



OPERATOR'S MANUAL

MODEL: LX1214 Professional

DO NOT OPERATE THIS EQUIPMENT UNTIL THIS
MANUAL HAS BEEN READ AND UNDERSTOOD.

Part Number: 42.0802219B
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INTRODUCTION

This Operator's Manual is provided to acquaint the operator with the safety and operation of the Miller Ag-Bag LX1214 Professional Bagger. Complete Assembly, Operation, Lubrication and Maintenance procedures are provided. Following the recommended procedures will help you achieve many years of dependable service.

This manual is considered part of your machine and should remain with the machine at all times.

Make sure the operator reads and understands the manual before placing the bagger into operation.

Failure to follow the recommended procedures may result in personal injury or equipment damage, and could void the warranty.

MACHINE SERIAL NUMBER



The machine serial number is located on the support frame below the engine on the feed table side. For your convenience refer to this number and your product model number when requiring service or parts information. Record the machine serial number, model number, date of purchase and dealership name in the space provided below.

Date Purchased _____
Model No. _____ Serial No. _____
Dealership _____

Right and Left sides are determined from a position standing at the bag tunnel side looking toward the feed table.

The Warranty Registration must be completed by the dealer online to validate your warranty protection. You must read and understand the places where you attest to having received instructions as to care, adjustments, safe operation and applicable warranty policy.



WARNING

SOME PHOTOGRAPHS USED HEREIN MAY SHOW DOORS, GUARDS AND SHIELDS OPENED OR REMOVED. BE SURE THAT ALL DOORS, GUARDS AND SHIELDS ARE FASTENED IN THEIR PROPER POSITION BEFORE MACHINE IS OPERATED!

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Important Reference Numbers

Fill in the important serial numbers and model numbers in the spaces below. These will be helpful when service or maintenance is required. Also listed below are the part numbers and quantities of the filters and belts for this unit.

Model and Serial Numbers

Bagger Model Number: __LX1214 Professional__

Bagger Serial Number: _____

Engine Model Number: __Cummins QSX__

Engine Serial Number: _____

Filters

Description	Part Number	Qty.
Primary Air Filter Element	42.0800816	1
Secondary Air Filter Element	42.0800817	1
Fuel Filter/Water Separator	42.0801373	1
Engine Oil Filter	42.0801370	1
Engine Coolant Conditioner Filter (S/N 4220003 & Before, 4220005 thru 4220009) Extended Life	42.0801371	1
Engine Coolant Filter (S/N 4220004, 4220010 & After) OAT Coolant	42.0802369	1
Cab Air Filter - Charcoal	21.00955	1
Recirculation Filter - In Cab	21.21623	1
Main Hydraulic Oil Return	21.42585	2
Case Drain	21.21112	1
Clutch	42.1541961	1
Rotor Planetary	42.1540167	1
Hydraulic Oil Reservoir Breather	21.20848	1

Belts

Description	Part Number	Qty.
Serpentine	42.0801377	1
Water Pump	42.0801372	1

Bagger Check Lists

Delivery and Pre-Delivery Check Lists (customer and dealer copies) follow this page.

Customer copies can remain with this manual.

Dealer copies can be removed along perforation and remain with dealer.

Delivery Check List - Customer Copy

The following list is an important reminder of valuable information, which must be passed on to the customer at the time the unit is delivered. Check off each item as you explain it to the customer.

- Give the customer this operator's manual. Instruct them to be sure to read and completely understand its contents before attempting to operate the unit.
- Review the warranty.
- Explain and review the safety section of this manual with the customer.
- Explain that regular lubrication and proper adjustments are required for continued proper operation and long life. Review the maintenance section of this manual with the customer.
- Have the dealer complete the warranty registration online.

Dealer's Signature: _____

Date: _____

- I acknowledge that the above points were reviewed with me at the time of delivery.

Customer's Signature: _____

Date: _____

Pre-Delivery Check List - Customer Copy

After the Miller Ag-Bag has been completely set up, check that it is in correct working order before delivery to the customer. The following is a list of points to inspect. Check off each item to verify the proper adjustments have been made and the item(s) is (are) operating satisfactorily. Any adjustment must be made according to specifications defined in this manual.

- Verify that all of the options are installed.
- Verify that all accessories function correctly.
- Check tire inflation.
- Check and tighten wheel nuts to correct torque.
- Make sure all bolts and other fasteners are tightened or properly adjusted.
- Make sure hoses are secured and not in contact with any moving parts.
- Check that the feed table raises and lowers properly.
- Check all fluid levels.
- Lubricate all grease fittings.
- Check that all safety signs are in place.
- Check that all safety systems, including guards and shields are in place and functional.

Dealer's Name: _____

Signature of Pre-Delivery Inspector: _____

Date Of Inspection: _____

Delivery Check List - Dealer Copy

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- Have the dealer complete the warranty registration online.

Dealer's Signature: _____

Date: _____

- I acknowledge that the above points were reviewed with me at the time of delivery.

Customer's Signature: _____

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- Check that all safety signs are in place.
- Check that all safety systems, including guards and shields are in place and functional.

Dealer's Name: _____

Signature of Pre-Delivery Inspector: _____

Date Of Inspection: _____

Safety Precautions



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. Take time to be careful!



DANGER

“DANGER” indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

“WARNING” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

“CAUTION” indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also alert against unsafe practices.

BEFORE you attempt to operate this machine, read and study the following safety information. In addition, **MAKE SURE** that every individual who operates or works with this equipment, whether family member or employee, is familiar with these safety precautions. Miller-St. Nazianz provides guards for exposed moving parts for the operator’s protection; however, some areas cannot be guarded or shielded in order to assure proper operation. The **OPERATOR’S MANUAL AND SAFETY SIGNS** on the machine itself warn you of dangers and **SHOULD BE READ AND OBSERVED CLOSELY.**

Failure to follow these precautions could result in death or serious injury.

General Safety Precautions

Read and understand all of the safety precautions and warnings before performing any repair. This list contains the general safety precautions that must be followed to provide personal safety. Special safety precautions are included in the procedures when they apply.



Warning

To avoid the potential of fire, at least once during each day and at the end of the day, inspect and remove any trash and debris from the vehicle, especially around hot components such as the exhaust, engine, turbocharger, batteries and cooling system. More frequent cleaning and inspection will be required if operating conditions are severe.

- Know how to stop bagger operation **before** starting it.
- **Watch** for and **avoid** overhead wires or other obstacles. Contact with electrical wires **will** cause serious injury or death.
- **Be alert** for people and/or animals in front of or around machine, **before** you start operating the machine.
- **Do not** enter the feed table or hopper when machine is operating.
- **Keep** hands, feet and clothing away from feed table when operating.
- **Do not** allow people other than a qualified operator near the unit.
- **Keep** riders off the bagger. **Do not** allow passengers.
- **Do not** allow minors to be near the machine unless properly supervised.
- **Do not** allow children to operate this machine.
- Rotating parts can cause cuts, mutilation and strangulation.
- Wear safety goggles or glasses, safety shoes and all proper clothing when operating or servicing this machine.
- **Do not** wear loose fitting, torn or baggy clothing. Remove all jewelry when working.
- **Do not** attempt to operate machine without covers in place.
- Inspect machine for damage after use.
- **Do not** work on or walk under anything that is supported **ONLY** by lifting jacks or a hoist. Use blocks or proper stands to support the product before performing any service work.
- **Make sure** the work area surrounding the vehicle is dry, well lit, ventilated, free from clutter, loose tools, parts, ignition sources and hazardous substances. **Be aware** of hazardous conditions that can exist.
- **Stop** bagger operation and shut off engine between loads if bagger is to be left unattended.
- **Do not** leave running machine unattended.

-
-
- To **avoid** personal injury, use a hoist or get assistance when lifting components that weigh 50 lbs (23 kg) or more. **Make sure** all lifting devices such as chains, hooks or slings are in good condition and are of the correct capacity. **Make sure** hooks are positioned correctly. **Always** use a spreader bar when necessary. The lifting hooks **must not** be side loaded.
 - **Do not** operate this machine or perform any repair when fatigued or after consuming alcohol or drugs that can impair your functioning.
 - **Do not** drive this vehicle on public roads. Only transport on an equipment trailer or using the tow hitch.
 - **Be sure** the area is clear of all personnel **before** starting the engine or operating this vehicle.
 - **Do not** unclog, adjust, lubricate or service your bagger until you disengage the drive and shut off the engine. Failure to follow this procedure could result in serious bodily injury or death.
 - **Avoid** high pressure fluids. Escaping fluid under pressure can penetrate skin causing serious injury or death.
 - **Avoid** the edges of ditches or gullies and steep hillsides.
 - **Only** operate bagger on level ground. **Reduce** speed on rough ground.
 - **Be extra** careful when going through fence gates or nearing confined quarters.
 - **Allow** for unit length when making turns.
 - **Do not** allow children to play on or around a stored or idle unit.
 - **Keep** wheel lug nuts tightened to the specified torque.
 - **Assure** that all tires are inflated evenly and to specified pressure.
 - **Check** for and **remove** all tools from the unit, feed table and hopper **before** starting operation.
 - Chock the wheels when parking the vehicle or leaving the vehicle unattended to prevent rolling.
 - **Replace** all safety signs that are missing or become illegible.
 - **Keep** all safety signs clean and legible at all times.
 - **Relieve** all pressure in the air, oil and cooling systems before any lines, fittings or related items are removed or disconnected. **Be alert** for possible pressure when disconnecting any device from a system that utilizes pressure. **Do not** check for pressure leaks with your hand. High pressure oil or fuel can cause personal injury.

Maintenance Safety Precautions

- **Be sure** there is plenty of ventilation. **Do not** operate the engine in an enclosed area. Exhaust fumes are dangerous and can cause death.
- **Before** working on this machine, stop the vehicle, set the brakes, disengage all power drivers, shut off the engine and remove the ignition key.
- **Be sure** all moving parts have come to a complete stop **before** attempting to perform any maintenance.
- **Be sure** to use a safety support and blocks to support the machine. **Do not** use a jack to support the machine.
- **Be sure** to use the proper tools.
- **Be sure** to torque all hardware according to the torque chart contained in this manual.
- Use a piece of cardboard or paper to check for hydraulic oil leaks. **Do not** use your hand or any other body part. Hydraulic oil under pressure can penetrate the skin causing serious injury or death.
- **Be sure** to relieve all hydraulic pressure before disconnecting any hydraulic components.
- **Be sure** to replace all guards and shields after servicing is complete. **Do not** operate this machine with guards or shields open or missing.
- **Remove** all tools from vehicle before operating.
- **Do not** allow grease or oil on the steps or platform.
- Use same grade and type of fasteners if replacement is necessary.

Engine Safety Precautions

- Read engine operation & maintenance manual before operating or servicing the engine.
- Improper practices or carelessness can cause burns, cuts, mutilation, asphyxiation or other bodily injury or death.
- Disconnect the battery (negative [-] cable first, then the positive [+] cable) and discharge any capacitors **before** beginning any repair work. Put a “**Do Not Operate**” tag in the operator’s compartment or on the controls.
- Use **ONLY** the proper engine barring techniques for manually rotating the engine.
- If an engine has been operating and the coolant is hot, **allow** the engine to cool before you **slowly** loosen the filler cap and relieve the pressure from the cooling system.
- **Relieve** all pressure in the air, oil and cooling systems before any lines, fittings or related items are removed or disconnected. **Be alert** for possible pressure when disconnecting any device from a system that utilizes pressure. **Do not** check for pressure leaks with your hand. High pressure oil or fuel can cause personal injury.
- To prevent suffocation and frostbite, wear protective clothing and **ONLY** disconnect liquid refrigerant (freon) lines in a well ventilated area. To protect the environment, liquid refrigerant systems must be properly emptied and filled using equipment that prevents the release of refrigerant gas (fluorocarbons) into the atmosphere. Federal law requires capture and recycling refrigerant. Check local regulations before servicing the air conditioning system.
- Cooling system corrosion inhibitor contains alkali. **Do not** get the substance in your eyes. **Avoid** prolonged or repeated contact with skin. **Do not** swallow internally. In case of contact, immediately wash skin with soap and water. In case of contact, immediately flood eyes with large amounts of water for a minimum of 15 minutes. **IMMEDIATELY CALL A PHYSICIAN. KEEP OUT OF REACH OF CHILDREN.**
- Some state and federal agencies in the United States Of America have determined that used engine oil can be carcinogenic and can cause reproductive toxicity. **Avoid** inhalation of vapors, ingestion and prolonged contact with used engine oil.

Electrical Safety Precautions

- This machine and its systems are designed to operate off of a 12 volt DC power supply **only**.
- **Never** operate this machine with a damaged electrical system. Disconnect from electrical supply if machine is not working properly.
- **Do not** attempt to operate this machine without the appropriate fuses, relays and breakers in place.
- **Do not** attempt to bypass a fuse. If a fuse is no longer serviceable, a shock or short hazard may exist.
- **Never** replace original fuses/breakers with higher amperage fuses/breakers.
- Inspect all components for damage after any electrical problem.

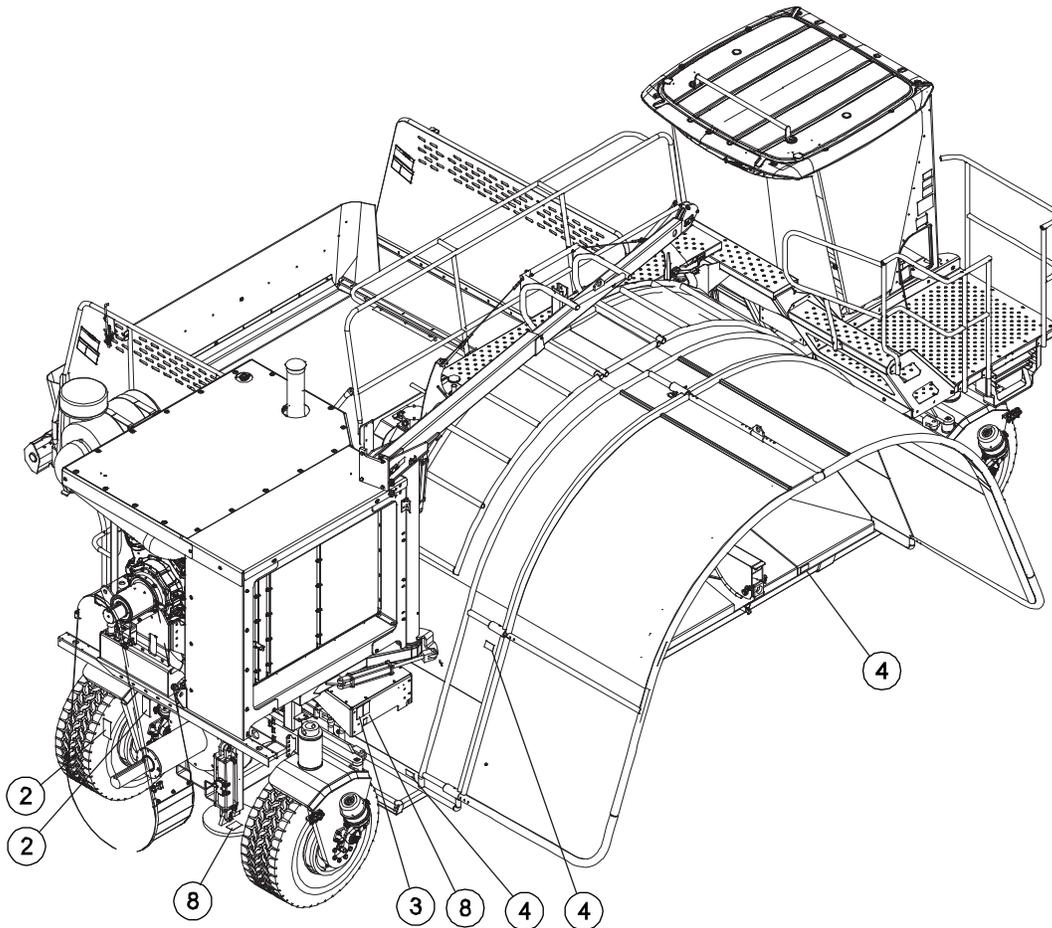
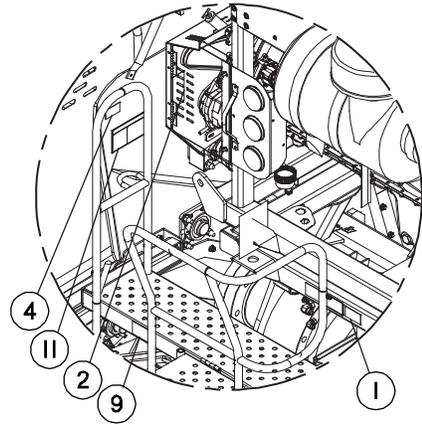
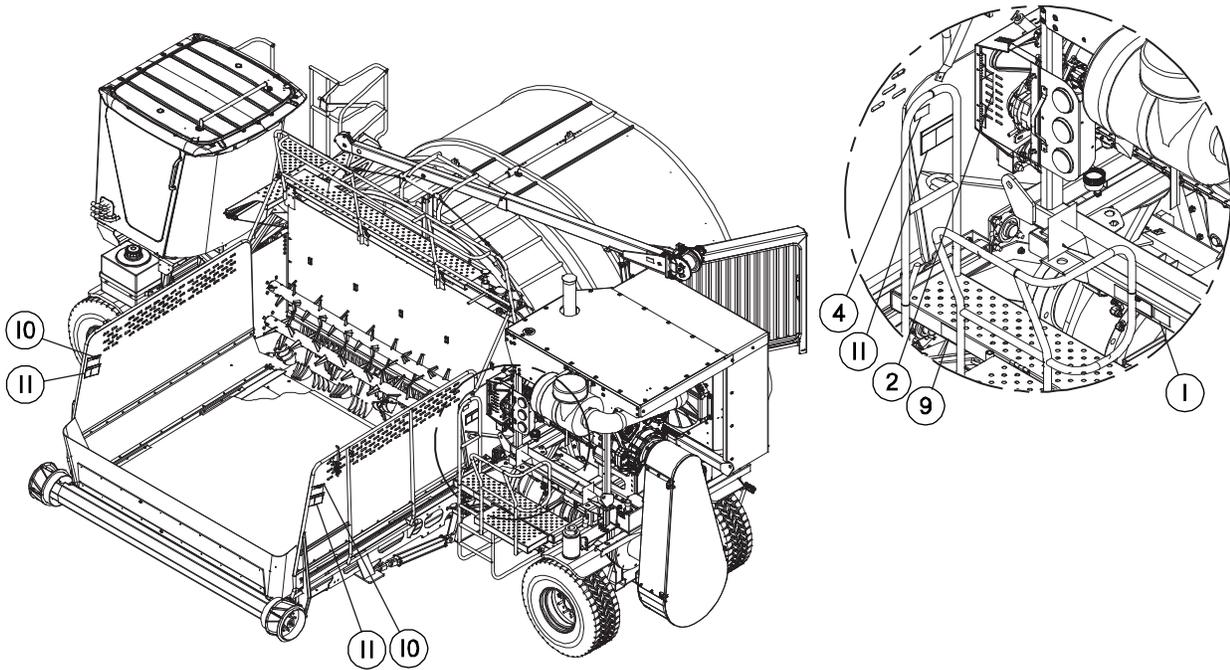
There are additional hazards associated with the service and maintenance of electrical components.

