflate tires to recommended tire pressure.
Fill fuel tank and hydraulic oil tank to maximum.
Check antifreeze properties and drain fluids as appropriate.

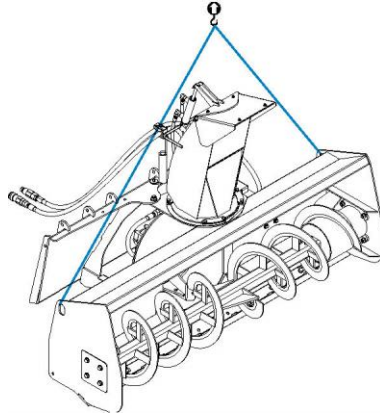
Removal from Storage:

Remove cover.
Wash unit and replace any damage and/or missing parts.
Lubricate grease fittings.
Check hydraulic hoses for damage and replace as necessary.

OPERATION

LIFT POINTS

Lifting points are identified by lifting decals where required. Lifting at other points is unsafe and can damage attachment. Do not attach lifting accessories around cylinders or in any way that may damage hoses or hydraulic components.



Attach lifting accessories to unit at recommended lifting points.
Bring lifting accessories together to a central lifting point.
Lift gradually, maintaining the equilibrium of the unit.

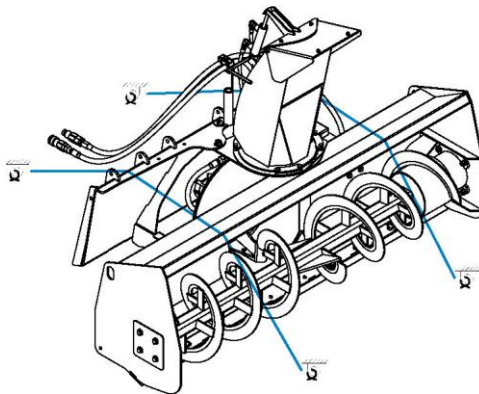
WARNING!



USE LIFTING ACCESSORIES (CHAINS, SLINGS, ROPES, SHACKLES AND ETC.) THAT ARE CAPABLE OF SUPPORTING THE SIZE AND WEIGHT OF YOUR ATTACHMENT. Secure all lifting accessories in such a way to prevent unintended disengagement. Failure to do so could result in the attachment falling and causing serious personal injury or death.

TIE DOWN POINTS

Tie down points are identified by tie down decals where required. Securing to trailer at other points is unsafe and can damage attachment. Do not attach tie down accessories around cylinders or in any way that may damage hoses or hydraulic components.



Attach tie down accessories to unit as recommended.
Check unit stability before transporting.

WARNING!

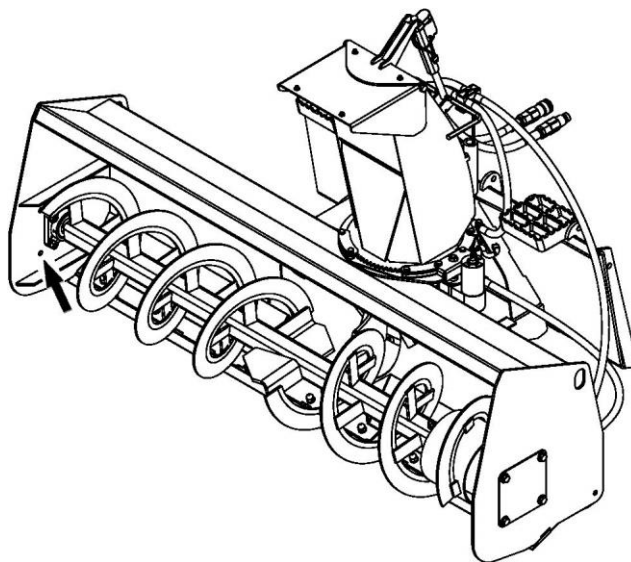
VERIFY THAT ALL TIE DOWN ACCESSORIES (CHAINS, SLINGS, ROPES, SHACKLES AND ETC.) ARE CAPABLE OF MAINTAINING ATTACHMENT STABILITY DURING TRANSPORTING and are attached in such a way to prevent unintended disengagement or shifting of the unit. Failure to do so could result in serious

MAINTENANCE

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.

Procedure	Before Each Use	Every 10 Hours
Check and tighten all hardware and fasteners	✓	
Tighten all hydraulic fittings and check for leaks	✓	
Check all safety decals that they are clean and legible	✓	
Replace any damaged and excessively worn parts	✓	
Make sure chute and deflector are not frozen	✓	
Grease all fittings as shown on parts illustration		✓



MAINTENANCE

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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.

REPLACING THE CUTTING EDGE

1. Park your prime mover on a level surface with this product properly attached.
2. Place your prime mover's transmission in "Park" and engage the parking brake.
3. Lower this product's skid shoes onto wood or steel blocking that is adequate to safely hold the base of the skid shoes 2.5" to 3" off the level surface.
4. Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
5. Remove all the acorn nuts, lock washers, and bolts except the one on each end of the cutting edge.
6. On one end of the cutting edge, remove the remaining acorn nut and lower the cutting edge to the work surface. Repeat for other end.
7. Properly dispose of the old cutting edge and install a new cutting edge by reversing the procedures in steps 6 and 5.

OTHER MAINTENANCE RECOMMENDATIONS

FOR ALL STANDARD FLOW MODELS:

Hydraulic Hose Connections: To make sure that the fan and auger motors' rotation is correct, the hose path must be: (a) from the prime mover to the top port of the fan motor, (b) from the bottom port of the fan motor to the top port of the auger motor, and (c) from the bottom port of the auger motor to the prime mover. (See PART ILLUSTRATION (Standard) section for the check valve location.)

TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Auger will not rotate	Hoses installed incorrectly	Switch quick coupler fittings
	Hydraulic valve on skid steer not engaged	See skid steer operator's manual for auxiliary operation procedure
	Worn, damaged, insufficient or inadequate pump	Repair or replace hydraulic pump
	Insufficient oil in system	Service the skid steer hydraulic reservoir, see skid steer operator's manual
	Hose ends not completely engaged	Check hose couplings and engage properly
	Air in hydraulic lines	Cycle skid steer auxiliary system several times to remove air from lines
	Obstruction in hydraulic lines	Replace obstructed or damaged line
Chute will not rotate/angle	Hydraulic valve on skid steer not engaged	See skid steer operator's manual for auxiliary hydraulic operation procedure
	Worn, damaged, insufficient or inadequate pump	Repair or replace hydraulic pump
	Insufficient oil in system	Service the skid steer hydraulic reservoir, see skid steer operator's manual
	Hose ends not completely engaged	Hose ends not completely engaged
	Air in hydraulic lines	Cycle skid steer auxiliary system several times to remove air from lines
	Obstruction in hydraulic lines	Replace obstructed or damaged line
	Electrical failure	See skid steer operator's manual
Oil leaks	Worn or damaged seal	Replace leaking seal
	Loose or damaged hoses	Replace damaged hoses and secure loose hoses
	Loose or damaged connections	Replace damaged hose connections and tighten loose fittings

PRODUCT SPECIFICATIONS PRIME

MOVER SPECIFICATIONS

NOTICE!

Exceeding any of the maximum recommended prime mover specifications CAN result in damage to this product and WILL void all SPARTAN warranties.

DESCRIPTION	SPECIFICATIONS		
	All Models Motor Kit (A)	All Models Motor Kit (C) (D) or (E)	All Models Motor Kit (F) (G) or (H)
Weight of Prime Mover without Snow Blower	8,000 lbs (3629 kg) maximum	11,000 lbs (4990 kg) maximum	11,000 lbs (4990 kg) maximum
Hydraulic Pressure Output	2,5000 psi (172 bar) maximum	3,000 psi (207 bar) maximum	3,500 psi (241 bar) maximum
Hydraulic Flow Output	13 gpm (49 lpm) maximum	(C) 15 gpm (57 lpm), (D) 21 gpm (80 lpm) or (E) 27 gpm (102 lpm) maximum	(F&G) 34 gpm (129 lpm) or (H) 42 gpm (159 lpm) maximum
Rear Ballast	As required to maintain full prime mover stability. (Note the Shipping Weight on the specifications page, then see the operator's manual(s) for your prime mover, loader, and quick-attach for ballasting needs.)		

NOTICE!

Make sure your prime mover is producing the manufacturer's specified hydraulic flow (gpm) and pressure (psi), especially for operation at high altitudes. Using prime movers with less than specified flow or pressure will cause your Snow Blower to perform in a substandard manner.

HYDRAULIC SNOW BLOWER SPECIFICATIONS

Model Number	Overall Width	Overall Height	Overall Depth	Cutting Width	Shipping Weight*
11048 (SF)	48 in (122 cm)	55.5 in (141 cm)	37 in (94 cm)	48 in (122 cm)	745 lbs (338 kg)
11060 (SF)	60 in (152 cm)	55.5 in (141 cm)	37 in (94 cm)	60 in (152 cm)	795 lbs (361 kg)
11072 (SF)	72 in (183 cm)	55.5 in (141 cm)	37 in (94 cm)	72 in (183 cm)	845 lbs (383 kg)
11078 (SF)	78 in (198 cm)	55.5 in (141 cm)	37 in (94 cm)	78 in (198 cm)	878 lbs (398 kg)
11084 (SF)	84 in (213 cm)	55.5 in (141 cm)	37 in (94 cm)	84 in (213 cm)	895 lbs (406 kg)
11072 (HF)	75 in (191 cm)	74 in (188 cm)	43 in (109 cm)	73.5 in (186.7 cm)	1150 lbs (522 kg)
11078 (HF)	81 in (206 cm)	74 in (188 cm)	43 in (109 cm)	79.5 in (202 cm)	1200 lbs (544 kg)
11084 (HF)	87 in (221 cm)	74 in (188 cm)	43 in (109 cm)	85.5 in (217 cm)	1240 lbs (563 kg)
11096 (HF)	99 in (252 cm)	74 in (188 cm)	43 in (109 cm)	97.5 in (247.7 cm)	1320 lbs (599 kg)

All replacement hydraulics must have a minimum rated working pressure of 3500 psi (241 bar).

