

Farm King

OPERATOR AND PARTS MANUAL

Grain Vac

Conveyair 6640

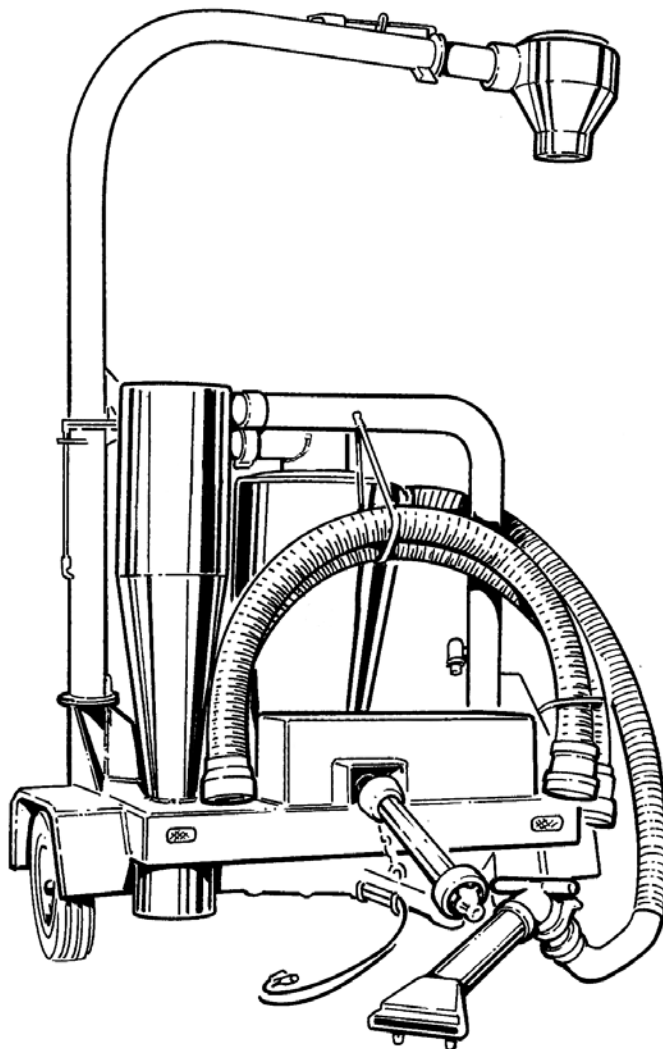


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Introduction

Congratulations, you have selected a Farm King Grain Vac which is designed and engineered to help you make farming Easier, Healthier and Safer.

Our knowledgeable engineering and production staff have built both performance and durability into each Farm King Grain Vac. Our grain vacs have been sold to farmers in Canada, Europe, the USA, Australia and the Middle East.

To get the maximum benefit from your Farm King Grain Vac please read the owner's manual carefully.

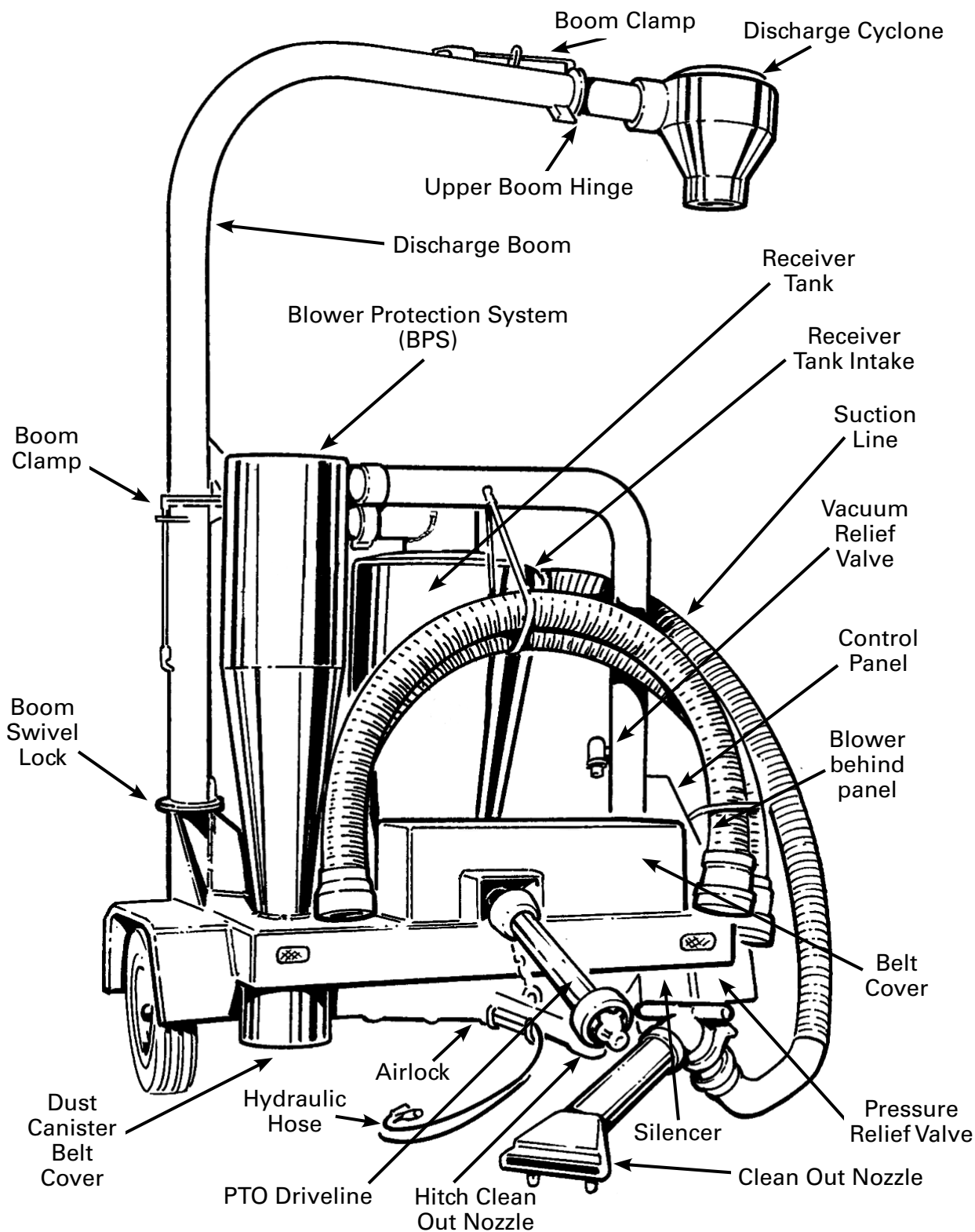
We recommend that you study this manual from beginning to end BEFORE operating your new Farm King Grain Vac. We have tried to keep it brief and to the point. It is important that you pay special attention to the safety cautions in this book and on your equipment.

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.



WARNING

Read and understand the operation manual before operating the Grain Vac. Always follow safety and operating instructions as outlined in this manual. Familiarize yourself with the terms shown on this page.



Safety

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

Before You Start

Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!



The safety alert symbol means...
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

This safety alert symbol identifies important safety warning messages. Carefully read each warning message that follows. Failure to understand and obey a safety warning, or recognize a safety hazard, could result in an injury or death to you or others around you. The operator is ultimately responsible for the safety of himself, as well as others, in the operating area of the tractor and attached equipment.

Understand Signal Words

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or the manufacturer directly.

Important Safety information

Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor before assembly or operating, to acquaint yourself with the machines. It is the owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.



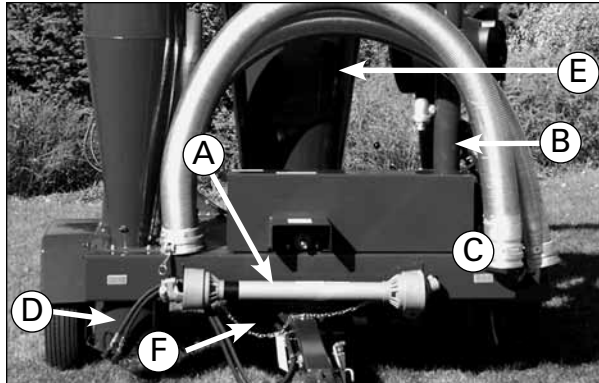
Do not modify the equipment in any way. Unauthorized modifications may impair the function and/or safety and could affect the life of the equipment.

**Operating Safety**

- Wear appropriate ear protection.
- Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
- Always know where all overhead electrical wires are located and stay away from them.
- Do not allow riders.
- Install and secure all guards and shields before starting or operating.
- Keep hands, feet, hair and clothing away from moving parts.
- Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Place all tractor and machine controls in neutral before starting.
- Never operate the Grain Vac and power unit inside a closed building.
- Clear area of bystanders, especially small children, before starting.
- Stay away from PTO shaft, intake nozzle and discharge when engaging PTO.
- Keep all hydraulic lines, fittings and couplers tight and free of leaks.
- Clean reflector, SMV and lights before transporting.
- Use proper lighting when transporting.
- Use a retainer or drawbar pin, secure PTO shaft and install a safety chain when attaching to tractor.
- Stay away from overhead electrical wires when operating boom or when moving.
- Do not remove receiver inspection window while tractor is running.
- Do not remove elbow from airlock outlet when tractor is running.
- Stay clear of truck loading boom when folding it.
- Review safety instructions with all operators annually.

Safety Decal Locations

Decals with "CAUTION", "DANGER", "WARNING", and other information appear on your machine for your safety. Read the information carefully and replace the decals that are no longer legible.



DANGER

ROTATING DRIVELINE HAZARD

To prevent serious injury or death from rotating driveline:

- Keep all guards in place when operating.
- Operate only at 1000 RPM.
- Keep hands, feet, hair and clothing away from moving parts.

SW105

Shield & Shaft "A"

DANGER

ELECTROCUTION HAZARD

To prevent serious injury from electrocution: Stay away from overhead electrical wires when operating the discharge boom. Electrocution can occur without direct contact.

68 056

Control Panel "B"

CAUTION

- Read and understand the Operator's Manual before starting and operating.
- Never operate the machine inside a closed building.
- Install and secure all shields before operating.
- Clear the area of people, especially small children, and the machine of foreign objects before using.
- Keep hands, feet, clothing and hair away from moving parts and inlet nozzle.
- Place all controls in neutral, stop engine, remove key and wait for all moving parts to stop before servicing, lubricating, adjusting or unplugging.
- Watch for overhead electrical wires and obstructions. Electrocution can occur without direct contact.
- Never operate machine with hydraulic leaks.
- Secure hitch, fasten safety chain and connect lights before transporting.
- Wear suitable ear protection for prolonged exposure to excessive noise.
- Chock wheels and block hitch before operating.
- Review safety items with all operators annually.

68.040

Safety Decal Locations, continued

	⚠ WARNING ROTATING PART HAZARD To prevent serious injury or death from rotating parts: 1. Close and secure guard before operating. 2. Shut-off engine and wait for moving parts to stop before opening to adjust, service, lubricate or unplug. 3. Keep hands, feet, clothing and hair away from moving parts.
---	---

Guard "C"

CAUTION

**EMPTY DUST CANISTER
FREQUENTLY
AS PER OPERATORS MANUAL**

Dust Cannister "D"

	⚠ WARNING ROTATING AIRLOCK HAZARD To prevent serious injury or death from airlock blades: 1. Do not place hands in tank when airlock is turning. 2. Shut-off engine and wait for moving parts to stop before opening door to adjust, service or unplug.
---	---

Receiver Tank "E"

	⚠ WARNING ROTATING AIRLOCK HAZARD To prevent serious injury or death from airlock blades: 1. Do not place hands in tank when airlock is turning. 2. Shut-off engine and wait for moving parts to stop before opening door to adjust, service or unplug.
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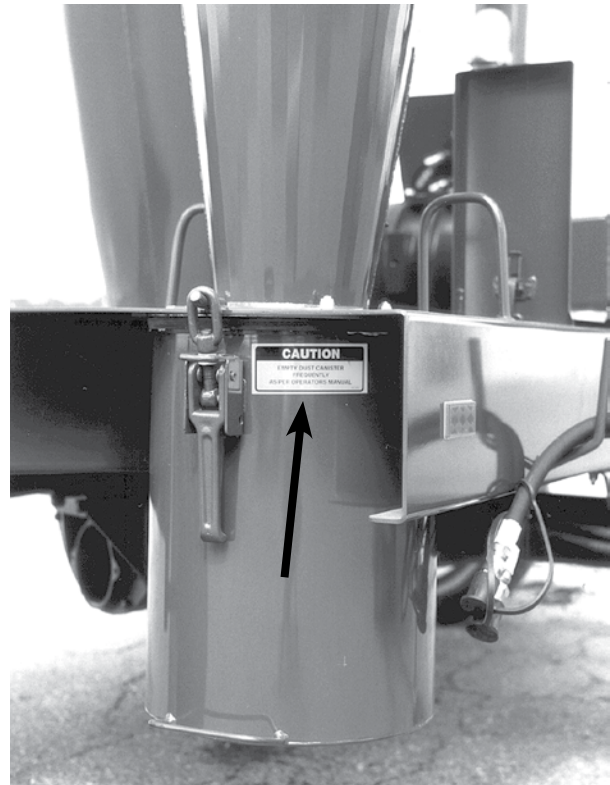
Back Frame "F"



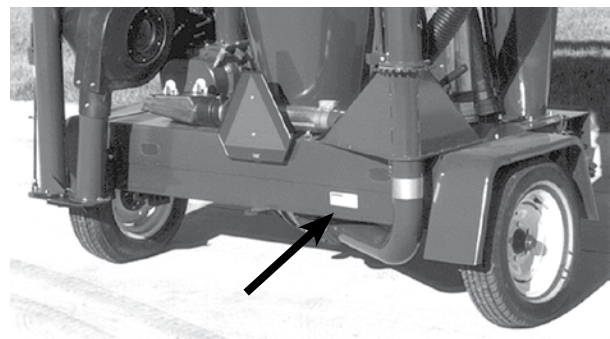
WARNING

Do not place intake tube near feet when standing on top of grain. Sufficient material can be removed to draw the operator and intake tube into the grain. Submersion in grain can cause suffocation.

Bin Nozzle "G"



Dust Canister "D"



"F" Airlock behind frame



Bin Nozzle "G"

Transport

The Farm King Grain Vac is designed to be easily moved from location to location. When transporting, follow this procedure:



WARNING

1. Make sure you are in compliance with all local regulations regarding transporting equipment on public roads and highways.
2. Make sure the SMV(Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
3. Do not allow anyone to ride on the grain vac or tractor during transport.
4. Do not exceed 32 km/h (20 mph). Reduce speed on rough roads and surfaces.
5. Use a retainer on the drawbar pin and install a safety chain before transporting.
6. Always use proper lighting on the tractor when transporting.
7. Stay away from overhead electrical wires. Electrocutation can occur without direct contact.
8. When using a ball and socket, make sure the locking jaws are pinned securely in position.
9. Make sure all components and accessories are retracted and securely stowed before moving.

