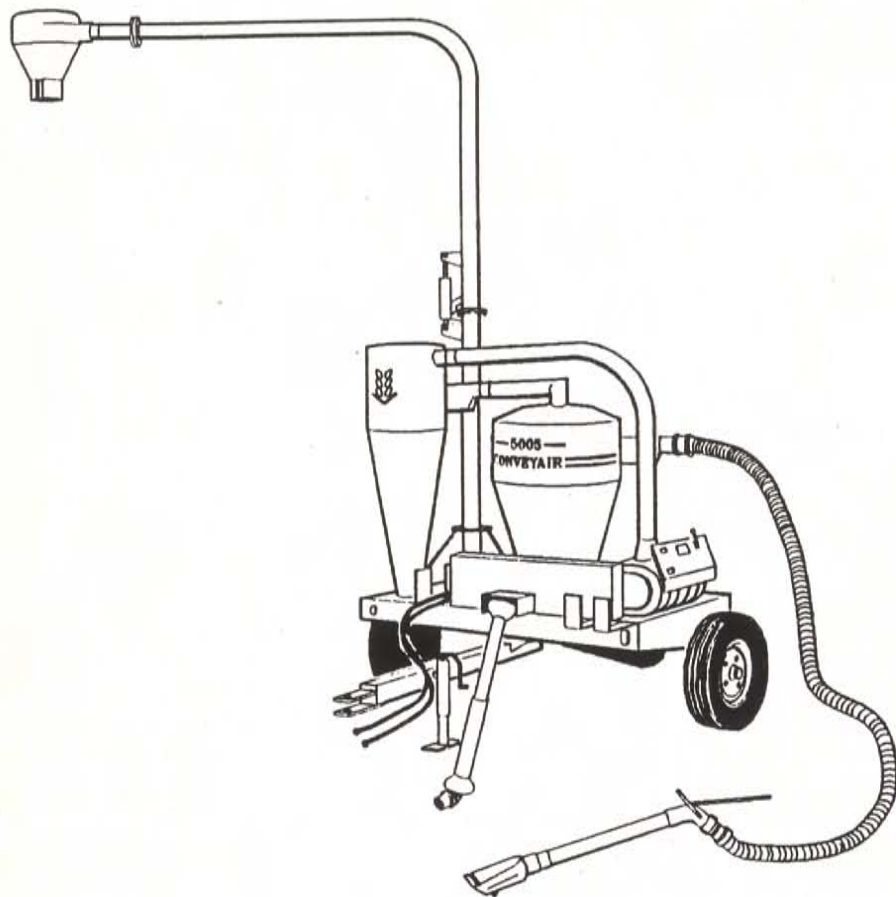


Thor

MANUFACTURING LTD.



GRAIN VAC

MODELS

5005 AND 6006

OPERATOR'S MANUAL

THOR MANUFACTURING LIMITED
LIMITED WARRANTY

Thor Manufacturing Ltd. (hereafter referred to as "Thor") products are warranted for a period of twelve (12) 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 application.

Thor's obligation under the warranty shall be limited to the repair or exchange (at Thor'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, labor, parts, transportation or any other work unless a Thor dealer has authorized such expenses in advance. It is the responsibility of the dealer to get approval from Thor before authorizing warranty work being done. Thor 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 Thor's factory, nor to goods altered or repaired without the authorization of Thor.

Thor makes no Express Warranty other than those which are specifically described. Any description of goods, including any reference to specifications in catalogues, circulars, 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.

COMPANY (THOR) MAKES NO WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.

This warranty is expressly in lieu of all other warranties expressed or implied. Thor 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 Thor Warranty Claim Forms within 10 days of the failure occurrence. Warranty Authorization Number are available from the factory and must be indicated on the Warranty Claim Form for all claims over total dollar value of \$100.00.

The labor rate for warranty work where applicable will be credited at a rate determined by the company, Thor Manufacturing.

IMPORTANT: The blower and airlock carry no warranty for wear and/or damage due to foreign matter such as metal objects or stones passing through them or due to using the machine to convey materials other than cereal grains, grass seeds or pulse crops.

April 15/1994

CONVEYAIR GRAIN VAC

WARRANTY REGISTRATION FORM & INSPECTION REPORT

WARRANTY REGISTRATION

Failure to return completed registration to THOR within 10 days of delivery will VOID warranty.

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer's Name _____ Dealer _____

Address _____ Address _____

City, State, Zip _____ City, State, Zip _____

CONVEYAIR MODEL # _____ DATE PURCHASED _____

CONVEYAIR SERIAL # _____

AIR PUMP SERIAL # _____

AIRLOCK SERIAL # _____

CHECK ONE:

COMMERCIAL _____

FARM USE _____

INSPECTION REPORT

Date _____ Inspected By _____

(PRINT NAME)

- ☐ BELT TENSION & ALIGNMENT
- ☐ HYDRAULIC FITTINGS
- ☐ HYDRAULIC LINES
- ☐ ALL LIGHTS AND REFLECTORS IN PLACE
- ☐ WHEEL BOLTS TIGHT
- ☐ TIRE AIR PRESSURE (25 PSI)
- ☐ ALL GREASE FITTINGS GREASED
- ☐ CAM LOCK COUPLERS OPERATE FREELY
- ☐ PTO SHAFT INSTALLED PROPERLY
- ☐ ALL SHIELDS IN PLACE

AIR PUMP RESERVOIR LEVELS

- ☐ FRONT
- ☐ REAR

SELF CONTAINED HYDRAULICS

- ☐ HYDRAULIC OIL LEVEL
- ☐ HYDRAULIC CONTROL OPERATION

SAFETY

- ☐ ALL SAFETY PROCEDURES HAVE BEEN REVIEWED WITH CUSTOMER
- ☐ ALL WARNING DECALS ARE IN PLACE, CLEAN AND LEGIBLE
- ☐ INSTRUCT CUSTOMER TO REVIEW SAFETY AND OPERATING PROCEDURES WITH ALL OPERATORS ANNUALLY

I have thoroughly inspected the machine and made adjustments and corrections as needed.

Signature _____ (Dealer Inspector)

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

Date _____ Dealer's Rep. Signature _____

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

Date _____ Owner's Signature _____

WHITE	YELLOW	PINK
THOR MFG.	DEALER	CUSTOMER

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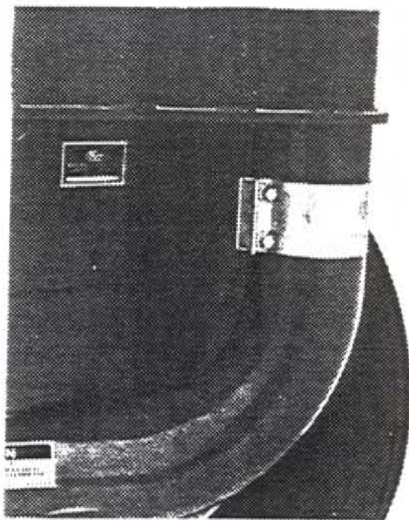
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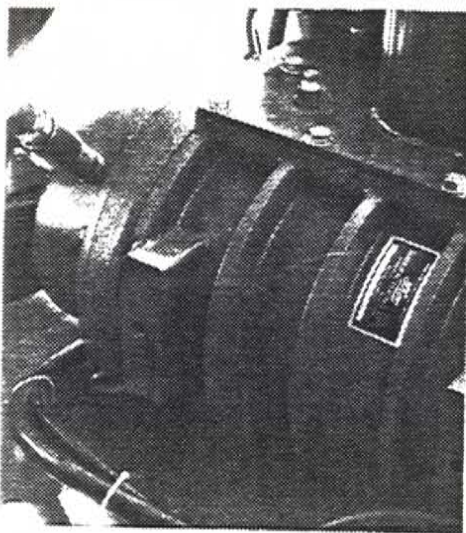
SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Conveyair Grain Vac when ordering parts or requesting service or other information.

The serial number plates are located where indicated. Please mark the number in the space provided for easy reference.



MACHINE
(left of rear
of machine)



BLOWER
(side facing
reciever tank)



AIRLOCK
(centre rib
facing front)

Machine Serial Number _____

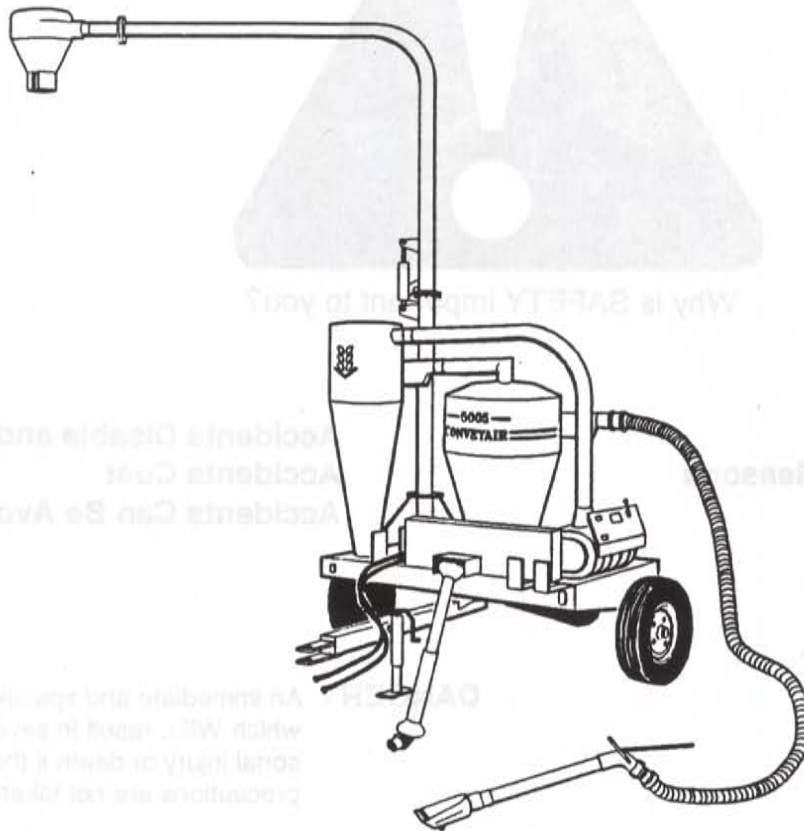
Airlock Serial Number _____

Blower Serial Number _____

1 INTRODUCTION

Congratulations on your choice of a new Conveyair grain vac to complement your farming operation. This equipment has been designed and manufactured to meet the needs of a discerning Agricultural industry for the efficient moving of grain.

Safe, efficient and trouble-free operation of your Conveyair requires that you and anyone else who will be operating or maintaining the machine read and understand all of the safety, operation, maintenance and trouble shooting information contained in this Operator's Manual.



This manual covers Models 5005 & 6006. Use the table of contents as a guide to locate required information.

Keep this manual handy for frequent reference and to pass on to new operators and owners. Call your Conveyair dealer or distributor if you need assistance, information or additional copies of the manuals.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout the manual are as seen from the rear of the machine (opposite hitch end).

2 SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!



The Safety Alert symbol identifies important safety messages on the Conveyair Grain Vac and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

DANGER - An immediate and specific hazard which **WILL** result in severe personal injury or death if the proper precautions are not taken.

SIGNAL WORDS:

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

WARNING - A specific hazard or unsafe practice which **COULD** result in severe personal injury or death if proper precautions are not taken.

CAUTION - Unsafe practices which **COULD** result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

SAFETY

YOU are responsible for the **SAFE** operation and maintenance of your Conveyair grain vac. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the machine be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the grain vac.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Grain vac owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think **SAFETY!** Work **SAFELY!**

2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unplugging the grain vac.



2. Provide a first-aid kit for use in case of an accident. Store in a highly visible place.



3. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.



4. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves
- Wet weather gear
- Hearing protection
- Respirator or filter mask



5. Install and secure all guards before starting.

6. Do not allow riders.

7. Wear appropriate ear protection for prolonged exposure to excessive noise.



8. 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.

9. Clear the area of people, especially small children, before starting the unit.

10. Always know where all overhead electrical wires are located and stay away from them.

11. Review safety related items annually with all personnel who will be operating or maintaining the grain vac.

2.2 OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging.
2. Do not allow riders.
3. Install and secure all guards and shields before starting or operating.
4. Keep hands, feet, hair and clothing away from moving parts.
5. 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.
6. Place all tractor and machine controls in neutral before starting.
7. Never operate the Conveyair and power unit inside a closed building.
8. Clear the area of bystanders, especially small children, before starting.
9. Stay away from PTO shaft, intake nozzle and discharge when engaging PTO.
10. Keep all hydraulic lines, fittings and couplers tight and free of leaks.
11. Clean reflectors, SMV and lights before transporting.
12. Use hazard flashers on tractor when transporting.
13. Use a retainer on drawbar pin, secure PTO shaft and install safety chain when attaching to tractor.
14. Stay away from overhead electrical wires when operating boom or when moving.
15. Do not remove receiver inspection window while tractor is running.
16. Do not remove elbow from airlock outlet when tractor is running.
17. Stay clear of truck loading boom when folding truck loading kit.
18. Review safety instructions with all operators annually.

2.3 MAINTENANCE SAFETY

1. Follow ALL the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when changing tires or working beneath it.
3. 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.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Make sure all guards are in place and properly secured when maintenance work is completed.
6. Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
7. Before applying pressure to a hydraulic system, make sure all lines, fittings and couplers are tight and in good condition.
8. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
9. Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.

2.4 HYDRAULIC SAFETY

1. Make sure that all components in the hydraulic system are kept in good condition and are clean.
 2. Replace any worn, cut, abraded, flattened or crimped hoses and metal lines.
 3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
 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 a leak.
 5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
 6. Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are not damaged.
- Think SAFETY! Work SAFELY!



2.5 TRANSPORT SAFETY

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 the safety chain before transporting.
6. Always use hazard flashers on the tractor when transporting.
7. Stay away from overhead electrical wires. Electrocuting can occur without direct contact.

2.6 STORAGE SAFETY

1. Store the machine in an area away from human activity.
2. Do not permit children to play on or around the stored machine.
3. Make sure the unit is sitting, or blocked up firm and solid and will not tip or sink into a soft area.

2.7 TIRE SAFETY

1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair service perform required tire maintenance.

2.8 SAFETY DECALS

1. Keep safety decals and signs clean and legible at all times.
2. Replace safety decals and signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety decals or signs are available from your Dealer Parts Department.

How to Install Safety Decals:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

Thor Manufacturing follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the Grain Vac must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

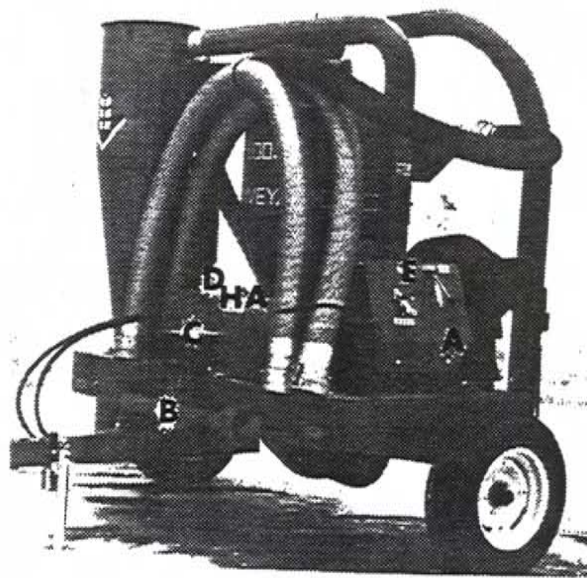
SIGN-OFF FORM

[illegible]

3 SAFETY DECAL LOCATIONS

The types of decals and locations on the equipment are shown in the illustration below. Good safety requires that you familiarize yourself with the various Safety Decals, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

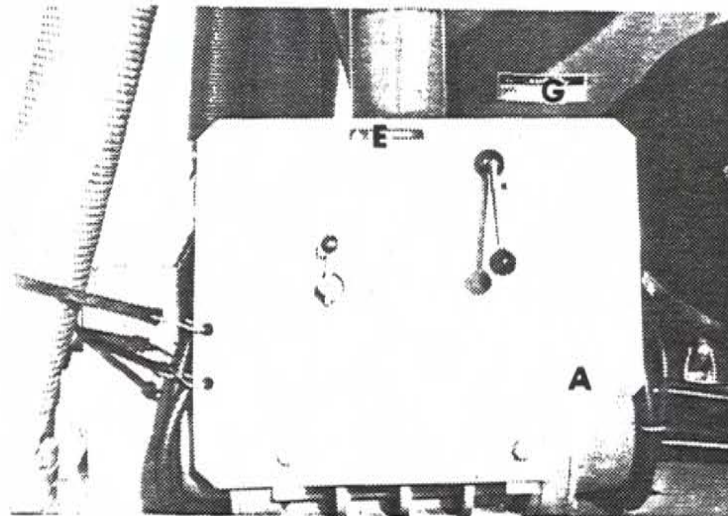


A

CAUTION

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

68.050



B

DANGER

**ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!**

DO NOT OPERATE WITHOUT -

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE.
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE

383333

C

DANGER

ROTATING DRIVELINE HAZARD

To prevent serious injury or death from rotating driveline:

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

68.051

REMEMBER - If Safety Decals have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized dealer.

The types of decals and locations on the equipment are shown in the illustration below. Good safety requires that you familiarize yourself with the various Safety Decals, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

D



WARNING

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

68.057

E



DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

Stay away from overhead electrical wires when operating the discharge boom. Electrocution can occur without direct contact.

68.056

F



WARNING

ROTATING AIRLOCK HAZARD

To prevent serious injury or death from airlock blades:

1. Do not place hands in airlock when it is turning.
2. Shut-off engine and wait for moving parts to stop before removing elbow from airlock discharge.

68.055

G



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.

68.054

H



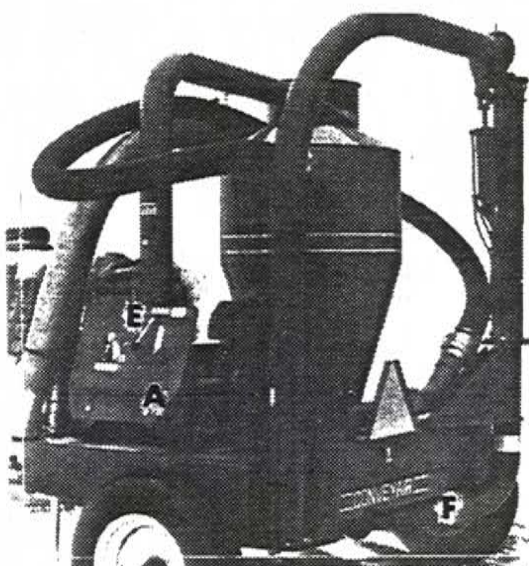
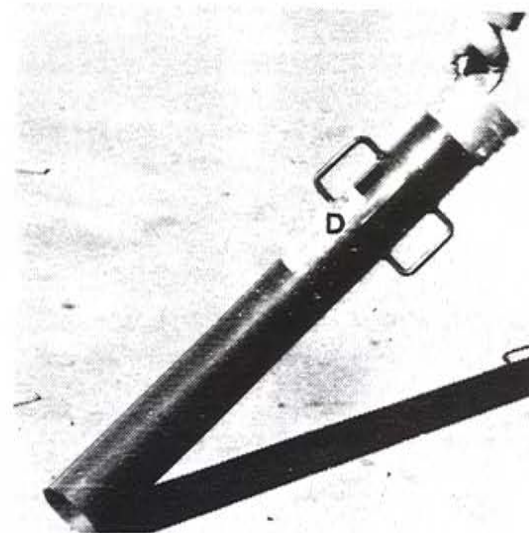
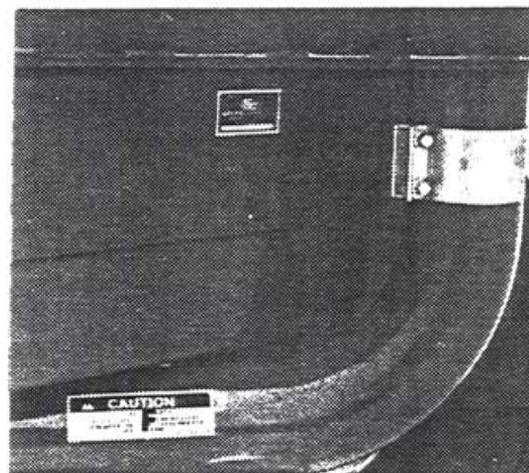
WARNING

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.

68.053



REMEMBER - If Safety Decals have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from your authorized dealer.

4 OPERATION



OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging.
2. Do not allow riders.
3. Install and secure all guards and shields before starting or operating.
4. Keep hands, feet, hair and clothing away from moving parts.
5. 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.
6. Place all tractor and machine controls in neutral before starting.
7. Never operate the Conveyair and power unit inside a closed building.
8. Clear the area of bystanders, especially small children, before starting.
9. Stay away from PTO shaft, intake nozzle and discharge when engaging PTO.
10. Keep all hydraulic lines, fittings and couplers tight and free of leaks.
11. Clean reflectors, SMV and lights before transporting.
12. Use hazard flashers on tractor when transporting.
13. Use a retainer on drawbar pin, secure PTO shaft and install safety chain when attaching to tractor.
14. Stay away from overhead electrical wires when operating boom or when moving.
15. Do not remove receiver inspection window while tractor is running.
16. Do not remove elbow from airlock outlet when tractor is running.
17. Stay clear of truck loading boom when folding truck loading kit.
18. Review safety instructions with all operators annually.

4.1 TO THE NEW OPERATOR OR OWNER

The Conveyair grain vac from Thor Manufacturing has been designed to efficiently move grain in a stream of air. Air to move the grain is supplied by a heavy duty air pump. Be familiar with the machine before starting.

It is the responsibility of the owner and operator to read this manual and be familiar with the safety and operating instructions. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator and bystanders.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum field efficiency. By following the operating instructions in conjunction with a good maintenance program, your grain vac will provide many years of trouble-free service.

4.2 PRINCIPLE COMPONENTS

The heart of the Conveyair grain vac is the air pump and the air lock. Both components must be operating at their recommended speeds to obtain maximum efficiency from the machine.

Air movement is created with a vacuum in the lines between the pump and the receiver tank above the air lock. The outlet line of the air pump to the airlock and the truck loading kit contains pressurized air. Because of the vacuum created in the receiver tank, air and grain enter through the intake lines. Gravity and centrifugal force combine to move the grain down in the receiver tank to the air lock.

Air flows through the intake lines and receiver tank to the air pump. After the air goes through the air pump, it becomes pressurized. The pressurized air goes to the air lock where it picks up grain in the air lock segments. The grain and pressurized air are discharged through the truck loading kit into the receiving unit or into lines to storage bins.

The air pump 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.