- All electrical components generate heat. To **avoid** serious burns, **never** touch internal components immediately after use.
- Disassembly or attempted repairs, if accomplished incorrectly can create electrical shock and/or short hazards. **Only** qualified personnel should perform repair service.
- **Never** attempt to replace electrical wires and cables with smaller gauge wire and cable.
- Some electrical components can store energy after the unit is shut down. **Be sure** to completely de-energize all electrical components, discharging all stored energy **before** beginning any service work.

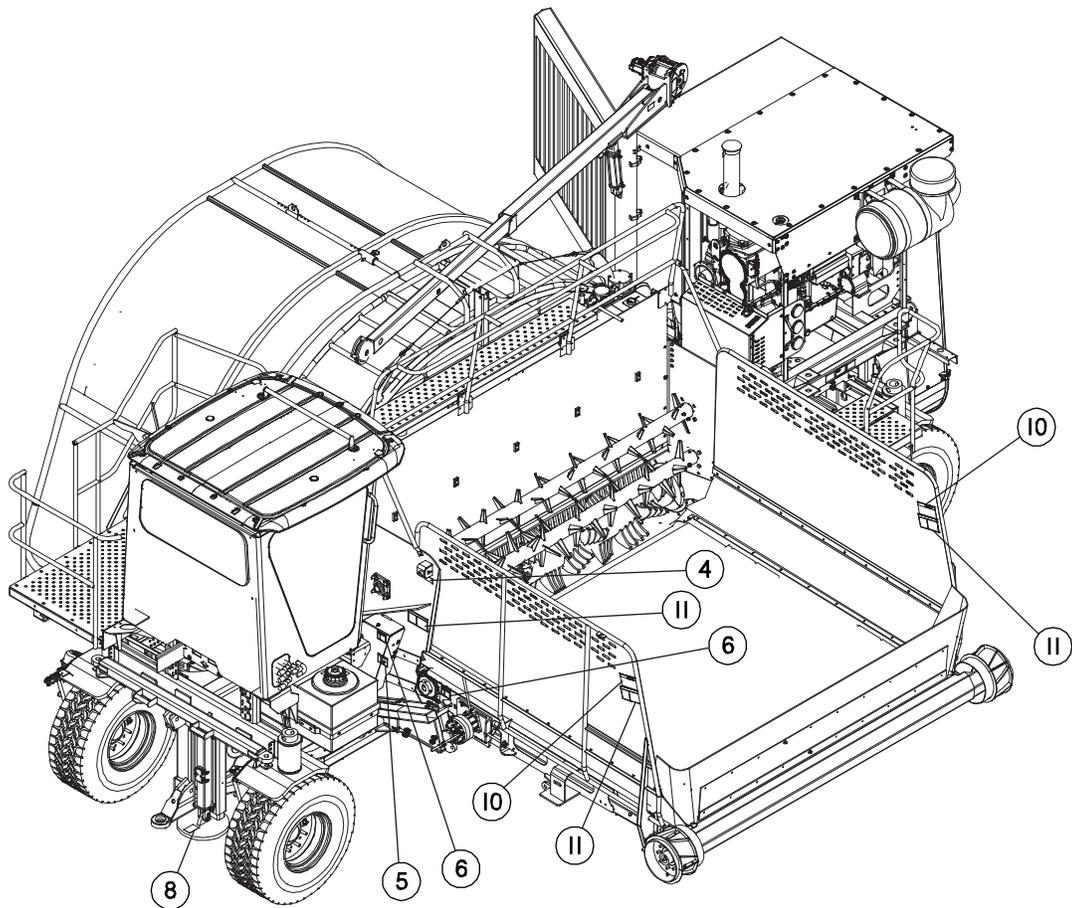
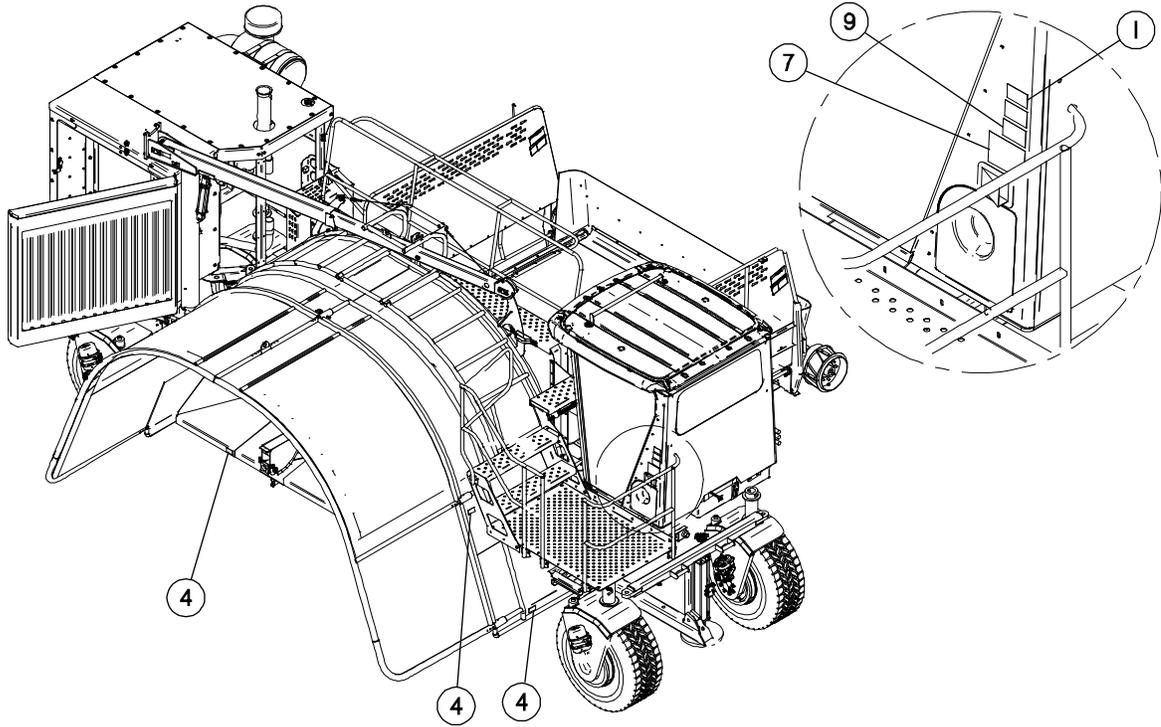
Wheels and Tires Safety Precautions

- If a rim is leaking air, **Do not** weld on the rim! **Do not** put a tube in the tire! **Do not** use tire sealant in the tire! These types of repairs can allow the defect to propagate to the point that the rim could fail resulting in personal injury or severe damage to the bagger. **Replace** any leaking or damaged wheels with **New** wheels.
- **Do not** rework, weld, heat or braze rims. If you have a wheel on your bagger with a rim leaking air, contact your dealer immediately.
- **Do not** drive or load tires beyond their rated speed and load capacities. Check with the tire manufacturer for load and speed ratings for your particular tire.

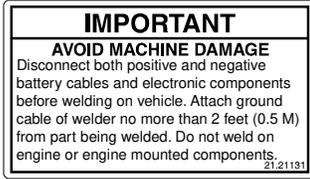
Safety Sign and Decal Locations



Safety Sign and Decal Locations - continued



Safety Signs



**21.21131 (Ref #1)
Before Welding
(Qty 2)**



**16.20179 (Ref #5)
Warning Shield Is Off Or Open
(Qty 1)**



**331096B2 (Ref #2)
Shield Is Off Warning
(Qty 3)**



**16.20181 (Ref #6)
Warning Rotating Parts Inside
(Qty 2)**



**21.09024 (Ref #3)
High Pressure Warning
(Qty 1)**



**16.20178 (Ref #7)
Warning Before Operating
(Qty 1)**



**40.00472 (Ref #4)
Warning Pinch Point
(Qty 8)**

Safety Signs - continued



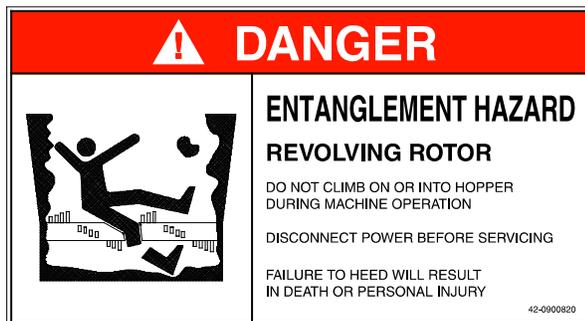
21.09025 (Ref #8)
Danger Pinch Point
(Qty 4)



42.0900821 (Ref #10)
Moving Conveyor Danger
(Qty 4)



21.09026 (Ref #9)
Danger No Riders
(Qty 2)



42.0900820 (Ref #11)
Revolving Rotor Danger
(Qty 6)

Yellow Reflective Decals



*Yellow Reflective Decal
Wheel Pivot Engine End
(Feed Table Side)*



*Yellow Reflective Decal
Wheel Pivot Engine End
(Tunnel Side)*



*Yellow Reflective Decal
Wheel Pivot Cab End*



*Yellow Reflective Decal
Cab Platform*

SMV Emblem & Red Reflective Decals



SMV Emblem

*Red Reflective
Decal*

*Red Reflective
Decal*

Specifications

ENGINE.....	Cummins QSX 15 liter , 600 HP
ENGINE OIL CAPACITY	
Low Level	10 Gal. (38L)
High Level	12 Gal. (45L)
Oil Type (see Cummins operation & maintenance manual).....	SAE 10W-40
FUEL CAPACITY	140 Gal. (530 L)
ENGINE COOLING SYSTEM CAPACITY	
Coolant Type	Extended Life or Organic Acid Technology (OAT)
HYDRAULIC OIL RESERVOIR CAPACITY	
Hydraulic Oil Type	ISO 68
HYDRAULIC PTO CLUTCH	
Hydraulic Clutch Oil Reservoir Capacity	20 Gal. (76 L)
Hydraulic Clutch Oil Type	Mobil 424
ROTOR PLANETARY	
Planetary System Oil Capacity	7.5 Gal. (28 L)
Planetary Oil Type	Synthetic 80W-140 Gear Lube
FEED TABLE PLANETARY	
Planetary Oil Capacity	1.25 Pints (0.59 L)
Planetary Oil Type	Synthetic 80W-140 Gear Lube
LIQUID INOCULANT TANK CAPACITY	56 Gal. (212 L)
WIDTH - TRANSPORT	9 ft - 4 in
WIDTH - BAGGING	26 ft - 3 in
LENGTH - TRANSPORT	27 ft
MAXIMUM HEIGHT.....	12 ft - 4 in
WEIGHT (Approximate depending on tunnel size).....	45,540 lbs (20,657 kg)
ROTOR LENGTH	11 ft.
NUMBER OF ROTOR TEETH.....	128
MAXIMUM BAG LENGTH	500 ft.
BAG DIAMETER	12 or 14 ft.

Features and Controls

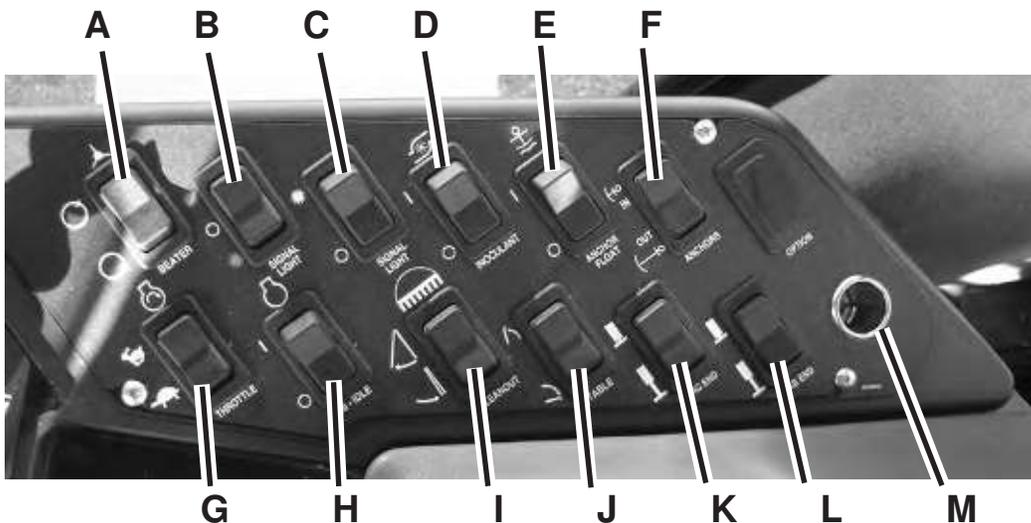
In Cab Controls

All the controls in the cab are conveniently located on the right side console and the right side corner post of the cab.

Right Side Console

Refer to the following overview of the side console for all control locations.

- | | |
|--|---|
| A. Upper Beater Control Switch: Clockwise, Off, Counterclockwise. | H. Engine High Idle Switch: On/Off. |
| B. Signal Light Switch: Red, Green On/Off. | I. Tunnel Cleanout Switch: Open/Close. |
| C. Signal Light Switch: Amber On/Off. | J. Feed Table Lift/Lower Switch: Up/Down. |
| D. Inoculant Spray Applicator Switch: On/Off. | K. Engine End Lift Jack Switch: Up/Down. |
| E. Anchor Float Switch: On/Off. | L. Cab End Lift Jack Switch: Up/Down. |
| F. Anchor Switch: In/Out. | M. Power Port: Accessory 12 Volt Plug In. |
| G. Engine Throttle Control Switch: Increase and Decrease Engine RPM. | |



Right Hand Console Overview

Upper Beater Control Switch Location (A)

The beater control switch is a three position rocker switch which controls the direction of rotation of the upper beater as well as turns it off.

Push the top of the switch in to have the beater rotate clockwise.

Push the bottom of the switch in to have the beater rotate counter-clockwise.

Position the switch in the center to turn the beater off.

Change the direction of the upper beater as required to keep the product from bridging in the feed table hopper during bagging.