Speed vs. weight ratio

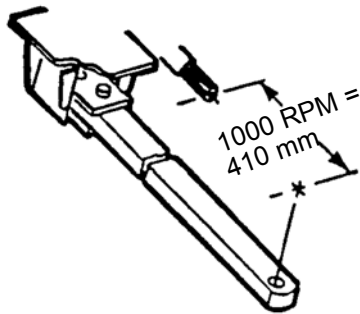
Road Speed	Weight of fully equipped or loaded implement(s) relative to weight of towing machine.
Up to 32 km/h (20 mph)	1 to 1, or less
Up to 16 km/h (10 mph)	2 to 1, or less
Do not tow	More than 2 to 1

Drawbar

To provide sufficient clearance for turning and to allow telescoping of the shaft, leave 16" between the end of the shaft and drawbar pinhole centre. Consult your tractor manual for the drawbar adjustment procedure.

1. Clear area of bystanders.
2. Use the jack on the hitch to adjust the height of the hitch to the drawbar.
3. Slowly back up to the machine and align the drawbar with the hitch.
4. Place all controls in neutral, stop tractor engine, set the park brake, remove ignition key and wait for all moving parts to stop before dismounting.
5. Insert a 1 inch (25 mm) hardened drawbar pin and install a retainer such as a Klik pin.
6. Attach a safety chain between tractor and Grain Vac.

Equipment Matching



Drawbar

To provide sufficient clearance for turning and to allow telescoping of the shaft, leave 410 mm between the end of the shaft and drawbar pinhole centre. Consult your tractor manual for the drawbar adjustment procedure.

Tractor Horsepower (PTO RPM -1000)

Minimum Horsepower: 110

PTO Shaft

1000 RPM - 21 Spline. 35 cm.

Attach PTO shield safety chain to hitch.



To prevent operating at the wrong RPM Do Not use a shaft adapter on the tractor shaft. Use extra care when using a tractor with a shiftable PTO speed.

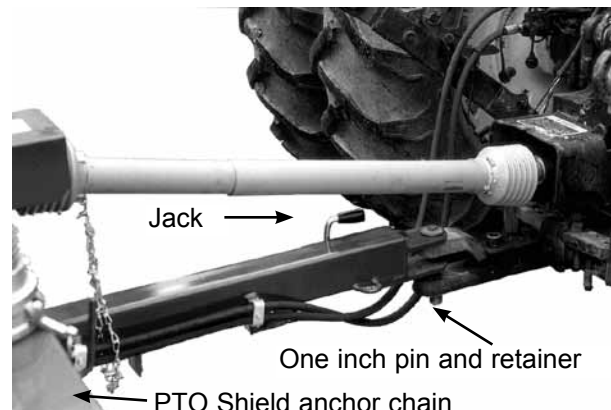
Hydraulic System

The power unit must have dual remote hydraulic outlets to operate the airlock motor and the boom lift circuit. The system must deliver at least 6 gpm (23 lpm) @ 1800 PSI.

Attaching Tractor

Drawbar

1. Clear area of bystanders.
2. Use the jack on the hitch to adjust the height of the hitch to the drawbar.
3. Slowly back up to the machine and align the drawbar with the hitch.
4. Place all controls in neutral, stop tractor engine, set the park brake, remove ignition key and wait for all moving parts to stop before dismounting.
5. Insert a 1 inch (25 mm) hardened drawbar pin and install a retainer such as a Klik pin.
6. Attach a safety chain between tractor and Grain Vac.



Attaching Tractor, continued

7. Open the belt cover and rotate the large pulley by hand to be sure the air pump turns freely.

**WARNING**

Machine is shown with guard open for illustrative purposes only! Do not operate the machine with guard open.

Attach PTO Shaft

1. Clean splined yokes on the driveshaft.
2. Check that the driveshaft telescopes easily and that the shield turns freely on the shaft. Lubricate or clean before attaching if it does not move freely.
3. Pull back locking collar on the yoke and slide the yoke over the splined shaft of the large pulley. Rotate the pulley by hand as needed to align the splines of the yoke and the shaft.
4. Be sure the locking pin clicks into its locking groove on the shaft.
5. Attach the shield anchor chain to the frame.
6. Close and secure the belt cover

Attach Hydraulic Lines

1. Clean hydraulic couplers and male tips. (Farm King factory supplied male tips are Standard 150 Tips).
2. Route the hydraulic hoses along the hitch and away from moving parts. Secure in position with clips or ties. (Be sure hoses are not pinched or crimped).

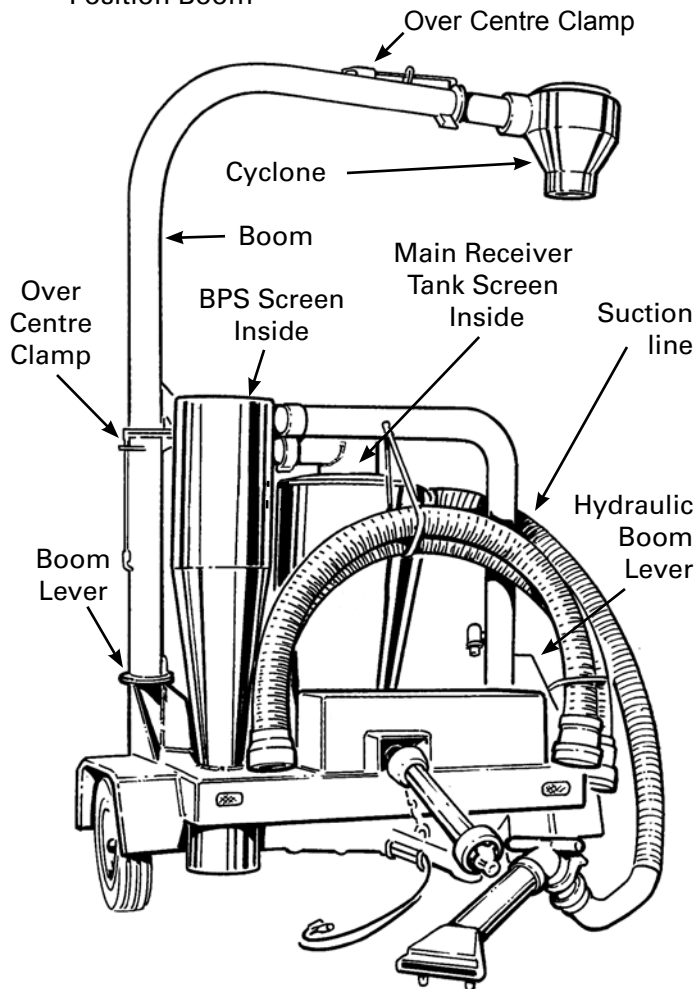
BPS and Receiver Tank Screens

Before moving grain or other materials ensure both BPS screen and main receiver tank screen are installed in machine properly at all times. (see: location on drawing, page 14)

Oil Level

Check the oil level in the blower reservoir. Add correct oil as required.

Position Boom



Boom Swivel

1. Set the park brake and run the tractor at low idle engine RPM. Place all controls in neutral. Place chocks ahead and behind rear tires to prevent machine movement when operating.
2. Use the control lever in the cab to engage the remote hydraulic circuit.
3. Unlatch boom transport clamp, flip up the boom lock and swing boom back until it clears the transport step.
4. Use hydraulic boom lever (Up to raise, down to lower). Carefully raise boom high enough to allow cyclone assembly (at end of boom) to swivel into position.
5. Secure cyclone into position, using over-center clamp.
6. Now lift boom all the way into working position.
7. Secure boom with Over Centre Clamp.
8. Attach suction line to the receiver tank intake coupler. Close camlock couplers.
9. Flip transport step up during operation of the grain vac.



WARNING

All bystanders should stay well clear of boom when raising or lowering it!!



DANGER

Stay at least 15 feet (5 m) away from overhead power lines when moving the boom. Electrocutation can occur without direct contact.

Airlock Rotation



WARNING

Do not run the airlock in the reverse direction. Damage may occur to the hydraulic motor.



For Best Performance

1. Working area should be reasonably level and dry.
2. The tractor should be positioned to have the driveline angles at a minimum.
3. The Farm King Grain Vac should be located so the intake line is as straight and as short as possible.
4. When using the Farm King Grain Vac to load trucks, make sure there is adequate room for the receiving vehicle to get under the discharge cyclone.

Check the rotation of the airlock. Coupler should turn as indicated by arrow.

If airlock rotates in wrong direction, stop and reverse direction of control lever on the tractor, or shut down the hydraulic system and reverse the order of the hoses plugged into the tractor couplers.

Breaking In

Your machine has been operated for a short time at the factory to assure good performance. It can however not be considered broken in. It normally takes 5 to 10 hours of operation for all parts to be polished by the grain stream and for the machine to come up to full capacity.

We recommend the following checks during the break in period:

A. After operating for 1/2 hour -

1. Check for overheated bearing. Lubricate or adjust as required*.
2. Check for oil leaks. Tighten or replace part and oil as required*



WARNING

High pressure fluids can penetrate the skin and cause infection and toxic reaction.

3. Retorque all hardware - Wheel bolts and fasteners.
4. Check belt tension and adjust as required*.
5. Check the oil levels in the blower reservoirs. If low, add oil as required. Check for leaks and correct if problem persists*.

* Check maintenance section for proper procedures. (Also see page 30 for hydraulic safety)

Breaking In, continued

B. After operating for 2 to 10 hours -

1. Perform the same checks and inspections as done at 1/2 hour.
2. After the 10 hour inspection, go to normal service and maintenance procedures.

Set Airlock Speed

For maximum performance adjust speed most suitable for material moved.

Material consistency varies widely in the field. Airlock speed is also affected by suction and discharge length. To obtain maximum performance, try different airlock speed, using above guide.

A rule of thumb is the larger and heavier the kernel, the faster the airlock should turn.

Tip - with light oats, or other light grains, slow PTO speed down to 900 or 950 RPM.

Adjusting Speed

Using a stop watch, the airlock can be set by counting the number of turns the coupler makes. Coupler is visible through the three slots in the deck of the machine (photo right). One turn per second equals 60 RPM.

Adjust airlock RPM by moving the airlock speed lever on your control panel towards # 10 to increase speed, toward # 1 to slow down. Move lever slowly, a small movement will make a significant change in airlock speed.

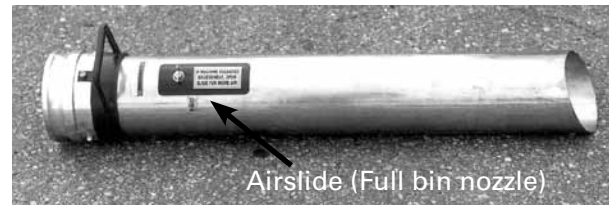
Material	Airlock Speed (RPM)
Barley	50 - 60
Canola	45 - 60
Corn	45 - 60
Flax	35 - 55
Wheat	45 - 60
Oats	45 - 60



Short Distance Transfer

Insert bin nozzle.

Connect hose from receiver intake to bin nozzle. Set the air slide on the full bin nozzle all the way open and push the nozzle into the material to be moved.



WARNING

Do not cover airslide with grain.

The line of the grain can be horizontal, angled or vertical depending on conditions.

Adjust the airslide on the full bin nozzle so that the material moves across the sight glass window of the receiver tank to approximately half way (no more than 2/3) up the window. If the machine starts to surge, slowly open slide till surging stops.



Note: Should the **material stop moving** and **completely cover the sight glass** window in the receiver tank, the machine will quickly plug. Immediately open the air slide fully, on the full bin nozzle, to allow the machine to clear itself. Remove the nozzle from the grain and forward and reverse the airlock several times to empty the tank. Then ensure the airlock is turning counter clockwise and resume operation as normal. Otherwise follow the next 6 steps:

IMPORTANT: If the machine still does not clear itself do the following:

- Stop machine by slowly reducing tractor RPM to an idle, then disengage PTO. Remove dust pail which will allow any material in the bottom of Blower Protection Cyclone (BPS) to run out.
- Remove nozzle from grain source
- Start the machine and allow the Receiver tank to empty itself. Then stop machine again
- Remove the top on the BPS and clean out any material in the top of the cyclone and in the pipe between the receiver tank and the BPS.
- Replace the Dust pail and the Top on the BPS.
- Start machine, (RECHECK AIRLOCK SPEED, page 16) and reset the air slide as per start up instructions.

BPS
System



Note: Airlock should not turn faster than 65 RPM or slower than 30 RPM.

Long Distance Transfer



WARNING

Do not use P.V.C. or other plastic tubing for long distance application. The build-up of static electricity could lead to an explosion.

Auxiliary airslide. Located on the airline between the receiver tank and the air pump.

If discharge length is more than 40 ft. (12 m) or if blower gets too hot to the touch, open the airslide approximately 1/4" - 1/2" (6 - 12 mm) for every 100 ft. (30 m) discharge. Open further if blower still gets hot.

Opening the airslide too far will affect capacity as adversely as not opening it at all.

Top Loading (push only)

For top loading, remove top cover of large cyclone. To avoid feedback be sure grain enters below opening to BPS (smaller) cyclone.

Long Distance Suction

For sucking grain more than thirty feet, use straight piping where possible!

Remember: The straighter the suction line the greater the capacity of the grain vac.

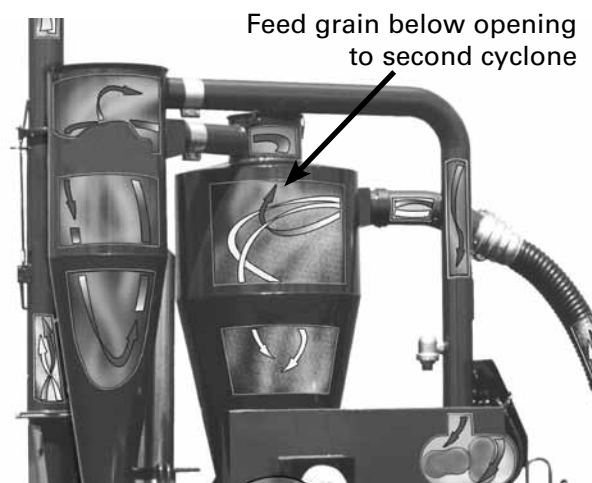
Clean Up

When the machine needs not to be at full capacity, e.g. when cleaning bins, the tractor can be throttled down.