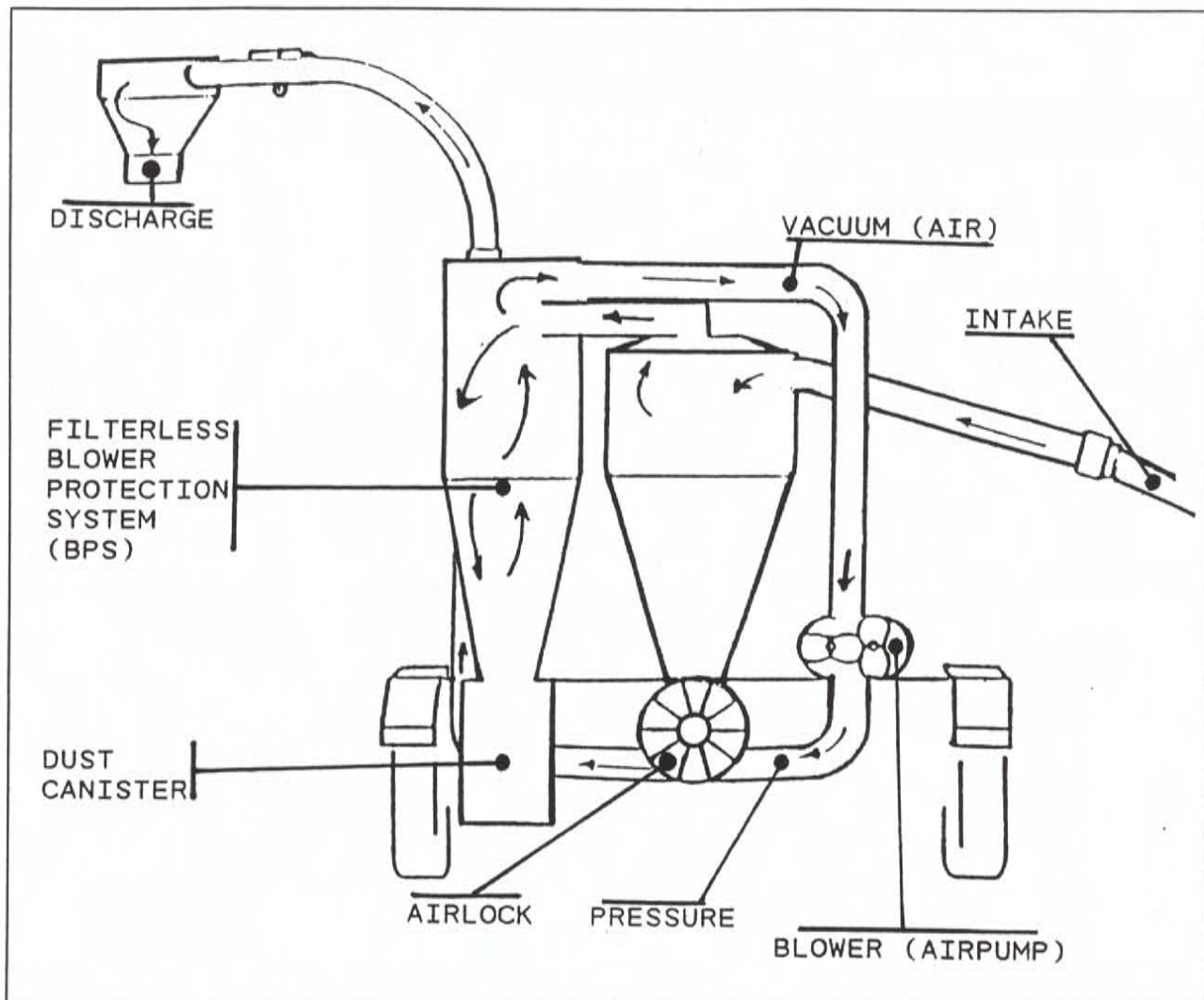
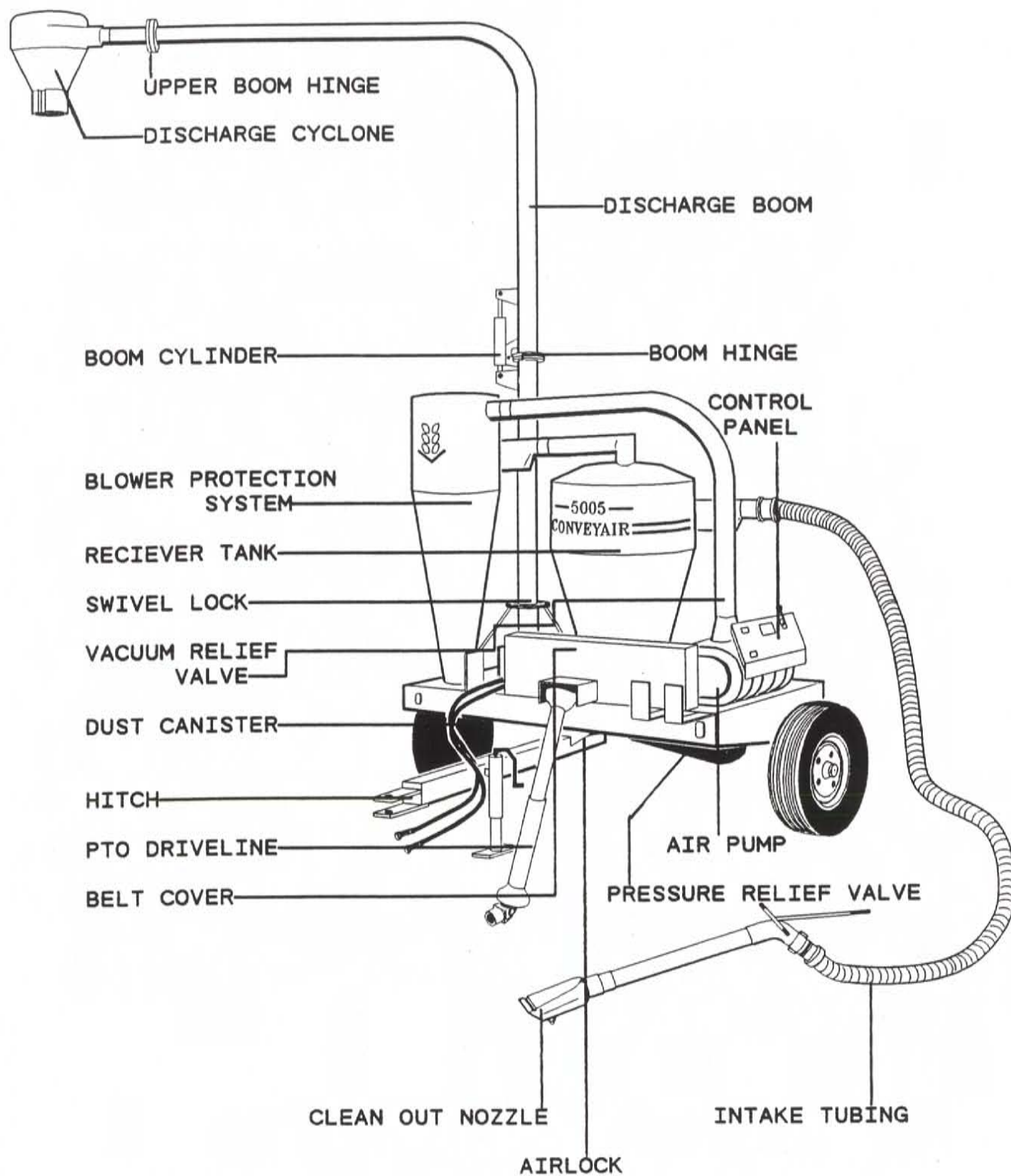


Fig. 1 PRINCIPLE COMPONENTS

4.3 GLOSSARY OF TERMS



4.4 BREAK-IN

Although the machine has been operated for a short time at the factory, it can not be considered broken in. It normally takes 5 to 10 hours of operation for all the internal parts to be polished by the grain stream and for the machine to come up to full capacity. During these first hours, the following checks are recommended:

A. Before starting or pre-delivery inspection:

1. Read the Operator's Manual.
2. Turn the large pulley by hand to check that the air pump turns freely.
3. Check that the air pump oil reservoirs are filled to the right level with the proper oil.
4. Tighten wheel bolts to their specified torque.
5. Check all fasteners and be sure they are tightened to their specified torque levels.
6. Check that the hydraulic lines are routed where they will not contact moving parts. Be sure they are clipped, taped or tied in position.

B. 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 add oil as required.
3. Retorque all hardware.
4. Check belt tension and adjust as required.
5. Check the oil levels in the air pump reservoirs. If low, correct leak before proceeding. Add oil as required.

C. After operating for 2 and 10 hours:

1. Perform the same checks and inspections as done at 1/2 hour.
2. After the 10 hour inspection, go to the normal service and maintenance procedure as outlined in this manual.

4.5 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Conveyair grain vac requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this manual. A pre-operation checklist is provided for the operator. It is important for both personal safety and maintaining the good mechanical condition of the machine that this checklist is followed.

Before operating the grain vac and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outlined in the Maintenance Section.
2. Use only a tractor with sufficient power and adequate hydraulic capacity to properly operate the machine.
3. Be sure that the machine is properly attached to the tractor.
 - a. A retainer must be installed in the drawbar pin.
 - b. The PTO shaft must be pinned in its groove on the tractor shaft.
 - c. The safety chain must be attached.
 - d. The hydraulic lines must be locked in the couplers.
4. Be sure that the driveline shield anchor chain is secured to the frame.
5. Check for entangled material. Remove as required.
6. Rotate the large pulley by hand to check that the air pump turns freely.
7. Be sure all shields are closed and secured.
8. Be sure that the hydraulic lines are routed away from rotating parts.
9. Check for debris in the filter. Clean as required.
10. Check the oil level in the air pump reservoirs. Add as required.
11. Check that all hydraulic fittings and connections are tight and in good condition.

4.6 EQUIPMENT MATCHING

The Conveyair grain vac is designed to be used on agricultural tractors. To insure good field performance, the following list of specifications must be met:

1. Drawbar Dimension:

The tractor drawbar dimension must be 16 inches between the end of the shaft and drawbar pin hole center for the 1000 RPM model.

This will provide sufficient clearance for turning and allow telescoping of the shaft. Consult your tractor manual for the drawbar adjustment procedure.

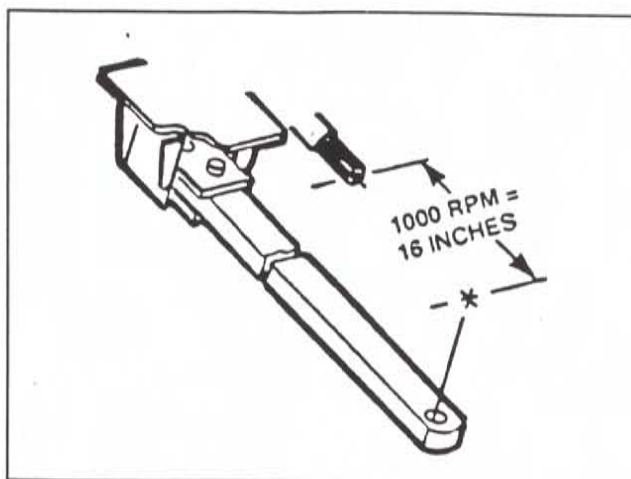


Fig. 2 DRAWBAR

2. Tractor Horsepower:

Use Table 1 as a guide in selecting the appropriate horsepower level for the machine.

Table 1 Minimum Horsepower

Model	Minimum Horsepower	PTO RPM
5005	80	1000
6006	110	1000

3. PTO Shaft:

The tractor PTO shaft must meet these specifications:

1000 RPM - 21 spline, 1 3/8 inch dia.

4. Hydraulic System:

The power unit must have one remote hydraulic outlet to operate the airlock motor and the boom lift circuit. The system must be capable of 8 gpm (30 lpm) @ 1200 psi (8250 kPa).

IMPORTANT

It is not recommended that shaft adaptors be used on the tractor shaft to prevent operating at the wrong RPM. Use extra care when using a tractor with a shiftable PTO speed.

4.7 CONTROLS

All hydraulic controls are located on the control panel on the left hand side of the machine. All operators should familiarize themselves with control function and movement before starting.

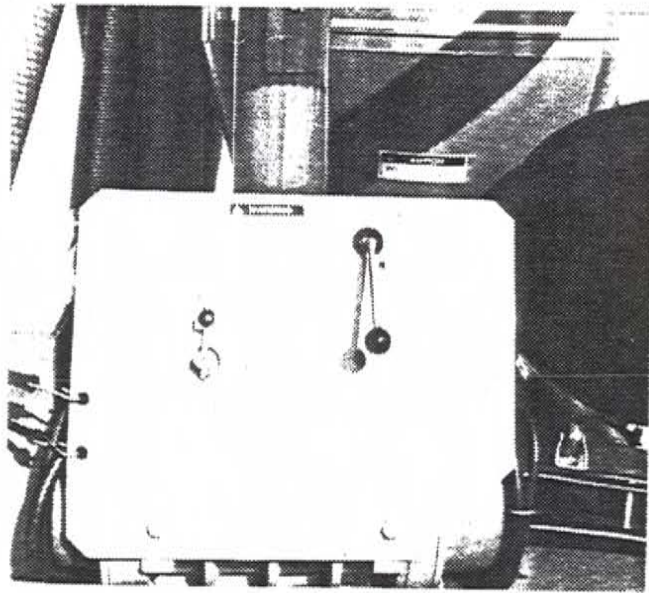


Fig. 3 CONTROL PANEL

1. Airlock Rotation (Direction):

The direction of airlock rotation is determined by-

- order in which hoses are plugged into tractor, and/or
- the hydraulic control lever on the tractor.

IMPORTANT

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

2. Airlock Speed:

The airlock speed of rotation is set by a flow divider control on the left side of control panel. Move the lever in a clockwise direction toward the rabbit to increase the speed. Move lever toward the turtle to decrease speed.

NOTE

When setting airlock speed, move the control in small increments. A small movement will make a significant change in airlock speed.

Use Table 2 as a guide when setting airlock speed.

Table 2 Material vs Airlock Speed

Material	Airlock Speed (RPM)
Barley	55 - 65
Canola	35 - 45
Corn	45 - 55
Flax	35 - 45
Wheat	45 - 55

Material consistency varies widely in the field. Try different airlock speeds, using Table 2 as a guide, to obtain maximum performance.

3. Boom Lift:

The lever on right side of control panel controls the boom lift function. Move the lever up to raise the boom from storage into working position. Move the lever down to place the boom into the storage position.



DANGER

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

IMPORTANT

Stand clear of boom when raising or lowering it.

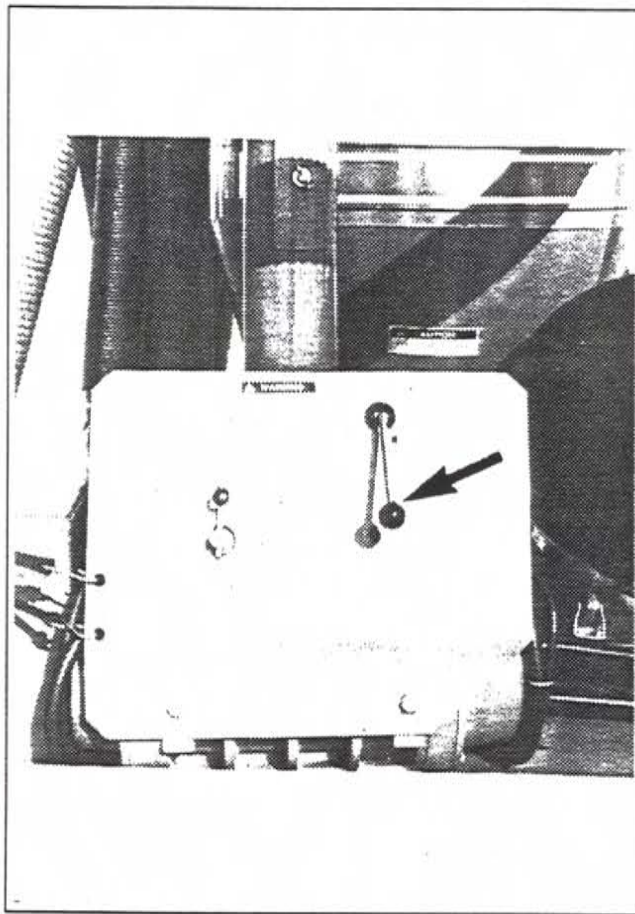


Fig. 5 BOOM LIFT

5. **Air Flow:**

Material is conveyed by the stream of air through the machine. Some air is always present and is pulled in through the grain as it goes into the inlet. There are 3 methods available to vary or control the amount of air going through the machine:

- a. Allow some air to enter the intake tube while working.
- b. Open the slide on the intake tube to allow extra air into the system at all times. Open 1/2 inch (12 mm) increments until the flow stabilizes.

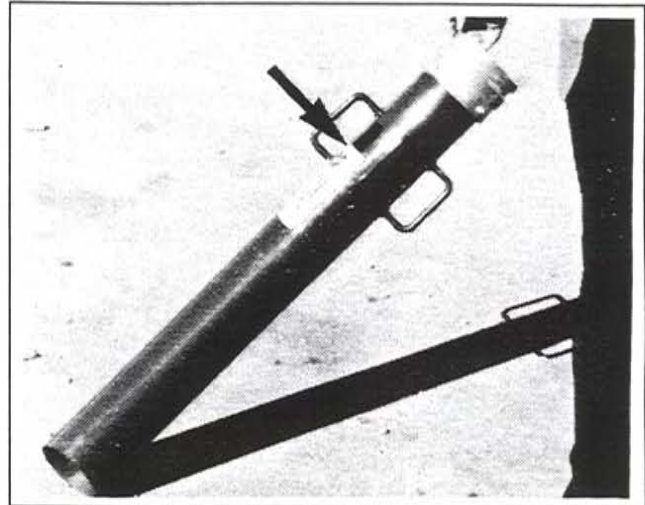


Fig. 7 INTAKE SLIDE

- c. Open the slide on the line above the filter to add extra air to the system. This air slide is used primarily for long distance blowing applications. Opening this slide will allow more air to enter the push side of the system helping to balance the inlet and outlet sides. The general rule is for every 100' of distance, open the slide 1/4" - 1/2".

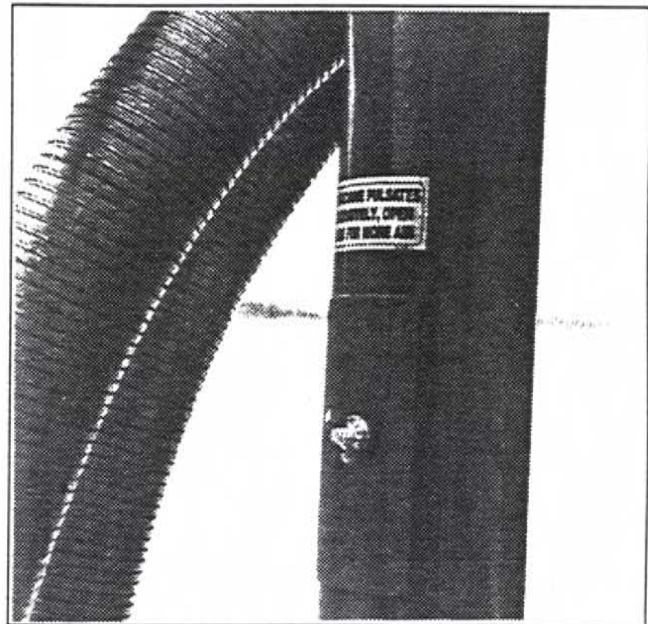


Fig. 8 SLIDE ABOVE BLOWER

6. Pressure Relief Valve:

A relief valve is located on the air line between the air pump and the airlock to prevent system damage should the lines plug. It is not a serviceable component. The relief valve will automatically reset after it has been opened.

7. Vacuum Relief Valve:

A relief valve is located on the air line between the filter and the air pump inlet to prevent system damage should the vacuum lines become plugged or if the system is receiving an inadequate air supply. The relief valve is not a serviceable component. The relief valve will automatically reset after it has been opened.

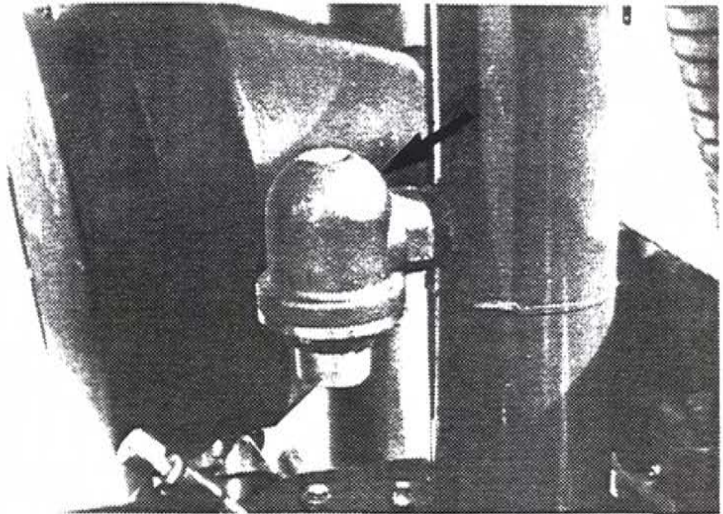


Fig. 9a VACUUM RELIEF VALVE

8. Boom Position

Flip the boom lock up. Pull lever out of clip and swing into horizontal position. Use the lever to help turn the boom to the desired position. Rotate lever back to vertical clipped storage position. Flip the boom lock down to lock boom in position.

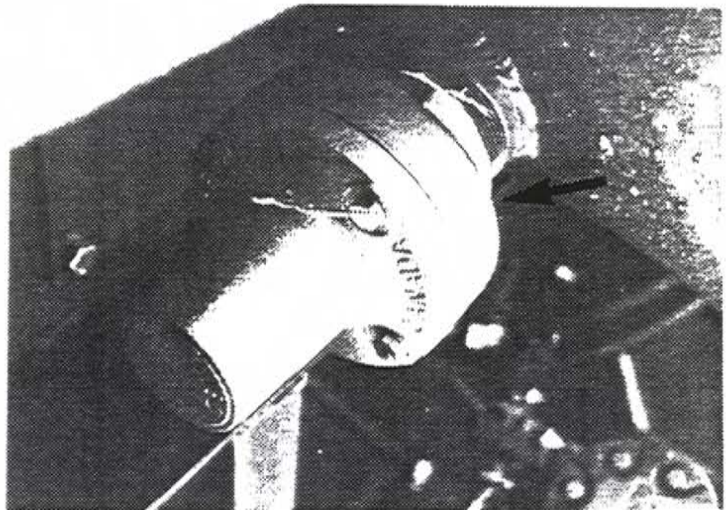


Fig. 9b PRESSURE RELIEF VALVE

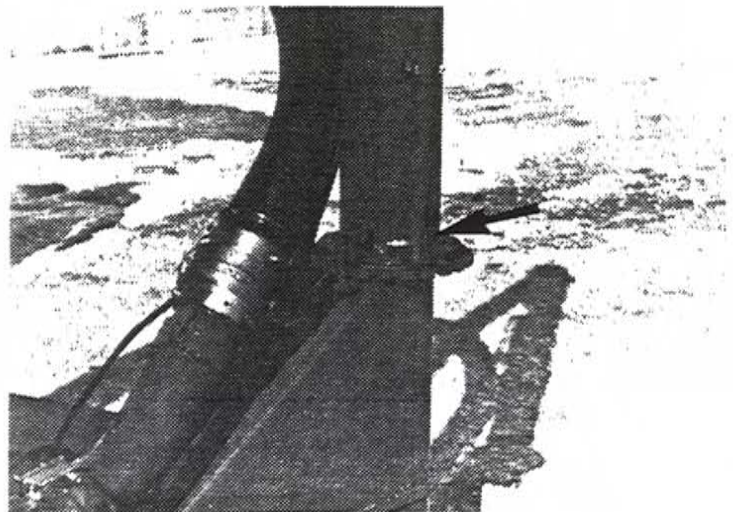


Fig. 10 BOOM SWIVEL

4.8 ATTACHING/UNHOOKING TRACTOR

Follow this procedure when attaching the grain vac to a tractor:

1. Clear the area of bystanders, especially small children before starting.
2. Make sure there is sufficient room and clearance to back up to the machine.

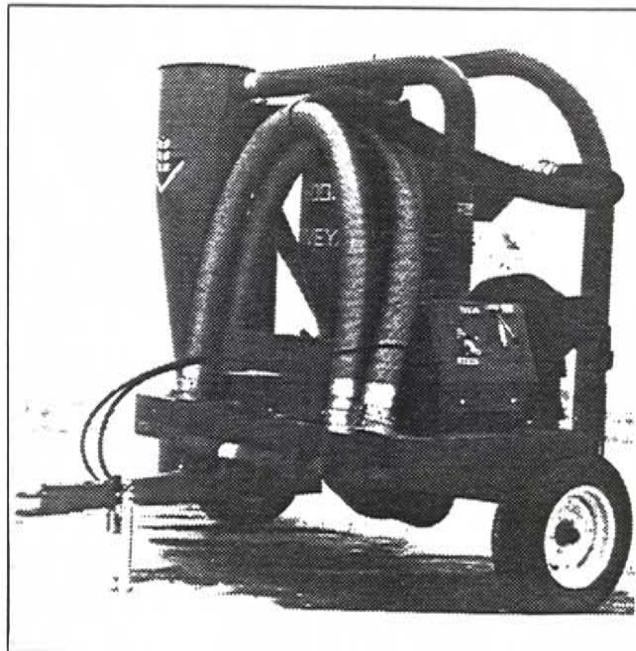


Fig. 11 MACHINE

3. Use the jack on the hitch to adjust the height of the hitch to the drawbar.
4. Slowly back up to the machine and align the drawbar with the hitch.
5. 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.
6. Insert a 1 inch by 6 inch (25 mm x 150 mm) hardened drawbar pin and install a retainer such as a Klik pin.

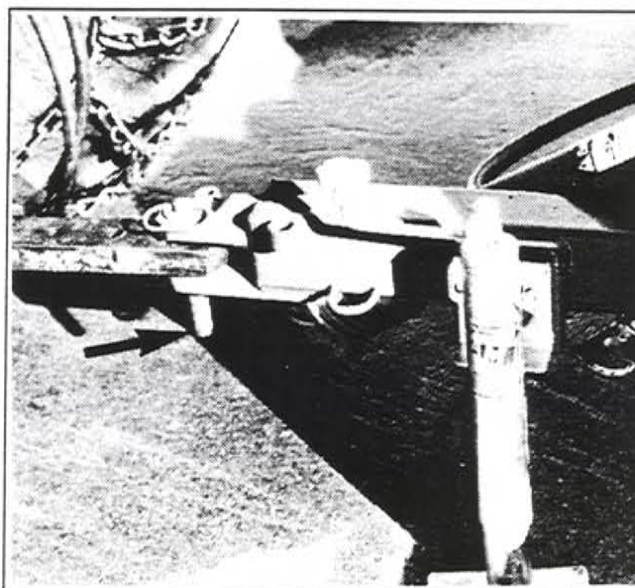


Fig. 12 DRAWBAR PIN

7. Attach the safety chain securely around the drawbar cage.
8. Open the belt cover and rotate the large pulley by hand to be sure the air pump turns freely.



