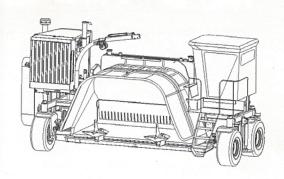
Ag-Bag® International

G9012 HyPac

# OPERATOR'S MANUA







### TO THE OWNER:

This manual contains information concerning the operation, adjustment and maintenance of the G9012 HyPac Model Ag-Bagger<sup>®</sup>. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this Ag-Bagger<sup>®</sup>. Please have all operators read this manual carefully, and keep it available for ready reference.

This machine was designed to be towed by an agricultural tractor and powered by the tractor's power take-off. They are intended to bag a variety of forage crops, high moisture grains, commodities, by-products, brewers grains, etc.

Your Ag-Bag® Dealer will instruct you in the general operation of your Ag-Bagger®. Your Dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your Ag-Bagger®.

Your Ag-Bag® Dealer carries a complete line of genuine Ag-Bag® parts. Parts are carefully inspected in the same factories that built the Ag-Bagger® to ensure high quality and accurate fitting of any necessary replacement parts.



CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

CAUTION: PICTURES IN THIS MANUAL MAY SHOW PROTECTIVE SHIELDING OPEN OR REMOVED TO BETTER ILLUSTRATE A PARTICULAR FEATURE OR ADJUSTMENT.

BE CERTAIN, HOWEVER, TO CLOSE OR REPLACE ALL SHIELDING BEFORE OPERATING THE MACHINE.

### **IMPROVEMENTS**

Ag-Bag International, Ltd. is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes, or additions to the equipment sold previously.

### **OWNER ASSISTANCE**

We at Ag-Bag<sup>®</sup> and your Ag-Bag<sup>®</sup> Dealer want you to be completely satisfied with your investment. Normally any problems with your equipment will be handled by your Dealer's Service Department. If your problem has not been handled to your satisfaction, we suggest the following.

- 1. Contact the owner or General Manager of the Dealership, explain the problem, and request assistance.
- 2. If you are still not satisfied contact our corporate office and provide them with:
  - · Your name, address, and telephone number
  - · Machine model and serial number
  - · Dealership name and address
  - · Machine purchase date and amount of use
  - · Nature of problem

### **Corporate Office:**

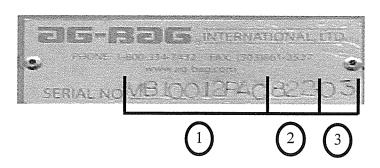
Ag-Bag International, Ltd. Attn: Manager, Customer Service 2320 S.E. Ag-Bag Lane Warrenton, OR 97146 Telephone: (800)334-7432

Email: customerservice@ag-bag.com

**Please Note:** When contacting the corporate office, your problem will likely be resolved in the Dealership using the Dealer's facilities, equipment, and personnel. So, it is important that your initial contact be with the Dealer.

### **IDENTIFYING YOUR AG-BAGGER®.**

The serial number plate for you Ag-Bagger® is located on the right side of the machine near the Bag Boom. It contains the Model and Serial of the machine. When calling for parts or other information about your Ag-Bagger® be sure you have this number available.



- 1. Model
- 2. Serial Number
- 3. Year Built

### **MACHINE WARRANTY**

### **TERMS:**

Ag-Bag International Ltd., hereinafter referred to as the Company, warrants new company equipment and/or attachments at the time of delivery to the original purchaser to be free from defects in materials and workmanship if properly set up and operated according to the recommendation set forth in Company's Operator's Manual.

Company's liability for any defect with respect to accepted goods shall be limited to repairing the goods at an authorized Company Dealer or other designated locations, or replacing them, as Company shall elect. Company's obligations shall terminate six (6) months from effective machine warranty date of goods delivered to original purchaser.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the Company factory or authorized Company Dealership or in any way so as in Company's judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor any machine or attachment, which shall not have been operated in accordance with Company's printed instructions or beyond the Company recommended machine rated capacity.

This warranty shall not be applicable to items which are subject to the warranties of their respective manufacturers. Such items would include but would not be limited to engines, clutches, universal joints, hydraulic components, bearings, tires, belts and other trade accessories.

### Bags:

All recommendations or suggestions of use are made without guarantee, since conditions of use are beyond our control. Ag-Bag International Ltd. maintains no obligation or liabilities for consequential damages arising out of or in connection with use of this product, including, but not limited to inconveniences, loss of profit, commercial loss, feed loss of any type, or costs of removal, installation or reinstallation.

### **EXCLUSION OF WARRANTIES**

Except as otherwise expressly stated herein, Company makes no representation or warranty of any kind express or implied, and makes no warranty of merchantability in respect to its machinery, bags, and/or attachments and makes no warranty that its machinery, bags and/or attachments are fit for any particular purpose. Company shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to inconveniences, rental, or replacement equipment, loss of profit, commercial loss, or feed loss of any type. Company shall not be liable for, and the buyer assumes all liability for, all personal injury and property damage resulting from the handling, possession and use of the goods by the buyer.

NO AGENT, EMPLOYEE OR REPRESENTATIVE OF THE COMPANY HAS ANY AUTHORITY TO BIND THE COMPANY TO ANY AFFIRMATION, REPRESENTATION, OR WARRANTY CONCERNING ITS MACHINERY AND/OR ATTACHMENTS EXCEPT AS SPECIFICALLY SET FORTH HEREIN. THIS WARRANTY IS EFFECTIVE ONLY WHEN SIGNED ON REVERSE SIDE, DATED, AND ORIGINAL RECEIVED BY SALES OFFICE WITHIN TEN (10) DAYS OF COMPLETION.

### **BAG GUARANTEE**

The Company, can offer this unequaled guarantee because of our commitment to quality, years of experience as the leading manufacture of silage bags, and use of the latest plastic technology. We recognize that the quality and reliability of the bagging system is dependent on a team effort between the Company and you, the customer. Its part of the teamwork is to provide you with a top quality silage bag.

### **COMPANY'S PART**

The Company guarantees its "Tri-Dura®" silage bags to be free of defects in workmanship and materials. If a properly packed bag should fail from a defect during normal useful life, Company will replace the bag without charge. If the feed in the damaged bag requires rebagging Company will replace the bag with the initial replacement bag discussed above plus one more bag, for a total of two bags.

### THE CUSTOMER PART

Most of the factors that control the quality and reliability of the bagging system are in the customer's hands. These include choice of forage crops, harvesting, bagging location, moisture, packing, bagging machine operations, and maintenance and surveillance of bags

The Company will provide instruction, recommendations and suggestions about these factors but cannot and does not guarantee the outcome. It is the responsibility of the customer to seek out the best information and to make his own decisions. The customer will be responsible for the profits or loss that results from the use of these products. See the 3M's of Silage for recommendation of how to bag silage for proper techniques and guidelines.

### SAFETY ALERT WORDS

### PERSONAL SAFETY

Throughout this manual, and on machine decals, you will find safety alert words ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These words are intended for the personal safety of you and those working with you. Please take the time to read them.



CAUTION: THE WORD "CAUTION" INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, MAY RESULT IN MINOR OR MODERATE INJURY. IT MAY ALSO BE USED TO ALERT AGAINST "UNSAFE PRACTICES." IT IS IDENTIFIED BY A YELLOW BACKGROUND AND BLACK LETTERING.



WARNING: THE WORD "WARNING" INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN SERIOUS INJURY OR DEATH. IT IS IDENTIFIED BY AN ORANGE BACKGROUND AND BLACK LETTERING.



DANGER: THE WORD "DANGER" INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN SERIOUS INJURY OR DEATH. THIS SIGNAL WORD IS LIMITED TO THE MOST EXTREME SITUATIONS. IT IS IDENTIFIED BY A RED BACKGROUND AND WHITE LETTERING.



NOTICE: THE WORD "NOTICE" IS USED TO WARN THE OPERATOR OF POTENTIAL MACHINE DAMAGE IF A CERTAIN PROCEDURE IS NOT FOLLOWED. IT IS IDENTIFIED BY A BLUE BACKGROUND AND WHITE LETTERING.

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### BE A SAFE OPERATOR











By thinking before acting and reading your operators manual you will be a SAFE OPERATOR.

AVOID ACCIDENTS, most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that cannot be completely safeguarded against without interfering with reasonable accessibility and efficient operation. A careful operator is the best insurance against an accident.

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TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

### **ATTENTION**

### BECOME ALERT

### YOUR SAFETY IS INVOLVED!

### SIGNAL WORDS

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



Indicates a potentially hazardous situation that, if not avoided, could result in death

or serious injury, and includes hazards that are exposed when guard are removed. It may also be used to alert against unsafe practices



Indicates imminently hazardous situation that, if not avoided, will result in death or seri-

ous injury. This signal word is to be limited to the most extreme situations typically for machine components that, for functional purposes, cannot be guarded.



Indicates a potentially hazardous situation that, if not avoided, may result in minor or

moderate injury. It may also be use to alert against unsafe practices.

If you have questions not answered in this manual, or require additional copies, or the manual is damaged, please contact your Ag-Bag® Dealer or Ag-Bag® International Ltd., 2320 S.E. Ag-Bag Lane, Warrenton, OR, 97146. (Telephone) 800-334-7432. (FAX) 503-861-1648.



### EQUIPMENT SAFETY GUIDELINES

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you or for you follow them.

In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

Replace any CAUTION, WARNING, DANGER or NOTICE label that is not readable or is missing.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operation. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a through understanding of the safety precautions and how it works.

Do not paint over, remove or deface any safety signs or warning labels on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.



### LIGHTING AND MARKING

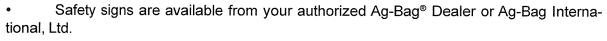
It is the responsibility of the operator to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.



### SAFETY SIGN CARE:

Keep safety signs clean and legible at all times.

- Replace safety signs that are missing or have become illegible
- Replaced parts that displayed a safety sign should also display the current sign.





### **HOW TO INSTALL SAFETY SIGNS:**

- 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.



### TIRE SAFETY:

- 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.
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires.
- Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.



### <u>REMEMBER:</u>

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized Ag-Bag<sup>®</sup> Dealer or Ag-Bag International, Ltd.



### **BEFORE OPERATION:**

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- It is recommended that suitable protective hearing and (eye protection) sight protectors be worn.
- Keep wheel lug nuts or bolts tightened to specified torque.
- Assure that agricultural implement tires are inflated evenly.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or in the equipment.
- Do not use the unit until you are sure that the area is clear, especially children and animals.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.
- Move tractor to the widest recommended settings to increase stability.
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.



### **DURING OPERATION:**

- SAFETY CHAIN if equipment is going to be transported on a public highway, a safety chain should be obtained and installed. Always follow state and local regulations regarding a safety chain and auxiliary lighting when towing farm equipment on a public highway. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not and elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machine in the event of separation of the primary attaching system.
- Install the safety chain by crossing the chains under the tongue and secure to the draw bar cage or hitch or bumper frame.
- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly import with higher noise levels and quiet cabs, as you may not hear people.
- **NO PASSENGERS ALLOWED** Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operations.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is operating.
- When halting operation, even periodically, set the tractor or towing vehicle brakes, disengage the PTO, shut off the engine and **remove the ignition key.**
- Pick the levelest possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Allow for unit length when making turns.
- Do not walk or work under raised components or attachments unless securely positioned and blocked.
- Keep all bystanders, pets and livestock clear of the work area.



### **FOLLOWING OPERATION:**

- Following operation, or when unhitching, stop the tractor, set the brakes, disengage the PTO and all power drives, shut off the engine and **remove the ignition keys.**
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- Wheel chocks may be needed to prevent unit from rolling.



### HIGHWAY AND TRANSPORT OPERATIONS:

- Adopt safe driving practices:
  - Keep the brake pedal latched together at all times. NEVER USE INDEPEN-DENT BRAKING WITH MACHINE IN TOW AS LOSS OF CONTROL AND/OR UPSET OF UNIT CAN RESULT.
  - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
  - Reduce speed prior to turns to avoid the risk of overturning.
  - Avoid sudden uphill turns on steep slopes.
  - Always keep the tractor in gear to provide engine braking when going downhill.
     Do not coast.
  - Do not drink and drive!
  - Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
  - Use approved accessory lighting, flags, and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety light and devices are available from you Ag-Bag® Dealer.

- The use of a flashing amber light is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving the tractor and equipment on the road or highway at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment in a position to provide maximum visibility at all times.



### PERFORMING MAINTENANCE:

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, stop the towing vehicle, set the brakes, disengage the PTO and all power drivers, shut off the engine and **remove the ignition keys.**
- Be certain all moving parts on the machine have come to a complete stop before attempting to perform maintenance.
- Always use a safety support and block the wheels. Never use a jack to support the machine.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Follow the torque chart in this manual when tightening bolts and nuts.

- Never use your hands to locate a hydraulic leak on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin.
- When disconnecting hydraulic lines. Shut off hydraulic supply and relieve all hydraulic pressure.
- Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. If injured by escaping hydraulic fluid, see a doctor at once. Gangrene can result. Without immediate medical treatment, serious infection and reactions can occur.
- Replace all shields and guards after servicing and before moving.
- After servicing, be sure all tools, parts and service equipment are removed.
- Do not allow grease or oil to build up on any step or platform.
- Never replace hex bolts with less than grade five bolts unless otherwise specified. Refer to bolt torque chart for head identification marking.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. Ag-Bag International will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, Ag-Bag International, Ltd. does not accept any liability for injury or warranty.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.

This section of the manual presents the Labels used on the Ag-Bagger<sup>®</sup>. Also presented are other information that you should know in order to operate the Ag-Bagger<sup>®</sup> in a safe manner. Unless otherwise noted the decals shown are the actual decals used on the machine.

### Danger Labels

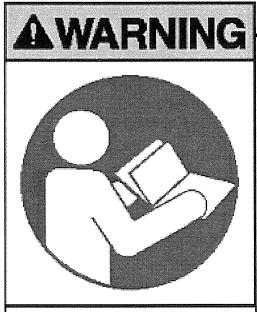


### **FALL HAZARD**

Do NOT climb on or in. Moving parts can crush and cut. Falling into machine could result in serious injury or death. Read safety instructions in operator's manual before climbing on or into this equipment.

**FALL HAZARD**. Never climb on or into the Ag-Bagger® unless the tractor has been completely shut down. If you are going in to the hopper area, to prevent any possibility of injury the PTO shaft should be disconnected from the tractor. Climbing onto the conveyor should never be done, any item needing to be cleared from this area can be done from the outside. Never allow anyone to ride or set on the Ag-Bagger® at anytime. Children should not be allowed near the Ag-Bagger® when it is in operation. To replace this decal reorder part number 1530015 from your Ag-Bag® Dealer.

### WARNING LABELS



It is your Responsibility to Read, Understand, and Follow safe operating practices defined in the Operators Manual shipped with this unit.

Failure to do so may result in Personal Injury to you or others. If the manual is missing, obtain a replacement from your Dealer.

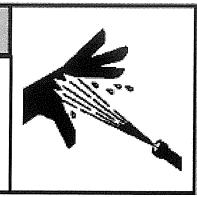
**YOUR RESPONSIBILITY**. As indicated on the label it is the responsibility of the operator for the safe operation of the Ag-Bagger®. Make sure that anyone who will operate or work around the Ag-Bagger® has read and understands the information that is provided in this Operator's Manual. To replace this decal reorder part number 1530069 from your Ag-Bag® Dealer.

### WARNING LABELS (CONT.)

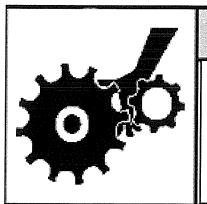


# **AWARNING**

SKIN INJECTION HAZARD.
Avoid contact with high pressure fluid.
BEFORE SERVICING:
Relieve stored hydraulic pressure.
Failure to follow this warning can result in serious injury.



**SKIN INJECTION HAZARD**. Hydraulic oils and fluid under high pressure can be injected under the skin. The oil/fluid can cause serious illness. Always shut down the tractor and relieve all stored pressure on the hoses before servicing. Never run your hand over a hydraulic hose you suspect has a leak. To replace this decal reorder part number 1530127 from your Ag-Bag® Dealer.

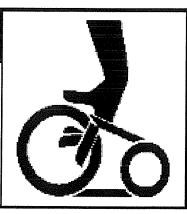


# **AWARNING**

# KEEP SHIELDS IN PLACE.

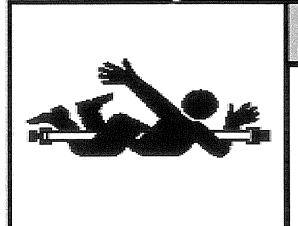
Pinch hazard exists.

DO NOT operate equipment unless shields are in place



**KEEP SHIELDS IN PLACE**. There are numerous shields located on the Ag-Bagger® they are placed to keep the operator safe from serious injury. Never remove a shield while the Ag-Bagger® is in operation. Make sure the tractor has been shut off before removing any shield, and that the shield has been replaced before operation resumes. To replace this decal reorder part number 1530038 from your Ag-Bag® Dealer.

### WARNING LABELS (CONT.)



# AWARNING

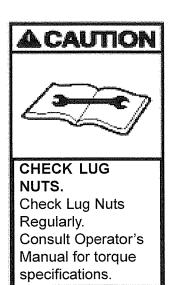
### ROTATING DRIVELINE KEEPAWAY. KEEP SHIELD IN PLACE

U-joint yokes must be locked in place. Adjust tractor or drawbar and implement hitch to proper dimensions. Keep tractor master, shield, PTO guard, and implement guards in place.

**ROTATING DRIVELINE**. The PTO shaft is an important part in the operation of the Ag-Bagger® it turns at a high rate of speed and the manufacturer has affixed a Danger Decal on it warning of the possibility of serious injury or death. The reason for this Warning Decal is to let you know that you should make sure that all shields are in place anytime the PTO shaft is in operation. If you are going to remove a PTO shield make sure the tractor power is off. It is important to maintain the PTO shaft on a regular basis, see the Service and Maintenance portion of the Operator's Manual for instructions. To replace this decal reorder part number 1530059 from your Ag-Bag® Dealer.

### CAUTION LABELS

**CHECK LUG NUTS**. Because the Ag-Bagger® may be towed on a public highway, you should check the lug nuts on a regular basis. Check the Service and Maintenance portion of the Operator's Manual for torque details. To replace this decal reorder part number 1530011 from your Ag-Bag® Dealer.

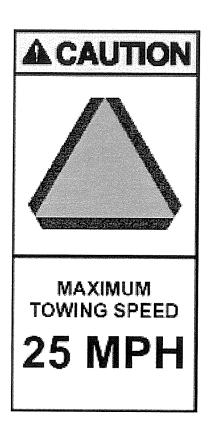


STOP MACHINE AND TURN OFF TRACTOR TO ADJUST, LUBRICATE, OR SERVICE.

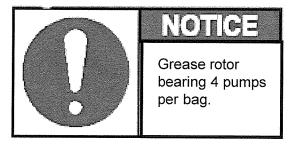
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### CAUTION LABELS (CONT.)

MAXIMUM TOWING SPEED. Although you can tow the Ag-Bagger on the open highway do not exceed 25 mile per hour. It should be remembered that the Ag-Bagger® does not have brakes, also the wheels and axles are not bolted to the frame but are held in place by a pin and hair pin. Under no circumstances should you tow the Ag-Bagger® while the wheels are in the bagging position. Make sure you read and understand the section on preparing the Ag-Bagger for transit in the Operator's Manual. The PB6000 has its wheels fixed in place, this requires that it be towed in the bagging position and should be towed a lower speed. To replace this decal reorder part number 1530041 from your Ag-Bag® Dealer.



### NOTICE LABELS



**GREASE ROTOR BEARING**. The Ag-Bagger® is equipped with two Rotor Bearing Grease Whips. The zerk fittings are located on the frame on either side of the tunnel. For the best results with your Ag-Bagger® use the type grease recommended in the Service and Maintenance portion of the Operator's Manual. To replace this decal reorder part number 1530096 from your Ag-Bag® Dealer.

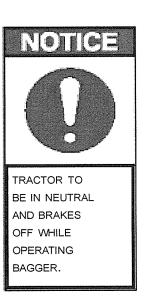
### Notice Labels (CONT.)

HYDRAULIC OIL ONLY. The Operator's Manual makes recommendations for the correct viscosity of hydraulic oil to be used in your Ag-Bagger® hydraulic system. To keep you warranty valid use only the viscosity listed in the Service and Maintenance section of the Operator's Manual. To replace this decal reorder part number 1530028 from your Ag-Bag® Dealer.



the Operator's Manual for this machine

TRACTOR TO BE IN NEUTRAL. During the process of bagging the tractor is pushed forward as the bag fills. In order to minimize damage to the Ag-Bagger®, your tractor, and the correct compaction of the product being bagged, it is important the tractor be in neutral and all brakes be released before starting to bag. To replace this decal reorder part number 1530065 from your Ag-Bag® Dealer.



### OTHER LABELS

# OIL CHAIN AT LEAST TWICE PER BAG

**OIL CHAIN**. The chain is behind a safety shield located on the left side of the front of the Ag-Bagger. Follow all safety procedures for removing the shield. To prevent excessive wear oil the chain twice per bag. To replace this decal reorder part number 1530054 from your Ag-Bag® Dealer.

ENGLISH/SPANISH. The final decal currently in use on the Ag-Bagger® is an old style Warning Decal. It has both English and Spanish instructions. The decal is used mainly as a reminder. A simulation of the Decal is on the following page.

### OTHER LABELS (CONT.)



# WARNING PRECACION

- DO NOT reach or place any part of your body inside the hopper.
   NO TRATE de alcanzar o ponga ninguna parta del cuerpo adentro de la mezcladora.
- 2. DO NOT attempt to service, remove or unclog any material while machine is in operation.

NO TRATE de reparar, remover, o destapar material cuando la maquina esta en operacion.

- 3. DO NOT climb or ride on machine during operation or transport.

  NO TREPE o monte la maquina cuando esta en operacion or transportando.
- 4. Make sure everyone is clear of machine BEFORE STARTING ENGINE OR ENGAGING POWER. KEEP CHILDREN AWAY AT ALL TIMES.

Haga seguro que nadie este en o ALREDEDOR DE LA MAQUINA ANTES QUE EL MOTOR ARRANQUE, MANTEGA NINOS LEJOS DE LA MAQUINA.

- 5. DO NOT stand behind backstop net or near cables under tension. NO se pare detras de la malla o cerca de cables en tension.
- STAY CLEAR of hoses under pressure. MANTENGASE LEJOS de las mangas a presion.
- Keep all SHIELDS IN PLACE.Mantenga los ESCUDOS EN SU PROPIO LUGAR.
- 8. Keep HANDS, FEET AND CLOTHING AWAY FROM INTAKE AREA AND ALL OTHER MOVING PARTS OF MACHINE.

Mantenga las MANOS, PIES, Y ROPA FUERA DEL AREADE ADMISION.

9. Think SAFETY AND USE CAUTION in entire operation area. SEA PRECAVIDOY SEA CUIDADOSO en la area de operacion.

### INFORMATION SIGNS

**TRANSPORT SAFETY**. These signs are provided for information purposes only. They do not appear on the Ag-Bagger®, but instead they are used as part of this manual in provide information of a safety nature.

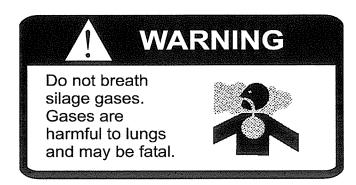


### **Transport Safety**

- 1 Make sure you are in compliance with all local regulations regarding transporting equipment on public roads and highways
- 2 Make sure the slow moving vehicle emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, and clean and can be seen clearly by all overtaking and oncoming traffic.
- 3 Attach securely to the towing vehicle using a retainer on the tow hitch pin and a safety chain
- 4 Do not allow anyone to ride on the Ag-Bagger® or towing vehicle during transport.

- 5 Stay away from over head obstructions and power lines. Electrocution can occur without direct contact.
- 6 Always use hazard warning flashers on towing vehicle when transporting unless prohibited by law.
- 7 Add extra lights or use pilot vehicles when transporting during times of limited visibility.
- 8 Secure all components and accessories before transporting.

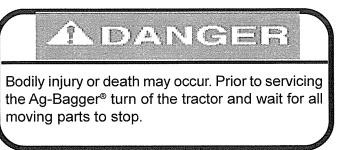
### INFORMATION SIGNS (CONT.)



**SILAGE GASES** - The ensiling process inside the bag may produce gases. Do not breath gases expelled from the bag. These gases may contain various forms of nitric fumes that can be harmful to your lungs. If enough fumes are inhaled they can be fatal.



**NOISE** - Long-term exposure to loud noise can impair and cause loss of hearing. Use hearing protection.



**SERVICING THE AG-BAGGER®** - Do not attempt to perform service or maintenance to the Ag-Bagger® or PTO shaft unless the tractor has been turned off and all moving parts have stopped.

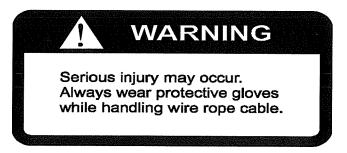
### Information Signs (CONT.)



NO SMOKING - Handle fuel with care while fueling. Fuel is extremely flammable and explosive.



**BATTERY** - Handle battery with caution. Sulfuric acid in the battery's electrolyte is strong enough to burn skin, cause blindness if splashed in eye's and damage clothing.



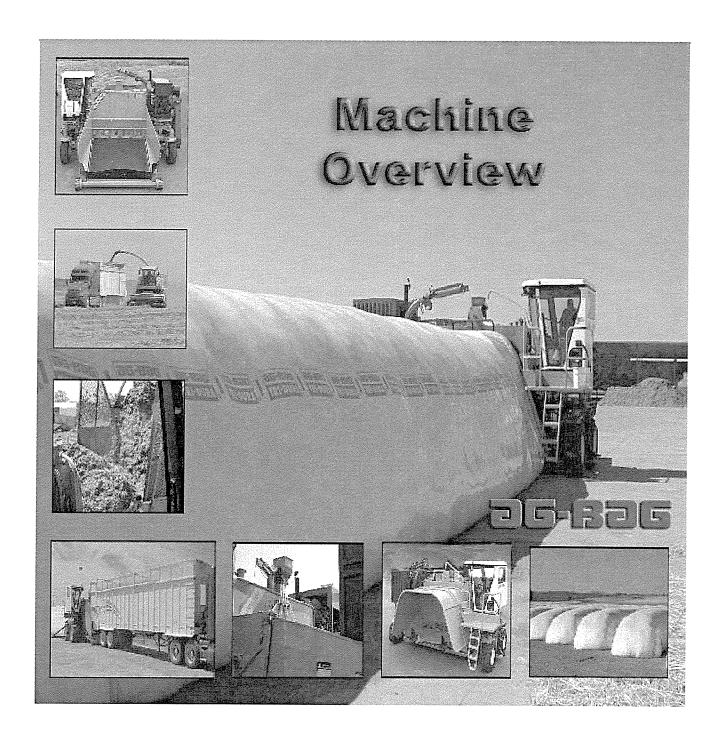
CABLES - Always wear protective gloves when handling cables for any reason. Serious injuries can occur.

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NO SMOKING 21



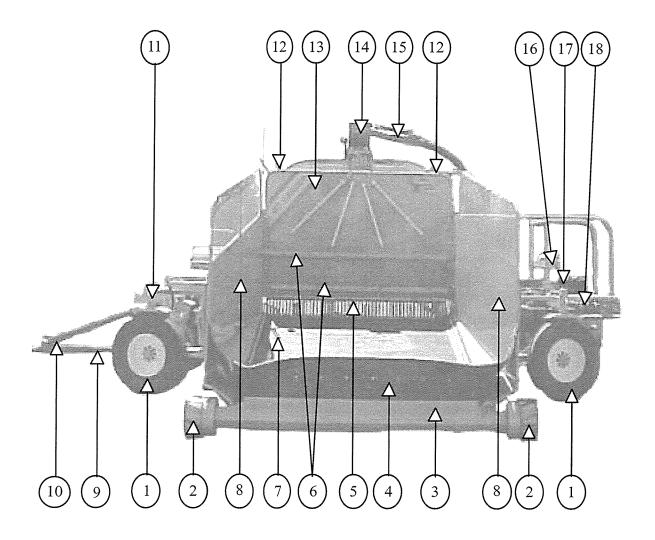
The machine overview section shows and identifies the location of many of the commonly used features of the Ag-Bagger®. The pictures should be used as a reference to quickly locate the different options and features of your Ag-Bagger®. Also the terms Front, Rear, Right-Side, and Left-Side are used else where in this manual for you convenience.

### MACHINE OVERVIEW

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### MACHINE OVERVIEW



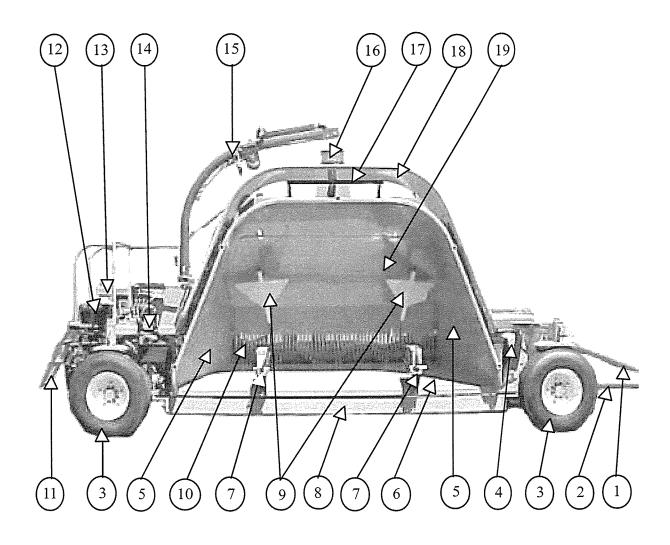
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- 3. FEED TABLE
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- 5. ROTOR/STRIPPER BAR
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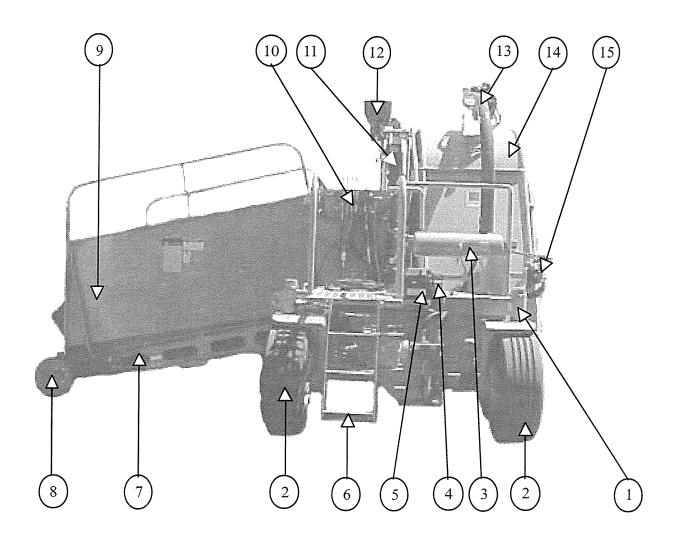
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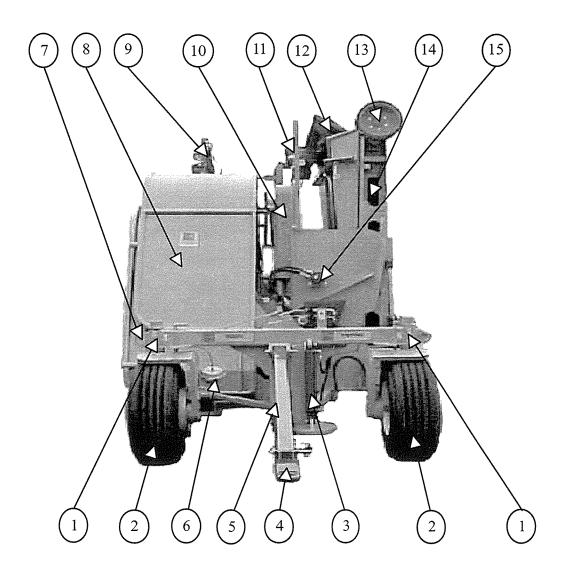
### MACHINE OVERVIEW



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- 1. Wheel Column
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- 3. AIR TANK
- 4. AIR COMPRESSOR
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- 6. Operator's Platform Ladder
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- 11. ANCHOR/BRAKE CONTROL
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- 6. AIR BRAKE CANISTER
- 7. TUNNEL
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- 10. HYDRAULIC TANK

- 11. DRY INOCULANT APPLICATOR
- 12. FEED TABLE SKIRTING
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- 15. Upper Beater Bar Motor

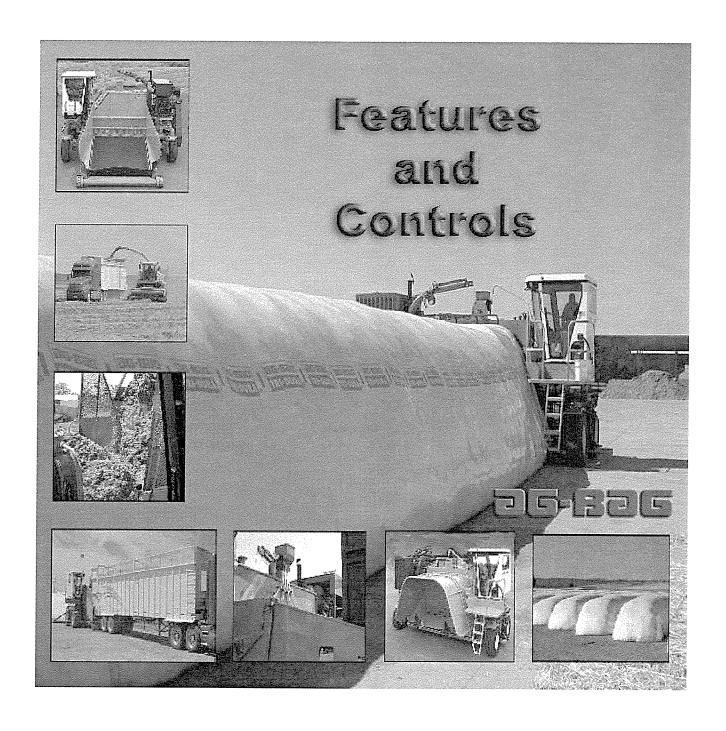
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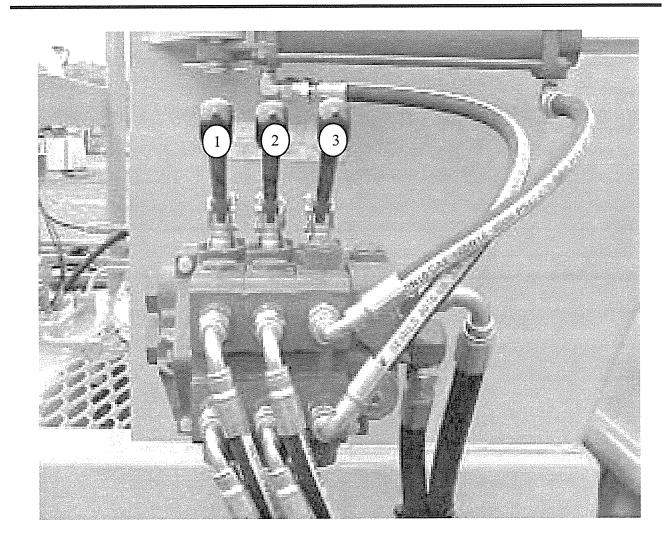
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# AG-BAGGER® MODEL G9012 HyPac



#### **BAG BOOM CONTROLS**

The Bag Boom Controls help to move the bag boom. These controls extends the boom in and out, lowers and raised the cable, and swings the boom in and out. It helps in the installation of the tunnel extension and the Ag-Bag® bag.