The rougher walls of the steel flex hose and the poly intake hose provide more resistance than smooth pipe. Capacity may be lowered by 20% to 40% compared to straight piping.

Use Poly hose for clean up only.

For regular cleanup use a combination of steel flex line, straight piping and poly hose. This will give you the needed flexibility to easily get into corners and around obstructions without sacrificing too much capacity.



Do not dent, stretch or overbend steel flex line excessively.

Do not store poly hose in sunshine, avoid sharp obstructions that could cut or puncture the hose.

Seed Drill Clean Out

When using the seed drill clean out kit, operate the tractor at idle only to reduce suction air flow. The receiver tank can be used as a holding tank by stopping the airlock until the seed can be discharged into a truck or storage.

Cleanup of Spills and Ground Stored Grain

Extreme caution should be exercised when cleaning spills or grain stored on dirt. Sand and dirt may cause excessive wear to blower, and life expectancy of the unit can be reduced significantly.

Filling Bins and Temporary Storage

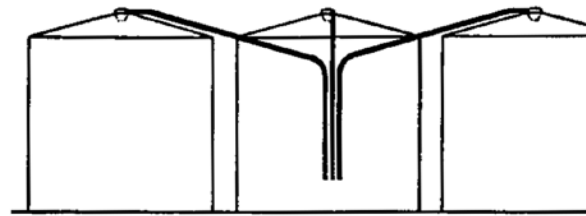
Rear discharge option required.

When discharging into bins, remove the airlock discharge elbow and couple the machine to stationary or movable piping.

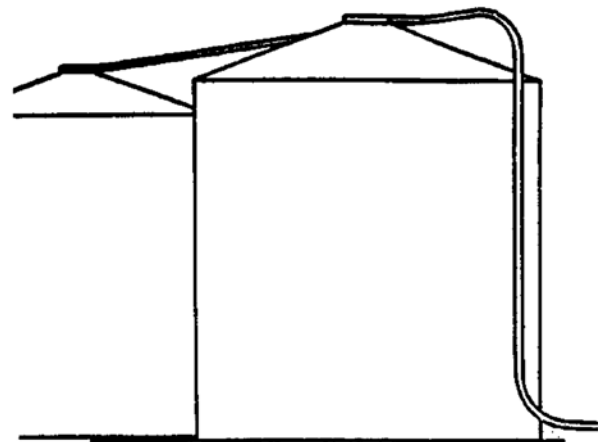
For best performance, review recommended installation schematics. Use OEM parts to insure good sealing and maximum performance.

Contact your dealer for more information.

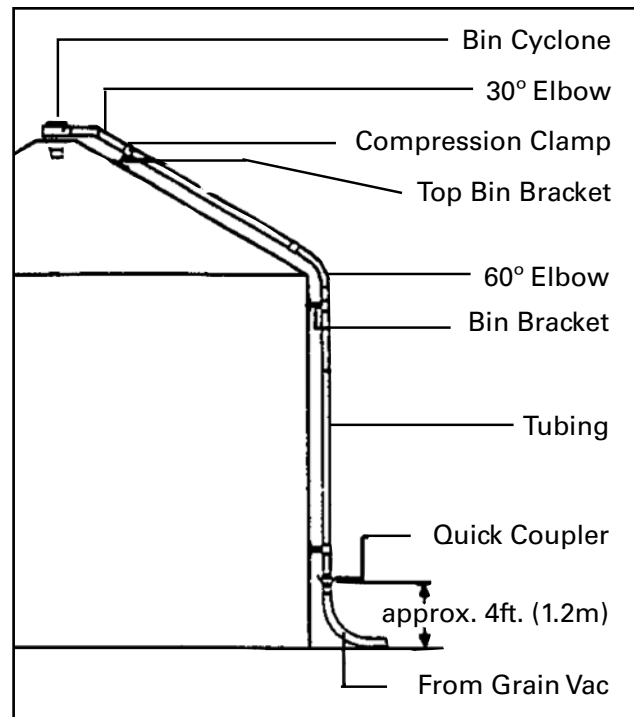
Silos over 100 feet tall can be filled with your Farm King Grain Vac!



Multiple Bins (Parallel)



Multiple Bins (Series)



Bin Fill System

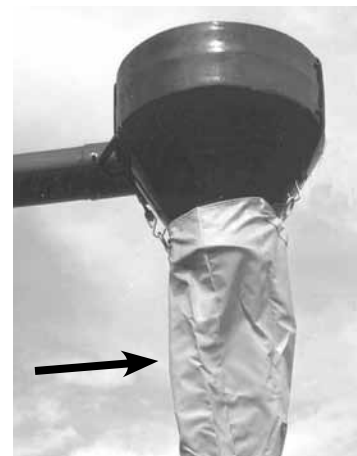
Accessories

1. Horizontal Pipe Section.
 - ◇ Steel or aluminum. Matched to Farm King Grain Vac.
2. Vertical Pipe Section. Specs as above. Sections may be welded or coupled together with 3-bolt clamp.
3. Bin Top Cyclone. Cyclones come equipped with a rain cap and can also double as aeration vents.

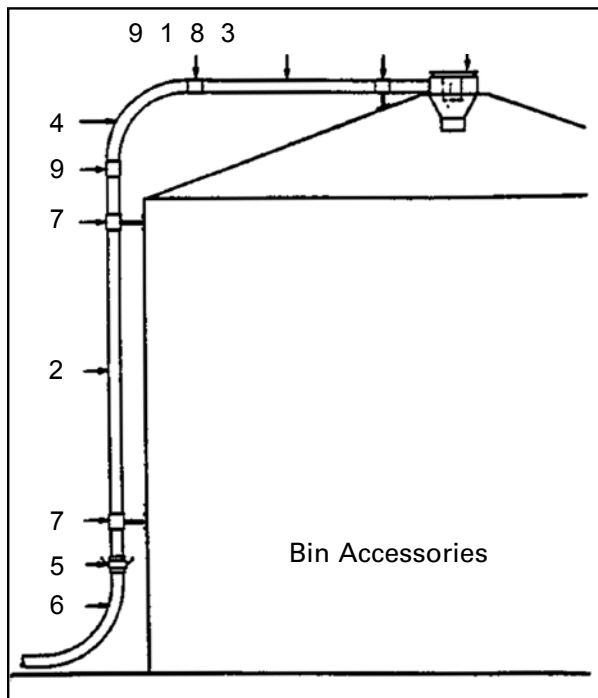
For temporary installations, use the light-weight poly cyclone and attach with quick couplers.
4. 90 degree long radius elbow. Weld in place or secure with 3-bolt clamp.
5. 6" Female quick couplers.
6. Delivery from the grain vac to bin. Use a combination of short stainless lined steel flex and long radius 90 degree elbow.
7. Side wall bin brackets.
8. Angle top mount bracket.
9. 3 Bolt clamp.
10. SEE PARTS LIST FOR STANDARD HOSE AND OTHER PARTS.



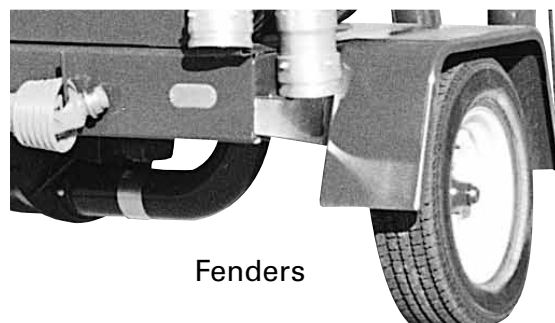
Cam Lock Couplers



Cyclone sock for windy conditions



Seed Drill Clean out Kit



Fenders

Lubrication

Fluids and lubricants

Grease

Use any SAE multi -purpose high temperature grease with extreme pressure (EP) performances and containing at least 1.5% molybdenum disulfide or SAE Multi-Purpose Lithium Base Grease. Use cold temperature grease during the winter.

Oil

Only use Blower Oil HD Synthetic Gear & Bearing Oil. Do not blend with other oil. Available through your nearest Farm King Dealer.

- Part # GV14220
 - ◇ Capacity drive end 850 ml/28.7 fl. oz US
 - ◇ Capacity gear end 1000 ml/33.8 fl oz US
- Hydraulic Oil Reservoirs: Self Contained Hyd.
 - ◇ AW32 Hydraulic oil equal to or exceeding
 - ◇ SAE "SF" specifications.
 - ◇ Capacity - (31 qt. US)

Cleaning agent

- ◇ WD40 or equivalent.



CAUTION

1. Place all controls in neutral, stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing.
2. Before applying pressure to a hydraulic system, make sure all lines, fittings and couplers are tight and in good condition.
3. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.

Greasing

1. Use only a manual grease gun for all greasing. Air powered grease guns may damage the seal on bearings, leading to early bearing failure.

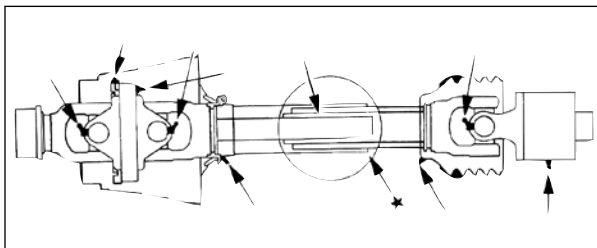


IMPORTANT

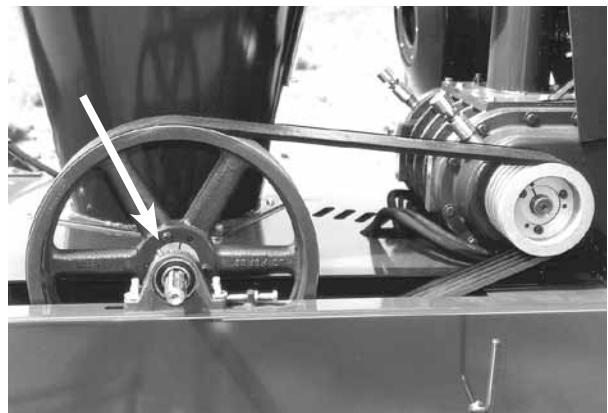
Do not over grease, it can damage bearing seals.

2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.

8 Hours or Daily



PTO Shaft (9 Locations)



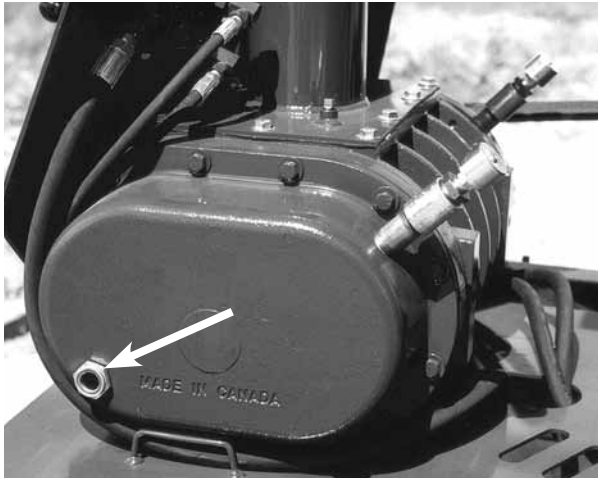
Input Pulley Shaft, front and rear



CAUTION

Machine is shown with guard open for illustrative purposes only. Do not operate machine with guard open.

8 Hours or Daily

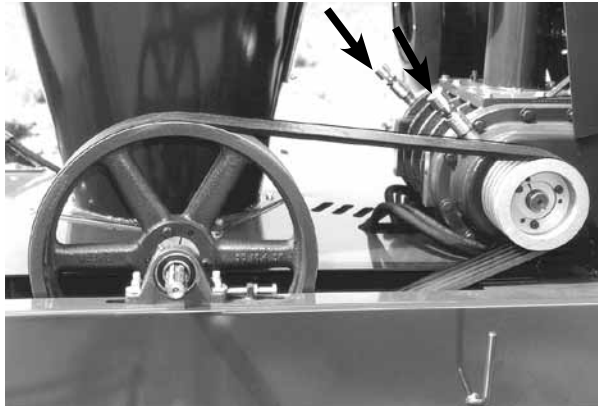


Check air pump oil levels in reservoirs, front and rear (2 locations). Add as required

NOTE

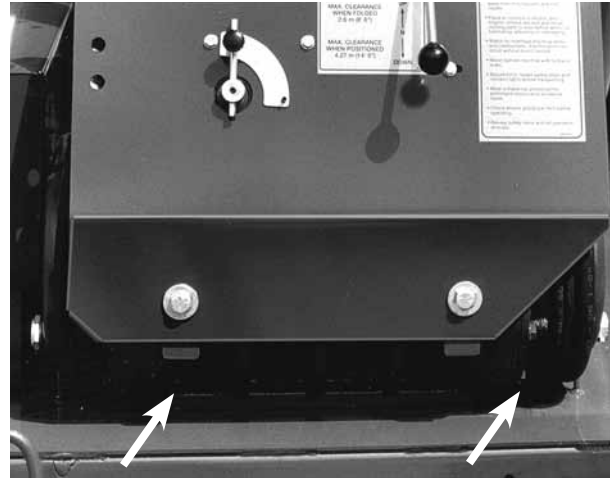
Check when the oil is cold and the machine is level.

50 Hours



Clean oil reservoir breather caps (2 locations)

100 Hours or 6 Months

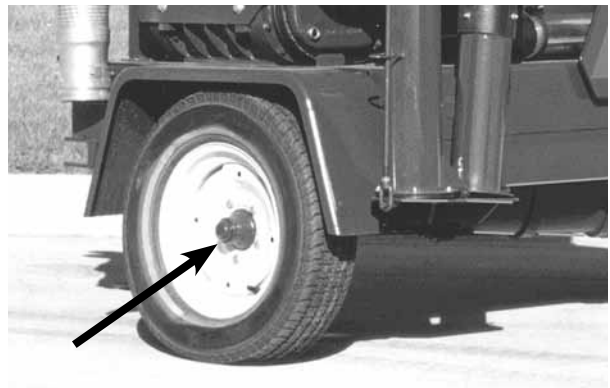


Change the oil in air pump reservoirs (front and rear).