Upper Beater Control Switch

Signal Light Switch Red-Green Location (B)

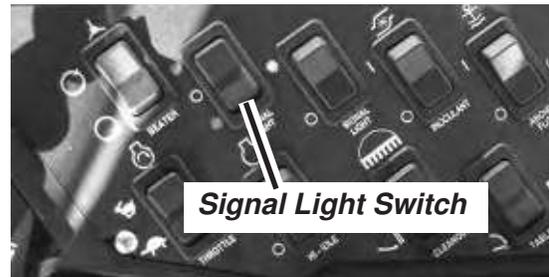
The signal light switch for the red-green signal lights is a three position rocker switch which turns the red or green signal lights on and off.

Push the top of the switch in to turn the red signal lights on.

Push the bottom of the switch in to turn the green signal lights on.

Position the switch in the center position to turn both signal lights off.

Use this switch in conjunction with the amber signal light switch to alert anyone around the bagger as to the operational status. Go over the colors used for each message intended before any operation is started. Once operation is started do not stray from the intended message for each light.



Signal Light Switch (Red - Green)

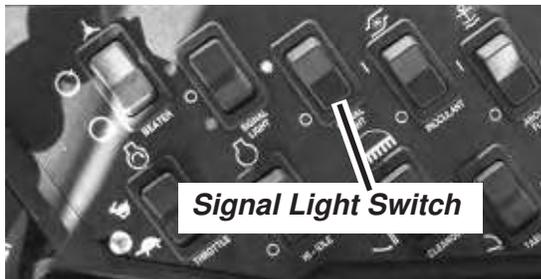
Signal Light Switch Amber Location (C)

The signal light switch for the amber signal lights is a two position rocker switch which turns the amber signal lights on and off.

Push the top of the switch in to turn the amber signal lights on.

Push the bottom of the switch in to turn the amber signal lights off.

Use this switch in conjunction with the red-green signal light switch to alert anyone around the bagger as to the operational status. Go over the colors used for each message intended before any operation is started. Once operation is started do not stray from the intended message for each light.



Signal Light Switch (Amber)

Inoculant Spray Applicator Switch Location (D)

The inoculant spray applicator switch is a two position rocker switch which turns the inoculant spray applicator pump on and off.

IMPORTANT: The rotor must be engaged before the pump will operate.

Push the top of the switch in to turn the inoculant spray applicator pump on.

Push the bottom of the switch in to turn the inoculant spray applicator pump off.

Do not run the applicator pump without liquid in the inoculant tank which is located under the cab floor on the feed table side of the machine. Refer to the "Storage" section of this manual for cleaning prior to storage.

This tank and system should be drained and cleaned daily. Refer to the "Inoculant Applicator" section in the "Operation" section of this manual.



Inoculant Spray Applicator Switch

Anchor Float Switch Location (E)

The anchor float switch is a two position rocker switch which turns the anchor float on and off.

When the anchor float is turned on, a icon will appear on the display panel on the right side corner post alerting the operator that the float is on. Once the float is turned off the icon will disappear.

Push the top of the switch in to turn the anchor float on.

Push the bottom of the switch in to turn the anchor float off.

Turn the anchor float off during bagging operations. Turn the anchor float on to allow the anchors to float out when starting a new bag.



Anchor Float Switch

Anchor Switch In/Out Location (F)

The anchor in/out switch is a three position (momentary) switch which powers the anchors in or out. When the switch is released, it will return to the center (off) position

Push and hold the top of the switch in to power the anchors in toward the tunnel.

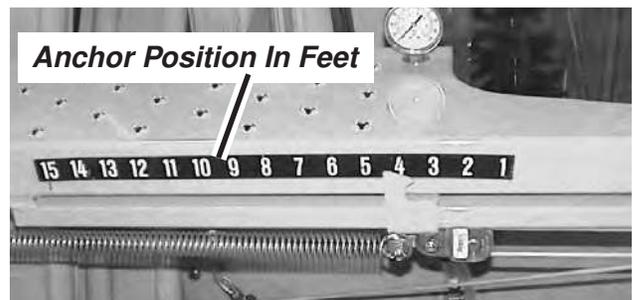
Push and hold the bottom of the switch in to power the anchors out away from the tunnel.

Always watch the anchor position scale (located directly in front of the windshield) when powering the anchors in or out.

IMPORTANT: The anchor float switch must be off to power the anchors in or out.



Anchor Switch In/Out



Anchor Position Scale

Engine Throttle Control Switch Location (G)

The engine throttle control switch is a three position (momentary) switch which must be held in position. When the switch is released, it will return to the center (off) position.

Push and hold the top of the switch in to increase the engine speed.

Push and hold the bottom of the switch in to decrease the engine speed.

When the switch is released it will return to the center position and will maintain the engine speed it was running at when the switch was released.



Engine Throttle Switch

Engine High Idle Switch Location (H)

The engine high idle switch is a two position on/off switch.

Push the top of the switch in to increase the engine speed immediately up to 1850 rpm.

Push the bottom of the switch in to decrease the engine speed immediately to around 1000 rpm or whatever engine speed the engine throttle control was set at.



Engine High Idle Switch

The engine high idle speed is set to 1850 rpm from the factory. This speed can be set to any value between 1700 rpm and 2100 rpm. Refer to "Setting High Idle Speed" in the "Adjustment" section of this manual.

Tunnel Clean Out Switch

Location (I)

The tunnel clean out switch is a three position (momentary) switch which must be held in position. When the switch is released, it will return to the center (off) position.

IMPORTANT: Always turn the rotor off before activating the tunnel cleanout. Do not turn the rotor on unless the tunnel clean out is completely closed.

Push and hold the top of the switch in to open (push away from rotor) the tunnel clean out. When the tunnel clean out is open a icon will appear on the display panel on the right side corner post alerting the operator that the clean out is open. The icon will be displayed until the cleanout is closed.

Push and hold the bottom of the switch in to close (bring it toward the rotor) the tunnel clean out. Once the tunnel clean out is completely closed, the icon on the display will disappear. Do not turn the rotor on unless the icon has disappeared.



Tunnel Clean Out Switch

Feed Table Lift/Lower Switch

Location (J)

The feed table lift/lower switch is a three position (momentary) switch which must be held in position. When the switch is released, it will return to the center (off) position.

Push and hold the top of the switch in to lift the feed table up.

Push and hold the bottom of the switch in to lower the feed table down.

Be sure to release the feed table transport lock located on the cab side of feed table before lowering the feed table. The feed table lock pin should remain in the unlocked position while bagging.

Be sure the feed table sides are in the folded (down) position before attempting to raise the feed table.

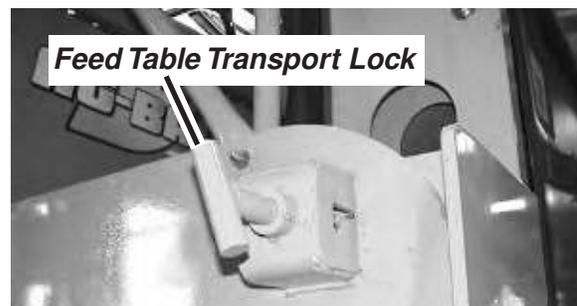
IMPORTANT: To prevent contact between the feed table sides and the hopper, feed table sides must be folded completely down and against the belt before raising the feed table.



Feed Table Lift/Lower Switch



Tunnel Clean Out Open Icon on Display



Feed Table Transport Lock

Engine End Lift Jack Switch Location (K)

The engine end lift jack switch is a three position (momentary) switch which must be held in position. When the switch is released, it will return to the center (off) position.

Push and hold the top of the switch in to raise the engine end lift jack up, lowering the engine end wheels to the ground. Always raise the lift jack all the way up when bagging or moving the vehicle.



Keep away from lift jack pad when lowering jack. Serious injury or death will result from any body part being crushed under pad.

Push and hold the bottom of the switch in to lower the engine end lift jack to the ground, lifting the engine end wheels up.

IMPORTANT: Never lift the engine end of the machine any higher than needed to rotate the wheels into position.



Engine End Lift Jack Switch

Cab End Lift Jack Switch Location (L)

The cab end lift jack switch is a three position (momentary) switch which must be held in position. When the switch is released, it will return to the center (off) position.

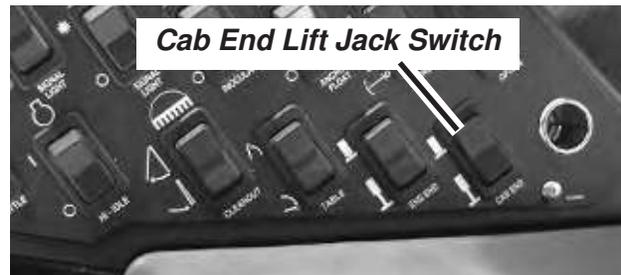
Push and hold the top of the switch in to raise the cab end lift jack up, lowering the cab end wheels to the ground. Always raise the lift jack all the way up when bagging or moving the vehicle.



Keep away from lift jack pad when lowering jack. Serious injury or death will result from any body part being crushed under pad.

Push and hold the bottom of the switch in to lower the cab end lift jack to the ground, lifting the cab end wheels up.

IMPORTANT: Never lift the cab end of the machine any higher than needed to rotate the wheels into position or to attach the tow hitch to a tow vehicle.



Cab End Lift Jack Switch

Power Port For 12 Volt Accessories Location (M)

The power port is located toward the rear of the right side console switch panel. The power port is used for electrical accessories such as cell phone chargers. This port has continuous power whether the ignition is on or off. Pull the protective cover off to gain access to the port.

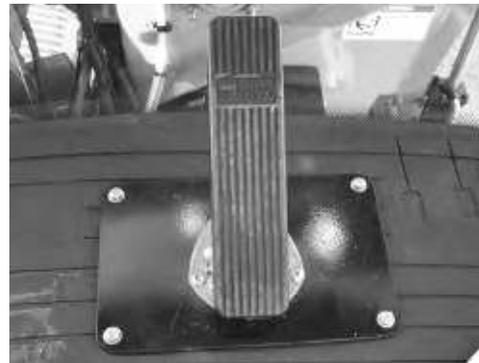
This port should not be used for loads over 10 amps.



Power Port

Brake Pedal

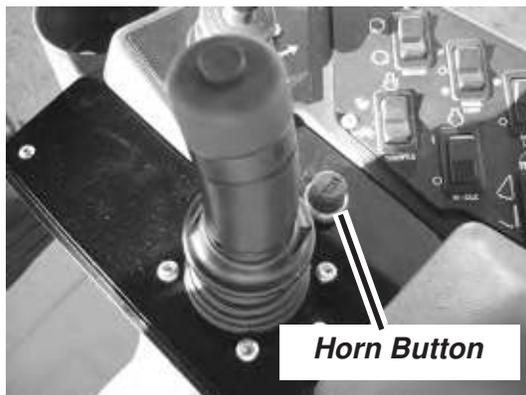
The brake pedal is located on the cab floor between the operators seat and the windshield. The brake pedal is used to apply the wheel brakes when moving the vehicle and also to assist in bagging when starting a new bag. Apply the brakes as needed to start a new bag until the anchors have been set and the brake pressure has been properly adjusted.



Brake Pedal

Horn Button

The horn button is located on the right side console to the right of the joystick. Pressing the button activates the horn. Always sound the horn prior to starting the engine.



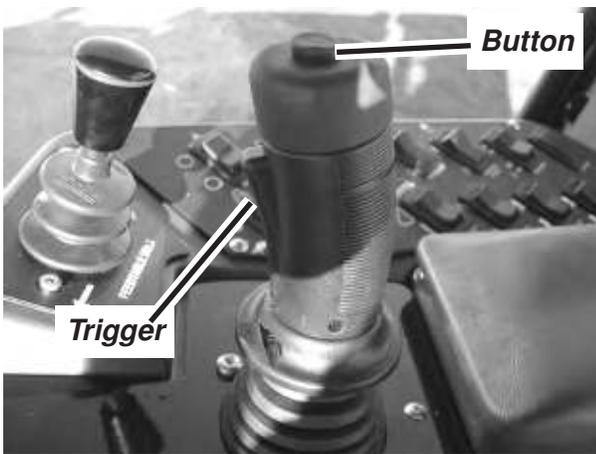
Horn Button

Direction and Steering Joystick

The direction and steering joystick is located to the right of the operators seat and in front of the right side armrest.

The joystick has two additional controls on it for use with other modes. A trigger is located on the front side of the joystick handle and a push button is located on the top of the joystick handle.

Refer to the operational modes of the joystick for an explanation of what the joystick will control.



Direction & Steering Joystick

Driving in Transport Mode:

1. Be sure to raise the lift jacks before transporting.
2. Release the parking brake.
3. Move the joystick in the direction you want to travel. Move the joystick forward or backward to drive and side to side to steer. The trigger at the front of the joystick must be engaged (pressed).
 - a. In transport mode, the joystick controls steering on the engine end only. The electronic control system will steer the cab end wheels to follow the engine end.
 - b. Steering angles are limited to approximately 20 degrees in one direction and 30 degrees in the other direction. (20 degrees is a mechanical stop, 30 degrees is an electronic stop).

Driving in Trailer Mode:

1. Be sure to raise the lift jacks.
2. Release the parking brake.
3. Move the joystick in the direction you want to travel. Drive is forward or backward.
4. Wheels at the cab end and engine end are steered independently using the joystick. Cab end wheels are steered by moving the joystick side to side with the trigger at the front of the joystick engaged (pressed). Engine end wheels are steered by moving the joystick side to side with the trigger at the front of the joystick engaged (pressed) **and** the button on the top of the joystick engaged (pressed).

NOTE: Trailer Mode is recommended when loading or unloading machine from a trailer.

Driving in Bag Mode:

1. Be sure to raise the lift jacks before transporting.
2. Release the parking brake.
3. Move the joystick in the direction you want to travel. Move the joystick side to side to drive. Moving the joystick farther from center will increase the speed of the wheels.
4. In bagging mode, the joystick controls steering on the engine end only. The electronic control system will steer the cab end wheels. Wheels will “Crab” steer (wheels stay parallel). Move the joystick front to back to steer.

Switching Driving Modes

The modes can be switched depending on type of driving you are doing. This has to be done before operating joystick. Refer to Direction and Steering Joystick section.

The modes are:

Trailer Mode
Transport Mode
Bagging Mode

Switch From Transport to Trailer Mode:

Switch to the trailer mode, press the F3 key on the display. Trailer mode will display.



Display for Trailer Mode

Switch From Trailer to Transport Mode:

Trailer to transport.

- A. Wheels at engine and cab ends must be within 5 degrees of each other.
- B. When this is true press the F3 key on the display.
- C. Cab end will automatically steer to match engine end.



Display for Transport Mode

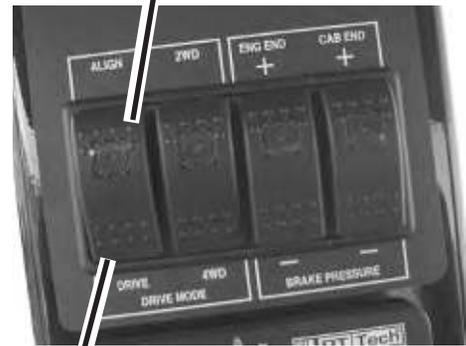
- D. If the F3 key is pressed with the wheels more than 5 degrees apart, "In Between Mode" will be indicated on the display.



Display for In Between Mode

- E. Press the "Align" switch on the switch panel on the right side corner post, steer the wheels to within 5 degrees, then press the "Drive" switch. Transport Mode will display.

Press This End For Align



**Press This End For Drive
Align and Drive Switch**

Switch From Trailer or Transport Mode to Bagging Mode:

1. Lower the cab end lift jack enough to slightly lift the wheels.
2. Press the “Align” switch on the switch panel on the right side corner post.
3. Steer the wheels to 90 degrees \pm 2 degrees.
4. Lower the cab end wheels to the ground by lifting the jack all the way up.
5. Lower the engine end lift jack enough to slightly lift the wheels.
6. Steer the engine end wheels to 90 degrees \pm 2 degrees.
7. Lower the engine end wheels to the ground by lifting the jack all the way up.
8. Press the “Drive” switch on the switch panel on the right side corner post. Cab end will automatically steer to match the engine end. If the wheels are more than 5 degrees apart, “In Between Mode” will be indicated on the display
9. Press the “Align” switch on the switch panel on the right side corner post, steer the wheels to within 5 degrees, then press the “Drive” switch.
10. Mode on the display will switch to Bag Mode.



Display for In Between Mode



*Press This End For Drive
Align and Drive Switch*



Display for Bag Mode

Feed Table Belt Control

The feed table belt control is located at the front of the right side console.

Move the feed table joystick to the left to have the feed table belt start to move toward the rotor. Pushing the joystick further to the left will increase the speed of the belt. The joystick is friction controlled and will maintain any setting.