Extends and retracts the boom extension.

Forward: Extends the Bag

Boom

Center: Neutral

Back: Retracts the extension

1. Bag Boom Extension Control: 2. Bag Boom Winch Control: Raises and lowers the cable.

Forward: Raises the cable.

Center: Neutral

Back: Feeds out cable

3. Bag Boom Rotate Control: Rotates the boom towards the tunnel opening and back.

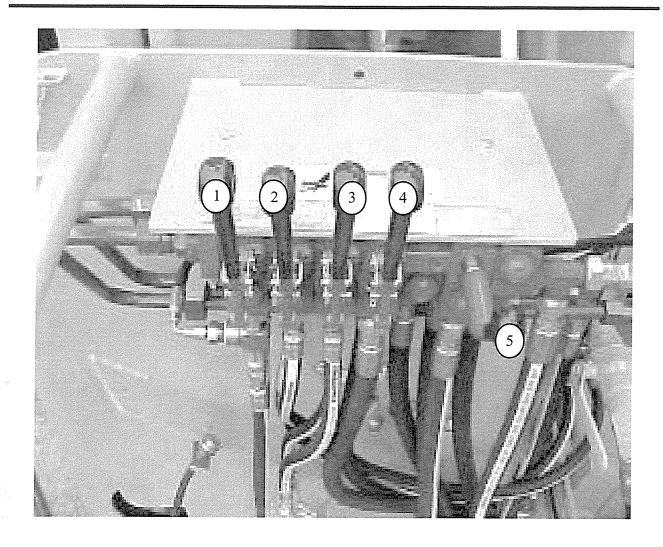
Forward: Rotates the boom

away from the tunnel

Center: Stop

Back: Rotates the boom

towards the tunnel



#### ANCHOR - FEED TABLE CONTROLS

These controls are used for the operation of the Anchors and Feed Table during the bagging operation.

1. Anchor Control: Controls the movement of the anchors.

Forward: Completely forward

is Anchor Float

**Forward**: Allows anchors to move out into the bag

**Back**: Pulls the anchors in.

2. Tunnel Clean Out: Operates the Sweeping Tunnel Clean Out **Forward**: Opens the Tunnel

Clean Out

Center: Neutral

Back: Closes the Tunnel Clean

Out

3. Feed Table Lift: Raises and lowers the Feed Table for

transport

Forward: Raises the Feed

Table

Center: Neutral

Back: Lowers the Feed Table

4. Beater Bar Controls: Used to operate the upper Beater Bar

only.

**Forward**: Turns the Beater Bar in a clockwise direction.

Center: Stop

**Back**: Turns the Beater Bar in a counter clockwise direction

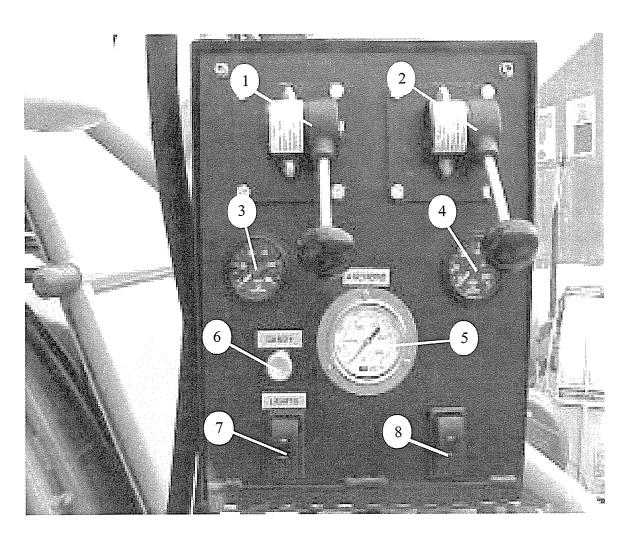
5. Feed Table Direction Control: Controls the direction of the Feed Table Belt during the bagging operation this also controls the lower Beater Bar.

**Right**: Moves the belt and product towards the rotor.

Center: Stop

Left: Moves the belt and prod-

uct away from the rotor



Anchor - Brake Controls

These controls are used during the bagging operation to control brake pressure, monitor anchor pressure, control Inoculant flow, and turn on operation lights and cooler fan.

- 1. **Brake Control**: Controls the brake pressure on the brake located on the left end of the bagger.
- 2. **Brake Control**: Controls the brake pressure on the brake located on the right end of the bagger.
- 3. **Brake Pressure Gauge**: Indicates the pressure on the brake located on the left end of the bagger. Used in conjunction with item #1 above.
- 4. **Brake Pressure Gauge**: Indicates the pressure on the brake located on the right end of the bagger. Used in conjunction with item #2 above.
- 5. Anchor Pressure Gauge: Indicates the pressure on the Anchors during the bagging operation. Controlled by item #1 on the preceding page.
- 6. **Gandy Switch**: Turns the Gandy Applicator on and off.

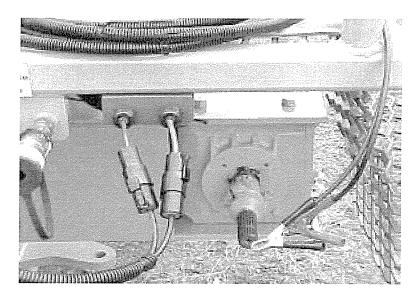
- 7. **Light Switch**: Turns the operating lights on and off.
- 8. **Oil Cooler Switch**: Turns oil cooler fan on and off. The oil cooler is located on the left end of the bagger. Also turns this consoles lights on and off.



### **Hydraulic Lift Jack Controls**

Located below the Operator's Platform these connections allow for the operation of the Hydraulic Lift Jacks found at either end of the Ag-Bagger® Hydraulic hoses with fittings are supplied for connection to the tractors hydraulic system.

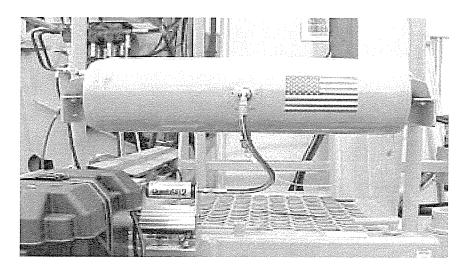
#### **Standard**



# **Battery Charger Connection**

In order to keep the electric components of the Ag-Bagger® operating connecting cables are supplied to connect to the tractors electrical system.

#### **Standard**



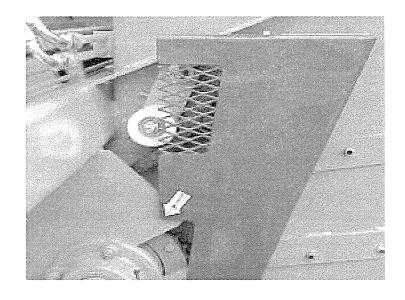
### **Compressor and Air Tank**

This Ag-Bagger® is equipped with an air brake system. In order to operate this system an electric compressor has been installed.

#### **Beater Bar Chain Tensioner**

To maintain the proper chain tension on the lower beater bar an automatic chain tensioner has been fitted to the Ag-Bagger®

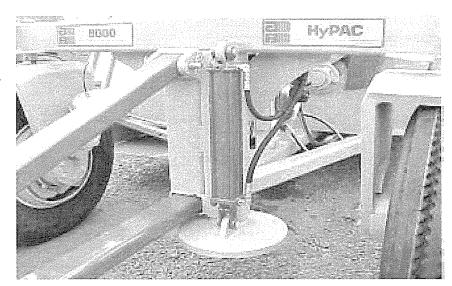
#### **Standard**



#### **Hydraulic Lift Jack**

Used for ease of turning wheels and connecting Ag-Bagger® for towing, the hydraulic lift jacks are located at each end of the bagger. The jacks are powered by the tractor's hydraulic system. See prior page for connection information.

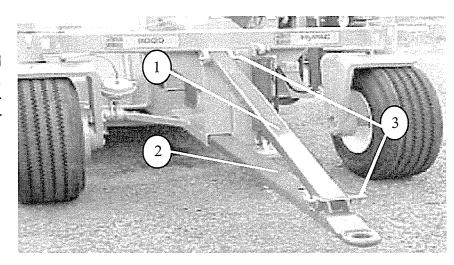
#### **Standard**

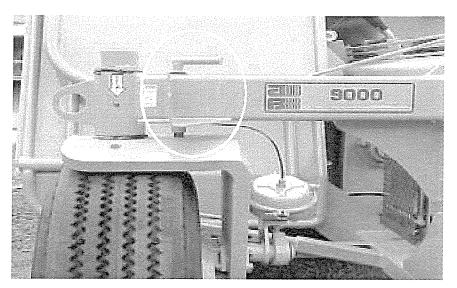


#### **Pintle Hitch and Brace**

The pintle hitch should be used for transporting the Ag-Bagger<sup>®</sup>. Do not transport the bagger unless the hitch is properly installed.

- 1. Pintle Brace
- 2. Pintle Hitch
- 3. Hitch Pins





#### Wheel Lock

Used to lock the wheel into either bagging or transport position the wheel locks are located on each wheel. Pictured at left the wheel is in transport position.

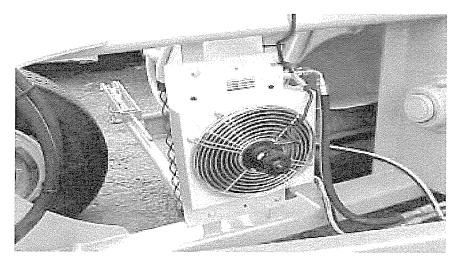
#### **Standard**



#### **Tires**

Designed for the rigors of bagging and transporting the Ag-Bagger<sup>®</sup>, 385/65R19 tires are used on the bagger.

#### **Standard**



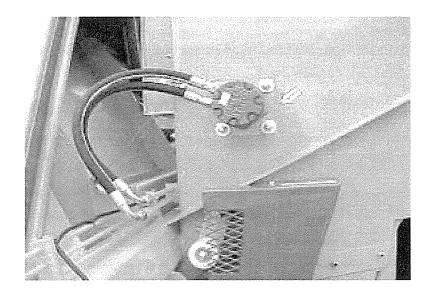
# **Hydraulic Oil Cooler**

To maintain the proper oil temperature a hydraulic oil cooler is installed on the left end of the Ag-Bagger<sup>®</sup>.

#### **Beater Bar Motor**

Hydraulically operated the upper beater bar runs independently of the lower beater bar.

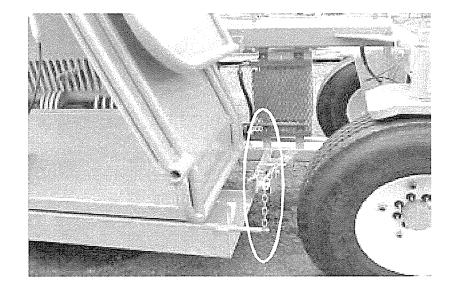
#### **Standard**



# **Bag Pan Lock**

Used to lower and raise the bag pan this will also lock the bag into place after it has been installed.

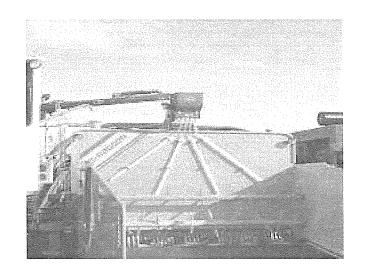
#### Standard

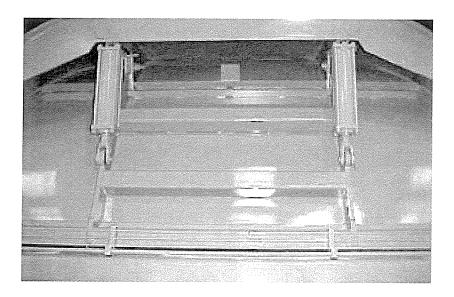


#### **Dry Inoculant Applicator**

Your Ag-Bagger® may be equipped with an inoculant applicator. Pictured here is a dry inoculant applicator which is designed for dry inoculant.

#### **Optional**

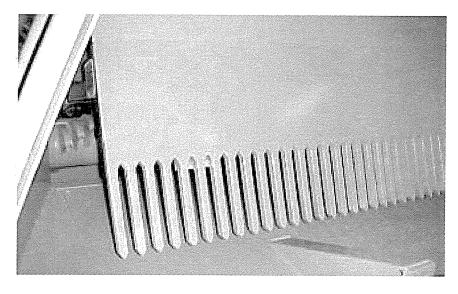




# Sweeping Hydraulic Tunnel Clean Out - Rear View

Viewed from the back of the tunnel these hydraulic rams push the tunnel back towards the bag for ease in cleaning product from inside the tunnel.

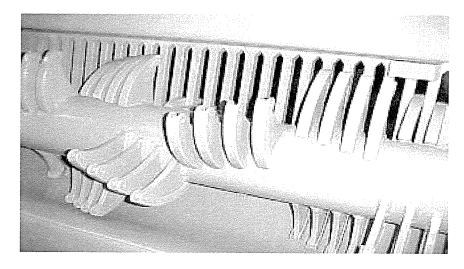
#### **Standard**



# Sweeping Hydraulic Tunnel Clean Out - Front View

Viewed from the front, you can see how the tunnel back moves away from the rotor and will push the product into the bag.

#### Standard



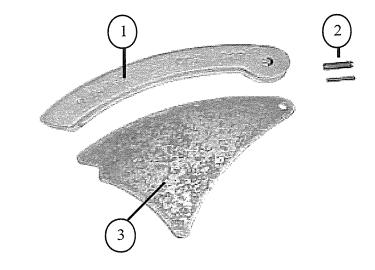
#### Rotor

Annealed and line bored the rotor has cast alloy tine caps arranged on the 2 inch thick walls of the seamless constructed tube.

# **Cast Alloy Tine Cap**

Design for durability and ease of replacement. The Tine Cap (1), spring clips (2), and rotor tooth (3) are shown here.

#### **Standard**



#### S Cam Air Brake

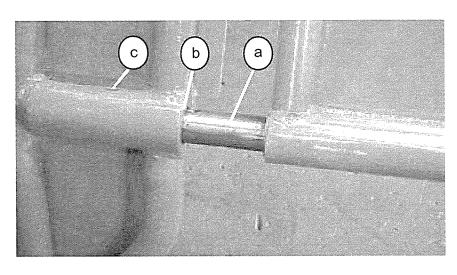
The S Cam Air Brake is used for ease of servicing and adjustment. As an industry standard Ag-Bag® feels it is the best choice.

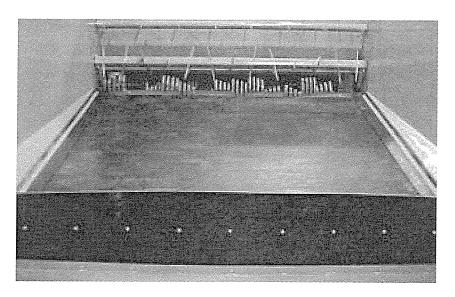
#### Standard



#### **Tunnel Extension Pins**

For quick installation and removal the tunnel extensions are fitted with pins (a) that slip into receivers (b) on the tunnel, they are then pinned (c) into place.

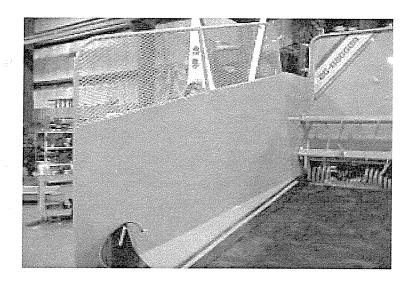




#### **Feed Table Belt**

The feed table belt is a multilayered vulcanized seamless belt. It is designed to maintain it's track on the feed table for durability and ease in servicing.

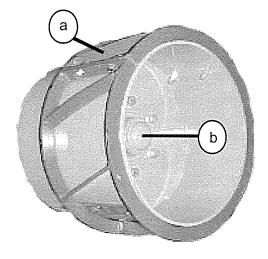
#### **Standard**



# **Feed Table Wing**

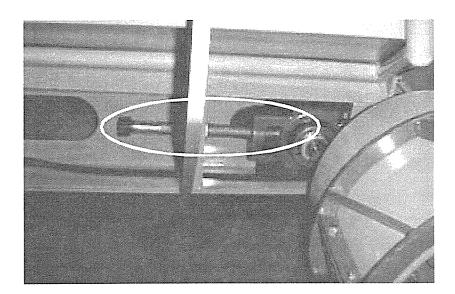
The newly designed feed table wing allows a greater capacity of product to be unloaded into the feed table.

#### Standard



#### **Feed Table Wheel**

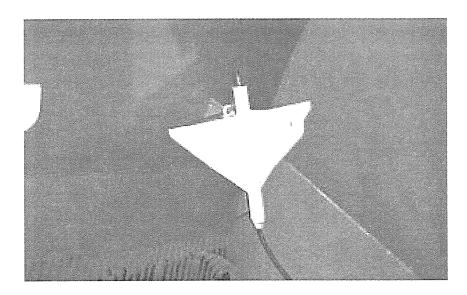
Fitted with removable cleats (a) and packable wheel bearings (b), the feed table wheel is designed to roll across hard or soft ground.



#### Feed Table Adjuster

This adjuster is for maintaining the proper alignment on the feed table belt. There is an adjuster on either side of the feed table.

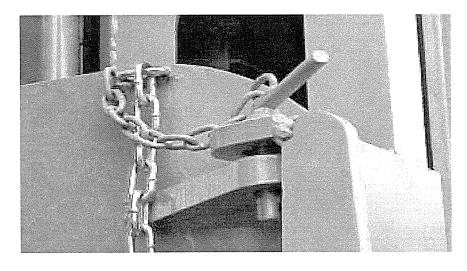
#### Standard



#### Cable Anchor

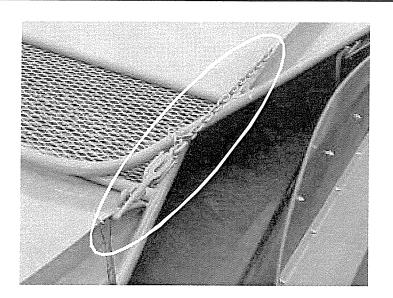
Used to aid in the compaction of product in the bagging operations, the cable anchor (shown in the transport position) is controlled by hydraulics.

#### **Standard**



#### Feed Table Lock

The Feed Table Lock is used to lock the feed table in the up position for transport. It is strongly recommended that you do not move your Ag-Bagger® from one bagging location to another with out first locking the feed table.



# **Feed Table Wing Lock**

This locking device should be used anytime the feed table is raised into the up position, it will keep you from damaging the feed table wings.

#### **Standard**



#### Air Brake

Located on the two rear wheels the air brakes are used in the bagging operation.

These brakes are not available during towing.

#### Standard



#### PTO Shaft - 1000 RPM

Use of the 1000 RPM PTO shaft allows for the use of tractors with horsepower from 180 - 200.

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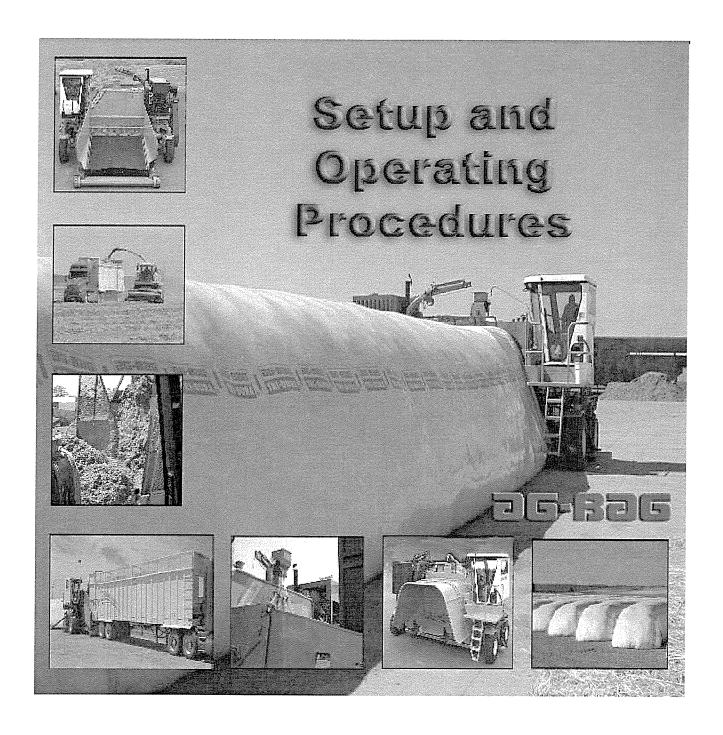
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D



To obtain the best performance from your Ag-Bagger® it is important that you read and understand the setup and operating procedures contained in this manual. You should also assure that all personal who will be operating the Ag-Bagger® read and understand this material. Special attention should be paid to the warnings contained in the manual. Remember Safety is First in operating this equipment. Your Ag-Bag® Dealer will assist you in the initial setup of you Ag-Bagger® and provide you with assistance in obtaining the best results.

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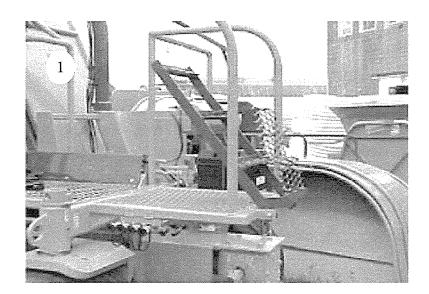
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# PRE-OPERATION CHECK LIST

The pre-operation check list is provided for both personal safety and maintaining the mechanical condition of the Ag-Bagger<sup>®</sup>. Make sure each item in the list is completed, each time, prior to operating the Ag-Bagger<sup>®</sup>.

- The tractor is adequate to operate the Ag-Bagger<sup>®</sup>. Check the Service and Maintenance Section to ensure you do not exceed the maximum horse power for this equipment.
- o Lubricate, grease and check fluid levels. See the Service and Maintenance Section.
- o Check all hydraulic lines, hoses and fittings for leaks and tightness. Wipe any dirt from the hose couplers with a clean cloth before connecting to the hydraulic system of the tractor.
- o Tractor is properly attached to the Ag-Bagger<sup>®</sup>. Make sure the alignment bars are properly attached and the tractor is parallel to the Ag-Bagger<sup>®</sup>.
- o The PTO shaft is secured to the Ag-bagger® and the tractor shaft guards are in place.
- Safety shields and guards are closed and secured in place.
- o Check the rotor, feed table, and hopper to make sure no foreign object(s) are present.
- o If the tunnel extension is being used, it is properly installed.

# **OPERATOR'S PLATFORM ACCESS**

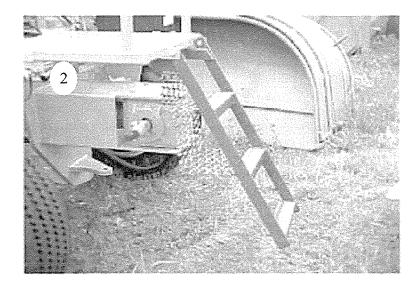


#### Access Ladder

Figure 1 shows the ladder in the up or transport position. Figure 2 shows the ladder in the down position.

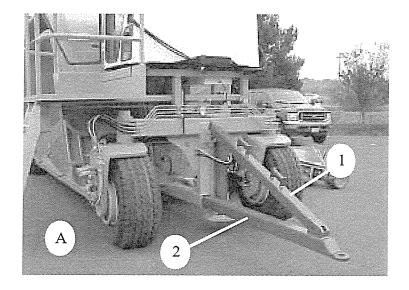


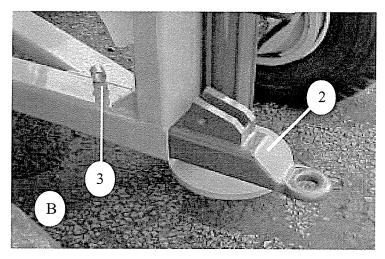
Caution should be used in moving the ladder from the up to the down position. There is no lock and the weight of the ladder could cause a physical strain.

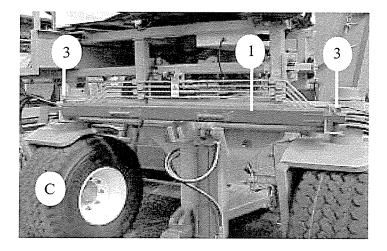


4

# PINTLE HITCH







The Pintle Hitch is designed for towing the Ag-Bagger® on the open road. It is recommended that you know and follow all local laws dealing with moving farm equipment in your area. Remember the Maximum Towing Speed on your Ag-Bagger® is 25MPH.

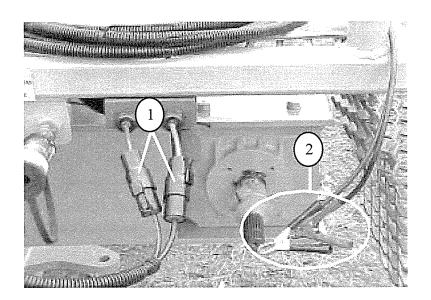
There are three main pieces to the hitch, (1) brace, (2) hitch, and (3) lock pin with hair pin.

To install (ref B) remove pin 3 and pull out hitch 2. After moving the hitch a short distance place the pin back into the hole, as you pull out the hitch it will drop into a second hole allowing you to lock it into place.

Remove the brace (ref C) by pulling the pins (3) from each end and remove from holders on the Ag-Bagger<sup>®</sup>. Using the handle on the brace position it into the notches on the frame and hitch. Complete the installation by inserting the pins (3), removed from the brace storage area, into the holes provided making sure to use the hair pins to lock it into place.

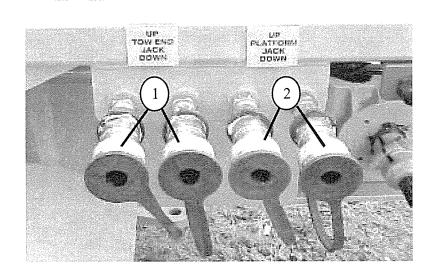
**Note**: The pictures to the left are of the MB10000 but the procedures outlined above are the same for this machine.

#### BATTERY CHARGER CONNECTION

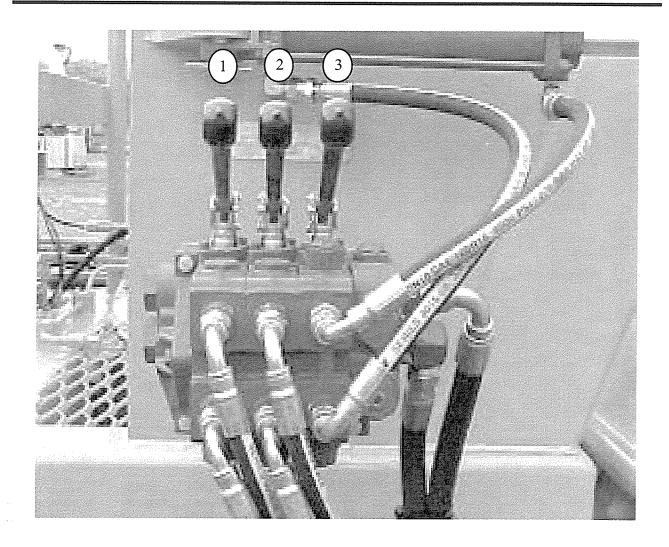


In order to keep the electric components of the Ag-Bagger® operating connecting cables are supplied to connect to the tractors electrical system. (1) is the Ag-Bagger® connection end. This connection will only hook up one way. (2) should be attached to the tractor battery.

#### HYDRAULIC LIFT JACK CONTROLS



Located below the Operator's Platform these connections allow for the operation of the Hydraulic Lift Jacks found at either end of the Ag-Bagger® Hydraulic hoses with fittings are supplied for connection to the tractors hydraulic system. When connected (1) allows for the lifting and lowering the left end of the Ag-Bagger® while (2) will lift and lower the right end of the Ag-Bagger®.



# **BAG BOOM CONTROLS**

The Bag Boom Controls help to move the bag boom. These controls extends the boom in and out, lowers and raises the cable, and swings the boom in and out. It helps in the installation of the tunnel extension and the Ag-Bag® bag.

1. Bag Boom Extension Control: Moves the boom extension in and out.

2. Bag Boom Winch Control: Moves the winch cable in and out.

3. Bag Boom Rotate Control: Rotates the boom towards the tunnel opening and back.

Forward: Extends the Bag

Boom

Center: Neutral

Back: Retracts the extension

Forward: Retracts the cable.

Center: Neutral

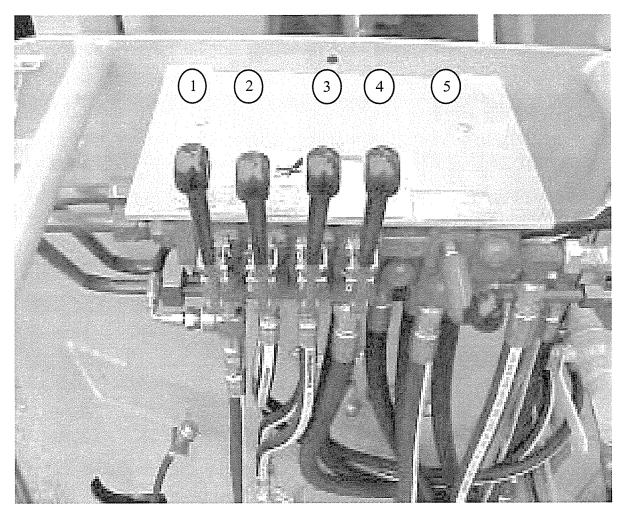
Back: Feeds out cable

**Forward**: Rotates the boom away from the tunnel

Center: Stop

Back: Rotates the boom

towards the tunnel



ANCHOR - FEED TABLE CONTROLS

These controls are used for the operation of the Anchors and Feed Table during the bagging operation.

1. **Anchor Control**: Controls the movement of the anchors. **Forward**: Completely forward

is Anchor Float

Forward: Allows anchors to move out into the bag
Back: Pulls the anchors in.
2. *Tunnel Clean Out*: Operates the Sweeping Tunnel

Clean Out

Forward: Opens the Tunnel

Clean Out
Center: Neutral

Back: Closes the Tunnel Clean

Out.

3. **Feed Table Lift**: Raises and lowers the Feed Table for

transport and bagging.

Forward: Raises the Feed

Table

Center: Neutral

**Back**: Lowers the Feed Table 4. *Beater Bar Controls*: Used to operate the upper Beater Bar only.

- ....

**Forward**: Turns the Beater Bar in a clockwise direction.

Center: Stop

Back: Turns the Beater Bar in a counter clockwise direction

5. Feed Table Direction

5. Feed Table Direction

**Control**: Controls the direction of the Feed Table Belt during the bagging operation this also

controls the lower Beater Bar. **Right**: Moves the belt and

product towards the rotor.

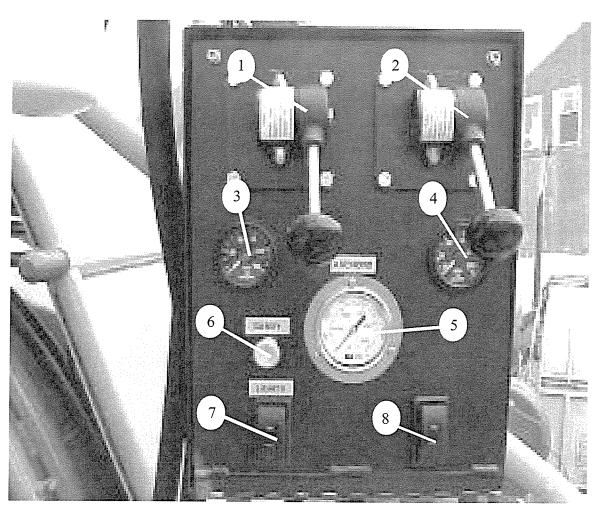
Center: Stop

Left: Moves the belt and prod-

uct away from the rotor



Machine Damage
Stop Rotor before activating the
Tunnel Clean Out. Never activate
the rotor with the Tunnel Clean
Out in open position.



ANCHOR - BRAKE CONTROLS

These controls are used during the bagging operation to control brake pressure, monitor anchor pressure, control lnoculant flow, and turn on operation lights and cooler fan.

- 1. **Brake Control**: Controls the brake pressure on the brake located on the left end of the bagger.
- 2. **Brake Control**: Controls the brake pressure on the brake located on the right end of the bagger.
- 3. **Brake Pressure Gauge**: Indicates the pressure on the brake located on the left end of the bagger. Used in conjunction with item #1 above.
- 4. **Brake Pressure Gauge**: Indicates the pressure on the brake located on the right end of the bagger. Used in conjunction with item #2 above.
- 5. Anchor Pressure Gauge: Indicates the pressure on the Anchors during the bagging operation. Controlled by item #1 on the preceding page.
- 6. **Gandy Switch**: Turns the Gandy Applicator on and off.

- 7. **Light Switch**: Turns the operating lights on and off.
- 8. Oil Cooler Switch: Turn oil cooler fan on and off. The oil cooler is located on the left end of the bagger. Also turns this consoles lights on and off.

# AIR COMPRESSOR CONTROLS

A small electrically controlled air compressor is installed on the Ag-Bagger® to assist in the bagging operation. The compressor Fig 1 operates in the range of 50 - 80 psi. It is set to automatically turn on when the pressure drops below 50 psi and will automatically stop when the pressure reached 80 psi. This range can be adjusted but to prolong the life of the equipment it is recommended that these settings be retained.

Us the switch show in fig. 1a to turn the compressor on and off.

Fig 2 shows the air pressure gauge on the left side of the Anchor - Brake Control console. Item 2a is a red needle that indicates the system air pressure while 2c shows the pressure of the left wheel brake.

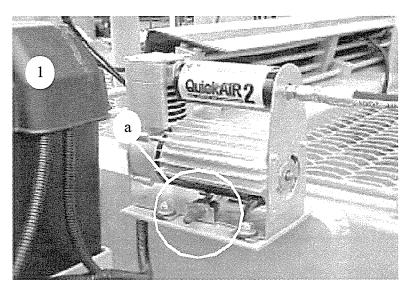


Fig 1. Shows the electrically operated air compressor

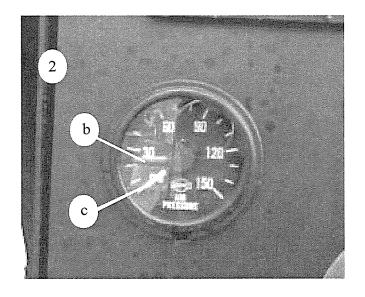
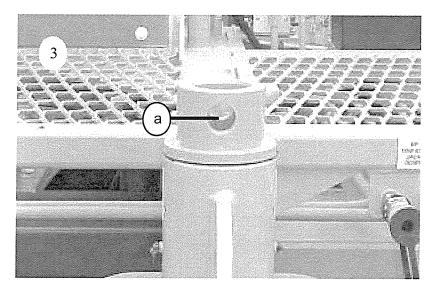
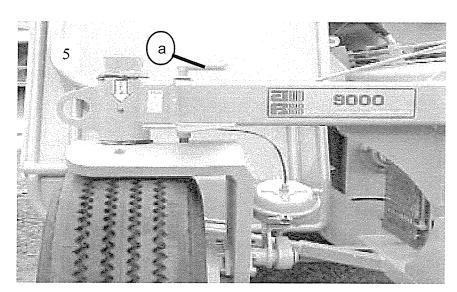


Fig 2. Air pressures gauge.

# WHEEL POSITIONING





Moving the wheels to the bagging position is accomplished in the following steps. All pictures show the wheel in the transport position.