NOTE

Change every 30 hours if operating in very dusty conditions

200 Hours or Annually



Repack wheel bearings (2 locations)

Grease as Required



Boom elbow clamps. Use winter friendly white lithium grease

Service Record

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

ACTION:

✓ CHECK
L LUBRICATE

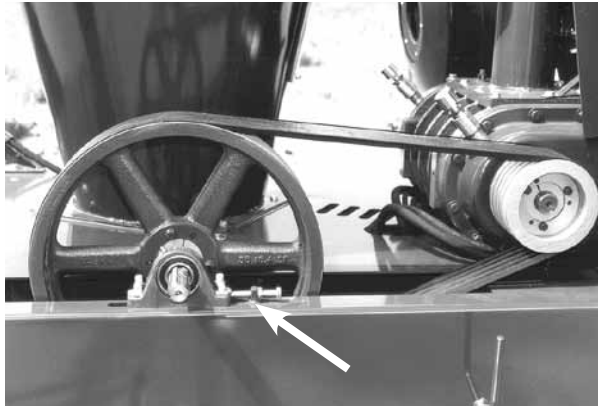
C CHANGE
R REPACK

CL CLEAN

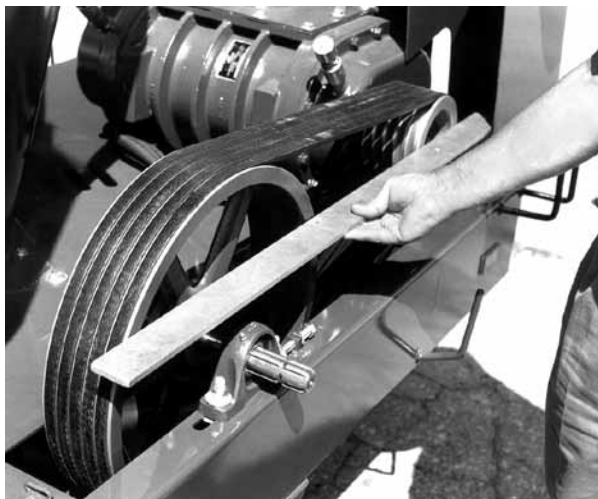
HOURS SERVICED BY MAINTENANCE																		
	8 Hours or Daily																	
L PTO Shaft (7)																		
L Input Pulley Shaft Front & Rr. (2)																		
✓ V Belt Tension																		
✓ Air Pump Oil Level in Reservoir (2)																		
✓ + CL System Filter																		
L Boom Grease Nipples																		
50 Hours																		
CL Oil Reservoir. Breather Caps (2)																		
100 Hours or 6 Months																		
C Oil in Air Pump Reservoir Front & Rear																		
Annually																		
R Wheel Bearings (2)																		
CL Machine																		

Maintenance

1. Place PTO and hydraulic controls in neutral and shut-off engine. Disconnect the PTO shaft from the tractor.
2. Unlatch belt shield cover and open cover.



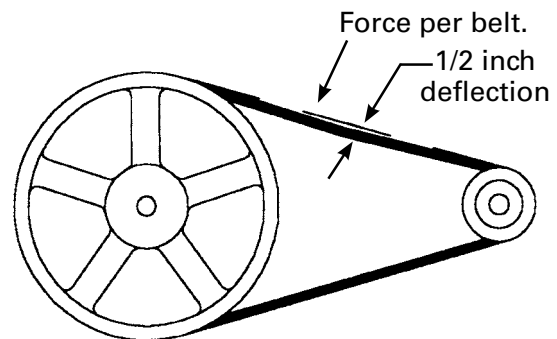
3. Loosen jam nut on adjuster bolts and loosen the bearing mounting bolts.
4. Use the adjusting bolts to move the pulley assembly to apply the proper tension to the belts and also to align the pulleys with each other.



5. Place a straight edge across the faces of the two pulleys. Maximum allowable misalignment is 1/16" (2 mm) on any of the pulley edges. Adjust as required.
6. Be sure the belt tension is correct.*
7. Tighten bearing mount bolts and jam nuts.
8. Close and latch belt cover.

V-BELT TENSION

5005 - force = 8 to 11 pounds
 5006 - force = 8 to 11 pounds
 6006 - force = 11 to 15 pounds



Check belt tension after initial one (1) to two (2) hours of operation and daily thereafter.

V Belt tension testers are available at most belt service centres.

* DO NOT MIX OLD AND NEW BELTS!

To extend the life of your bearings and shafts we recommend that you replace all 5 belts when one or more are frayed or broken. Older belts which have stretched over time require a different setting than new belts. To get the right tension on the old belts you will put too much tension on the new belt(s) putting undue strain on shafts and bearings!



CAUTION

Machine is shown with guard open for illustrative purposes only. Do not operate machine with guard open.

Maintenance (continued)

Airlock Tips

Check Airlock Tips clearance when there is a noticeable drop in capacity of the grain vac.

If clearance exceeds 0.015" (0.38mm) adjust as shown below.

A. Checking clearance:

1. Disengage PTO and hydraulic power and shut off engine. Wait for all moving parts to stop.
2. Relieve the pressure on the hydraulic lines and disconnect from tractor.
3. Remove hydraulic lines from the airlock drive motor to allow rotation of the airlock.



CAUTION

High pressure fluids can penetrate the skin and cause infection and toxic reaction.

4. Open the inspection door on the receiver tank. Use a feeler gauge to check the clearance between the tips and the shell.

B. Airlock Tip Adjustment

1. Remove the connector on the air line between the BPS and the receiver tank.
2. Attach an overhead hoist to the receiver tank.
3. Remove the eight bolts securing the receiver tank to the airlock mount plate. Remove the receiver tank from the frame.



4. Position tip next to top of shell.
5. Loosen slightly the 5 bolts attaching the tip to the blade of the airlock.
6. Move the tip until you have 0.006" (0.15 mm) clearance between tip end and clockwise side of shell.
7. Tighten the bolts and torque to 20-25 ft. lbs. (34-40 Nm).



WARNING



ROTATING AIRLOCK HAZARD

To prevent serious injury or death from airlock blades:

1. Do not place hands in tank when airlock is turning.
2. Shut-off engine and wait for moving parts to stop before opening door to adjust, service or unplug.

Maintenance (continued)

8. Rotate the rotor clockwise to ensure that there is no contact between the tips, end plates and the shell. Adjust if there is contact.
9. Mark the tip with a felt pen as done and proceed with remaining tips till all have been adjusted.
10. Replace receiver tank and check that all connections are airtight.

.....
Blower Serial Number

Reservoir Breather

(Clean every 50 hours)

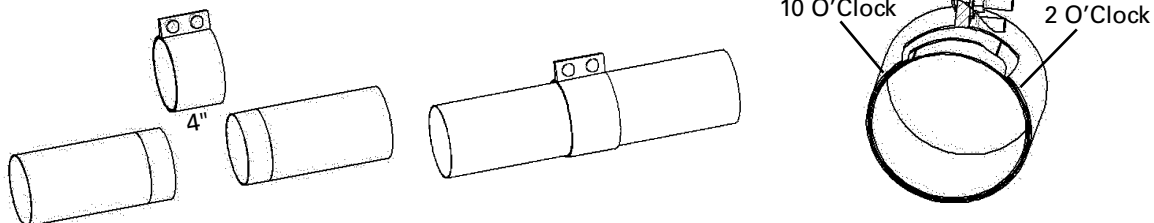
Clean breathers allow the pressure in the oil reservoir to equalize with the outside as the temperature changes.



1. Remove breather from the top of the reservoirs.
2. Soak/Wash in a good grade of solvent.
3. Dry with an air hose and re-install.

Clamp # GV26042 Installation Instructions

Remove burrs, dirt, grease from pipe ends.



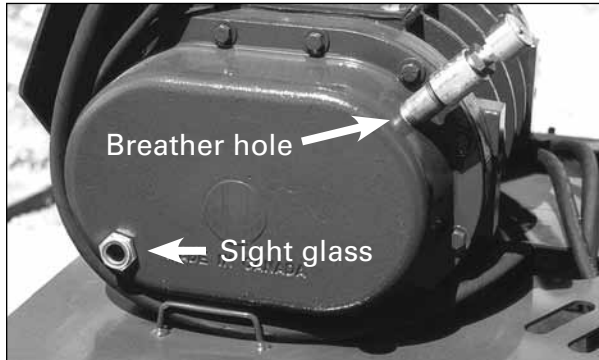
1. Measure and mark both ends of the pipe at a distance that is half the length of the coupling.
2. Slide coupling over one pipe until it meets your mark, Insert next pipe section until pipes butt. Avoid disturbing gasket or inner sleeve.
3. Partially tighten the center bolt first, then uniformly alternate tightening all the bolts to 65 lbs torque.
4. Tighten until top of flange is touching and there is approx. 3/16" of space at bottom of flange.
5. Make sure gasket joint and inner sleeve joint are at proper locations. (10 o'clock - 2 o'clock)

Maintenance (continued)

Air Pump Reservoir

(Change oil every 100 hours, more often if conditions are very dusty).

1. Place small pan under the drain plug and remove plug. Drain for 10 minutes.
2. Re-install and tighten the drain plug.



3. Remove breather and add oil through the breather hole. Fill to center of the sight glass and re-install breather.
4. Repeat on other reservoir.



CAUTION

- Overfilling causes heating from the oil churning
- Underfilling causes heating from lack of lubrication

BPS (Blower Protection System)

The air which is sucked from the receiver tank and drawn toward the air-pump contains dust which is harmful to the pump. This dust is trapped by the BPS system and collected in the dust canister. The amount of dust collected depends on the amount of dust and fines in the grain being moved.

Remove and empty dust canister regularly. Do not allow to overfill. When canister is three quarters full it should be considered full!

NOTE:

- If machine is allowed to overfill (plug) -
- a. Remove screen on top of BPS and clean if required and reinstall.



CAUTION

DO NOT strike the screen with any hard object as damage to the screen will diminish its effectiveness.

BPS (continued)

- b. Empty canister and also allow any grain which may have accumulated in BPS to run out.

Refer to unplugging instructions under OPERATION on page 17.

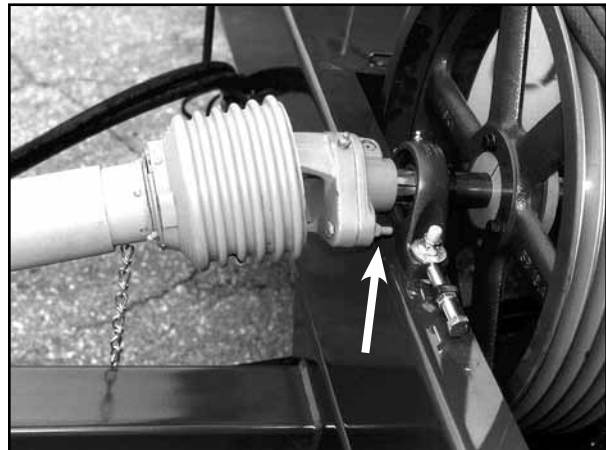


Shear Pin

A shear pin is provided in the PTO shaft to protect the drive system during an overload.

Changing the Shear Pin

1. Place all controls in neutral, stop engine, set park brake, remove ignition key and wait for all moving parts to stop before dismounting.
2. Disconnect the PTO shaft from the tractor and lay to the side to provide maximum clearance for the shear bolt.
3. Carefully remove remaining shear bolt using a hammer and punch if necessary. Do not enlarge the holes.
4. Install the new shear bolt and tighten.



IMPORTANT

These shear bolts are specially designed to provide protection for the drive system. Do not install just any bolt, use genuine OEM parts.

Hydraulic Safety

1. Make sure that all components in the hydraulic system are kept in good condition.
2. Replace any worn, cut, abraded, flattened or crimped hoses and metal lines.
3. Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are not damaged.
4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify leak.
5. If injured by a concentrated high pressure stream of hydraulic fluid, seek attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.



CAUTION

Do not use tape, clamps or cement to repair hydraulic lines. The hydraulic system operates under high pressure, creating a hazardous unsafe condition when such repairs fail suddenly.



WARNING

High pressure fluids can penetrate the skin and cause infection and toxic reaction.

Bolt Torque

Check tightness of bolts periodically, using bolt torque chart as a guide. Always replace hardware with the same strength bolt.

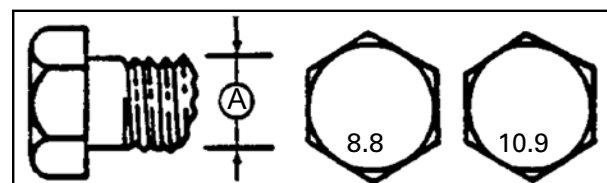
English Torque Specifications

Bolt dia.	Bolt Torque*		
"A"	SAE 2	SAE 5	SAE 8
	N.m (lb-ft)	N.m (lb-ft)	N.m (lb-ft)
1/4"	8 (6)	12 (9)	17 (12)
5/16"	13 (10)	25 (19)	36 (27)
3/8"	27 (20)	45 (33)	63 (45)
7/16"	41 (30)	72 (53)	100 (75)
1/2"	61 (45)	110 (80)	155 (115)
9/16"	95 (70)	155 (115)	220 (165)
5/8"	128 (95)	215 (160)	305 (220)
3/4"	225 (165)	390 (290)	540 (400)
7/8"	230 (170)	570 (420)	880 (650)
1"	345 (225)	850 (630)	1320 (920)



Metric Torque Specifications

Bolt dia.	Bolt Torque*	
"A"	8.8	10.9
	N.m (lb-ft)	N.m (lb-ft)
M3	.5 (.4)	1.8 (1.3)
M4	3 (2.2)	4.5 (3.3)
M5	6 (4)	9 (7)
M6	10 (7)	15 (11)
M8	25 (18)	35 (26)
M10	50 (37)	70 (52)
M12	90 (66)	125 (92)
M14	140 (103)	200 (148)
M15	225 (166)	310 (228)
M20	435 (321)	610 (450)
M24	750 (553)	1050 (774)



* Torque value for bolts and capscrews are identified by their head markings.