CAUTION

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

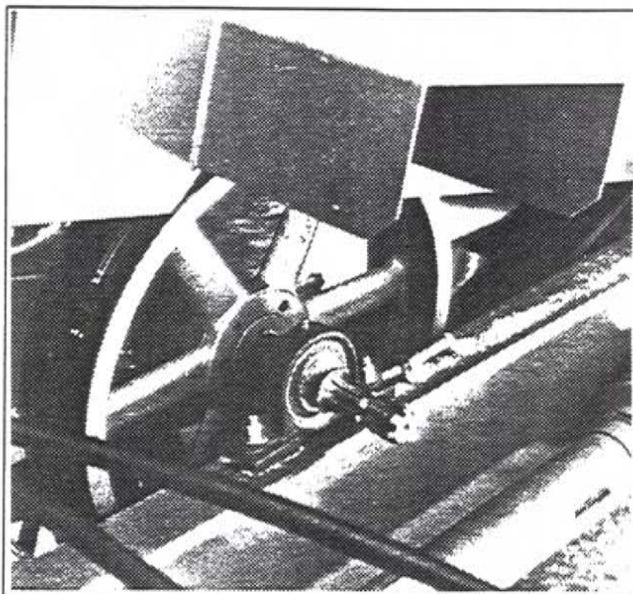


Fig. 13 PULLEY

9. Attach the PTO shaft:
 - a. Clean the splined yokes on the driveline.
 - b. Check that the driveline telescopes easily and that the shield turns freely on the shaft. Lubricate or clean before attaching if it does not move freely. See Maintenance Section.
 - c. Pull back locking collar on the yoke and slide the yoke over the tractor PTO shaft.
 - d. Depress the locking pin 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.
 - e. Be sure the locking pin clicks into its locking groove on the shaft.

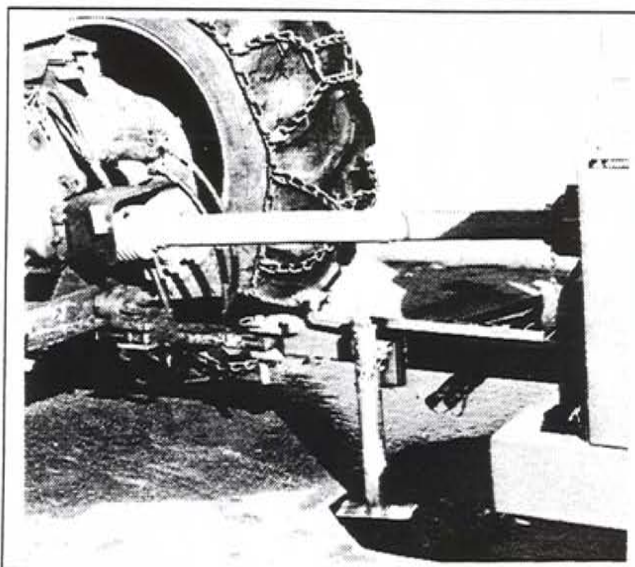


Fig. 14 DRIVELINE

- f. Attach the shield anchor chain to the frame.
10. Close and secure the belt cover.

11. Attach the hydraulic lines:

- a. Use a clean cloth or paper towel to clean the dirt and build-up from around the couplers.
- b. Clean the male tips as well.
- c. Insert the male tips into the couplers. Be sure they are locked in place.

NOTE

All machines are equipped from the factory with Standard 150 tips

- d. Route the hydraulic hoses along the hitch and away from moving parts. Secure in position with clips or ties. Be sure the hoses will not be pinched or crimped.

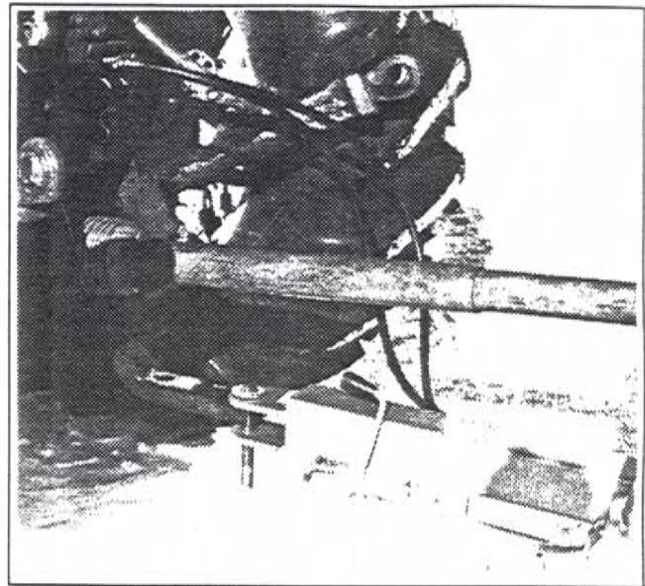


Fig. 15 ATTACHED

12. Retract the hitch jack and stow in its transport position.

13. Reverse the above procedure when unhooking from the tractor.

4.9 MACHINE SET-UP

Although the Conveyair is simple and easy to use, it is necessary to follow this set-up procedure before starting to operate:

1. Clear the area of bystanders, especially small children before starting.
2. Attach machine to tractor as per section 4.8.
3. While in the open area, set the park brake and run the tractor at low idle engine RPM. Place all controls in neutral.
4. Use the control lever in the cab to engage the remote hydraulic circuit.
5. Dismount. Be sure park brake is set.
6. Unlatch the transport clamp holding the boom in position.
6. Unlatch transport clamp holding boom down (behind left wheel).
7. Swing the boom back until it clears the transport step. (see page 20, #8. Boom position regarding lock lever).
8. Move to control panel.

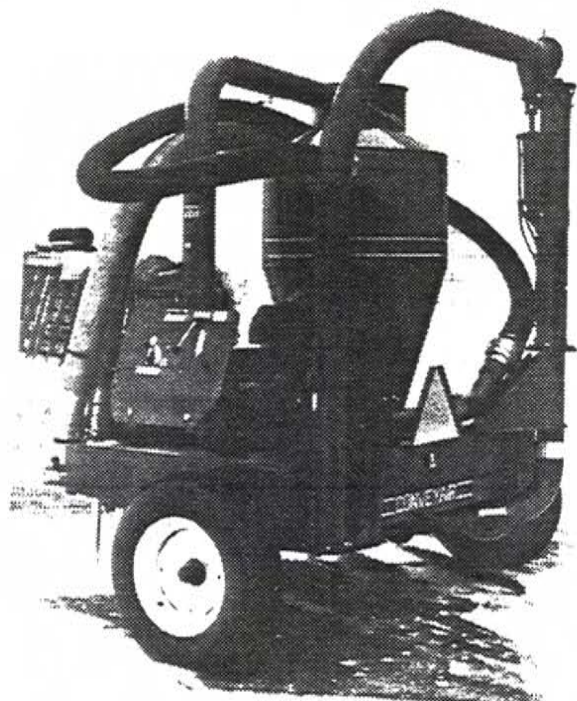


Fig. 16 BOOM/CYCLONE STORAGE

9. Using hydraulic lever, slowly and carefully raise boom high enough to allow cyclone assembly (at end of boom) to swivel into position.
10. Secure cyclone assembly into position using over-center clamp (the same clamp which was unlatched in step 8).
11. Use hydraulic lever to carefully lift boom into working position.



DANGER

Stay away from overhead electrical wires.
Electrocution can occur without direct contact.

NOTE

The work site should comply with the following recommendations to obtain the most efficient performance.

- a. Remove all debris and foreign objects from the work site.
- b. Be sure there are no overhead electrical wires.
- c. Be sure the working area is reasonably level and as dry as possible.
- d. If the unit is being used to load trucks, make sure there is adequate room for the receiving vehicle to get under the discharge cyclone.
- e. The tractor should be positioned to have the driveline angles at a minimum.
- f. The Conveyor should be located so the intake line is as straight and as short as possible to obtain maximum capacity.

12. Secure overcentre clamp on boom (right back side of machine).
13. Attach the suction line to the reciever tank intake coupler. Secure with the cam lock couplers.

4.10 OPERATING

By reviewing and following the instructions in the previous section, the machine is set-up and positioned to give maximum performance. When starting to operate, follow this procedure:

1. Clear the area of bystanders, especially small children before starting.
2. Clear foreign objects from the machine and working area.
3. Lubricate the machine per the schedule in the Maintenance Section.
4. Review and follow the pre-operation checklist.
5. Place the airlock and boom lift controls in neutral.
6. Place chocks ahead and behind the rear tractor tires to prevent machine movement.
7. Place all cab controls in neutral before starting the tractor.
8. Start the tractor and let it run at low idle RPM.
9. Move the lever to activate the hydraulic system. Be sure engine is running at low idle and dismount.
10. If the airlock rotates in wrong direction, stop and reverse the direction of the control lever on the tractor, or shut down the hydraulic system and reverse the order of the hoses plugged into the tractor couplers.

NOTE

Do not operate the grain vac with the airlock turning in the reverse direction. Damage to the hydraulic motor may occur if the hydraulic system is reversed.

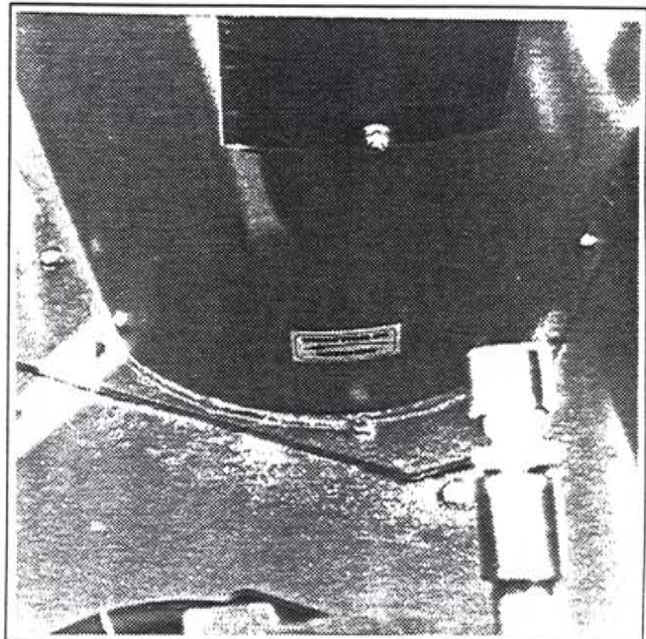


Fig. 20 AIRLOCK ROTATION

11. Airlock Speed:

Table 2 Material vs Airlock Speed

Material	Airlock Speed (RPM)
Barley	55 - 65
Canola	35 - 45
Corn	45 - 55
Flax	35 - 45
Wheat	45 - 55

The speed of the airlock is variable from 0 to 75 RPM and its optimum speed is dependent upon the material being moved. As a general rule, the larger and heavier the kernel, the faster the airlock should turn. Airlock speed is also affected by suction and discharge lengths, the moisture content and density (bushel weight) of the material. Although Table 2 should be used as a guide to setting airlock speed, it is recommended that the operator experiment with the speed to determine its optimum setting.

12. Count the number of times you can see the coupler turn over a known period of time. Use the flow control on the console to set the speed.

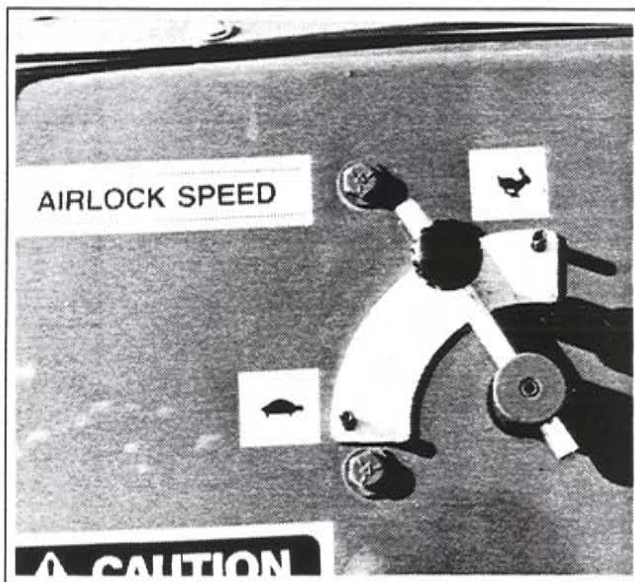


Fig. 21 SPEED CONTROL

13. With the tractor at low idle engine RPM, slowly engage the PTO control.

IMPORTANT

Slowly engage PTO at low idle engine RPM to obtain maximum belt and machine life.

14. Slowly increase engine RPM until rated PTO speed is reached.
15. Before dismounting, be sure the park brake is set and the wheels are chocked.
16. Open the air slide on the full bin nozzle approximately 2 inches (51 mm).
17. Insert the nozzle into the grain.

NOTE

Ensure that the air slide is not covered by grain.

NOTE

A Conveyair nozzle with an airslide must be used at all times when grain is being conveyed.

18. To obtain maximum capacity, slowly close the air slide on the intake nozzle until the machine starts to surge.
19. Slowly open the air slide until the surging stops.
20. In most cases, it is now necessary to reset the airlock speed. The airlock speed determines the level of the grain the receiver tank above the airlock. Maintaining a proper level insures that a proper balance is achieved between vacuum and pressure in the system to efficiently move the grain.

The access door in the receiver tank should be 1/2 to 2/3 covered with grain to obtain maximum efficiency of the machine. The line of the grain can be horizontal, angled or vertical. It's the amount of coverage that's important. How the grain is positioned can vary due to the type of grain, condition of the grain and atmospheric conditions such as temperature, humidity and altitude. Use the height of the grain visible through the access door to determine if the airlock is turning at the correct speed. Running too fast or too slow will result in the grain covering the door.



Fig. 22 FULL BIN NOZZLE

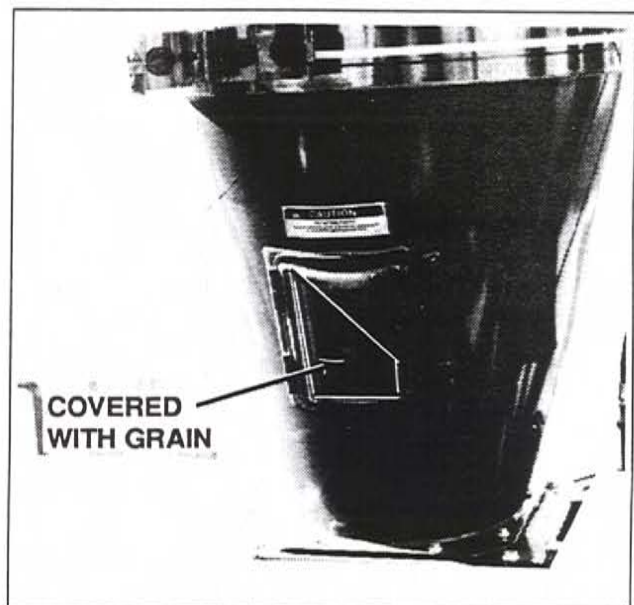


Fig. 23 GRAIN LEVEL

21. If the grain level in the tank goes above the receiver tank door and the airlock is turning faster than 65 RPM reduce speed until the correct level is achieved. As well, if the grain level in the tank goes above the receiver tank door and the airlock is turning slower than 30 RPM, increase speed until the correct level is achieved. If airlock speed is too slow, build up in the tank will take place because of a reduced transfer of grain from the vacuum to the pressure side of the airlock. If the airlock turns too fast the segments of the airlock will not fill completely, causing grain to build up in the tank because of reduced efficiency in transfer of grain from the vacuum to the pressure side of the airlock.
22. If the receiver tank fills with grain before the airlock speed can be set, the excess grain will flow into the filter and plug it.

When this happens on your model 5005-

a. Pull the intake nozzle out of the grain and stop the PTO on tractor. Unclamp dust canister and allow grain to run out of BPS system and empty dust canister.

b. Unclip and remove protection screen at top of BPS system. Inspect and clean screen if required. Reinstall screen.

c. Restart the PTO until machine cleans itself.

d. Stop PTO on tractor.

e. Reinstall dust canister.

f. Restart PTO on tractor and resume using your grain vac.

g. Set the airlock speed and/or readjust airslide on nozzle when resuming work to avoid recurrence of plugged condition.

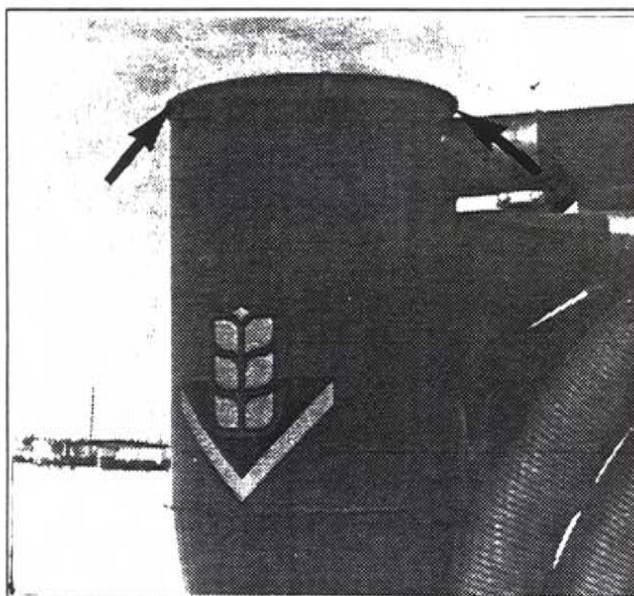


Fig. 24 SCREEN (access top of BPS)

23. Operating hints:

a. Try to keep the machine full when operating to obtain maximum efficiency.

b. The receiver tank can be used to store a small quantity of grain when the machine is used for clean-up or when changing trucks.

c. Do not use plastic PVC lines in the system. These pipes can not be grounded out and the resulting static build-up can cause an explosion.

d. Stop PTO and hydraulics to airlock before opening access door or removing airlock discharge elbow.

e. It normally is not necessary to readjust airlock speed when changing trucks under the discharge cyclone.

f. Reset airlock speed when-

- i. Changing tractors.
- ii. Changing grain type.
- iii. Changing suction or discharge line length or configuration.

g. Keep suction and discharge lines as short as possible to achieve maximum capacity.

h. Ensure that the tractor has adequate H.P. to operate CONVEYAIR.

i. Ensure that the PTO on the tractor is the correct RPM. At rated speed of the engine the correct RPM is achieved.

j. Use poly clean up hose for clean up only.



WARNING

4.11 APPLICATIONS

4.11.1 GENERAL

1. When transferring granular material with your Conveyair always try to keep the suction line as short as possible and minimize the number of bends. This will reduce the wear on elbows and flexible hose and will maximize the capacity of the machine.
2. When the machine does not need to be used at full capacity, e.g. when cleaning bins, the tractor can be throttled down approximately 30 to 40%.
3. For best capacity the tractor PTO should run at full RPM 1000 RPM, and the airlock between 45 and 65 RPM. The grain level in the receiver section should be kept to approximately the level of the receiver access door.

4.11.2 LONG DISTANCE BLOWING

An air slide located on the air line between the receiver tank and the air pump (See Fig. 26) is used to assist in long distance blowing and also in cooling the air pump. This air slide should only be used if the air pump or the pressure line between the air pump and the airlock is getting too hot to touch, or if discharge length is in excess of 40 ft. (12 m). The rule of thumb in long distance blowing is to open the slide 1/4" - 1/2" (6 - 12 mm) for every 100 ft. (30 m) of distance. This may change according to type of grain or if grain is being moved vertically or horizontally. Remember, opening the air slide too far can affect capacity as adversely as not opening it at all.



WARNING

For long distance suction and blowing applications do not use P.V.C. or other plastic tubing. This type of tubing can not be properly grounded and a build-up of static electricity could lead to an explosion.

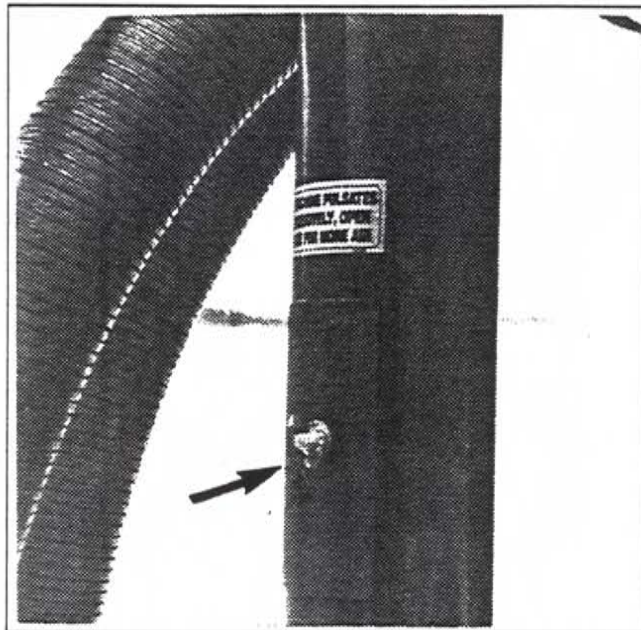


Fig. 26 AUXILLIARY AIRSLIDE

4.11.3 LONG DISTANCE SUCTION

When sucking grain more than thirty feet try to avoid using flex line. Instead use straight piping. Remember, the straighter the suction line the greater the efficiency of the Conveyair.



WARNING

For long distance suction and blowing applications do not use P.V.C. or other plastic tubing. This type of tubing can not be properly grounded and a build-up of static electricity could lead to an explosion.

4.11.4 CLEAN UP

When using the machine to clean up, use a combination of steel flex line, straight piping and poly hose. This will give the needed flexibility to easily get into corners and around obstructions for clean up. It is not recommended to use steel flex and poly hose for regular moving of grain because flow is restricted due to the rougher tube walls and bends associated with flex line. Capacity can be lowered by 20% to 40% with flex line as compared to straight piping.

IMPORTANT

Poly hose is meant for clean up only. Avoid storing the poly hose in direct sunlight. When using the poly hose ensure that there are no sharp obstructions that could cut or puncture the poly hose. Do not dent or stretch steel flex line excessively or attempt to bend it more than 90 degrees.

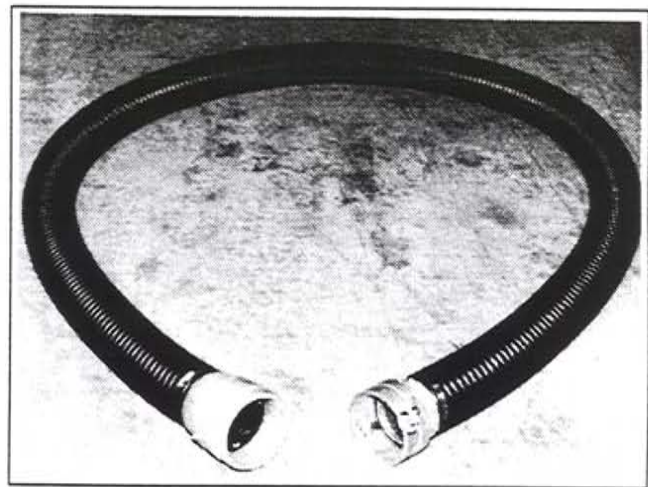


Fig. 27 POLY INTAKE HOSE

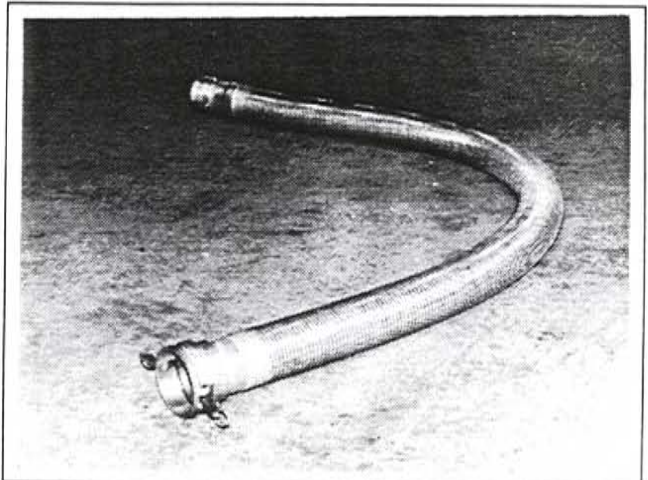


Fig. 28 STEEL FLEX HOSE

4.11.5 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.