- 1. Set the brakes.
- 2. Using the tractor hydraulics connect to the hydraulic lift controls. (see page 6 of this section).
- 3. Lift one end of the Ag-Bagger® so the wheels are just touching the ground.
- 4. Place the turning bar into the slot provided in the wheel column (3a). Each wheel must be turned individually. Lift the wheel lock (5a) the lock will not stay up so has to be held manually until the wheel is moved slightly, after the wheel starts to turn you may release the lock. It should slip into the next locking position with out help.

The wheels should be turned in the following direction in order to get them into the correct position for bagging.

**Left Front** - bar should be moved to the right.

**Right Front** - bar should be moved to the right.

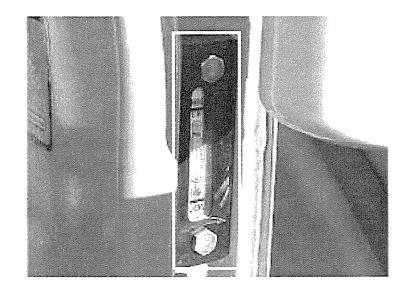
**Right Rear** - bar should be moved to the left.

**Left Rear** - bar should be moved to the right.

# SIGHT GAUGE LOCATIONS

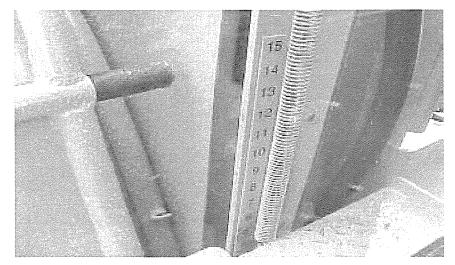
#### **Hydraulic Tank Sight Gauge**

Located to the left of the Anchor - Brake Control console the gauge indicates hydraulic tank level as well as temperature. See the Service and Maintenance section of this manual for specifications.

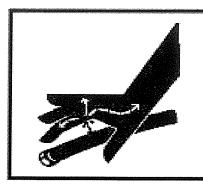


#### **Anchor Cable Gauge**

Viewable from the operator's platform the gauge is located below the dry inoculant applicator across the tunnel. The gauge measures in feet the amount of anchor cable that has been released into the bag.



#### CHECK FOR HYDRAULIC LEAKS



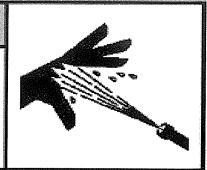
# **AWARNING**

#### SKIN INJECTION HAZARD.

Avoid contact with high pressure fluid.

#### BEFORE SERVICING:

Relieve stored hydraulic pressure. Failure to follow this warning can result in serious injury.



#### **Checking for Hydraulic Leaks**

Before engaging PTO and charging the hydraulic system do a slow walk around the Ag-Bagger<sup>®</sup>. Inspect all hydraulic connections for any indications of fluid seepage. Using a clean dry rag wipe area where there might be an indication of leakage. Remember to never place your hand over any hydraulic hose, fitting or pipe while the PTO is operating and the hydraulic system is charged. Refer to the Service and Maintenance section of this manual for the correct fluid to use in the hydraulic system.

# CHECK FOR AIR LEAKS



Serious injury may occur. Do not use hands to check for air leaks. High pressure air injections may cause serious injury.

#### Check for air leaks.

After starting the air compressor do a slow walk around of the Ag-Bagger®, using your ears, listen for an air leak hissing sound. If you think there is a leak use a solution of water and soap from a squeeze bottle to check. If you see bubbles a leak exists. Shut down the compressor and tighten the fitting, after tightening is complete start compressor and check fitting again. Remember do not use you hand of finger to check for air leaks.

# HOOK UP THE PTO SHAFT

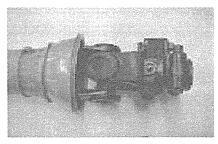


# **AWARNING**

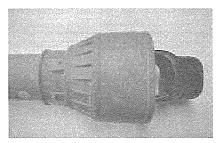
#### ROTATING DRIVE LINE. KEEP AWAY. KEEP SHIELD IN PLACE.

U-Joint yokes must be locked in place. Adjust tractor drawbar and implement hitch to proper dimensions. Keep tractor master sheild, PTO guards, and implement guards in place.

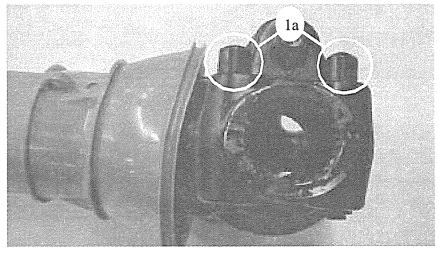
1. Connecting the PTO shaft to the Ag-Bagger<sup>®</sup>. (a) depress the PTO shaft locking pins, (b) slide the yoke over the Ag-Bagger<sup>®</sup> gearbox shaft until the locking pins snap into place, (c) pull on the PTO shaft, it should not come loose from the Ag-Bagger<sup>®</sup>, (d) check that the PTO shaft telescopes easily and that the shield rotates freely.

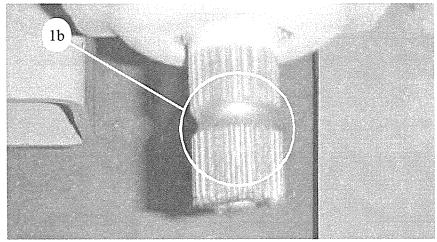


Bagger End

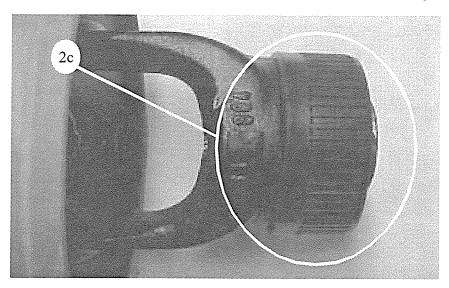


Tractor End



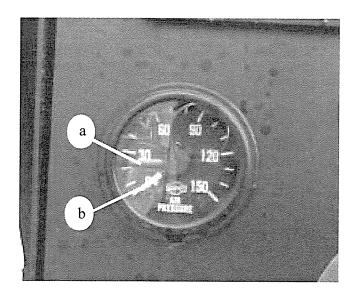


# HOOK UP THE PTO SHAFT (CONT.)



- 2. Connecting the PTO shaft to the tractor. (a) back the tractor into place and shut off power. (b) lower the PTO shaft down to the back of the tractor, (c) rotate the u-joint yoke collar located on the tractor end of the PTO shaft, (d) slide the u-joint onto the tractor PTO and release the collar to lock the yoke, (e) pull on the PTO shaft, it should not come loose.
- 3. Secure the PTO shaft. (a) turn the shield, it must rotate freely on the PTO shaft, (b) attach the safety chain, allow adequate slack for turns.

# CHECK THE SYSTEM PRESSURE



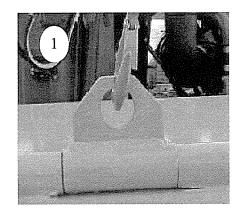
#### **Check Air Pressure**

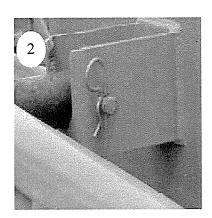
This gauge is located on the left side of the Anchor - Brake Control console. Item (a) is the red needle that indicates the system pressure. After turning the Air Compressor this gauge should move to approximately 80psi. The Air Compressor is set to operate in a range of 50 - 80 psi.

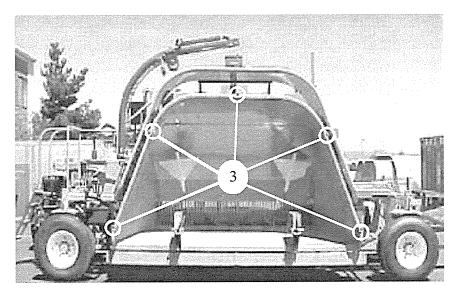
#### TUNNEL EXTENSION - INSTALL

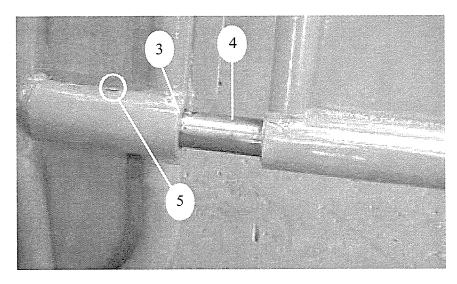
The tunnel extension is stored on the top of the tunnel. Use the following procedure to install the extension on your Ag-Bagger<sup>®</sup>. (This procedure is best accomplished by two people)

- a. Attach the bag boom hitch to the eye located on the center of the tunnel extension. Fig 1.
- b. Remove the hair pin and locking pin from the tunnel extension located on the center of the extension and the back of the inoculant applicator plate. Fig 2. This pin should be reinstalled any time the Ag-Bagger is transported. (Make sure to replace this pin into the holder for future use.)
- c. Using the bag boom swing the tunnel extension out and lower to a position in front of the tunnel. Position the extension where the pins on the extension (Fig 4.) line up with the receiver holes (Fig. 3).
- d. Use the five pins supplied with your Ag-Bagger® and place them in the holes indicated by Fig. 5.
- e. Fold the eye (Fig.1) back onto the tunnel

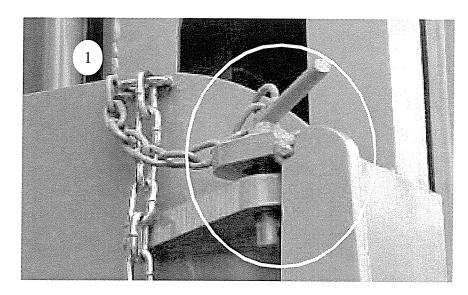


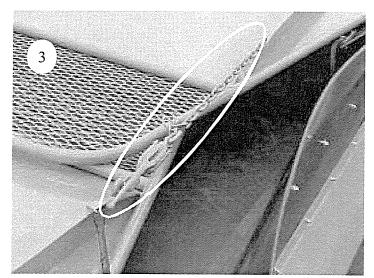


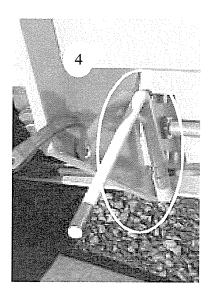




# FEED TABLE PREPARATION











Crush Hazard Exists
Make sure area under feed
table is clear before lowering
the Feed Table.

Check for clearance in front of the feed table. A minimum of 20ft clearance should be maintained.

- 1. Unhook the feed table pins.
- 2 Lower the feed table to the ground. (See page 8 item #3)
- a. Pull the lever back to lower the feed table.
- b. Move the lever to the center to stop feed table.
- c. Push the lever forward to raise the feed table, until you hear the feed table bump against the hopper.
- 3. Loosen the load binder to unlock the feed table wings. Open the wings by lifting outwards.
- 4. Secure the feed table wings with the locking pins. Pictured at left are two type of locking devices currently in use on these Ag-Baggers®

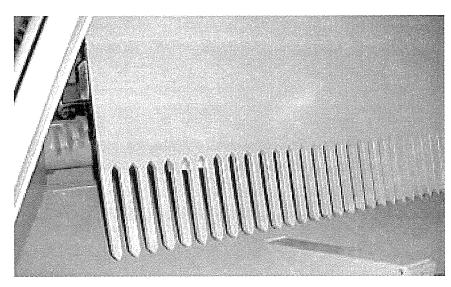
# SWEEPING TCO OPERATION

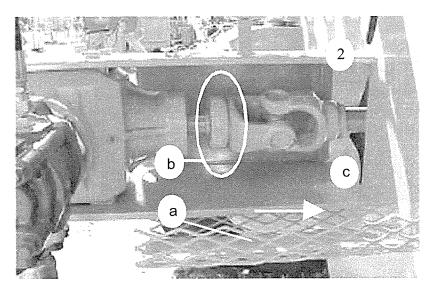
The operation of the Hydraulic Sweeping Tunnel Clean Out requires that the rotor not be turning while it is opened and closed. To accomplish this do the following.

- 1. Turn off the tractor.
- 2. Locate the planetary drive line at the right end of the Ag-Bagger<sup>®</sup>. and accessed from the rear of the bagger.

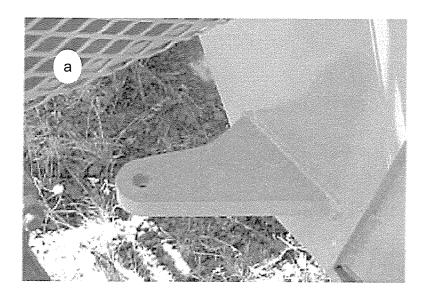
Open the shield (2a). Next grasp the collar (2b) and rotate until it can be slid towards the right. Move the collar and drive until it comes free. Lay the driveline on the shied.

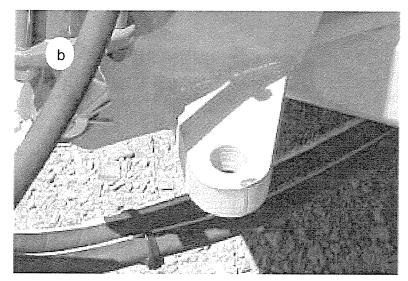
- 3. Start the tractor again and engage the PTO. You now have hydraulics and no rotor movement. You can now use the lever #2 on the Anchor Feed Table Control console (page #8) to open and close the TCO safely.
- 4. When you have completed this operation, reconnect the planetary driveline and close the shield. Make sure you turn off the tractor before doing this.

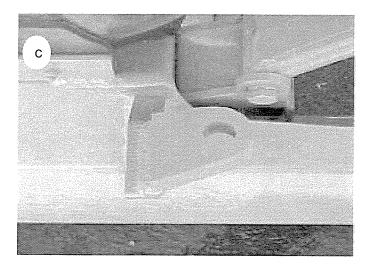




# CONNECTING THE AG-BAGGER® AND TRACTOR







Three connecting hitches are shipped with the Ag-Bagger®. These hitches are used to connect the tractor to the bagger. These hitches maintain the distance between the bagger and also allows you to steer the bagger during the bagging operation.

- (a) This hitch is located on the right end of the Ag-Bagger® under the planetary and should connect to the rear of the tractor
- (b) This hitch is located on the right end of the Ag-Bagger® on the frame below the Feed Table and should be connect near the connection of (a) and at a right angle.
- (c) This hitch is located on the right front of the Feed Table and should be connect to the forward portion of the tractor.

# **AWARNING**

It is important that after these connections have been made the tractor is parallel with the Ag-Bagger<sup>®</sup>. If the tractor is at a slight angle to the Ag-Bagger<sup>®</sup> damage will occur to the connections points.

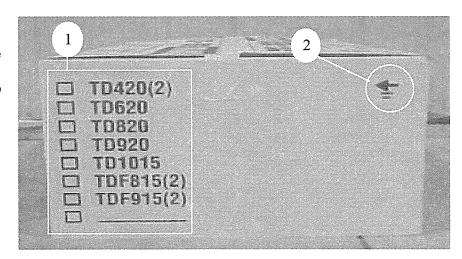
# IDENTIFYING YOUR AG-BAG® BAG

Remember to use only Ag-Bag® bags. They are designed to fit and function properly. They are identified by the TRI-DURA® name on the box.



The box end contains two pieces of information:

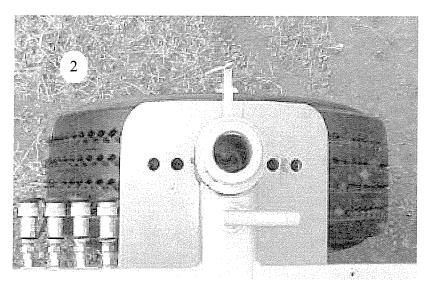
- 1. The size of bag in the box.
- 2. The arrow on the side of the box should be pointing towards the Ag-Bagger® before starting to install the bag.



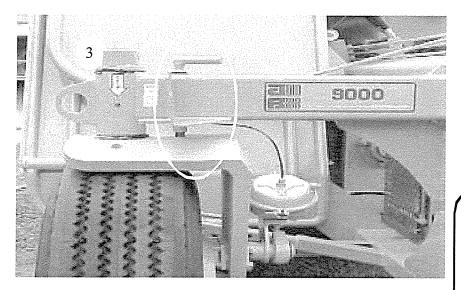
# WHAT SIZE AG-BAG® BAG CAN I USE?

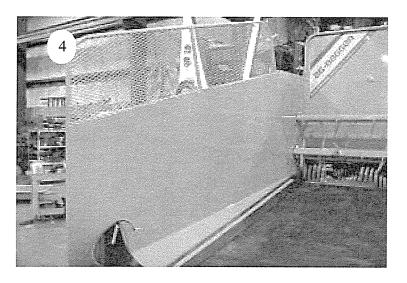
G9012
12 Foot Tunnel
TD1220
TD1225
TD1230
TD1250

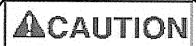
## INSTALLING THE AG-BAG® BAG



- 1. Move the Ag-Bagger® to the position where you want the bag to begin. Make sure you have about 10' of clear area behind the tunnel.
- 2. Use the instructions provided on page 11 of this section to move the wheels into bagging position.
- 3. After moving the wheels make sure the locking pin is in the locked position.
- 4. Using the controls on the Anchor Feed Table Control console, lower feed table, unlock and lift feed table wings locking them into position



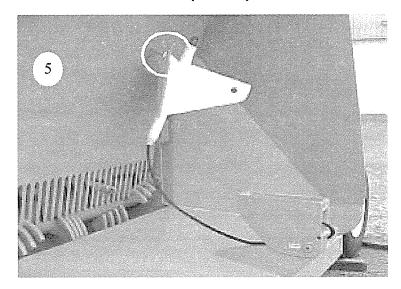




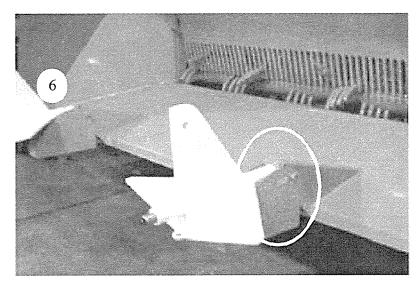
Caution - Machine damage may occur. Never attempt to turn wheel while wheel lock pin is in the locked position.

## INSTALLING THE AG-BAG® BAG (CONT.)

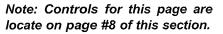
5. Remove anchors from the transport hooks located on the sweeping tunnel clean-out. Set them on the ground behind the anchor supports.

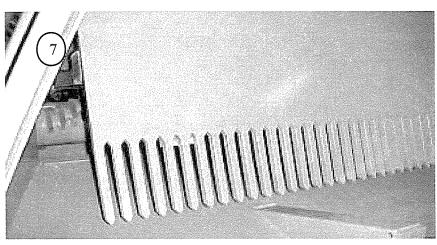


6. Using the Anchor in / out control on the Anchor - Feed Table Control console move the cables in until the anchors are pulled snugly into the sockets in the supports.

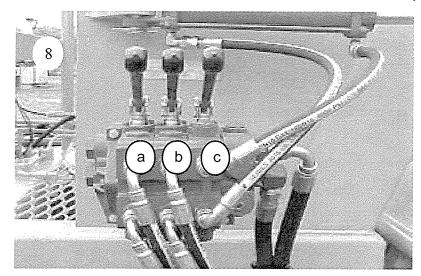


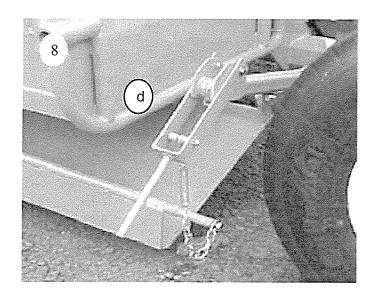
7. Visually inspect the Sweeping Tunnel Clean Out to make sure it is completely closed. Use the controls to check this. Do not open clean out while rotor is turning.

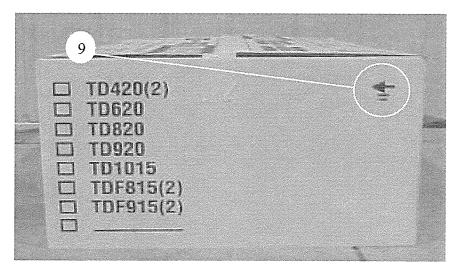




## INSTALLING THE AG-BAG® BAG (CONT.)







The next steps are preformed using the hydraulic control levers shown in fig.8. (8a) moves the bag boom extension in and out. It is important that you have enough slack in cable to extend boom. (8b) lowers and raises the bag boom cable. (8c) rotates the bag boom in and out. (8d) use the bag pan lock to open the bag pan.

- 8. Feed out enough cable using control (8b) so the hook on the cable can be attached to the bag cradle. Raise the cradle and rotate it using (8a) and (8c) until you can set the cradle on the ground near the tunnel opening, it should be close to the center of the tunnel. Do not disconnect cable.
- 9. Line the bag box up with the bag cradle, making sure the arrow on the box end is pointing towards the tunnel. Cut the plastic bands and remove the outer lid. Remove the inner shell and plastic inserts and the box will lay flat. Do not remove tape or rope until bag is on the tunnel.

## Installing The Ag-Bag® Bag (cont.)

- 10. Unfold the bag and lift the top half of the bag and place it on the bag cradle. Using the bag boom raise the bag and then rotate the bag on the cradle until (10a) is located in between the 1 and 3 o'clock (10b)
- 11. Continue to raise the bag and rotate it toward the tunnel pulling the sides of the bag out to fit around the tunnel extension. Pick up the lower part of the bag and place it into the bag pan making sure it is laying flat in the bag pan. When this is done move the bag back and set the cradle down onto the tunnel. Do not rest the bag on the extension.

Remove all the tape or ropes that hold the bag folds together.

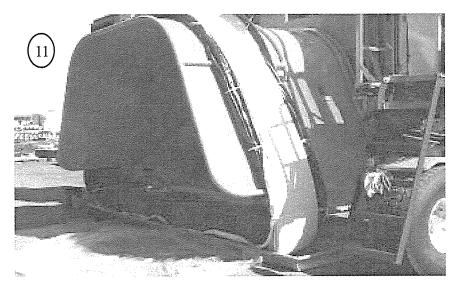
12. Recheck and make sure all tape and ropes have been removed from the bag. Using the bag pan lock 8d close the bag pan until there is approximately 3/4 clearance between the bag pan and tunnel.

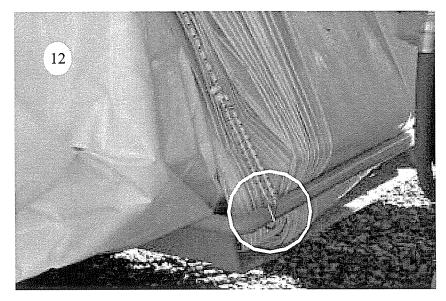
Using the bungee cord supplied with the Ag-Bagger® stretch it across the top of the tunnel and place the hooks into the holes drilled in the bag pan.

Locate the three hooks located at the back of the tunnel and tie strings to the bungee cord and attach it to these hooks. This keeps the bungee from moving.

Note: Figure 11 is of a different style Ag-Bagger® and is used only for clarity.





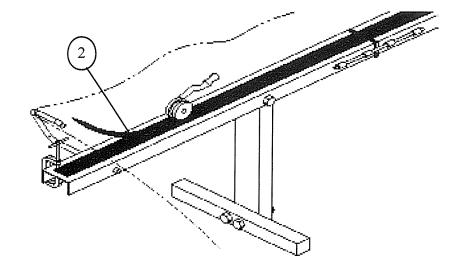


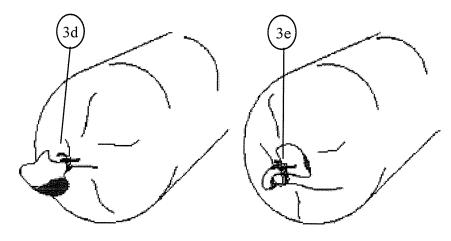
## INSTALLING THE AG-BAG® BAG (CONT.)

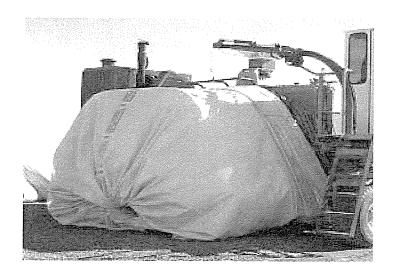
Seal the Beginning End of the Bag

- 1. Pull off enough bag to apply the seal. Pull from the inside folds, not the outside folds (white on the outside, black on the inside). Make sure you pull the bag <u>under</u> the bag bungee cord.
- 2. Seal the end of the bag using Master Seal®. Follow the instructions included with the Master Seal®. Master Seal®, tool, and sealing board are available from your Ag-Bag® Dealer.
- 3. **OR**, use a Double Knot Tie. (a) find the end of the bag; (b) gather the bag to the center; (c) twist the bag tight; (d) tie the bag tight. Leave enough bag to fold over and (e) tie a second time giving the bag an airtight seal.
- 4. Slide excess bag back onto the tunnel and bag pan. Position the knot knee high.

This illustration shows a bag installed and ready for use. The double knot was used to seal the end of the bag.







## BAGGING PROCEDURE

### THINK SAFETY AT ALL TIMES

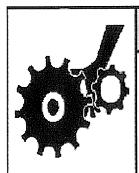


### FALL HAZARD.

Do NOT climb on or in. Moving parts can crush and cut.
Falling into machine could result in serious injury or death.
Read safety instructions in operator's manual before climbing on or into this equipment.

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ingana na Santantina (Pana)



# **AWARNING**

KEEP SHIELDS IN PLACE.

Pinch hazard exists.

DO NOT operate equipment unless shields are in place.



It is important that you set up a communications system between the operator of the Ag-Bagger® and all other persons involved in the bagging process. Once this system is setup, to eliminate confusion, it should not be changed.

Before proceeding it is important that all personal that will be involved in the bagging operation read and understand the Safety section of this manual.

- 1. Make sure that no one is allowed on the Ag-Bagger® when it is in operation. If you need to make any adjustments stop the Ag-Bagger® and then proceed. Make sure the operator is aware of the location of any worker in the area.
- 2. Prior to starting the Ag-Bagger® make a trip around the entire machine and make sure that all shields are in place and secured.

## BAGGING PROCEDURE (CONT.)

### START-UP PROCEDURE

- 1. Using the warning procedure setup as part of your communications discussed on the prior page warn all people to move away from the Ag-Bagger<sup>®</sup>. After giving them enough time to clear the area, visually make sure the area is clear. Make sure the alignment hitches are in place (see page 19 a, b, and c).
- 2. Start the tractor and engage the PTO drive. Follow the procedures outlined in the Operator's Manual for this procedure. This will also start the Rotor and Lower Beater Bar.
- 3. Start the Feed Table. Refer to page 8 of this manual, using control #3 to start the Feed Table.
- 4. Start Upper Beater Bar. Refer to page 8 of this manual, using control #4 start the beater bar. This controls only the upper beater bar.
- 5. Air Compressor. Make sure the Air Compressor is turned on. Page 10 #1.



Before starting to bag it is important that you read and understand other sections of this manual. Bagging and the Terrain, 3M's of Silage and Bagging Instructions.

## FILLING THE AG-BAG® BAG

- 1. Using the brake control and gauges (page 9, controls items #1 and #2 and gauges items #3 and #4) set the brake pressure on all wheels to approximately 40psi.
- 2. Check Anchor Float lever (page 8 item #1) to make sure it is in the OFF position.
- 3. Using the established communications procedure start the product moving into the bag.
- 4. If the Ag-Bagger® has an Inoculant applicator start it now. (page 9, #6)
- 5. Monitor the loads placed into the bags. When you have bagged between 20 30 tons of product turn the Anchor Float switch ON and lower wheel brake pressure to 20 psi. Watch the Anchor Float Gauge when the gauge reaches 6 10 feet (this setting depends on the condition of crop, the wetter the crop the less amount of cable should be out) turn the Anchor Float switch OFF. Reduce wheel brake pressure to 10 psi after turning switch off.
- 6. Anchor pressure readings. After turning the Anchor Float off maintain the Anchor pressure at 500-1000 psi for Corn and 1200-1600 for all other crops. Use the gauge on page 9 item #5 to monitor this pressure. The amount of pressure is controlled by feeding out more cable to increase the amount of drag/pressure and pulling in cable to lower the drag/pressure. These pressure readings will vary depending on the moisture in the product being bagged. It is very important that you continually monitor the pressure to make sure they remain in the range specified.

## BAGGING PROCEDURE (CONT.)

## REMOVING THE AG-BAG® BAG

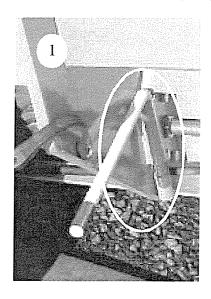
It is important that you monitor the length of the bag and the number of folds remaining on the tunnel. Start the following procedure when there is 6 - 7 folds of bag remaining on the tunnel.

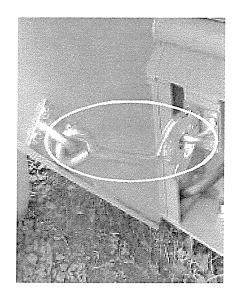
- 1. Prior to the last load pull anchors in. Increase the brake pressure, and using switch #1 on page 8 to pull the anchors in. When the final load is in the bag there should be approximately 5 folds left on the tunnel.
- 2. Release the brake pressure.
- 3. Refer to the procedure outlined on page #8 to prepare for the use of the Sweeping Tunnel Sweep. Using lever #2 on page 8 to open and close the Sweeping Tunnel Clean Out. Repeat this procedure several times. When you have done this reconnect the planetary driveline.
- 4. If you are going to start a new bag at the end of this bag pull the Ag-Bagger® forward until the bag has been pulled from the tunnel. If you are going to move to a new location and will be turning the Ag-Bagger® lift the feed table, remembering to close the feed table wings prior to lifting the feed table.
- 5. When the Ag-Bagger® has been moved away pull the plastic flat and prepare to seal the end of the bag. Grab each side of the bag on the end. Walk the bag over itself pulling the product together. Bring the bag end back forward. Seal the end of the bag with either MasterSeal® or double knot tie.

"No matter what method is used when sealing the end of the bag, loose plastic should be weighted down." See the Bagging and the Terrain Section. (Section 5)

6. Install Vent Valves. Place the vent valve 10-ft from the end of the bag and approximately 3/4 up the height of the bag.

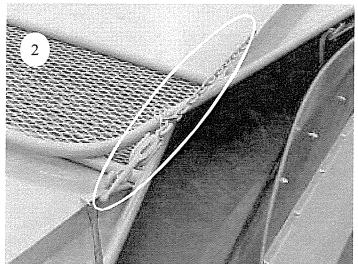
## PREPARE THE AG-BAGGER® FOR TRANSPORT



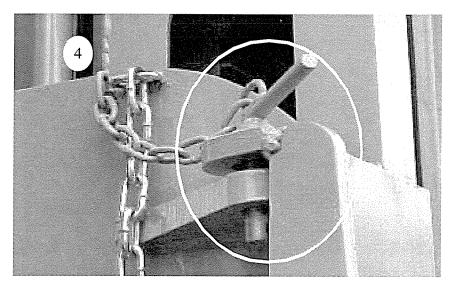


## **Feed Table Transport**

1. Unlock the wings. You may find either of the locks at right.



- 2. Fold the wings flat onto the Feed Table then lock the wings together with the load binder.
- 3. Lift the Feed Table (See page 8 switch #3)

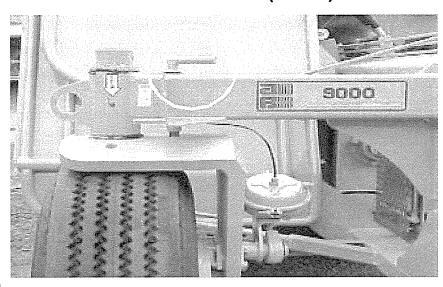


4. Lock Feed Table in the upright position.

## PREPARE THE AG-BAGGER® FOR TRANSPORT (CONT.)

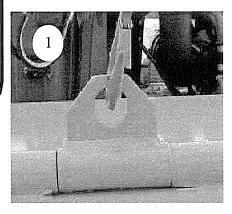
### **Wheel Transport**

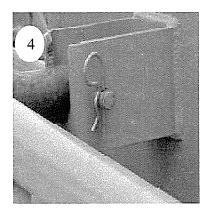
- 1. Unlock the wheels.
- 2. Use the procedure outlined on page # 11 to position into the transport position.
- 3. Lock the wheels.





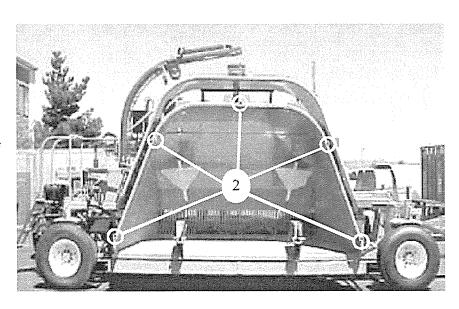
Caution - Machine damage may occur. Never attempt to turn wheel while wheel lock pin is in the locked position as indicated in picture 3.



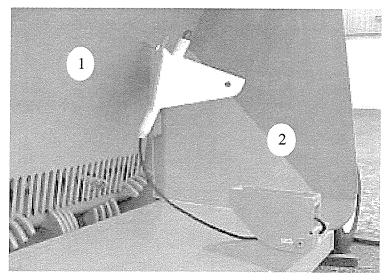


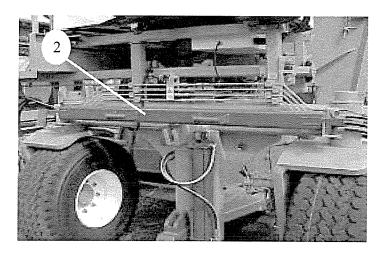
## **Tunnel Extension Transport**

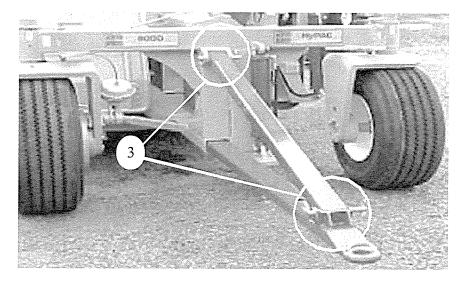
- 1. Latch bag boom hook to lifting lug at top of tunnel extension.
- 2. Remove pins from all sockets, and pull extension away from tunnel.
- 3. Using the bag boom lift the tunnel extension and set it on top of the tunnel.
- 4. Insert pin into transport receiver.



## Prepare the Ag-Bagger® For Transport (Cont.)

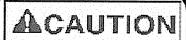






## **Anchor Transport**

- 1. After removing anchors from the bag during bagging operation move anchors to hooks located in the tunnel and hang them there.
- 2. Fold anchor support sockets back into tunnel.
- 3. Use lever #1 on the Anchor Feed Table Controls to take the slack out of the cable.



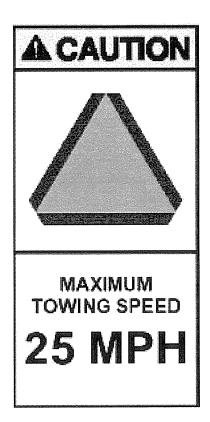
Caution should be used to leave some slack in the cables. Pulling to tight will cause cable to kink.

## **Pintle Hitch Transport**

Use only the pintle hitch provided for towing the Ag-Bagger®

- 1. Remove the pin and hair pin and slide the hitch out.
- 2. Remove the hitch stabilizer from its storage position.
- 3. Place hitch stabilizer into the receiver on the hitch and insert pins to lock into position.