Torque values indicated above are valid for non-greased or non oiled threads and heads unless otherwise specified. Do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

Hydraulic Fitting Torque

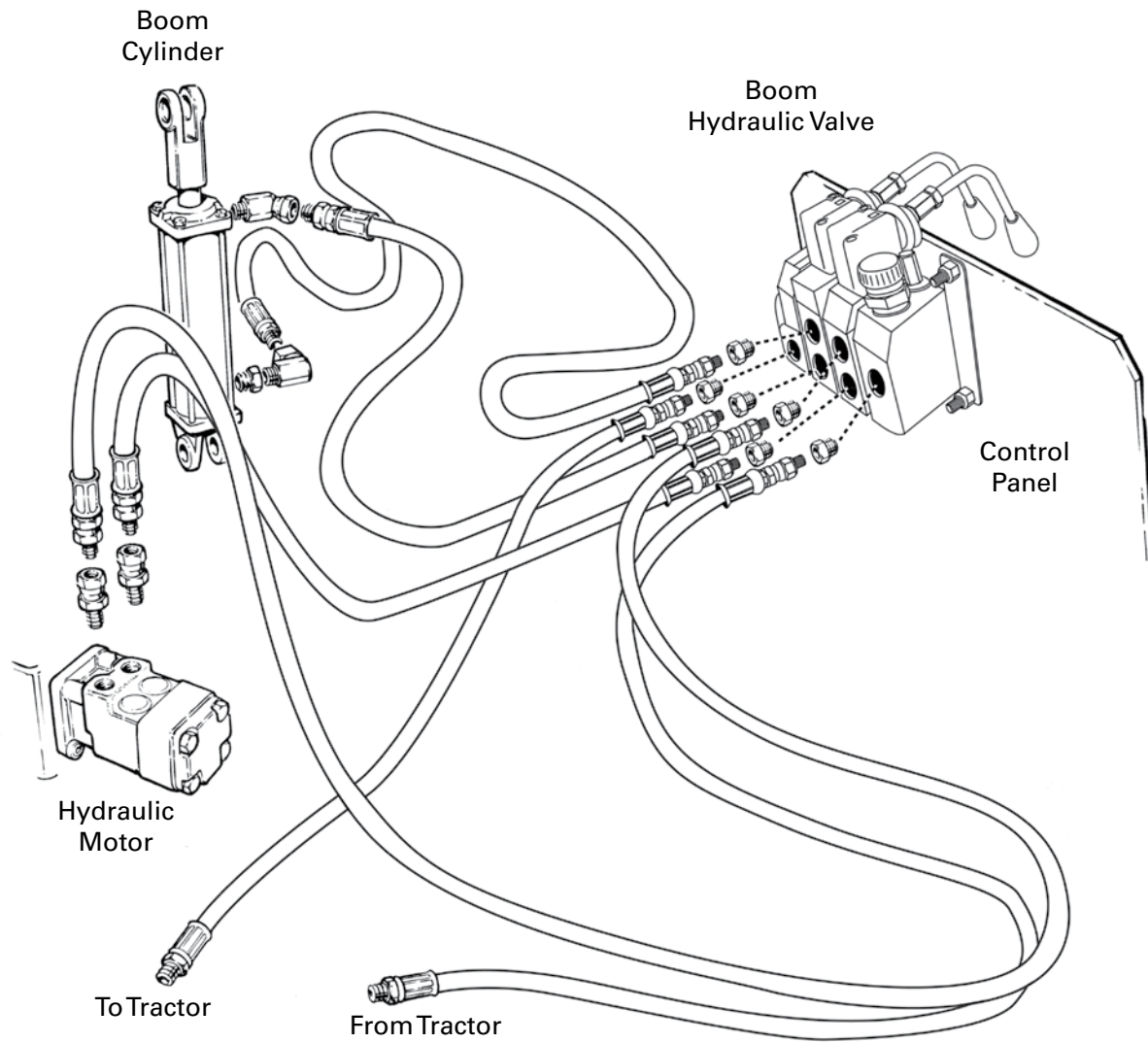
Tighten Flare Tube Fittings*

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

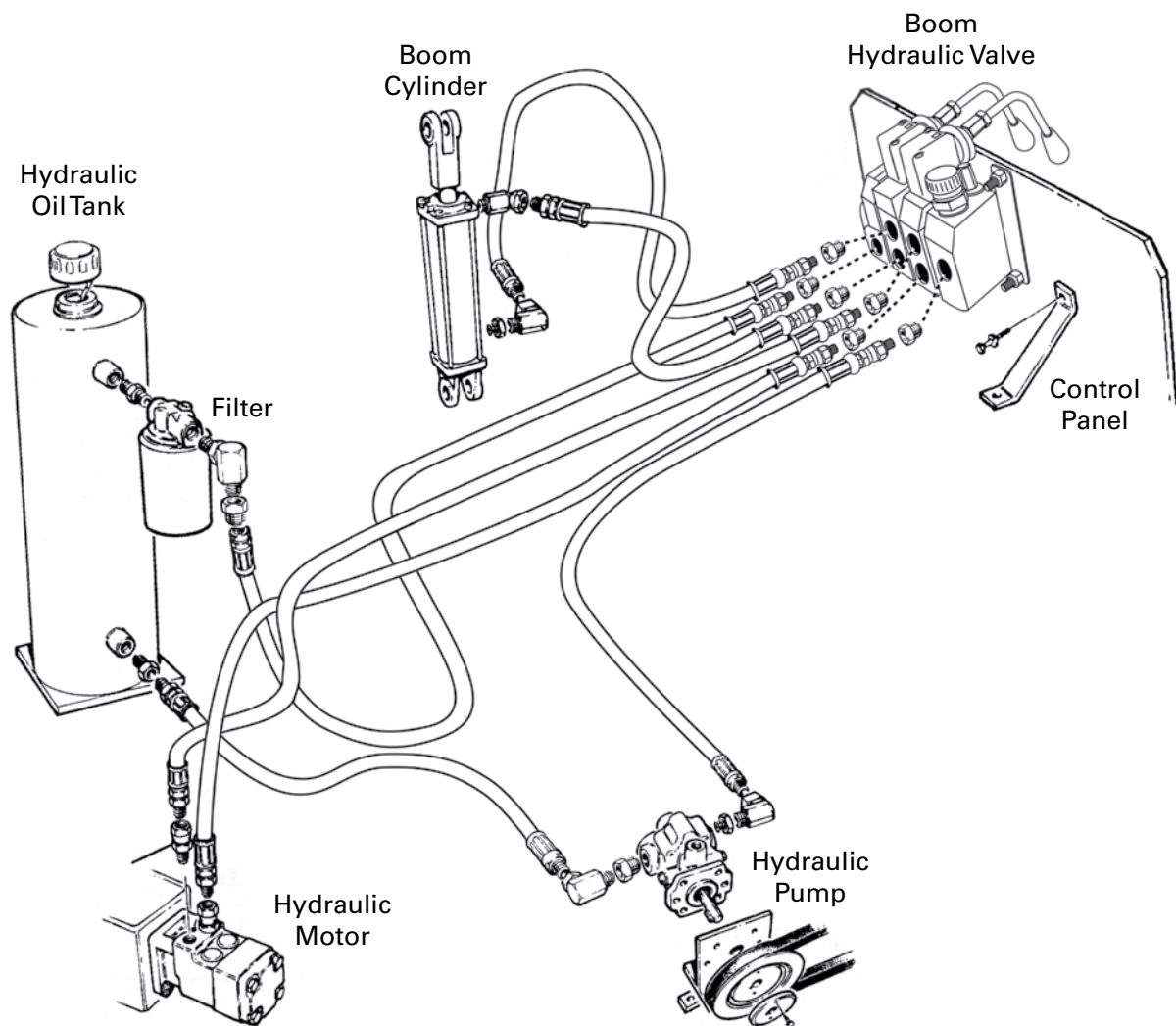
Tube size O.D.	Nut size across flats	Torque value*	Recommended turns to tighten (after finger tightening)	
in.	in.	N.m (lb-ft)	Flats	Turns
3/16	7/16	8 (6)	1	1/6
1/4	9/16	12 (9)	1	1/6
5/16	5/8	16 (12)	1	1/6
3/8	11/16	24 (18)	1	1/6
1/2	7/8	46 (34)	1	1/6
5/8	1	62 (46)	1	1/6
3/4	1-1/4	102 (75)	3/4	1/8
7/8	1-3/8	122 (90)	3/4	1/8

* The torque values shown are based on lubricated connections as in reassembly.

Hydraulic Hose



Hydraulic Hose



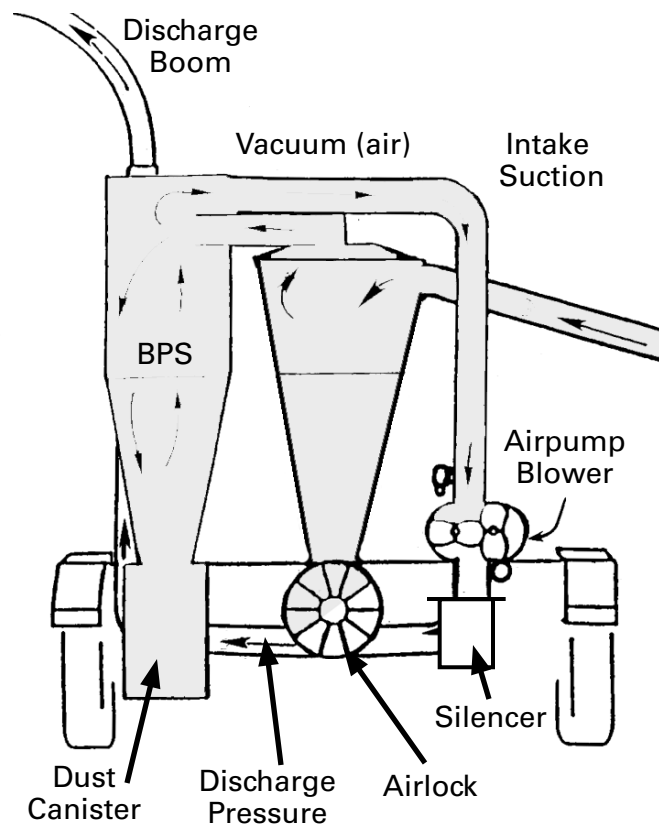
Troubleshooting

The heart and lungs of the Grain Vac are the airlock and the blower (air pump). Both components must be operating at their recommended speed to obtain maximum efficiency from the machine.

The blower is driven by a belt and pulley system from the PTO on a tractor. The airlock is driven by a hydraulic motor powered by the hydraulic system on the tractor or by a self contained hydraulic system.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local dealer or the factory. Before you call, please have this Operators Manual and the serial numbers from your Grain Vac ready.

In North America call (204) 822-4467



PROBLEM	CAUSE	SOLUTION
Low capacity	Tractor PTO runs slow.	Speed up tractor PTO to rated RPM for the model.
	540 Instead of 1000 RPM.	Change tractor or PTO speed shaft.
	Belts are slipping.	Tighten belts.
	Airlock runs too fast.	Slow down airlock speed until grain builds up to the level of inspection door.
	Improper air intake.	Adjust air intake.
	Improper use of nozzle.	Use full bin nozzle for larger piles and full bins. Use cleanup nozzle with flair for cleanup only. Do not submerge airslide in grain.
	Air leaks - Intake.	Check for worn coupler levers or missing coupler gaskets.
	Air leaks - Machine.	Check BPS, receiver section, and airlock gaskets. Check pressure and vacuum relief valve. Check clamps on airline between receiver tank and BPS and between BPS and blower.
	Improper piping.	Keep suction lines as short as possible. Minimize bends. Use straight length of pipe wherever possible. Use the poly hose for clean up only!

Low capacity	Airlock tip clearance high.	Adjust airlock tips. (See PAGE 26)
	Airlock end plate clearance	If rotor to end plate clearance is more than 0.015", consult the dealer or factory.
Excessive grain damage.	Too much air intake.	Adjust air intake nozzle.
	PTO running too fast.	Throttle down tractor.
	Damaged tubing or flexline.	Repair or replace.
	Insufficient grain supply.	Reposition nozzle.
Pulsation	Insufficient air at intake.	Open slide until grain flow becomes even.
	Airlock turning too fast.	Adjust airlock speed until grain is at level of the inspection door.
	Improper piping.	Replace steel flex or poly hose with rigid tubing wherever possible.
	Suction line too small.	Use proper line size.
	PTO running too slow.	Increase PTO RPM.
	Belts are slipping.	Tighten belts.
	Excessive airlock tip clearance.	Adjust airlock tips.
	Airlock turning too slow.	Adjust airlock speed until grain is at the proper level on the inspection door.
	Obstruction in suction.	Shut down machine and clear line obstruction.
BPS plugs	Airlock turning too slowly.	Increase airlock speed until grain is at the proper level on the inspection window.
	Airlock turning too fast.	Decrease airlock speed until the grain is at the proper level on the inspection door.
	Airlock not turning.	Check for proper hydraulic hook-up. Check for and remove obstruction airlock.
Airlock not turning at all.	Flow control valve wrong.	Reset flow control.
	Tractor hydraulic not properly engaged.	Reset tractor hydraulics.
	Obstruction in airlock.	Shift tractor hydraulic lever from FORWARD to REVERSE and back TO FORWARD. Repeat if obstruction does not clear up. If obstruction does not clear up, shut off tractor and grain vac, open inspection door and remove cause of obstruction.
Hydraulic oil heating up excessively.	Faulty tractor hydraulics.	Use different tractor.
	Low oil level.	Add oil.
Excessive wear on air lines.	Improper piping.	Minimize bends.
	Too much air flow.	Adjust airslides and airlock speed.
	Insufficient grain supply.	Reposition intake nozzle. Open grain supply doors.
	Excessive PTO speed.	Operate at proper recommended PTO speed.

Storage

Prior to storage we recommend that you thoroughly inspect your Grain Vac.

1. Replace any worn or damaged components.
2. Wash and clean the machine. After cleaning, run machine at low idle for 2-3 minutes to dry the internal components.

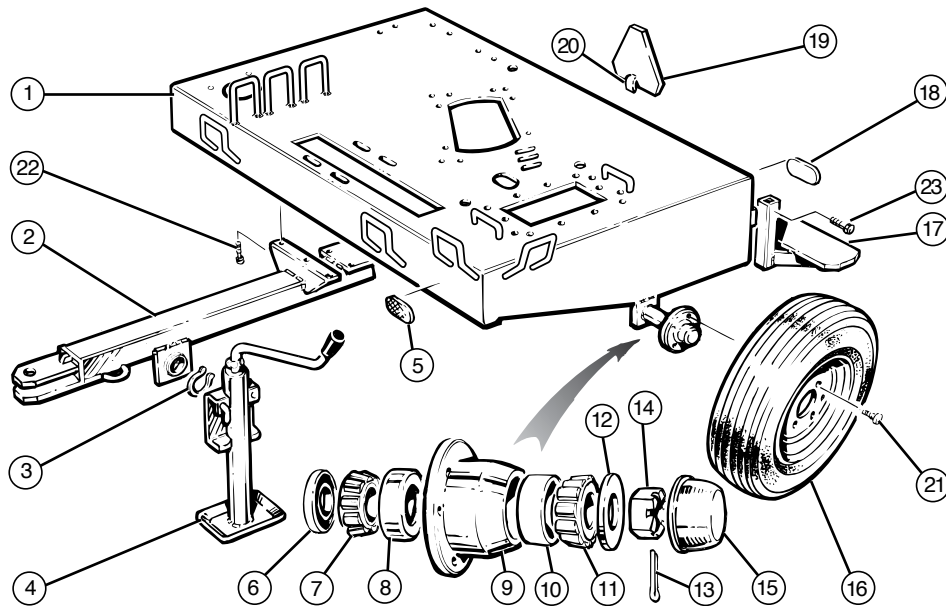


3. While machine is running at an idle, open the cleaning port and inject a cleaning agent such as WD40 for 45 - 60 seconds. This will coat the inside of the air pump to help prevent rusting.
4. Lubricate all grease points. Make sure all grease cavities have been filled with grease to remove any water residue.