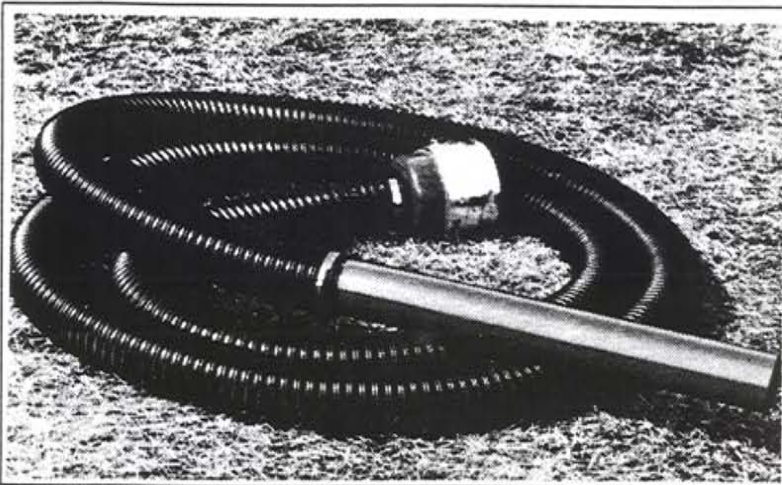


Fig. 29 SEED DRILL CLEAN OUT KIT

4.11.6 FILLING BINS AND TEMPORARY STORAGE

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

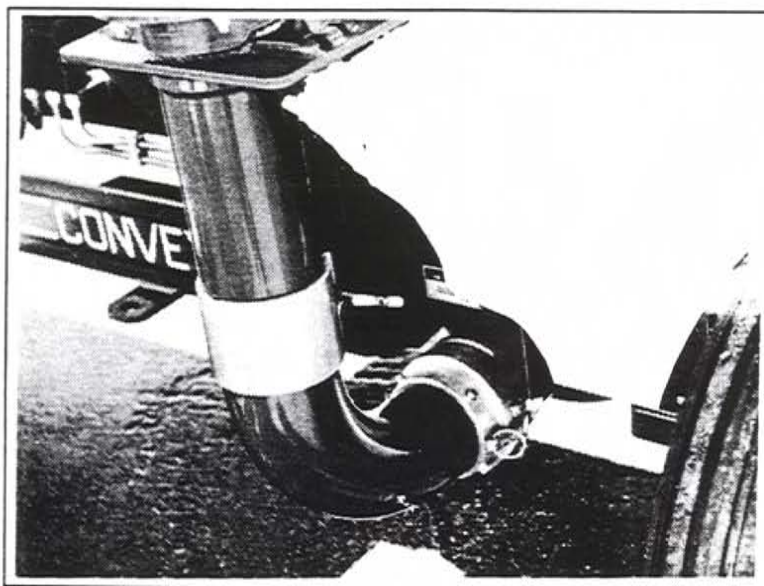


Fig. 30 REAR DISCHARGE OPTION

For the best performance, the operator should review the recommended installation schematics to determine a system that is appropriate for your operation. Use only genuine Thor parts to insure good sealing and the best performance. Contact your dealer for more information.

- a. Multiple Bins:
Parallel system.

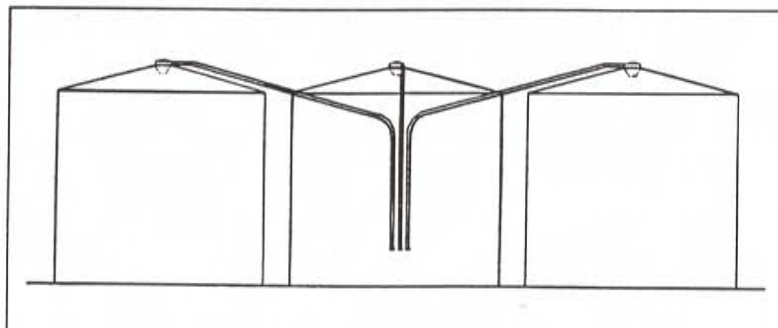


Fig. 31 MULTIPLE BINS (PARALLEL)

- b. Multiple Bins:
Series system

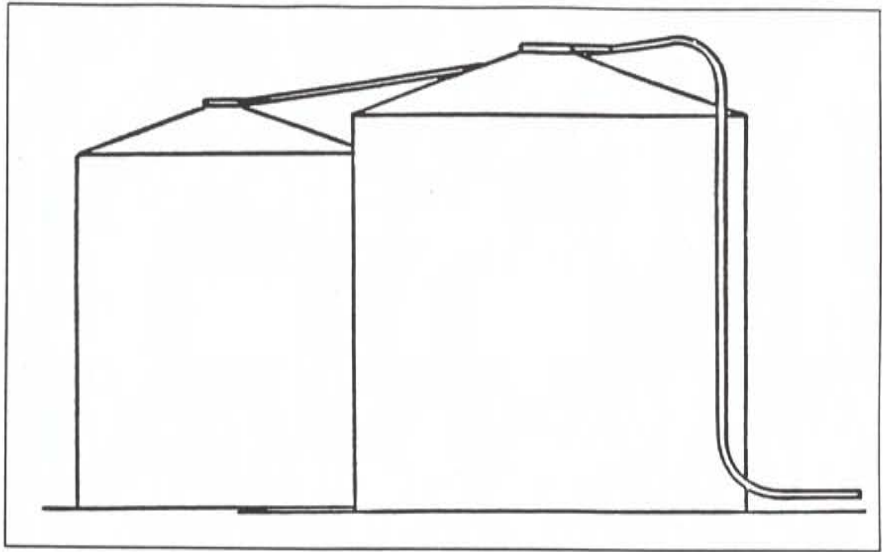


Fig. 32 MULTIPLE BINS (SERIES)

- c. Bin Fill System:

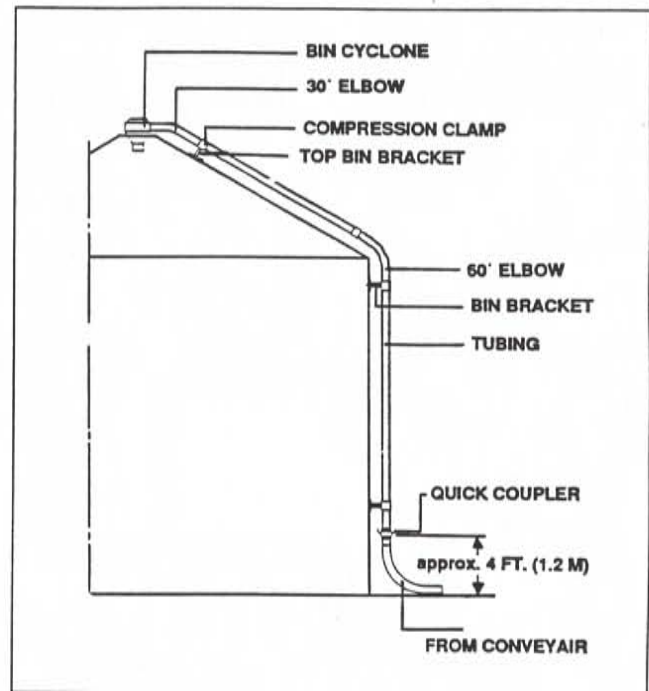


Fig. 33 BIN FILL SYSTEM

d. Bin Accessories:

1. 5" or 6" diameter (14 or 16 ga.) wall thickness, horizontal pipe section. Available painted or galvanized.
2. 5" or 6" diameter vertical pipe section, same specs as above. Depending on length, one or more sections may be used. Sections may be welded or coupled together with 3-bolt clamp.
3. Bin-top cyclone. For permanent installations, cyclones come equipped with a rain cap and can also double as aeration vents. The cyclone may be attached to the pipe by a 3-bolt clamp. For temporary installations, we recommend a light-weight poly cyclone attached with quick couplers.
4. Special 90 degree long radius elbow made of 11 ga. steel. It can be welded in place or secured with 3-bolt clamps.
5. 5" or 6" female quick couplers.
6. Delivery line from Conveyair. This can be steel flex only or a combination steel flex and long radius 90 degree elbow.
7. Side wall bin brackets.
8. 5" or 6" adjustable angle top mount bracket.
9. 5" or 6" 3-bolt clamp.

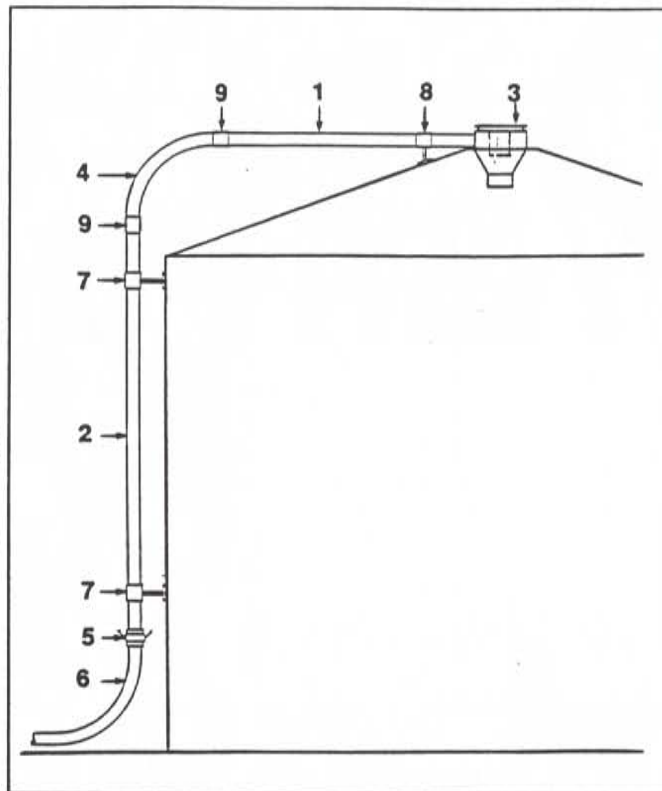


Fig. 34 BIN ACCESSORIES

4.11.7 CLEAN UP OF SPILLS AND GROUND STORED GRAIN

When cleaning up spills or grain stored on dirt, extreme caution should be exercised. Sand and dirt are very abrasive and cause excessive wear to air pumps and air locks. If care in operation is not taken the life expectancy of the Conveyair can be reduced significantly.

IMPORTANT

Avoid passing dirt, sand or other abrasive materials through the Conveyair grain vac.

4.11.8 UNLOADING BINS FROM THE TOP

When unloading bins from the top, some special precautions should be followed:

1. Do not enter the top of the bin alone. Always have 2 men working together.
2. Attach a safety line to the man on the grain. Grain in a bin can bridge or crust over and the man on top can fall through the crust into the cavity and be suffocated.
3. Do not place the intake nozzle between your feet when picking up grain. The grain can be drawn in so fast that the operator can be pulled down and submerged under the grain.



WARNING

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

4.12 SHUT DOWN

When the job has been completed the following steps should be followed for proper shut down of the grain vac.

1. Remove the nozzle from the material.
2. Allow all the material to be moved from the machine into the receiving unit.
3. Throttle down the tractor to an idle for 4 -5 minutes to allow a complete clean out and cool down of the unit.
4. If the purpose of the shut down is to change receiving units, simply throttle the tractor down, disengage PTO and hydraulics then change receiving unit. To start up again, engage hydraulics and PTO, increase engine speed to rated PTO speed.

5. If the CONVEYAIR is being shut down and will be stored for an extended period of time, it is necessary to clean the unit completely, as stated above. Run the engine at idle with the PTO engaged, open the secondary slide and inject a cleaning and lubricating agent. This will clean the dust and dirt from the inside of the air pump and also lubricate the metal parts to prevent corrosion. Close secondary slide when finished.

6. If the CONVEYAIR has been operating in a high oil content crop e.g. sunflowers, canola or flaxseed, the injection of a cleaning agent through the secondary slide may be necessary to remove the build-up of oil and dust. Follow procedure as in number 5 preceding.

NOTE

Close secondary slide when numbers 5 and/or 6 are completed.

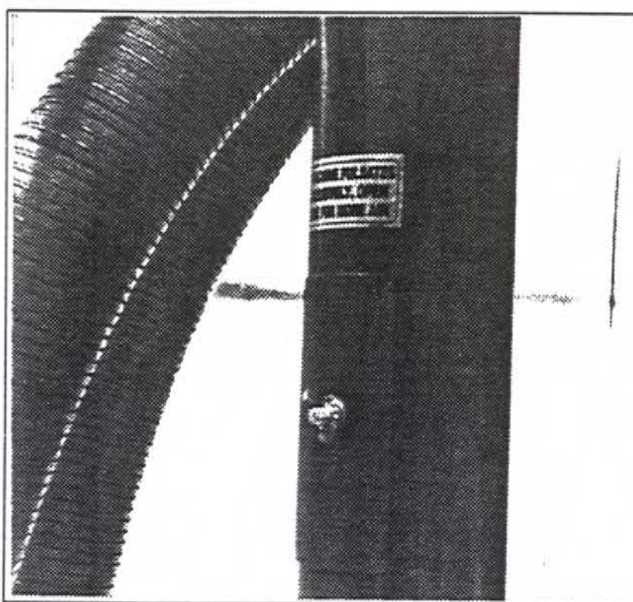


Fig. 35 SECONDARY SLIDE, CLEANING PORT AND LUBRICATION PORT



WARNING

Do not use a flammable fluid for cleaning.

4.13 TRANSPORT



TRANSPORT SAFETY

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 the safety chain before transporting.
6. Always use hazard flashers on the tractor when transporting.
7. Stay away from overhead electrical wires. Electrocutation can occur without direct contact.

5. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
6. 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.
7. When it is necessary to frequently transport on a public road, it is recommended that the customer purchase the optional 7-pin connector light package to provide extra lighting. Use the optional lighting package during times of limited visibility.
8. Make sure all components and accessories are retracted and securely stowed before moving.
9. Stay away from overhead electrical wires and obstacles when moving.
10. The machine is equipped with implement tires and should not be towed over 30 km/h (20 mph). Table 3 gives the acceptable transport speed as the ratio of tractor weight to Conveyair weight.

The Conveyair grain vac is designed to be easily moved from location to location. When transporting, follow this procedure:

1. Be sure all bystanders are clear of the machine.
2. Attach to the tractor using a drawbar pin with provisions for a mechanical retainer such as a Klik pin.
3. When using a ball and socket, make sure the locking jaws are pinned securely in position.
4. Secure the safety chain to the towing unit before moving.

Table 3 Speed vs Weight Ratio

<u>Road Speed</u>	<u>Weight of fully equipped or loaded implement(s) relative to weight of towing machine</u>
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

11. Do not allow riders.
12. Always use hazard flashers on the tractor when transporting unless prohibited by law.
13. Always remove and stow PTO shaft when towing with a truck.

4.14 STORAGE



STORAGE SAFETY

1. Store the machine in an area away from human activity.
2. Do not permit children to play on or around the stored machine.
3. Make sure the unit is sitting, or blocked up firm and solid and will not tip or sink into a soft area.

At the end of the season, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the start of the next season. Follow this procedure:

1. Thoroughly wash the machine using a water hose or pressure washer to remove all dirt, mud, trash or residue.
2. Run the machine at low idle for 2 - 3 minutes to dry the internal components.
3. While the machine is running, 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 and prevent rusting.

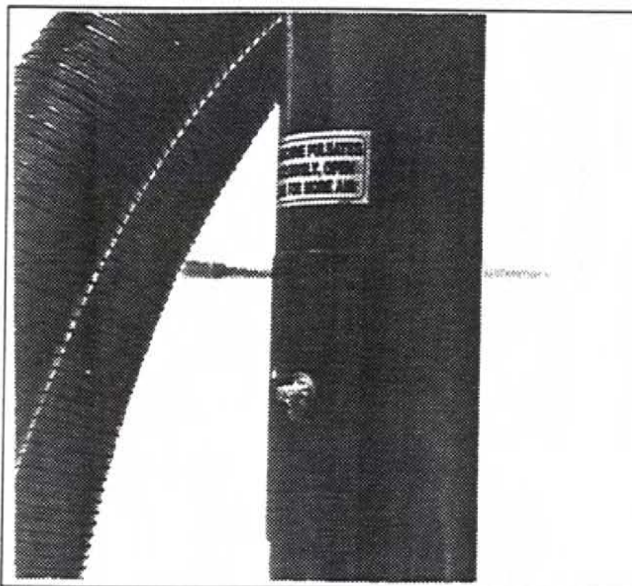


Fig. 36 SECONDARY SLIDE, CLEANING PORT AND LUBRICATING PORT

4. Lubricate all grease points. Make sure all grease cavities have been filled with grease to remove any water residue from the washing.
5. Retract and stow all components and accessories. Secure in position.
6. Install cover over the boom pivot area and secure in position.
7. Remove the PTO shaft from the machine and store inside.

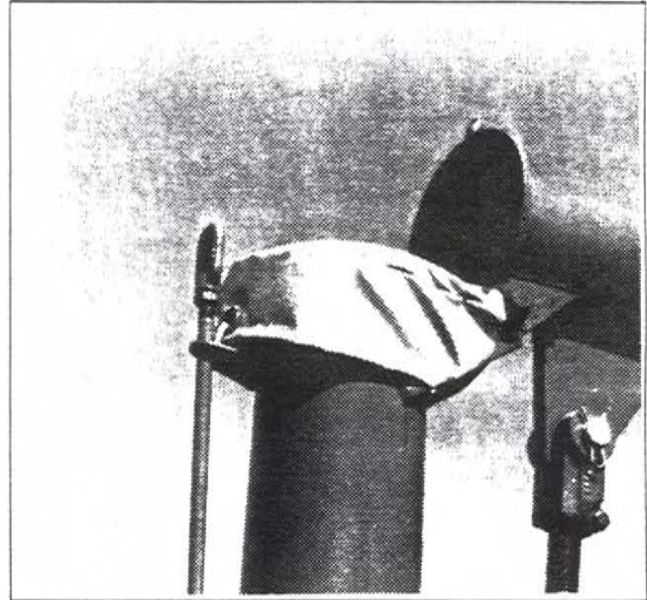


Fig. 37 PIVOT COVER

8. Inspect all the hydraulic hoses, couplers, fittings and lines. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded or is separating from a fitting.
9. Inspect the system filter. Clean or empty if it has gathered any material.
10. Check the fluid level in air pump oil reservoirs. Add as required.
11. Touch up all paint nicks and scratches to prevent rusting.
12. Move the machine to its storage position.
13. Select an area that is dry, level and free of debris.
14. Place planks under the jack for added support.
15. Unhook the machine from the tractor (See Section 4.8).

5 SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

1. Follow ALL the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when changing tires or working beneath it.
3. 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.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Make sure all guards are in place and properly secured when maintenance work is completed.
6. Never wear ill-fitting, baggy or frayed clothing when working around or on any of the drive system components.
7. Before applying pressure to a hydraulic system, make sure all lines, fittings and couplers are tight and in good condition.
8. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
9. Keep hands, feet, hair and clothing away from moving or rotating parts.
10. Clear the area of bystanders, especially small children, when carrying out any maintenance and repairs or making any adjustments.

5.1 SERVICE

5.1.1 FLUIDS AND LUBRICANTS

1. Grease
Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance and containing at least 1.5% molybdenum disulfide. Also acceptable is an SAE Multi-Purpose Lithium Base Grease.

2. Oil
In either the front or rear blower gearbox, use only 15W40 multi-grade oil that equals or exceeds the SAE "SF" specification.

Oil reservoir capacities:

Model 1975, 2970, 3005 and 3505

Front and rear - 800 cc (0.87 qt. U.S.)

Model 4005 and 4505

Front - 800 cc (0.87 qt. U.S.)

Rear - 1100 cc (1.00 qt. U.S.)

3. Cleaning Agent
WD40 or equivalent
4. Storing Lubricants
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

5.1.2 GREASING

Refer to Section 5.1.1 for recommended grease. Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use only a hand-held grease gun for all greasing. Air powered greasing systems can damage the seals on bearings and lead to early bearing failure.

IMPORTANT

Over-greasing can damage bearing seals. A damaged seal will lead to early bearing failure. Replace all bearings with damaged seals immediately.

2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If a fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

5.1.3 SERVICING INTERVALS

8 Hours or Daily

1. Grease PTO shaft (7 locations).

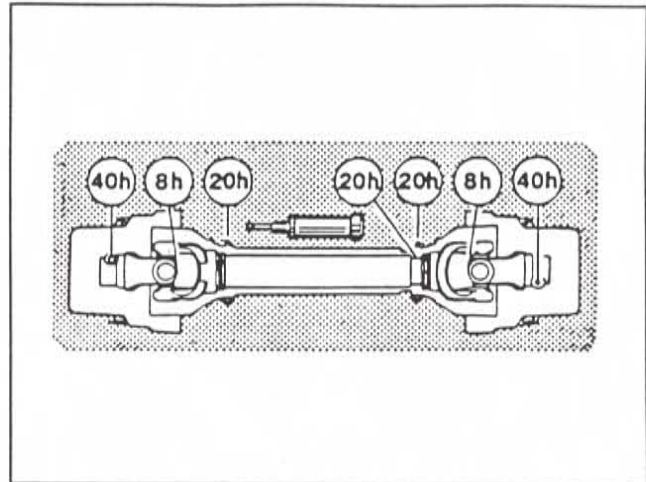


Fig. 38 PTO SHAFT

2. Grease input pulley shaft front and rear (2 locations).



CAUTION

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

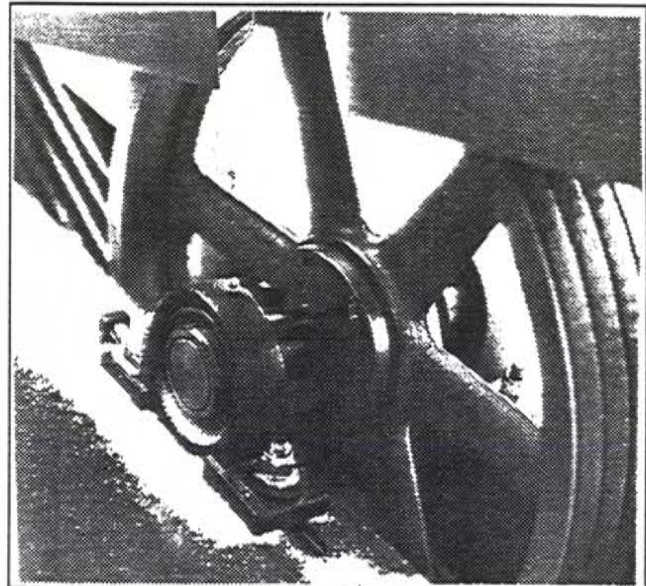


Fig. 39 INPUT SHAFT

3. Check V belt tension. Adjust as required.

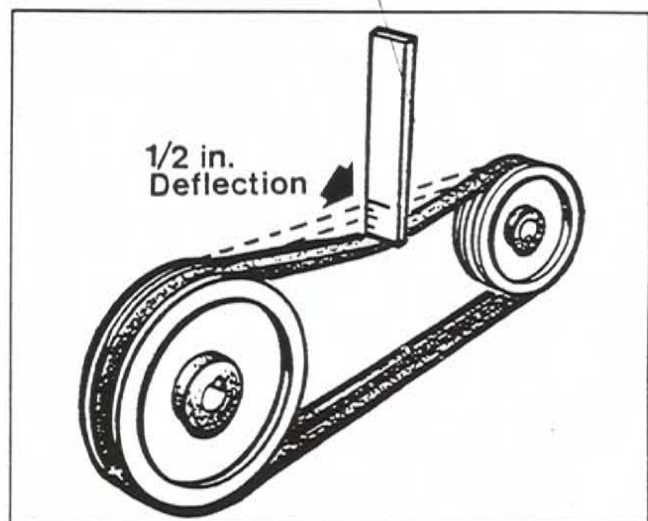


Fig. 40 V BELT

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

NOTE

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

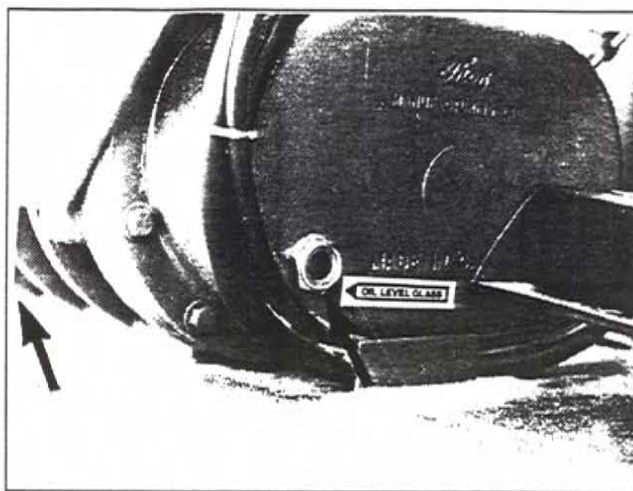


Fig. 41 OIL RESERVOIRS

5. At top of BPS, unclip and lift lid. remove and clean screen if required.



Fig. 42 SCREEN (under lid
at top of BPS)

50 Hours

1. Clean oil reservoir breather caps (2 locations).

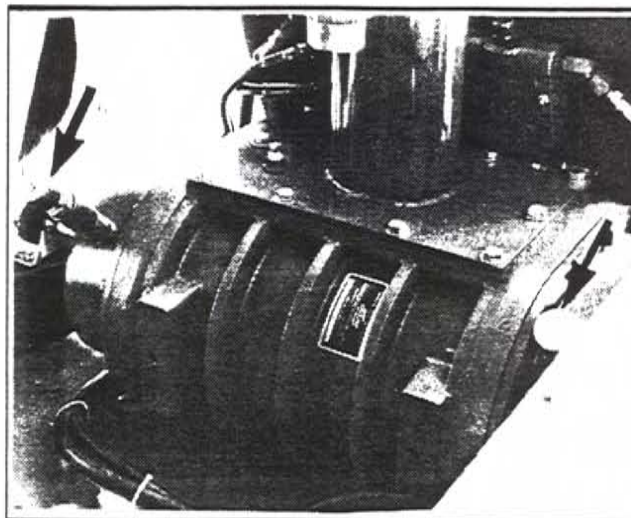


Fig. 44 BREATHER CAPS

100 Hours or 6 Months

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

NOTE

Change every 30 hours if operating in very dusty conditions.