## TOWING THE AG-BAGGER



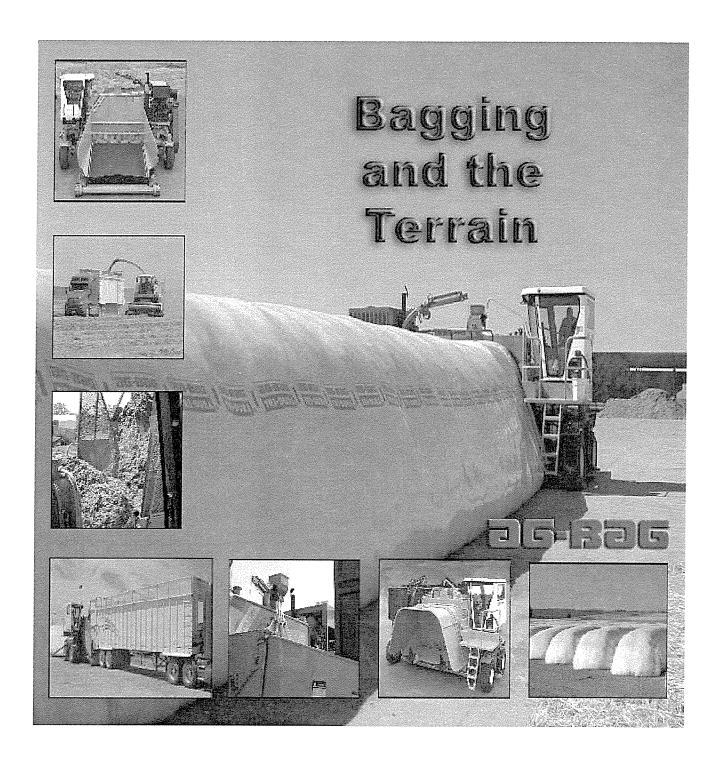
- 1. Using the lift jack raise the Ag-Bagger®
- 2. Lineup the towing vehicle with the pintle hitch. Make sure you use a vehicle rated to tow your Ag-Bagger.
- 3. Using the lift jack lower the Ag-Bagger® onto the pintle hitch.
- 4. It is your responsibility to know and follow all state and local laws dealing with the movement of agricultural equipment on highways.

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This section deals with placing the bag and preparing the site for best results. Also covered is keeping the correct tension on the cables for best compactions. The information contained here will help you to protect you investment in the feed you bag. It is important you familiarize yourself with the information contained here as well as the information presented in the attached Appendixes.

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### **BAG GUARANTEE**

We, at Ag-Bag®, can offer this unequaled guarantee because of our commitment to quality, years of experience as the leading manufacture of silage bags, and use of the latest plastic technology. We recognize that the quality and reliability of the bagging system is dependent on a team effort between Ag-Bag® and you, the customer. Our part of the teamwork is to provide you with a top quality silage bag.

### **AG-BAG®'S PART**

Ag-Bag® guarantees our "Tri-Dura®" silage bags to be free of defects in workmanship and materials. If a properly packed bag should fail from a defect during normal useful life, Ag-Bag® will replace the bag without charge. If the feed in the damaged bag requires rebagging Ag-Bag® will replace the bag with the initial replacement bag discussed above plus one more bag, for a total of two bags.

### THE CUSTOMER PART

Most of the factors that control the quality and reliability of the bagging system are in the customer's hands. These include choice of forage crops, harvesting, bagging location, moisture, packing, bagging machine operations, and maintenance and surveillance of bags

Ag-Bag® will provide instruction, recommendations and suggestions about these factors but cannot and does not guarantee the outcome. It is the responsibility of the customer to seek out the best information and to make his own decisions. The customer will be responsible for the profits or loss that results from the use of these products. See Ag-Bag® 3M's of Silage for recommendation of how to bag silage for proper techniques and guidelines.



Do not bag on a side hill. Tip-over or bag roll may result.

### BAGGING SURFACE

Bag uphill rather than downhill. Avoid bagging on a side hill. The Ag-Bagger® can drift and bags may roll.

Surface conditions may affect bagging quality and ability. Soft ground conditions will act as a brake and may cause the Ag-Bagger® to sink. A hard clean and level surface is best to bag on. By clearing the area rodent problems can be eliminated.

Remember, place bags in a locations that feed out can be done when you need the feed.

NOTICE

## **BAD WEATHER BAGS**

Consider the surface conditions during the seasons when product will be removed from the bags. If you expect a lot of mud, you may want to put some bags on a solid surface. Have enough accessible bags to last until good weather conditions can be expected.

## PROTECT AGAINST THE WIND

NOTICE

Leaving loose plastic blowing in the wind may cause product loss. Secure both ends of the bag after sealing. Protect your investment. Winds blowing against the plastic can cause plastic fatigue. This may create holes and allow oxygen into the bags. To prevent wind damage secure the loose ends of the bag.

☐ Pile old	tires on the	e finished	end of the	bag afte	r sealing
------------	--------------	------------	------------	----------	-----------

 $\hfill\square$  Do no use abrasive materials or forage products, rodents like this type of cover

## NOTICE

Over stretching the bag does void the bag warranty. Follow the guidelines for bag stretch included inside your box of Ag-Bag® bags.

## FILLING THE BAG

Haylage and Corn silage – Apply enough anchor pressure to fill bag within 2-inches of the top of the tunnel. Keep the bags stretch bars under 5-1/2 inches.

Grains – grains tend not to fill the bag to the top of the tunnel, regardless of anchor pressure. Regulate anchor pressure by measuring your stretch bars 30-feet back from the Ag-Bagger. Keep the stretch bars under the 5-1/2 stretch limit.

### CONTROLLING BAG STRETCH

The bag is overfilled when – the 5" vertical bar located between Ag-Bag® logos on the bag is stretched to over 5-1/2" (See Diagrams 1a and 1b)



It is important to remember to keep the bag stretch mark between the 5 and 5-1/2 inches shown above. If you go under the 5 inch mark you will not get the proper use of you bag. If you go over the 5-1/2 inch stretch you risk causing damage to the bag.

You control the stretch in the bag by either letting out the anchor cable or pulling it in.

**Anchor Out.** The further out the anchor cable is the more pressure will be exerted, meaning the bag will have a higher compaction. Watch the anchor gauge so you will know how much cable is out. This will cause the stretch mark to lengthen. You can let out more cable by using the Anchor float switch on the Arm Rest Console. Do not use the Anchor Cable In/Out switch to let anchor cable out while bagging.

**Anchor In**. By pulling the anchors back towards the tunnel you will lessen the amount of pressure and there by cause the stretch mark to become smaller. Use the Anchor Cable In Switch to pull the anchors in. Watch the Anchor pressure gauge and keep it with in the correct range.

## PRODUCT MOISTURE

Refer to the "3M's of Silage" for information on product moisture level. Moisture levels play an important part of product quality.

### **Dry Product**

Dry product makes a lumpy bag. Long dry chop is hard on the Ag-Bagger<sup>®</sup>. Remember when trying to make good haylage, dry feeds have more resistance, they will back higher in the bag, and less brake pressure is required.

### **Wet Product**

Moisture levels above 70% may create excessive liquid in the hopper. This excessive liquid is "OK" unless the bag is outside the recommended shape. Slowly release brake pressure until the bag is within the recommended shape. Let the product wilt longer if liquid does not dissipate. Wet product does not rise very high in the bag. The result is a wide bag.

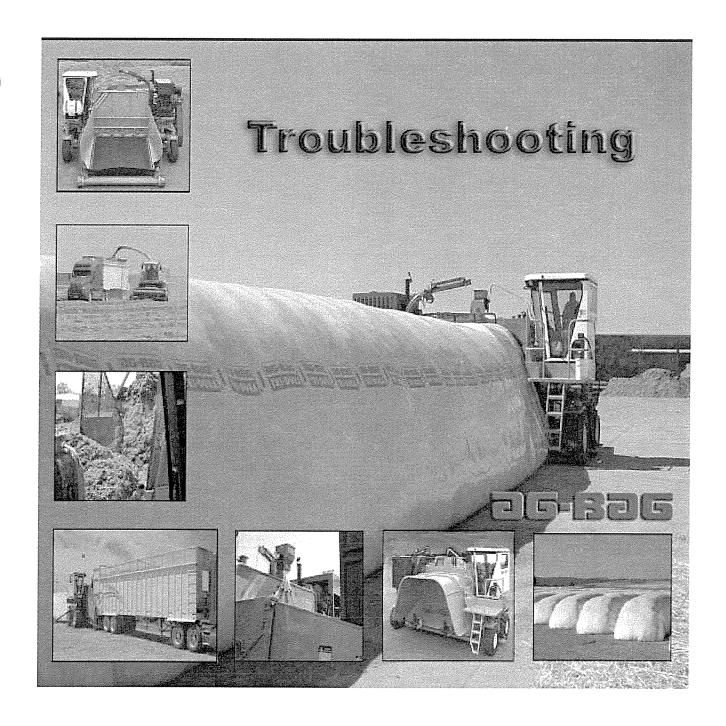


Over stretching the bag does void the bag warranty. Follow the guidelines for bag stretch included inside your box of Ag-Bag® bags.

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Wet Product 6. See also Moisture



This section is not intended to address all the problems that might arise during bagging. It is intended to review some of the common problems that might arise during the bagging operation. If a problems arise that are not covered here please contact you Ag-Bag® dealer for help.

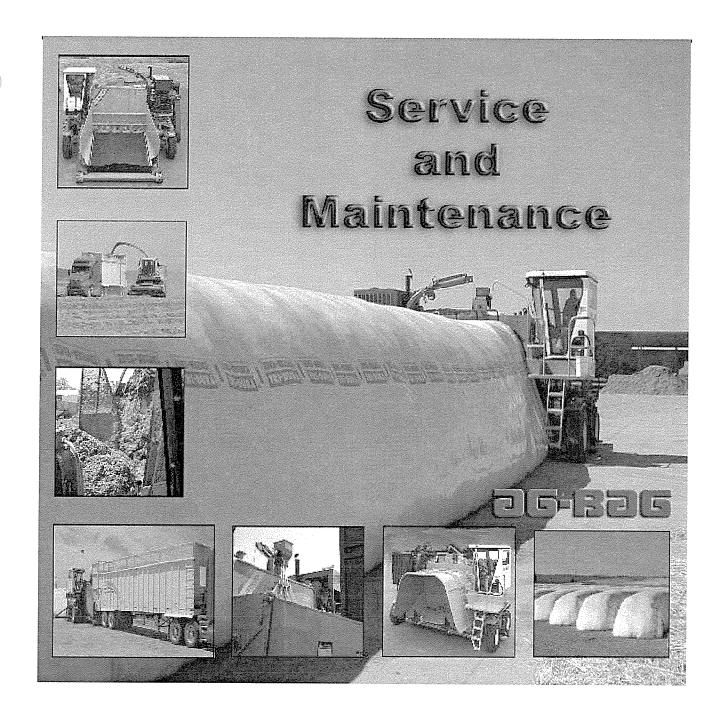
It is important to remember to follow all safety procedures while preforming any problem corrections outlined in Troubleshooting section.

## TROUBLESHOOTING

Рковьем	Cause	Correction
ROTOR DRIVE BELT SLIPPING	1. To much belt deflection.	1. Adjust Belt Tension. See the Service and Maintenance Section.
	2. Rotor plugged.	2. Slow down Feed Table belt.
	3. Product binding lower beater bar.	3. Adjust chop or monitor moisture.
FEED TABLE BELT WON'T PULL FEED TO ROTOR.	1. Feed to wet and heavy.	Remove some feed from belt to reduce weight.
	2. Chain Binding	2. Check for binding and realign sprockets
	3. Too much buildup on belt rollers.	3. Clean belt roller of build up
FEED TABLE BELT NOT MOVING	1. Feed Table Belt to Loose	1. Tighten both Feed Table belt adjustors to get belt moving and then follow up with tracking adjustment.
FEED TABLE BELT NOT MOVING - BELT IS TIGHT	Feed is to wet and heavy and Feed Table motor is going over relief.	Back off wheel brakes and power in the PAC anchor to help move the feed to the rotor.
FEED TABLE BELT IS MOVING FOR- WARD BUT WILL NOT MOVE FEED TO ROTOR.	Feed to wet or to dry to move and is slipping on belt.	Back off wheel brakes and power in the PAC anchor to help move the feed to the rotor

## TROUBLESHOOTING

Cause	Correction	
chor float switch on.	1. Turn anchor float off.	
	2. Pull machine ahead and retract anchors.	
	chor float switch on. chors out to far. To much ure.	



The information provided in this section of the Operator's Manual is given for general information only. It is to help you to service and maintain the Ag-Bagger®. If more information is required contact you Ag-Bag® dealer. By following these instructions the life of your investment will be lengthened.

## SERVICE AND MAINTENANCE

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## Service Manuals



It is your responsibility to read and understand not only this manual but any manuals provided with your Ag-Bagger®.

## **Machine Specifications**

## G9012 HyPac

Width - Towing ..... 8'6"
Width - Bagging . 19'4"
Length - Towing .. 19'4"
Max Height ....... 10'9"
Weight ........ 22,500#
Rotor Length ....... 9'
Rotor Teeth ....... 108
Max Bag Length .. 250'
Hydraulic ....... 90 gai
Max HP ........... 200

## **Lubricant Specifications**

Parts	Lubricants
Bearings, Shafts, Slides & Splines	Extreme Pressure Moly Grease
Hydraulic System	Grade 46 ISO Hydraulic Oil
Planetary	GL 80-140 Gear Oil synthetic
Chain	See Chain Oil Specifications

## **Chain Oil Specifications**

Apply the proper weight oil according to surrounding temperature. The chart below gives recommended ranges.

Temperature Degree F	Recommended Lubricants
-20 - +20	SAE 10
20 - 40	SAE 20
40 - 100	SAE 30
100 - 120	SAE 40
120 - 140	SAE 50

# **Bolt Specifications**







Not Graded

Grade 5

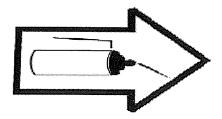
Grade 8

Bolt Grade	Use - Torque
Not Graded	Used for shields and covers. Selftaping. No Torque Specs
Grade 5	No Torque Specs
Grade 8	Used on brake calipers only. No Torque Specs

## **Tire Specifications**

Tire Size	Pressure - Torque
445/6R19.5	Pressure Cold: 110 lbs Torque: 270 ft lbs

## **Grease Gun Decal**



This decal is placed at most lube fittings showing their location.

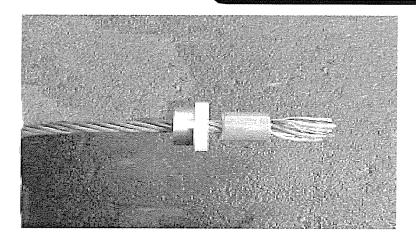
## **General Maintenance Schedule**

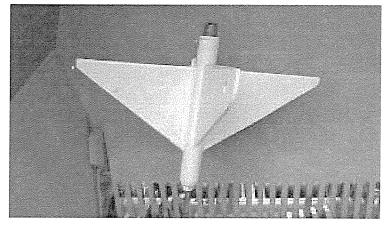
Group / Feature		Intervals	Lube Type	Points
Wheels				
Wheel Column Post	l	Weekly	See Chart	8
Wheel Lock Pin		Weekly	See Chart	1
Wheel Brake Shaft		Weekly	See Chart	4
Wheel Brake Slack Adjuster A	۸rm	Weekly	See Chart	4
Lug Nuts		Daily 270 ft lb	n/a	32
Rotor				
Idle Bearing	ļ	Daily	See Chart	1
Top Beater Bar Drive Bearing	)	Daily	See Chart	1
Top Beater Bar Idle Bearing		Daily	See Chart	1
Bottom Beater Bar Idle Bearing	ng	Daily	See Chart	1
Beater Bar Chain Oil		Daily	See Chart	1
Planetary Fluid Level		Daily	See Chart	1
HyPAC Cylinder				
Cylinder Pins	•	Daily	See Chart	2
Sheaves		Daily	See Chart	2
Lead Sheaves		Daily	See Chart	2
Bag Boom				
Extension Sleeve	•	Every 4 Bags	See Chart	1
Base Bearings (spindle)	<b>p</b>	Annually	See Chart	3
Feed Table				
Wheel Hub		Daily	See Chart	2
Drive Roller Bearing - Drive S		Daily	See Chart	1
Drive Roller Bearing - Idle Sid	de	Daily	See Chart	1
Idle Roller Bearings		Daily	See Chart	2
Drive Chain		Daily	See Chart	1
Mounting Shafts		Weekly	See Chart	2
Hydraulics				
Hydraulic Oil Level		Daily	See Chart	1
Hose and Fitting Leaks		Daily	n/a	ref
Change Hydraulic Oil - Clean	Tank	Annually	See Chart	1
Replace Return Filter		After 2 Weeks		1
		Then Every 3 Months		
Operator Platform				_
Ladder	•	Annually	See Chart	2
Deck		Annually	See Chart	12

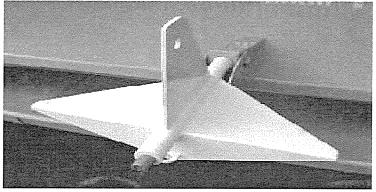
## Install the Anchor



Serious injury may occur. Always wear protective gloves while handling wire rope cable.







### **Install The Anchor**

When you received your Ag-Bagger® the anchor and cable were already installed. This procedure should be used if it becomes necessary to install new anchor cables.

# Use Lever #1 on the Anchor - Feed Table Control Panel.

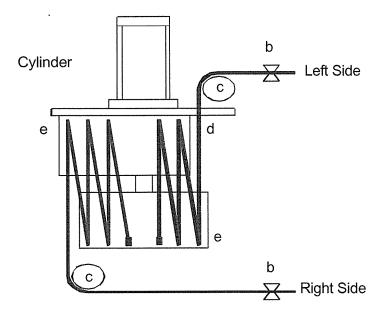
- 1. Assure the Anchor Float Control is in the OFF position.
- 2. With the assistance of another person pull enough cable out to allow for the attachment of the Anchor to the cable.
- 3. Slide cable end through anchor, anchor plug, and quick knob inserting the brass wire separators into the cable.
- 4. Pull anchor back onto the quick knob until secure.
- 5. Retract the cable and pull the anchor tight against the anchor socket and resting on the anchor support. The anchors should be in this position prior to installing the Ag-Bag® bag.

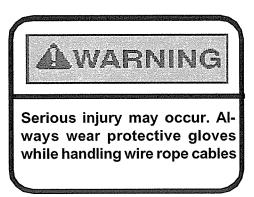
STOP MACHINE AND TURN OFF TRACTOR TO ADJUST, LUBRICATE, OR SERVICE.

## **Anchor Cable Adjustment & Installation**



Failure to maintain proper anchor adjustment may result in cable damage, which may not be covered by your warranty.





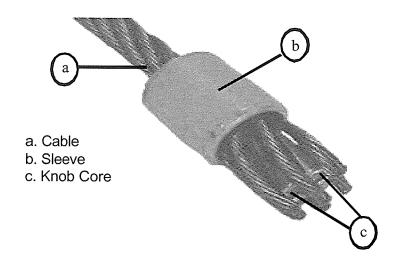
### **Anchor Cable Adjustment**

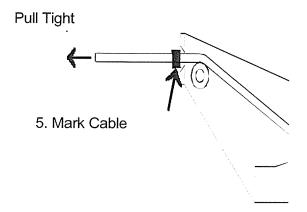
Most of the cable stretch will occur during the first bag, so adjustment needs to happen prior to the second bag. Also check each time the anchors are fully retracted. The anchors must be tight in the sockets. To adjust follow step 1 and then proceed to step 4.

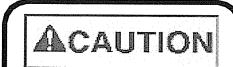
### **Anchor Cable Installation**

- 1. Fully extend the cylinder, then retract 1 inch. Shut off the engine when measuring.
- 2. Thread the cables through the pulley system. The long cable on the right side and the short cable on the left side. Follow the letter sequence in the illustration.
  - b. Over the fairlead.
  - c. Around the pulleys
  - d. Through the hole in the plate
  - e. Under the pulley.

## **Anchor Cable Adjustment & Installation (cont.)**

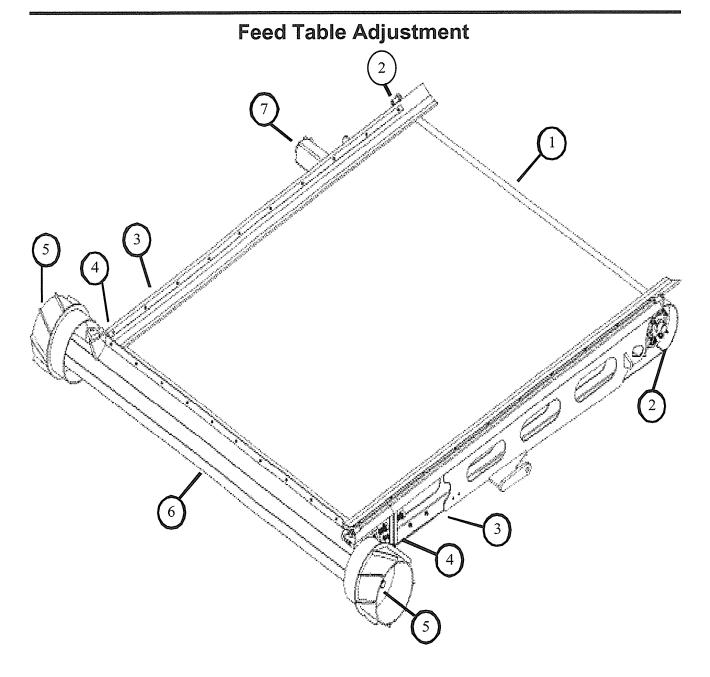






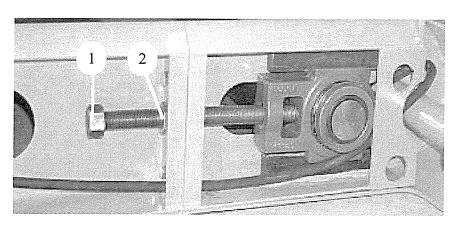
Always operate bagger with two anchors. Cylinder damage can occur if operated with only one anchor. This damage my not be covered by your warranty.

- 3. Install the cable stop on the cylinder end.
- Slide the cable (a) through the sleeve (b).
- Unravel the cable (a) and wrap around the knob core (c). Keep the knob core halves flush.
- Tap the sleeve (b) down on to the knob core (c) and cable (a) with a hammer until secure.
- 4. Manually pull the cable tight from the outside.
- 5. Mark both of the cables in the same spot as close to the fair lead as possible.
- 6 Using lever #1 on the Anchor Feed Table Panel extend the cables 4 feet. Pull on the cables while extending.
- 7. Cut the cables at the marks.
- 8. Slide the cables through the center of each anchor. Be sure to put the anchor on nose first...
- 9. Install the cable stop as describe in item 3 above.
- 10. Pull on the anchors to secure the cable stop in the nose of the anchor.
- 11. Retract the anchors. The anchors should be tight in the sockets.



- 1. Head Roller
- 2. Head Roller Adjustment Dealer Only
- 3. Grease Points
- 4. Belt Adjuster Points
- 5 Feed Table Wheel Bearings
- 6. Tail Roller
- 7. Feed Table Motor

## Feed Table Adjustment (cont.)

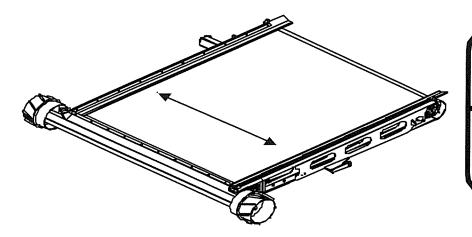


#### Adjust Feed Table Belt

- 1. Adjustment Bolt
- 2. Adjustment Lock Nut

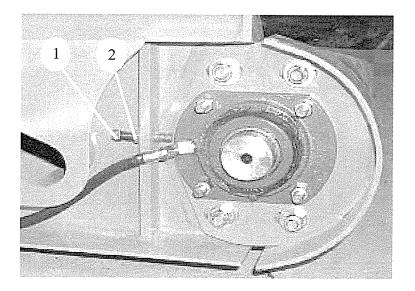
#### To adjust belt:

- Tighten adjustment bolt to push belt away for the side you have tightened.
- Loosen the bolt to bring belt to the side you have loosened.





Do not over tighten belt, this may result in premature wear of bearings.



#### Feed Table Head Roller

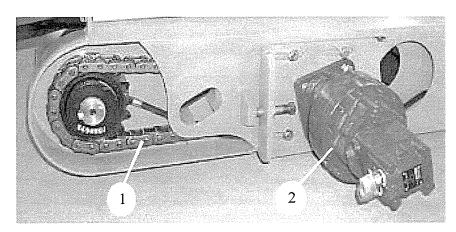
- 1. Head Roller Adjustment Bolt
- 2. Head Roller Adjustment Lock nut

# NOTICE

Only trained Dealer should make this adjustment. Head Roller should never need adjusting.

STOP MACHINE AND TURN OFF TRACTOR TO ADJUST, LUBRICATE, OR SERVICE.

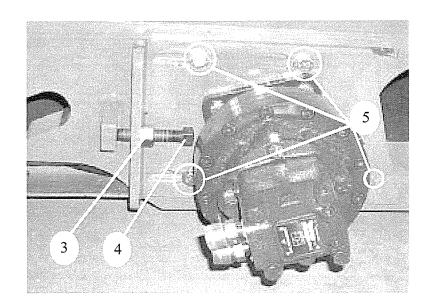
## Feed Table Adjustment (cont.)



Drive Chain Adjustment

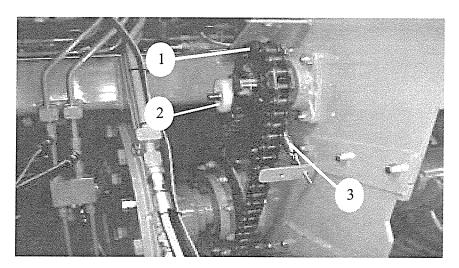
- 1. Drive Chain
- 2. Feed Table Drive Motor
- 3. Adjustment Lock Nut
- 4. Adjustment Bolt
- 5. Mounting Plate Bolts

Lubricate Chain Daily. See Oil Specification in this manual.



To adjust chain loosen the four mounting plate bolts (5) holding the mounting plate. Loosen the adjustment lock nut (3). Using the adjustment bolt (4) tighten or loosen the chain. There should be NO deflection in this chain. When you have finished adjusting chain tighten the adjustment lock nut (3) and then the four mounting plate bolts (5).

#### **Beater Bar Chain Tension**

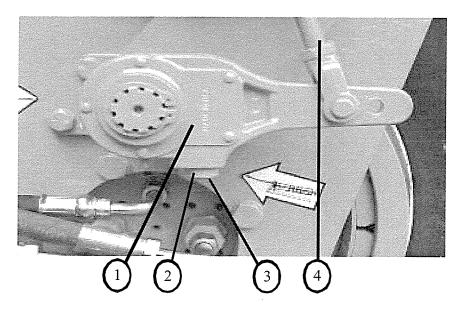


#### **Beater Bar Chain Tension**

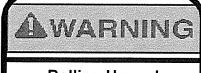
- 1. Beater Bar Chain
- 2. Chain Tensioner
- 3. Chain Tensioner Spring

There is no adjustment needed for this chain, the tensioning spring maintains a constant pressure on the chain. Lubricate the chain according to the schedule in this manual.

## Air Brakes Adjusting



- 1. Slack Adjuster
- 2. Slack Adjuster Nut Slip Sleeve
- 3. Slack Adjuster Nut
- 4. Brake Rod.



#### **Rolling Hazard**

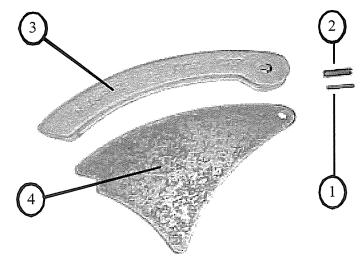
Block all wheels prior to releasing brake pressure.

#### Air Brake Adjusting

- 1. Release the brake pressure.
- 2. Slide the slack adjuster sleeve (2) up. Use a 9/16" wrench on the slack adjusting nut (3).
- 3. Tighten the slack adjusting nut (3) until snug by turning the wrench counter-clockwise looking from the top.
- 4. When the nut is snug, loosen it 1/4 turn clockwise.
- 5. Make sure the nut locking sleeve (2) slides down over the nut.
- 6. Slack adjuster (1) will now move so the rod (4) up and down about 1/4".

STOP MACHINE AND TURN OFF TRACTOR TO ADJUST, LUBRICATE, OR SERVICE.

## **Tine Cap Replacement**



- 1. 3/16 x 1 Spring Pin 2. 5/16 x 1 Spring Pin
- 3. Tine Cap4. Rotor Tooth

#### **Tine Cap Replacement**

The tine cap can be replace on the rotor while in the machine.

- A. Remove spring pins (1) and (2) from the cap (3) and tooth (4).
- B. Slide the tine cap (3) from the tooth (4).
- C. Slide the new tine cap (3) onto the tooth (4).
- D. Install the spring pin (2) through the whole in the tine (3) and tooth (4).
- E. Install the spring pin (1) into spring pin (2).
- F. Check the ends of the spring pins to make sure they are flush with the tine.

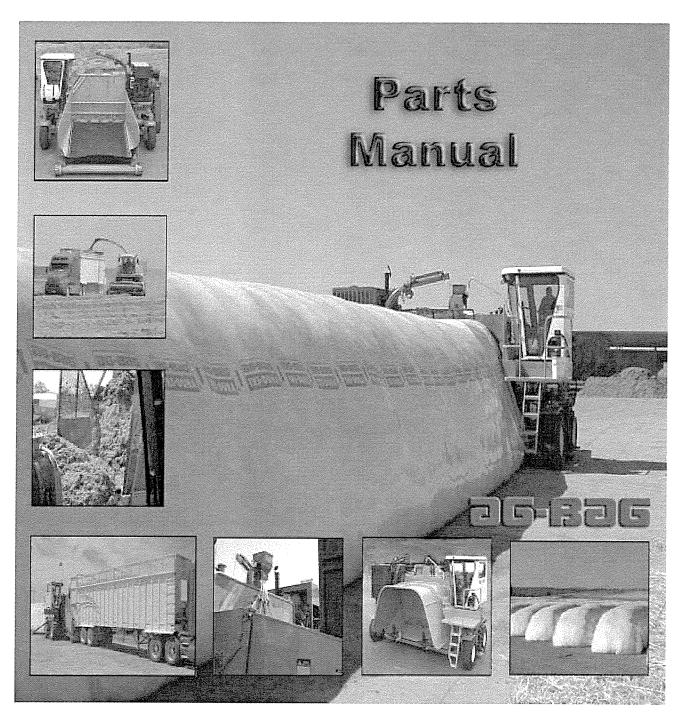
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The parts manual is organized into groups, it is designed to make the locating of parts easier. The exploded drawings also show assembly paths. All parts listed are available from your authorized Ag-Bag® Dealer.