*NOTE: Increase the shipping weight by 10 lbs (4.5 kg) if "E" motor is used, and decrease the shipping weight by 10 lbs (4.5 kg) if "F" motor is used.

BOLT TORQUE SPECIFICATIONS




5.

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	<p>GRADE 2</p>  <p>GRADE 5</p>  <p>GRADE 8</p> 
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	

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.

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 Spartan Equipment', 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 Spartan Equipment.

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 Spartan Equipment 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. Spartan Equipment 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 Spartan Equipment in writing within thirty (30) days from the date of repair.

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

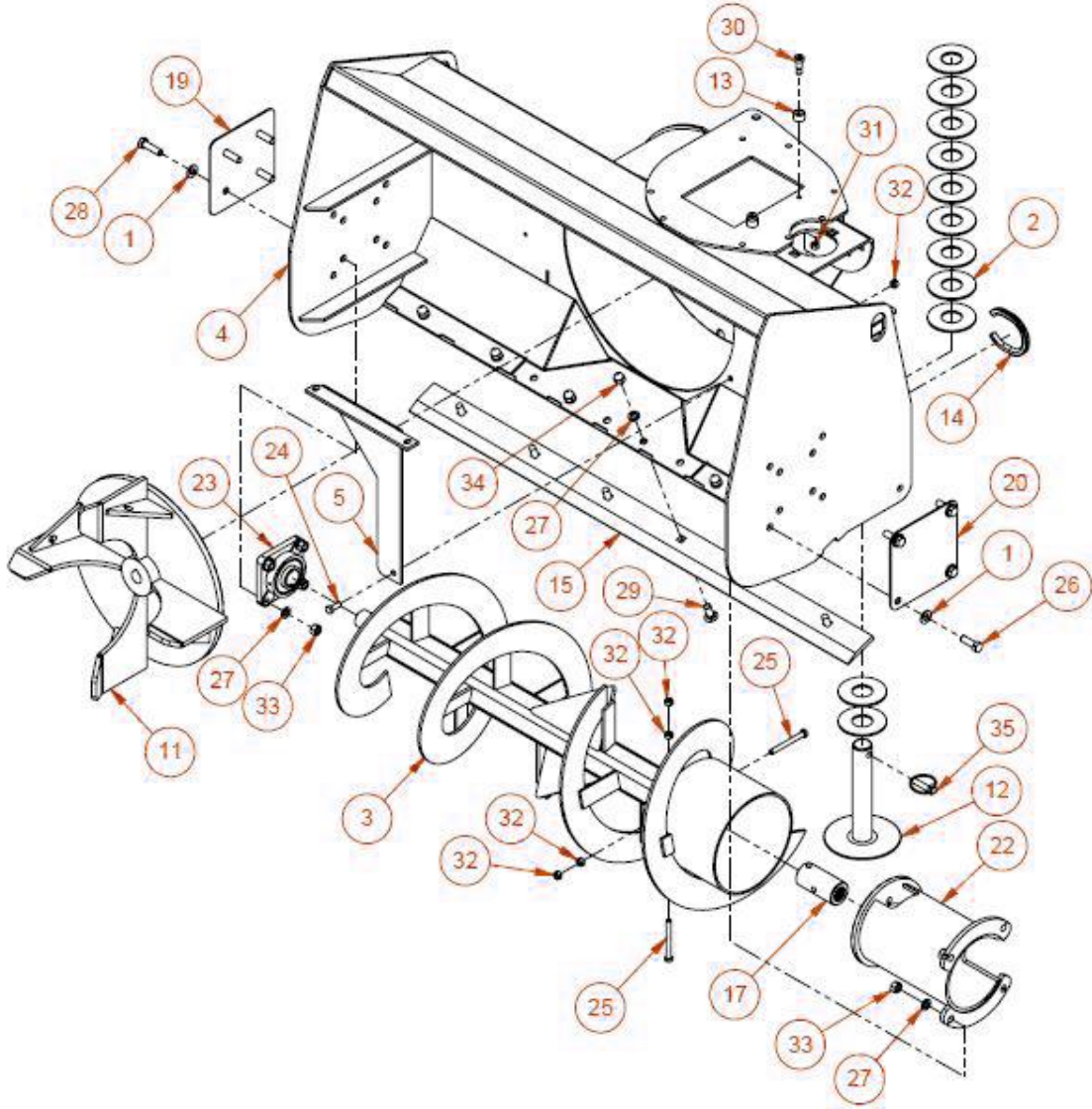
THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL SPARTAN EQUIPMENT BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

IN NO EVENT SHALL SPARTAN EQUIPMENT BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF SPARTAN EQUIPMENT, 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.