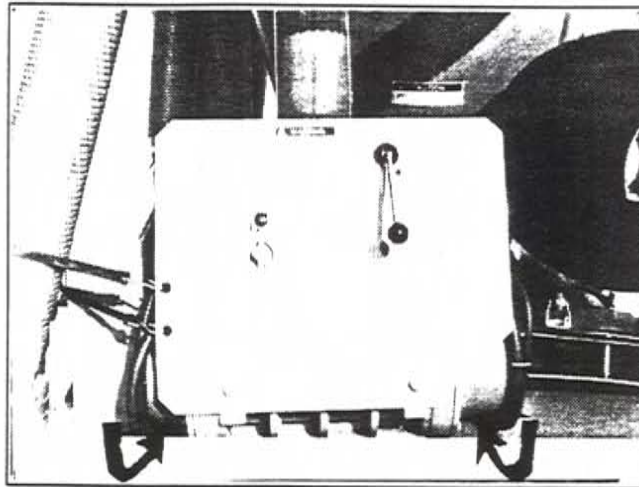


Fig. 47 RESERVOIR DRAIN

200 Hours or Annually

1. Repack wheel bearings (2 locations).

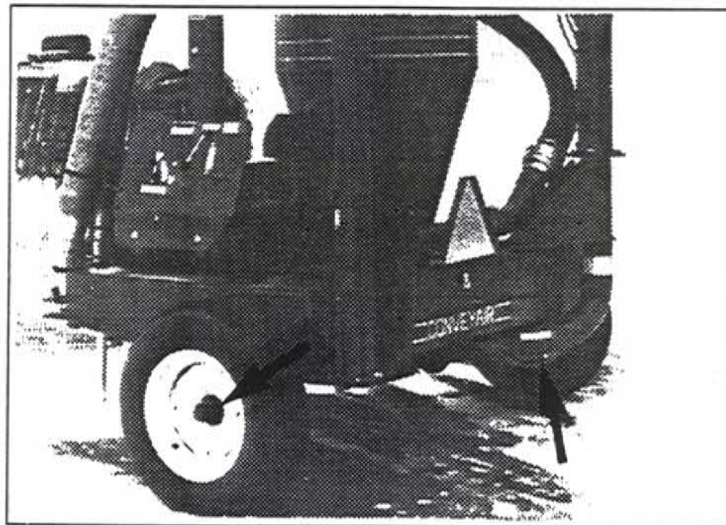


Fig. 48 WHEELS

2. Wash machine.

5.1.4 SERVICE RECORD

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

ACTION CODE: ✓ CHECK C CHANGE CL CLEAN
 L LUBRICATE R REPACK

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

5.2 MAINTENANCE

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free operation.

5.2.1 V-BELT TENSION

The V-belts on the input drive should always be adjusted to have approximately 1 inch (25 mm) deflection in the center. If the belts are too loose they will start to slip which will cause heat build up and excessive wear of the belts. If the belts are too tight they will cause the bearings to overload which will result in premature failure of the main shaft and lower bearings.

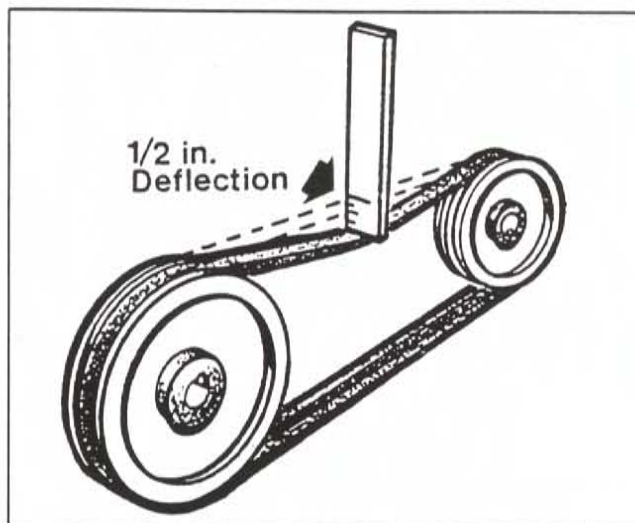


Fig. 50 BELT TENSION

To adjust the belt tension, proceed as follows:

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 properly align the pulleys with each other.



CAUTION

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

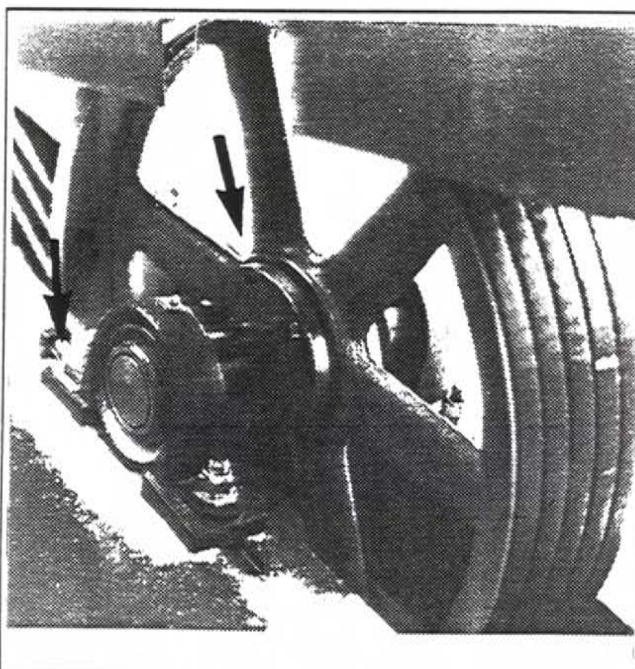


Fig. 51 ADJUSTING BOLTS

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 the bearing mount bolts and the jam nuts.
8. Close and latch the belt cover.

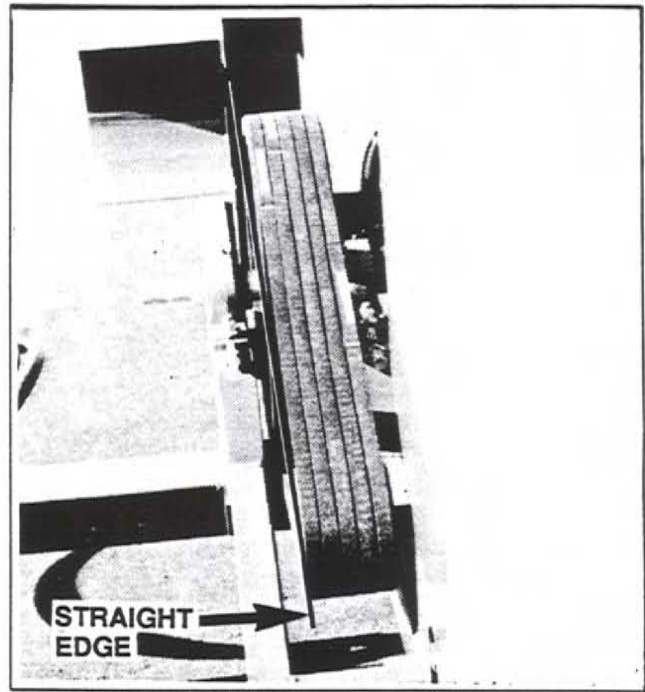


Fig. 52 ALIGNMENT

IMPORTANT

Be sure the belt tension is right
and pulleys are aligned properly.
Do not overtighten belts.



WARNING

Always close and latch belt cover before
operating.

5.2.2 AIRLOCK TIPS

A. Checking Clearance

For maximum machine efficiency and capacity the clearance between the airlock tips and the inside of the airlock shell must be maintained within a maximum allowable tolerance. When a noticeable drop in capacity of the Conveyair has been experienced the airlock clearances should be checked. When checking the clearances proceed as follows:

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



WARNING

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

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

IMPORTANT

For best performance the clearance should not exceed 0.38 mm (0.015"); if the clearance is more, it must be adjusted.

B. Airlock Tip Adjustment

When the airlock tips need adjusting, proceed as follows:

1. Loosen the poly connector on the air line between the filter and the blower to allow it to move as required.
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. Be sure the hoist is of sufficient size to handle the receiver tank.
4. The airlock is now accessible for measuring and adjustment. To adjust, proceed as follows:
 - a. Position tip next to top of shell.
 - b. Loosen the 5 bolts attaching the tip to the blade of the airlock slightly.
 - c. Move the tip outward, towards the shell until you have 0.007" (0.18 mm) clearance.
 - d. Check that the clearance between the tip end and endplate of the airlock is 0.007" (0.18 mm).
 - e. Tighten the five bolts and torque to 34 - 40 Nm (20 - 25 ft. lbs.).
 - f. Mark the tip as done and rotate the rotor to ensure that there is no contact between the tip and the shell. If contact occurs it is necessary to increase the clearance slightly. If there is no contact proceed to the remaining tips until all ten tips have been adjusted.
 - g. Replace the receiver tank and check that all connections are airtight.

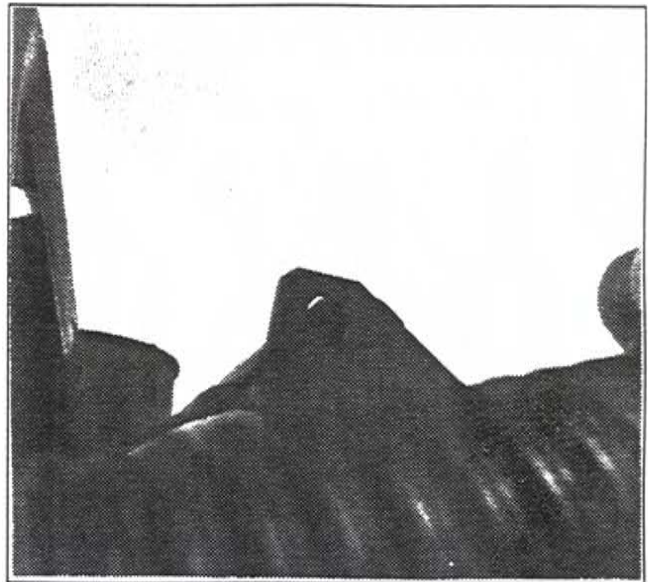


Fig. 53 LIFTING RECEIVER

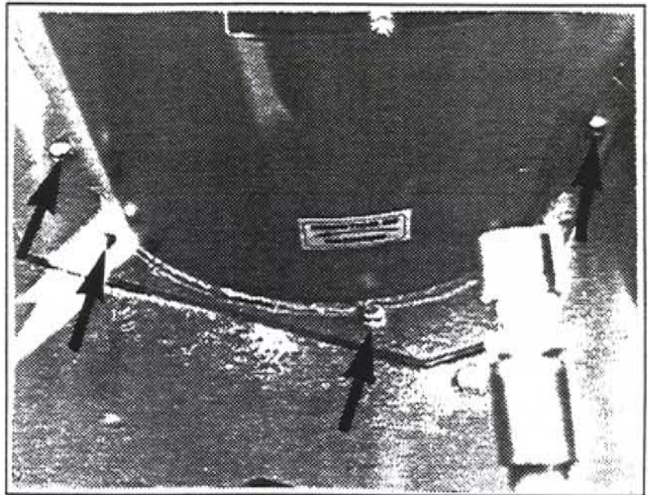


Fig. 54 MOUNTING BOLTS

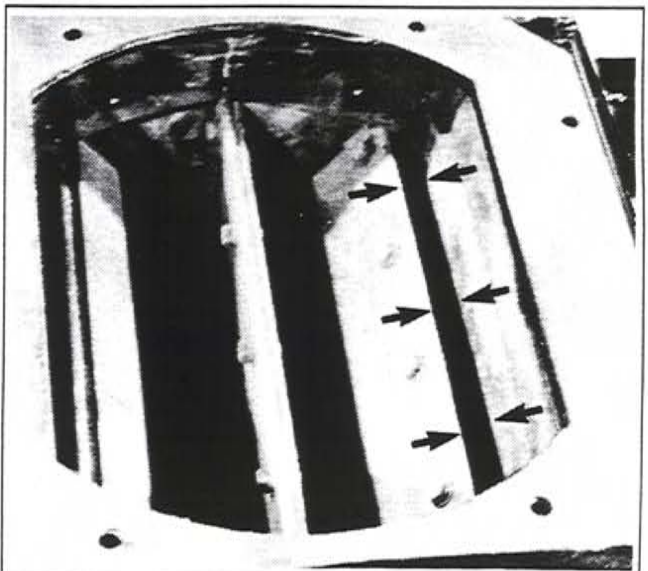


Fig. 55 TIPS

5.2.3 RESERVOIR BREATHER

Every 50 hours the oil reservoir breathers need to be cleaned to allow the pressure to equalize with the outside as the temperatures change. To clean the breathers, follow this procedure:



CAUTION

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

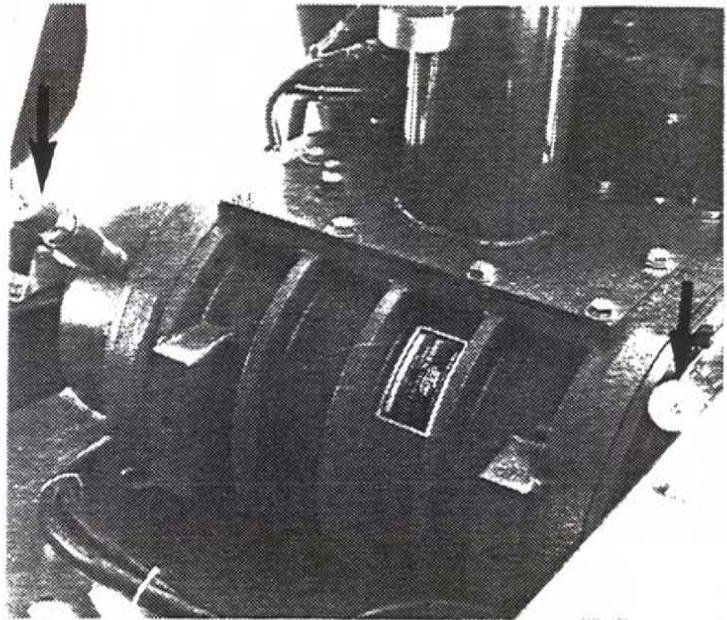


Fig. 56 BREATHER

1. Remove breathers from the top of the reservoirs.
2. Wash in a good grade of solvent.
3. Dry with an airhose.
4. If the breathers are heavily caked with dirt it may be necessary to soak them for an hour to loosen the caked material.
5. Again dry with an airhose.
6. Install on each reservoir.

5.2.4 RESERVOIR OIL CHANGING

Every 100 hours (or oftener if conditions are extremely dusty) the oil in the air pump oil reservoirs should be changed. To change, follow this procedure:

1. Unlatch and open the console.
2. Place a small pan under the drain plug.

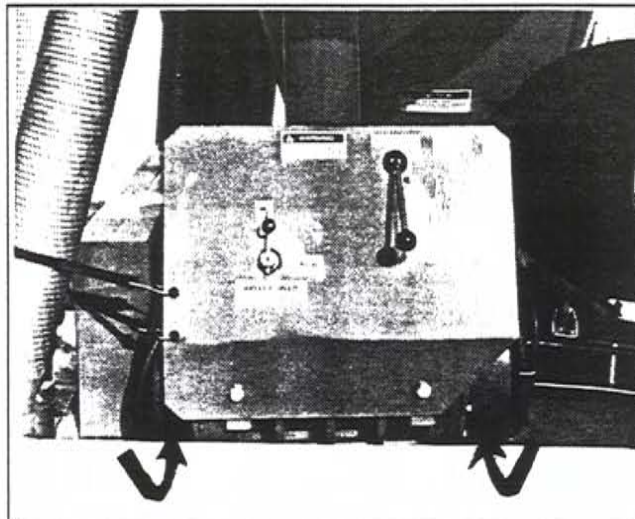


Fig. 57 DRAIN PLUG

3. Remove the drain plug and drain for 10 minutes.
4. Install and tighten the drain plug.
5. Remove breather and add oil through the breather hole.
6. Add until the oil level comes to the center of the sight glass.

IMPORTANT

Fill to the center of the sight glass. Overfilling causes heating from oil churning. Underfilling causes heating from lack of lubrication.

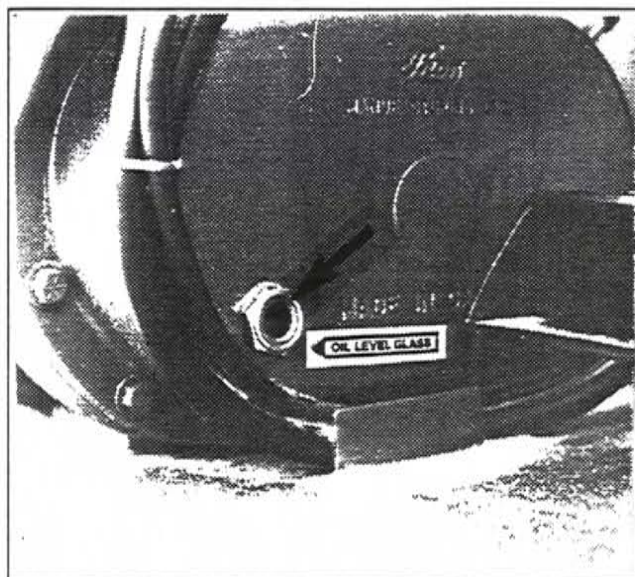


Fig. 58 SIGHT GLASS

7. Install the breather and tighten.
8. Repeat on the other reservoir.
9. Close and latch the console.

5.2.5 BPS (Blower Protection System)

The air which is sucked from the receiver tank and drawn to the air-pump contains dust. This dust is trapped by the BPS system where it falls harmlessly into the dust canister. The amount of dust collected will depend on the amount of dust and fines in the grain being moved. The dust level in the canister must be monitored and not allowed to overfill. Three quarters full should be considered full. To empty canister follow this procedure:

1. Open canister clamp.
2. Pull canister from canister bay.
3. Empty contents of canister.
4. Reinstall canister in canister bay.

NOTE

If machine is allowed to overfill (plug), empty canister as described and also allow any grain which may have accumulated in BPS to run out. When machine gets plugged, screen at top of BPS must be unclamped, removed, checked and cleaned if required.

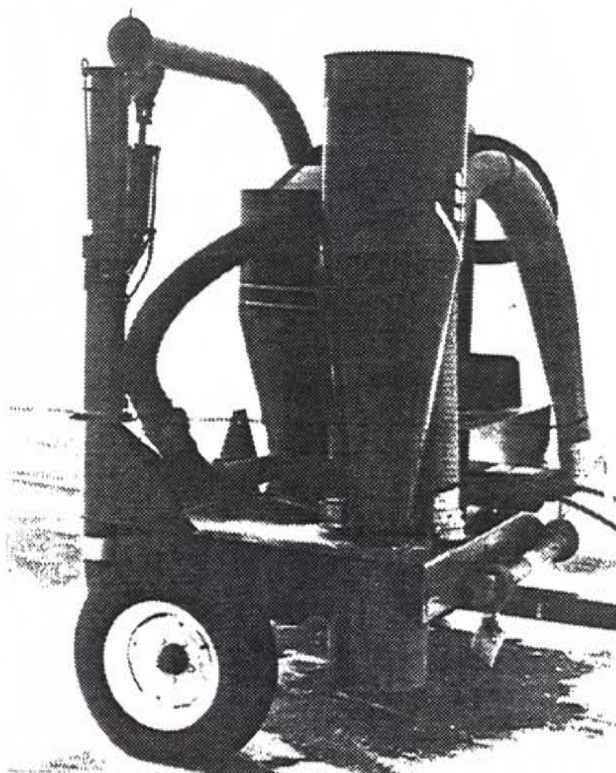


Fig 59 BPS

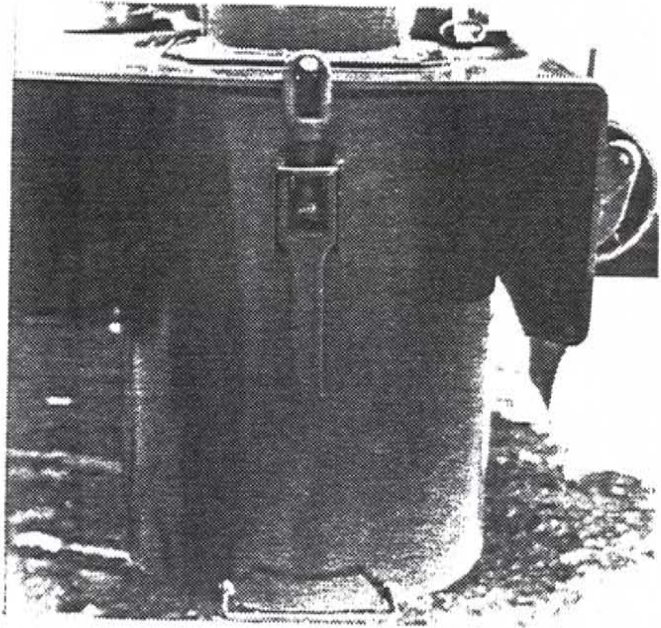


Fig 60 CANISTER

NOTE
Do not strike the
screen with a piece
of wood or other hard
object as damage to
the screen could cause
loss of effectiveness.

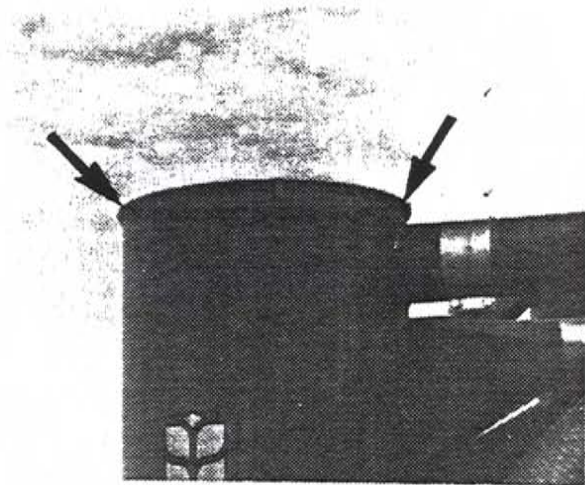


Fig 61 SCREEN

5.2.7 SHEAR BOLT

A shear pin is provided in the PTO shaft to protect the drive system during an overload. To change the shear pin, follow this procedure:

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.

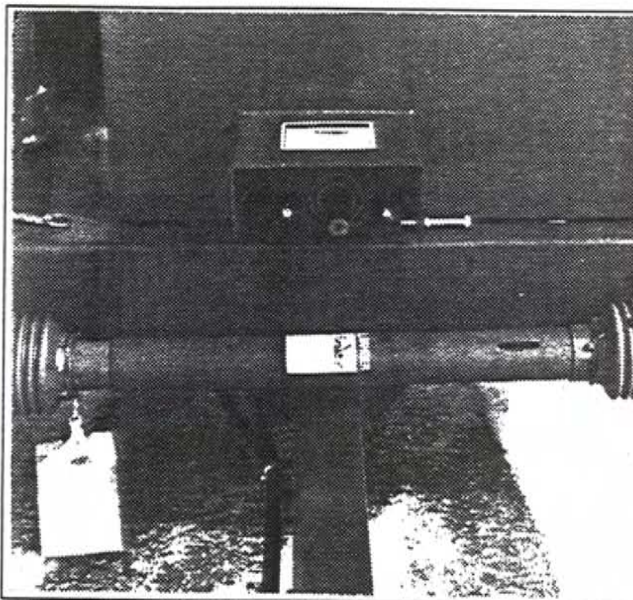


Fig 62 SHEAR BOLT

3. Carefully remove remaining shear bolt using a hammer and punch if necessary. Be careful not to enlarge the holes.
4. Install the new shear bolt and tighten.