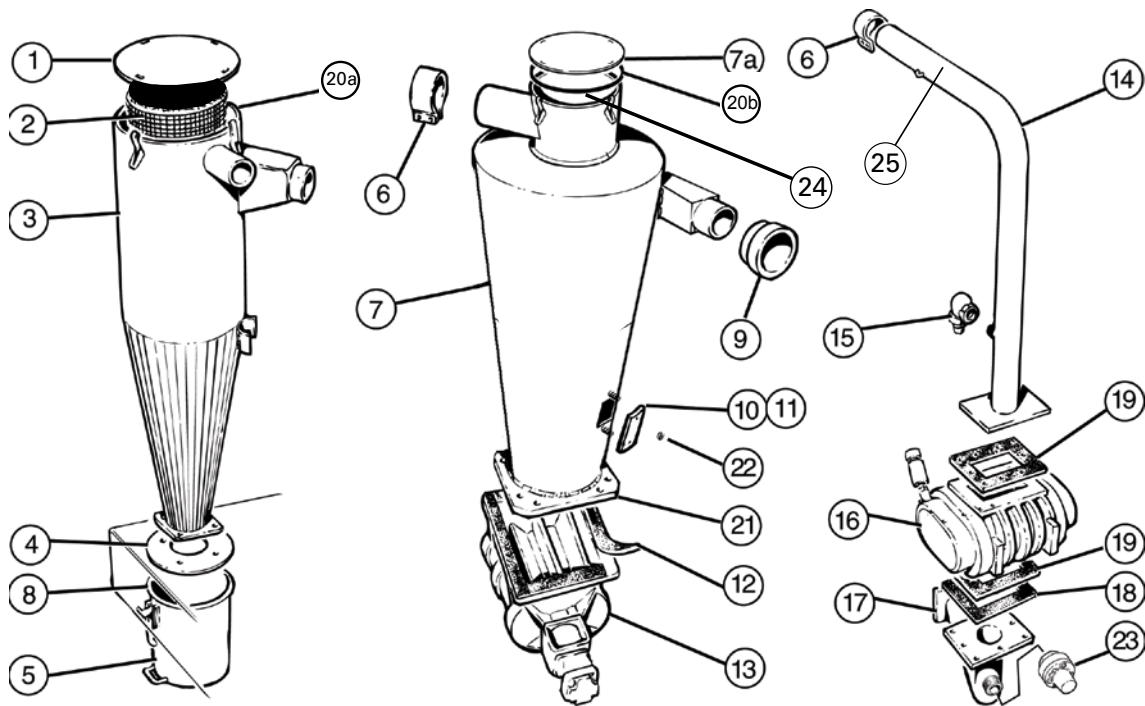
5. Retract and stow all components and accessories and install cover over the boom pivot. (Keeps out dirt and small animals).
6. Inspect all hydraulic hoses, couplers, fittings and lines. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded or is separating from the fitting.
7. Inspect, clean or empty the BPS.
8. Check the fluid level in the air pump oil reservoirs. Add oil as required.
9. Touch up all paint nicks and scratches to help prevent rusting.
10. For storage, select an area which is dry and level. Make sure unit is firmly blocked and will not tip or sink into a soft area. Place a plank under jack for added support.

Description: Frame & Wheel Assembly



Item No.	Part No.	Description	Quantity
1	GV11600	Main frame	1
2	GV30500	Hitch assembly	1
3	GV30023	Snap ring	1
4	GV30001	Jack	1
5	GV60014	Amber reflector	2
6	GV20024	Wheel seal	2
7	GV20025	Bearing cone inner	2
8	GV20026	Bearing cup inner	2
9	GV30026	Wheel hub	2
10	GV20027	Bearing cone outer	2
11	GV20028	Bearing cup outer	2
12	GV56046	Flat washer 3/4"	2
13	GV60012	Cotter key	2
14	GV30027	Castle nut	2
15	GV30029	Dust cap	2
16	GV30512	Tire/rim assembly, ST205 x 15	2
17	GV11620	Boom support	1
18	GV60015	Red reflector	2
19	GV68503	Slow Moving Vehicle sign	1
20	GV11529	Slow Moving Vehicle spade 112409	1
21	GV30028	Wheel bolt	10
22	-	3/8" x 1-1/4" Gap screw, flat washer & lock nut	7
23	-	1/2" x 3" Gap screw, flat washer & lock nut	6

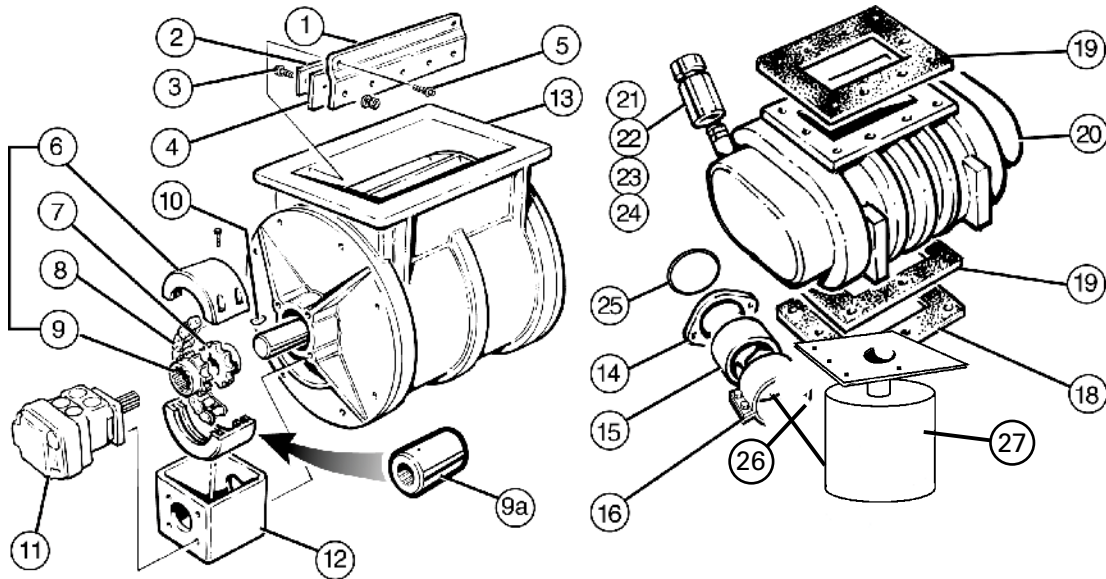
Description: Receiver Tank & Dust Collector



Item No.	Part No.	Description	Quantity
1	GV19504	Dust cyclone top plate	1
2	GV19514	Screen, Blower protection system	1
3	GV19500	Dust cyclone	1
4	GV15525	Ring, pail seal	1
5	GV19512	Dust cyclone pail	1
6	GV26011	5" Seal clamp	2
7	GV15640	Top Loading Receiver tank without coupler	1
7a	GV15632	Receiver tank top plate	1
8	GV64510	Pail gasket, 825 - 045 - 4' required	1
9	GV26052	Female coupler	1
10	GV64001	Foam gasket -1/4 in x 1 in - 3' required	1
11	GV15520	Window receiver	1
12	GV64504	Foam gasket - 6' required	1
13	GV10627	Airlock - see page 39	1
14	GV45505	Airline blower inlet	1
15	GV26119	Vacuum relief valve	1
16	GV14400	Blower complete with Oil filter - see page 39	1
17	GV45630	2 Piece airline blower output - see page 39	1
18	GV64030	Gasket Blower, 5.3 1/8	1
19	GV64501	Blower Gasket, 1/16 rubber	2
20a	GV64500	Rubber channel, 1/4 x 3/8 - 5' required	-
20b	GV64500	Rubber channel, 1/4 x 3/8 - 4' required	-
21	GV64503	Foam gasket, 5' required	-
22	-	1/4" Flat washer & lock nut	2
23	GV26013	Pressure Relief Valve	1
24	GV15651	Screen Main Receiver Tank (anti-plug)	1
24	GV15653	Screen handle, factory installed	1

When ordering parts specify: model, size, serial number and ordering number

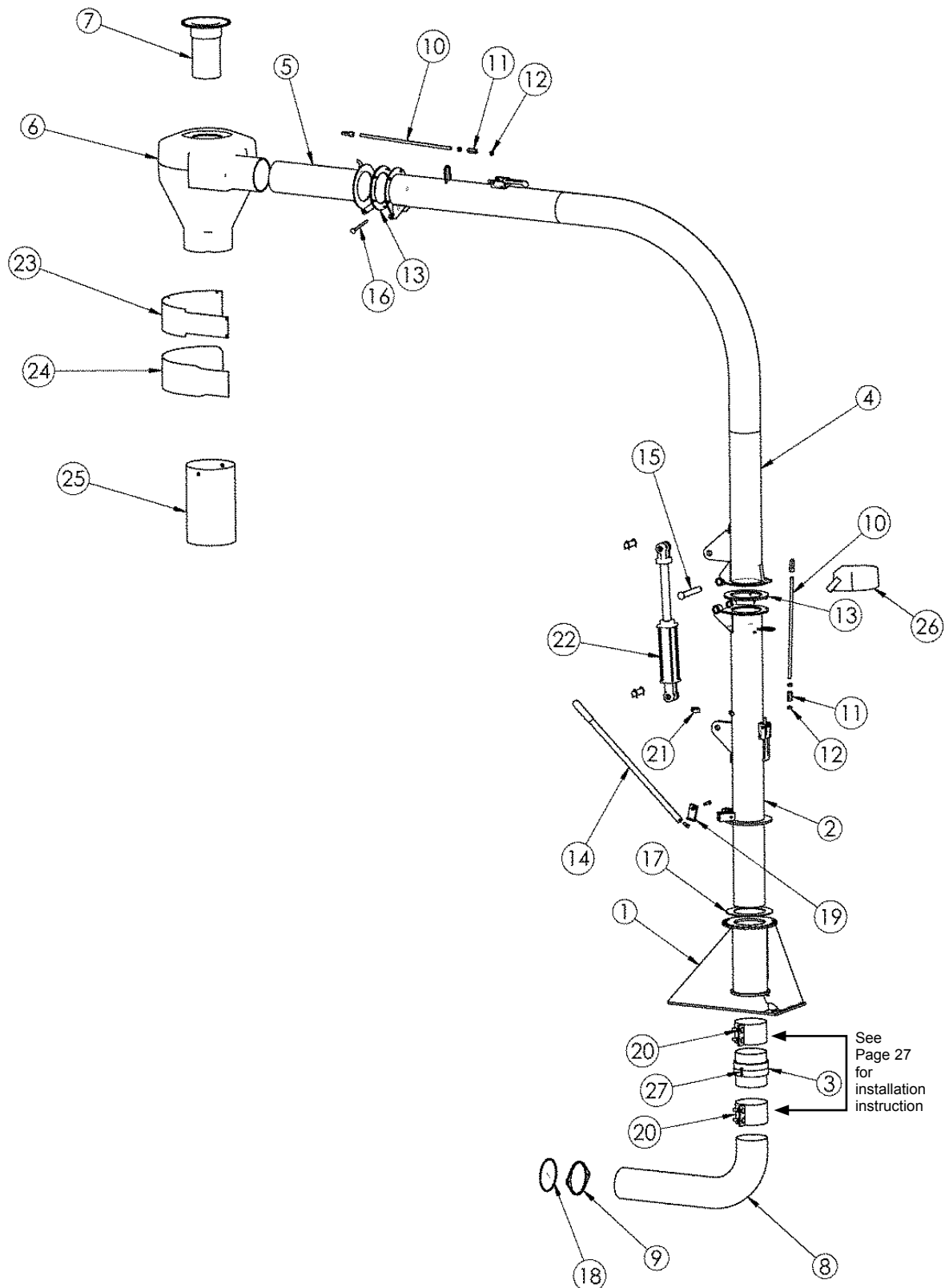
Description: Airlock & Blower Assemblies



Item No.	Part No.	Description	Quantity
-	GV10627	Airlock assembly, complete with motor	1
1	GV10630	Wiper	1
2	GV10631	Retainer Wiper	1
3	-	Bolt, 1/4" x 1-1/2" complete with flat/L washer and nut	3
4	GV10632	Flex tip wiper	1
5	-	Bolt, 1/4" x 1-1/2" complete with flat/L washer and nut	2
6	GV20011	Chain coupler cover (to mid 1997)	1
7	GV20007	Chain coupler sprocket (to mid 1997)	1
8	GV20010	Chain - chain coupler (to mid 1997)	1
9	GV10021	Chain coupler sprocket - splined (to mid 1997)	1
9A	GV10513	Coupler weldment (mid 1997 models and up)	1
10	GV20006	Woodruff key	1
11	GV22228	Hydraulic motor - White	1
12	GV10017	Bracket for mounting airlock motor	1
13	GV10637	Airlock, less motor	1
-	GV14400	Blower complete with breather vents	1
14	GV45603	Flange airlock inlet	1
15	GV26044	reducer 6" to 5"	1
16	GV26011	Seal clamp. 5"	1
18	GV64030	Gasket, 5" x 3-1/8"	1
19	GV64501	Gasket, 1/16" rubber	2
20	GV14400A	Blower less breathers	1
21	GV22136	Galvanized steel nipple, 3/4" x 2-1/2"	2
22	GV22044	Galvanized coupler nipple, 3/4"	2
23	GV22149	Galvanized hexagon bushing, 3/4" x 2-1/2"	2
24	GV14431	Breather vent	2
25	GV20015	O-Ring	1
26	GV26013	Pressure relief valve	1
27	GV45650	Silencer	1