NOTES

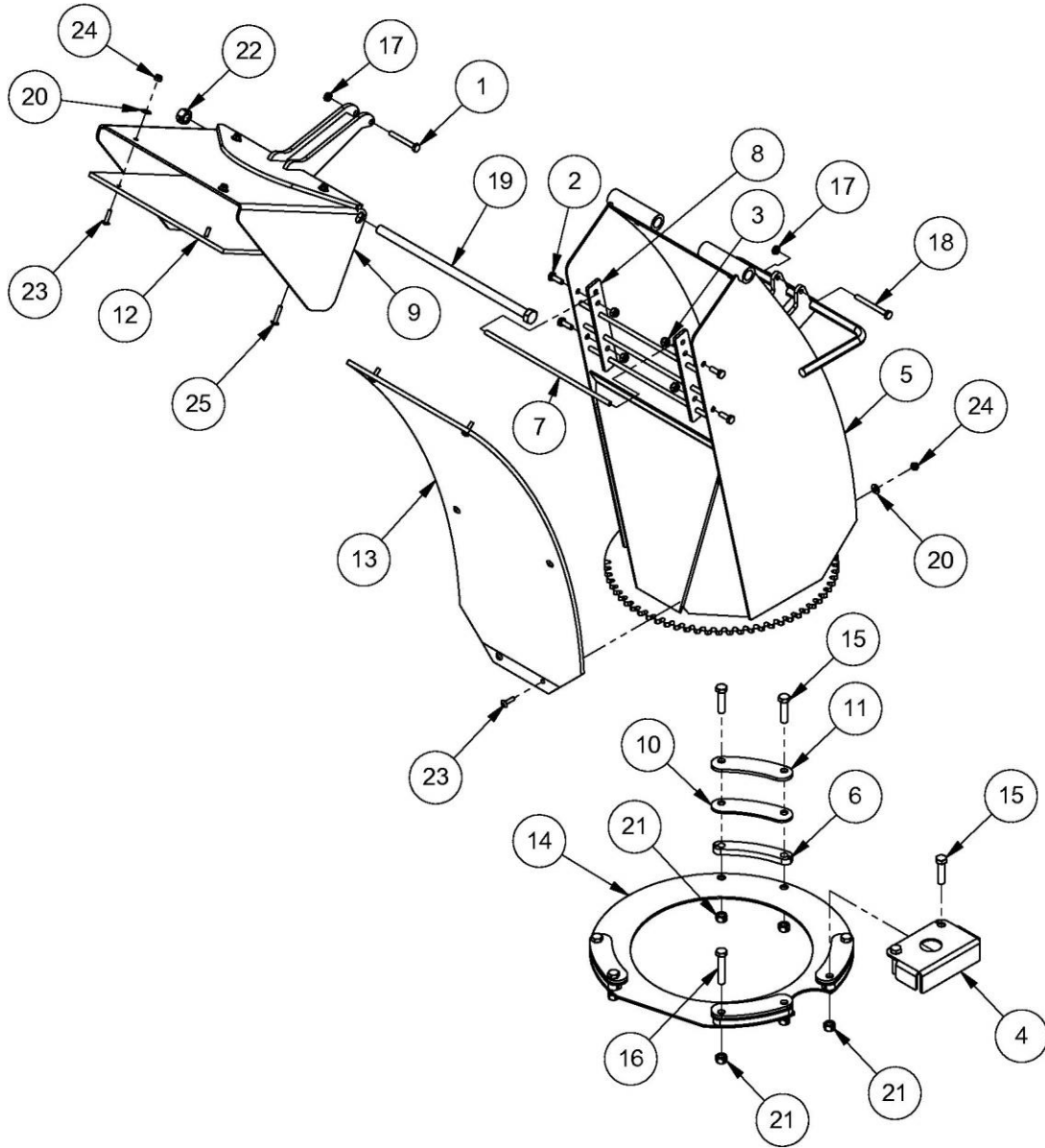
STANDARD FLOW HOUSING ASSEMBLY



STANDARD FLOW HOUSING ASSEMBLY

Item	Part	Qty	Description
1.	07-1763	8	Washer, Flat, 1/2 SAE, Gr8
2.	07-10126	22	Washer, Flat, 1 5/8 SAE, Gr5
3.	13-17276	1	Weld, Auger, Standard (48 inch)
	13-51790	1	Weld, Auger, Standard (60 inch)
	13-51789	1	Weld, Auger, Standard (72 inch)
	13-52905	1	Weld, Auger, Standard (78 inch)
	13-51791	1	Weld, Auger, Standard (84 inch)
4.	13-17290-48	1	Weld, Main Housing (48 inch)
	13-17290-60	1	Weld, Main Housing (60 inch)
	13-17290-72	1	Weld, Main Housing (72 inch)
	13-17290-78	1	Weld, Main Housing (78 inch)
	13-17290-84	1	Weld, Main Housing (84 inch)
5.	13-17302	1	Plate, 7ga x 2.5 x 14.63
11.	13-53311	1	Weld, Fan
12.	LAF1485	2	Weld, Skid Shoe
13.	LAF6505	2	Roller Sleeve
14.	LAF6517	1	Shroud Gasket Protector
15.	LAF6547	1	Edge (48 inch)
	LAF6560	1	Edge (60 inch)
	LAF6571	1	Edge (72 inch)
	13-52909	1	Edge (78 inch)
	LAF6583	1	Edge (84 inch)
17.	LAF6567	1	Rod, Auger Sleeve
19.	LAF6579	1	End, Plate Cap, for Bearing
20.	LAF6580	1	Plate, End Cap
22.	LAF6593	1	Weld, Motor Mount
23.	LAF6808	1	Flange Mount Bearing
24.	P100604	1	Bolt, Hex, 3/8-16 x 1, G r5
25.	P100614	2	Bolt, Hex, 3/8 x 3 1/2, Gr5
26.	P100806	4	Bolt, Hex, 1/2 x 1 1/2, Gr5
27.	P851108	14	Washer, Lock, 1/2 (48 inch)
	P851108	16	Washer, Lock, 1/2 (60 inch)
	P851108	17	Washer, Lock, 1/2 (72 inch)
	P851108	18	Washer, Lock, 1/2 (78 inch)
	P851108	19	Washer, Lock, 1/2 (84 inch)
28.	RHW1406	4	Screw, HHC , 1/2-13 x 1 3/4, Gr5
29.	RHW2404	6	Bolt, Carriage, 1/2-13 x 1 1/4, Gr5 (48 inch)
	RHW2404	8	Bolt, Carriage, 1/2-13 x 1 1/4, Gr5 (60 inch)
	RHW2404	9	Bolt, Carriage, 1/2-13 x 1 1/4, Gr5 (72 inch)
	RHW2404	10	Bolt, Carriage, 1/2-13 x 1 1/4, Gr5 (78 inch)
	RHW2404	11	Bolt, Carriage, 1/2-13 x 1 1/4, Gr5 (84 inch)
30.	RHW4105	2	Screw, Shoulder, Allen, 1/2 x 5/8
31.	RHW7201	2	Nut, Hex, 3/8, Gr5
32.	RHW7203	5	Nut, Lock, Center, .38-16, Gr5
33.	RHW7401	8	Nut, Hex, 1/2, Gr5
34.	RHW7408	6	Nut, Acorn, 1/2, Gr2 (48 inch)
	RHW7408	8	Nut, Acorn, 1/2, Gr2 (60 inch)
	RHW7408	9	Nut, Acorn, 1/2, Gr2 (72 inch)
	RHW7408	10	Nut, Acorn, 1/2, Gr2 (78 inch)
	RHW7408	11	Nut, Acorn, 1/2, Gr2 (84 inch)
35.	RHW8064	2	Pin, Lynch, .44-1.63, Large Ring

STANDARD FLOW CHUTE ASSEMBLY

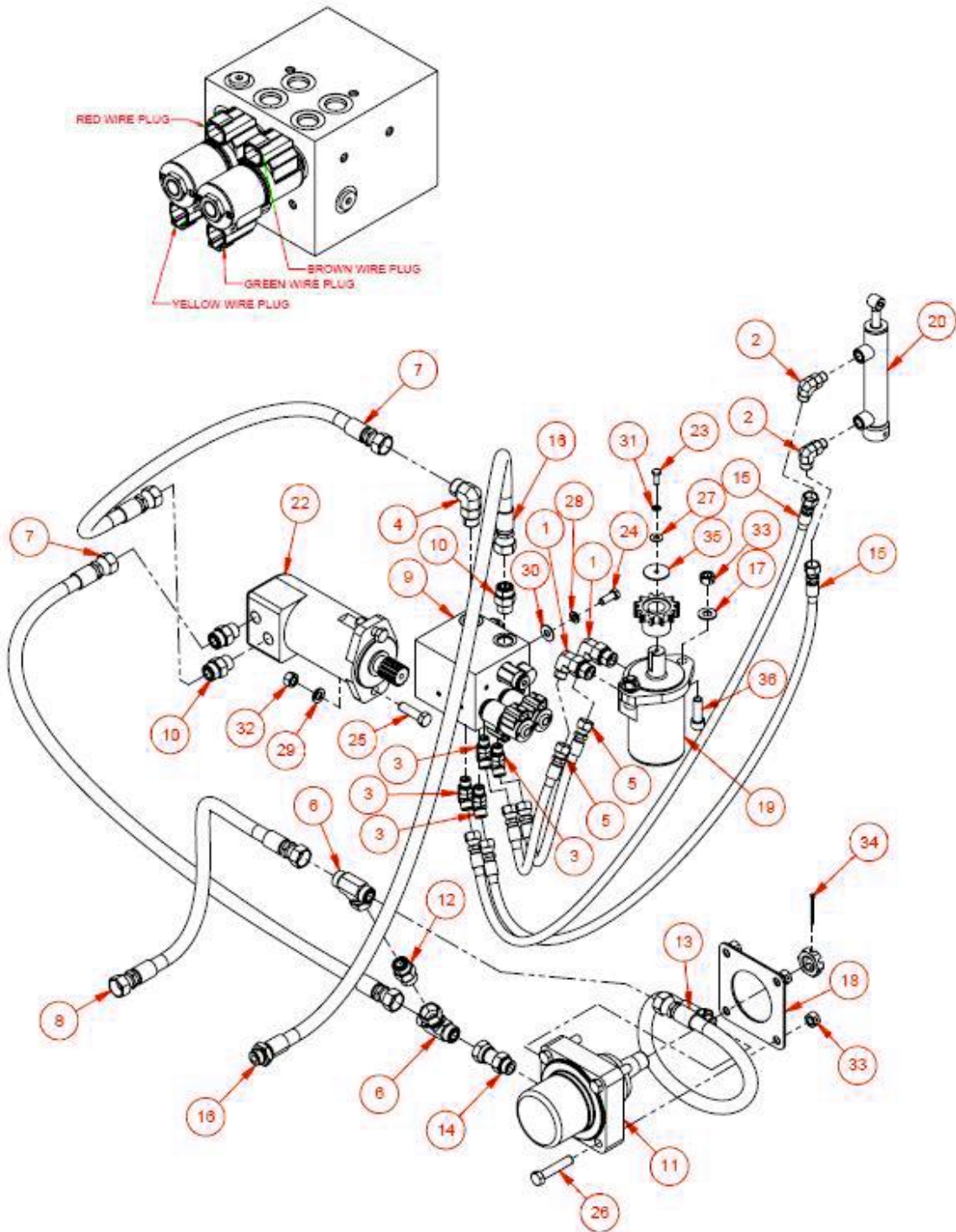


STANDARD FLOW CHUTE ASSEMBLY

Item	Part	Qty	Description
1.	07-3022	1	Screw, HHC, Gr8, 1/4-20 x 2
2.	07-3432	4	Screw, HHC, Gr8, 1/4-20 x 3/4
3.	07-4033	4	Nut, Hex, Nylock, Gr8, 1/4-20
4.	13-17292	1	Gear Cover
5.	13-17294	1	Weld, Chute
6.	13-17487	4	Plate, Chute, Spacer
7.	13-18453	4	Rod, .25 x 9.97
8.	13-18454	2	Plate, 7ga, Retaining, for Chute Rods
9.	13-51119	1	Weld, Deflector
10.	LAF6533	4	Poly, Rotation, Clip Pad
11.	LAF6543	4	Rotation Clip
12.	LAF6551	1	Plastic Deflector Liner
13.	LAF6598	1	Chute Back, Plastic Liner
14.	LAF6712	1	Chute Rotation Pad
15.	P100606	6	Bolt, Hex, Gr5, 3/8 x 1 1/2
16.	P100608	2	Bolt, Hex, Gr5, 3/8-16 x 2
17.	P158003	2	Nut, Elastic Lock, 1/4
18.	RHW1043	1	Screw, HHC, Gr5, 1/4-20 x 2 1/2
19.	RHW1430	1	Screw, HHC, Gr5, 1/2-13 x 12
20.	RHW5031	10	Washer, Flat, Gr2, .19
21.	RHW7203	8	Nut, Lock, Center, Gr5, .38-16
22.	RHW7403	1	Nut, Lock, Center, Gr5, .5
23.	RHW9001	8	Screw, Machine, Round Head, 10-24 x 3/4
24.	RHW9002	10	Nut, Nylock, Gr2, 10-24
25.	RHW9006	2	Screw, Machine, Round Head, 10-24 x 1