Move the joystick back to the center to stop the feed table belt.

Move the feed table joystick to the right to have the feed table belt start to move away from the rotor. Pushing the joystick further to the right will increase the speed of the belt. The joystick is friction controlled and will maintain any setting.

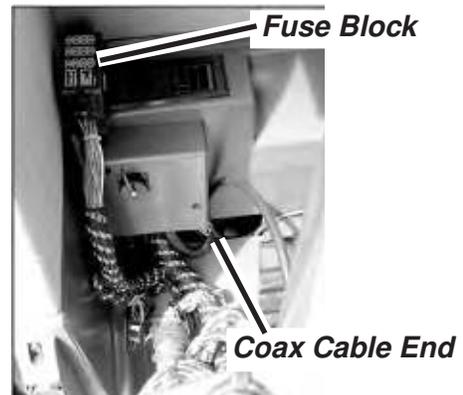
Always stop the feed table belt between loads and while leaving the bagger unattended.



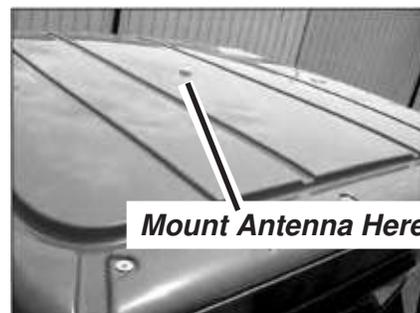
Feed Table Belt Control Joystick

Two Way Radio Coax Cable

The cab is equipped with a two way radio coax cable. The radio end of the coax cable is located in the lower right rear corner of the cab near the fuse block. Remove the plastic tie wrap and pull the required amount of cable out of the corner of the cab. Use this coax cable end for two way radio installation. Remove the plug from the outside center of the cab roof and assemble the antenna to the coax cable at that location by turning the antenna on to the connector.



Coax Cable In Corner Of Cab



Plug In Center Of Cab Roof

Antenna

Unfold the antenna for best radio reception. Fold it back down before driving under low overhead obstructions, towing or hauling.

AM/FM/WX Stereo Radio w/CD Player

NOTE: Your vehicle may have a radio without a cd player. To set any of the programming on that radio, refer to the Owner's Manual that came with your radio.



AM/FM/WX Radio w/CD Player

Setting The Clock (Radio w/CD Player)

1. Turn the ignition on.
2. Press and hold the "DSPL/TIME" button until the hours and minutes digits flash and you hear a beep. This indicates you are in the time set mode.
3. Press the "DSPL/TIME" button again until the hours digits flash.
4. Rotate the "SETUP" knob to change the hour. Rotating the knob clockwise will increase the hour; rotating counterclockwise will decrease the hour.
5. Press the "DISPL/TIME" button again causing the minutes digits to flash. Rotate the "SETUP" knob to change the minutes. Rotating the knob clockwise will increase the minutes; rotating counterclockwise will decrease the minutes.
6. Press the "DISPL/TIME" button again to complete the time set procedure. The display will return to the default display.

At any time during the time set process, not pressing a button or rotating the knob for 5 seconds will cancel the time set mode, return the radio to normal operation and keep whatever changes you have made.

For setting all other functions of the radio, refer to the Owner's Manual supplied with your radio.

Programming Radio For Use In Other Countries

All frequencies in North America end in an odd number such as “9” as in “107.9”. All frequencies outside North America end in an even number such as “8” as in “101.8”.

These instructions are intended to reprogram the radios that do not have a cd player.

Setting the radio for North American frequencies.

1. Turn the key switch ON and turn the radio OFF.
2. Press and hold the “DSPL/TM SET” button until the hour digit on the time display starts flashing.
3. Immediately press the “BAND” button once. When the radio displays “USA”, do not press any buttons until the radio display returns to the current time.

Setting the radio for frequencies outside of North America.

1. Turn the key switch ON and turn the radio OFF.
2. Press and hold the “DSPL/TM SET” button for two seconds to enter the “SET” mode. While in this mode, push the “BAND” button to display the region or country desired. The “BAND” button must be pushed quickly.

NOTE: Once “ARGENTINA” is reached, the display will start over. Due to government regulations, Saudi Arabia is not available.

If you have the DELPHI radio with cd player shown below, this radio can not be reprogrammed for frequencies outside of North America.

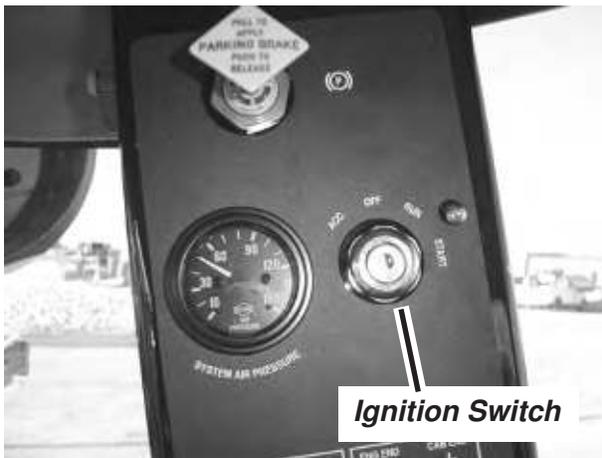


Ignition Switch

The ignition switch is located on the right side cab post. Turn the key from the OFF position, past the RUN position to the START position to crank the engine. Once the engine starts, release the key and it will return to the RUN position.

Remove the key from the ignition switch whenever leaving the vehicle unattended.

Turn the ignition switch to the ACCESSORY position to operate any switched accessories such as radios, etc. without having the engine running.



Ignition Switch

Parking Brake

The parking brake control is a pull to apply, push to release control. It is located on the right side corner post of the cab above the system pressure gauge and the ignition switch.

Pull the yellow control out to apply the parking brake. The parking brake is set with the absence of air pressure.

Push the yellow control knob in to release the parking brake. The parking brake requires air pressure to release.

Always apply the parking brake before leaving the cab or leaving the vehicle unattended.

When the parking brake is applied, the parking brake icon will be displayed until the parking brake is released.



Park Brake Control



Parking Brake Icon

System Air Pressure Gauge

The system air pressure gauge is located on the right side corner post next to the ignition switch and monitors the pressure in the bagger air system.

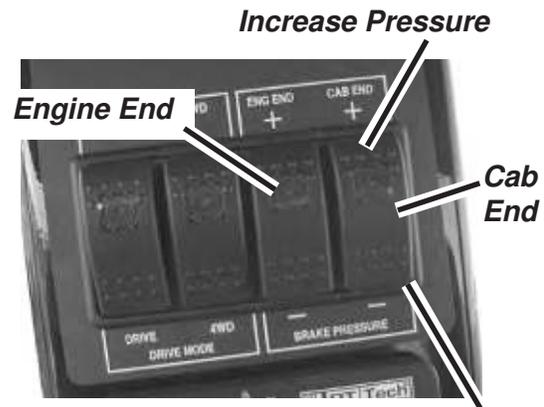


System Air Pressure Gauge

Brake Pressure Adjustment Switches (Cab & Engine End)

The brake pressure adjustment switches are located on the right side corner post.

The switches are used to increase or decrease the brake pressure during bagging. Press the top of the required switch to increase the pressure. When released the switch will return to the center off position. Press the bottom of the required switch to decrease the pressure.



Engine & Cab End Brake Pressure Adjustment Switches

The brake pressure for the cab end and the engine end brakes are shown on the display.



Display for Bag Mode

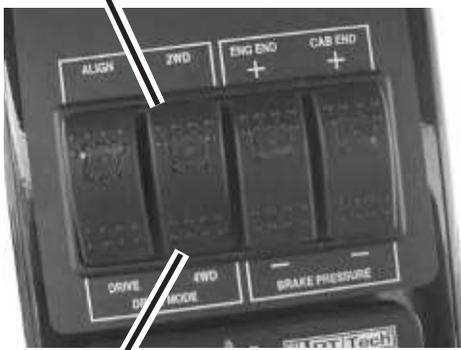
Two Wheel Drive/Four Wheel Drive Switch

The two wheel drive/four wheel drive is a two position rocker switch located on the right side corner post.

Push the top of the switch in for two wheel drive. In this position only the engine end wheels will drive. Two wheel drive is used in the transport drive mode only and allows the bagger to travel at a higher ground speed than four wheel drive. When in two wheel drive, ONLY drive on smooth level surfaces and Do Not make sharp turns.

Push the bottom of the switch in for four wheel drive. In this position all four wheels will be driving. Use this position for bagging mode and trailer mode for driving on to and off of a trailer.

Two Wheel Drive



Four Wheel Drive

Two Wheel Drive/Four Wheel Drive Switch

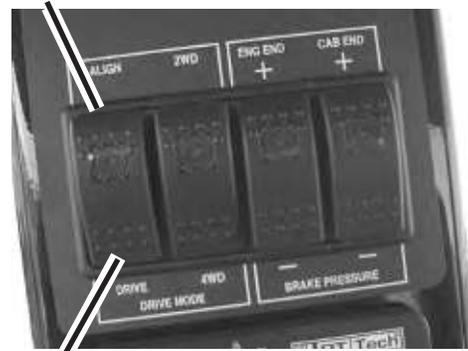
Drive/Align Switch

The drive/align switch is a two position rocker switch located on the right side corner post.

When switching drive modes, the wheels may need some realignment to complete the mode change. In this case press the top of the switch and then realign the wheels as called for on the display panel. Wheel drives will not function with switch set to align.

Push the bottom of the switch in after alignment is complete to drive the unit.

Press to Align



Press to Drive

Drive/Align Switch

HPTO Clutch Controller

The clutch controller has a push button switch for engaging and disengaging the rotor drive clutch and is located on the right side corner post of the cab. This controller also monitors all functions of the clutch.

Refer to the clutch controller installation & maintenance manual supplied with your bagger for all information regarding the functions indicated and LED indicators on the face of the controller.

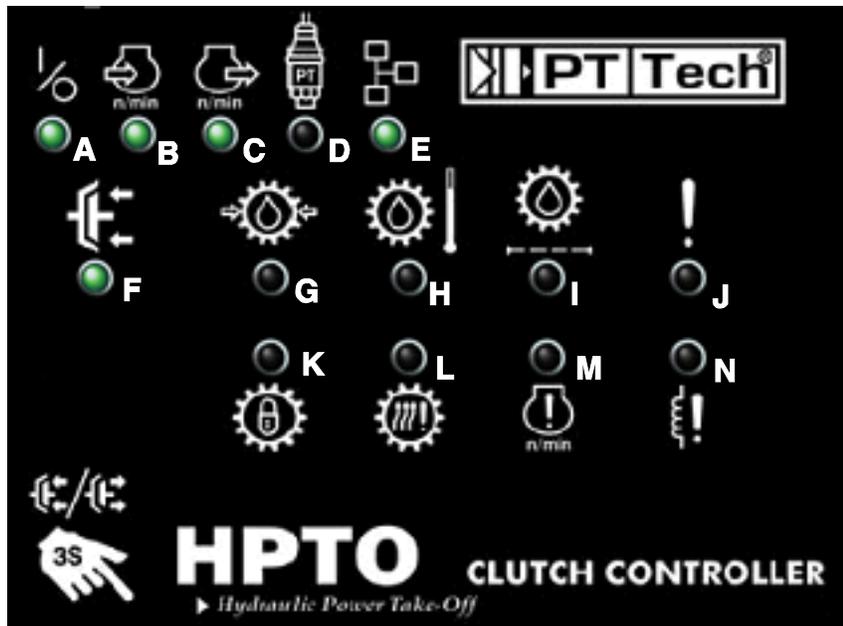


On Off Push Button

Clutch Controller

The following is a list of what each LED on the controller represents. Refer to the controller panel face at the bottom of this page for each LED location.

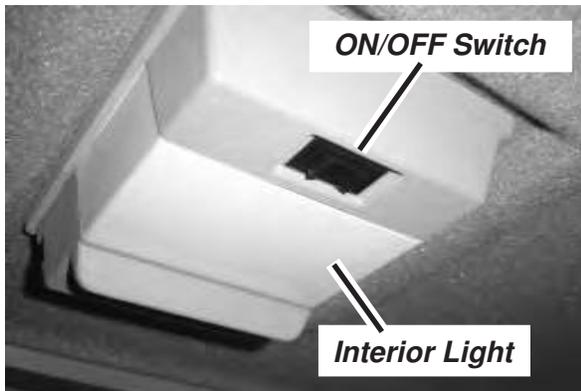
- A. Power
- B. Input Speed Detected
- C. Output Speed Detected
- D. Pressure Transducer Detected
- E. SAE J1939 CAN Detected
- F. Clutch Engaged
- G. Oil Pressure
- H. Oil Temperature
- I. Filter Clogged
- J. Safety Switch
- K. Timed lockout
- L. Clutch Overload
- M. RPM Too High
- N. Coil Fault



Clutch Controller Panel Face LED Locations

Cab Interior Light

The cab interior light is controlled by a single ON/OFF switch located next to the light.



Cab Interior Light and Switch

Windshield Wiper/Washer Switch

The windshield wiper can be stopped on either side of the windshield, depending on when the switch is returned to the off position.

The ignition switch must be in the run position for the windshield wiper to work.

To activate the windshield washer, press and hold the top of the wiper switch in. The washer will be activated as long as the switch is held in position. When the switch is released it will return to the wiper position.

Keep the windshield washer reservoir full with windshield washer fluid only.

The windshield washer reservoir is located below the right side cab window on the outside of the cab.



Windshield Wiper/Washer Switch

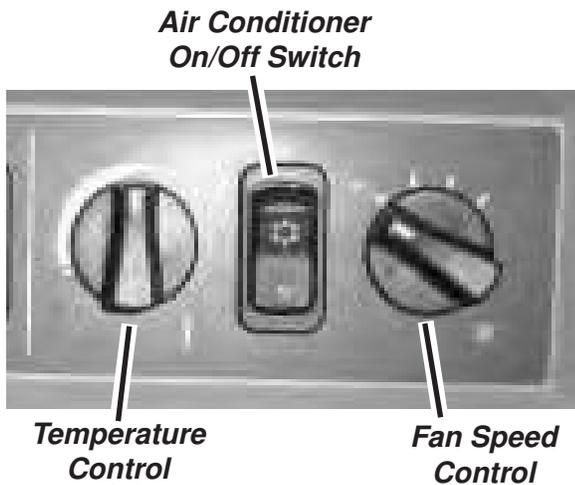
Heater and Air Conditioner Controls

The fan controls the amount of air coming out of the louvers. The fan speed control knob has three speed positions and an off position. Off is provided for cold weather start-up before the engine and heater comes up to operating temperature. When operating the heater be sure the air conditioning switch (center rocker type switch) is in the off position.

If maximum air conditioning is needed, turn the temperature control knob to "Max Cold" and the fan speed control knob to the fastest speed. Lower the fan speed to medium as cab cools and then to low if necessary. Wait three or four minutes between adjustment for the cab temperature to stabilize.

If cab is still too cool, turn the temperature control knob toward "Max Hot" until the air temperature is comfortable.

If the compressor stays off for 3 to 4 minutes and the air starts to smell "musty", turn the temperature control knob slightly toward "Hot" and increase the fan speed one position.



Heater, Air Conditioner and Fan Speed Controls

Manual Storage

Keep the operators manual and any other manuals supplied with your vehicle in the cab inside the storage bag that has been provided. These manuals should be kept with the vehicle at all times.

Cup Holder

The cup holder, in front of the right side console is large enough to accommodate large beverage cans or cups.



Cup Holder

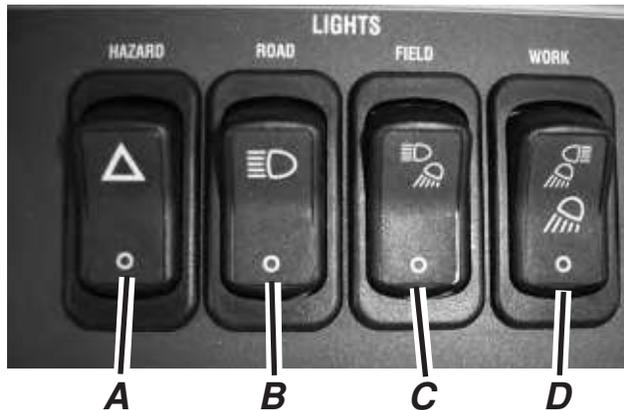
Armrest Storage Box

The lid of the right side armrest lifts up for storage.



Armrest Storage Box

Lighting Operation



Bagger Light Switches

The lights on the bagger are controlled by four separate switches in the overhead console of the cab. These switches are:

Hazard Switch (Switch A)

- Push the top of the switch in to turn the lights on. Push the bottom of the switch in to turn the lights off. This switch controls the three lights around the bottom of the cab as well as the light mounted under the engine air cleaner.