When ordering parts specify: model, size, serial number and ordering number

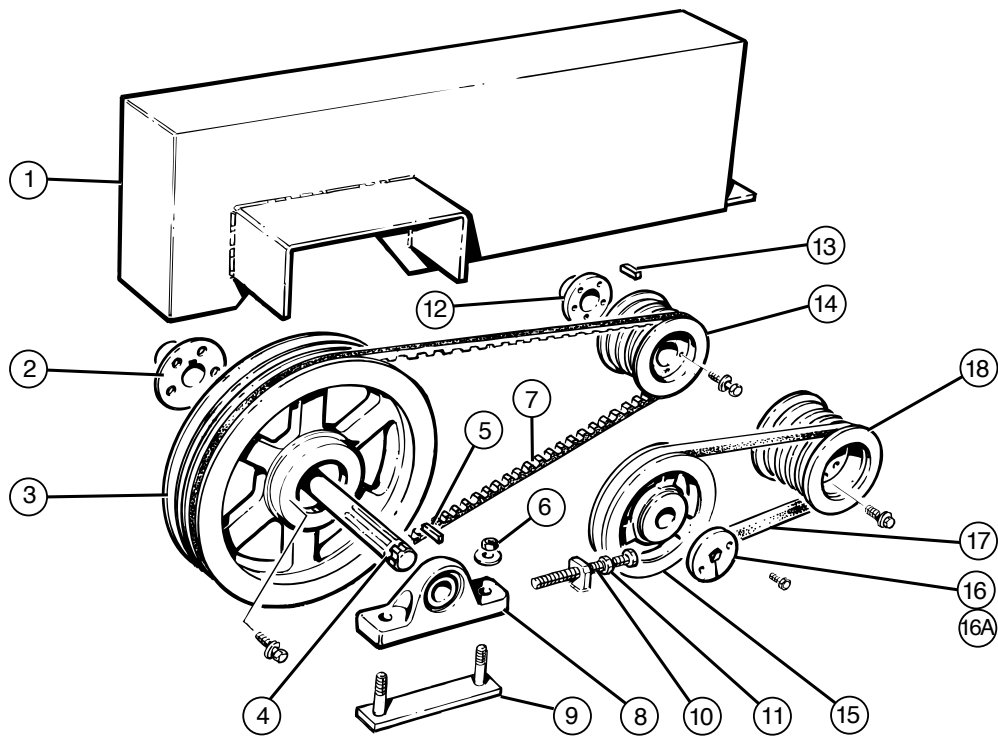
Description: Boom & Cyclone



Item No.	Part No.	Description	Quantity
1	GV29682	Boom Mount Assembly	1
2	GV29690	Bottom Boom Standard	1
	GV29691	Bottom Boom for High Boom	1
3	GV43688	Discharge Swivel	1
4	GV29620	Upper Boom	1
5	GV29630	Boom Extension	1
6	GV31046	Poly Cyclone Shell	1
7	GV31039	Cyclone Thimble Assembly	1
8	GV45611	Elbow Airlock Outlet	1
9	GV45603	Airlock Outlet Flange	1
10	GV29507	Threaded Rod Boom Clamp	2
11	GV56051	1/2" Coupler Nut	2
12	GV56003	1/2" Jam Nut	4
13	GV64033	Boom Gasket	2
14	GV27032	Boom Handle 32"	1
15	GV29508	Boom Hingle Pin	1
16	GV29535	Boom Extension Hinge Pin	1
17	GV29643	Boom Bearing Washer	1
18	GV20015	O-Ring	1
19	GV29540	Boom Lock	1
20	GV26042	2 Bolt Compression Clamp	2
21	GV60032	Boom Handle Clamp	1
22	GV22502	HYD Cylinder (2508 ASE c/w Pins)	1
23	GV31007	Cyclone Steer Liner Long	1
24	GV31010	Cyclone Poly Liner Long	1
25	GV60033	Cyclone Extension Boot	1
26	GV60030	Boom Cover	1
27	GV20019	Grease Fitting - 1/4 x 28	3
	GV31004	Poly Cyclone Assembly	1
	GV31038	Cyclone Liner Kit	1

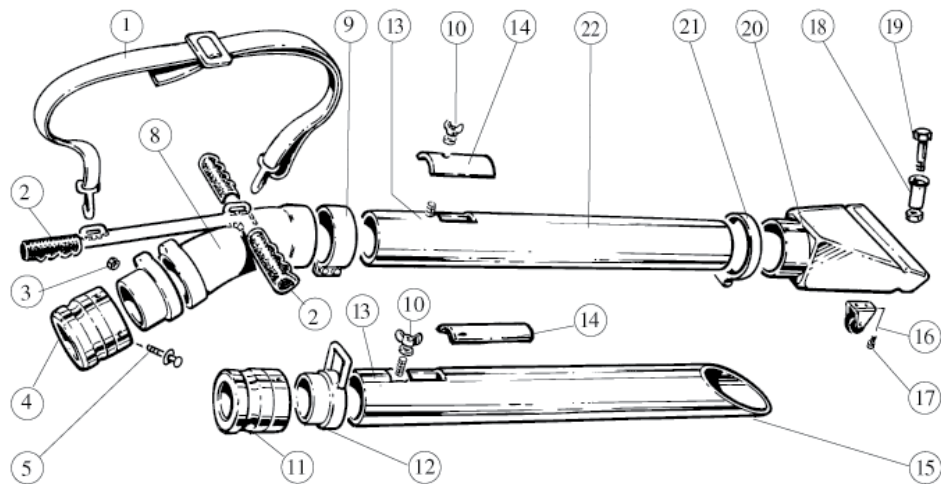
When ordering parts specify: model, size, serial number and ordering number

Description: Belt Drive



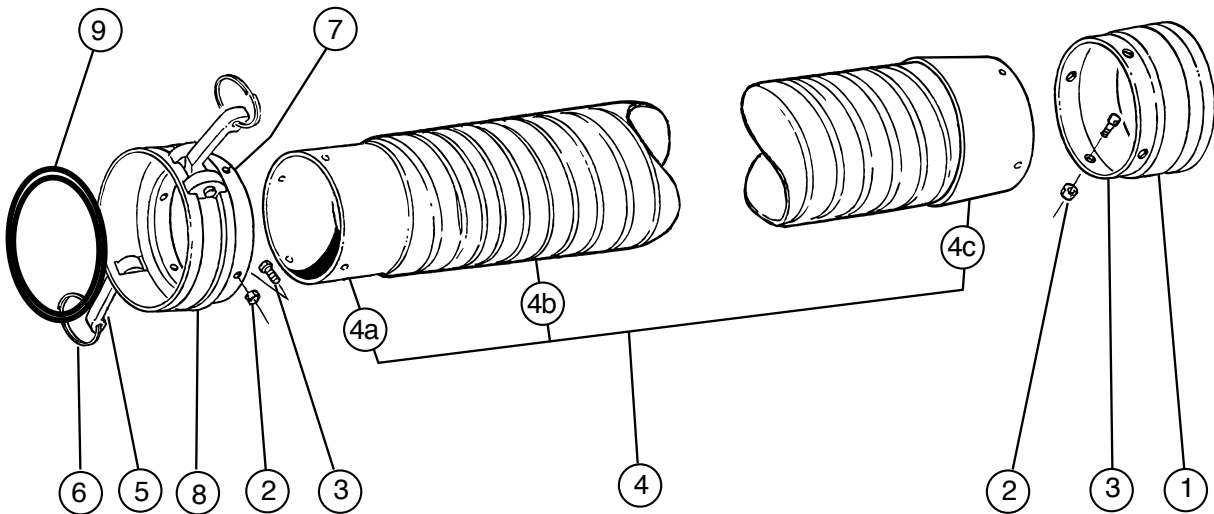
Item No.	Part No.	Description	Quantity
1	GV11520	Belt Cover	1
2	GV18504	Bushing, 1-3/8 complete with bolts	1
3	GV18050	Sheave	1
4	GV18502	Spline shaft, 1-3/8, 6 spline	1
5	GV20502	Key, 5/16 x 2	1
6	-	Flat washer and nylon nut, 1/2 inch	2
7	GV18505	V-Belt	5
8	GV20501	Pillow block bearing, 1-3/8	2
9	GV11503	Bolt weldment - bearing	2
10	GV56026	Tap bolt, 1/2 x 3-3/4	2
11	GV56003	Jam Nut, 1/2"	2
12	GV18010	Bushing, 1 7/16 complete with bolts	1
13	GV20018	Key, 3/8 x 2	1
14	GV18052	Sheave	1
SELF CONTAINED HYDRAULICS - OPTIONAL			
15	GV18510	Sheave, 6.4 QT	1
16	GV18511	Bushing, 9/16 QT complete with bolts	1
16a	GV18515	Bushing, 5/8 QT complete with bolts Serial 2659 & up (Key 3/16" x 3/4" long)	1
17	GV18513	Belt, B38	1
18	GV18512	Sheave 5V, 5.2, replaces 18052	1

Description: Cleanup & Full Bin Nozzles



Item No.	Part No.	Description	Quantity
-	GV43030	Cleanup assembly complete	1
1	GV60021	Shoulder strap	1
2	GV60008	Handle grip	1
3	-	Nylon nut 3/8"	2
4	GV26006	Male coupler	1
5	-	Carriage bolt, 1/4" x 3/4" complete with flat washer	4
8	GV43525	Rotary elbow weldment	1
9	GV26011	Seal clamp	1
10	-	Wing nut and flat washer, 3/8"	2
13	GV43004	Bottom slide assembly	2
14	GV43003	Top slide	2
16	GV60009	Rigid Caster	2
17	-	Carriage bolt, 1/4" x 3/4". complete with washer and nut	1
18	GV43060	Spacer pipe intake flare	1
19	-	Machine bolt, 1/4" x 3", flat lock washer and nut	1
20	GV43129	Bored intake flare	1
21	GV26063	Quick release T-bolt clamp	1
22	GV43031	Aluminum tube	1
-	GV43082	Intake Flare assembly, 16 to 20 (T-bolt clamp not included)	1
-	GV43610	Full bin nozzle assembly	1
10	-	Wing nut and flat washer, 3/8"	2
11	GV26051	Male coupler	11
12	GV43608	Handle	1
13	GV43004	Bottom slide assembly	2
14	GV43003	Top slide	2
15	GV43609	Tube	1

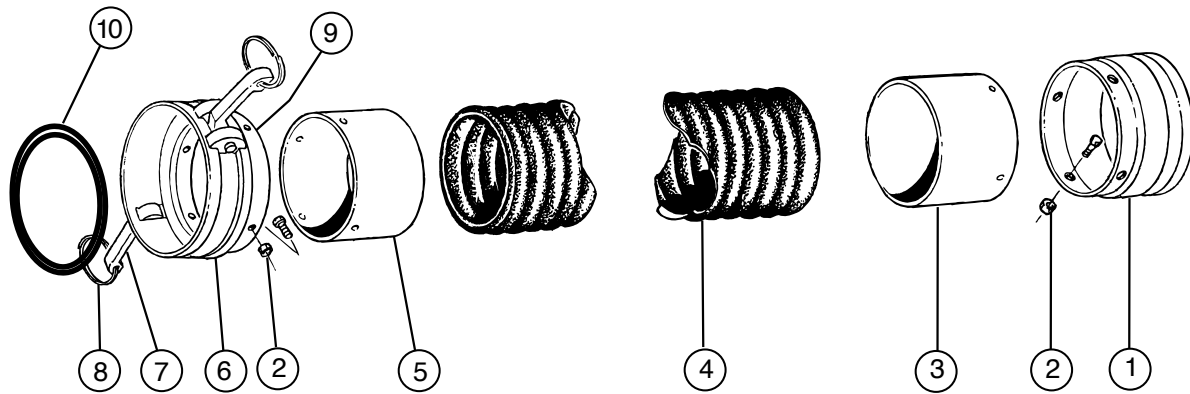
Description: Steel Flex Hose & Couplers



Item No.	Part #	Description	Quantity
-	GV43047	Steel Flex Hose Assembly - includes 1-9	1
1	GV26051	Male Coupler	1
2	GV56030	Lock Nut, 1/4" NC x 3/4"	8
3	GV56027	Carriage Bolt, 1/4" NC x 3/4"	8
4	GV43048	Steel Flex Hose, 10 ft.	1
4a	GV43050	Tubing	1
4b	GV26073	Steel Flex Poly Lock, 10 ft.	1
4c	GV26047	Hose End Reducer	1
5	GV26086	Cam Lever	2
6	GV26085	Finger Ring	2
7	GV26082	Cam Lever Pin	2
8	GV26052	Fem Coupler Assembly - includes 5-7	1
9	GV64029	Coupler Gasket	1

When ordering parts specify: model, size, serial number and ordering number

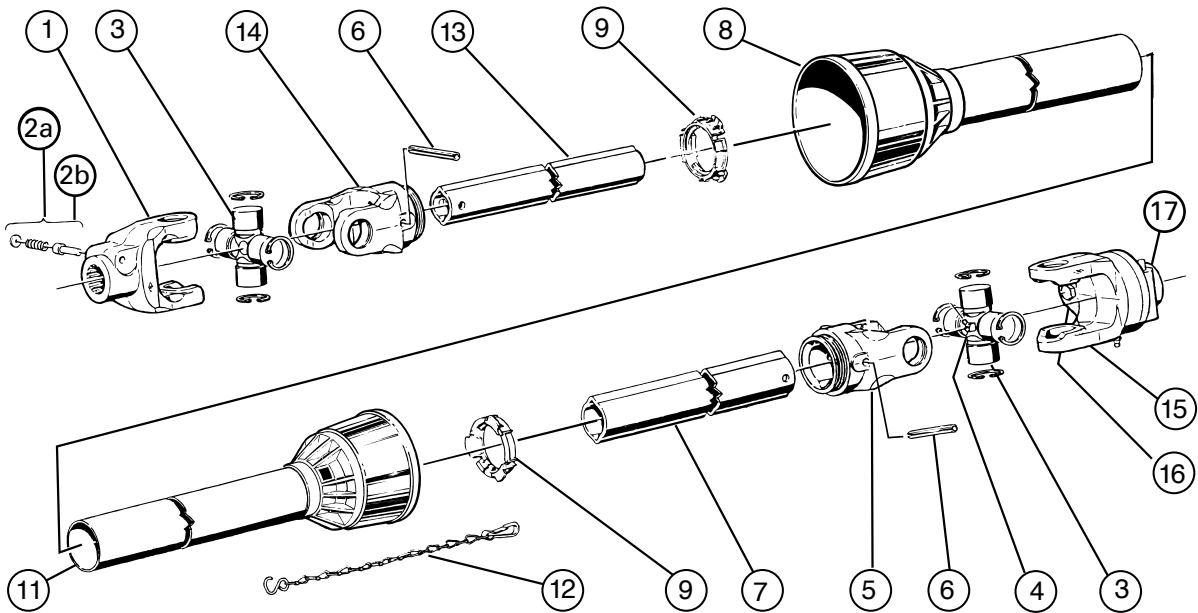
Description: Cleanup Hose & Couplers



Item No.	Part No.	Description	Quantity
-	GV43034	Complete Hose Assembly - 4" x 14', 4" female x 5" male	1
1	GV26006	Male Coupler, 5"	1
2	GV56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
3	GV26028	Reducer, 5" - 4"	1
4	GV26112	Poly Hose, 4" x 14'	14 feet
5	GV43035	Tube	1
6	GV26005	Female Coupler, 4" - includes 7 - 9	1
-	GV43056	Complete Hose Assembly - 5" x 14', 5" female x 6" male	1
1	GV26051	Male Coupler, 6"	1
2	GV56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
3	GV26044	Reducer, 6" - 5"	1
4	GV26113	Poly Hose, 5" x 14'	14 feet
5	GV43029	Tube	1
6	GV26007	Female Coupler, 5" - includes 7 - 9	1
-	GV43019	Complete Hose Assembly - 6" x 14', 6" female x 6" male	1
1	GV26051	Male Coupler, 6"	1
2	GV56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
4	GV26120	Poly Hose, 6" x 14'	14 feet
5	GV43050	Tube	2
6	GV26052	Female Coupler, 6" - includes 7 - 9	1
-	GV43079	Complete Hose Assembly - 5" x 14', 5" female x 5" male	1
1	GV26006	Male Coupler, 5"	1
2	GV56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
4	GV26113	Poly Hose, 5" x 14'	14 feet
5	GV43029	Tube	2
6	GV26007	Female Coupler, 5" - includes 7 - 9	1
-	-	Coupler parts	-
7	GV26086	Cam Lever, for 4" & 5"	2
8	GV26085	Finger Ring	2
9	GV26081	Pin Cam Lever, for 4" & 5"	2
9	GV26082	Pin Cam Lever, for 6"	2
10	GV64027	Coupler Gasket, for 4"	2
10	GV64028	Coupler Gasket, for 5"	2
10	GV64029	Coupler Gasket, for 6"	2