STANDARD HYDRAULIC COMPONENTS

48-60 inch
A,C,D,E Series



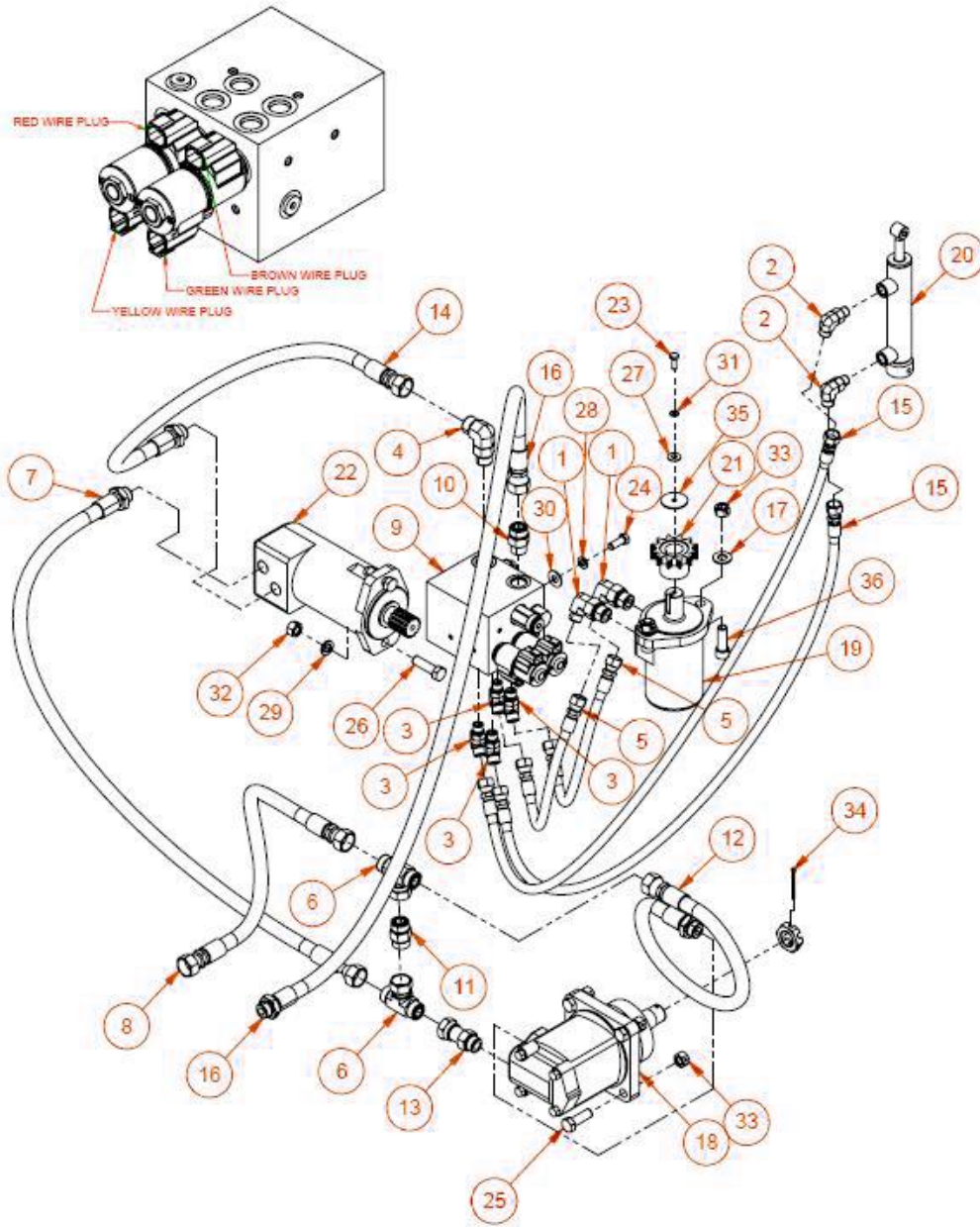
STANDARD HYDRAULIC COMPONENTS

48-60 inch A,C,D,E Series

Item	Part	Qty	Description
1.	03-1953	2	Elbow, 90°, 6MF-10MB
2.	03-2092	2	Elbow, 90°, 6MB-6MFS
3.	03-2115	4	Elbow, 45°, 6MB-6MF
4.	03-2126	1	Elbow, 90°, 10MB-10MF
5.	03-4316	2	Hose, .25 x 20, 6FFS-6FFS, 3K
6.	03-4372	2	Tee, 10MF-10MF-10FF
7.	03-5661	2	Hose, .5 x 36, 10FFS-10FFS, 3.5K
8.	03-5755	1	Hose, .5 x 100, 10FF-10FF, 4K
9.	03-5843	1	Manifold, 12 volt, 4gpm
10.	03-5901	3	Fitting, 10MB-10MF
11.	03-5902	1	Motor, 3.0 CID, 1.25TPR, 4-Bolt (A Series)
	03-10054	1	Motor, 4.0 CID, 1.25TPR, 4-Bolt (C Series)
	LAF4576	1	Motor, 4.9 CID, 1.25TPR, 4-Bolt (O Series)
	LAF4575	1	Motor, 6.2 CID, 1.25TPR, 4-Bolt (E Series)
12.	03-5907	1	Check Valve, Inline, 10MF-10MF, 120psi
13.	03-5908	1	Hose, .5 x 34, 10FF-10MB, 3K
14.	03-5909	1	Fitting, 10FFX-10MB
15.	03-10108	1	Hose, .25 x 50, 6FF-6FF, 100R2 (A Series)
	03-10108	2	Hose, .25 x 50, 6FF-6FF, 100R2 (C,D & E Series)
16.	03-10161	1	Hose, .50 x 88, 10FFS-10MB, 4K
17.	07-1763	2	Washer, Flat, Gr8, 1/2
18.	13-50523	1	Weld, C Wheel, Motor Conversion Kit (A & C Series)
19.	LAF4776	1	Motor, 4.5 CID, 2-Bolt
20.	LAF4779	1	Cylinder, 1 x .5 x 4, 1000psi
21.	LAF6587	1	Weld, Sprocket, Chute Rotation
22.	LAF9915	1	Motor, Drive (A,C & O Series)
	LAF4798	1	Motor, Drive (E Series)
23.	P100403	1	Screw, HHC, Gr5, 1/4-20 x 3/4
25.	P100604	4	Bolt, Hex, Gr5, 3/8-16 x 1
25.	P100807	2	Bolt, Hex, Gr5, 1/2-13 x 1 3/4
26.	P100810	4	Bolt, Hex, Gr5, 1/2 x 2 1/2 (A & C Series)
	P100806	4	Bolt, Hex, Gr5, 1/2 x 1 1/2 (O & E Series)
27.	P850104	1	Washer, Flat, Gr5, 1/4
28.	P851106	4	Washer, Lock, 3/8
29.	P851108	2	Washer, Lock, 1/2
30.	RHW5262	4	Washer, Flat, Gr5, 3/8
31.	RHW6002	1	Washer, Split, Lock, Gr5, 1/4
32.	RHW7401	2	Nut, Hex, Gr5, 1/2
33.	RHW7403	6	Nut, Lock, Center, Gr5, .5

STANDARD HYDRAULIC COMPONENTS

72-84 inch D
& E Series

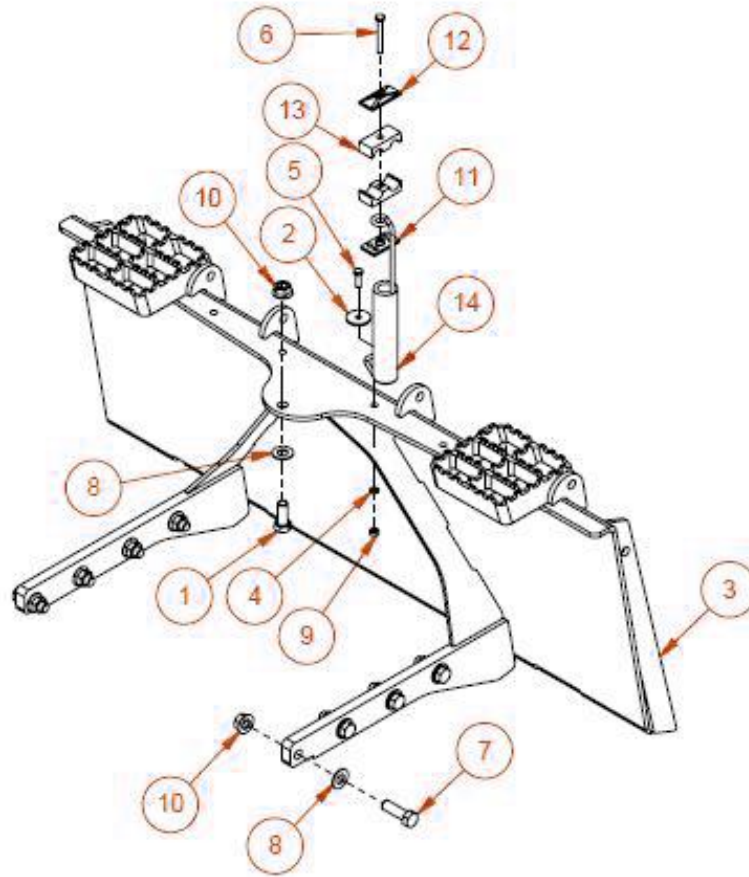


STANDARD HYDRAULIC COMPONENTS

72-84 inch D & E Series

Item	Part	Qty	Description
1.	03-1953	2	Elbow, 90°, 6MF-10MB
2.	03-2092	2	Elbow, 90°, 6MB-6MFS
3.	03-2115	4	Elbow, 45°, 6MB-6MF
4.	03-2126	1	Elbow, 90°, 10MB-10MF
5.	03-4316	2	Hose, .25 x 20, 6FFS-6FFS, 3K
6.	03-4372	2	Tee, 10MF-10MF-10FF
7.	03-5256	1	Hose, .5 x 51, 10MB-10FFSSLG, 3.5K
8.	03-5755	1	Hose, .5 x 100, 10FF-10FF, 4K
9.	03-5843	1	Manifold, 12 volt, 4gpm
10.	03-5901	1	Fitting, 10MB-10MF
11.	03-5907	1	Check Valve, Inline, 10MF-10MF, 120psi
12.	03-5908	1	Hose, .5 x 34, 10FF-10MB, 3K
13.	03-5909	1	Fitting, 10FFX-10MB
14.	03-5910	1	Hose, .5 x 48, 10FF-10MB, 3K
15.	03-10108	2	Hose, .25 x 50, 6FF-6FF, 100R2
16.	03-10161	1	Hose, .50 x 88, 10FFS-10MB, 4K
17.	07-1763	2	Washer, Flat, Gr8, 1/2
18.	LAF4576	1	Motor, 4.9 CIO, 1.25TPR, 4-Bolt (O Series)
	LAF4575	1	Motor, 6.2 CIO, 1.25TPR, 4-Bolt (E Series)
19.	LAF4776	1	Motor, 4.5 CIO, 2-Bolt
20.	LAF4779	1	Cylinder, 1 x .5 x 4, 1000psi
21.	LAF6587	1	Weld, Sprocket, Chute Rotation
22.	LAF9915	1	Motor, Drive (O Series)
	LAF4798	1	Motor, 24 CIO 1.25 TPR, 2-Bolt (E Series)
23.	P100403	1	Screw, HHC, Gr5, 1/4-20 x 3/4
25.	P100604	4	Bolt, Hex, Gr5, 3/8-16 x 1
25.	P100806	4	Bolt, Hex, Gr5, 1/2 x 1 1/2
26.	P100807	2	Bolt, Hex, Gr5, 1/2-13 x 1 3/4
27.	P850104	1	Washer, Flat, Gr5, 1/4
28.	P851106	4	Washer, Lock, 3/8
29.	P851108	2	Washer, Lock, 1/2
30.	RHW5262	4	Washer, Flat, Gr5, 3/8
31.	RHW6002	1	Washer, Split, Lock, Gr5, 1/4
32.	RHW7401	2	Nut, Hex, Gr5, 1/2
33.	RHW7403	6	Nut, Lock, Center, Gr5, .5
34.	RHW8012	1	Pin, Cotter, Gr2, .13-2
35.	RHW8117	1	Washer, Fender, Gr2, .25
36.	RHW8236	2	Screw, Alan, Cap, 1/2-13 x 1 1/2