Road Switch (Switch B)

- Push the top of the switch in to turn the lights on. Push the bottom of the switch in to turn the lights off. This switch controls the outer and inner lights at the top front of the cab.

Field Switch (Switch C)

- Push the top of the switch in to turn the lights on. This switch controls the middle light in each set of lights at the top front of the cab. Push the bottom of the switch in to turn the lights off.

Work Switch (Switch D)

- This switch is a three position switch. Push the switch to the first (middle) position to turn the feed table work lights on. Push the top of the switch in to turn the boom work light on along with the feed table work lights. Push the bottom of the switch in to turn all the feed table and boom work lights off.

Light Locations On Vehicle
Cab Lights (Switches B and C)

Field Lights



Road Lights

Feed Table Lights (Switch D)



Feed Table Lights

Boom Light (Switch D)



Boom Light

Under Cab and Air Cleaner Lights (Switch A)



*Lights Front and
Rear Corner Of Cab*



Light Under Platform



*Light Under
Air Cleaner*

Storage Tray/Recirculation Filter

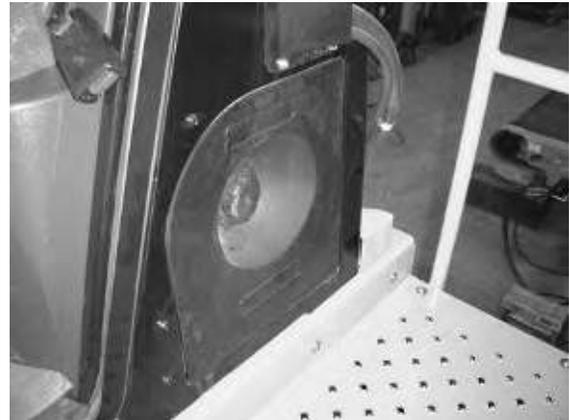
Behind the “Training” seat is a removable storage tray. Remove this storage tray to access the recirculation filter. Pull the recirculation filter out to service it. Be sure to replace the recirculation filter and storage tray before operating.



***Storage Tray
(removed from behind training seat)***

Cab Pressurization Filter (Charcoal)

On the outside of the cab, to the rear of the door is a cover which contains the charcoal filter which filters the cab air. This filter should be changed annually or more often if an odor is detected inside the cab.



Charcoal Filter Cover



***Recirculation Filter
(removed from below storage tray)***

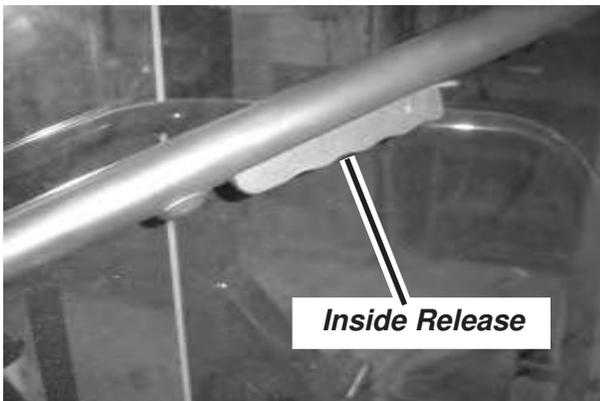
Cab Door Lock and Handles

The outside door handle is equipped with a key lock. This lock uses the same key as the ignition. Push the button to open the door from the outside.

The inside door release is a squeeze release located on the center bar.

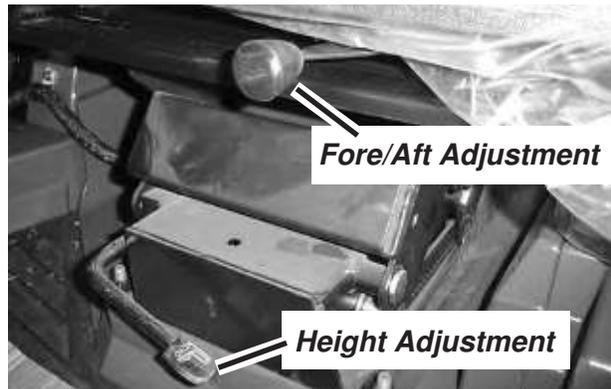


Outside Door Lock and Handle



Inside Door Release

Seat Adjustments



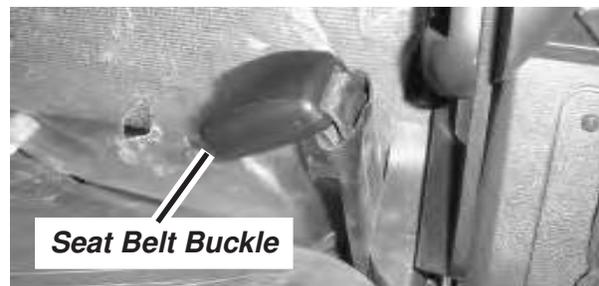
Seat Adjustments

The following is a list of adjustments for the seat:

Height Adjustment: Use this control to raise and lower the complete seat to a comfortable position. Be sure to lock the seat in the desired position by allowing the control to lock in place.

Fore/Aft Adjustment: Pull this control to the side to allow the seat to be moved fore or aft to a comfortable position. Be sure to allow the seat to lock in position.

Seat Belts



Seat Belts

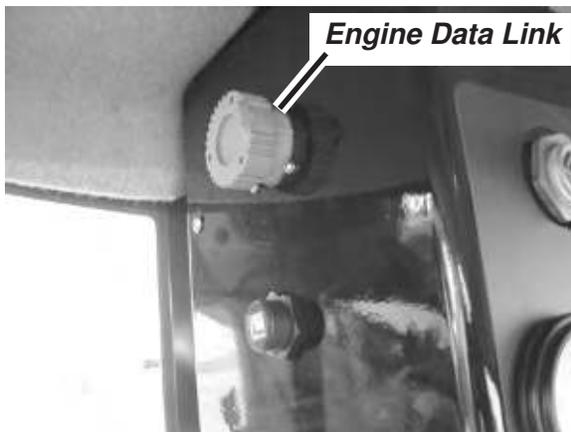
Seat belts are standard equipment on both the operator seat as well as the "training" seat. The lap type seat belts have push button quick releases and automatic retraction to allow unrestricted exiting and entering of the seats.

Be sure to always wear your seat belt when operating this vehicle.

Engine Data Link Connector

This connector is provided to allow a Cummins Service Technician to connect to the engine computer. It allows the technician to diagnose engine related problems from inside the cab.

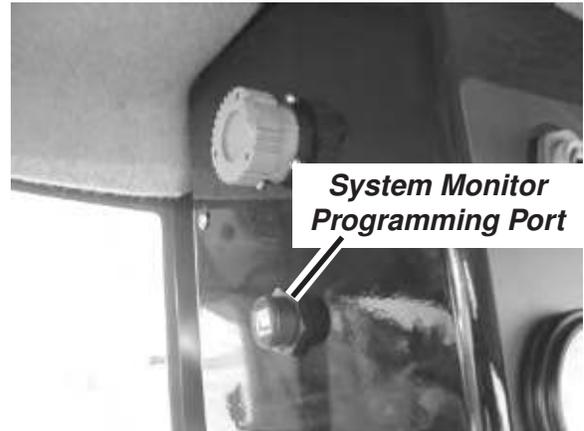
The cab connector is located on the side of the right side cab corner post.



Engine Data Link Connector Inside Cab

System Monitor Programming Port

The System Monitor programming port is located below the engine data link connector on the side of the right side corner post in the cab. This programming port should only be used by a qualified service technician.



System Monitor Programming Port

Outside Controls - Manual

The bag boom and the bag pan can be operated with the controls on the tunnel side of the machine near the engine or by plugging in a remote control to give you more mobility.

All of the control levers on the machine are spring loaded to return to the neutral position when released.

The control levers operate the following functions:

Boom Rotate In or Out: Use this control to rotate the bag boom into position to properly lift the tunnel extension into position and to position the bag onto the tunnel.

Boom Up or Down: Lifts the entire boom arm up or down for positioning of tunnel extension or bag.

Boom Extension Out or In: Use this control to extend the boom in or out to reach out farther from the tunnel to position the bag on the tunnel. Be sure the boom winch is out far enough to allow extension of the boom. If cable is not out far enough, winch damage can result.

Boom Winch Up or Down: Use this control to lower the winch cable down to pick up the bag with the bag cradle and raise up into position. Use also to lift and lower the tunnel extension into position.

IMPORTANT: The bag boom is designed to be used for positioning the tunnel extension and to install bags onto the tunnel.

Bag Pan In or Out: This control will position the bag pan in or out as required to properly position the bag into the pan for bagging.

All of the above controls can also be operated from the remote control. Refer to “Outside Controls - Remote Control”. When the remote control is used, the levers on the valve control bank will move as the remote is activated.

IMPORTANT: When the remote control is activated, the wheel drive controls inside the cab are locked out.

Machine Up or Down: This control is used to lift or lower the engine end of the bagger by lowering or raising the lift jack at the engine end. This function can not be operated with the remote.



To prevent personal injury stay clear of hydraulic cylinder and lift jack pad when lowering lift jack to the ground. Severe crushing will occur.

Lift the lever up to lower the engine end lift jack (raise machine). Push the lever down to raise the engine end lift jack (lower machine). The control is spring loaded to return to the center off position when released.

Be sure to raise the lift jack completely before moving the bagger and during bagging operation.



Outside Controls - Tunnel Side Engine End

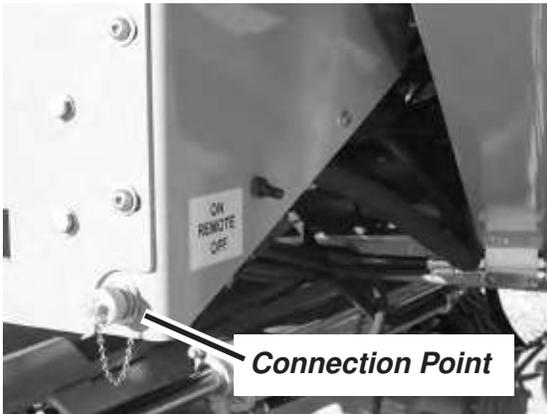
Outside Controls - Remote Control

The bag boom and bag pan can be controlled by remote control, giving the operator greater flexibility and movement.

IMPORTANT: When the remote control is activated, the wheel drive controls inside the cab are locked out.

To operate with the remote control, the remote must be attached to the remote control connection point located on the panel with the outside control levers. Remove the cap and attach the remote.

When operating the controls with the remote, the levers on the machine will move as the remote is operated.



Remote Control Connection Point

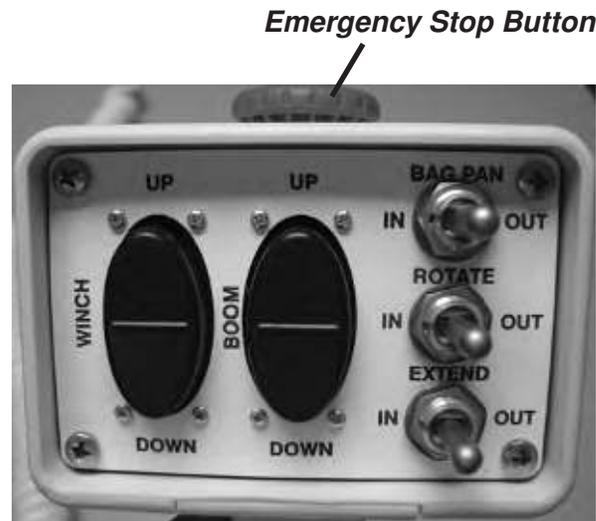
Use the switches on the remote to operate the bag boom and bag pan. All the switches on the remote are spring loaded and will return to the center (Off) position when released.

The switches on the remote will function the same as the control levers on the machine.

To operate the winch and boom up down switches press the top or bottom of the switch. To operated the bag pan, boom rotate and extend switches, move the switches side to side.

The winch and boom switches allow variable speed operation of these functions.

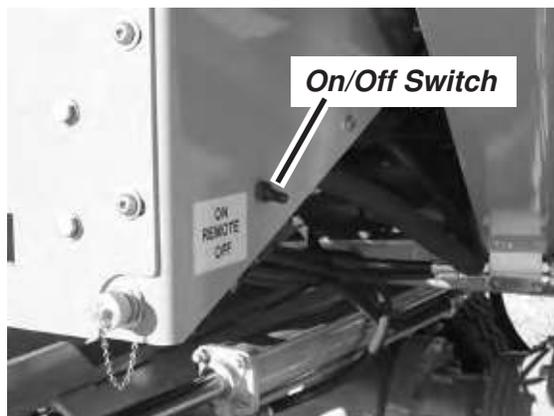
To quickly disengage power to the hand held remote switches, press down on the emergency stop button. Lift the button to re-engage power to the control.



Remote Control Switches

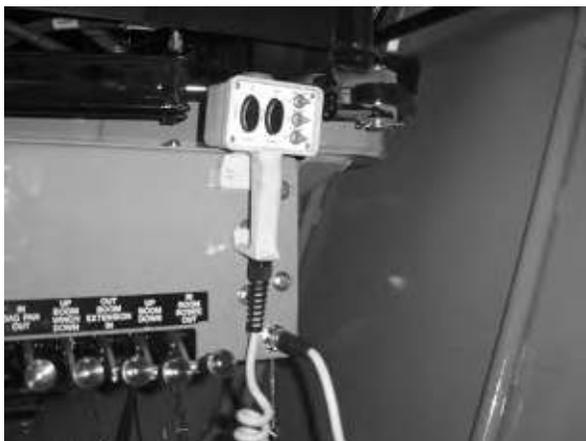
Remote Control On Off Switch: For the remote to become functional, the remote on off switch has to be positioned in the on (up) position, thus giving power to the remote. When not using the remote, be sure to turn the remote switch off (down).

IMPORTANT: When the remote control is activated, the wheel drive controls inside the cab are locked out.



Remote Control On/Off Switch

When the remote is attached to the bagger, it can be stored on the remote hanger located above the remote connection point. Always remove the remote from the bagger when transporting.



Remote Control On Remote Hanger

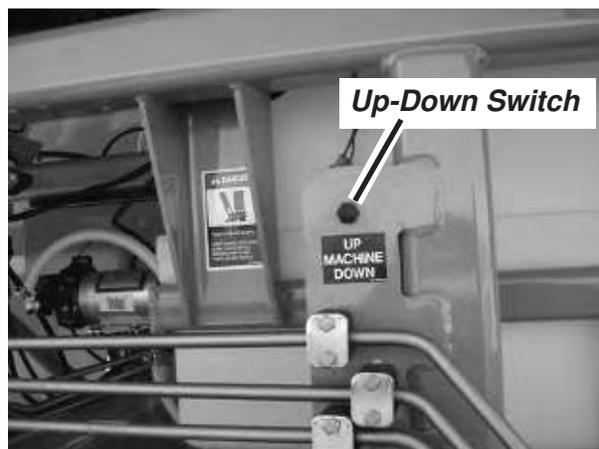
Outside Cab End Up-Down Switch

Machine Up or Down: This control is used to lift or lower the cab end of the bagger by lowering or raising the lift jack at the cab end. It is located on the frame next to the inoculant tank.



To prevent personal injury stay clear of hydraulic cylinder and lift jack pad when lowering lift jack to the ground. Severe crushing will occur.

Use this control to lift the cab end of the bagger. Lift the bagger up only as far as needed to rotate the wheels or to hitch to a tow vehicle. This switch is spring loaded and will return to the center (Off) position when released. Push the switch up to lower the lift jack (raise machine). Push the switch down to raise the lift jack (lower machine).

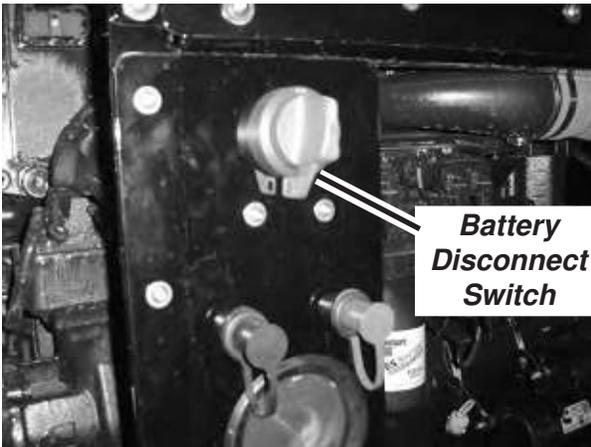


Cab End Up-Down Switch

Be sure to raise the lift jack completely before moving the bagger and during bagging operation.