IMPORTANT

Use only genuine Thor parts. These shear bolts are specially designed to provide protection for the drive system. Do not install just any bolt.

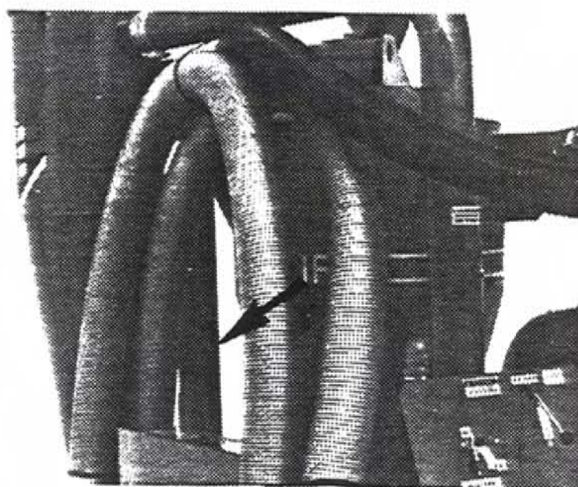


Fig 63 FULL BIN NOZZLE LOCATION

6 ACCESSORIES

6.1 ACCESSORY CARRIER PACKAGE

Accessories normally used in the use of this CONVEYAIR can be stowed on deck. Secure hoses to the deck and upper location with permanently attached rubber straps. Polyflex hose is coupled to receiver intake and clean out nozzle is positioned behind receiver tank with handle held in place in tang on base of truck loading boom. Full bin nozzle is placed beside receiver tank and against cradle on receiver tank.

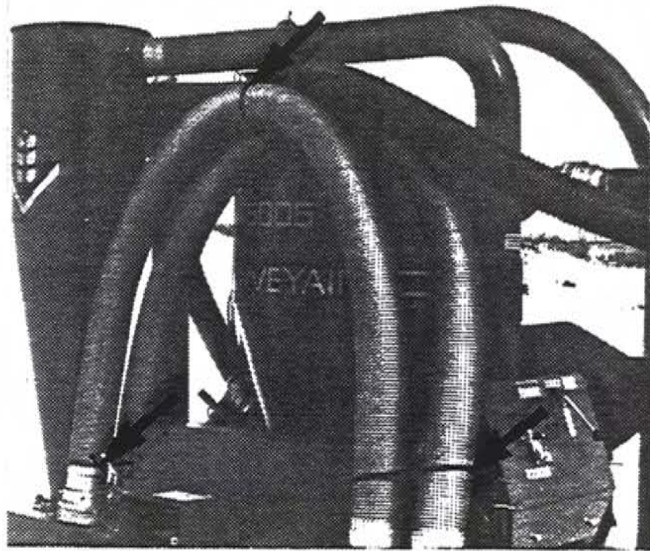


Fig 64 STRAP LOCATIONS

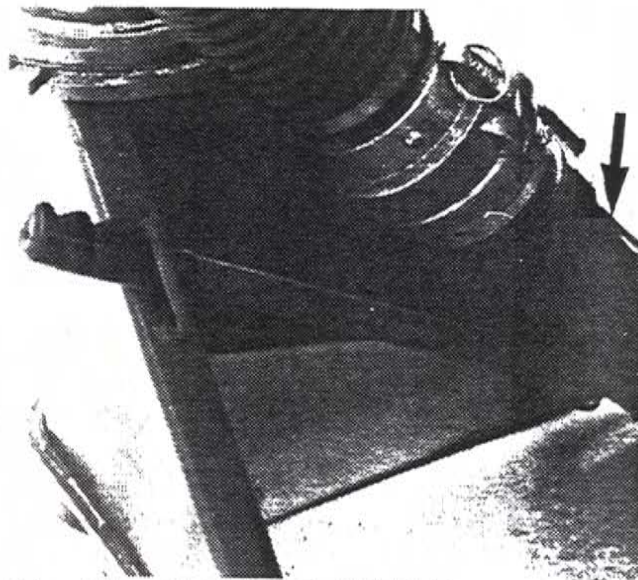


Fig 65 CLEANOUT NOZZLE

6.4 CYCLONE DOWN SOCK

A cyclone down sock is available for all Conveyair grain vacs. This down sock is to be used where a lower than normal receiving unit is used or where there are extremely windy conditions.



Fig. 67 CYCLONE SOCK

6.7 BIN PIPING

A complete range of piping, elbows, cyclones, brackets etc. are available to allow the piping of most grain storage facilities. Contact your nearest dealer for assistance with your piping plans.

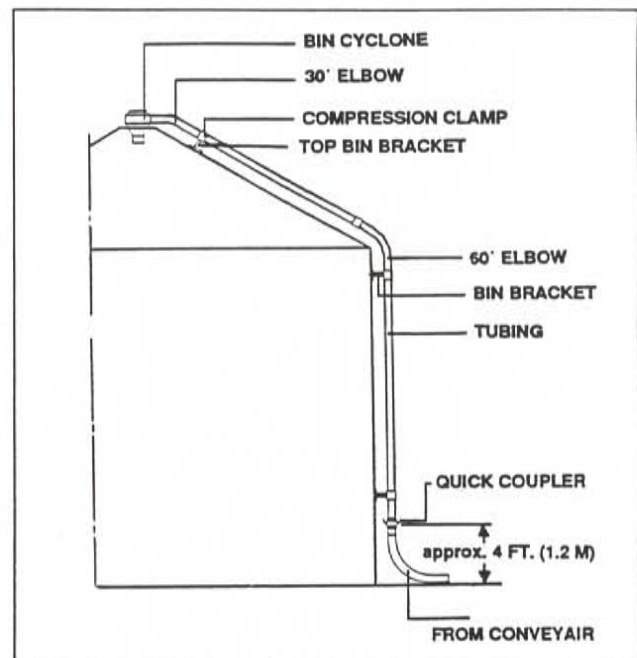


Fig. 70 PIPING

6.8 SEED DRILL CLEAN OUT KIT

A nozzle and flex tube is available for cleaning out a seed drill or other small spaces.

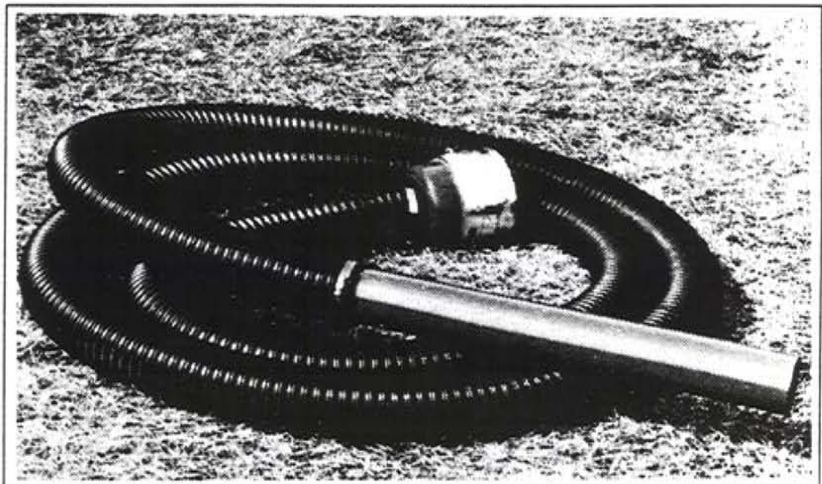


Fig. 71 SEED DRILL CLEAN OUT KIT

6.10 FENDERS

Fenders are available to fit over the tires to deflect objects picked up by the tires.

6.12 CAM LOCK COUPLERS

Cam lock couplers are available for the ends of all pipes and tubing to make connecting easy and convenient.



Fig. 75 CAM LOCK COUPLERS

7 TROUBLE SHOOTING

The Conveyair grain vac uses an air pump to create a vacuum and pressurized circuit to move grain. It is a simple and reliable system that requires minimal maintenance.

In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter.

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 Operator's Manual and the serial number from your grain vac ready.

PROBLEM	CAUSE	SOLUTION
Low capacity.	Tractor PTO runs slow.	Speed up tractor PTO to rated RPM for the model.
	540 RPM rather than 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.
		Check flex hose and tubing.
	Air leaks machine.	Check filter, receiver section, and airlock gaskets.
		Check pressure and vacuum relief valve.
		Check clamps on airline between receiver tank and air pump.
	Improper piping.	Keep suction lines as short as possible. Minimize bends. Use straight lengths of pipe wherever possible. Use the poly hose for clean up only.

PROBLEM

CAUSE

SOLUTION

Low capacity (cont'd).

Filter plugged.

Remove bottom cover and clean out filter. Filter excessively dirty. Remove and clean filter.

Airlock tip clearance.

Adjust airlock tips.

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 at intake nozzle.

PTO running too fast.

Throttle down tractor.

Damaged tubing or flexline.

Repair and replace when necessary.

Insufficient grain supply.

Reposition nozzle or open grain supply doors.

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 proper level of inspection door.

Obstruction in suction.

Shut down machine and clear line obstruction.

PROBLEM	CAUSE	SOLUTION
BPS plugs	Airlock turning too slowly.	Increase airlock speed until grain is at the level on the inspection door.
	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 from airlock.
Airlock not turning at all.	Flow control valve wrong.	Reset flow control to increase airlock.
	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 machine, open inspection door and remove cause of obstruction.
Hydraulic oil heating up excessively.	Faulty tractor hydraulics.	Use different tractor.
	Low oil level.	Add oil.
	Improper system selection.	Check if hydraulic system of tractor is open or closed and set Conveyair accordingly.
Excessive wear on air lines.	Improper piping.	Minimize bends.
	Too much air flow.	Adjust airtides and airlock speed.
	Insufficient grain supply.	Reposition intake nozzle. Open grain supply doors.
	Excessive PTO speed.	Operate at proper recommended PTO speed.

8 SPECIFICATIONS

8.1 MECHANICAL

Length	2.43 m (96")
Width	2.38 m (93")
Height (transport)	2.54 m (100")
Clearance (under cyclone)	3.50 m (138")
Weight (complete with accessories)	1108 Kg (2440lb)
Tire Size	6.70 X 15 (8ply)
Tire Pressure	357.76 kPa (52 psi)

Model	Minimum Horsepower	PTO RPM
5005	80	1000
6006	110	1000

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

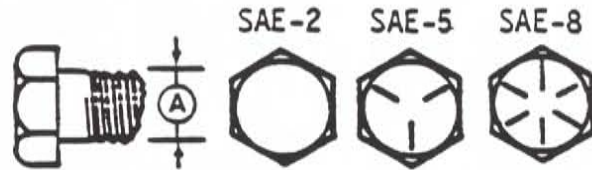
8.2 BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

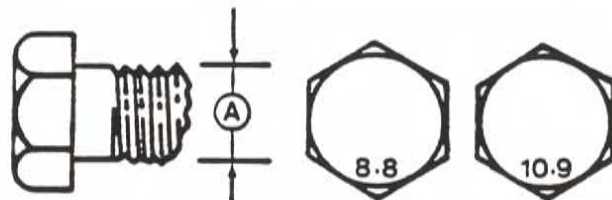
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	SAE 2		Bolt Torque *		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	(970)



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque *		Bolt Torque *	
	N.m	8.8 (lb-ft)	N.m	10.9 (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 figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

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

8.3 HYDRAULIC FITTING TORQUE

TIGHTENING FLARE TYPE 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 until snug.
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.

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

Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns to Tighten (After Finger Tightening)	
		(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

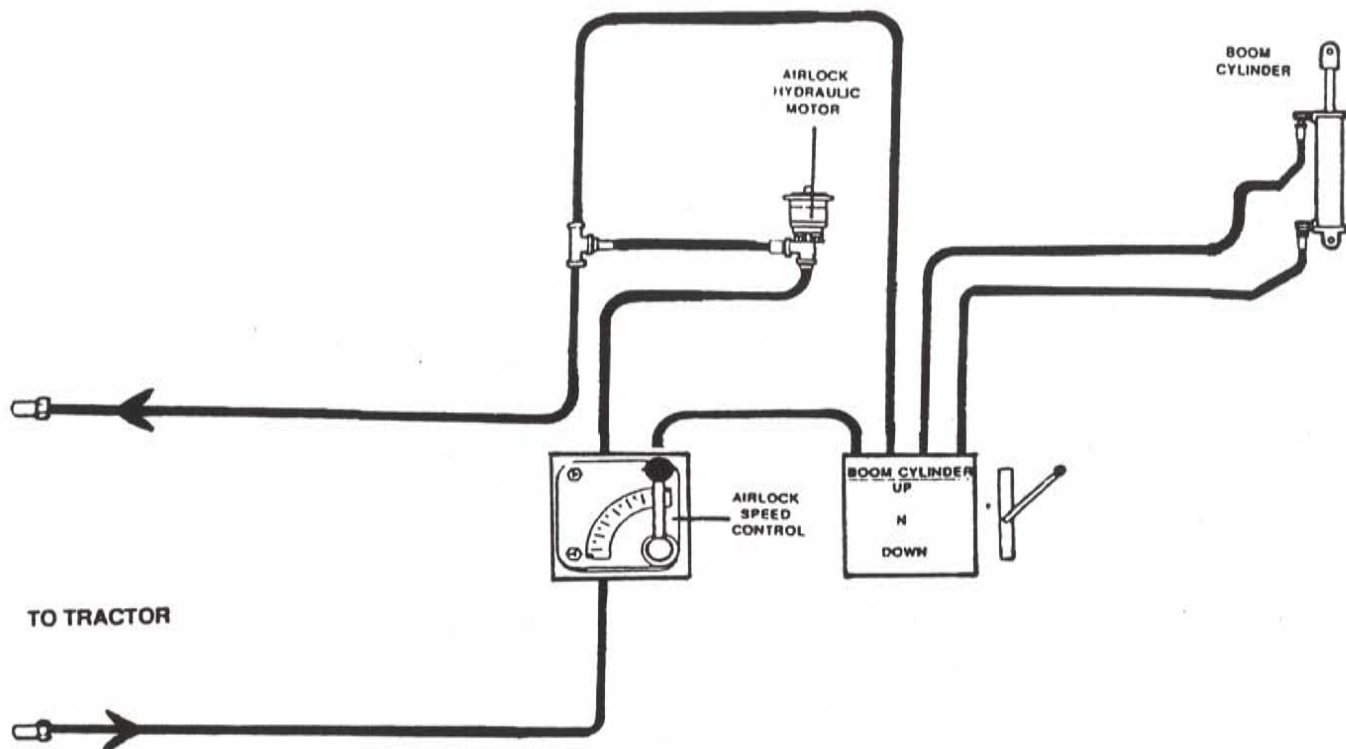
TIGHTENING FLARE TYPE TUBE FITTINGS *

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 until snug.
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.

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

Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns to Tighten (After Finger Tightening)	
		(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

8.4 HYDRAULIC SCHEMATIC



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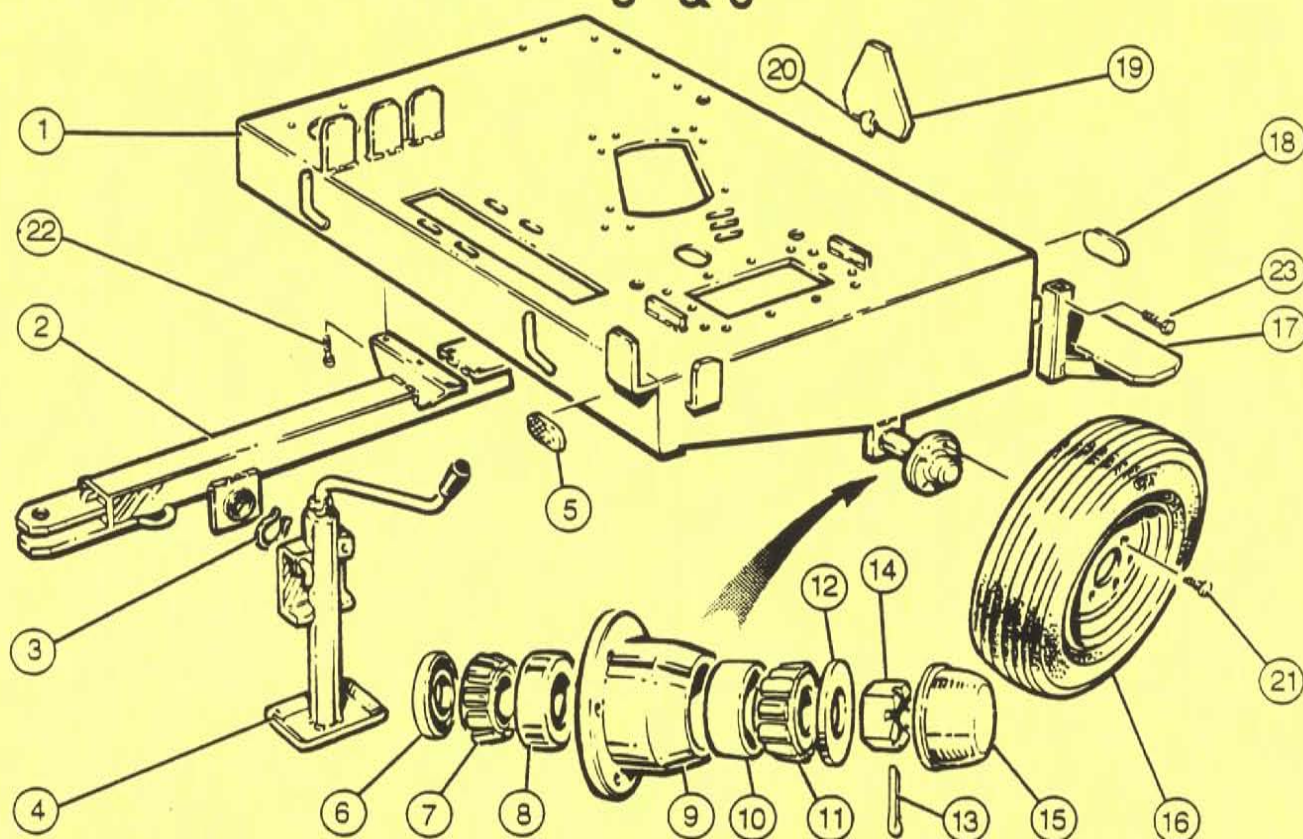
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REPAIR PARTS LIST

FRAME & WHEEL ASSEMBLY 5" & 6"

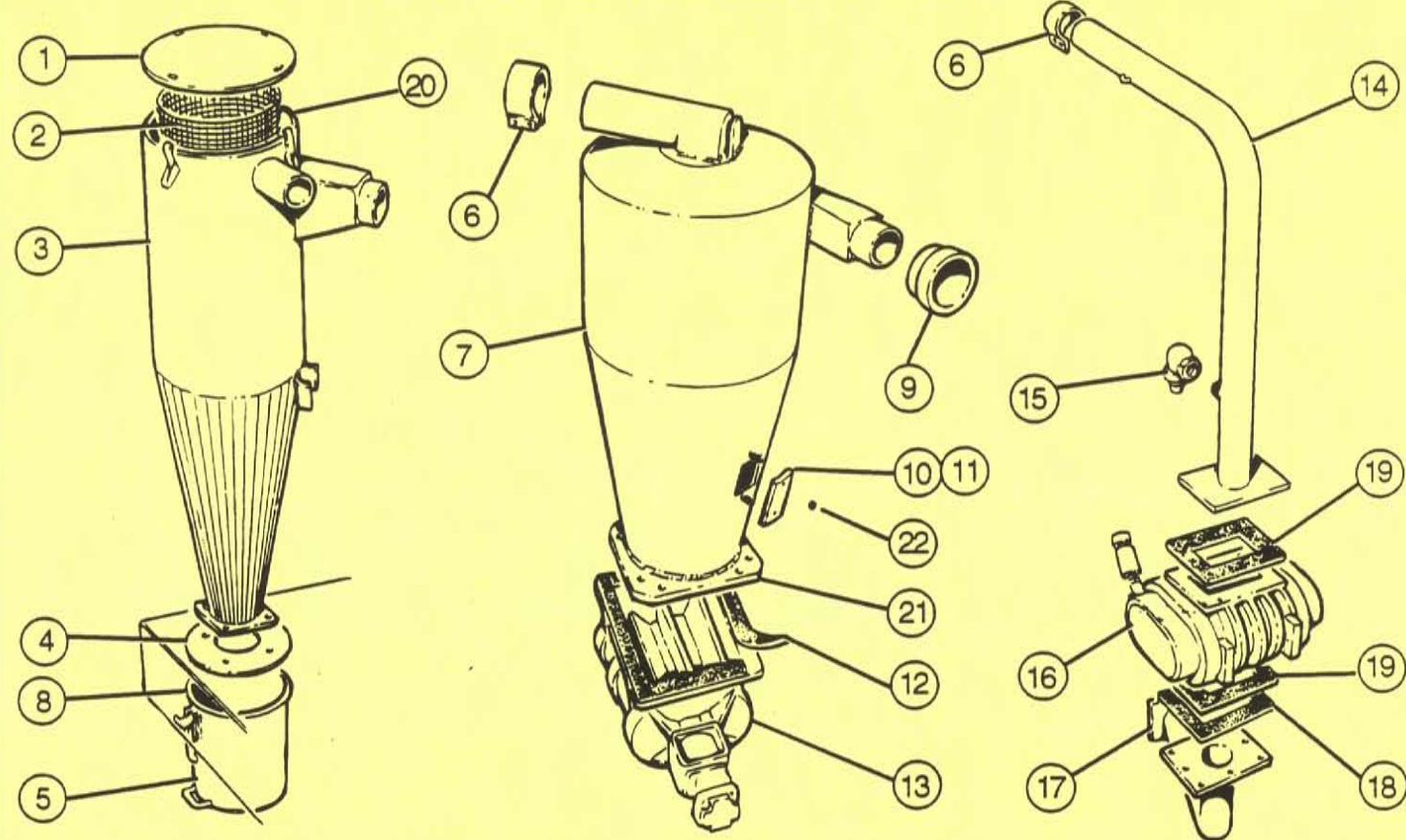
ISSUE 01-9603



Item No.	Ordering No.		No. Req.d	Description
	5"	6"		
1	11600	11600	1	Main frame
2	30500	30500	1	Hitch assembly
3	30023	30023	1	Snap ring
4	30001	30001	1	Jack
5	60014	60014	2	Amber reflector
6	20024	20024	2	Wheel seal
7	20025	20025	2	Bearing cone inner
8	20026	20026	2	Bearing cup inner
9	30026	30026	2	Wheel hub
10	20027	20027	2	Bearing cone outer
11	20028	20028	2	Bearing cup outer
12	56046	56046	2	Flat washer 3/4"
13	60012	60012	2	Cotter key
14	30027	30027	2	Castle nut
15	30029	30029	2	Dust cap
16	30512	30512	2	Tire/rim assembly, P205 x 15
17	11540	11620	1	Boom support
18	60015	60015	2	Red reflector
19	68503	68503	1	Slow Moving Vehicle sign
20	11529	11529	1	Slow Moving Vehicle spade 112409
21	30028	30028	10	Wheel bolt
22	-	-	7	3/8" x 1 1/4" Gap screw, flat washer & lock nut
23	-	-	6	1/2" x 3" Gap screw, flat washer & lock nut