STANDARD MOUNTING ASSEMBLY

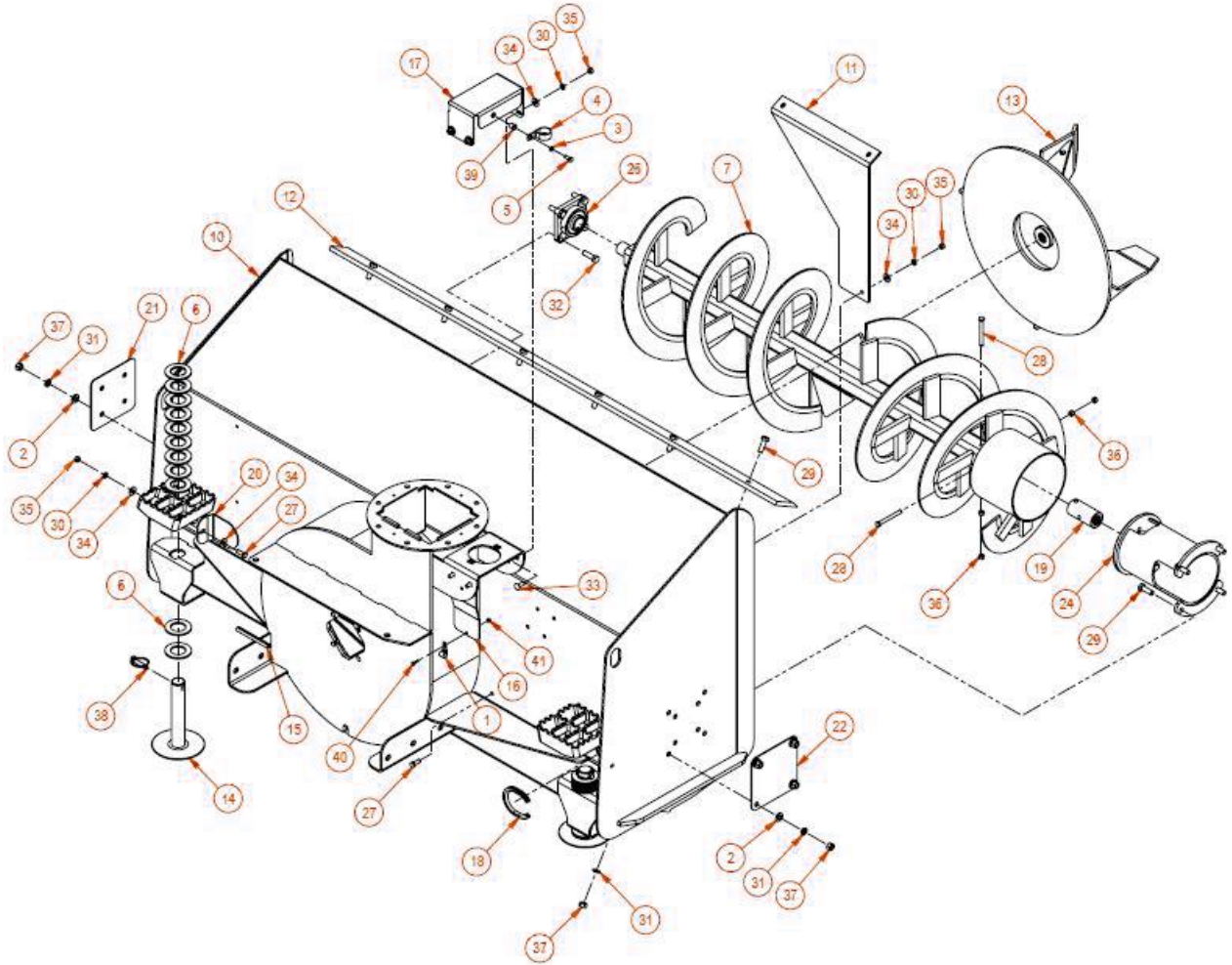


Item	Part	Qty	Description
1.	07-7714		Screw, HHC , Gr5, 5/8-11 x 1 1/2
2.	105840		Washer, Fender, .34 x 1.5 x 10ga
3.	LAF6535		Weld, Back Plate (Contact Dealer for Correct Model)
4.	P851105		Washer, Lock, 5/16
5.	RHW1105		Screw, HHC , Gr5, 5/16-18 x 1
6.	RHW1112	1	Screw, HHC , Gr5, 5/16-18 x 2.5
7.	RHW1604	8	Screw, HHC , Gr5, 5/8-11 x 2
8.	RHW5632	9	Washer, Flat, Gr5, 5/8
9.	RHW7101	1	Nut, Hex, Gr5, 5/16
10.	RHW7607	9	Nut, Top Lock, Flange, Gr8, .63-11
11.	RHW8613		Weld, Plate
12.	RHW8614		Cover, Plate
13.	RHW8616		Hose Cradle
14.	RHW8618		Hose, Spring Stay