When ordering parts specify: model, size, serial number and ordering number

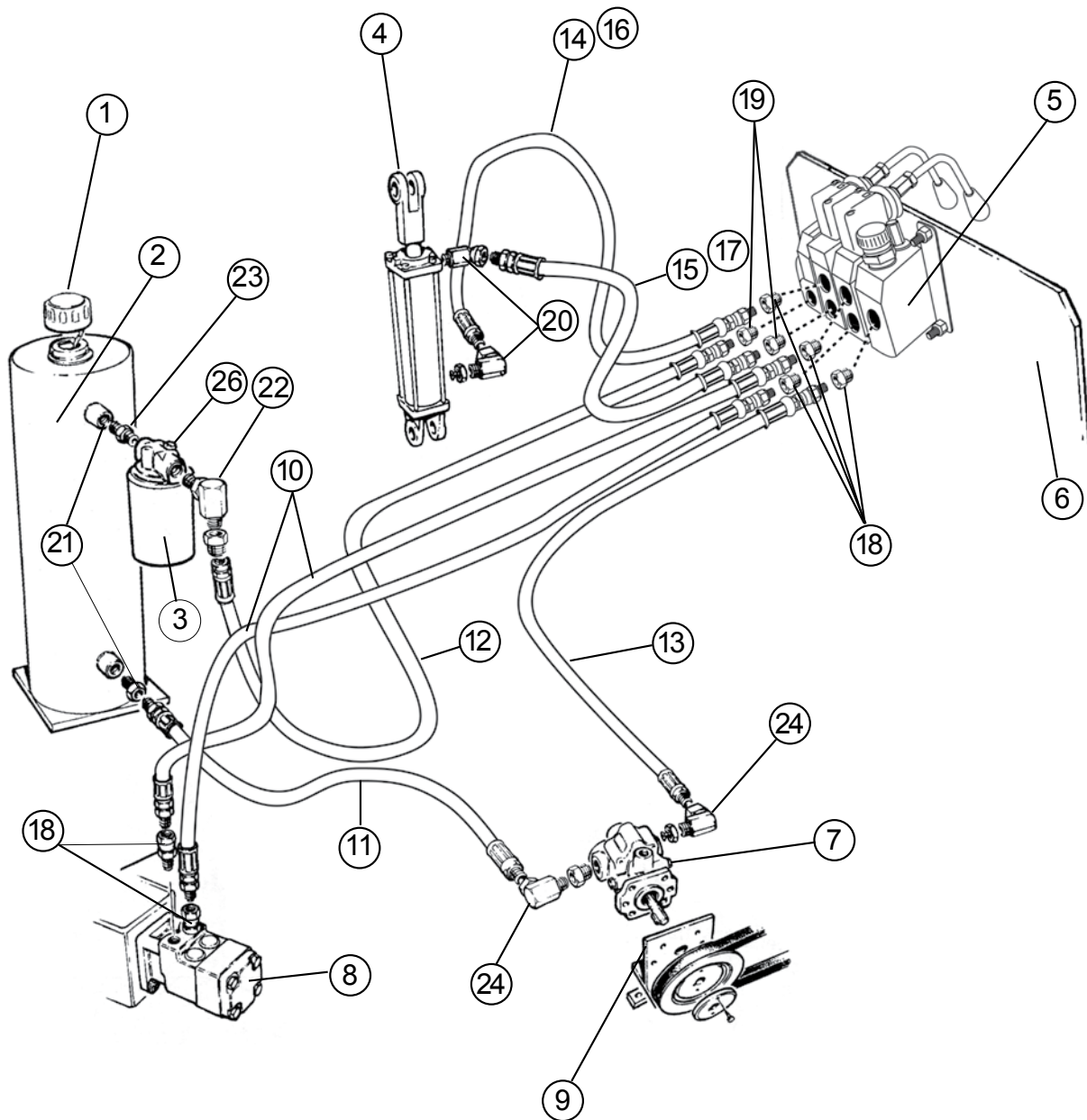
Description: PTO (La Magdalena - 1000 RPM)



Item No.	Part No.	Description	Quantity
-	GV16102	Drive shaft complete for 5" and 6" units	1
1	GV16201	End yoke, 1 3/8" - 21 spline	1
2a.	GV16202	Pin Kit	1
2b.	GV16217	Pin Kit 2008 Model Vacs and later	1
3	GV16203	Cross and bearing kit	2
4	GV16110	Grease nipple	2
5	GV16204	Yoke, Inner profile	1
6	GV16112	Spring pin	2
7	GV16205	Inner profile	1
8	GV16208	Outer shield tube	1
9	GV16209	Shield bearing	2
10	GV16207	Shield Complete - Inner & Outer	1
11	GV16210	Inner shield tube	1
12	GV16211	Safety Chain	1
13	GV16212	Outer profile	1
14	GV16213	Yoke, outer profile	1
15	GV16214	Shear bolt clutch yoke	1
16	GV16206	Shear bolt, 10 mm x 65 mm, 8.8 DIN	1
17	GV16215	Pin Kit Clutch Yoke	1

When ordering parts specify: model, size, serial number and ordering number

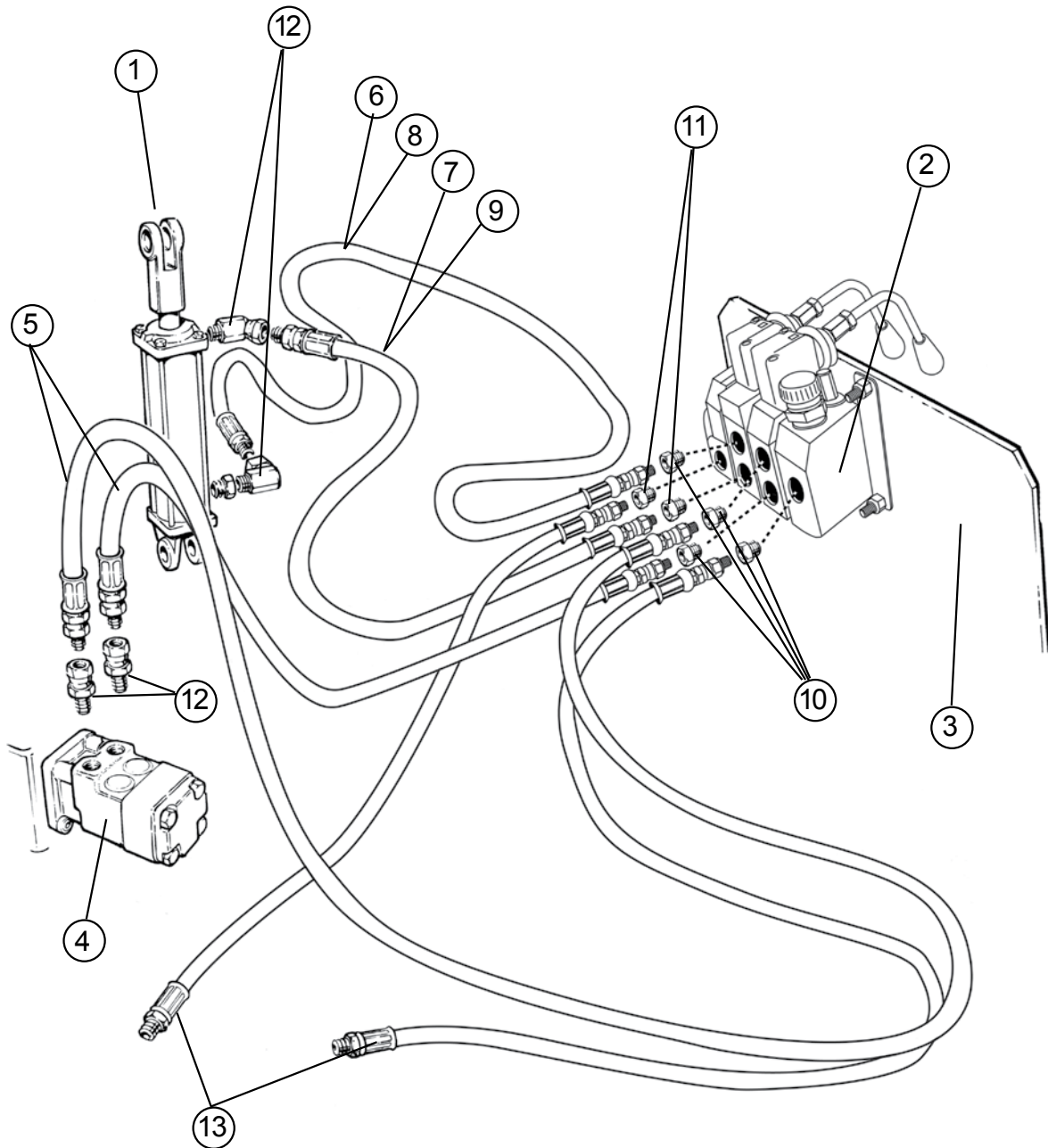
Description: Self Contained Hydraulic System



Item No.	Part No.	Description	Quantity
1	GV22066	Filter Breather	1
2	GV22550	Tank - for self-contained hydraulics	1
3	GV22068	Filter	1
4	GV22502	Hydraulic Cylinder	1
5	GV22700	Valve Bank	1
6	GV22510	Mount for Hydraulic Valve	1
7	GV22540	Hydraulic Pump	1
8	GV22228	Hydraulic Motor	1
9	GV22664	Mount for Hydraulic Pump	1
10	GV22702	Hose - Motor to Valve	1
11	GV22725	Hose - SCH Suction	1
12	GV22705	Hose - SCH Return	1
13	GV22706	Hose - SCH Pump to Valve	1
14	GV22707	Hose - Boom (138") (for Standard Boom)	1
15	GV22708	Hose - Boom (148") (for Standard Boom)	1
16	GV22709	Hose - Boom (154") (for High Reach Boom)	1
17	GV22710	Hose - Boom (164") (for High Reach Boom)	1
18	GV22714	Fitting 10MB-8MJ	6
19	GV22715	Fitting 10MB-6MJ	2
20	GV22716	Fitting 6MJ-6MP90	2
21	GV22718	Fitting 12MP-8MJ	2
22	GV22719	Fitting 8MB-8FJX	1
23	GV22720	Fitting 8MB-8FJX	1
24	GV22721	Fitting 12MB-8MJ90	1
25	GV22722	Fitting 10MB-8MJ90	1
26	GV22701	Filter Head	1

When ordering parts specify: model, size, serial number and ordering number

Description: Standard Hydraulic System



Item No.	Part No.	Description	Quantity
1	GV22502	Hydraulic Cylinder	1
2	GV22700	Valve Bank	1
3	GV22510	Mount for Hydraulic Valve	1
4	GV22228	Hydraulic Motor	1
5	GV22702	Hose - Motor to Valve	1
6	GV22707	Hose - Boom (138") (for Standard Boom)	1
7	GV22708	Hose - Boom (148") (for Standard Boom)	1
8	GV22709	Hose - Boom (154") (for High Reach Boom)	1
9	GV22710	Hose - Boom (164") (for High Reach Boom)	1
10	GV22714	Fitting - 10MB-8MJ	6
11	GV22715	Fitting - 10MB-6MJ	2
12	GV22716	Fitting - 10MJ-6MP90	2
13	GV22703	Hose - Tractor (Inlet/Return)	2

When ordering parts specify: model, size, serial number and ordering number

Warranty Policy

Buhler Industries Ltd. (hereafter referred to as "Buhler") products are warranted for a period of twenty-four (24) months from the date of delivery to the original purchaser, to be free from defects in material and workmanship when used under correct, normal agricultural use and proper applications.

Buhler's obligation under the warranty shall be limited to the repair or exchange (at Buhler's option) of any part which proves to be defective as provided.

The buyer shall be responsible for all expenses incurred as a result of repairs, labour, parts, transportation or any other work unless a Buhler dealer has authorized such expenses in advance. It is the responsibility of the dealer to get approval from Buhler before authorizing warranty work being done. Buhler reserves the right to either inspect the product at the buyer's location or have the defective part returned to the factory for inspection.

The above warranty does not extend to goods damaged or subject to accidents, abuse or misuse after shipment from Buhler's factory, nor to goods altered or repaired without authorization from Buhler.

Buhler makes no Express Warranty other than those which are specifically described. Any description of goods, including any reference to specifications in catalogues, circulaires, and other written material published, is for the sole purpose of identifying goods and shall conform to such descriptions. Any sample or model is for illustration purposes only, and does not create an Express Warranty that the goods conform to the sample or model. The dealer is solely responsible for determining the suitability of goods sold.

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This warranty is expressly in lieu of all other warranties expressed or implied. Buhler will in no event, be liable for any incidental or consequential damages, nor for any sum in excess of the price received for the goods for which liability is claimed.

Claims for warranty must be made on Buhler Warranty Claim Forms within 10 days of the failure occurrence. Warranty Authorization numbers are available from the factory and must be indicated on the Warranty Claim Form for all claims over a total dollar value of \$100.00.

The labour rate for warranty work where applicable will be credited at a rate determined by Buhler.

IMPORTANT: Components or accessories, including blower, airlock, flex, hose and hose accessories that come in contact with material being moved, carry no warranty for wear. Warranty is void when unit is used for moving material other than cereal grains, grass seeds or pulse crops.

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