Battery Disconnect Switch

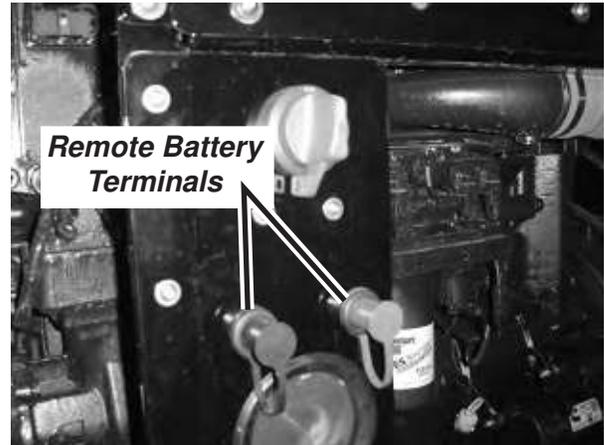
The battery disconnect switch is located above the signal lights on the engine frame. Be sure the switch is in the “ON” position before attempting to operate the bagger. The switch can remain in the “ON” position unless there is a power drain on the batteries, then turn the switch to the “OFF” position when the bagger is not being used, this will disconnect the batteries from the bagger electrical system.



Battery Disconnect Switch

Remote Battery Terminals

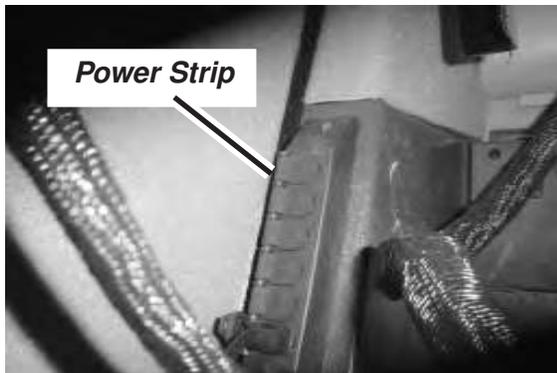
The remote battery terminals are located on the signal light panel on the engine frame. Be sure to replace the rubber caps when not using the remote terminals.



Remote Battery Terminals

Power Strip Electrical Outlets

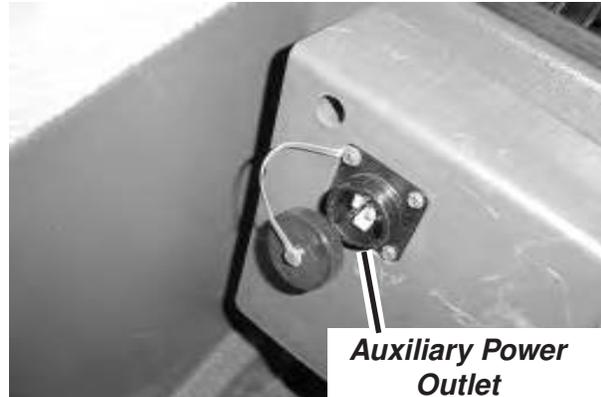
A 30 amp power strip provides six additional electrical key switched or unswitched outlets. The power strip is fed with two 30 amp breaker feeds, one live all the time and one key switch controlled. The breakers and relay are located in the right rear corner of the cab under the auxiliary power outlet in the photo above. It can be used to provide power for radios, cell phones, GPS and other electrical devices. Optional power cords that plug directly into the power strip are available with either cigarette lighter style adapters or individual key switched or unswitched power wires. See your dealer for ordering. Available plug 21.22619 can be ordered from your dealer. The power strip is located to the right of the operators seat next to the side window.



Power Strip Outlets

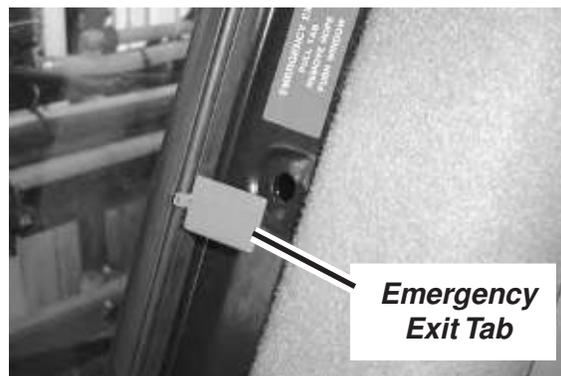
Auxiliary Power Outlet

The auxiliary power outlet located on the rear cab wall behind the right side console provides two 30 amp terminals. When connected, one power terminal provides a continuous power source, the other provides power only when the ignition key is turned to the accessory or run position. Available plug 21.21624 can be ordered from your dealer.



Emergency Exit

The right side cab window is also an emergency exit. Pull the tab to remove the rubber rope around the window. Once the rubber rope is removed, the window can be pushed out and allowed to fall free. Contact your Miller Ag-Bag dealer for a replacement window.



Emergency Exit

Re-Fueling



Caution:

Follow these simple rules when handling fuel

- Handle fuel carefully.
- Do not refuel the vehicle while smoking.
- Turn off engine before filling fuel tank.
- Do not over fill fuel tank. Bodily injury may result from fuel splash back.
- Leakage can result from expansion of fuel. If tank is filled too full, then left in direct sunlight or if temperature rises after refueling, the tank will overflow.

The fuel tank is located under the lift up cover (walkway) between the feed table beater plate and the tunnel.

Lift up the cover (walkway) and locate the fuel cap.

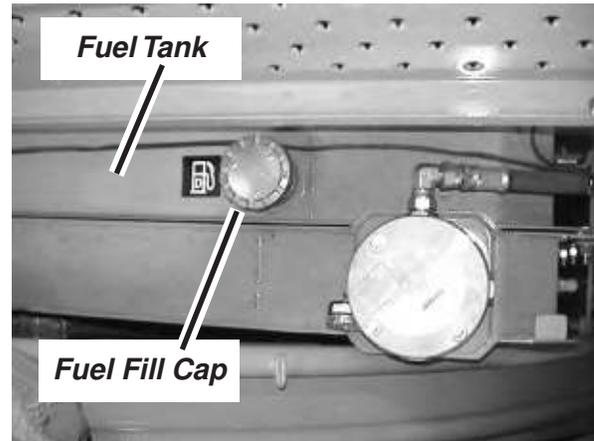
The fuel tank capacity is 140 gallons

Replace fuel cap before operating. Wipe up any spilled fuel.

Lower the cover (walkway) down before operating.



Cover (Walkway) Over Fuel Tank



Fuel Tank and Fill Cap

Drain Water From Fuel Filter/Water Separator

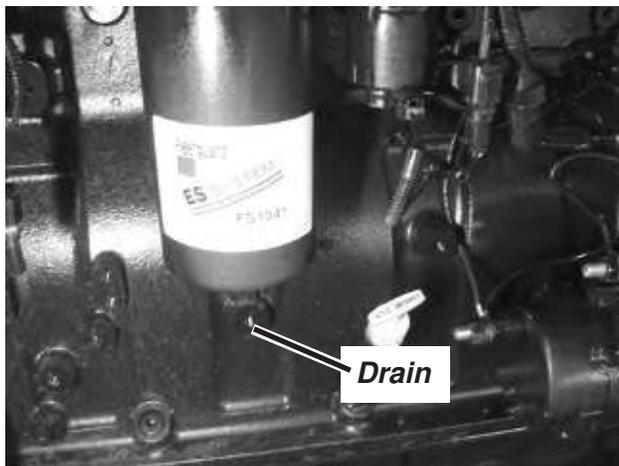
Drain Daily

Locate the fuel filter/water separator on the side of the engine next to the signal lights.

The operator should drain the water from the bottom of the fuel filter/water separator by loosening the knob located at the bottom of the filter and drain into a container until all water is drained.

Close the drain at the bottom of the filter once clear fuel is observed. Dispose of used fuel properly.

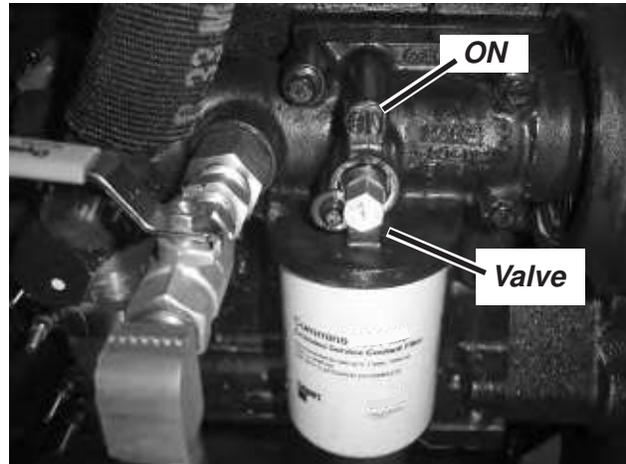
Change the fuel filter/water separator as required or when engine lacks power.



Fuel Filter/Water Separator

Engine Coolant Conditioner Filter (Extended Life Coolant Only)

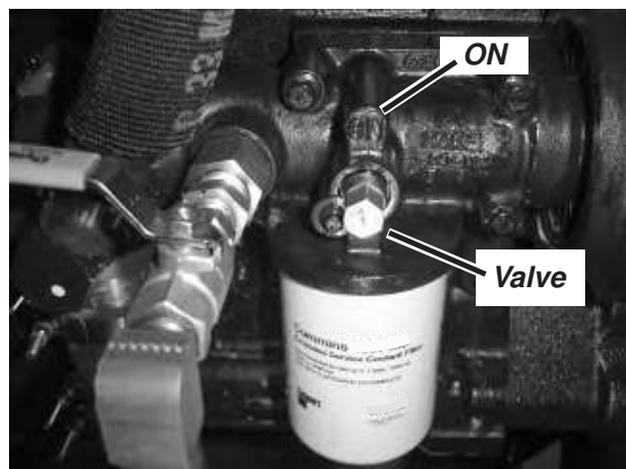
Locate the coolant conditioner filter on the side of the engine. Be sure the indicator arrow on the valve for the filter is pointing toward the “ON” (up) position when operating the engine. The valve should only be turned “OFF” (side ways) when servicing the filter.



Coolant Conditioner Filter & Valve

Engine Coolant Filter (Organic Acid Technology OAT Coolant Only)

Locate the coolant filter on the side of the engine. Be sure the indicator arrow on the valve for the filter is pointing toward the “ON” (up) position when operating the engine. The valve should only be turned “OFF” (side ways) when servicing the filter.



Coolant Filter & Valve

Changing Tunnels

The tunnel on this bagger can be changed to accommodate either a 12 foot bag or a 14 foot bag.

Remove 14 foot Tunnel

The 14 foot tunnel weighs approximately 5190 lbs (2354 kg).

You will require an overhead crane with a lifting capacity of at least 3 Ton



DANGER

NEVER attempt to lift or move the tunnel with the bag cradle boom. Always use an overhead crane to remove or install the tunnel. Serious injury or death will result from the tunnel falling and creating a crushing hazard.



DANGER

The tunnel and components are heavy. To avoid serious injury or death, be sure the lift and straps are capable of lifting and supporting the tunnel with cleanout door and hydraulic cylinders.

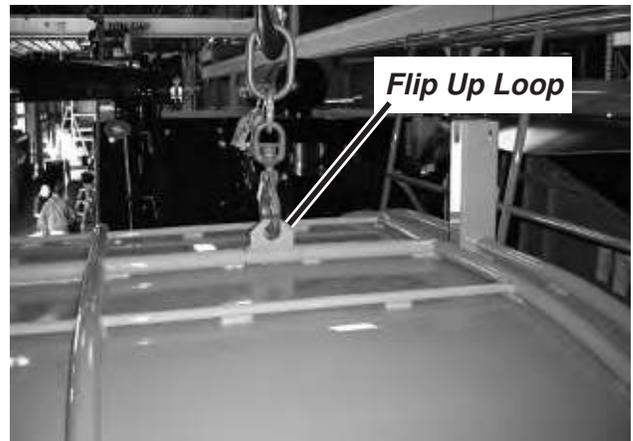
To change the tunnel proceed as follows.

1. Start the engine and lower the bag pan all the way down. Shut off the engine and remove the key.



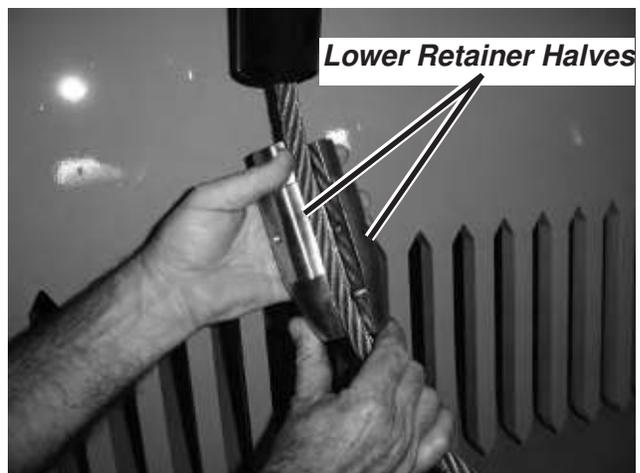
Bag Pan Lowered

2. Remove the tunnel extension from the tunnel. Set the tunnel extension out of the way. Save all mounting hardware. Remove the bag cradle from the tunnel.
3. Securely attach the overhead crane to the flip up loop on the top of the tunnel. Put slight tension on the crane, but not to the extent that you start lifting on the tunnel. Do not use the bag boom to remove the tunnel. Attach the overhead crane to the flip up loop only. Do not attach the crane to any other points on the tunnel.



Crane Attached To Tunnel Loop

4. Remove the anchors from the anchor cable by removing the two piece cable retainers on each side of the anchor. Save all items for reassembly.



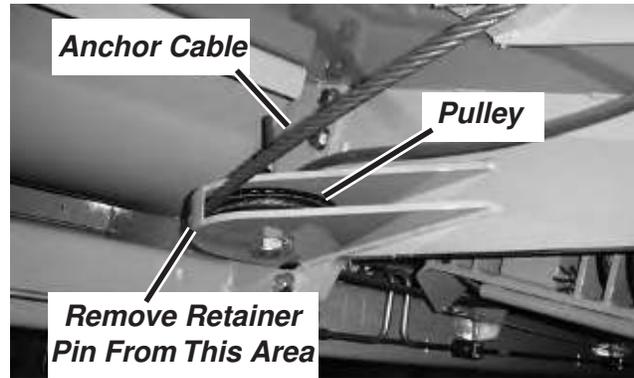
Two Piece Cable Retainers (Lower Shown)

-
-
5. Remove the bolt holding the anchor supports with rollers from the tunnel.



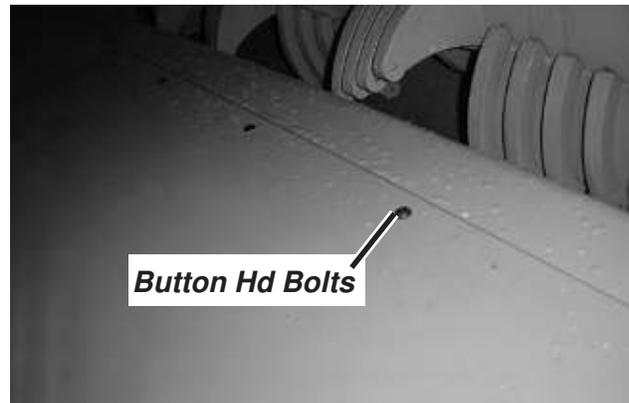
Anchor Support & Pivot Bolt

6. Pull the two anchor cables through the pulleys under the tunnel floor. Remove the cable retainer pin next to the pulley. Save the pin for reassembly.



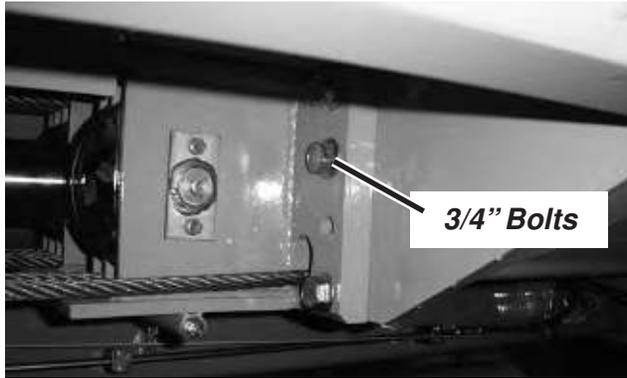
Cable Pulley Under Tunnel Floor

7. Remove the 9 button head bolts (located behind the cleanout plate) securing the tunnel floor to the frame. Save the button head bolts and nuts for reassembly.