RECEIVER TANK & DUST COLLECTOR

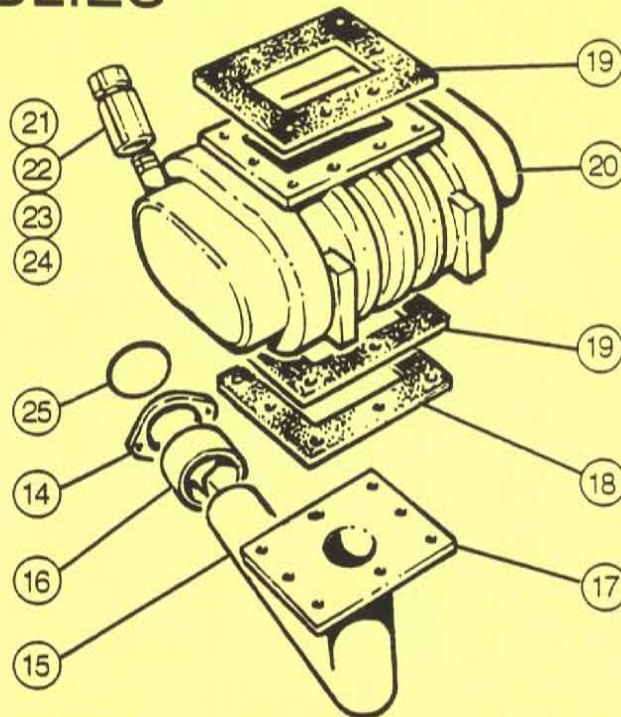
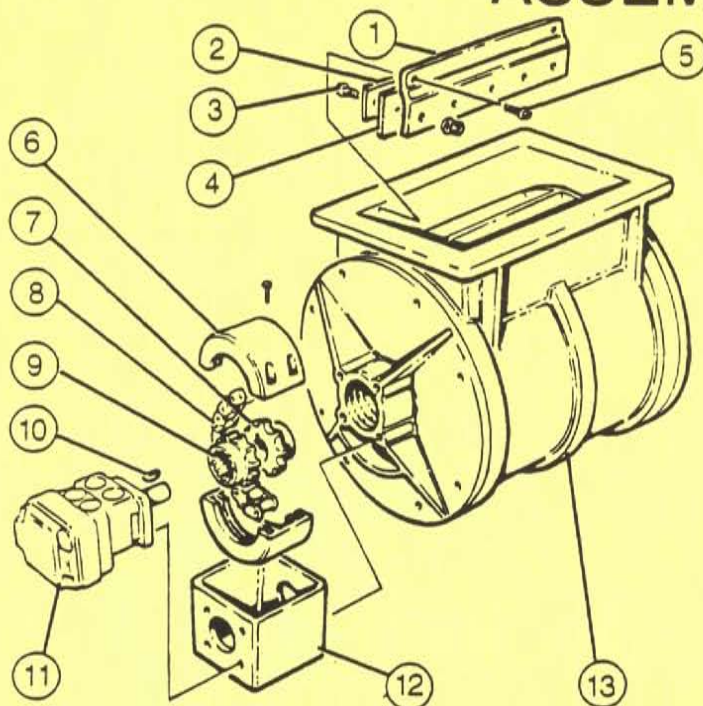
REPAIR PARTS LIST



Item No	Ordering No.		No. Req'd	Description
	5"	6"		
1	19504	19504	1	Dust cyclone top plate
2	19514	19514	1	Screen, anti-plugging
3	19500	19500	1	Dust cyclone seal
4	15525	15525	1	Ring, pail seal
5	19512	19512	1	Dust cyclone pail
6	26011	26011	2	5" Seal clamp
7	15625	15626	1	Receiver tank
8	64505	64505	1	Pail gasket, C52 Channel -30 inches
9	26007	26052	1	Female coupler
10	64503	64503	1	Foam gasket - 28 inches
11	15520	15520	1	Window receiver
12	64504	64504	1	Foam gasket - 70 inches
13	10525	10625	1	Airlock - see page 4
14	45505	45505	1	Airline blower inlet
15	26119	26119	1	Vacuum relief valve
16	14400	14400	1	Blower complete with Oil filter - see page 4
17	45630	45630	1	2 Piece airline blower output - see page 4
18	64030	64030	1	Gasket Blower, 5.3 1/8
19	64501	64501	2	Blower Gasket, 1/16 rubber
20	64500	64500	1	Rubber channel, 1/4 x 3/8 - 57 inches
21	64503	64503	1	Foam gasket, 60 inches
22	-	-	2	1/4" Flat washer & lock nut

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

AIRLOCK & BLOWER ASSEMBLIES



Item No	Ordering No.		No. Req'd	Description
	5"	6"		
0	10525	10625	1	AIRLOCK ASSEMBLY, COMPLETE WITH MOTOR
1	10630	10630	1	Wiper Airlock
2	10631	10631	1	Retainer wiper airlock
3	-	-	3	Bolt, 1/4" x 1 1/2" complete with flat/L washer & nut
4	10632	10632	1	Flex tip wiper airlock
5	-	-	2	Bolt, 1/4" x 1 1/2" complete with flat/L washer & nut
6	20011	20011	1	Cover chain coupler
7	20007	20007	1	Chain coupler sprocket
8	20010	20010	1	Chain - chain coupler
9	10021	10021	1	Chain coupler sprocket - splined
10	20006	20006	1	Woodruff key
11	22228	22228	1	Hydraulic motor - White
12	10017	10017	1	Bracket for mounting airlock motor
13	10535	10635	1	Airlock, less motor and coupler
00	14400	14400	1	BLOWER COMPLETE WITH BREATHER VENTS
14	45503	45503	1	Flange airlock inlet
15	45629	45629	1	Extension blower output tube
16	26011	26011	1	Seal clamp, 5"
17	45630	45630	1	Airline output
18	64030	64030	1	Gasket 5" x 3 1/8"
19	64501	64501	2	Gasket, 1/16" rubber
20	14400A	14400A	1	Blower less breathers
21	22136	22136	2	Galvanized steel nipple, 3/4" x 2 1/2"
22	22044	22044	2	Galvanized coupler nipple, 3/4"
23	22149	22149	2	Galvanized hexagon bushing, 3/4" x 3/8"
24	14431	14431	2	Breather vent



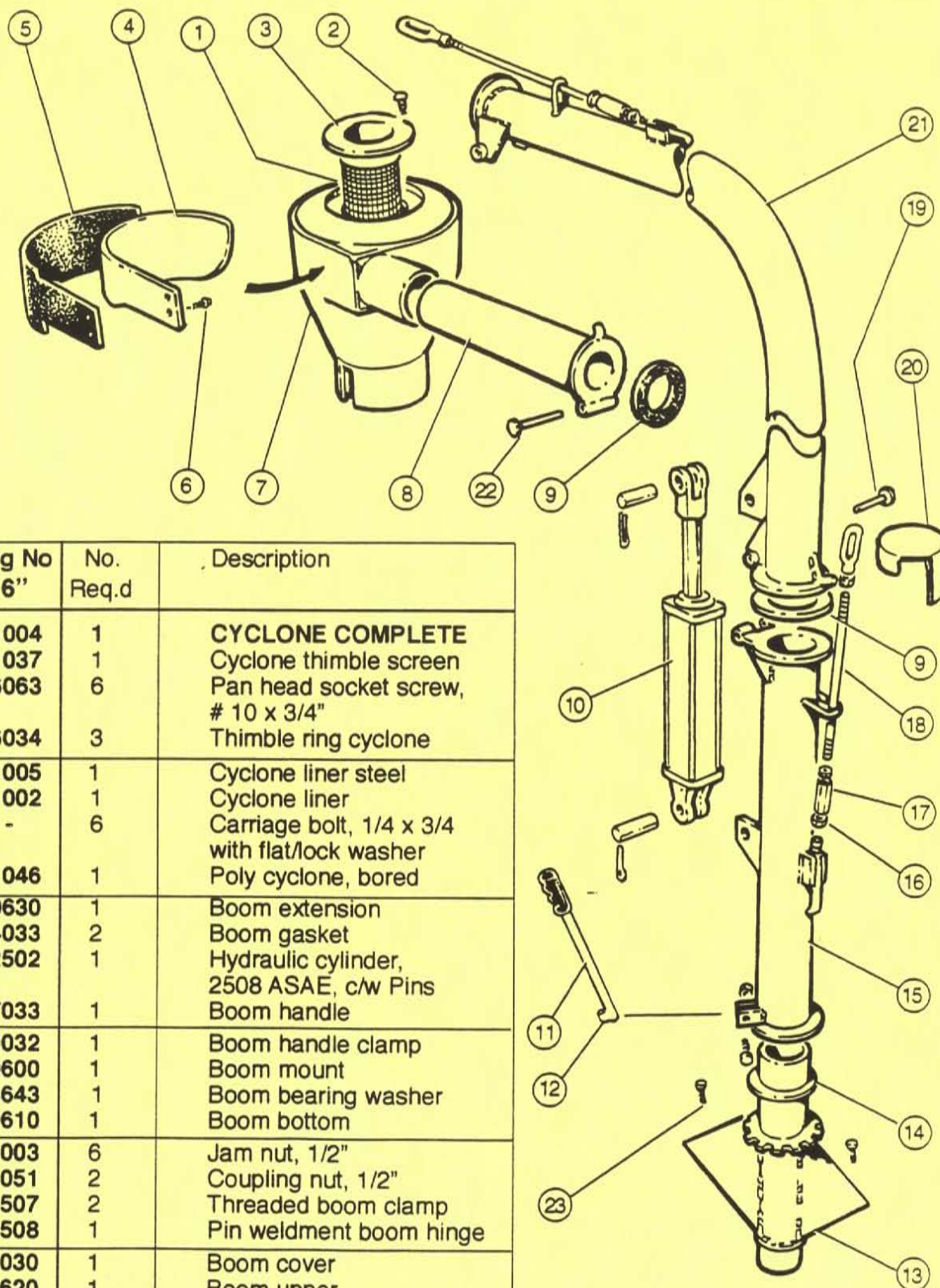
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When ordering parts specify:
model, size, serial number and ordering number

BOOM & CYCLONE

5" & 6"

REPAIR PARTS LIST

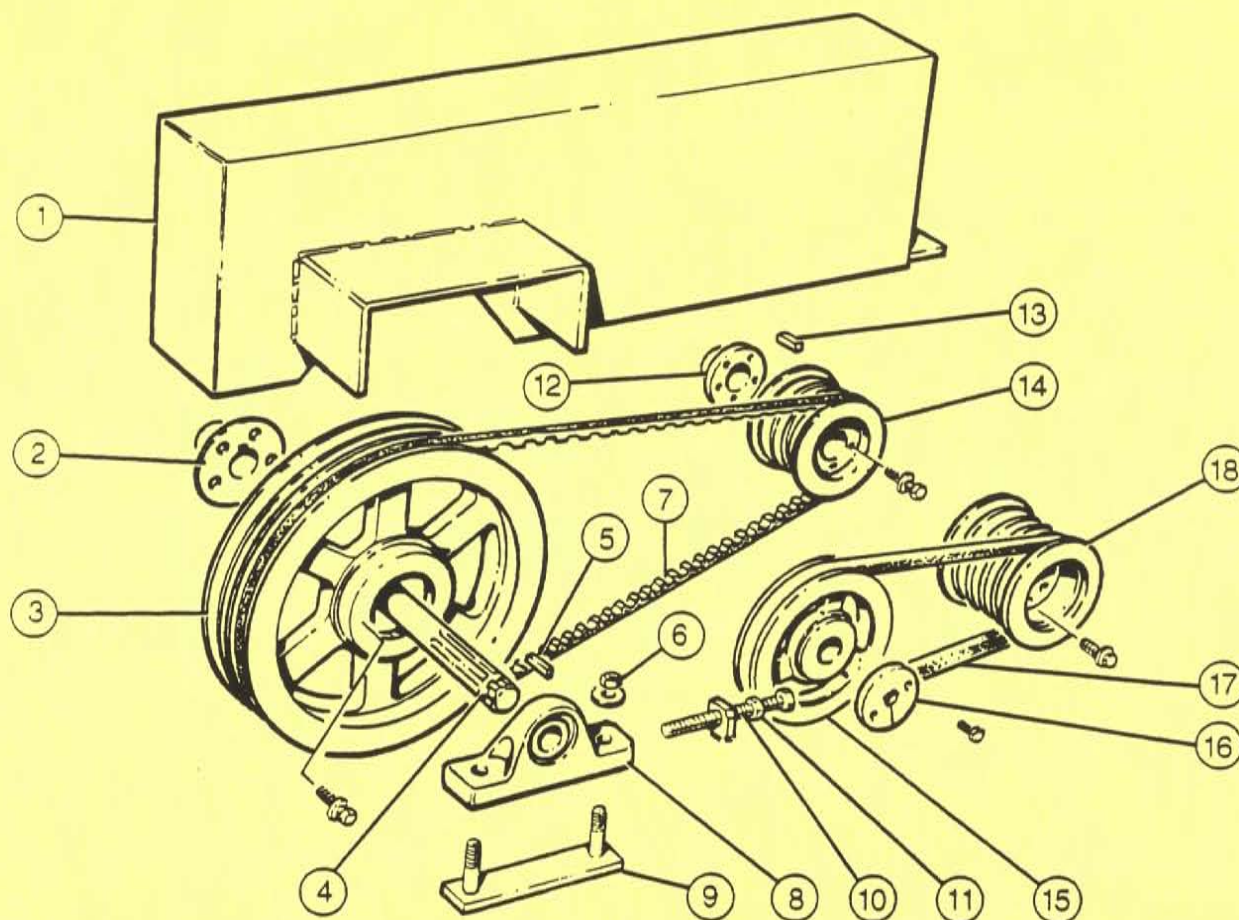


Item No.	Ordering No		No. Req.d	Description
	5"	6"		
0	31003	31004	1	CYCLONE COMPLETE
1	31037	31037	1	Cyclone thimble screen
2	56063	56063	6	Pan head socket screw, # 10 x 3/4"
3	26034	26034	3	Thimble ring cyclone
4	31005	31005	1	Cyclone liner steel
5	31002	31002	1	Cyclone liner
6	-	-	6	Carriage bolt, 1/4 x 3/4 with flat/lock washer
7	31045	31046	1	Poly cyclone, bored
8	29530	29630	1	Boom extension
9	64032	64033	2	Boom gasket
10	22502	22502	1	Hydraulic cylinder, 2508 ASAE, c/w Pins
11	27033	27033	1	Boom handle
12	60032	60032	1	Boom handle clamp
13	29500	29600	1	Boom mount
14	29543	28643	1	Boom bearing washer
15	29510	29610	1	Boom bottom
16	56003	56003	6	Jam nut, 1/2"
17	56051	56051	2	Coupling nut, 1/2"
18	29507	29507	2	Threaded boom clamp
19	29508	29508	1	Pin weldment boom hinge
20	60030	60030	1	Boom cover
21	29520	29620	1	Boom upper
22	29535	29535	1	Pin weldment boom extension hinge
23	-	-	4	1/2 x 1 1/2 Flat/lock washer

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

BELT DRIVE

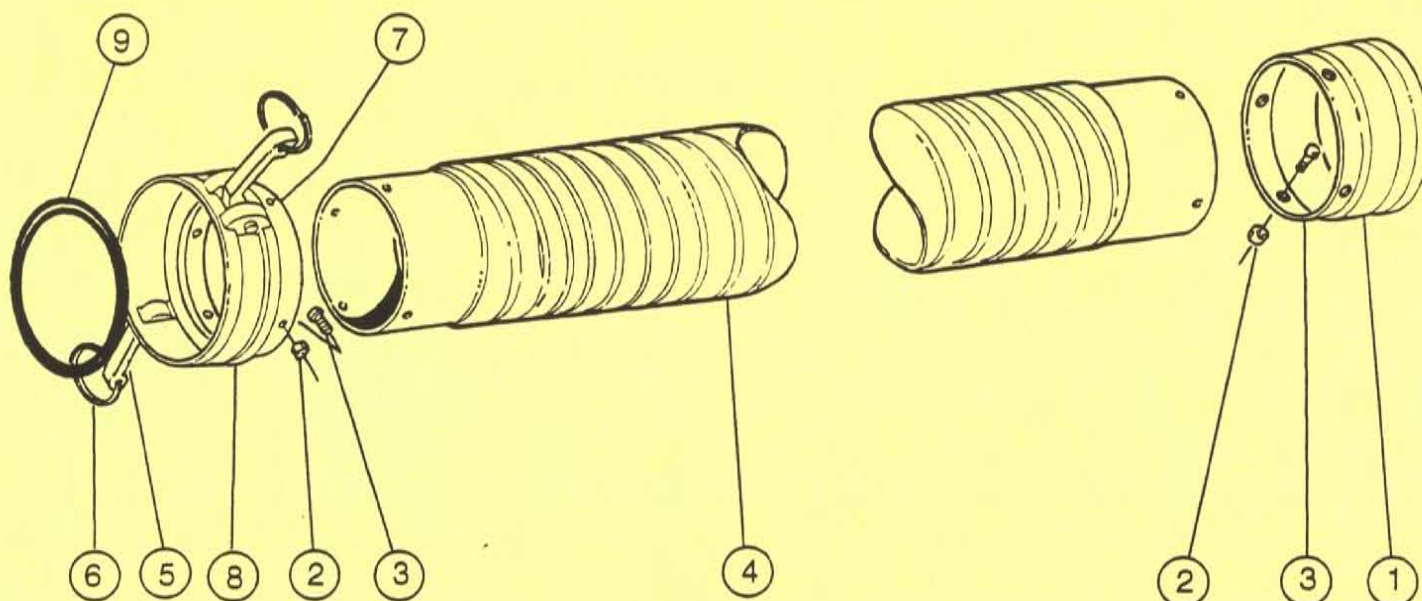
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Item No.	Ordering No.		No Req.d	Description
	5"	6"		
1	11520	11520	1	Belt Cover
2	18503	18504	1	Bushing, 1 3/8 complete with bolts
3	18004	18050	1	Sheave
4	18502	18502	1	Spline shaft, 1 3/8, 6 spline
5	20502	20502	1	Key, 5/16 x 2
6	-	-	2	Flat washer and nylon nut, 1/2 inch
7	18501	18505	5	V-Belt
8	20501	20501	2	Pillow block bearing, 1 3/8
9	11503	11503	2	Bolt weldment - bearing
10	56026	56026	2	Tap bolt, 1/2 x 3 3/4
11	56003	56003	2	Jam Nut, 1/2"
12	18038	18010	1	Bushing, 1 7/16 complete with bolts
13	20018	20018	1	Key, 3/8 x 2
14	18011	18052	1	Sheave
SELF CONTAINED HYDRAULICS - OPTIONAL				
15	18510	18510	1	Sheave, 6.4 QT
16	18511	18511	1	Bushing, 9/16 QT complete with bolts
17	18513	18513	1	Belt, B38
18	18514	-	1	Sheave B6, 6.0, replaces 18011
18	-	18512	1	Sheave 5V, 5.2, replaces 16052

STEEL FLEX HOSE & COUPLERS

5" & 6"



Item No.	Ordering No.		No Req.d	Description
	5"	6"		
0	43032	43047	1	Steel Flex Hose Assembly - includes 1-9
1	26006	26051	1	Male Coupler
2	56030	56030	8	Lock Nut, 1/4" NC x 3/4"
3	56027	56027	8	Carriage Bolt, 1/4" NC x 3/4."
4	43033	43048	1	Steel Flex Hose, 10 ft.
5	26083	26086	2	Cam Lever
6	26085	26085	2	Finger Ring
7	26081	26082	2	Cam Lever Pin
8	26007	26052	1	Fem Coupler Assembly-includes 5 - 7
9	64028	64029	1	Coupler Gasket

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

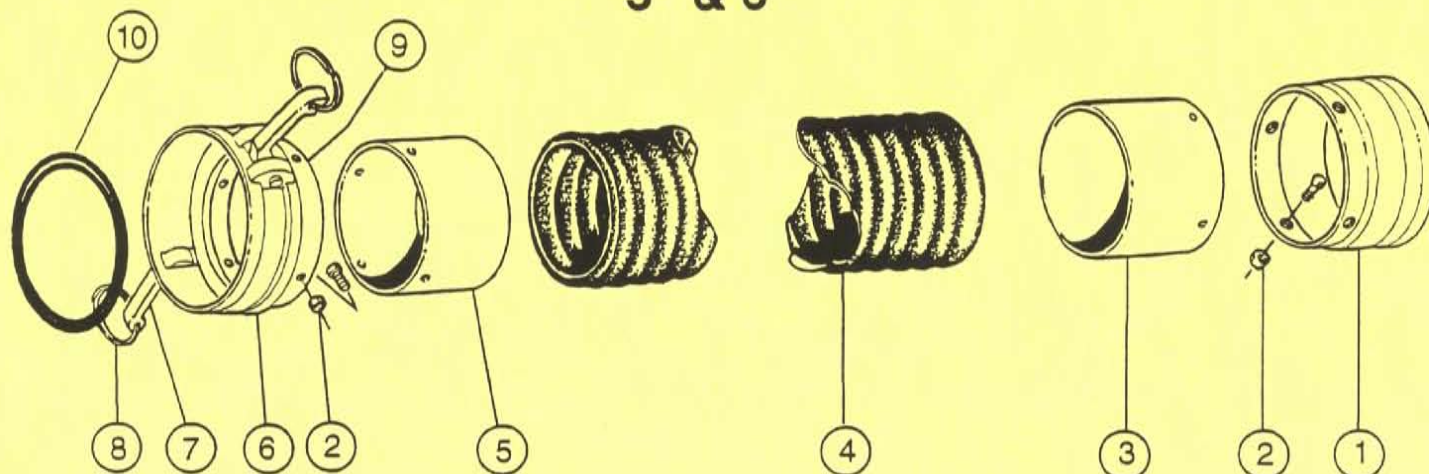
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Manufacturing Ltd.

REPAIR PARTS LIST

CLEAN UP HOSE & COUPLERS 5" & 6"

ISSUE 07-9603

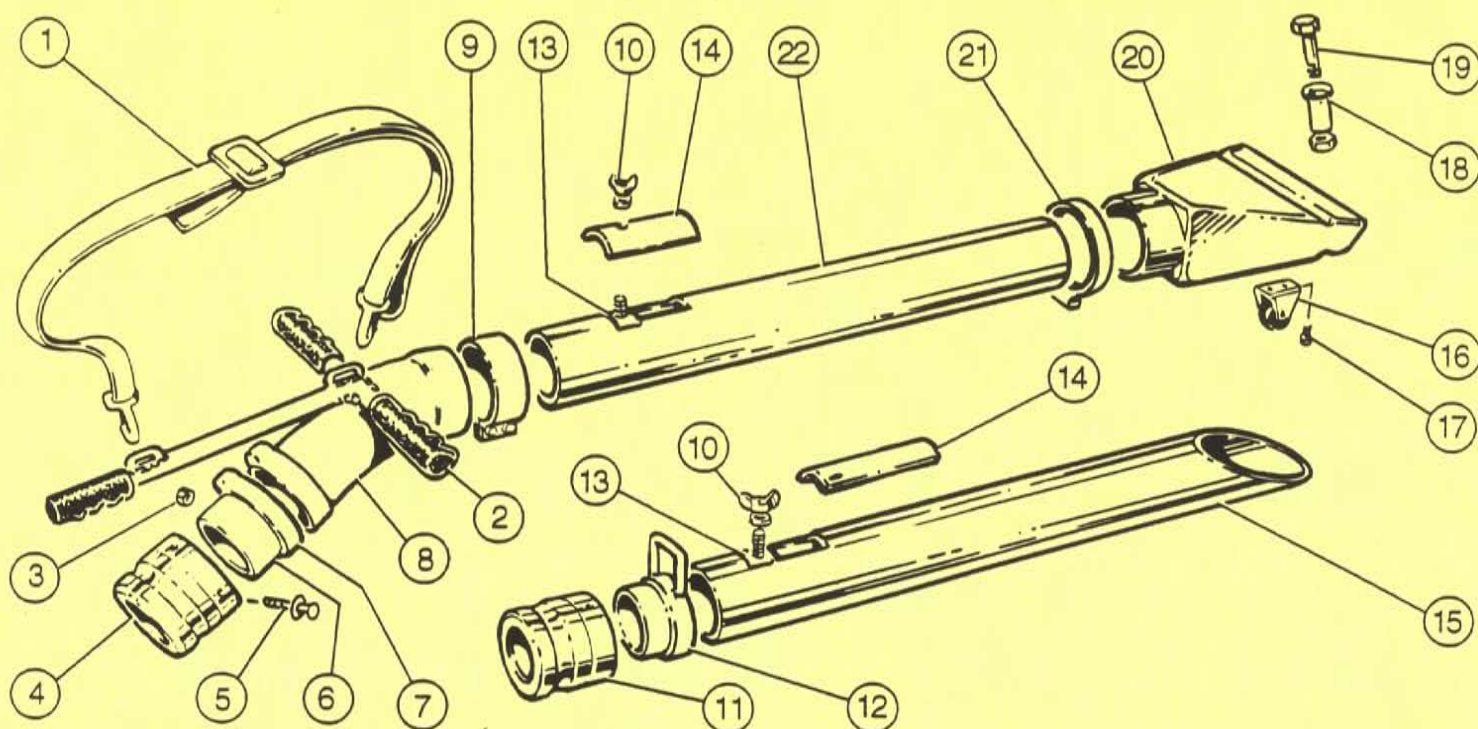


Item No.	Ordering No.	Description	Number Required
0	43034	Complete Hose Assembly - 4" x 14', 4 "Fem x 5" male	1
1	26006	Male Coupler, 5 "	1
2	56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
3	26028	Reducer, 5" - 4"	1
4	26112	Poly Hose, 4" x 14'	14 feet
5	43035	Tube	1
6	26005	Female Coupler, 4" - includes 7 - 9	1
0	43056	Complete Hose Assembly - 5" x 14', 5" Fem x 6" male	1
1	26051	Male Coupler, 6 "	1
2	56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
3	26044	Reducer, 6" - 5"	1
4	26113	Poly Hose, 5" x 14'	14 feet
5	43029	Tube	1
6	26007	Female Coupler, 5" - includes 7 - 9	1
0	43019	Complete Hose Assembly - 6" x 14', 6" Fem x 6" male	1
1	26051	Male Coupler, 6 "	1
2	56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
4	26120	Poly Hose, 6" x 14'	14 feet
5	43029	Tube	2
6	26052	Female Coupler, 6" - includes 7 -9	1
0	43079	Complete Hose Assembly - 5" x 14', 5" Fem x 5" male	1
1	26006	Male Coupler, 5 "	1
2	56027	Carriage Bolt, 1/4" NC x 3/4", Lock Nut & Washer	8
4	26113	Poly Hose, 5" x 14'	14 feet
5	43029	Tube	2
6	26007	Female Coupler, 5" - includes 7 - 9	1
Coupler parts			
7	26083	Cam Lever, for 4" & 5"	2
7	26086	Cam Lever, for 6"	2
8	26085	Finger Ring	2
9	26058	Pin Cam Lever, for 4" & 5"	2
9	26059	Pin Cam Lever, for 6"	2
10	64027	Coupler Gasket, for 4"	2
10	64028	Coupler Gasket, for 5"	2
10	64029	Coupler Gasket, for 6"	2