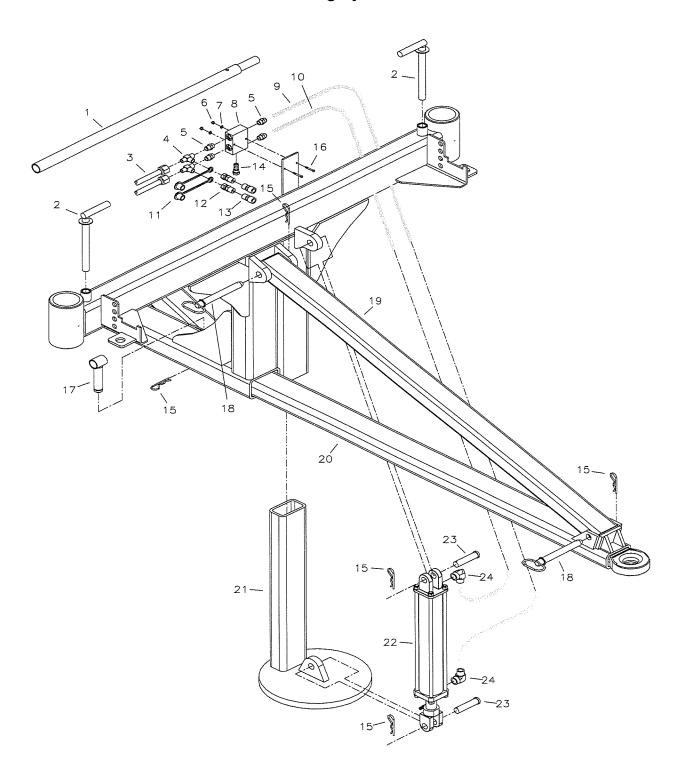
G9012 HyPac

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# Towing System

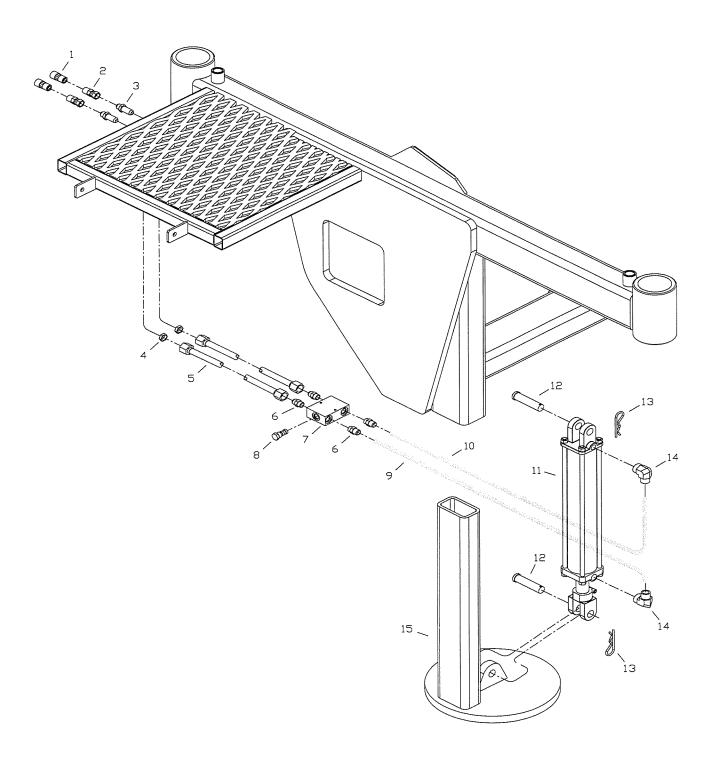


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## Towing System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1120011	Bar, Wheel Turn	1	
2	1010035	Lock, Manual Steering Wheel	2	
3	Ref.	Hardline Assembly	2	
4	Ref.	Tee, Hydraulic	2	
5	Ref.	Coupler, Hydraulic	4	
6	Ref.	Nut, Hex	2	1/4-20
7	Ref.	Washer, Flat	2	1/4
8	1212008	Manifold, Cylinder Check Valve	1	
9	Ref.	Hose Assembly, Jack Short	1	
10	Ref.	Hose Assembly, Jack Long	1	
11	1501094	Cap, Plastic Female Pioneer	2	
12	1540369	Fitting, Hydraulic 9100 x 8 x 8	2	
13	1540115	Coupler, Quick Female	2	1/2 NPTF
14	1541795	Valve. PO Check	1	
15	Ref.	Pin, Hair	5	
16	Ref.	Capscrew, Hex	2	1/4-20nc x 2-1/2
17	1120046	Pin, Pintle Hitch	1	1-1/4 x 5-1/4
18	1550170	Pin, Hltch	2	1 x 8
19	Ref.	Brace, Pintle Hitch	1	
20	Ref.	Hitch, Pintle	1	
21	Ref.	Jack Base - Tow End	1	
22	1541342	Cylinder, Hydraulic	1	3 x 18
23	Ref.	Pin, Clevis	2	
24	1100081	Fitting Assembly	2	C5405 x8 x8 x8-7238 x6
	Ref.	Hose Assembly FC640-8-1AA-8MP-8MP-120HL	2	Not Shown

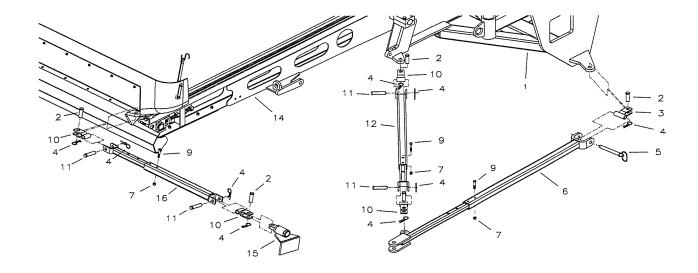
#### Lift Jack Cab End



#### Lift Jack Cab End - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1540115	Coupler,Quick Female	2	1/2 NPTF
2	1540369	Fitting, Hydraulic 9100 x 8 x 8	2	
3	1540591	Fitting, Hydraulid C5325 x 8	2	
4	Ref.	Nut, Bulkhead	2	
5	Ref.	Hardline Assembly	2	
6	Ref.	Coupler, Hydraulic	4	
7	1212008	Manifold, Cylinder Check Valve	1	
8	1541795	Valve, PO Check	1	
9	Ref.	Hose Assembly, Jack Long	1	
10	Ref.	Hose Assembly, Jack Short	1	
11	1541342	Cylinder, Hydraulic 3 x 18	1	
12	Ref.	Pin, Clevis	2	
13	Ref.	Pin, Hair	2	
14	1100081	Fitting Assembly	2	C5405 x8 x8 x8-7238 x6
15	1212016	Jack Base, Hydraulic	1	
	Ref.	Hose Assembly FC640-8-1AA-8MP-8MP-120HL	2	Not Shown

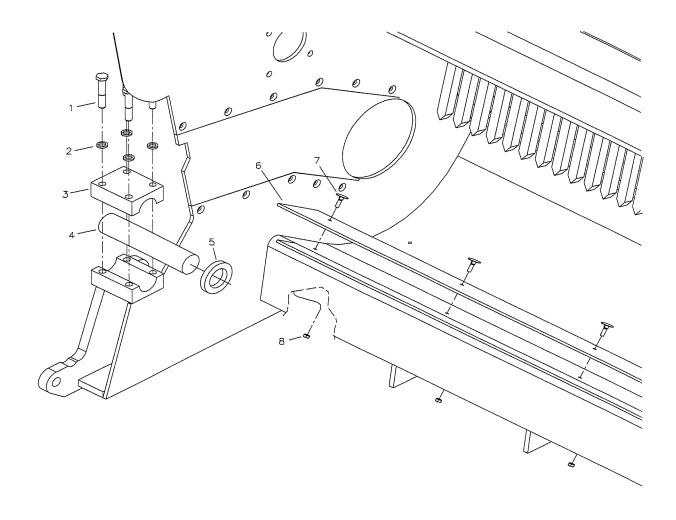
## Bagging Hitch



## Bagging Hitch - Parts List

Item#	Part#	Description	Qty.	Remarks
1	Ref.	Frame	1	
2	1550156	Pin, Clevis	5	1 x 3-1/4
3	1110001	Clevis, Tow Hitch	1	
4	1550168	Pin, Hair	9	
5	1550170	Pin, Hitch	2	
6	1110004	Hitch, tow	1	
7	1550126	Nut, Hex	3	1/2-13nc Lock
8	N/A			
9	1550022	Capscrew, Hex	3	1/2-13nc x 3
10	1110002	Clevis, Side Hitch	1	
11	1550158	Pin, Clevis	4	1 x 4
12	7011002	Hitch, Side	1	
14	Ref.	Feed Table	1	
15	1080005	Bracket, Feed Table Tractor Mount	1	
16	7011000	Hitch, Feed Table Side	1	

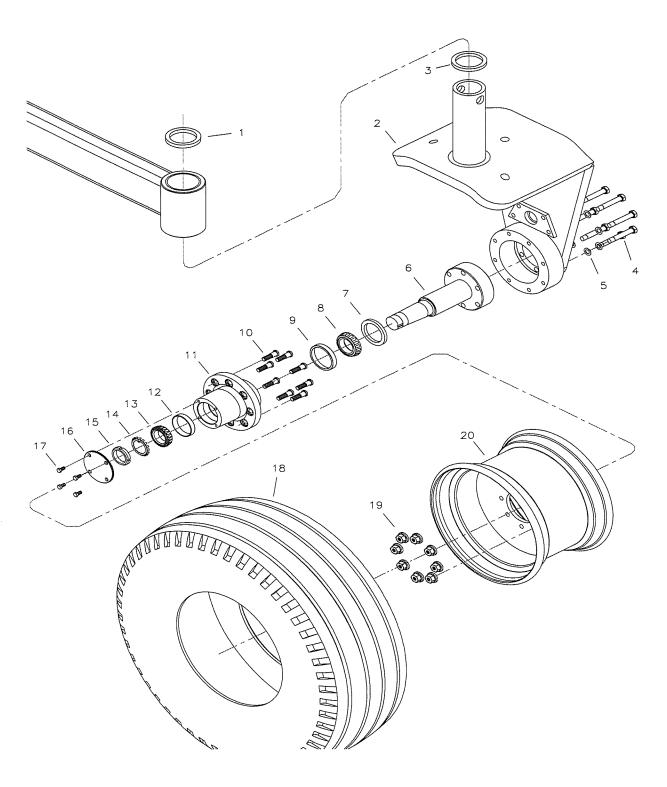
# Forage Dam - Feed Table Mount



# Forage Dam Feed Table Mount - Parts List

Item#	Part#	Description	Qty.	Remarks
1	ref.	Capscrew, Hex	8	5/8-11nc x 3
2	ref.	Washer, Lock	8	5/8
3	ref.	Anchor Block, Feed Table mounting shaft	2	
4	1080048	Shaft, Feed Table mounting	2	
5	1120449	Spacer, Feed Table	2	
6	ref.	Liner, UHMW 42. 112.0512	1	
7	ref.	Capscrew, counter sunk elevator	8	5/16-18nc x 1-1/4 flat
8	ref.	Nut, Hex 907726	11	5/16-18nc lock

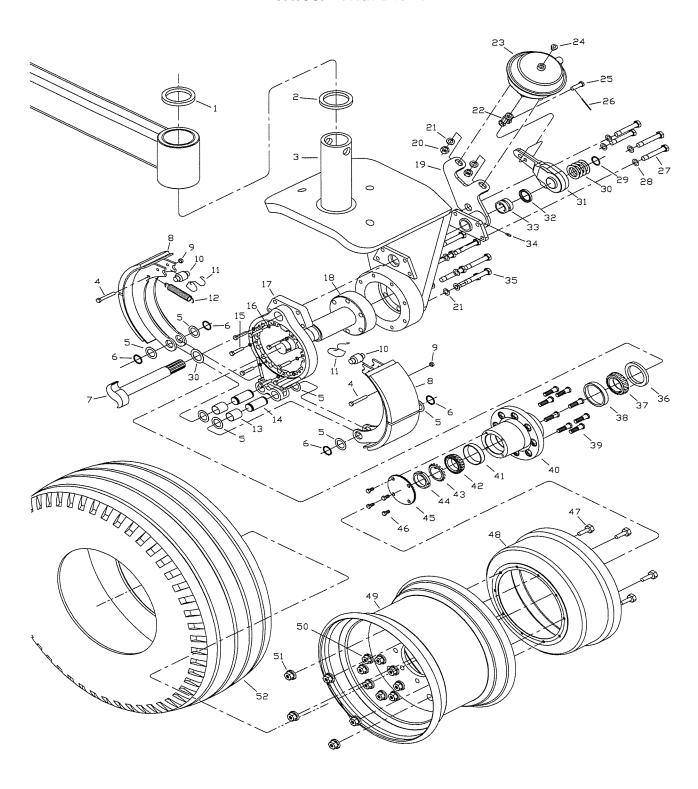
Wheel - Non Brake



## Wheel - Non Brake Parts List

Item#	Part#	Description	Qty.	Remarks
1	1010049	Ring, Wheel Column Retaining	1	4
2	7001022	Wheel Column Weldment	1	20-1/2 Drive
3	1010050	Spacer, Wheel Column Bronze	1	4 ID
4	ref.	Capscrew, Hex	8	5/8-10nc x 3-1/2
5	ref.	Washer, Split Lock	8	5/8
6	4070145	Axle Adapter, Wheel Column	1	2-15/16 x 14
7	1500367	Seal, Oil	1	417159
8	1510087	Bearing, Roller Cone	1	
9	1510131	Bearing, Roller Cup	1	
10	1550295	Stud, 9/16 x 2-15/16	8	NAPA 641-3223
11	1010076	Hub, Wheel 8000 lb Welded	1	
12	1510225	Bearing, Roller Cup	1	
13	1510092	Bearing, Roller Cone	1	
14	1550230	Washer, Lock External Tooth	1	W10
15	1550138	Nut, Lock	1	N10
16	1010012	Cover, Wheel Hub	1	
17	ref.	Capscrew, Hex	4	3/8-16nc x 3/4
18	1501493	Tire, 385/65R 19.5	1	
	1501526	Tire, W/Rim	n/a	· · · · · · · · · · · · · · · · · · ·
19	1550142	Nut, Lug	8	9/16
20	1501494	Rim, 19.5 x 12.25 ldle	1	
	1501528	Stem, Valve - Tire 502	1	

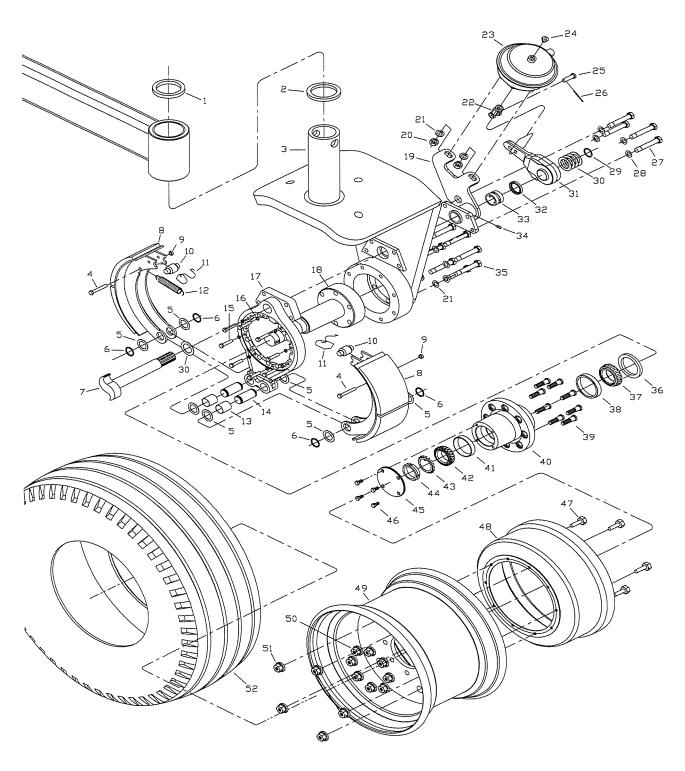
Wheel - With Brake



#### Wheel - With Brake Parts List

Item#	Part#	Description	Qty.	Remarks
1	1010049	Ring, Wheel Column Retaining	1	4
2	1010050	Spacer, Wheel Column Bronze	1	4 ID
3	7001022	Wheel Column Weldment	1	20-1/2 Drive
	7001031	Wheel Column Weldment	1	20-1/2 Idle Brake
4	ref.	Capscrew, Hex	2	3/8-16nc x 2-1/2
5	ref.	Washer, Brake Shoe	6	
6	ref.	Ring, Snap	4	
7	1501181	Cam, "S"	1	
8	1501183	Shoe	2	16-1/2 x 5
9	ref.	Nut, Hex	2	3/8-16nc lock
10	ref.	Roller, brake Shoe	2	
11	ref.	Retainer, Brake Shoe	2	
12	1502044	Spring, Brake Shoe Return	1	
13	ref.	Bushing, Brake Shoe Pin	2	
14	ref.	Pin, Brake Shoe	2	
15	ref.	Capscrew, Hex	6	3/8-16nc x 2
16	ref.	Washer, Split Lock	6	3/8
17	1501177	Spider, Brake	1	
18	4070145	Axle Adapter, Wheel Column	1	2-15/16 x 14
19	1201012	Bracket, Cam Shaft Wheel Brake	1	1-7/8
20	ref.	Nut, Hex	2	5/8-11nc
21	ref.	Washer, Split Lock	8	5/8
22	1501185	Clevis	1	
23	1501184	Can, Air Type 30	1	
	1541415	Tubing, Air Brake	n/a	· · · · · · · · · · · · · · · · · · ·
24	1541416	Fitting, Air AQ-68-P-4 x 6 Male	1	
25	ref.	Pin, Air Can Clevis	1	
26	ref.	Pin, Cotter	1	
27	ref.	Capscrew, Hex	4	1/2-13nc x 3-3/4
28	ref.	Washer, Split Lock	4	1/2
29	1550381	Ring, Snap	1	
	1550380	Washer, Cam	4	
31	1501180	Adjuster, Slack	1	
	1501189	Seal, S-Cam	1	W1
	1501190	Bushing, S-Cam	1	
	1540230	Fitting, Grease	1	1/8 NPTF
	ref.	Capscrew, Hex	4	m16 x 60
	1500367	Seal, Oil	1	417159

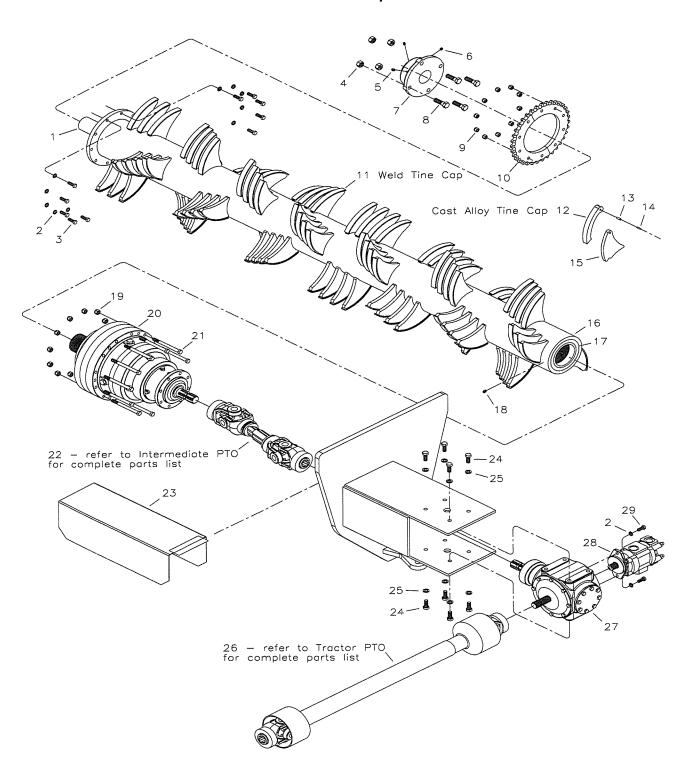
## Wheel - With Brake (cont.)



# Wheel - With Brake Parts List (cont.)

ltem#	Part#	Description	Qty.	Remarks
37	1510087	Bearing, Roller Cone	1	
38	1510131	Bearing, Roller Cup	1	
39	1550295	Stud, NAPA	8	9/16 x 2-15/16
40	1010076	Hub, Wheel 8000 lb	2	includes 38 & 41
41	1510225	Bearing, Roller Cup	1	
42	1510092	Bearing, Roller Cone	1	
43	1550230	Washer, Lock External Tooth	1	W10
44	1550138	Nut, Lock	1	N10
45	1010012	Cover, Wheel Hub	1	
46	Ref	Cap Screw, Hex	4	3/8-16NC x 3/4
47	1501179	Stud, Wheel	5	
	1501176	Drum, Brake	1	16-1/2
49	1501494	Rim, 8-hole	1	19.5 x 12.25 ldle
	1501528	Stem, Valve	1	502 Tire
	1550142	Nut, Lug Flat Mount	8	9/16NF
	1550151	Nut, Lug Flanged	5	3/4 NF W183
	1501493	Tire, 385/65R19.5	1	
	1501526	Tire, With Rim	1	Includes 49 & 52

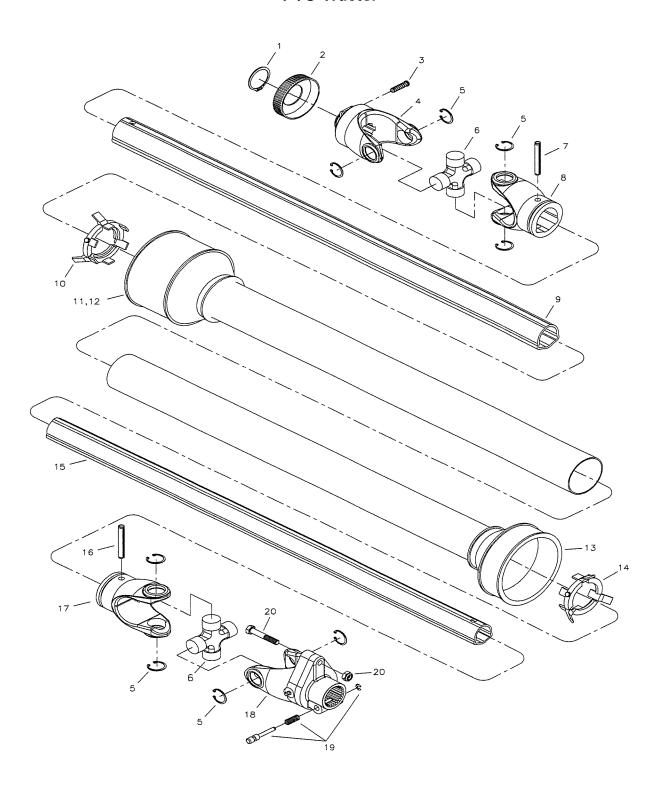
#### **Rotor Group**



## Rotor Group - Parts List

Item#	Part#	Description	Qty.	Remarks
1	6002008	Stub Shaft, Rotor Idle	1	2-15/16 x 15
2	ref.	Washer, Split Lock	12	1/2
3	ref.	Capscrew, Hex	10	1/2-13nc x 1-1/2
4	ref.	Nut, Hex	4	1/2-13nc lock
5	1541638	Fitting, Grease 1610-BL	1	1/8 PTF x 11/16
6	1550335	Screw, Set	2	3/8 x 1/2
7	1510025	Bearing, 4-Bolt Flange Spherical	1	2-15/16
8	ref.	Capscrew, Hex	4	3/4-10nc x 2-1/2
9	ref.	Nut, Hex	10	1/2-13nc lock
10	1120496	Sprocket, Beater Bar Drive	1	Rotor 100A35
11	1020001	Cap, Tine	108	1 x 3/16 x 8-13/17
12	1020021	Cap, Tine Removable Cast	108	
13	ref.	Pin, Slotted Spring	108	3/8×1 3/16×1 902790
14	ref.	Pin, Slotted Spring	108	5/16 x 1 907707
15	1020049	Tooth, Rotor 9/16 Drilled	108	, , , , , ,
16	4070112	Rotor, Sub Weldment	1	114" Planetary Drive
17	1020053	Billet, Planetary RA-5000	1	
	1020048	Billet, Grease Cap R3000	1	
18	ref.	Lubricator	1	1.20
19	ref.	Nut, Hex	12	3/4-10nc lock
20	1520391	Planetary, RR5000DM	1	
21	ref.	Capscrew, Hex	12	3/4-10nc x 8
22	1501352	Shaft, PTO #10	1	1-3/4 6T x 1-3/4 6T
23	4070155	Guard, PTO Intermediate	1	
24	ref.	Capscrew, Hex	8	m16 x 40
25	ref.	Washer, Split Lock	8	5/8
26	1501652	Shaft, PTO #10	1	1-3/4 20 x 1-3/4 20
37.50				
27	1520390	Gearbox, R150	1	
28	1541698	Pump, Hydraulic Tyrone	1	
29	ref.	Capscrew, Hex	2	m12 x 30

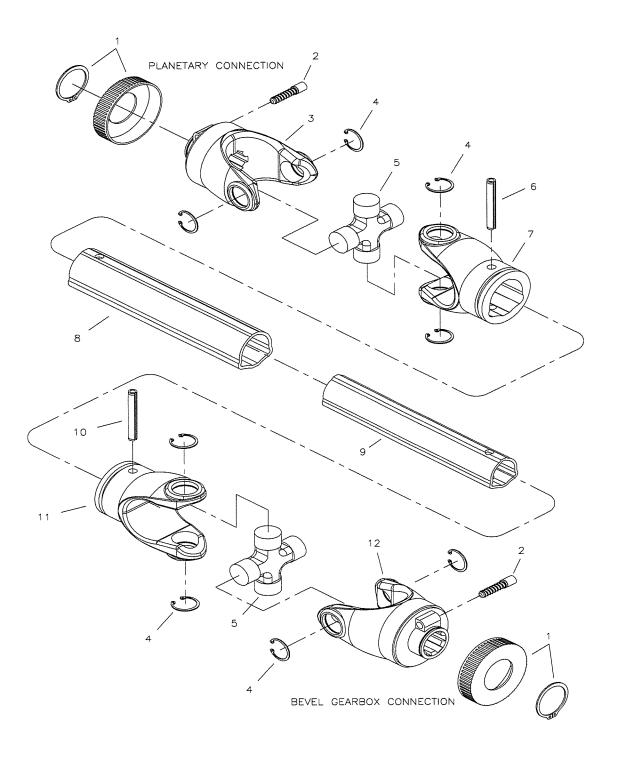
## PTO Tractor



#### PTO Tractor - Parts List

Item#	Part#	Description	Qty.	Remarks
1	Ref.	Ring, Retaining - Quick Disconnect Co	ollar 1	
2	Ref.	Collar, Quick Disconnect - w/Retaining		1
3	Ref.	Pin, Quick Disconnect - w/Spring	1	403000012R10
4	Ref.	Yoke, Tractor End - w/Collar & Pin	1	572103851
5	Ref.	Ring, Retaining - Bearing	8	338027000
6	1501754	U-Joint	2	41210
7	Ref.	Pin, Spring - Tractor End	1	341044000R10
8	Ref.	Yoke, Outer Tube	1	204106851
9	Ref.	Tube, Outer	1	
10	1501722	Bearing, Shield Outer	1	255080005R02
11	Ref.	Shield, Complete	1	
12	Ref.	Shield, Outer Half - w/Bearing	1	
13	Ref.	Shield, Inner Half - w/Bearing	1	
14	1501723	Bearing, Shield Inner	1	255080006R02
15	Ref.	Tube, Inner	1	
16	Ref.	Pin, Spring - Implement End	1	341045000R10
17	Ref.	Yoke, Inner Tube	1	204106852
18	Ref.	Yoke, Implement End	1	606010019R
19	Ref.	Pin, Taper Lock	1	401000026R10
20	Ref.	Pin, Shear - w/pin	1	433100010

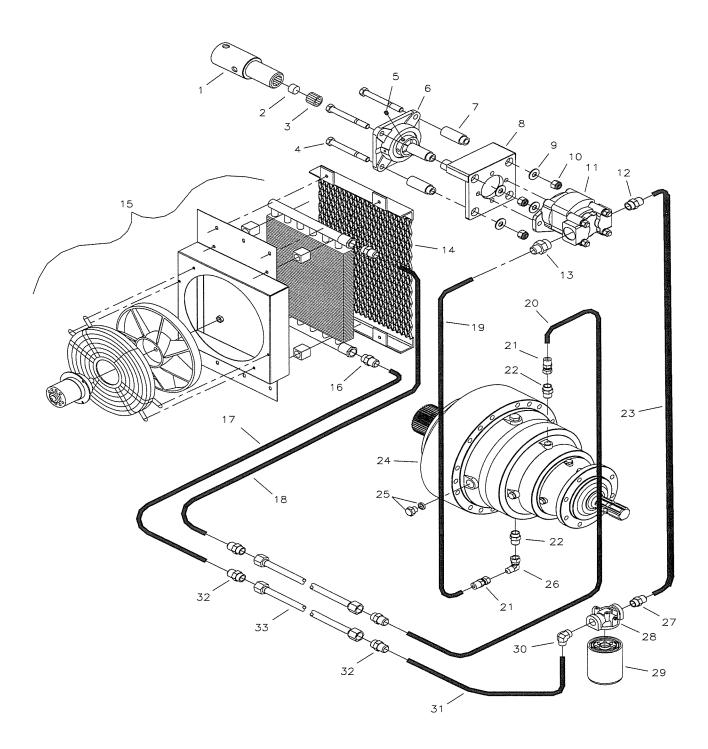
#### PTO Intermediate



## PTO Intermediate - Parts List

Item#	Part#	Description	Qty.	Remarks
Ref	1501352	Shaft, PTO - Intermediate	1	
1	Ref.	Kit, Collar	2	240003552
2	Ref.	Pin, Release	2	403000012R10
3	Ref.	Yoke, Outer - Includes Collar	1	572100461
4	Ref.	Ring, Retaining - Bearing	8	338027000
5	1501754	Bearing, U-Joint	2	41210
Ref	Ref.	Grease Fitting (not shown)	2	348004000
6.	Ref.	Pin, Roll	1	341045000R10
7.	Ref.	Yoke, Inner - Includes Roll Pin	1	204106852
8	Ref.	Tube, Outer	1	12514
9	Ref.	Tube, Inner	1	12515
10	Ref.	Pin, Roll	1	341044000R10
11	Ref.	Yoke, Inner - Includes Roll Pin	1	204106851
12	Ref.	Yoke, Outer, Includes Collar	1	572100461

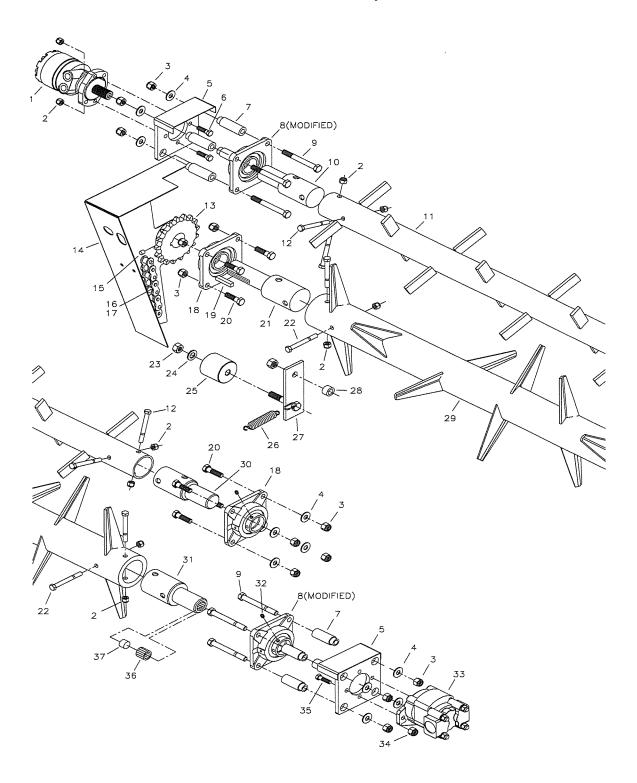
# Planetary Cooling System



# Planetary Cooling System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1020010	Shaft, Beater Bar Stub Drive	1	3-7/16
2	1100093	Spacer, Pump Coupling - Beater Driven	1	
3	1520766	Adaptor, Splined 1.25 14T to 7/8 13T	1	
4	ref.	Capscrew, Hex	4	5/8-11nc x 5-1/2
5	ref.	Lubricator	1	
6	1020035	Bearing, 4-Bolt Flange Shaved	1	2-3/16
7	1120058	Spacer, Beater Bar Motor Mount	4	
8	1020009	Mount, Beater Bar Hydraulic Motor	1	
9	ref.	Washer, Flat	4	5/8
10	ref.	Nut, Hex	4	5/8-11nc Lock
11	1541860	Pump, Hydraulic Tyrone 180cc	1	A PAD CW ROT
12	ref.	Coupler, Pump Pressure	1	
13	ref.	Coupler, Pump Suction	1	
14	ref.	Screen Chaff	1	
15	1502039	Cooler, Oil Hayden	1	
16	ref.	Coupler, Oil Cooler	2	
17	ref.	Hose Assembly, Pressure - Oil Cooler	1	
18	ref.	Hose Assembly, Return - Oil Cooler	1	
19	ref.	Hose Assembly, Suction - Pump	1	
20	ref.	Hose Assembly, Pressure - Planetary	1	
21	ref.	Coupler, Planetary Inlet	2	
22	ref.	Reducer, Planetary Ports	2	
23	ref.	Hose Assembly, Pressure - Pump	1	
24	1520391	Planetary, RR5000DM	1	
25	1501997	Gauge, Sight	1	3/8
26	ref.	Coupler, Planetary Outlet	1	
27	ref.	Coupler, Filter Inlet	1	
28	1540166	Base, Filter	1	
29	1540167	Filter, Hydraulic	1	
	ref.	Coupler, Filter Outlet	1	
	ref.	Hose Assembly, Filter Outlet	1	
	ref.	Coupler, Hardline	4	
33	ref.	Hardline Assembly	2	