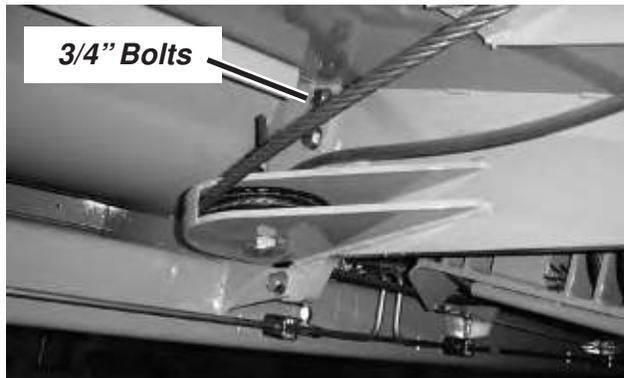


Button Head Bolts In Tunnel Floor

8. Remove the seven 3/4" bolts from under the tunnel. These bolts hold the tunnel to the frame. Three are on the cab end of the tunnel and four are on the engine end of the tunnel. Save the hardware for reassembly.

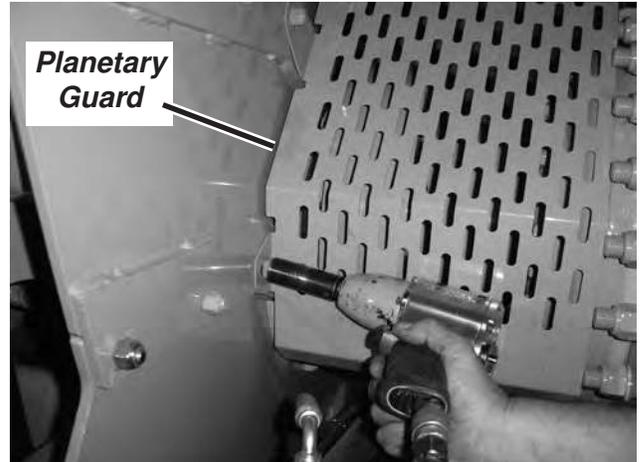


3/4" Bolts (Cab End)



3/4" Bolts (Engine End)

9. Remove the guard from the planetary end of the rotor on the feed table side. This is to access the three allen flat head bolts (inline with the rotor) that hold the tunnel to the frame. Remove all three bolts. Save all hardware for reassembly. Note: early production had flat head bolts, current production has hex head bolts.



Planetary Guard



Allen Flat Head Bolts Early Production or Hex Head Bolts Current Production (Cab End Shown)

10. Remove the guard over the chains at the driven end of the rotor on the feed table side. This is to access the three allen flat head bolts (inline with the rotor) that hold the tunnel to the frame. Remove all three bolts. Save all hardware for reassembly. Note: early production had flat head bolts, current production has hex head bolts.

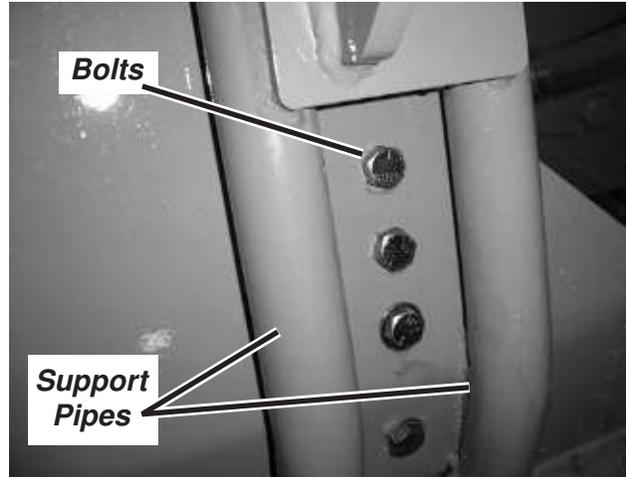


Chain Guard



Allen Flat Head Bolts Early Production or Hex Head Bolts Current Production (Cab End Shown)

11. Remove the nine bolts from each side of the tunnel (between the tunnel support pipes). The bottom four on each side have spacers to the inside. Save all hardware for reassembly. Lower four bolts shown.



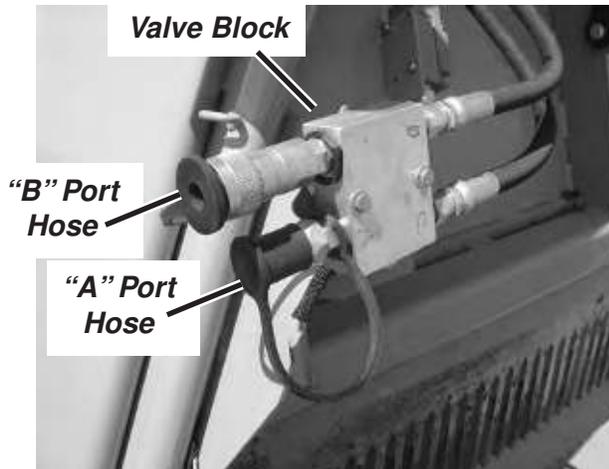
Bolts between Tunnel Support Pipes

12. Remove the wire harness from the limit switch located on the tunnel side behind the cleanout plate. The limit switch can remain with the tunnel.



Limit Switch & Wire Harness

13. Identify and remove the two quick disconnect hoses from the “A” & “B” ports on the valve block mounted to the tunnel on the feed table side just in front of the cab. The valve and hoses from the “C” & “D” ports remain with the tunnel. Valve block shown is on a 12 foot tunnel, valve & hoses are the same as a 14 foot tunnel, just mounted different.



“A” & “B” Port Hose Quick Disconnects On Valve Block

14. Locate the plate on the cab side of the upper tunnel that holds the tunnel to the frame. Loosen the five bolts from one end of the plate and remove the four bolts from the other end of the plate. Save all hardware for reassembly.

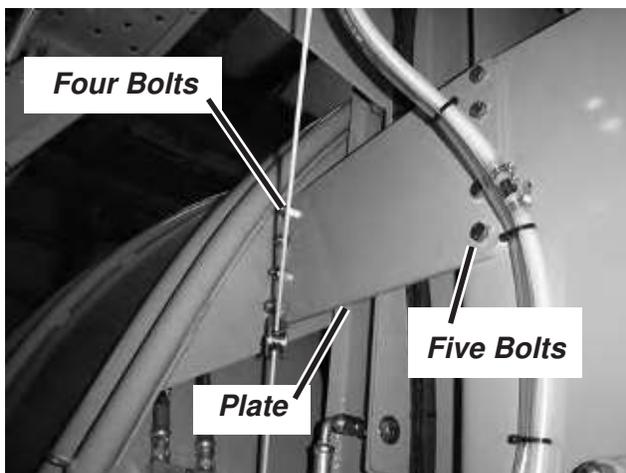


Plate On Upper Tunnel (Cab Side)

15. Locate the plate on the engine side of the upper tunnel that holds the tunnel to the frame. Loosen the five bolts from one end of the plate and remove the four bolts from the other end of the plate. Save all hardware for reassembly.

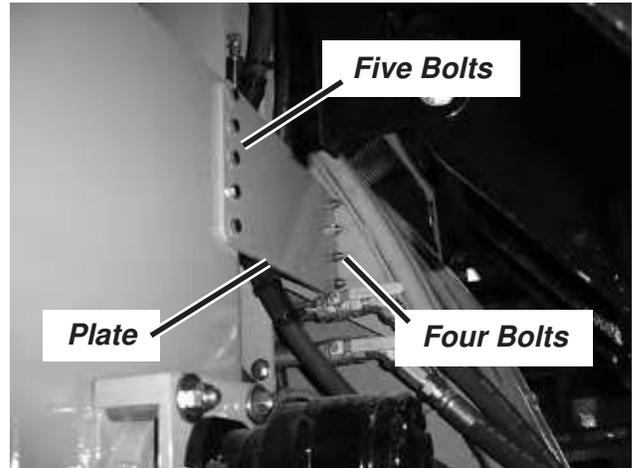


Plate On Upper Tunnel (Engine Side)

16. Use the overhead crane to slowly lift and remove the tunnel with cleanout door and hydraulic cylinders from the frame. Set the tunnel down on wood blocks making sure that the tunnel is stable.

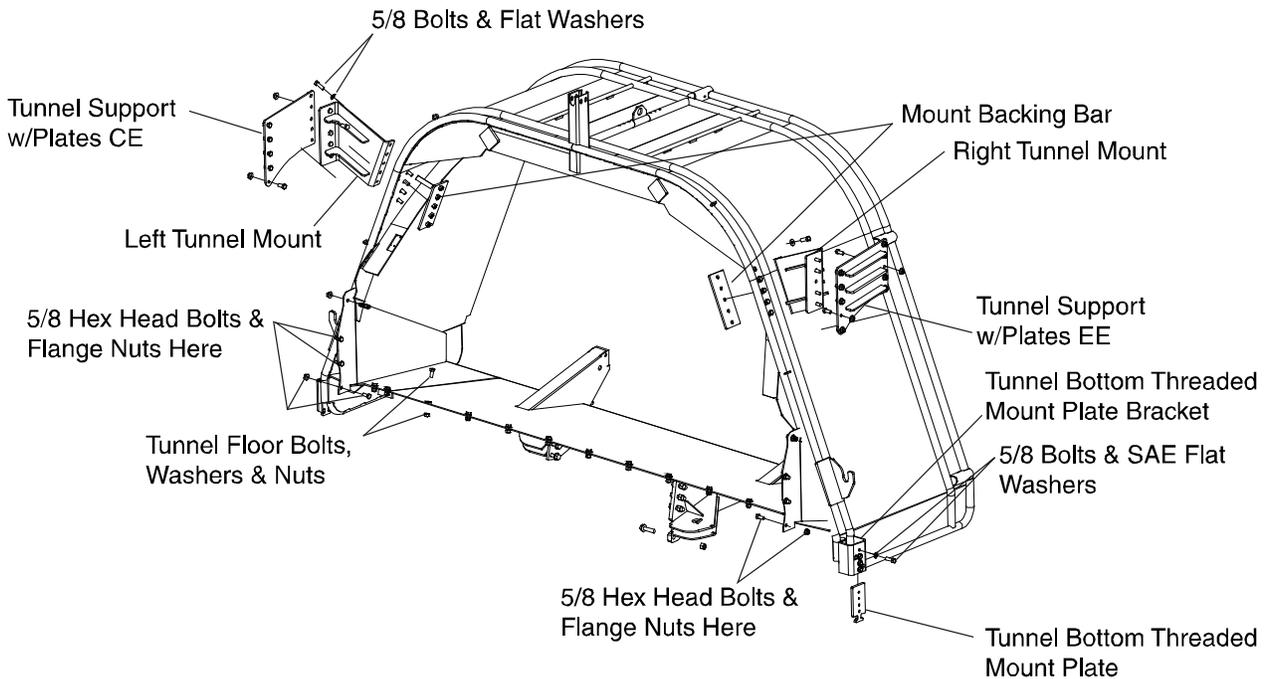


Tunnel Removed From Frame

17. Reverse the removal procedure to install the 14 foot tunnel.

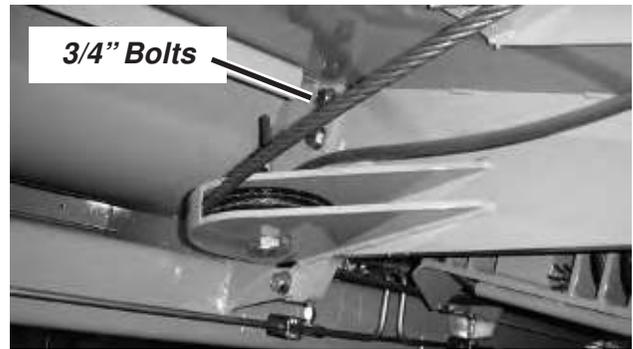
Install 12 foot Tunnel

1. Securely attach the overhead crane to the flip up loop on the top of the tunnel. Do not attach the overhead crane to any other point on the tunnel.
2. Before positioning the tunnel to the frame, the right and left side tunnel mounts have to be assembled to the tunnel. Once these are assembled, they can remain assembled to the tunnel if the 12 ft tunnel is removed.
3. Position the right side tunnel mount on the cab end of the tunnel, with the narrow lip between the tunnel tubes and the other mounting lip pointing away from the tunnel.
4. Secure the mount to the tunnel with a mount backing bar with nuts positioned on the inside surface of the tunnel. Secure the mount to the tunnel with 5/8-11 x 2 bolts and 5/8 SAE flat washers.
5. Secure the left side tunnel mount to the engine end of the tunnel in the same manner.
6. Lift the tunnel up with the overhead hoist and position on the bagger frame.
7. Insert the threaded tunnel bottom mounting plates into the pockets in the frame.
8. Lower the tunnel down and line up the holes in the mounting brackets on each end of the tunnel with the threaded holes in the tunnel mount plates.
9. Insert the 5/8-11 x 2 bolts with 5/8 SAE flat washers through the bracket and into the threaded holes. Tighten securely.
10. Assemble the 5/8-11 x 1-1/2 hex head bolts and the 5/8-11 x 2 socket head screws to the cab end and engine end frame mounting plates. Secure in place with 5/8-11 nylon lock flange nuts. The outer mounting holes from the 14 ft tunnel to the frame will not be used for the 12 ft tunnel.



Tunnel Mounts & Plates

11. Assemble the tunnel support weldment plates between the left and right tunnel mounts and the corresponding holes in the frame of the bagger on the engine and cab ends. Use 5/8-11 x 1-1/2 hex bolts 5/8-11 nylon lock flange nuts to secure the weldments to the tunnel mounts and the frame. On the cab end of the tunnel, also assemble the anchor indicator cable roller to the lower bolt of the tunnel mount. Tighten securely.

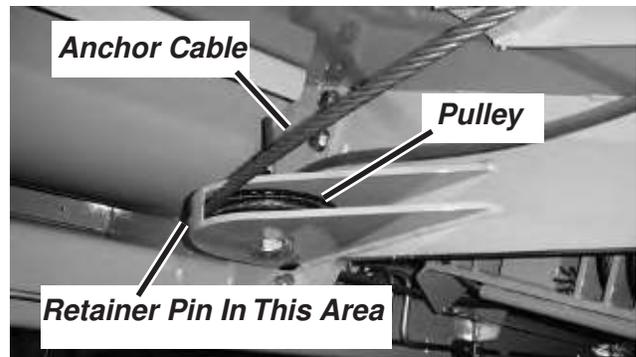


3/4" Bolts (Engine End)

12. Assemble the tunnel floor to the frame using the 5/8-11 x 1-1/2 bolts inserted from the top down. Secure in place with 5/8-11 hex nuts. Tighten securely.

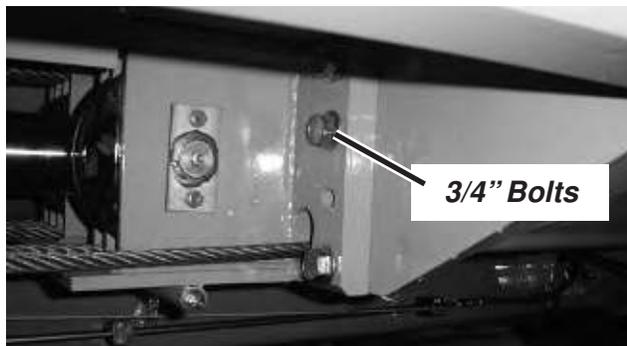
13. Under the tunnel assemble the 3/4-10 x 3 flange bolts between the tunnel and the frame. Secure in place with 3/4-10 nylok nuts. Tighten securely.