NOTES

HIGH FLOW HOUSING ASSEMBLY

Single Motor



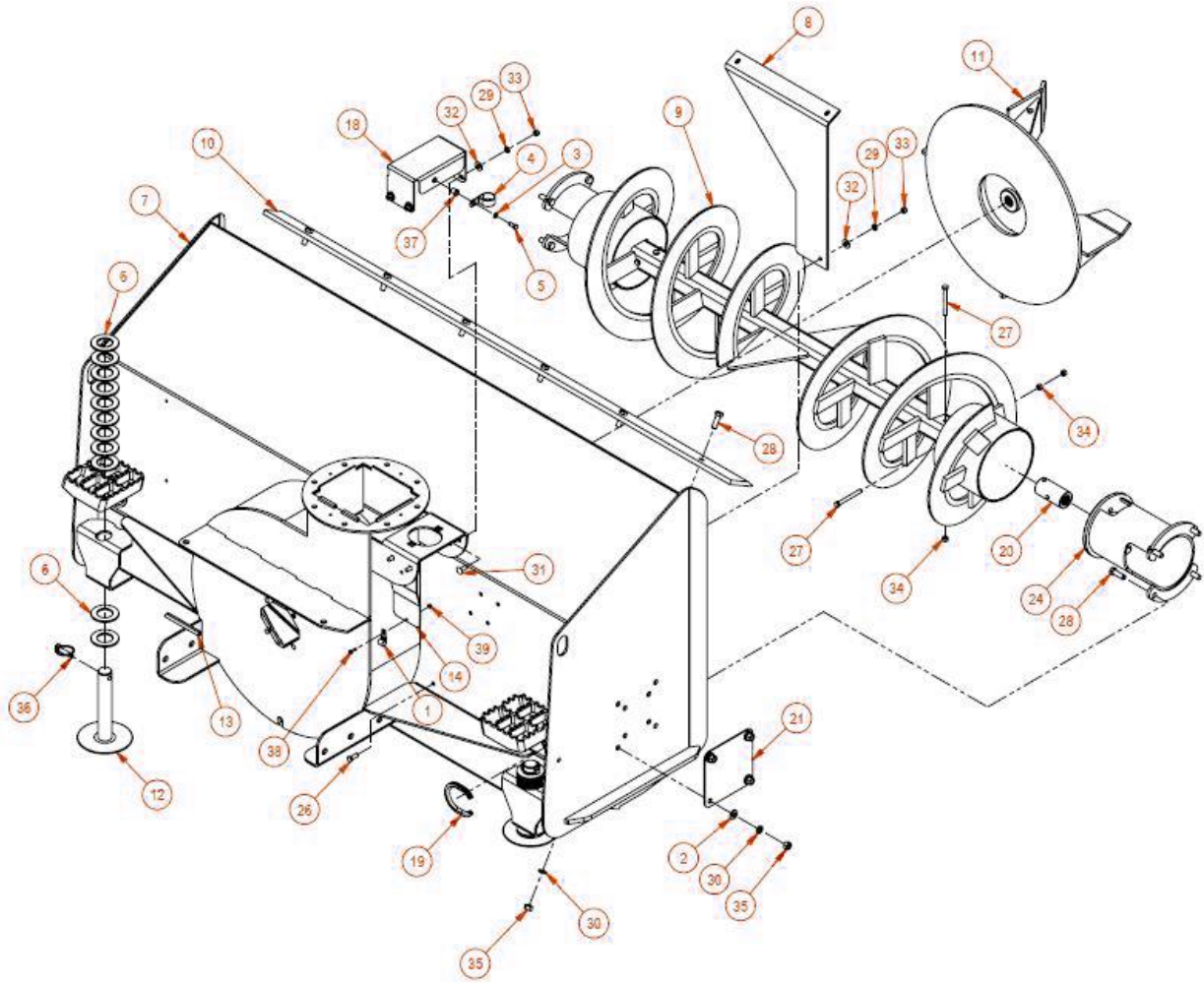
HIGH FLOW HOUSING ASSEMBLY

Single Motor

Item	Part	Qty	Description
1.	07-1177	1	Clamp, Rubber Coat, 1/2 x 3/4
2.	07-1763	8	Washer, Flat, Gr8, 1/2
3.	07-3273	1	Washer, Lock, Split, Medium, 5/16
4.	07-3298	1	Clamp, Rubber Coat, 1 1/2 x 3/4
5.	07-3436	1	Screw, HHC , Gr8, 5/16-18 x 3/4
6.	07-10126	22	Washer, Flat, Gr5, 1.63
7.	13-17284	1	Weld, Auger (72 inch)
	13-17285	1	Weld, Auger (78 inch)
	13-17286	1	Weld, Auger (84 inch)
10.	13-17324-72	1	Weld, Main Housing (72 inch)
	13-17324-78	1	Weld, Main Housing (78 inch)
	13-17324-84	1	Weld, Main Housing (84 inch)
11.	13-17327	1	Plate, Fan, Cover
12.	LAF6595	1	Edge (72 inch)
	13-52913	1	Edge (78 inch)
	LAF6590	1	Edge (84 inch)
13.	13-53347	1	Weld, Fan
14.	LAF1485	2	Weld, Skid Shoe
15.	LAF3412	1	Hose Guard, 5 inch
16.	LAF6508	1	Plate, Chute, Motor Guard
17.	LAF6516	1	Plate, Chute, Motor Guard
18.	LAF6517		Shroud, Gasket Protector
19.	LAF6527		Weld, Deflector
20.	LAF6570		Cover, Single Motor
21.	LAF6579		End, Plate Cap, for Bearing
22.	LAF6580		Plate, End Cap
24.	LAF6593	1	Weld, Motor Mount
26.	LAF6808	1	Flange Mount Bearing
27.	P100604	4	Bolt, Hex, Gr5, 3/8-16 x 1
28.	P100614	2	Bolt, Hex, Gr5, 3/8 x 3 1/2
29.	P100806	10	Bolt, Hex, Gr5, 1/2 x 1 1/2 (72 inch)
	P100806	11	Bolt, Hex, Gr5, 1/2 x 1 1/2 (78,84 inch)
30.	P851106	8	Washer, Lock, 3/8
31.	P851108	14	Washer, Lock, 1/2 (72 inch)
	P851108	15	Washer, Lock, 1/2 (78,84 inch)
32.	RHW1406	4	Screw, HHC , Gr5, 1/2-13 x 1 3/4
33.	RHW2205	4	Bolt, Carriage, Gr5, 3/8-16 x 1
34.	RHW5262	9	Washer, Flat, Gr5, 3/8
35.	RHW7201	8	Nut, Hex, Gr5, 3/8
36.	RHW7203	4	Nut, Lock, Center, Gr5, .38-16
37.	RHW7401	14	Nut, Hex, Gr5, 1/2 (72 inch)
	RHW7401	15	Nut, Hex, Gr5, 1/2 (78,84 inch)
38.	RHW8064	2	Pin, Lynch, .44-1.63, Large Ring
39.	RHW8645	1	Nut, Rivet, .027-015 Grip
40.	RHW9001	1	Screw, 10-24 x 3/4
41.	RHW9002	1	Nut, Nylock, Gr2, .19, 10-24

HIGH FLOW HOUSING ASSEMBLY

Dual Motor

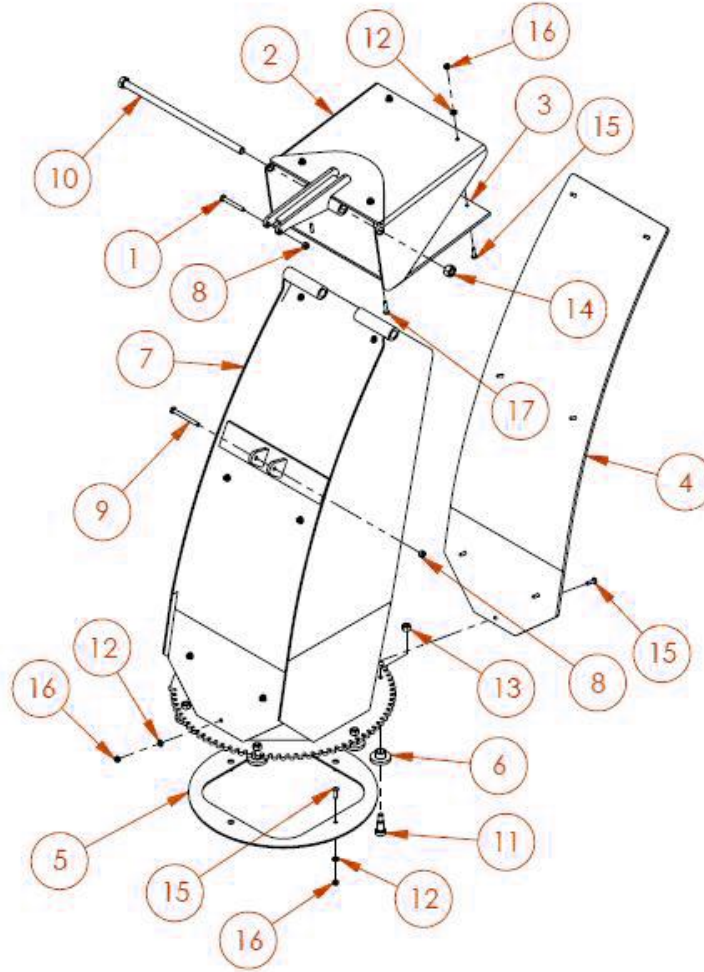


HIGH FLOW HOUSING ASSEMBLY

Dual Motor

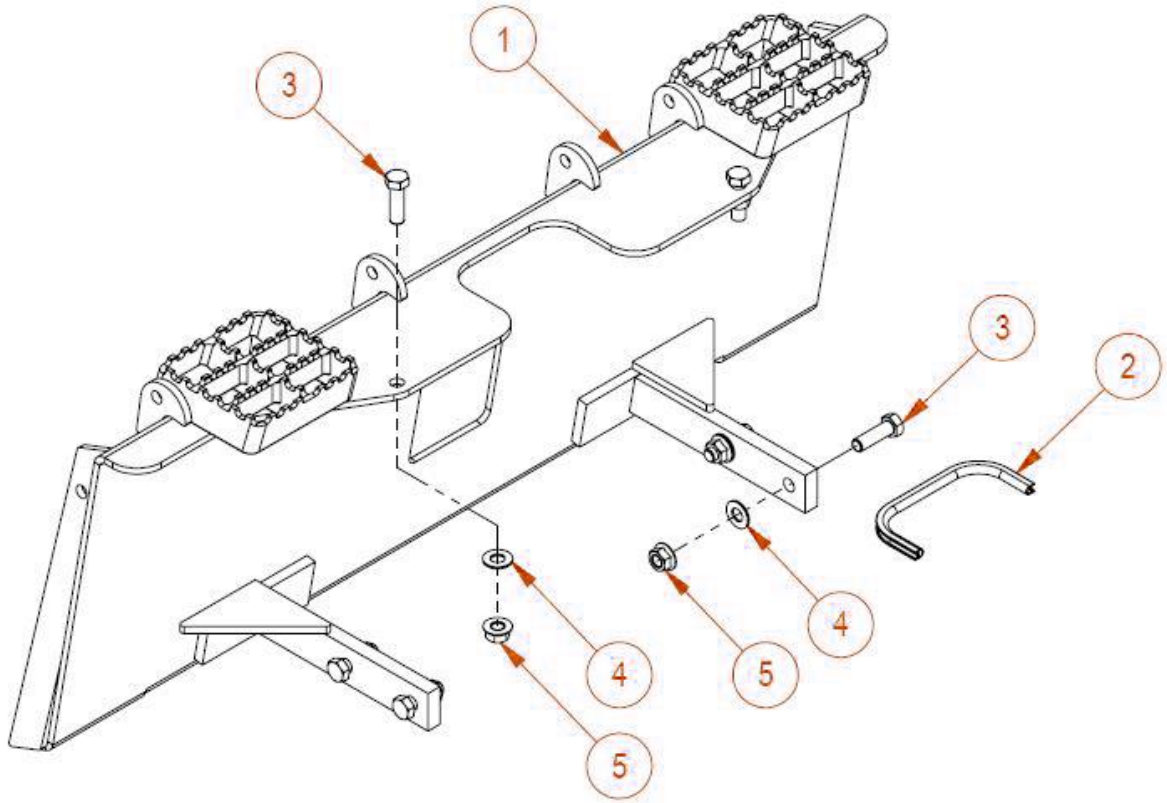
Item	Part	Qty	Description
1.	07-1177	1	Clamp, Rubber Coat, 1/2 x 3/4
2.	07-1763	8	Washer, Flat, Gr8, 1/2
3.	07-3273	1	Washer, Lock, Split, Medium, 5/16
4.	07-3298	1	Clamp, Rubber Coat, 1 1/2 x 3/4
5.	07-3436	1	Screw, HHC , Gr8, 5/16-18 x 3/4
6.	07-10126	22	Washer, Flat, Gr5, 1.63
7.	13-17324-72	1	Weld, Main Housing (72 inch)
	13-17324-78	1	Weld, Main Housing (78 inch)
	13-17324-84	1	Weld, Main Housing (84 inch)
	13-17324-96	1	Weld, Main Housing (96 inch)
8.	13-17327	1	Plate, Fan, Cover
9.	LAF6510	1	Weld, Auger (72 inch)
	13-52893	1	Weld, Auger (78 inch)
	LAF6512	1	Weld, Auger (84 inch)
	LAF6514	1	Weld, Auger (96 inch)
10.	LAF6595	1	Edge (72 inch)
	13-52913	1	Edge (78 inch)
	LAF6590	1	Edge (84 inch)
	LAF6591	1	Edge (96 inch)
11.	13-53347	1	Weld, Fan
12.	LAF1485	2	Weld, Skid Shoe
13.	LAF3412	1	Hose Guard, 5 inch
14.	LAF6508	1	Plate, Chute, Motor Guard
18.	LAF6516	1	Plate, Chute, Motor Guard
19.	LAF6517	2	Shroud, Gasket Protector
20.	LAF6567	2	Rod, Auger Sleeve
21.	LAF6580	2	Plate, End Cap
24.	LAF6593	2	Weld, Motor Mount
26.	P100604	3	Bolt, Hex, Gr5, 3/8-16 x 1
27.	P100614	4	Bolt, Hex, Gr5, 3/8 x 3 1/2
28.	P100806	14	Bolt, Hex, Gr5, 1/2 x 1 1/2 (72 inch)
	P100806	15	Bolt, Hex, Gr5, 1/2 x 1 1/2 (78,84 inch)
	P100806	16	Bolt, Hex, Gr5, 1/2 x 1 1/2 (96 inch)
29.	P851106	7	Washer, Lock, 3/8
30.	P851108	14	Washer, Lock, 1/2 (72 inch)
	P851108	15	Washer, Lock, 1/2 (78,84 inch)
	P851108	16	Washer, Lock, 1/2 (96 inch)
31.	RHW2205	4	Bolt, Carriage, Gr5, 3/8-16 x 1
32.	RHW5262	7	Washer, Flat, Gr5, 3/8
33.	RHW7201	7	Nut, Hex, Gr5, 3/8
34.	RHW7203	8	Nut, Lock, Center, Gr5, .38-16
35.	RHW7401	14	Nut, Hex, Gr5, 1/2 (72 inch)
	RHW7401	15	Nut, Hex, Gr5, 1/2 (78,84 inch)
	RHW7401	16	Nut, Hex, Gr5, 1/2 (96 inch)
36.	RHW8064	2	Pin, Lynch, .44-1.63, Large Ring
37.	RHW8645		Nut, Rivet, .027-015 Grip
38.	RHW9001		Screw, 10-24 x 3/4
39.	RHW9002		Nut, Nylock, Gr2, .19, 10-24