## Beater Bar Group

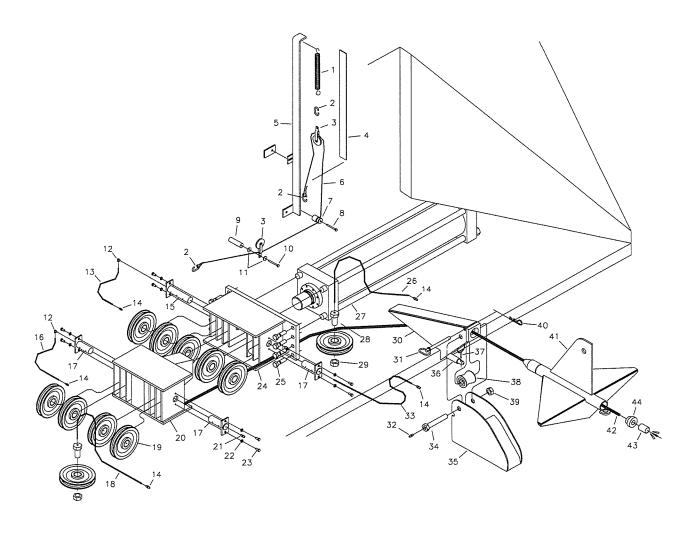


Appendix A

## Beater Bar Group - Parts List

22         ref.         Nut, Hex         8         1/2-13nc lock           33         ref.         Nut, Hex         8         5/8-11nc lock           43         ref.         Nut, Hex         8         5/8-11nc lock           45         ref.         Washer, Flat         8         5/8           45         1020009         Mount, Beater Bar Hydraulic Motor         2           46         1120058         Spacer, Beater Bar Motor Mount         8           47         1120058         Spacer, Beater Bar Motor Mount         8           48         1020035         Bearing, 4-Bolt Flange Shaved         2         2-3/16           49         ref.         Capscrew, Hex         8         5/8-11nc x 5-1/2           40         1020011         Shaft, Beater Bar Stub Drive         1         3 x 8-9/16           11         1020007         Beater, 9' Upper         1         107-1/4         1/2-13nc x 4-1/2           12         ref.         Capscrew, Hex         4         1/2-13nc x 4-1/2         1/2-3/16 Bore 1/2-KV           14         1020057         Guard, Beater Bar Chain Rotor Driven         1         1         2-3/16 Bore 1/2-KV           15         ref.         Screw, Set         1	Item#	Part#	Description	Qty.	Remarks
Tef.   Nut, Hex   Section   Sectio	1	1540935	Motor, Hydraulic White Splined	1	
Tef.   Washer, Flat   S   5/8	2	ref.	Nut, Hex	8	1/2-13nc lock
1020009	3			8	5/8-11nc lock
6         ref.         Capscrew, Hex         2         1/2-13nc x 1-3/4           7         1120058         Spacer, Beater Bar Motor Mount         8           8         1020035         Bearing, 4-Bolt Flange Shaved         2         2-3/16           9         ref.         Capscrew, Hex         8         5/8-11nc x 5-1/2           10         1020011         Shaft, Beater Bar Stub Drive         1         3 x 8-9/16           11         1020007         Beater, 9' Upper         1         107-1/4           12         ref.         Capscrew, Hex         4         1/2-13nc x 4-1/2           13         1520672         Sprocket, 100B17         1         2-3/16 Bore 1/2-KV           14         1020057         Guard, Beater Bar Chain Rotor Driven         1         1/2 x 5/8           15         ref.         Screw, Set         1         1/2 x 5/8           16         1520341         Chain, Roller 100H Super Rivet         1         1           17         1520342         Link, Conn 100H         1         2-3/16           18         1510037         Bearing, 4-Bolt Flange F4B-SC-203         1         2-3/16           19         1120074         Key         1         1/2 x 1/2 x 3 long	4			8	5/8
1120058	5	1020009	Mount, Beater Bar Hydraulic Motor	2	
1020035   Bearing, 4-Bolt Flange Shaved   2   2-3/16   Fref.   Capscrew, Hex   8   5/8-11nc x 5-1/2   10   1020011   Shaft, Beater Bar Stub Drive   1   3 x 8-9/16   1020007   Beater, 9' Upper   1   107-1/4   1020007   Beater, 9' Upper   1   107-1/4   1020057   Guard, Beater Bar Chain Rotor Driven   1   2-3/16 Bore 1/2-KV   1020057   Guard, Beater Bar Chain Rotor Driven   1   1/2 x 5/8   1520341   Chain, Roller 100H Super Rivet   1   1/2 x 5/8   1520342   Link, Conn 100H   1   1   1   1   1   1   1   1   1	6			2	1/2-13nc x 1-3/4
ref. Capscrew, Hex 8 5/8-11nc x 5-1/2 10 1020011 Shaft, Beater Bar Stub Drive 1 3 x 8-9/16 11 1020007 Beater, 9' Upper 1 107-1/4 12 ref. Capscrew, Hex 4 1/2-13nc x 4-1/2 13 1520672 Sprocket, 100B17 1 2-3/16 Bore 1/2-KV 14 1020057 Guard, Beater Bar Chain Rotor Driven 1 15 ref. Screw, Set 1 1/2 x 5/8 16 1520341 Chain, Roller 100H Super Rivet 1 17 1520342 Link, Conn 100H 1 18 1510037 Bearing, 4-Bolt Flange F4B-SC-203 1 2-3/16 19 1120074 Key 1 1/2 x 1/2 x 3 long ref. Capscrew, Hex 8 5/8-11nc x 2-1/2 10 1020056 Shaft, Beater Bar Stub Chain Drive 1 3-7/16 12 ref. Capscrew, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 ref. Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020072 Spacer, Beater Chain Tensioner 1 1020012 Shaft, Beater Bar Stub Drive 1 3-7/16 ref. Lubricator 1 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT ref. Capscrew, Hex 4 7/16-14nc k 1-1/2 ref. The Ref Ref Ref	7			8	
10	8	1020035	Bearing, 4-Bolt Flange Shaved	2	2-3/16
11 1020007 Beater, 9' Upper 1 107-1/4 12 ref. Capscrew, Hex 4 1/2-13nc x 4-1/2 13 1520672 Sprocket, 100B17 1 2-3/16 Bore 1/2-KV 14 1020057 Guard, Beater Bar Chain Rotor Driven 1 15 ref. Screw, Set 1 1/2 x 5/8 16 1520341 Chain, Roller 100H Super Rivet 1 17 1520342 Link, Conn 100H 1 18 1510037 Bearing, 4-Bolt Flange F4B-SC-203 1 2-3/16 19 1120074 Key 1 1/2 x 1/2 x 3 long ref. Capscrew, Hex 8 5/8-11nc x 2-1/2 10 1020056 Shaft, Beater Bar Stub Chain Drive 1 3-7/16 12 ref. Capscrew, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 16 ref. Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 10 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 10 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 12 ref. Lubricator 1 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT 7/16-14nc lock 7/16-14nc x 1-1/2	9		Capscrew, Hex	8	5/8-11nc x 5-1/2
12         ref.         Capscrew, Hex         4         1/2-13nc x 4-1/2           13         1520672         Sprocket, 100B17         1         2-3/16 Bore 1/2-KV           14         1020057         Guard, Beater Bar Chain Rotor Driven         1         1         2-3/16 Bore 1/2-KV           15         ref.         Screw, Set         1         1/2 x 5/8         1         1/2 x 5/8           16         1520341         Chain, Roller 100H Super Rivet         1         1         1         1/2 x 5/8           16         1520342         Link, Conn 100H         1         1         1         2-3/16           18         1510037         Bearing, 4-Bolt Flange F4B-SC-203         1         2-3/16         1         2-3/16         1         1         2-3/16         1         1         2-3/16         1         1         2-3/16         1         2-3/16         1         1         2-3/16         1         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1         2-3/16         1			Shaft, Beater Bar Stub Drive	1	3 x 8-9/16
1520672   Sprocket, 100B17   1   2-3/16 Bore 1/2-KV   1020057   Guard, Beater Bar Chain Rotor Driven   1   1/2 x 5/8   1   1		1020007	Beater, 9' Upper	1	107-1/4
14         1020057         Guard, Beater Bar Chain Rotor Driven         1           15         ref.         Screw, Set         1         1/2 x 5/8           16         1520341         Chain, Roller 100H Super Rivet         1         1           17         1520342         Link, Conn 100H         1         1           18         1510037         Bearing, 4-Bolt Flange F4B-SC-203         1         2-3/16           19         1120074         Key         1         1/2 x 1/2 x 3 long           20         ref.         Capscrew, Hex         8         5/8-11nc x 2-1/2           21         1020056         Shaft, Beater Bar Stub Chain Drive         1         3-7/16           22         ref.         Capscrew, Hex         4         1/2-13nc x 5           23         ref.         Nut, Hex         2         3/4-10nc lock           24         ref.         Washer, Flat         2         3/4           25         1020064         Tensioner, Beater Chain UHMW         1         3-1/4 X 3           26         ref.         Spring         1           27         1020075         Barcket Weldment, Tensioner Spring         1           28         1020072         Spacer, Beater			Capscrew, Hex	4	1/2-13nc x 4-1/2
15         ref.         Screw, Set         1         1/2 x 5/8           16         1520341         Chain, Roller 100H Super Rivet         1           17         1520342         Link, Conn 100H         1           18         1510037         Bearing, 4-Bolt Flange F4B-SC-203         1         2-3/16           19         1120074         Key         1         1/2 x 1/2 x 3 long           20         ref.         Capscrew, Hex         8         5/8-11nc x 2-1/2           21         1020056         Shaft, Beater Bar Stub Chain Drive         1         3-7/16           22         ref.         Capscrew, Hex         4         1/2-13nc x 5           23         ref.         Nut, Hex         2         3/4-10nc lock           24         ref.         Washer, Flat         2         3/4           25         1020064         Tensioner, Beater Chain UHMW         1         3-1/4 X 3           26         ref.         Spring         1           27         1020075         Barcket Weldment, Tensioner Spring         1           28         1020072         Spacer, Beater Chain Tensioner         1           29         1020005         Beater, 9' Lower         1         3 x 8-			Sprocket, 100B17	1	2-3/16 Bore 1/2-KW
1520341		1020057	Guard, Beater Bar Chain Rotor Driven	1	
17       1520342       Link, Conn 100H       1         18       1510037       Bearing, 4-Bolt Flange F4B-SC-203       1       2-3/16         19       1120074       Key       1       1/2 x 1/2 x 3 long         20       ref.       Capscrew, Hex       8       5/8-11nc x 2-1/2         21       1020056       Shaft, Beater Bar Stub Chain Drive       1       3-7/16         22       ref.       Capscrew, Hex       4       1/2-13nc x 5         23       ref.       Nut, Hex       2       3/4-10nc lock         24       ref.       Washer, Flat       2       3/4         25       1020064       Tensioner, Beater Chain UHMW       1       3-1/4 X 3         26       ref.       Spring       1         27       1020075       Barcket Weldment, Tensioner Spring       1         28       1020072       Spacer, Beater Chain Tensioner       1         29       1020005       Beater, 9' Lower       1       107-1/4         30       1020012       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         31       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         31       1541860       Pump, Hydrau				1	1/2 x 5/8
18       1510037       Bearing, 4-Bolt Flange F4B-SC-203       1       2-3/16         19       1120074       Key       1       1/2 x 1/2 x 3 long         20       ref.       Capscrew, Hex       8       5/8-11nc x 2-1/2         21       1020056       Shaft, Beater Bar Stub Chain Drive       1       3-7/16         22       ref.       Capscrew, Hex       4       1/2-13nc x 5         23       ref.       Nut, Hex       2       3/4-10nc lock         24       ref.       Washer, Flat       2       3/4         25       1020064       Tensioner, Beater Chain UHMW       1       3-1/4 X 3         26       ref.       Spring       1         27       1020075       Barcket Weldment, Tensioner Spring       1         28       1020072       Spacer, Beater Chain Tensioner       1         29       1020005       Beater, 9' Lower       1       107-1/4         30       1020010       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         31       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         4       ref.       Lubricator       1       A PAD CW ROT         3       1541860	6	1520341	Chain, Roller 100H Super Rivet	1	
1120074 Key 1 1/2 x 1/2 x 3 long 1120074 Key 1 1/2 x 1/2 x 3 long 1120075 Shaft, Beater Bar Stub Chain Drive 1 3-7/16 112 ref. Capscrew, Hex 2 ref. Vut, Hex 3 ref. Washer, Flat 1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 1020075 Barcket Weldment, Tensioner Spring 1020075 Barcket Weldment, Tensioner 10200075 Beater, 9' Lower 10200075 Beater, 9' Lower 10200075 Beater, 9' Lower 10200075 Shaft, Beater Bar Stub Idle 1020010 Shaft, Beater Bar Stub Drive 1020010 Shaft, Beater Bar Stub Drive 1120010 Shaft, Beater Bar Stub Drive 123	17	1520342	Link, Conn 100H	1	
ref. Capscrew, Hex 8 5/8-11nc x 2-1/2 1020056 Shaft, Beater Bar Stub Chain Drive 1 3-7/16 ref. Capscrew, Hex 4 1/2-13nc x 5 ref. Nut, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 ref. Spring 1 ref. S		1510037	Bearing, 4-Bolt Flange F4B-SC-203	1	2-3/16
ref. Capscrew, Hex 8 5/8-11nc x 2-1/2 1020056 Shaft, Beater Bar Stub Chain Drive 1 3-7/16 ref. Capscrew, Hex 4 1/2-13nc x 5 ref. Nut, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 ref. Spring 1 1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 ref. Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020072 Spacer, Beater Chain Tensioner 1 107-1/4 1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16 ref. Lubricator 1 1040010 Shaft, Beater Bar Stub Drive 1 3-7/16 ref. Lubricator 1 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT ref. Nut, Hex 2 7/16-14nc lock 7/16-14nc x 1-1/2 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	9	1120074	Key	1	1/2 x 1/2 x 3 long
ref. Capscrew, Hex 4 1/2-13nc x 5 ref. Nut, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 ref. Spring 1 ref. Spring	20	ref.	Capscrew, Hex	8	
ref. Nut, Hex 2 3/4-10nc lock ref. Washer, Flat 2 3/4 1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 ref. Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 28 1020072 Spacer, Beater Chain Tensioner 1 1020005 Beater, 9' Lower 1 107-1/4 1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16 11 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 12 ref. Lubricator 1 13 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT 1540 ref. Nut, Hex 2 7/16-14nc lock 7/16-14nc x 1-1/2 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	21	1020056	Shaft, Beater Bar Stub Chain Drive	1	3-7/16
ref. Washer, Flat 2 3/4  1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3  ref. Spring 1  1020075 Barcket Weldment, Tensioner Spring 1  1020072 Spacer, Beater Chain Tensioner 1  1020005 Beater, 9' Lower 1 107-1/4  1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16  1 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16  ref. Lubricator 1  1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT ref. Nut, Hex 2 7/16-14nc lock 7/16-14nc x 1-1/2  ref. Capscrew, Hex 4 7/16-14nc x 1-1/2  6 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	22	ref.	Capscrew, Hex	4	1/2-13nc x 5
1020064 Tensioner, Beater Chain UHMW 1 3-1/4 X 3 ref. Spring 1 1020075 Barcket Weldment, Tensioner Spring 1 1020072 Spacer, Beater Chain Tensioner 1 107-1/4 1020005 Beater, 9' Lower 1 107-1/4 1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16 1 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT 1 4 ref. Nut, Hex 2 7/16-14nc lock 7/16-14nc lock 7/16-14nc x 1-1/2 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	23	ref.	Nut, Hex	2	3/4-10nc lock
26       ref.       Spring       1         27       1020075       Barcket Weldment, Tensioner Spring       1         28       1020072       Spacer, Beater Chain Tensioner       1         29       1020005       Beater, 9' Lower       1       107-1/4         30       1020012       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         4       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         2       ref.       Lubricator       1       A PAD CW ROT         3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1			Washer, Flat	2	3/4
17       1020075       Barcket Weldment, Tensioner Spring       1         18       1020072       Spacer, Beater Chain Tensioner       1         19       1020005       Beater, 9' Lower       1       107-1/4         10       1020012       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         1       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         2       ref.       Lubricator       1       A PAD CW ROT         3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	25	1020064	Tensioner, Beater Chain UHMW	1	3-1/4 X 3
1020072 Spacer, Beater Chain Tensioner 1 1020005 Beater, 9' Lower 1 107-1/4 1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16 1 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 2 ref. Lubricator 1 3 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT 7/16-14nc lock 7/16-14nc lock 7/16-14nc x 1-1/2 5 ref. Capscrew, Hex 4 7/16-14nc x 1-1/2 6 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	:6	ref.	Spring	1	
8       1020072       Spacer, Beater Chain Tensioner       1         9       1020005       Beater, 9' Lower       1       107-1/4         0       1020012       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         1       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         2       ref.       Lubricator       1       A PAD CW ROT         3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	:7	1020075	Barcket Weldment, Tensioner Spring	1	
9 1020005 Beater, 9' Lower 1 107-1/4 0 1020012 Shaft, Beater Bar Stub Idle 1 3 x 8-9/16 1 1020010 Shaft, Beater Bar Stub Drive 1 3-7/16 2 ref. Lubricator 1 3 1541860 Pump, Hydraulic Tyrone 180CC 1 A PAD CW ROT 4 ref. Nut, Hex 2 7/16-14nc lock 5 ref. Capscrew, Hex 4 7/16-14nc x 1-1/2 6 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	8	1020072		1	
10       1020012       Shaft, Beater Bar Stub Idle       1       3 x 8-9/16         11       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         12       ref.       Lubricator       1       A PAD CW ROT         13       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         14       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	9	1020005		1	107-1/4
1       1020010       Shaft, Beater Bar Stub Drive       1       3-7/16         2       ref.       Lubricator       1         3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	0	1020012	Shaft, Beater Bar Stub Idle	1	
2       ref.       Lubricator       1         3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	1	1020010		1	
3       1541860       Pump, Hydraulic Tyrone 180CC       1       A PAD CW ROT         4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1	2	ref.		1	
4       ref.       Nut, Hex       2       7/16-14nc lock         5       ref.       Capscrew, Hex       4       7/16-14nc x 1-1/2         6       1520766       Adaptor, Splined 1.25 14T to 7/8 13T       1					A PAD CW ROT
5 ref. Capscrew, Hex 4 7/16-14nc x 1-1/2 6 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1				•	
6 1520766 Adaptor, Splined 1.25 14T to 7/8 13T 1	5	ref.			
The state of the s		1100093	Spacer, Pump Coupling - Beater Driven	1	

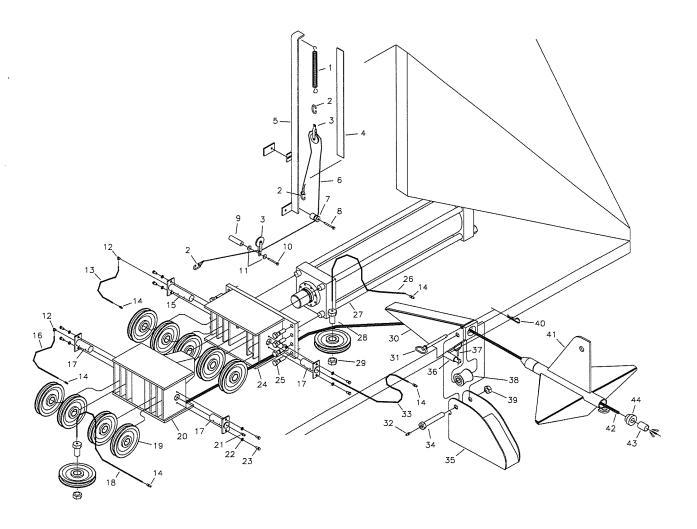
# HyPac System



# HyPac System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1501441	Spring, Extension	1	
2	1501440	Link, Quick	3	
3	1501439	Pulley	2	
4	1100078	Decal, Anchor Indicator	1	***************************************
5	1120500	Indicator Assembly, Anchor	1	
6a	1590049	Cable, Aircraft	1	30-feet
6b	1501442	Sleeve, Micropress crimped	2	
7	1120545	Roller, Anchor Indicator	1	
8	ref.	Cap Screw, Hex Head	1	1/4-20nc x 2-1/2
9	ref.	Extension, Pulley	1	
10	ref.	Cap Screw, Hex	1	1/4-20nc x 2
11	ref.	Washer, flat	2	1/4
12	1540453	Fitting, Hydraulic	2	
13	ref.	Grease Whip	1	48-inches
14	ref.	Grease Zerk	5	1/8 FNPT
15	1030090	Pin, Anchor Cylinder - long	1	
16	ref.	Grease Whip	1	24-inches
17	1030091	Pin, Anchor Cylinder - short	3	
18	ref.	Grease Whip	1	18-inches
19	1060156	Pulley, Anchor Cylinder	11	
20	1206079	Cylinder, Head	1	
21	ref.	Grease zerk	4	1/8 MNPT
22	ref.	Washer, Spring Lock	8	3/8
23	ref.	Cap Screw, Hex Head	8	3/8-16NC x 3/4
24	ref.	Cylinder, Mount	1	
25	ref.	Cap Screw, Hex Head	8	3/4-10 NC x 2-3/4
26	ref.	Grease Whip	1	38-inches
27	1541802	Cylinder, Hydraulic Tie Rod	1	
28	1060163	Pin, Anchor Cylinder Outlet Pulley	2	
29	ref.	Nut, Hex	2	1-8nc Lock
30	ref.	Access Plate Parts	2	
30a	ref.	Side Plate - access	ref	
30b	ref.	Top Plate - access	ref	
30c	ref.	Seat, Anchor	ref	
31	1550172	Pin	2	
32	ref.	Grease Zerk	2	1/4-28
33	ref.	Grease Whip	1	30-inches
34	1206076	Bolt, Anchor Fairlead	2	
		,	<b></b>	1/4-28 30-inches
				on co

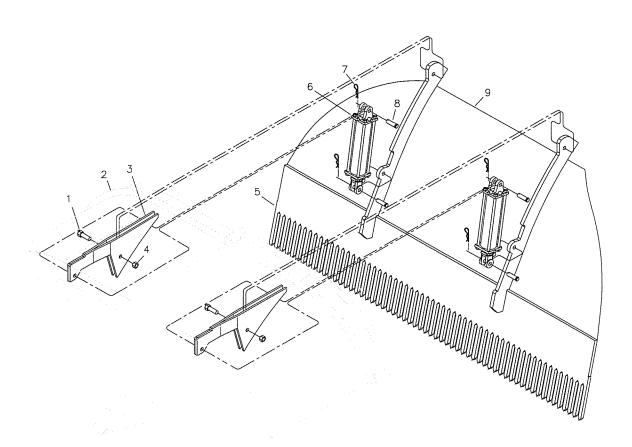
# HyPac System (cont.)



# HyPac System - Parts List

Item#	Part#	Description	Qty.	Remarks
35	1030093	Kit, Anchor Support	2	bolt, nut, shaft and block
36	ref.	Shaft, Anchor Support lock	2	
37	1550184	Pin, snap	2	
38	1030080	Fairlead, roller	2	
39	ref.	Nut, Hex	2	1-8nc Jam Lock
40	ref.	Pin, Hair	2	
41	1030084	Anchor	2	30-inch
	1030073	Anchor	2	27-inch
42a	1590058	Cable, Right - blank ends	1	5/8 x 34ft
42b	1590059	Cable, Left - blank ends	1	5/8 x 30ft not shown
43	1501401	Cable, Quick Knob	2	
44	1030095	Retainer, Cable Quick Knob	2	

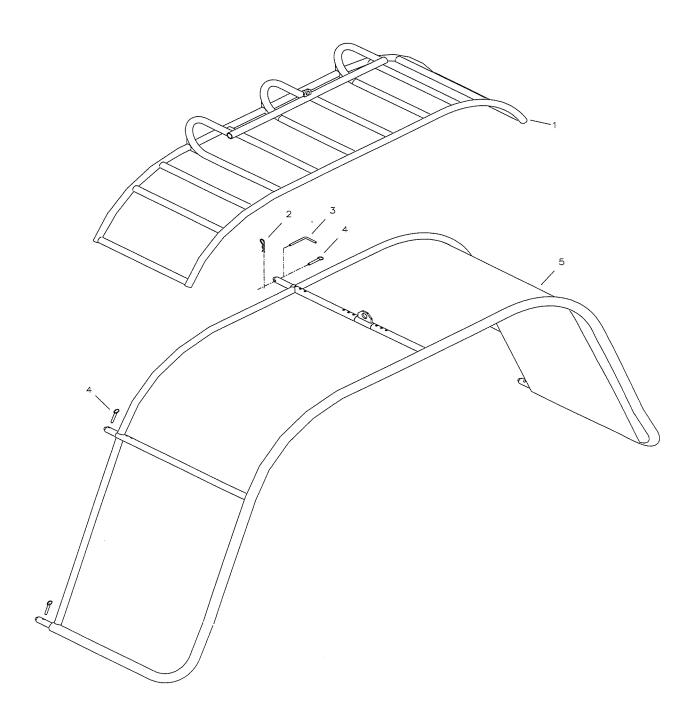
## Tunnel Clean Out System



#### Tunnel Clean Out System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	ref.	Cap Screw, Hex	2	1-8nc x 4
2	ref.	Tunnel Shell	1	
3	1060157	Mount, Tunnel Clean Out & Cylinder	2	
4	ref.	Nut, Hex	2	1-8nc
5	4076000	Stripper Bar, Tunnel Clean Out	.5	
6	1541584	Cylinder, Hydraulic	2	
7	ref.	Pin, Hair cotter	4	
8	ref.	Pin, Clevis	4	
9	ref.	Tunnel Clean Out	1	

#### Tunnel Extension & Cradle

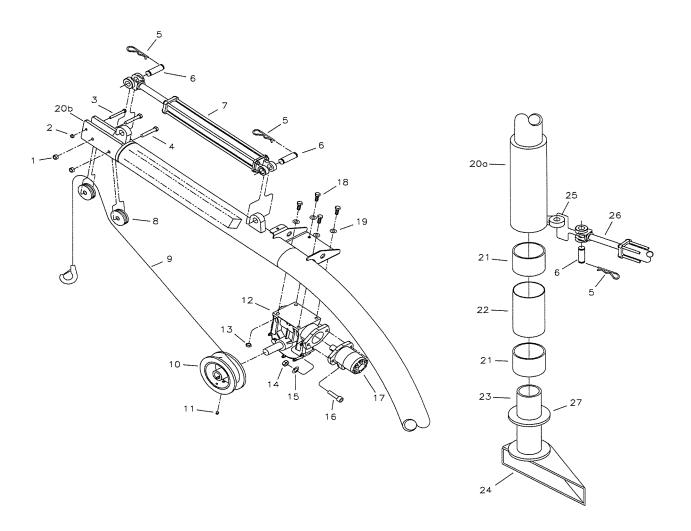


#### Tunnel Extension & Cradle - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1060009	Cradle, Bag - 12' & 14'	1	
2	Ref.	Pin, Hair	1	
3	Ref.	Pin, Transport Lock	1	
4	1550301	Pin, Self Locking	5	1/2 x 2-1/2
5	1206014	Extension, Tunnel - 12'	1	

Tunnel Bunger 42.1560000

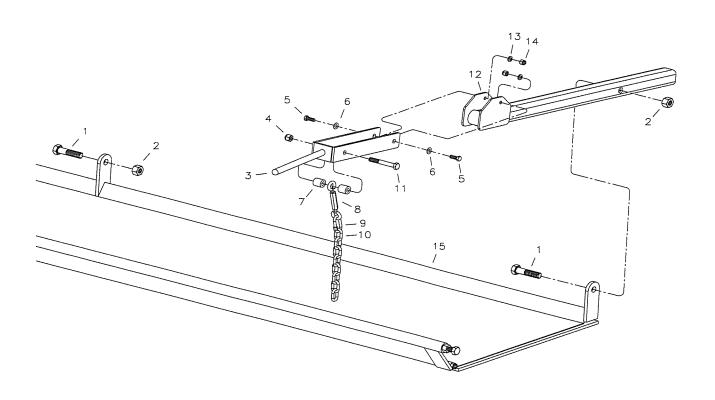
# Bag Boom - 12'



## Bag Boom - Parts List

Item#	Part#	Description	Qty.	Remarks
1	Ref.	Nut	2	5/8-11nc
2	Ref.	Nut	1	5/16-18nc
3	Ref.	Capscrew, Hex	1	5/16-18nc x 2
4	Ref.	Capscrew, Hex	2	5/8-11nc x 3
5	Ref.	Pin, Hair Cotter	4	
6	Ref.	Pin, Cylinder	4	
7	1541739	Cylinder, Hydraulic	1	2 x 20
8	1060144	Pulley, Bag Boom	2	3" steel with bushing
9	1590055	Cable, With Hook	1	5/16 x 23 foot
10	1501622	Spool, bag Boom Cable	1	
11	Ref.	Screw, Set	1	3/8-16nc
12	1520339	Gearbox, Right Angle	1	
13	Ref.	Nut, Hex	4	7/16-14nc
14	Ref.	Nut, Hex	2	1/2-13nc
15	Ref.	Washer, Flat	2	1/2
16	Ref.	Capscrew, Socket	2	1/2-13nc x 2
17	1540904	Motor, Hydraulic 2 Bolt	1	
18	Ref.	Capscrew, Hex	4	7/16-14nc x 1-1/2
19	Ref.	Washer, Flat	4	7/16
20a	1060169	Bag Boom Frame w/extension	1	
20b	Ref.	Extension, Bag Boom	1	
21	Ref.	Bearing, Bronze	2	Commence of the Commence of th
22	Ref.	Sleeve, Bearing Spacer	1	
23	1060168	Mount, Bag Boom	1	12" and 14"
24	Ref.	Frame, Mounting	1	
25	Ref.	Bracket, Cylinder - Boom	2	
26	1540097	Cylinder, Hydraulic	1	2-1/2 x 10
27	1291923	Spacer, Bronze	1	5-inch

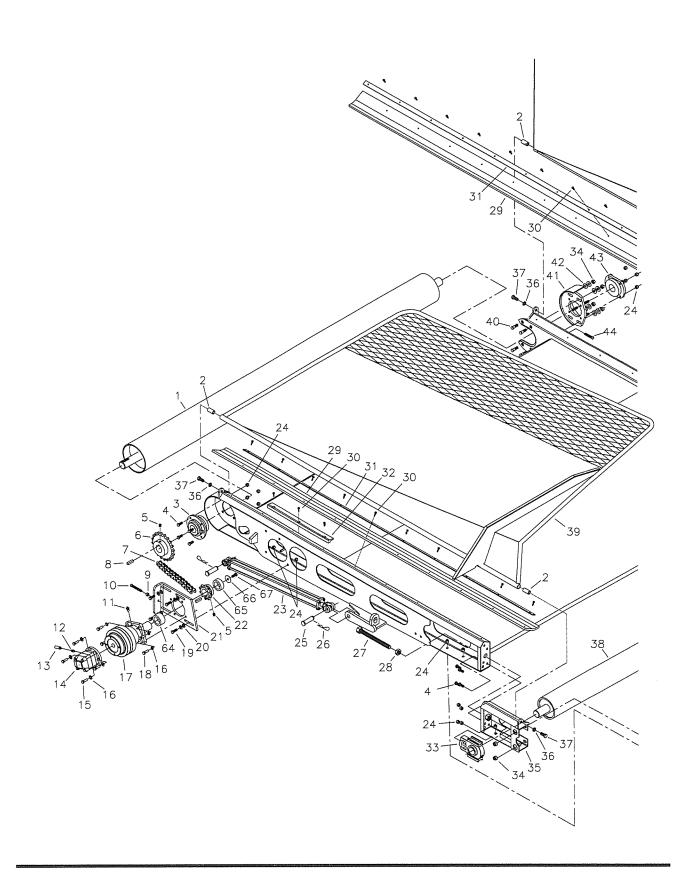
## Bag Pan System



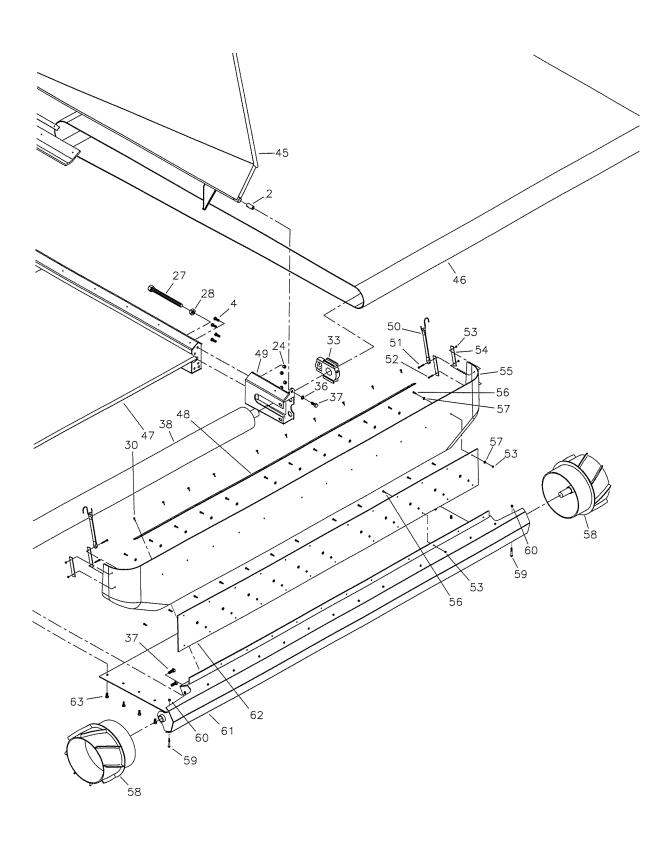
## Bag Pan System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	Ref.	Capscrew, Hex	3	3/4-10nc x 3
2	Ref.	Nut, Hex	3	3/4-10nc lock
3	Ref.	Lever, Crank, Bag Pan Lift	2	
4	Ref.	Nut, Hex	2	1/2-13nc lock
5	Ref.	Capscrew, Hex	4	3/8-16nc x 1
6	Ref.	Washer, Flat	4	3/8
7	Ref.	Spacer, Bag Pan Crank	4	
8	1500577	Turnbuckle, Eye to Eye	2	5/16 x 4-1/2
9	1501509	Link, Quick	1	1/4
10	1520702	Chain	2	1/4 7-links
11	Ref.	Capscrew, Hex	2	1/2-13nc x 3-1/2
12	1060029	Lever, Bag Pan Lift	2	
13	Ref.	Washer, Split Lock	4	
14	Ref.	Nut, Hex	4	3/8nc lock
15	4070096	Bag Pan	1	

Feed Table - Drive End



Feed Table - Idle End



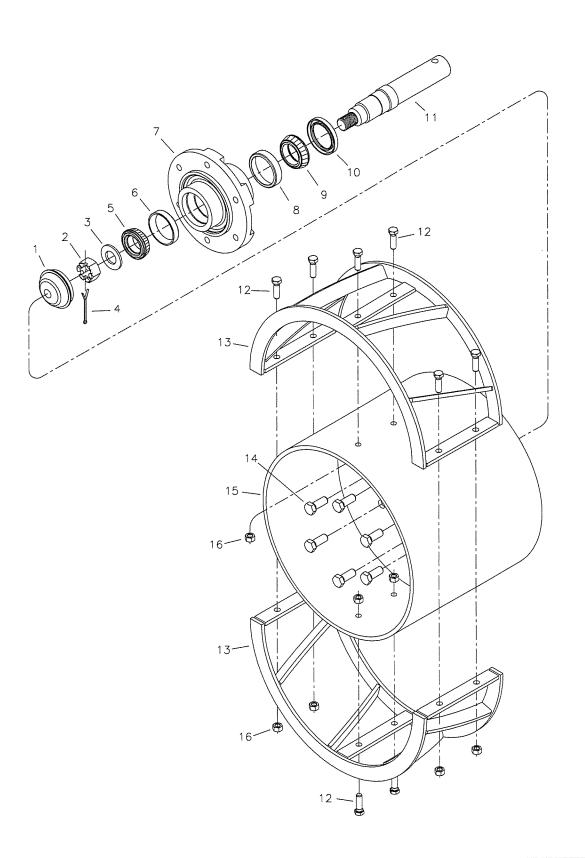
#### Feet Table Drive and Idle End - Part List

Item#	Part#	Description	Qty.	Remarks
1	1080043	Roller, Feed Table Drive	1	
2	1080050	Bushing, Feed Table Wing	4	
3	1510031	Bearing	11	
1	ref.	Cap Screw, Hex	12	1/2-13NC x 1-1/4 G5
5	ref.	Screw, Set	2	1/2
3	1520104	Sprocket	1	
7	1520341	Chain, Roller 100H Super	5.5'	
	1520342	Link, Connecting 100H	1	Not Shown
}	1080082	Key	2	
)	ref.	Nut, Hex	1	1/2-13NC
0	1550404	Cap Screw	1	
1	1540313	Fitting, Hydraulic	1	
	1100090	Kit, Vent - Feed Table Planetary	ref	Not Shown
2	1540566	Fitting, Hydraulic	1	
3	ref.	Hose Assembly	1	Motor Case Drain
4	1520763	Motor, Hydraulic	1	
5	ref.	Cap Screw, Hex	4	M12 x 1-1/2 x 30
6	ref.	Washer, Split Lock	8	1/2
7	1541844	Planetary	1	
8	ref.	Cap Screw, Socket	4	1/2-13NC x 1-3/4
19	ref.	Cap Screw, Hex	4	1/2-13NC x 1-1/2
20	ref.	Washer, Flat	8	1/2
21	1080202	Mount, Feed Table Hydraulic Motor	1	
22	1520762	Sprocket	1	
23	1540102	Cylinder, Hydraulic	2	
24	ref.	Nut, Hex	28	1/2-13NC lock
25	ref.	Pin, Cylinder Clevis	4	
26	ref.	Pin, Hair	4	
27	1080000	Adjuster, Feed Table Roller	2	
28	1550111	Nut, Hex Jam	2	
29	ref.	Skirt, Feed Table Side 42.1500407	2	
30	ref.	Screw, Hex Self Tapping	ref	1/4 x 3/4
31	1080054	Strip, Feed Table Skirting	2	
32	1080024	Guide, Feed Table Belt	ref	
33	1510251	Bearing	2	
34	ref.	Nut, Hex	8	5/8-11NC lock
35	1080180	Section, Feed Table Frame	1	
36	ref.	Washer, Split Lock	4	5/8
37	ref.	Cap Screw, Hex	8	5/8-11NC X 1-1/2 G5
38	1080154	Roller, Feed Table Idle	1	
39	1080204	Wing, Feed Table Extended	1	Left Side
40	1550102	Bolt, Hub	4	

#### Feet Table Drive and Idle End - Part List

ltem#	Part#	Description	Qty.	Remarks
41	1080064	Mount, Feed Table Bearing Adjust	1	
42	ref.	Washer, Flat	8	5/8
43	1080182	Bearing	1	
44	1550101	Cap Screw	1	
45	1080203	Wing, Feed Table Extended	1	Right
46	1500028	Belt, Feed Table Continuous	1	J
47	1080022	Frame	1	
48	1080205	Strip, Feed Table Skirting	1	
49	1120519	Section, Feed Table Frame	1	Right
50	1120007	Bungee	2	10-inch
51	ref.	Cap Screw	2	1/4-20NC x 2
52	ref.	Cap Screw	2	1/4-20NC x 1-1/2
53	ref.	Nut, Hex	ref	1/4-20NC lock
54	1080004	Bracket, Skirting Small	2	
55	ref.	Skirting, Front	1	9 foot
56	ref.	Cap Screw	ref	1/4-20NC x 1
57	ref.	Washer, Flat	ref	1/4
58	1080169	Wheel, Feed Table	2	
59	ref.	Cap Screw, Hex	2	3/8-16NC x 2-1/2
30	ref.	Nut, Hex	2	3/8-16NC
31	1080193	Bumper	1	
62	1120282	UHMW	1	
33	ref.	Cap Screw	8	1/2-13NC x 1
64	1080211	Bushing, outer long	1	
35	1080212	Bushing, inner - short	1	
66	1080215	Washer, Feed Table Planetary Shaft	1	
37	ref.	Cap Screw	1	1/2-20NF x 1-1/4

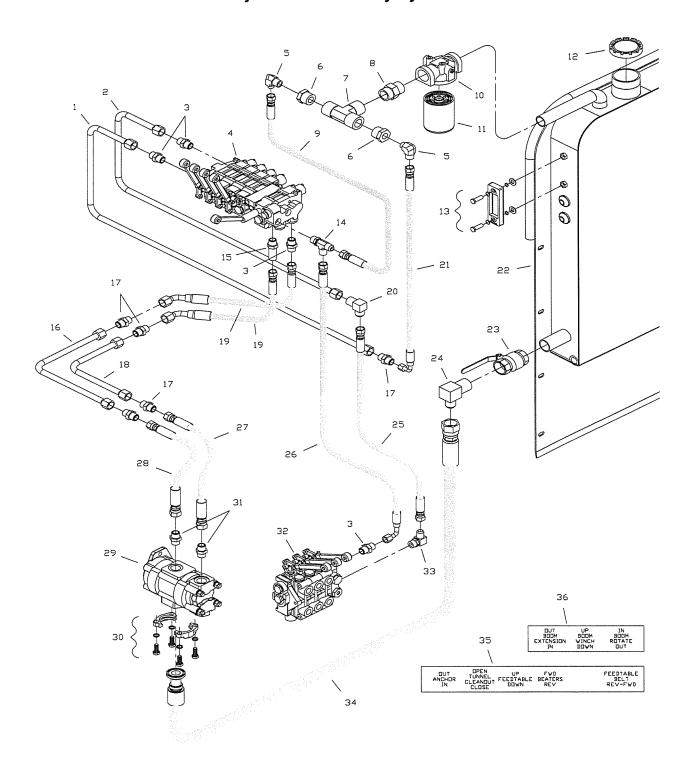
#### Feed Table Wheel



#### Feed Table Wheel - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1500070	Cap, Dust	1	
2	ref.	Nut	1	
3	1550211	Washer, Flat	1	
4	ref.	Hair Pin	1	
5	1510113	Bearing, Roller Cone	1	
6	1510093	Bearing, Roller Cup	1	
7	1501875	Hub, Wheel W888 Tapped Holes	1	Includes items 6 and 8
8	1510073	Bearing, Roller Cup	1	
9	1510183	Bearing, Roller Cone	1	
10	ref.	Grease Seal	1	
11	1080210	Axle, Feed Table Wheel	1	
12	1550059	Cap Screw, Hex	8	
13	1080207	Cleat Assembly, Feed Table Wheel	1	
14	1550257	Bolt, Hub	6	
15	1080208	Wheel, Feed Table	1	
16	1550129	Nut, Hex	8	
ref.	1080169	Feed Table Wheel Complete		
ref	1010087	Kit, Hub Repair W888		Includes 1,2,3,4,5,9,10