CLEAN UP & BIN NOZZLES

5" & 6"

REPAIR PARTS LIST



Item No.	Ordering Number 5005	Ordering Number 6006	No. Req'd	Description
0	43036*	43030 **	1	Cleanup assembly complete
1	60021	60021	1	Shoulder strap
2	60008	60008	1	Handle grip
3	-	-	2	Nylon nut 3/8"
4	26004	26006	1	Male coupler
5	-	-	4	Carriage bolt, 1/4" x 3/4" complete with flat washer
6	43006	43009	1	Rotary male machined
7	43020	43023	1	Retainer weldment
8	43018	43021	1	Rotary elbow weldment
9	26010	26011	1	Seal clamp
10	-	-	2	Wing nut and flat washer, 3/8"
13	43004	43004	2	Bottom slide assembly
14	43003	43003	2	Top slide
16	60009	60009	2	Rigid Caster
17	-	-	1	Carriage bolt, 1/4" x 3/4". complete with washer and nut
18	43060	43060	1	Spacer pipe intake flare
19	-	-	1	Machine bolt, 1/4" x 3", flat lock washer and nut
20	43130	43129	1	Bored intake flare
21	26062	26063	1	Quick release T-bolt clamp
22	43037*	43031**	1	Aluminum tube
00	43510	43610	1	Full bin nozzle assembly
10	-	-	2	Wing nut and flat washer, 3/8"
11	26006	26051	11	Male coupler
12	43508	43608	1	Handle
13	43004	43004	2	Bottom slide assembly
14	43003	43003	2	Top slide
15	43509	43609	1	Tube

Note:

* For 5005 units, tube and clamp are 4"

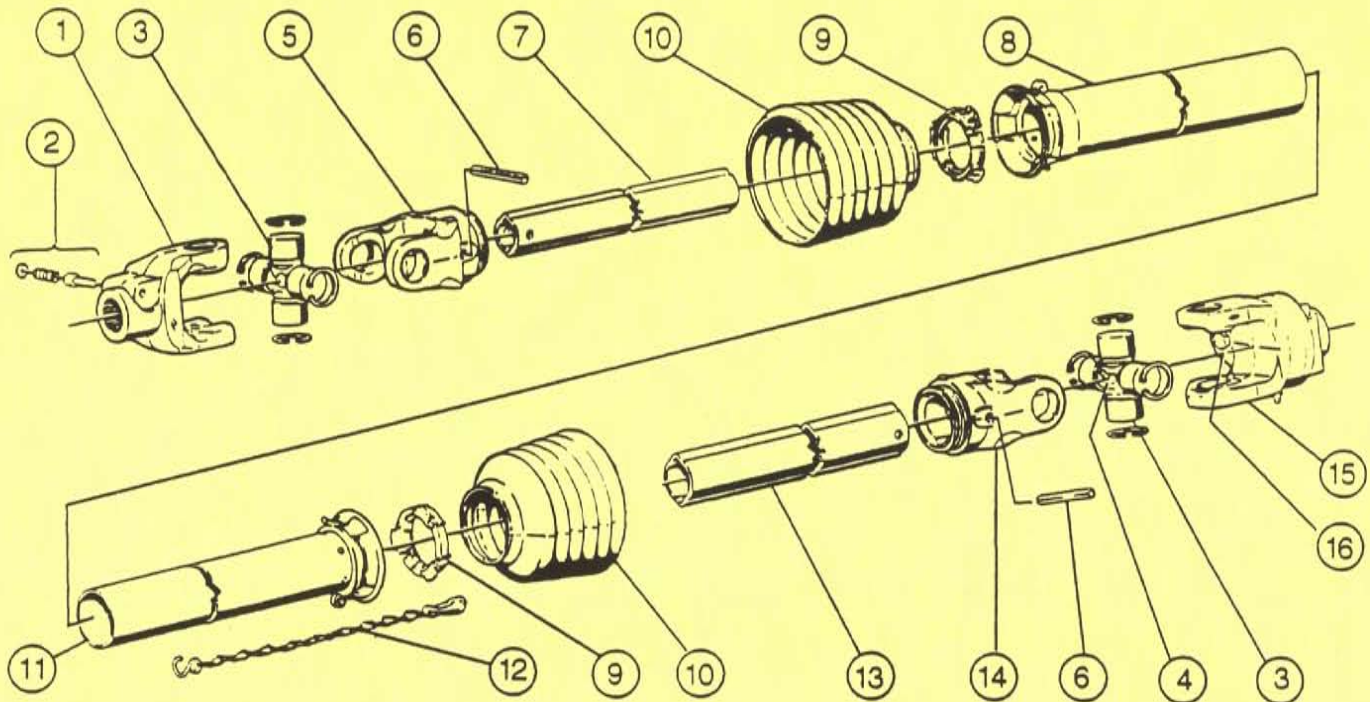
** For 6006 units, tube and clamps are 5"

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

REPAIR PARTS LIST

DRIVESHAFT (WALTERSHEID - 1000RPM)

ISSUE 09-9603



Item No.	Ordering No.	No. Req'd	Description
0	16100	1	Drive shaft complete for 5" and 6" units
1	16105	1	End yoke, 1 3/8" - 21 spline
2	16106	2	Pin Kit
3	16109	2	Cross and bearing kit
4	16110	2	Grease nipple
5	16111	1	Yoke, Inner profile
6	16112	2	Spring pin
7	16113	1	Inner profile
8	16118	1	Outer shield tube
9	16117	2	Shield bearing
10	16116	2	Shield cone
11	16119	1	Inner shield tube
12	16112	1	Safety Chain
13	16114	1	Outer profile
14	16115	1	Yoke, outer profile
15	16107	1	Shear bolt clutch yoke
16	16108	1	Shear bolt, 5/16" NC x 2 1/2"

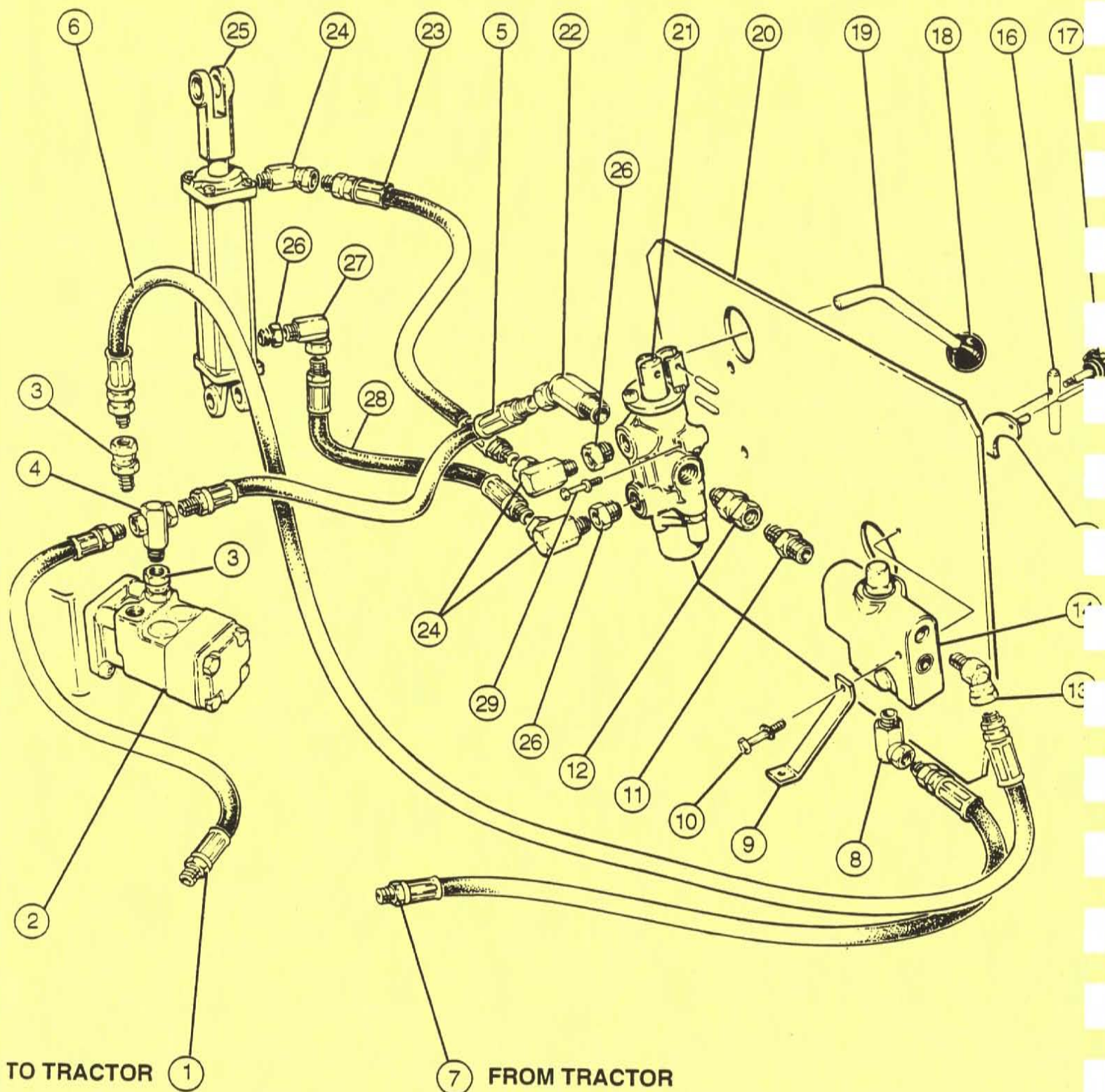
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Thor Manufacturing Ltd.

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

STANDARD HYDRAULIC SYSTEM

REPAIR PARTS LIST



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

**REPAIR
PARTS LIST****STANDARD
HYDRAULIC SYSTEM**
(for 5" & 6" models)

ISSUE 11-9603

Item No.	Ordering Number	No. Req.d	Description
1	22514	1	Hose, 1/2" x 114"
2	22228	1	Hydraulic motor, White
3	22131	2	Adapter orb to pipe thread
4	22508	1	Swivel Tee
5	22524	1	Hose, 1/2" x 42"
6	22513	1	Hose, 1/2" x 48"
7	22515	1	Hose, 1/2" x 156"
8	22507	1	90 degree swivel elbow, 1/2"
9	22511	1	Brace, hydraulic mount
10	-	2	Bolt complete with washer and nut, 1/4" x 2 1/2"
11	22506	1	Pipe nipple, 1/2"
12	22503	1	Straight swivel, 3/4" x 1/2"
13	22505	1	Elbow swivel, 45 degree - 1/2"
14	22501	1	Flow control
15	26168	1	Indicator plate - for flow control
16	22166	1	Handle - for flow control
17	22165	1	Knob - for flow control handle
18	22536	1	Knob - for control valve
19	22525	1	Handle - for control valve
20	22510	1	Hydraulic valve mount
21	22203	1	Boom valve
22	22520	1	Swivel elbow , 3/4" x 1/2"
23	22517	1	Hose, 1/4" x 160"
24	22519	3	Swivel elbow, 3/8" x 1/4"
25	22502	1	Hydraulic cylinder, 2508 ASAE
26	22521	3	Reducer, 3/8" x 1/4"
27	22533	1	Swivel orifice, .04
28	22516	1	Hose, 1/4" x 150"
29	-	2	Bolt complete with washer and nut, 1/4" x 1 1/2"

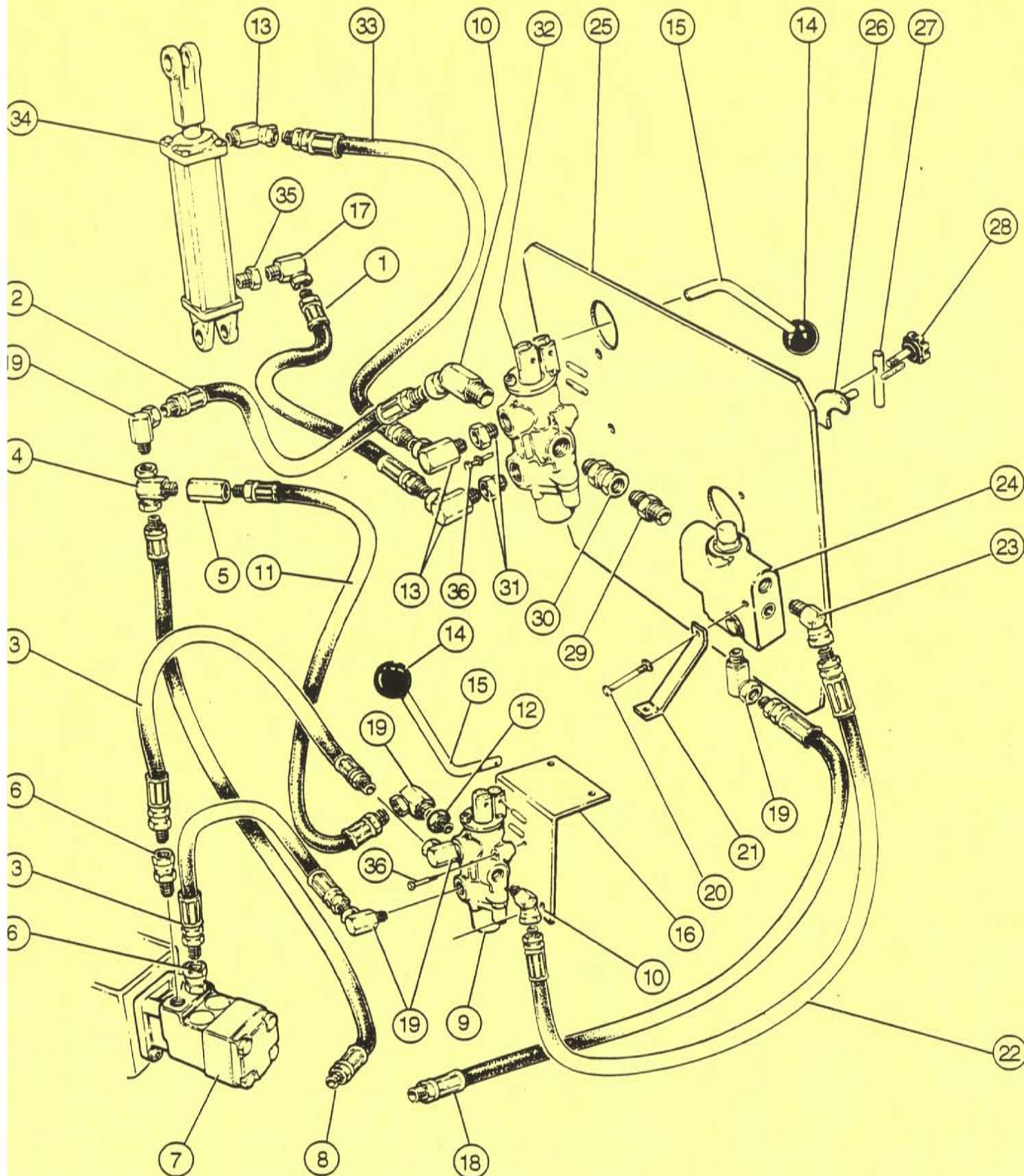


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**When ordering parts specify:
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HYDRAULIC SYSTEM (WITH REVERSE OPTION)

REPAIR PARTS LIST



When ordering parts specify:
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REPAIR PARTS LIST

HYDRAULIC SYSTEM (WITH REVERSE OPTION)

ISSUE13-9603

Item No.	Ordering Number	Number Required	Description
1	22516	1	Hose, 1/4" x 150"
2	22524	1	Hose, 1/2" x 42"
3	22575	2	Hose, 1/2" x 21"
4	22508	1	Swivel Tee
5	22525	1	Pipe coupler
6	22131	2	Adapter, ORB to pipe thread
7	22228	1	Hydraulic motor, White
8	22514	1	Hose, 1/2" x 114"
9	22017	1	Control valve airlock
10	22520	2	Swivel elbow, 45°, 3/4" x 1/2"
11	22578	1	Hose, 1/2" x 1/2"
12	22215	1	Reducer, 3/4" x 1/2"
13	22519	3	Swivel elbow, 3/8" x 1/4"
14	22536	2	Knob - for control valve
15	22535	2	Handle - for control valve
16	22572	1	Mount - for hydraulic valve
17	22533	1	Swivel elbow, .040 orifice
18	22515	1	Hose, 1/2" x 156"
19	22507	5	90° swivel elbow, 1/2"
20	-	2	Bolt, complete with flat washer and nut, 1/4" x 2 1/2"
21	22511	1	Brace - for hydraulic mount
22	22568	1	Hose, 1/2" x 36"
23	22505	1	45° Swivel elbow, 1/2"
24	22501	1	Flow control
25	22510	1	Mount - for hydraulic valve
26	22168	1	Indicator plate - for flow control valve
27	22166	1	Handle - for flow control valve
28	22165	1	Knob - for flow control valve
29	22506	1	Pipe nipple, 1/2"
30	22503	1	Straight swivel, 3/4" x 1/2"
31	22521	2	Reducer, 1/2" to 3/8"
32	22203	1	Boom valve
33	22517	1	Hose, 1/4" x 160"
34	22502	1	Hydraulic cylinder, 2508 ASAE
35	22521	1	Reducer, 3/8" x 1/4"
36	-	2	Bolt, complete with flat washer and nut, 1/4" x 1 1/2"

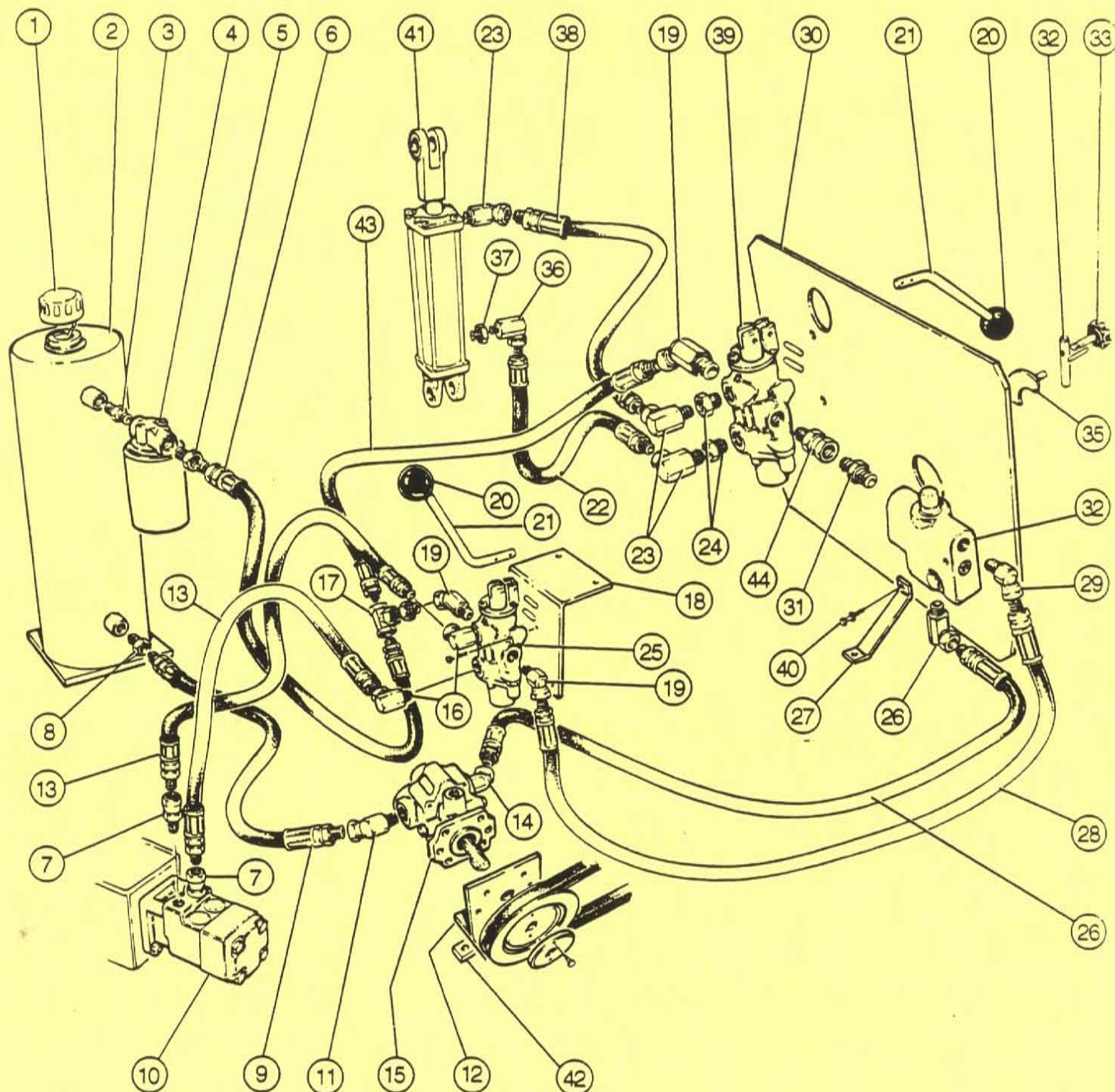


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SELF CONTAINED HYDRAULIC SYSTEM (WITH REVERSE OPTION)

REPAIR PARTS LIST



When ordering parts specify:
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Thor Manufacturing Ltd.

REPAIR PARTS LIST

SELF CONTAINED HYDRAULIC SYSTEM (WITH REVERSE OPTION)

ISSUE 15-9603

Item No.	Ordering Number	Number Required	Description
1	22066	1	Filler breather
2	22550	1	Tank - for self contained hydraulics
3	22136	1	Pipe nipple, 3/4" x 2 1/2"
4	22067	1	Filter
5	22518	1	Reducer, 3/4" x 1/2"
6	22570	1	Hose, 1/2" x 54"
7	22131	2	Adapter, ORB to pipe thread
8	22518	3	Reducer, 1/2" x 3/8"
9	22085	1	Hose, 1/2" x 42"
10	22228	1	Hydraulic motor, white
11	22505	2	Swivel elbow, 45°, 1/2"
12	22564	1	Mount - for hydraulic pump
13	22575	2	Hose, 1/2" x 21"
14	22573	1	90° Swivel elbow, 3/8"
15	22540	1	Hydraulic pump
16	22507	3	90° Swivel elbow, 1/2"
17	22508	1	Swivel Tee, 1/2"
18	22572	1	Mount - for hydraulic valve
19	22520	2	45° Swivel elbow, 3/4" x 1/2"
20	22536	1	Knob for control valve
21	22535	1	Handle hydraulic valve
22	22516	1	Hose, 1/4" x 150"
23	22519	3	90° Swivel elbow, 3/8"
24	22521	2	Reducer, 1/2" x 3/8"
25	22017	1	Control valve - airlock
26	22567	1	Hose, 3/8" x 40"
27	22511	1	Brace, hydraulic mount
28	22568	1	Hose, 1/2" x 36"
29	22505	1	Elbow swivel, 45°, 1/2"
30	22510	1	Mount for hydraulic valve
31	22506	1	Pipe nipple, 1/2"
32	22501	1	Flow control
33	22165	1	Knob - for flow control
34	22166	1	Handle - for flow control
35	22168	1	Indicator plate - for flow control
36	25533	2	Swivel elbow, .040 orifice
37	22521	1	Reducer, 3/8" x 1/4"
38	22517	1	Hose, 1/4" x 160"
39	22203	1	Hydraulic valve
40	-	2	Bolt, complete with flat washer and nut, 1/4" 2 1/2"
41	22502	1	Hydraulic cylinder, 2508 ASAE
42	22563	1	Clamp - for hydraulic pump mount
43	22569	1	Hose, 1/2" x 26"
44	22503	1	Swivel straight, 3/4" x 1/2"



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