HIGH FLOW CHUTE ASSEMBLY



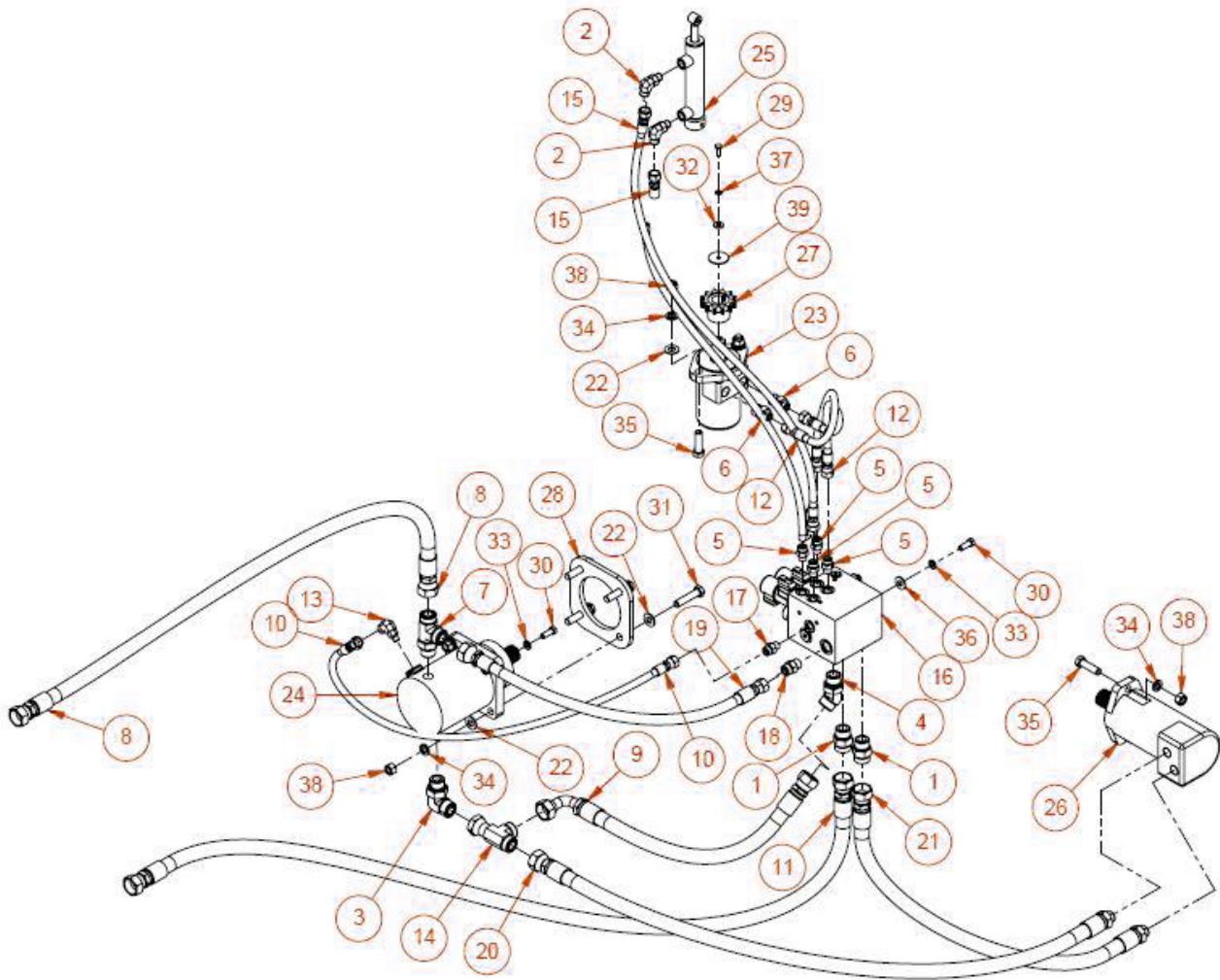
Item	Part	Qty	Description
1.	07-3022		Screw, HHC , Gr8, 1/4-20 x 2
2.	LAF6527		Weld, Deflector
3.	LAF6551		Plastic Deflector Liner
4.	LAF6565		Liner, Chute, Plastic
5.	LAF6566		Chute Rotation Pad
6.	LAF6568	6	Rod, 1.5 x .69, Chute Retainer
7.	LAF6599	1	Weld, Chute
8.	P158003	2	Nut, Elastic Lock, 1/4
9.	RHW1043	1	Screw, HHC , Gr5, 1/4-20 x 2 1/2
10.	RHW1430	1	Screw, HHC , Gr5, 1/2-13 x 12
11.	RHW4106	6	Screw, Alan, Shoulder, .5-.63 with .38-16 x .63
12.	RHW5031	15	Washer, Flat, Gr2, .19
13.	RHW7203	6	Nut, Lock, Center, Gr5, .38-16
14.	RHW7403	1	Nut, Lock, Center, Gr5, .5
15.	RHW9001	13	Screw, Machine, Round Head, 10-24 x 3/4
16.	RHW9002	15	Nut, Nylock, Gr2, 10-24
17.	RHW9006	2	Screw, Machine, Round Head, 10-24 x 1

HIGH FLOW MOUNTING ASSEMBLY



Item Part	Qty	Description
1.LAF6594	1	Weld, Back Plate (Contact Dealer for Correct Model)
2.LAF1421	1	Gasket, Hose Hole
3.RHW1604	6	Screw, HHC, Gr5, 5/8-11 x 2
4.RHW5632	6	Washer, Flat, Gr5, 5/8
5.RHW7607	6	Nut, Top Lock, Flange, Gr8, .63-11