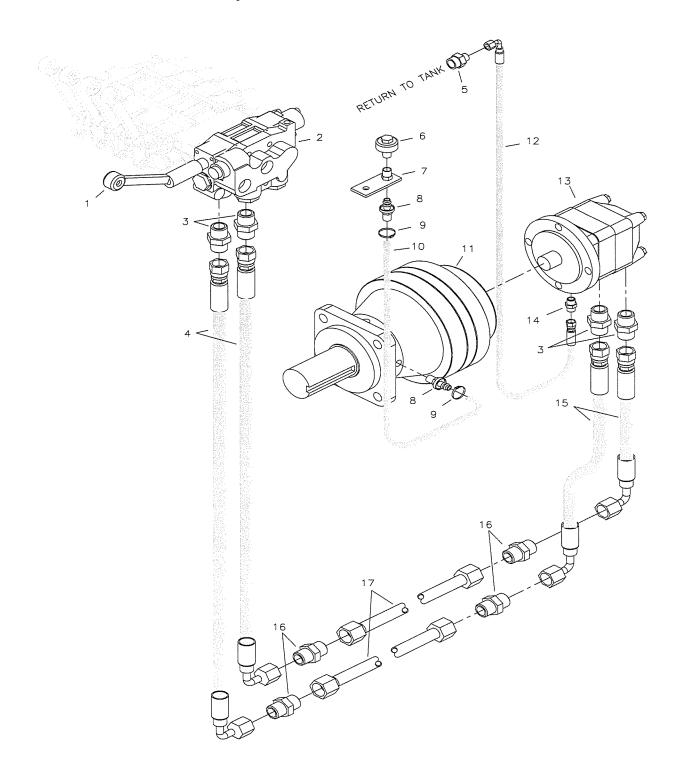
Hydraulics - Primary System



## Hydraulics - Primary System - Parts List

	Part#	Description	Qty.	Remarks
1	Ref.	3/4" Steel Hardline	1	
2	Ref.	3/4" Steel Hardline	1	
3	1540553	Fitting, Hydraulic	4	C5315 x12
4	1541968	Valve, Hydraulic	1	5-bank
5	1540638	Fitting, Hydraulic	2	C5405 x12
6	1540392	Fitting, Hydraulic	2	C3109 x20 x12
7	1540470	Fitting, Hydraulic		C3709 x12
8	1540377	Fitting, Hydraulic	1	C3069 x20
9	Ref.	Hose, Assembly	1	
		FC639-12-1AA-12FJ-12FJ-32	•	
10	1540157	Base, Filter	1	
11	1540181	Filter, Hydraulic	1	
12	1500058	Cap, Hydraulic	1	
13	1500156	Gauge, Sight Level/Temperature	1	
14	1541602	Fitting, Hydraulic	1	C5716 x12
15	1540577	Fitting, Hydraulic	1	C5316 x12
	Ref.	3/4" Steel Hardline	<u>.</u> 1	
17	1540537	Fitting, Hydraulic	5	C5305 x12
	Ref.	3/4" Steel Hardline	1	00000 X12
	Ref.	Hose Assembly	2	TO ANALYSIS MAN AND ANALYSIS ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND ANALYSIS AND AN
		FC639-12-1AA-12FJ-12FJB-32	_	
20	1540673	Fitting, Hydraulic	1	C5505 x12
	Ref.	Hose Assembly	1	
		FC639-12-1AA-12FJ-12FJB-32	•	
22	4070113	Tank Hydraulic	1	
23	1541824	Valve, Ball	1	1-1/2
24	1541599	Fitting, Hydraulic	1	C5405 x20 x24
25	Ref.	Hose Assembly	1	
		FC639-12-1AA-12FJ-12FJ-101		
26	Ref.	Hose Assembly	1	
		FC639-12-1AA-12FJB-12FJ-108		
27	Ref.	Hose Assembly	1	
		FC639-12-1AA-12FJB-12FJ-28		
28	Ref.	Hose Assembly	1	
		FC639-12-1AA-12FJB-12FJ-25		
29	1541698	Pump, Hydraulic	1	
	1540805	Flange, Hydraulic	1	SKF-24
31	1540555	Fitting, Hydraulic	2	C5315 x12 x16
32	1541969	Valve, Hydraulic	1	3-Bank
	1540687	Fitting, Hydraulic	1	C5515 x12
	Ref.	Hose Assembly	1	
		FC619-20-1B-20FJ-24FL-120		
35	1100082	Decal, Valve - Primary 5 Bank	1	
	1100083	Decal, Valve - Boom 3 Bank	1	

#### Hydraulics - Feed Table Belt

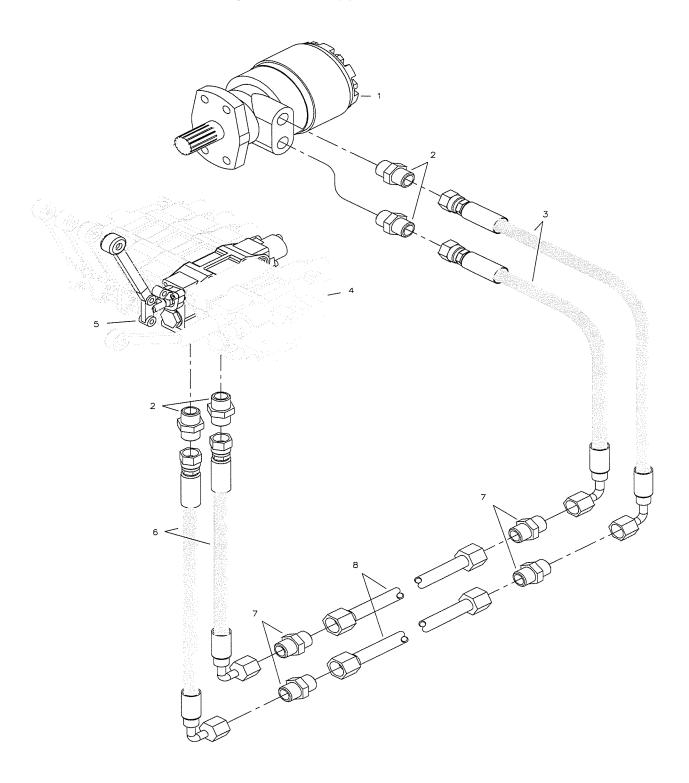


## Hydraulics - Feed Table Belt - Parts List

ltem#	Part#	Description	Qty.	Remarks
1	Ref.	Handle, Valve - Rotary Spool	1	
2	1541968	Valve, Hydraulic	1	5-Bank
3	1540554	Fitting, Hydraulic	4	C5315 x12 x10
4	Ref.	Hose Assembly fc-639-12-1AA-12FJ-12FJB-64HL	2	
5	1540509	Fitting, Hydaulic	1	C5205 x4 x8
Ref	1100090	Kit, Planetary Vent	1	
6	1502126	Breather, 1/4-inch	1	
7	Ref.	Bracket, Vent	1	
8	1540313	Fitting, Hydraulic	2	
9	1540030	Clamp, Hose	2	# 04
10	1501651	Line, Fuel	3.5	5/16-inch
11	1541844	Planetary	1	FF380.5.18:1
12	Ref.	Hose Assembly	1	
13	1520763	Motor, Hydraulic	1	TCIMLHSS 200 4B
14	1540566	Fitting, Hydraulic	1	C5315 x4
15	Ref.	Hose Assembly FC-639-12-1AA-12FJ-12FJB-44HL	2	
16	1540537	Fitting, Hydraulic	4	C5305 x12
17	Ref.	Hardline Assembly	2	

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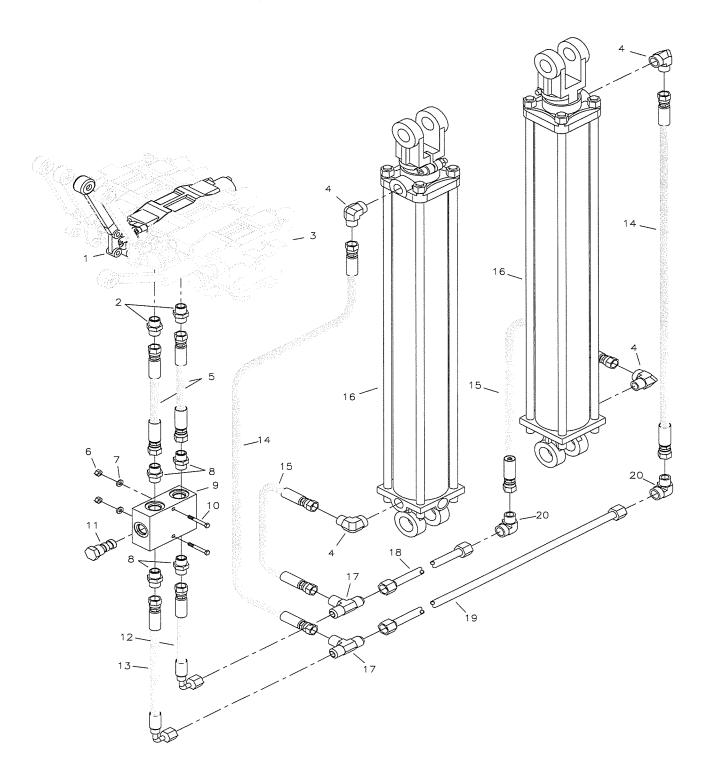
## Hydraulics - Upper Beater Bar



## Hydraulics - Upper Beater Bar - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1541284	Motor, Hydraulic	1	
2	1540554	Fitting, Hydraulic	4	C5315 x12 x10
3	Ref.	Hose Assembly	2	
		FC639-12-1AA-12FJB-12FJ-28HL		
4	1541968	Valve, Hydraulic	1	5-Bank
5	1500167	Handle, Hydraulic Valve	1	
6	Ref.	Hose Assembly	2	
		FC639-12-1AA-12FJ-12FJB-32HL		
7	1540537	Fitting, Hydraulic	4	C5305 x12
8	Ref.	Hardline Assembly	2	

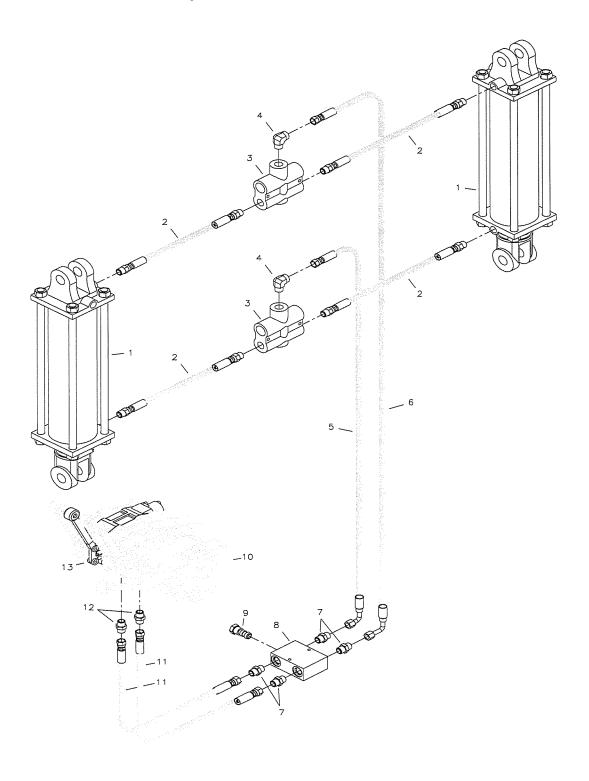
Hydraulics - Feed Table Lift



# Hydraulics - Feed Table Lift - Parts List

ltem#	Part#	Description	Qty.	Remarks
1	1500167	Handle, Hydraulic Valve	1	
2	1540573	Fitting, Hydraulic	2	C5315 x8 x10
3	1541968	Valve, Hydraulic	1	5-Bank
4	1100081	Fitting, Assembly	4	C5405 x8 x8-7238 x6
5	Ref.	Hose Assembly	2	
		FC640-8-1AA8FJ-8FJ-8FJ-17HL		
6	Ref.	Nut, Hex	2	1/4-20NC
7	Ref.	Washer, Flat	2	1/4
8	1540572	Fitting, Hydraulic	4	C5315 x8
9	1212008	Manifold, Cylinder Check Valve	1	
10	Ref.	Capscrew, Hex	2	1/4-20NC x 2-1/2
11	1541795	Valve, PO Check	1	
12	Ref.	Hose Assembly	1	
		FC640-8-1AA-8FJ-8FJB-41HL		
13	Ref.	Hose Assembly	1	10-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-
		FC640-8-1AA-8FJ-8FJB-42HL		
14	Ref.	Hose Assembly	2	
		FC640-8-1AA-8FJ-8FJ-68HL		
15	Ref.	Hose Assembly	2	
		FC640-8-1AA-8FJ-8FJ-40HL		
6	1540102	Cylinder, Hydraulic	2	DB324 w/1-1/2 Shaft
17	1540721	Fitting, Hydraulic	2	C5705 x8
18	Ref.	Hardline Assembly, Upper	1	
9	Ref.	Hardline Assembly, Lower	1	
20	1540680	Fitting, Hydraulic	2	C5505 x8

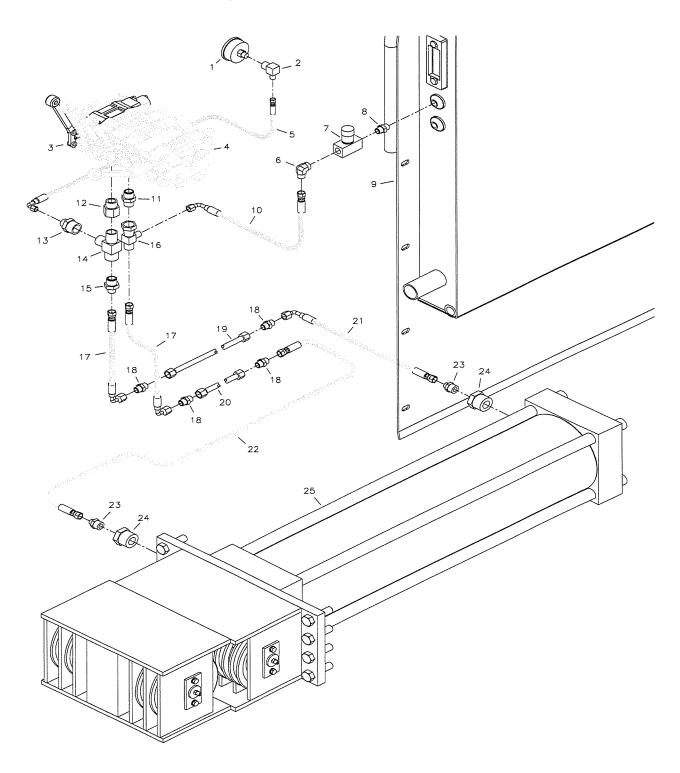
## Hydraulics - Tunnel Clean Out



## Hydraulics - Tunnel Clean Out - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1541584	Cylinder, Hydraulic	2	SAE 9414 1-3/4 Rod
2	Ref.	Hose Assembly	4	
		FC640-8-1AA-8MP-8PS-32HL		
3	1541109	Valve, Flow Divider	2	1/2 Port
4	1540659	Fitting, Hydraulic	2	C5405 x8 x8
5	Ref.	Hose Assembly	1	
		FC640-8-1AA-8FJB-8FJ-82HL		
6	Ref.	Hose Assembly	1	
		FC640-8-1AA-8FJC-8FJ-85HL		
7	1540572	Fitting, Hydraulic	4	C5315 x8
8	1212008	Manifold, Cylinder Check Valve	1	
9	1541795	Valve, PO Check	1	
10	1541968	Valve, Hydraulic	1	5-Bank
11	Ref.	Hose Assembly	2	
		FC640-8-1AA-8FJ-8FJ-42HL		
12	1540573	Fitting, Hydraulic	2	C5315 x8 x10
13	1500167	Handle, Hydraulic Valve	1	

## Hydraulics - Anchor Cylinder

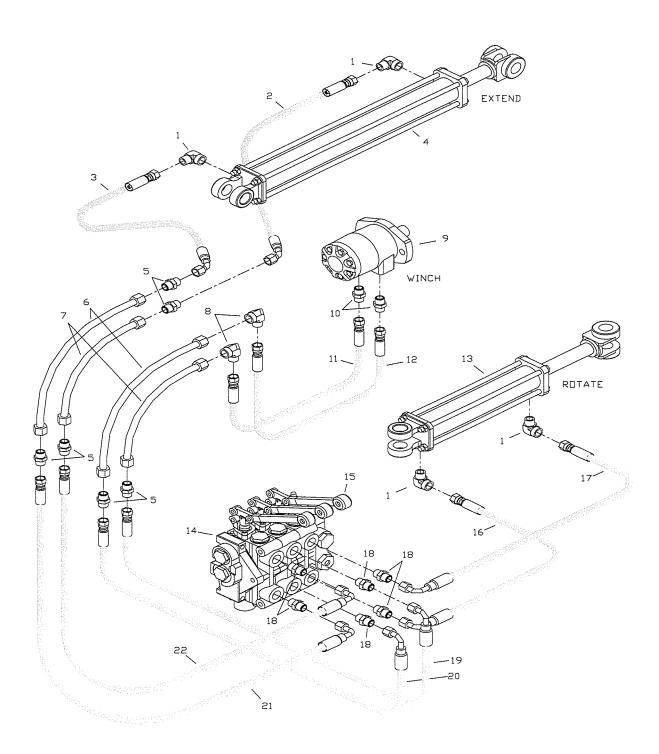


# Hydraulics - Anchor Cylinder - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1500147	Gauge, Hydraulic Pressure	1	5000PSI back mount
2	1540456	Fitting, Hydraulic	1	C3409 x4
3	1500167	Handle, Hydraulic Valve	1	
4	1541968	Valve, Hydraulic	1	5-Bank
5	Ref.	Hose Assembly	1	
		FC640-4-1AA-4FJB-4FJ-48HL		
6	1540659	Fitting, Hydraulic	1	C5405 x8 x8
7	1541123	Valve, Needle	1	
8	1540383	Fitting, Hydraulic	1	C3069 x8
9	4070113	Tank, Hydraulic	1	Single 5
10	Ref.	Hose Assembly	1	•
		FC640-8-1AA-8FJB-8FJ-30HL		
11	1540573	Fitting, Hydraulic	1	C5315 x8 x10
12	1540427	Fitting, Hydraulic	1	C3269 x10 x8
13	1540509	Fitting, Hydraulic	1	C5205 x4 x8
14	1540483	Fitting, Hydraulic	1	C3759 x8
15	1540520	Fitting, Hydraulic	1	C5205 x8 x8
16	1541885	Fitting, Hydraulic Swivel	1	1/2"
17	Ref.	Hose Assembly	2	
		FC640-8-1AA-8FJ-8FJB-63HL		
18	1540546	Fitting, Hydraulic	4	C5305 x8
19	Ref.	Hardline Assembly, Butt	1	
20	Ref.	Hardline Assembly, Head	1	
21	Ref.	Hose Assembly	1	
		FC640-1AA-8FJB-8FJ-28HL		
22	Ref.	Hose Assembly	1	
		FC640-8-1AA-8FJ-8FJ-43HL		
23	1540573	Fitting, Hydraulic	2	C5315 x8 x10
24	Ref.	Fitting, Hydraulic Reducer	2	
25	1206061	Cylinder, Assembly	1	no sheaves or pins

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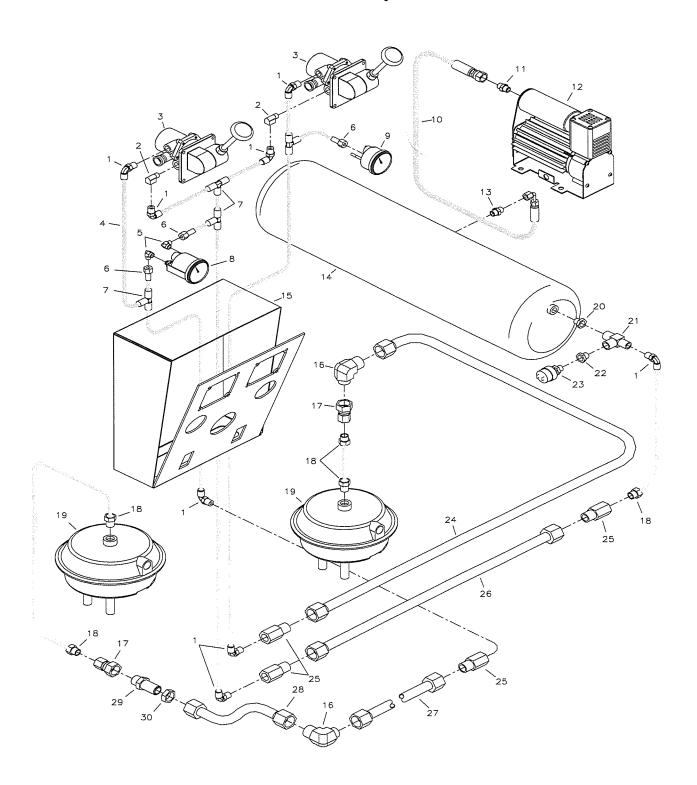
## Hydraulics - Boom



## Hydraulics - Boom - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1100079	Fitting Assembly	4	C5405 x8-7238 x4
2	Ref.	Hose Assembly FC640-6-1AA-8FJA-8FJ-42HL	1	70 100 X0 1200 X1
3	Ref.	Hose Assembly FC640-6-1AA-8FJA-8FJ-17HL	1	
4	1541739	Cylinder, Hydraulic	1	2 x 20
5	1540546	Fitting, Hydraulic	6	C5305 x8
6	Ref.	Hardline Assembly, Outer	2	
7	Ref.	Hardline Assembly, Outer	2	
8	1540680	Fitting, Hydraulic	2	C5505 x8
9	1540904	Motor, Hydraulic Charlynn	1	2-Bolt 2.2 CU IN
10	1540520	Fitting, Hydraulic	2	C5305 x8 x8
11	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJ-8FJ-15HL		
12	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJ-8FJ-15HL		
13	1540097	Cylinder, Hydraulic	1	DB2510
14	1541969	Valve, Hydraulic	1	3-Bank
15	1500167	Handle, Hydraulic Handle	3	
16	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-21HL		
17	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-16HL		
18	1540573	Fitting, Hydraulic	6	C5315 x8 x10
19	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-66HL		
20	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-65HL		
21	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-69HL		
22	Ref.	Hose Assembly	1	
		FC640-6-1AA-8FJB-8FJ-74HL		

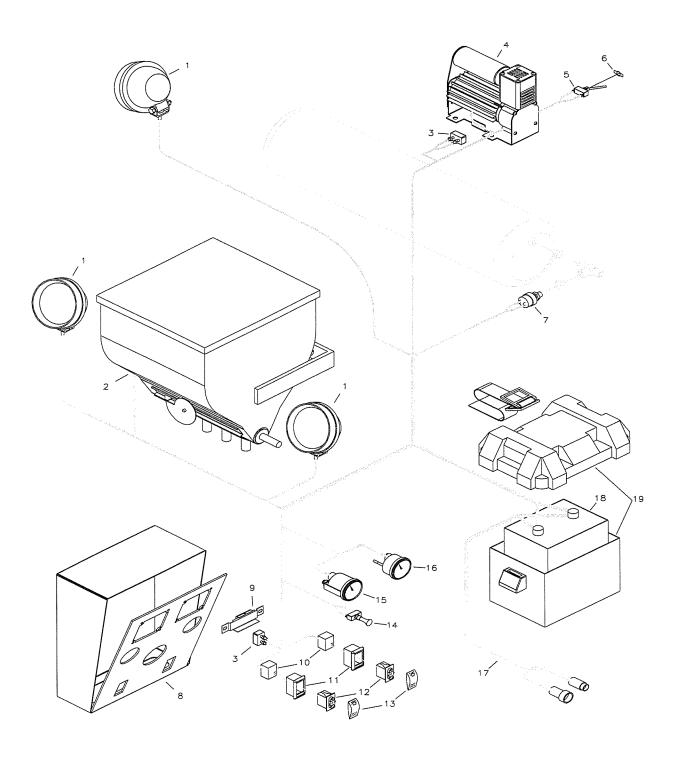
# Console - Air System



## Console - Air System- Parts List

Item#	Part#	Description	Qty.	Remarks
1	1541867	Fitting, Air	8	AQ69-PS-4 x4
2	Ref.	Connector, Elbow	ref	supplied with item 3
3	1541513	Valve, Regulator	2	
4	1541415	Tubing, Airbrake	ref	
5	1540453	Fitting, Hydraulic	2	C3409 x2
6	1501676	Fitting, Pneumatic	3	66PL4-2
7	1541410	Fitting, Air	4	AQ-6-P-4 tee
8	1501498	Gauge, Air Pressure	1	150PSI R8606 back mt
9	1501456	Gauge, Air Pressure	1	150PSI back mt
10	Ref.	Hose Assembly	1	
		FC640-4-1AA-4FJB-4FJ-17HL		
11	1540507	Fitting, Hydraulic	1	C5205 x4 x4
12	1580208	Compressor	1	QUIQU202
13	1540509	Fitting, Hydraulic	1	C5205 x4 x8
14	1501192	Tank, Air	1	
15	Ref.	Console	1	
16	1540680	Fitting, Hydraulic	2	C5505 x8
17	1541414	Fitting, Hydraulic	2	6506-06-08
18	1541416	Fitting, Air	5	AQ-68-P-4 x6 male
19	1501184	Can, Air	2	
20	1540397	Fitting, Hydraulic	1	C5109 x6 x4
21	1540481	Fitting, Hydraulic	1	C3759 x4
22	1540396	Fitting, Hydraulic	1	C3109 x4 x2
23	1502147	Switch, Pressure	1	80PSI on - 105PSI off
24	Ref.	Hardline Assembly	1	Right Air Can
25	Ref.	Fitting, Hydraulic	4	C5255 x8 x4
26	Ref.	Hardline Assembly	1	Tank
27	Ref.	Hardline Assembly	1	Left Intermediate
28	Ref.	Hardline Assembly	1	Left Air Can
	1540591	Fitting, Hydraulic	1	C5325 x8
	1540750	Fitting, Hydraulic	1	C5924 x8

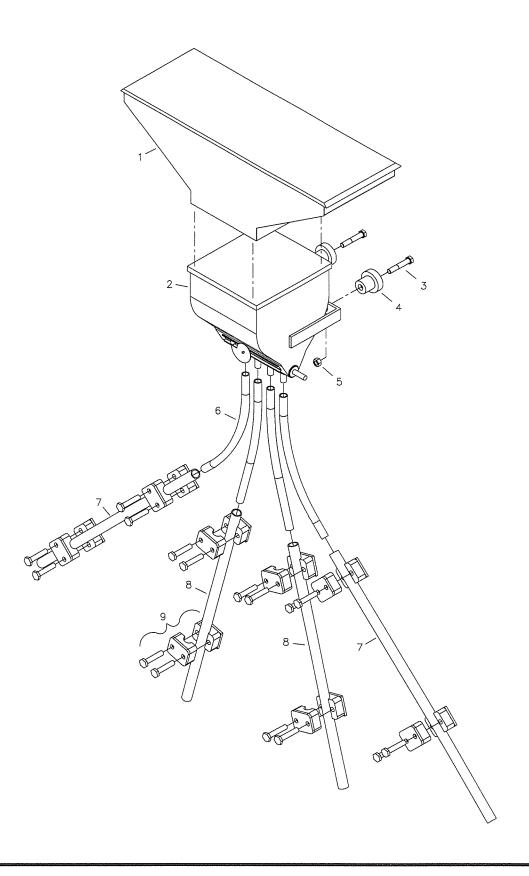
# Electrical System



## Electrical System - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1500253	Light, Spot	3	3 AMP 12 Volt
2	1500005	Applicator, Gandy	1	4 Hole
3	1501227	Circuit Breaker	2	20 AMP
4	1580208	Compressor	1	QUIQU202
5	1500510	Switch, Toggle Long Handle	1	
6	1501247	Plate, Toggle ON/OFF	1	
7	1502147	Switch, Pressure	1	80 PSI ON/105 PSI OFF
8	Ref.	Console	1	
9	1501349	Bracket, Short Stop	1	
10	1501586	Connector, Carling Rocker	1	Waytek PN 44386
11	1501817	Panel, Carling Rocker Mount	2	Single
12	1501589	Switch, Carling Rocker SPST Det	2	Waytek PN 44301
13	1501593	Actuator, Carling Rocker Red Lens	2	Waytek PN 44362
14	Ref.	Switch, Gandy	1	•
15	Ref.	Light, Gauge	1	Fits R8606
16	Ref.	Light, Gauge	1	Fits R8605
17	Ref.	Harness, Wire	1	
18	1500012	Battery, 12 Volt	1	
19	1500041	Box, Battery with Lid	1	

## **Gandy Applicator**



## Gandy Applicator - Parts List

Item#	Part#	Description	Qty.	Remarks
1	1206087	Extension, Hopper	1	14 - Gallon
2	1500005	Applicator, 4 hole	1	11 Canon
3	ref.	Cap Screw, Hex	2	5/8-11NC x 3-1/2
4	1500281	Isolator	2	
5	ref.	Nut, Hex lock	2	5/8-11NC
6	ref.	Tube, Clear vinyl	4	1 x 21
7	ref.	Pipe, PVC	2	1 sch 40 x 40
8	ref.	Pipe, PVC	2	1 sch 40 x 35
9	1541249	Clamp,	8	1-1/4 single T
ref.	1120564	Kit, PVC pipes	ref	

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# The 3M's of Silage



MANAGEMENT
MATURITY
Moisture

## THE 3M's OF SILAGE

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#### 3M's of AG-BAG® SILAGE

The "3M's of Ag-Bag® Silage" represent documented methods and technology of good silage making. Ensiling has proven to be the most efficient method of storing and preserving the nutrient value of your crops. We invite you to benefit from proven methods and profit-making concepts. Read on, it can change your future.

# THE ART OF MAKING EXCELLENT SILAGE

- 1. Silage making is a science, that incorporates good management practices. Although many factors affect the profitability of a farming operation, forage quality is definitely on of the most important.

  2. It's an accepted fact that rapidly fermented, high moisture feed retains a higher nutrient value than any other method of harvesting and storing crops.

  3. By understanding the basics of the fermentation process and using good management practices, you can aid nature in achieving a rapid, efficient fermentation, which preserves more of the valuable nutrients in your forage crops.
- 4. By learning how to consistently make excellent silage, (The silage referred to in this publication is fermentable feed compacted and stored in an airtight Ag-Bag® bag) it can lead to a greater production of meat and milk.
- 5. A good anaerobic fermentation improves the palatability of feed. The fermentation process using the Ag-Bag® system is very similar to the digestion process in the first stomach of cattle. Well fermented silages are a natural feed for cattle. It's very much like putting your animals on green pasture year round.

The quality of silage is largely determined by three things:

Dedication

Preparation

Execution

#### 3M #1 - MANAGEMENT

#### THE SOIL

The soil should be fertile and pH balanced to insure good germination. Good soil management always produces the highest quality crops.

#### THE SEEDS

High quality seed designed to produce well in your area, for length of season and weather considerations are a must. You can't produce crops any better than the seeds you plant.

#### THE ENSILING PROCESS

Silage is a feedstuff resulting from the preservation of green forage crops by acidification. Acidification is the result of the fermentation of the forage in the absence of oxygen. Research has proven conclusively that the process of ensiling green crops is the most efficient method of storing and preserving the nutritional value of crops for feeding to ruminant animals. The breaking down of the cellulose and lignin of the plant cells by fermentation helps make the forages more digestible, thus producing more value. In some cases, the forages are more digestible than green feeding or pasturing. All types of forages can be fermented and successfully bagged.

#### **FERMENTATION**

The miracle of fermentation starts with the bacterias – enzymes – sugars – proteins and an oxygen-free environment.

- 1. <u>Respiration</u> When a forage plant is harvested and placed in an Ag-Bag® bag it is alive and therefore, respiring actively. Even though the forages are packed extremely tight some air is unavoidably trapped in the mass. The oxygen is utilized by the aerobic bacteria existing in the crop, and by the breakdown of sugar in the plant cells.
- 2. <u>Aerobic Fermentation</u> This phase of the ensiling process is called *aerobic respiration*. End products of this phase of the process are *carbon dioxide* and *heat*. These reactions are not complete and other end products are produced

such as acetic and butyric acids later used by lactobacilli and streptococci to produce lactic acid. Photeolytic enzymes from the plant are also active in this phase, and they break down some of the plant proteins into amino acids. This phase of respiration is complete when the oxygen in the mass is completely depleted, and the action of the anaerobic microorganisms begin. Aerobic respiration lasts from 5 to 10 hours under good storage conditions.

#### THE FERMENTATION STARTS

Phase 1 – This is a relatively short phase characterized by the beginning of anaerobic microorganism activity. The cell contents diffuse out of the cell due to the chopping of the plant, and are used by bacteria clinging to the plant when placed in the bag. The formation of acetic and butyric acids are characteristic of this phase. The life of organisms producing these acids is short due to the drop in pH produced by their own activity. Phase 2 – This phase is the initiation of the lactic acid fermentation. This activity is well underway at the end of three days and the establishment of this activity completes Phase 2.

Phase 3 – Lactic acid production is continued in this phase and reaches it's peak which should be 3.0 - 13.0 percent of the dry matter and a pH that is constant at about 4.0. No further changes occur, and the silage is fermented if the pH remains between 4.0 and 4.2 for corn silage, and 4.0 and 5.0 for other crops, and no air is allowed to enter the mass.

Phase 4 — This is a stage of quiescence or inactivity. The material has a pH of 4.0 - 4.5 and if water and oxygen remain excluded, no further chemical changes occur and the material will remain in this preserved state almost indefinitely. Phase 5 — This is an undesirable phase. If the pH does not drop below approximately 4.2, or if air is allowed to enter the silage, butyric acid production is initiated, converting the soluble carbohydrates and lactic previously formed to butyric acid which is characteristic of spoiled silage. Also, proteins are broken down to amino acids and these are further degraded to other nitrogenous compounds, which may lead to a reduction in a level of digestible protein.

#### FERMENTATION AND INOCULANTS

The general knowledge of the biochemistry and microbiology of silage fermentation has increased tremendously in the last 25 years. Silage is a product of anaerobic fermentation. It involves the conversion of water soluble carbohydrates (sugars) to lactic acid, which drops the pH to a level sufficient to inhibit any further biological activity (change) in the ensiled material when maintained under anaerobic conditions.

In most circumstances, good silage is achieved by encouraging the dominance of lactic acid bacteria (the good guys), and discouraging the activity of clostridia and yeats (the bad guys). In the initial stages of ensiling, plant respiratory enzymes (bad ones) oxidize soluble carbohydrates, resulting in heat production and decreased amount of sugars available for fermentation.