HIGH FLOW HYDRAULIC COMPONENTS F Series

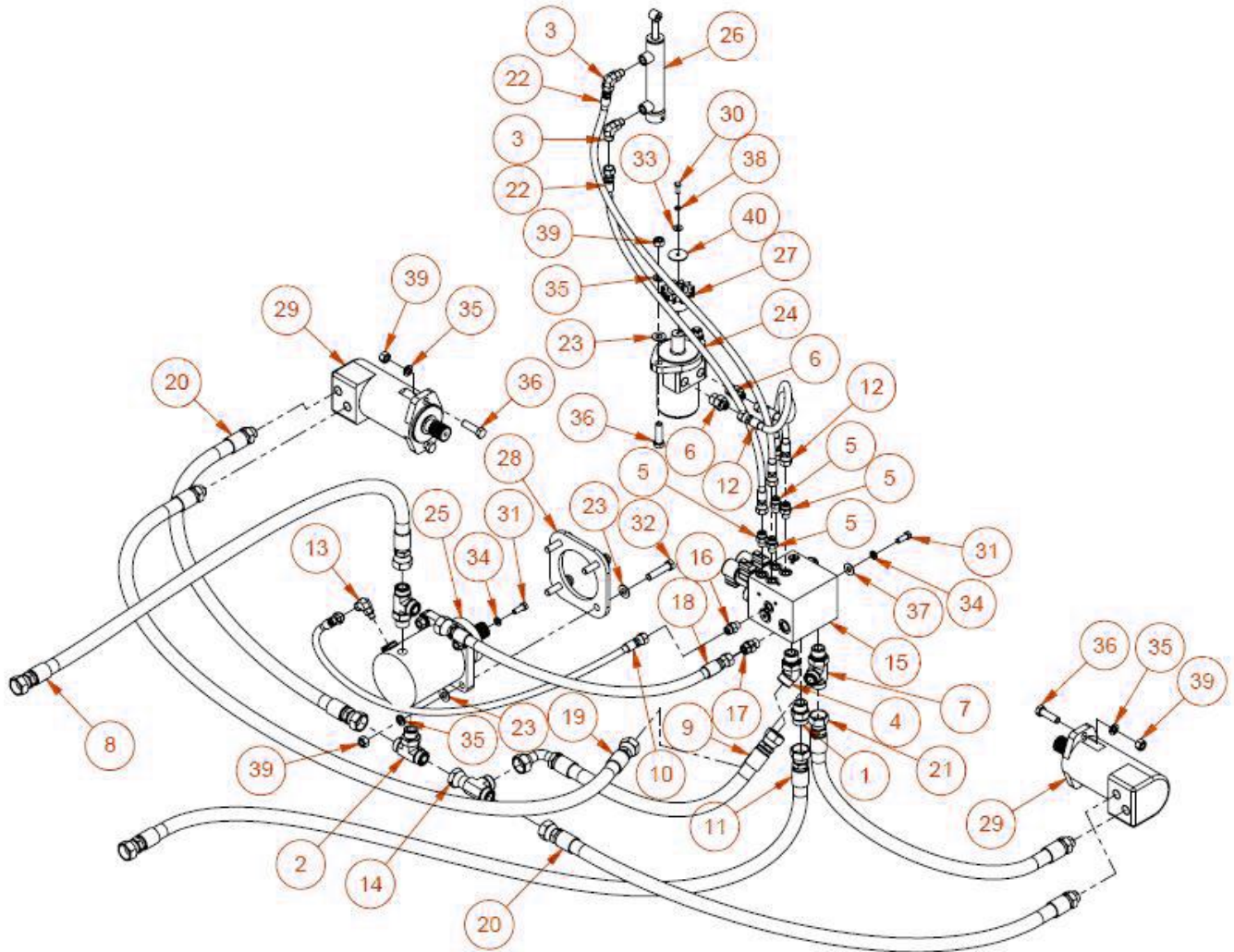


HIGH FLOW HYDRAULIC COMPONENTS

F Series

Item	Part	Qty	Description
1.	03-1945	2	Fitting, 12MB-12MFS
2.	03-2092	2	Elbow, 90°, 6MB-6MFS
3.	03-2177	1	Elbow, 90°, 12MB-12MFS
4.	03-2182	1	Elbow, 45°, 12MB-12MFS
5.	03-2291	4	Fitting, 6MB-6MFS
6.	03-2564	2	Fitting, 6MF-10MB
7.	03-3135	1	Tee, 12MB-12MF-12MF
8.	03-6343	1	Hose, .75 x 80, 12FF-12FF, 4K
9.	03-3390	1	Hose, .75 x 30, 12FF-12FF90, 100R17
10.	03-3900	1	Hose, .25 x 36, 6FF-6FF, 3K
11.	03-4101	1	Hose, .75 x 142, 12FF-12FF, 3K
12.	03-4316	2	Hose, .25 x 20, 6FFS-6FFS, 3K
13.	03-4589	1	Elbow, 90°, 4MB-6MF
14.	03-4637	1	Tee, 12FF-12MF-12MF
15.	03-5333	2	Hose, .25 x 57, 6FF-6FF, 3K (72,78 inch)
	03-10108	2	Hose, .25 x 50, 6FF-6FF, 100R2 (84,96 inch)
16.	03-5894		Manifold, 4gpm, 12 volt
17.	03-5904		Check Valve, Inline, 6MB-6MF, 5psi
18.	03-5905		Check Valve, Inline, 8MF-8MB, 120psi
19.	03-6345		Hose, .5 x 36, 8FF-12FF, 4K
20.	03-5912		Hose, .75 x 56, 10MB-12FF, 3K (72,78 inch)
	03-5915		Hose, .75 x 60, 10MB-12FF, 3K (84,96 inch)
21.	03-5913	1	Hose, .75 x 32, 10MB-12FF, 3K (72,78 inch)
	03-5914	1	Hose, .75 x 37, 10MB-12FF, 3K (84,96 inch)
22.	07-1763	10	Washer, Flat, Gr8, 1/2
23.	LAF4776	1	Motor, 4.5 CIO, 2-Bolt
24.	LAF4777	1	Motor, Wheel, 9.6, 2K, 4-Bolt
25.	LAF4779	1	Cylinder, 1 x .5 x 4, 1000psi
26.	LAF4798	1	Motor, 24 CIO, 1.25, 2-Bolt
27.	LAF6587	1	Weld, Sprocket, Chute Rotation
28.	LAF6588	1	Plate, .38, Motor Mount
29.	P100403	1	Screw, HHC, Gr5, 1/4-20 x 3/4
30.	P100604	5	Bolt, Hex, Gr5, 3/8-16 x 1
31.	P100809	4	Screw, HHC, Gr5, 1/2-13 x 2.25
32.	P850104	1	Washer, Flat, Gr5, 1/4
33.	P851106	5	Washer, Lock, 3/8
34.	P851108	8	Washer, Lock, 1/2
35.	RHW1406	4	Screw, HHC, Gr5, 1/2-13 x 1 3/4
36.	RHW5262	4	Washer, Flat, Gr5, 3/8
37.	RHW6002	1	Washer, Split, Lock, Gr5, 1/4
38.	RHW7401	8	Nut, Hex, Gr5, 1/2
39.	RHW8117	1	Washer, Fender. Gr2, .25

HIGH FLOW HYDRAULIC COMPONENTS G Series



HIGH FLOW HYDRAULIC COMPONENTS

G Series

Item	Part	Qty	Description
1.	03-1945	1	Fitting, 12MB-12MFS
2.	03-1950	1	Tee, 12MF-12MF-12MB
3.	03-2092	2	Elbow, 90°, 6MB-6MFS
4.	03-2182	1	Elbow, 45°, 12MB-12MFS
5.	03-2291	4	Fitting, 6MB-6MFS
6.	03-2564	2	Fitting, 6MF-10MB
7.	03-3135	2	Tee, 12MB-12MF-12MF
8.	03-6343	1	Hose, .75 x 80, 12FF-12FF, 4K
9.	03-3390	1	Hose, .75 x 30, 12FF-12FF90, 100R17
10.	03-3900	1	Hose, .25 x 36, 6FF-6FF, 3K
11.	03-4101	1	Hose, .75 x 142, 12FF-12FF, 3K
12.	03-4316	2	Hose, .25 x 20, 6FFS-6FFS, 3K
13.	03-4589	1	Elbow, 90°, 4MB-6MF
14.	03-4637	1	Tee, 12FF-12MF-12MF
15.	03-5894	1	Manifold, 4gpm, 12 volt
16.	03-5904	1	Check Valve, Inline, 6MB-6MF, 5psi
17.	03-5905	1	Check Valve, Inline, 8MF-8MB, 120psi
18.	03-6345	1	Hose, .5 x 36, 8FF-12FF, 4K
19.	03-5911	1	Hose, .75 x 78, 10MB-12FF, 3K (72,78 inch)
	03-5916	1	Hose, .75 x 90, 10MB-12FF, 3K (84,96 inch)
20.	03-5912	2	Hose, .75 x 56, 10MB-12FF, 3K (72,78 inch)
	03-5915	2	Hose, .75 x 60, 10MB-12FF, 3K (84,96 inch)
21.	03-5913	1	Hose, .75 x 32, 10MB-12FF, 3K (72,78 inch)
	03-5914	1	Hose, .75 x 37, 10MB-12FF, 3K (84,96 inch)
22.	03-10108	2	Hose, .25 x 50, 6FF-6FF, 100R2 (72,78 inch)
23.	07-1763	10	Washer, Flat, Gr8, 1/2
24.	LAF4776	1	Motor, 4.5 CID, 2-Bolt
25.	LAF4777	1	Motor, Wheel, 9.6, 2K, 4-Bolt
26.	LAF4779	1	Cylinder, 1 x .5 x 4, 1000psi
27.	LAF6587	1	Weld, Sprocket, Chute Rotation
28.	LAF6588	1	Plate, .38, Motor Mount
29.	LAF9915	2	Motor Drive
30.	P100403	1	Screw, HHC, Gr5, 1/4-20 x 3/4
31.	P100604	5	Bolt, Hex, Gr5, 3/8-16 x 1
32.	P100809	4	Screw, HHC, Gr5, 1/2-13 x 2.25
33.	P850104	1	Washer, Flat, Gr5, 1/4
34.	P851106	5	Washer, Lock, 3/8
35.	P851108	10	Washer, Lock, 1/2
36.	RHW1406	6	Screw, HHC, Gr5, 1/2-13 x 1 3/4
37.	RHW5262	4	Washer, Flat, Gr5, 3/8
38.	RHW6002	1	Washer, Split, Lock, Gr5, 1/4
39.	RHW7401	10	Nut, Hex, Gr5, 1/2
40.	RHW8117	1	Washer, Fender. Gr2, .25

HIGH FLOW HYDRAULIC COMPONENTS

H Series



HIGH FLOW HYDRAULIC COMPONENTS

H Series

Item	Part	Qty	Description
1.	03-1945	2	Fitting, 12MB-12MFS
2.	03-2092	2	Elbow, 90°, 6MB-6MFS
3.	03-2182	2	Elbow, 45°, 12MB-12MFS
4.	03-2291	4	Fitting, 6MB-6MFS
5.	03-2564	2	Fitting, 6MF-10MB
6.	03-3135		Tee, 12MB-12MF-12MF
7.	03-6343		Hose, .75 x 80, 12FF-12FF, 4K
8.	03-3390		Hose, .75 x 30, 12FF-12FF90, 100R17
9.	03-3689		Elbow, 90°, 6FF-6MF
10.	03-3900		Hose, .25 x 36, 6FF-6FF, 3K
11.	03-4101	1	Hose, .75 x 142, 12FF-12FF, 3K
12.	03-4316	2	Hose, .25 x 20, 6FFS-6FFS, 3K
13.	03-4368	2	Tee, 12MF-12MF-12FF
14.	03-4431	1	Fitting, 4MB-6MF
15.	03-4637	1	Tee, 12FF-12MF-12MF
16.	03-5894	1	Manifold, 4gpm, 12 volt
17.	03-5904	1	Check Valve, Inline, 6MB-6MF, 5psi
18.	03-5905	1	Check Valve, Inline, 8MF-8MB, 120psi
19.	03-5911	1	Hose, .75 x 78, 10MB-12FF, 3K (72,78 inch)
	03-5916	1	Hose, .75 x 90, 10MB-12FF, 3K (84,96 inch)
20.	03-5912	2	Hose, .75 x 56, 10MB-12FF, 3K (72,78 inch)
	03-5915	2	Hose, .75 x 60, 10MB-12FF, 3K (84,96 inch)
21.	03-5913	1	Hose, .75 x 32, 10MB-12FF, 3K (72,78 inch)
	03-5914	1	Hose, .75 x 37, 10MB-12FF, 3K (84,96 inch)
22.	03-6012	1	Hose, .5 x 50, 8FF-12FF, 3K
23.	03-10108	2	Hose, .25 x 50, 6FF-6FF, 100R2 (72,78 inch)
24.	07-1763	22	Washer, Flat, Gr8, 1/2
25.	LAF4776	1	Motor, 4.5 CIO, 2-Bolt
26.	LAF4779	1	Cylinder, 1 x .5 x 4, 1000psi
27.	LAF4798	2	Motor, 24 CIO, 1.25, 2-Bolt
28.	LAF6587	1	Weld, Sprocket, Chute Rotation
29.	LAF6589	1	Plate, Motor, Mount
30.	P100403	1	Screw, HHC, Gr5, 1/4-20 x 3/4
31.	P100604	5	Bolt, Hex, Gr5, 3/8-16 x 1
32.	P100806	4	Bolt, Hex, Gr5, 1/2 x 1 1/2
33.	P100809	4	Screw, HHC, Gr5, 1/2-13 x 2.25
34.	P350300	1	Motor, 15 CIO, 1.25
35.	P850104	1	Washer, Flat, Gr5, 1/4
36.	P851106	5	Washer, Lock, 3/8
37.	P851108	14	Washer, Lock, 1/2
38.	RHW1406	6	Screw, HHC, Gr5, 1/2-13 x 1 3/4
39.	RHW5262	7	Washer, Flat, Gr5, 3/8
40.	RHW6002	1	Washer, Split, Lock, Gr5, 1/4
41.	RHW7401	14	Nut, Hex, Gr5, 1/2
42.	RHW8117	1	Washer, Fender. Gr2, .25