#### PRINCIPLES OF ENSILING

Aerobic phase. As crops are put into the bags, two things start to happen: respiration and proteolysis (enzyme action), which are attributed to the activities of plant enzymes. Respiration is the complete breakdown of a substance to carbon dioxide and water, using oxygen. Harvesting of the forage crushes and chops the plant, damaging the cells and releasing many plant enzymes. Some of the enzymes, amylase and hemicellulase, break down starches, increasing the level of sugars in the plant. Of these processes, respiration is most detrimental to silage quality because:

- 1. Respiration causes a loss of dry matter.
- 2. The plant uses up existing plant sugars during respiration. The loss of sugar is crucial at this point as it affects preservation and nutritional value. Sugars are the principal food for the lactic acid bacteria that ferment the crop and a loss of sugar also reduces the energy values.
- 3. Prolonged aerobic conditions allow yeasts and molds to grow to high levels. Large populations of these microorganisms can predispose the silage to heating when the bag is opened for feed-out.

Fermentation phase. Once anaerobic conditions are attained, several processes begin to happen. The plant cells start to breakdown. In wet forages this takes place in several hours. In dry forages, it can extend over a day or more. This process provides sugars to feed the naturally occurring lactic acid producing bacteria. It also releases a variety of plant enzymes, providing extra sugars. Many of the LAB (lactic acid bacteria) and enterobacteriaceae can grow in the presence of oxygen; however, they grow much faster under anaerobic conditions and are very efficient at producing acids that start to lower the pH. The most important bacteria for ensiling is the LAB (lactic acid producing bacteria), which converts sugars to lactic acid. There are primarily two kinds of bacteria: homofermenative and heterofermenative. The homofermenative produce only lactic acid. The heterofermenative produce ethanol or acetic acid plus carbon dioxide, in addition to lactic acid. With a natural fermentation, competition between the two bacteria determines the kind of fermentation. As lactic acid is stronger than acetic, it is more desirable. The use of bacterial inoculants helps assure a dominance of lactic acid bacteria.

**Stable phase**. The period of active fermentation lasts between two weeks and two months. For forages ensiled in normal moisture ranges (50-65%), active fermentation is over in three weeks. (The use of a bacterial inoculant will speed this up). Once the pH is reduced to about 4.0 the bacteria quit growing and the silage is stable as long as it's oxygen-free.

Many factors effect fermentation, among them moisture, maturity, weather conditions, fertilizer, bacterial count and water soluble carbohydrates (sugars). We cannot control the weather or the bacterial counts, but with proper management and the use of Ag-Bag® Plus! we can help cope with the other factors.

Fermentation is an exact science. There are many fermented products in the world today, such as pickles, beer, yogurt, wine, cheese, sauerkraut and silage. Silage is the largest fermented product by volume in the world, and is the most inconsistent in quality. The reason other products consistently have a good fermentation is because of two things.

One, a controlled environment and two, they use bacteria to aid in the fermentation. The Ag-Bag® system is the controlled environment, Ag-Bag® Plus! inoculant is the necessary bacteria and enzymes to control the fermentation.

Why use Ag-Bag® Plus!? There are good and bad bacteria naturally found on your plants. University research indicates that for every one lactic acid producing bacteria (good guys) there are ten spoilage causing bacteria (bad guys). This 10 to 1 ratio is not very comforting when you are trying to harvest the best possible silage.

By adding Ag-Bag® Plus! inoculant, you are overwhelming the crop with fast growing, aggressive lactic acid producing bacteria. This creates an environment where the yeast, molds and clostridia are inhibited. If the sugars in the plants are low, they will not feed the natural bacteria on the crop.

Ag-Bag® Plus!, the unique inoculant where each bacteria is micro-encapsulated. Each bacteria is coated with a sugar and an enzyme for an immediate source of energy to feed the bacteria for even faster growth. This has proven to be a more efficient way to increase lactic acid production rather than adding the sugar separately. As a rule, 1 pound of lactic acid is equal to 2 pounds of shelled corn in energy.

There are many different strains of bacteria used in inoculants today. The most important thing to look for is a bacteria that is viable (alive). Ag-Bag® Plus! silage inoculant contains the most aggressive and technologically advanced bacteria on the market today, and Ag-Bag® is constantly improving the quality of bacteria and enhancing the product as new technology becomes available.

The strains of bacteria that are used in Ag-Bag® Plus! inoculant have special qualities to enhance silage. First, there are four strains of bacteria and two enzymes. The *streptococcus faecium* works in both an aerobic and anaerobic environment and grows well during the initial stage of fermentation while oxygen is still present. The *pediococcus* bacteria grow well at low temperatures, like we have in bagged feed. The *lactobacillus plantarum* and *lactobacillus casei* are the finishers and are chosen for their fast production of lactic acid and their stability. The two enzymes, amylase and

cellulase, were chosen because they break down the plant cell structure, making the feed more digestible and releasing more natural plant sugars. The results are a much faster fermentation and more preserved nutrients. It normally takes 21 days for feed to complete the fermentation process, but with the use of our silage inoculant the fermentation process is usually completed in 5 - 7 days. Because of the decreased fermentation time, the faster pH, and temperature reduction, not as many nutrients are used up during the fermentation process. The results are more preserved dry matter, lower pH, lower temperature, higher lactic acid production, longer bunk life and an increased feed conversion efficiency.

Ag-Bag® Plus! can be applied as a granular or a liquid. Ag-Bag® Plus! granular comes in a 50# bucket to treat 100 tons. It is applied at ½ lb. per ton of forage. Ag-Bag® Plus! soluble is available in a foil pouch to treat 50 or 100 tons. It is mixed with water and applied as a liquid. Instructions are on the labels.

#### LENGTH OF CUT

The length of cut on legumes and grasses, as a good rule of thumb, is 3/4" long. This allows plenty of roughage in the diet of the animals to take care of rumen activity. Corn silage should be ½" cut to keep oversize to a minimum. Unless using a kernel processor. See manufacturer's recommendations.

#### ADJUSTING THE CHOPPER

It's very important that the shear bar have a good sharp edge and adjusted up according to the owner's manual. Round edges cost feed quality and dollars.

The knives should be sharpened often to insure a good clean cut of the forage. Tearing the material apart causes extensive cell damage to the plant. Extra long forages do not feed well and are left in the bunk. A set shear bar, will in most cases allow you to go through the field one gear higher and cut your fuel consumption considerably. There are a lot of benefits to consider by proper machine adjustment. Remember – *Dedication*, *Preparation*, and *Execution*.

#### **BAG PLACEMENT**

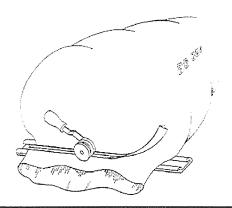
As with all feed storage systems, it is very important to have an appropriate base. The base for a bag feed storage system should be well-drained with a smooth surface. Suggested base materials include – sand, cement, 4-5" of ag lime, geoweb system, soil cement, agri fabric with 4-5" of crushed stone, road re-grind, 50% crushed rock and 50% rock dust, dry cement spread with a hand spreader and watered down.

#### PACKING THE BAG

The mechanical packing by the bagger has given a lot more freedom in making good silage. The bagger can exert as much as 15,000# pressure as the feed is being compacted. This compaction allows the silage to have a slightly longer chop (3/4") than could be used in pit silage. The oxygen is literally extruded out of the feed. This insures a good pack on the forages every time, it's not left to chance. The denser the packing in the bag, the less oxygen is available to cause heating, the faster the fermentation will occur resulting in higher feed quality.

#### SEALING THE BAG

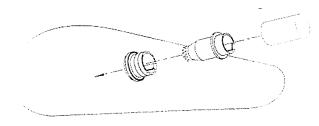
As soon as you are done filling the Ag-Bag® bag and have moved the bagger, seal the bag immediately so the anaerobic bacteria can begin to work. Ag-Bag® recommends MasterSeal® plastic strip. Lay the bag end out flat and seal according to instructions. This is an effluent and gas tight seal, and more effective than traditional methods using baling twine or 2' x 4's.



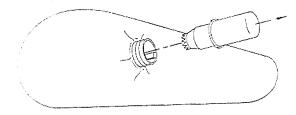
#### VENTING THE BAG

Some feeds produce a large amount of nitrogenous oxide. This creates a gas from the respiration of the plants in the bag. It's a perfectly normal process. In order for the gases to *escape* under *controlled* conditions, venting is a very important step in bagging. For that purpose, Ag-Bag® recommends and sells reusable vent valves instead of cutting exhaust ports that you must later tape shut.

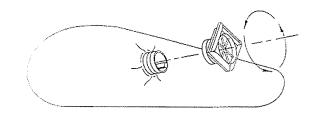
Instructions for using the Ag-Bag® vent valve: Take the cover off the vent tool. Insert the tool, with prongs up, into the cover by lining up the notches. Taking the threaded side of the valve, line up the notches and slide it over the top of the pronged end of the tool. (See illustration below.)



After you have located the spot where you want the vent to be installed, press the prongs of the tool into the plastic to create a hole. Push the tool through the hole and pull out leaving the threaded end sticking out. (See illustration below.)



Turning the valve lid to the left, screw on tightly. (See illustration below.)



Slide the lid open enough to allow the gases to escape. Within 1-2 days, close lid and leave valve in until that end of the bag is fed out. NOTE: If exceptional gassing up occurs, you may leave the vent open for an additional day. Or, if you notice the bag puffing up again after shutting the valve, open up again until the gases recede, then close.

#### BANK YOUR BAGS

To avoid wind damage, use old rubber tires or other weighted material at the ends of the bag to keep loose plastic from flapping in the wind. The wind can cause plastic fatigue leaving small holes to allow oxygen to enter the feed. A little extra care at the start can make a difference in the feed quality - hold that loose plastic down.

#### DO'S AND DON'TS

- 1. DON'T get dirt in the feed going into the bag.
- 2. *DON'T* allow holes or damage to the bags to remain open.
- 3. DON'T place bags in a poorly drained area.
- 4. *DON'T* allow dogs, cats and other animals to get on the bags.
- 5. DON'T put feed up too dry or too mature.
- 6. DON'T put excessively wet forage in the bag.
- 7. *DON'T* allow the bagging machine to remain hooked up to the bag for long periods

of time with feed still left in the hopper or tunnel.

- 1. DO protect the storage area from livestock.
- 2. DO inspect on a regular basis and mend holes with Ag-Bag® tape.
- 3. DO place bags on a well-drained, hard, level surface.
- 4. *DO* have your feed tested to be able to mix and balance your ration.
- 5. *DO* ensile your crop at proper moisture and maturity.

- 6. DO number and date bags for ease of testing and recall of material ensiled.
- 7. DO place bags in accessible area for easy feed removal.
- 8. DO place bags side-by-side for blending of feeds.
- 9. DO remove more than 1' of feed per day from the face of the bag to prevent aerobic instability and heating problems.

#### 3M #2 - MATURITY

#### **HEAD CHOP GRAINS**

A new process to harvest grains pioneered by Ag-Bag® International and their satisfied users is "head chopping" small grains using a "direct cut" head on a forage harvester and cutting off the top 4" of the plant. This allows the grower to make a high energy and a high moisture feed. At the time of harvest the grain is in the heavy dough stage and is still green.

Set the chopper on finest chop available and if possible use a recut screen and/or kernel processor to further (mill) the grain. This head chop grain feed will be within ½% of full protein of dry grain, it will have TDN from 64%-72% and will add about 12% fiber to your feeding rations. (An excellent way to harvest grain without the use of a combine.) It is recommended to use Ag-Bag® Plus! on this feed. The moisture level is low and requires the added bacteria to give a longer shelf life upon opening and feeding.

#### SNAPPED EARLAGE

This method of harvest allows you to snap the ears of the corn plant, cob and all. It's then run through the chopper with a recutter screen and/or kernel processor to process the feed to be put directly into the Ag-Bag® bag and should be fermented without further grinding of the grain.

The moisture level will be between 30-45% and may require the application of Ag-Bag® Plus! inoculant to speed up the fermentation of the snapped earlage. This helps slow down aerobic deterioration after opening the bag. It's then ready to feed to your animals after the 21-dayfermentation cycle. If Ag-Bag Plus is used, the grain will be ready

to feed in a shorter time of 7-10 days.

#### FEEDING OUT OF THE BAG

Because of a higher residual sugar content in bagged feed, aerobic deterioration will occur if the bag is left open. It happens with all silage as it is exposed to oxygen. The small face of the bag gives you better feed out control.

Cut the Ag-Bag® bag open down the top center of the bag and lay it out flat on the ground. Moving the loader to one end of the plastic, drive loader tires onto the plastic using it as a base. With the loader bucket, loosen the silage starting at the top of the bag. As it loosens and falls on the plastic, use the loader bucket to scoop it up. Keeping the loader bucket as close to the ground as you can while not disturbing the plastic on the ground. The plastic will work to keep the silage from spilling. As you continue to remove the feed from the bag, shake the remaining feed to the center of the plastic. Operators can easily be trained in the proper feedout techniques recommended by Ag-Bag® and minimize blowing plastic and feedout loss. (See diagram on pg.12)

The bag should be sized to fit your operation. Minimum daily face removal should be at least 1 foot back into the bag each day after opening. This will prevent heating of the feed from oxygen breakdown. For specific feeding rates, please view the chart below to estimate the tons of feed you need to use each day.

Harvesting at the right stage of maturity, harvest to get optimum total digestive nutrients (TDN), and harvest crops that average between 60-70% TDN is ideal to get maximum milk or meat production per acre.

#### WHAT S THE VALUE OF CORN SILAGE?

Some universities and research centers say that corn harvested as mature corn silage is the king of all crops as far as producing the most pounds of TDN per acre. A 20-ton-per-acre crop of corn silage, which would be near an equivalent of a 120 bushel an acre grain crop, would produce about 6 tons of dry matter per acre.

#### AT WHAT MATURITY DO WE CUT ALFALFA?

Cut when the plant still is over 20 percent protein. This is no later than the late bud stage (before any flowers appear). Go to the field and grab that flowering point. You can tell when the bud is getting very hard. In fact, at the very late stage you actually can see that small, little will become the flower. Start as early as midbud if you have a lot of hay to put in, especially with first crop. Once blossoms show, quality drops off very rapidly. Don't wait until the perfect time...it never seems to come. If it isn't raining and the weather looks acceptable, go ahead and cut.



## Proper Bag Feed Out Technique For Large Operations

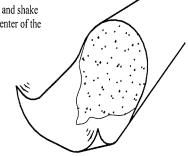
Cut the Ag-Bag bag open down the top center of the bag and lay it out flat on the ground.



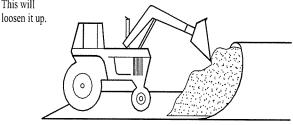
Lift the plastic edges and shake product back to the center of the

Skim doze

directly from the front.



Tip the top of pile. This will



Lower the bucket 1 inch above the plastic.

## **Suggested Daily Feed Out Rates**

Winter Rates - October - April				
Bag Size	Feet/Day	Tons/Day		
8'	1'	1		
9'	1'	1-1/4		
10'	2'	3		
11'	2-1/4'	4		
12'	2-1/2'	5-1/2		

Summer Rates - May - September			
Bag Size	Feet/Day	Tons/Day	
8'	2'	2	
9'	2-1/4'	2-3/4	
10'	2-1/2'	4	
11'	2-3/4'	5	
12'	3'	6-1/2	

# **Bag Capacity Per Running Foot**

Bag Size	Tons
8'	1
9'	1-1/4
10'	1-1/2
11'	1-3/4
12'	2-1/4

## **Cut Crop at the Proper Stage of Maturity**

		% Crude	% TDN
		Protein	
Corn Silage	Tassel	10.7	64.4
	Milk	8.0	69.0
	Glaze or Early Dent	8.0	71.0
	Full Dent	8.0	68.9
Alfalfa Silage	Bud Stage	22.1	61.7
	1/10 to 1/3 Bloom	20.4	63.4
	1/2 to 3/4 Bloom	18.2	58.9
	Past Bloom	12.3	49.8
*			
Oat Silage	Boot Stage	15.3	65.8
	Late Milk to Early Dough	8.5	65.0
	Late Dough	8.3	63.5
Grass Silage	Pre-Bloom	20.4	73.2
	Spike	14.0	67.6
	Milk	12.1	65.0
	Dough	10.6	60.0
	Mature	5.3	52.7
Wheat Silage	Immature	24.0	63.5
	Flower	16.0	63.0
	Late Flower	6.7	51.3

Notice when cut at the right stage of maturity, the TDN values are all above 60-70% in feed value.

## The Influence of State of Maturity on Corn Yield

Silking	1 Day	12 Days	25 Days	49 Days
Silage Weight (lbs. per acre)	16,000	25,000	34,000	40,000
Dry Matter (lbs.	5,400	8,300	11,700	13,600
per acre)				
Stalks and Leaves	93%	72%	53%	37%
Ears and Husks	7%	28%	47%	63%

# How Harvesting Alfalfa Affects Digestibility, Consumption, Milk Production and Grain Requirements

Cutting Date	Dry Matter Digestibility	Daily Digestible Forage Consumption in lbs. per 1000-lb. Cow	Milk Production - Fat Corrected Lbs.	Amount of Grain Required - Lbs. Daily
Cutting Date Early Bud	66.8	23.0	42.5	3.0
Early Buu	65.0	21.6	39.2	5.7
	63.1	20.2	34.0	8.4
	61.3	18.8	31.4	10.9
	59.4	17.4	26.5	13.5
	57.5	16.0	23.4	15.7
Full Bloom	55.8	14.7	19.5	18.2

#### 3M #3 - MOISTURE

Ag-Bag® International recommends that forages be harvested at moisture levels ranging from 55-68%. This insures best fermentation and digestibility of TDNs. Wilting of most forages will be necessary to attain the desired moisture.

Note: For round or square bale silage, we recommend 45-55% moisture. Head chop grain should be harvested in the 30-40% moisture range. Snapped Earlage should be in the 30-45% moisture range. High moisture shelled corn should be in the 28-30% moisture range. One (1) ton of dry hay will equal three (3) tons of baglage (Rule of Thumb).

#### MOISTURE AND QUALITY

In addition to stage of maturity at the time of harvest, moisture (either too much or too little) is one of the most important factors that determines the quality of the final product of the ensiling process. Other things being equal, losses with wilted silage are much lower than when the forages are ensiled as direct cut material at high moisture levels. Silage cut above 70% moisture tends to increase the amount of clostridia in the forages. The clostridia starts to use up the proteins and soluble sugars, lessening the quality of the feed. This higher moisture feed can cause some acidosis in the cattle - since ensiling bacteria are more active in wetter feeds as the moisture wilt. Try to start bagging at 70% moisture (as soon as it doesn't make water) and balance your swathing with speed of bagging and hauling.

#### MOISTURE TESTING

There are lots of moisture testers on the market today. Some are electronic, others have probes, some cook the moisture out of the feed and leave the residue to weigh for accurate dry matter. Contact Ag-Bag® International for ordering a moisture tester. Another method used by some experienced Ag-Bag® users is the *Squeeze Ball Test*. To do this, grab a handful of chopped material and form a ball. Squeeze the material hard for 30 seconds. If you squeeze water out of the feed, it is above 75% moisture. If no water comes out when

pressed and the material holds a tight ball and some moisture remains on your hand, it is from 65-70% moisture. If the ball comes apart slowly, it is close to 60% moisture. Under 50% moisture, the ball springs apart and does not stay together. Below this level (50-55%), the moisture is getting marginal for good fermentation.

#### DIRECT CUT

Some forages can be cut directly off the stump. EXAMPLE: a) An alfalfa crop that is very grassy or past 10-20% bloom. b) Most crops that are mature rather than very lush and young. c) Most grain crops in the dough stage can be direct cut if you are going to use whole plant or make Head Chop. For best results and better control of your moisture level in the various forage crops, it is best to swath and wilt. The ideal moisture level is 65-68% in forages and in corn silage. In colder climates it is advisable to lower the moisture level to 55-60% for those bags to be fed in extremely cold weather.

#### PLANNING YOUR MOISTURE

It requires some experience to maintain swather distance ahead of the chopper. There are many variables, i.e., First Cut, wet ground, doesn't dry out as rapidly, rainy conditions. Second Cut, hot and dry, may only require 2-3 hours wilt. Try to start bagging at 70% moisture (as soon as it doesn't make water) and balance your swathing with speed of bagging and hauling.

#### THE BEST BAG TO USE

Ag-Bag®'s bag is engineered to be the most scientifically prepared to deal with all the elements.

The bag is made from polyethylene resins with ultraviolet inhibitors and special whiteners.

Tri-extruded, or bonded, together in 3 layers, the bag's white outer layer is extreme white to reflect the heat of the sun. In this layer are special ultraviolet inhibitors to give long life against the sun's rays. The clear inner layer is added for strength and elasticity.

Insist on using genuine Ag-Bag® bags for the best feed quality results.



It is critical to maintain an oxygen-free environment in the bag. To repair a tear or puncture in the bag, use the repair tape from Ag-Bag®. If a large tear happens, use spray adhesive around the tear area, apply a piece of used bag over the hole, and seal the patch with repair tape. Careful, periodic bag examinations will prevent feed. spoiled Bag management is a must to

Bag Code	Bag Size	Bags Per Box	Bags Per Pallet	Inoculant Index* Based on 100 Ton)	Range of Tons/Bag 65% M. Alfalfa	Range of Tons/Bag 35% M. Earlage	Range of Tons/Bag 28-30% M. Shelled Corn	Approx . 56# Bushels per Bag
TD810	8' x 100'	1	16	1.0	80-90	70-80	80-90	
TD 815	8' x 150'	1	1.2	1.4	120-140	120-130	130-140	3,825
T D 820	8' x 200'	1	10	1.9	170-190	164-180	180-200	5,294
TD913	9' x 135'	1	12	1.6	140-160	134-150	150	4,411
TD915	9' x 150'	1	1.2	1.8	160-180	162	175	6.125
TD920	9' x 200'	1	10	2.2	200-225	205	230	6.765
TD1015	10' x 150'	1	10	2.2	200-220	180	202	5,940
TD1020	10' x 200'	1	- 8	3.0	270-300	247	278	8,175
TD1025	10'x 250'	1	6	3.6	340-360	324	350	12,250
TD1125	11'x 250'	1	6	4.2	390-420	3 5 0	410	14.350
T D 1225	12'x 250'	1	6	5.2	450-500	420-480	450	16.071
TD1230	12'x 300'	1	4	5.7	550-600	500-550	500	17,238
TD1250	12° x 500	1	2	6.2	980-1000	840-900	900	32,000

Multiply the number of bags by the inoculant index to determine the number of buckets or pouches of inoculant needed. Example - 20 TD 815 x 1.4 = 28 buckets

buckets.

Note: Tons per bag are approximate.
Weights may vary slightly depending on moisture level and crop types. High moisture shelled corn totals are figured from bagging with a standard Ag-Bag® machine. If using an Ag-Bag® grain bagger, totals will be approximately 20% less due to density. Also, when using the Masterseal® sealing strip, you can get approximately 2-4 more loads in the bag, depending on the size of your trucks or wagons.

#### DAIRY TERMS TO KNOW

maximize your profits.

Acid detergent fiber (ADF): Fiber measurement extracted with acidic detergent in a technique employed to help appraise the quality of forages. Includes cellulose, lignin, ADIN, and acid-insoluble ash. ADF is highly correlated with cell wall digestibility. The higher the ADF, the lower the digestibility or available energy.

Acid detergent insoluble nitrogen (ADIN): Protein or nitrogen that has become chemically linked to carbohydrates to form an indigestible compound. Also referred to as an insoluble crude protein.

Adjusted crude protein (ACP): Protein content adjusted for the amount of heat-damaged protein. Used in place of CP when ADIN makes up more than 10% of the CP content of a feed.

**Amino acids:** Building blocks of proteins. Used extensively for milk and muscle protein synthesis, as well as glucose synthesis in the liver.

**Ammonia:** A colorless nitrogen compound produced as protein and nonprotein nitrogen degrades or breaks down in the rumen. It can be used to synthesize bacterial protein.

**Anion:** A negatively charged ion or particle, such as chloride or sulfate. Anionic salts are nutritionally important in dry cow rations to aid in the prevention of milk fever.

**Ash:** The mineral matter present in feed. It is measured by burning the sample at 500°C until all organic matter is burned and removed.

Cation: A positively charged ion or particle.

**Cellulose:** The principle carbohydrate constituent of plant cell membranes. It is made available to ruminants through the action of cellulolytic bacteria in the rumen.

Carbohydrates (CHO): Includes the sugars, starch, cellulose, gums, and related substances. Carbohydrates are the largest component in the dairy cow diet and contribute 60 to 70 percent of the net energy used for milk production. Their abbreviation, CHO, indicates that they contain carbon, hydrogen, and oxygen.

Concentrate: A broad classification of feedstuffs that are high in energy and low in crude fiber (less than 18 percent). Included are cereal grains, soybean oil meal, cottonseed meal, and byproducts of the milling industry such as corn gluten and wheat bran. A concentrate may be low or rich in protein.

**Crude fiber (CF):** That portion of feedstuffs composed of polysaccharides such as cellulose, hemicellulose, and lignin. These serve as structural and protective parts of plants (high in forages and low in grains). CF is no longer considered a viable measurement.

**Crude protein (CP):** Total protein in a feed. To calculate the protein percentage, a feed is first chemically analyzed for nitrogen content. Since proteins average approximately 16 percent nitrogen, the percentage of nitrogen in the analysis is multiplied by 6.25 to give the percent CP.

**Degradable intake protein (DIP):** Protein or nitrogen that is degraded in the rumen by microorganisms and incorporated into microbial protein or freed as ammonia.

**Dry matter (DM):** That part of feed which is not water.

**Ensilage:** Forage preserved by fermentation in a bag, silo, pit, bunker or stack, usually in chopped form. Also called silage.

**Fiber:** The cellulose portion of roughages (forages) that is low in TDN and hard to digest by monogastric animals.

#### DAIRY TERMS TO KNOW

**Forage:** The vegetative portion of plants in a fresh, dried, or ensiled state which is fed to livestock. Grasses and legumes cut at the proper stage of maturity and stored to preserve quality.

**Green chop (fresh forage):** Forages harvested (cut and chopped) in the field and fed directly to livestock. Also called zero grazing or soilage.

**Hay:** Dried forage (grasses, alfalfa, clovers) used for feeding farm animals.

**High-moisture silage:** Silage containing 70 percent or more moisture.

**Legume:** Clovers, alfalfa, and similar crops that can absorb nitrogen directly from the atmosphere through action of bacteria that live in their roots and use it as a nutrient for growth.

**Lignin:** A compound which, with cellulose, forms the cell walls of plants. It is practically indigestible.

**Lipid:** Any one of a group of organic substances that are insoluble in water though soluble in alcohol, eter, chloroform, and other fat solvents, and have a greasy feel. They are rich sources of dietary energy.

**Nonprotein nitrogen (NPN):** Used by rumen microorganisms to synthesize protein.

**Neutral detergent fiber (NDF):** A measurement of fiber after digesting in a nonacidic, nonalkaline detergent as an aid in determining quality of forages. Contains the fibers in ADF, plus hemicellulose.

**Nitrogen balance:** Nitrogen in the food consumed minus nitrogen in feces and nitrogen in urine (nitrogen retention).

**Nitrogen-free extract (NFE):** Consisting of carbohydrates, sugars, starches, and a major portion of materials classed as hemicellulose in feeds. When crude protein, fat, water, ash, and fiber are added and the sum is subtracted from 100, the difference is NFE.

Nonfiber carbohydrates: The highly digestible carbohydrate fraction of feeds consisting of starch, sugar, and pectin. Subtracting percent (DM basis) NDF, CP, ether extract (fat) and ash from 100 provides as estimate of NFC percent in feeds. (NFC%=100 n [%NDF + %CP + %fat + %ash])

**Protein equivalent:** A term indicating the total nitrogen content of a substance in comparison with the nitrogen content of protein (usually plant). For example, the nonprotein nitrogen (NPN) compounded, urea, contains approximately 45 percent nitrogen and has a protein equivalent of 281 percent (6.25 x 45 percent).

**Ration:** The amount of feed supplied to an animal for a definitive period, usually 24 hours.

Relative feed value (RFV): Developed primarily for use with legume or legume/grass forages, RFV combines digestibility and intake estimates into one number for an easy and effective way to identify and market quality hay. RFV is expressed as a percent compared to full bloom alfalfa at 100 percent RFV.

**Roughage:** Consists of pasture, silage, hay, or other dry fodder. It may be of high or low quality. Roughages are usually high in crude fiber (more than 18 percent) and relatively lower in NFE (approximately 40 percent).

Saturated fatty acids: A completely hydrogenated fat, each carbon atom is associated with the maximum number of hydrogen; there are not double bonds. Saturated fatty acids are solid at room temperature. Tallow is an example of a saturated fat, although approximately 50 percent of the fatty acids are unsaturated. Saturated fats tend to have less detrimental effects on rumen fermentation than unsaturated fats.

**Silage:** Green forage, such as grass or clover, or fodder, such as field corn or sorghum, that is chopped and compacted into a feed storage bag, silo, or bunker to create an anaerobic or air-free environment and undergoes an acid fermentation (lactic and acetic acids) that retards spoilage.

#### THE 3M's OF SILAGE

### DAIRY TERMS TO KNOW

**Total mixed ration (TMR):** A blend of all feedstuffs (forages and grains) in one feed. A complete ration that fits well into mechanized feeding and the use of computers to formulate least-cost rations.

**Unsaturated fat:** A fat having one or more double bonds, not completely hydrogenated.

**Urea:** A nonprotein organic nitrogenous compound. It is made synthetically by combining ammonia and carbon dioxide.

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Appendix C discusses the bagging operation in greater detail than other sections of this manual. It is recommended that you review this section prior to starting to bag.

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#### **BAGGING INSTRUCTIONS**

In order to get the benefits without the risk of VOIDING the WARRANTY, the customer must:

- Prior to bagging read the Operator's Manual and the 3M's OF Silage (appendix B)
- Notify Ag-Bag® within 24 hours of the discovery of a bag failure. Ag-Bag® will provide for an onsite review of the situation.

#### 1. THE CROP

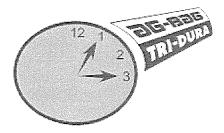
- A Maturity (Pre-bloom)
- B Moisture Level (65 percent target)
- C Crop Length (3/4" target) (See Appendix B)

#### 2. BAG LOCATION - Pick an area using these recommendations:

- A Blade the area to remove rocks and sticks.
- B Good drainage site is important.
- C Concrete, asphalt, gravel, or packet limestone, works well under bags.
- D Pick a site away from rodents.
- E Protect your site from livestock with fencing.

#### 3. BAG INSTALLATION

Enclosed in each box of Ag-Bag® Bags, is an instruction sheet with pictures to help you properly install the bag on your Ag-Bagger®. Please take the time to understand the best method of bag installation. The Bag logo should be placed on the machine so the logo is between 12 and 3 o'clock. (See Diagram 1)



(Diagram 1)

The bag is overfilled when – the 5" vertical bar located between Ag-Bag® logos on the bag is stretched to over 5-1/2" (See Diagrams 2a and 2b)



(Diagram 2a)



(Diagram 2b)

#### 4. BAGGING PRESSURE

- A When filling the bag, is should not be stretched more than 2 inches above the tunnel.
- B LESS brake press is required when:
  - 1 Bagging up hill
  - 2 Bagging with a large tractor or pushing a large truck
  - 3 Bagging in muddy or soft sandy soils
  - 4 Bagging extremely wet feed (above 75% moisture)
  - 5 Bagging dry grains (makes a flatter bag), the bag will not always reach to top of tunnel.
  - Bagging oats and winter forages (NOTE: These should only be packet to the top of the tunnel because of swelling during storage.)
- C MORE brake pressure is required when:
  - 1 Bagging on hard surfaces, concrete, asphalt, etc.
  - 2 Bagging with motorized Ag-Bagger®
  - 3 Bagging down hill

#### 5. SEALING AND VENTING - Very Important!!

As soon as the bag is filled, seal the finished end. As outlined in the instruction sheet. The faster oxygen is eliminated, the quicker the fermentation process can begin, it is very important to vent the bag. (See Appendix B)

#### 6. PROTECTION FROM WIND DAMAGE

Wind damage can be caused by wind whipping the loose ends of the Ag-Bag® Bag. To prevent damage, the loose bag end needs to be secured with MasterSeal or by placing tires or other soft material on the end of the bag. Wind damage can cause small cracks and eventually wear a hole that allows air to penetrate, causing feed damage. A tightly secured bag will add to the life of the bag.

#### 7. AG-BAG® BAG MANAGEMENT AND INSPECTION

Periodic inspection of the bag is essential to maintain an oxygen free environment in the bag. It is recommended that repairs be made with Ag-Bag® mending tape as soon as they are discovered.

#### 8. NORMAL USAGE LIFE OF AG-BAG® BAGS

Rotate stored crops - unpack in same order as packing. Use the oldest feed first.

- A Ag-Bag® bags located in the U.S.A. along the Canadian border, in all of Canada, Northern Europe, and in similar climates should be fed within 24 months.
- B Ag-Bag® bags located in the Central U.S., but more the 500 miles north of the Mexican border and the Gulf coast, should be fed within 24 months.
- C Ag-Bag® bags located in extremely hot and sunny regions of the world, such as the southern most areas of the U.S. and in Mexico, the Caribbean, Middle East, etc., should fed within 12-18 months. For more specific recommendations contact you Ag-Bag® dealer or Ag-Bag® International direct.

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Bag Code	Bag Size	Inoculant Index	Tons/Bag 65% Earlage	Tons/Bag 35% Shelled Corn	Tons/Bag 28-30% Per Bag	Approx. Bushels Per Bag (Based on 56# bushel)
TD810	8' x 100'	1.0	80-90	70	80	
TD815	8' x 150'	1.4	120-140	120	130	3,825
TD820	8' x 200'	1.9	170-190	164	180	5,294
TD913	9' x 135'	1.6	140-160	134	150	4,411
TD915	9' x 150'	1.8	160-180	162	175	6,125
TD920	9' x 200'	2.2	200-225	205	230	6,765
TD1015	10' x 150'	2.2	200-220	180	202	5,940
TD1020	10' x 200'	3.0	270-300	247	278	8,175
TD1025	10' x 250'	3.6	340-360	324	350	12,250
TD1125	11' x 250'	4.2	390-420	350	410	14,350
TD1225	12' x 250'	5.2	490-520			
TD1230	12' x 300'	5.7				
TD1250	12' x 500'	10				
TD1450	14' x 500'	12				

NOTE: The tons per bag are approximate and will vary based on moisture and length of chop and crop types. High moisture shelled corn totals are figured from bagging with a regular Ag-Bag machine. If using an Ag-Bag Grain Bagger, totals will be approximately 20% less, due to density. Also, when using the MasterSeal sealing strip you can get approximately 2-4 more loads in the bag, depending on the size of your bag.

#### SUGGESTED FEED OUT RATES PER DAY

	Winter	Rates	Summ	er Rates	
	Oct	April	May	Иау - Sept.	
Bag Size	Feet/Day	Tons/Day	Feet/Day	Tons/Day	
8'	1'	1	2'	2	
9'	1'	1	2 1/4'	2 3/4	
10'	2'	3	2 1/2'	4	
11'	2 1/4'	4	2 3/4'	5	
12'	2 1/2'	5 1/2	3'	6 1/2	

#### CAPACITY OF TONS PER RUNNING FOOT OF BAG

8'	1 ton
9'	1 1/4 tons
10'	1 1/2 tons
11'	1 3/4 tons
12'	2 1/4 tons

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