14. Place the anchor cables around the cable pullies under the tunnel and insert the retainer pin next to the pulley.

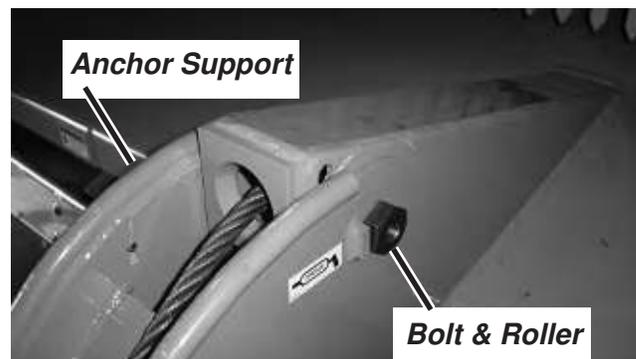


Cable Pulley Under Tunnel Floor

15. Assemble the anchor supports with pivot bolts to the tunnel.

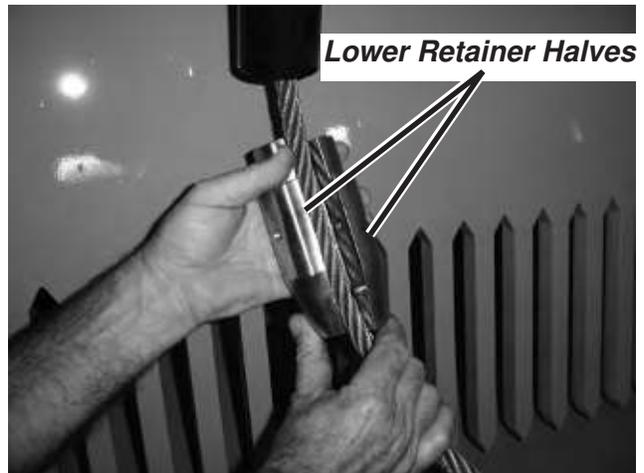


3/4" Bolts (Cab End)

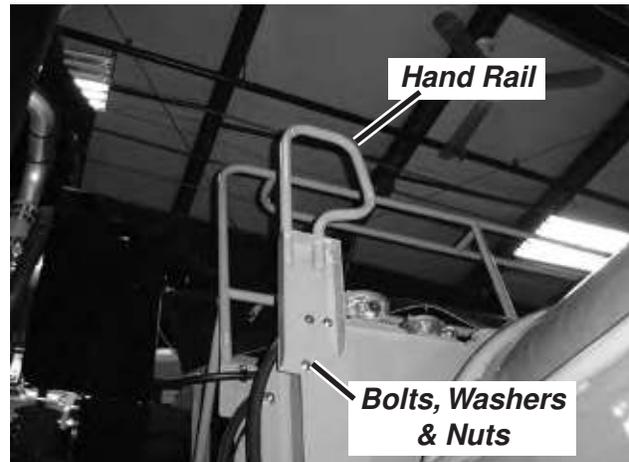


Anchor Support & Pivot Bolt

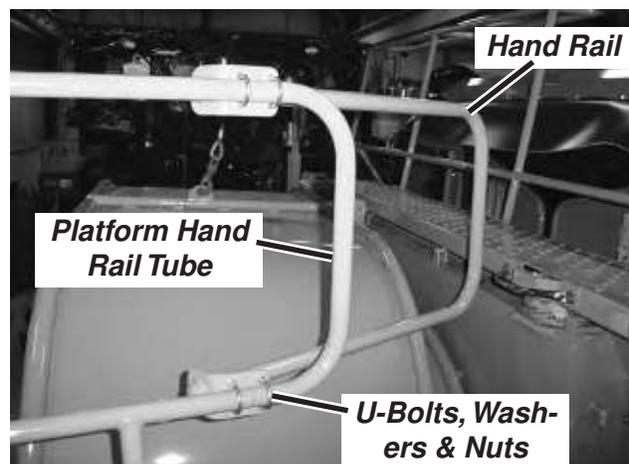
16. Assemble the anchors to the anchor cables using the two piece anchor retainers. Tighten securely to hold the retainer halves together.
17. Assemble the hydraulic hoses quick disconnects for the tunnel cleanout plate to the control valve on the valve plate mounted to the cab side of the tunnel. Tighten securely.
18. Assemble the engine end hand rail to the corner of the hydraulic oil tank at the engine end. Place the hand rail mounting plate against the hydraulic oil tank, line up the three mounting holes and insert the 3/8-16 x 1-1/4 stainless steel bolts with 3/8 stainless steel flat washers through the hand rail plate and then the hydraulic oil tank lip. Secure in place with 3/8 stainless steel flat washers and 3/8-16 stainless steel nylock lock nuts. Tighten securely.
19. Assemble the cab end hand rail to the hand rail at the cab end of the bagger. This hand rail is used to fill the gap between the platform hand rail and the tunnel. Position the handrail next to the platform hand rail from the tunnel side. Secure the hand rail to the platform hand rail with four 5/16 x 1-1/2 round stainless steel u-bolts. Place the u-bolts around the railing tubes and through the mounting plates. Secure in place with 5/16 stainless steel flat washers and 5/16-18 stainless steel nylock nuts. Position to fill as much of the gap as possible and tighten securely.
20. When the tunnel is completely assembled to the bagger, remove the overhead hoist from the top of the tunnel. Be sure to fold the lifting loop down against the tunnel to prevent damage to the bag.
21. Reverse the installation procedure to remove the 12 ft tunnel.
22. Be sure to set the tunnel on blocks on a level flat surface when not in use.



Two Piece Cable Retainers (Lower Shown)



Engine End Hand Rail



Cab End Hand Rail

Operation

General

Read and understand the “Features and Controls” section of this manual so you are familiar and know how to operate all the controls on this bagger.

Read the section about safety as well as the precautions presented in this section.

Inspect the bagger to be sure all fluid and mechanical connections are secure and tight.

Perform the daily maintenance items for the engine as specified in the “Maintenance” section. Check that all periodical maintenance has been complied with.

Be sure the battery disconnect switch is in the “ON” position.



WARNING

Be sure all persons are clear of this equipment before starting.

Sound the horn before turning the key to crank the engine to alert anyone in the area that the engine is about to be started.



WARNING

The operator and person in the training seat must use the seat belts provided whenever this machine is being operated.



DANGER

Do not ride on walkways, platforms or ladder. Serious injury or death will result.

1. If the engine has been idle for a long period of time, it may be necessary to bleed the fuel lines and use the hand primer pump (on the fuel filter) to charge the lines with fuel. See your Engine Operation and Maintenance Manual. If the engine will not start, see Trouble Shooting Engine.
2. If you run out of fuel, it will be necessary to bleed the fuel lines and charge the lines with fuel. See your Engine Operation and Maintenance Manual.
3. Both the engine and the hydraulic system require a warm-up period before operation.
 - When a diesel engine is operated cold at high throttle, it will miss and run rough. This is normal and will subside as the engine warms.
 - When hydraulic oil is operated cold, it will create a whining noise. This is normal due to oil cavitating. The noise will subside as the hydraulic pumps circulate the hydraulic oil and it warms up. Reduce speed and allow oil to warm up.
 - Normal warm up for engine and oil is within 2 minutes at 1200 rpm. In severe cold it may be necessary to continue warm up for an additional 4 minutes. But, after 6 minutes of warm-up either the engine or oil is not ready, check for other causes.

Important: Things to know about a turbo-charged engine.

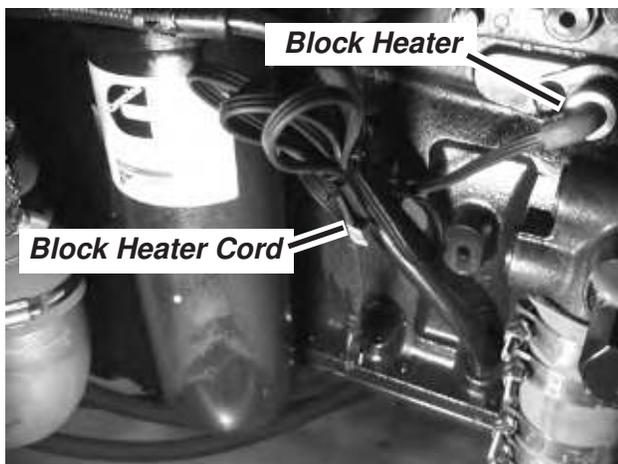
- If you ever stall the engine while working, restart the engine **immediately** to provide lubrication to the hot turbocharger and avoid damaging it.
- Before shutting off the engine, allow it to idle for several minutes under 1000 rpm to cool the turbocharger turbine.

Engine Cold Starting

Two batteries provide 1800 cold cranking amps.

To Start

1. Turn the key to RUN
2. Check for error codes on the System Monitor display. Press the F2 key on the display to clear.
3. Check for any bystanders around the bagger.
4. Sound the horn by pressing the horn button located next to the joystick.
5. Turn the key to start the engine.
6. The engine is equipped with a block heater to aid in cold weather starting. The block heater cord is located next to the engine oil filter.



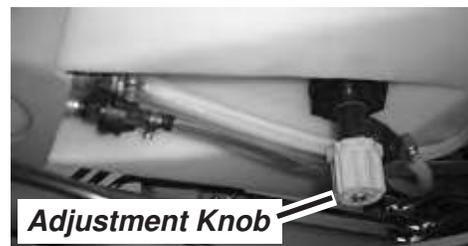
Engine Block Heater

Inoculant Applicator Operation

The amount of inoculant applied and the rate it is applied can be changed by adjusting the pressure of the system or by changing the spray tips inside the hopper. Refer to the table for tip information and pressures. Your bagger was shipped from the factory with the spray tip highlighted on the chart below.

The pressure can be adjusted with the control knob located under the inoculant tank. Watch the pressure gauge in front of the cab for inoculant pressure setting.

If changing the spray tips, there are four spray tips located in the feed hopper.



Pressure Adjustment Knob Under Inoculant Tank



Inoculant System Pressure Gauge

Cleaning The Inoculant System

The inoculant system should be drained and flushed with clean water daily. This will keep the inoculant in the system from clogging the pump, valve or spray tips. Thoroughly clean before storing. See "Storage".

Spray Tip Selection & Pressure Settings Guide

TONS TREATED PER TANK	APPLICATION RATE (GAL/TON)	BAGGING RATE (TONS/MINUTE)	SPRAY RATE (GPM)	RATE PER NOZZLE (GPM)	SPRAY TIP REQUIRED	AG BAG PART NO.	(PSI)
250	0.232	4	0.928	0.232	XRC110025	07.08287	33
					XRC11003	07.08288	24
		6	1.392	0.348	XRC11004	07.08289	30
					XRC11005	07.08290	20
					XR11006	07.17242	24
		8	1.856	0.464	XRC11005	07.08290	34
					XR11006	07.17242	38
10	2.32	0.580	XR11006	07.17242	38		
			XR11008	07.17269	21		
500	0.116	4	0.464	0.116	XR110015	07.17735	24
					XRC11002	07.09647	15
		6	0.696	0.174	XRC11002	07.09647	30
					XRC110025	07.08287	19
					XRC110025	07.08287	34
		8	0.928	0.232	XRC11003	07.08288	24
					XRC11003	07.08288	38
10	1.16	0.290	XRC11003	07.08288	38		
			XRC11004	07.08289	22		
750	0.077	4	0.309	0.077	XR11001	07.17734	25
					XR110015	07.17735	24
		6	0.462	0.116	XRC11002	07.09647	15
					XRC11002	07.09647	23
		8	0.616	0.154	XRC110025	07.08287	15
					XRC110025	07.08287	23
10	0.77	0.193	XRC110025	07.08287	23		
			XRC11003	07.08288	17		

Setup Bagger For Bagging Operation

Pintle Hitch

The pintle hitch on this bagger is used for towing the bagger on the road from job site to job site. The hitch must be removed from the transport tube and placed in the stored position of the tube closest to the lift jack before any bagging operation is started.



Hitch In Stored Position

The pintle hitch brace should be removed from between the tow hitch and bagger frame and stored on the two storage tabs, one by each cab end wheel. Use the existing pins to secure in place.



Brace In Stored Position

Position Bagger At Bagging Site

Drive the bagger to the spot where the bag is to begin. Position the bagger with the tunnel toward the bag starting point. Position the bagger perpendicular to the path of the bag.

Switch Wheels From Trailer or Transport Mode to Bagging Mode:

1. Lower the cab end lift jack enough to slightly lift the wheels.
2. Press the “Align” switch on the switch panel on the right side corner post.
3. Steer the wheels to 90 degrees \pm 2 degrees.
4. Lower the cab end wheels to the ground by lifting the jack all the way up.
5. Lower the engine end lift jack enough to slightly lift the wheels.

Press This End For Align



Align and Drive Switch

6. Steer the engine end wheels to 90 degrees \pm 2 degrees.
7. Lower the engine end wheels to the ground by lifting the jack all the way up.
8. Press the "Drive" switch on the switch panel on the right side corner post. Cab end wheels will steer automatically to match the engine end. If the wheels are more than 5 degrees apart, "In Between Mode" will be indicated on the display
9. Press the "Align" switch on the switch panel on the right side corner post, steer the wheels to within 5 degrees, then press the "Drive" switch. Cab end wheels will steer automatically to match the engine end.

10. Mode on the display will switch to Bag Mode.

NOTE: With the wheels in this mode, the wheels will "crab" steer (all wheels remain parallel).



Display for Bag Mode

11. Place the "2 Wheel Drive/4 Wheel Drive" switch in the 4 wheel drive position (push the lower part of switch in).

Press This End For Align

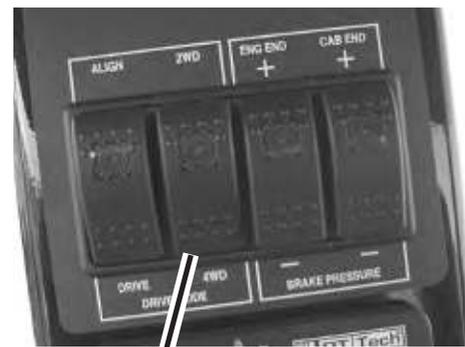


Press This End For Drive

Align and Drive Switch



Display for In Between Mode



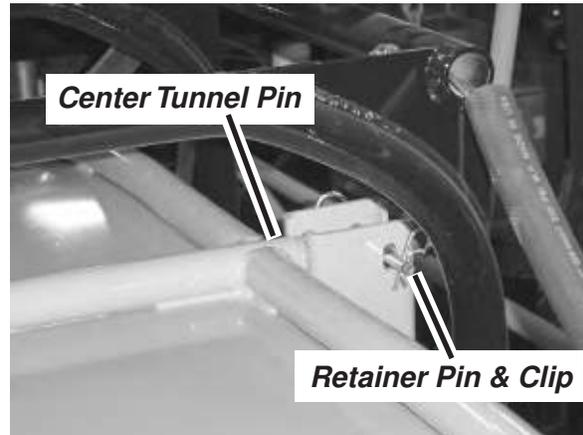
Press This End For 4 Wheel Drive

2 Wheel Drive/4 Wheel Drive Switch

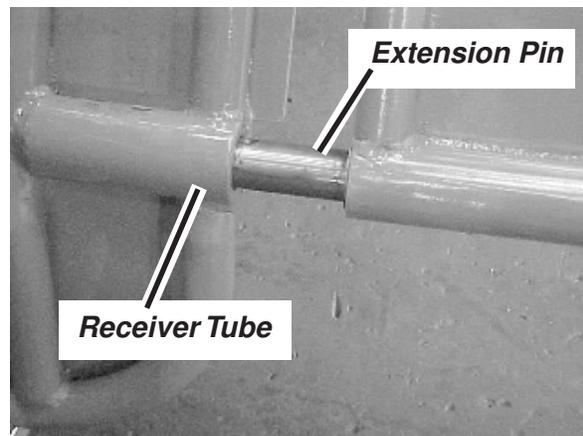
Install Tunnel Extension On To Tunnel

The tunnel extension is stored on the top of the tunnel. Two people are required for this procedure.

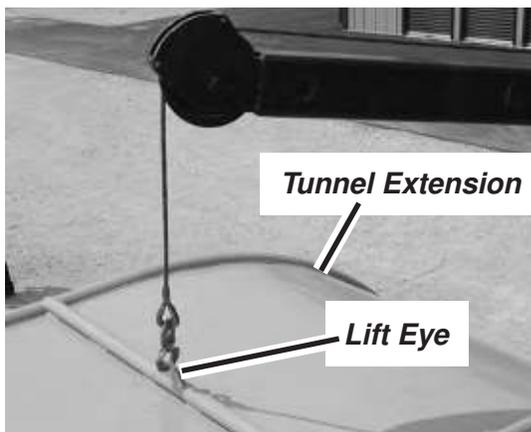
1. Attach the bag boom hook to the lift eye located at the center of the tunnel extension.
2. Remove the clip pin and retainer pin holding the tunnel extension to the bagger. This is the top center pin on the extension.
3. Using the bag boom, swing the tunnel extension out and lower to a position in front of the tunnel. Line up the five pins on the extension with the five receiver tubes on the tunnel. Slide the tunnel extension pins into the receiver tubes.
4. Secure in place with the pins and clips supplied with your bagger.
5. Unhook the bag boom from the lift eye on the tunnel extension.
6. Fold the eye down against the tunnel extension to prevent damage to the bag.



Center Retainer Pin



Tunnel Extension Pins



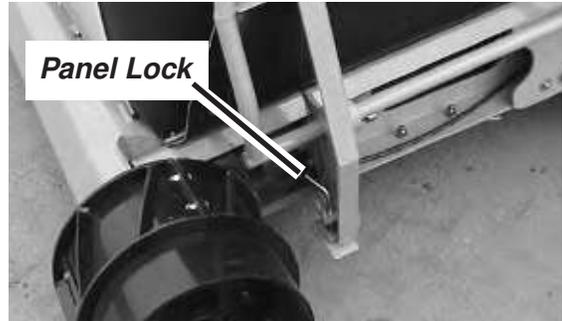
**Boom Winch Attached To Tunnel Extension
Lift Eye**

Lower and Setup Feed Table

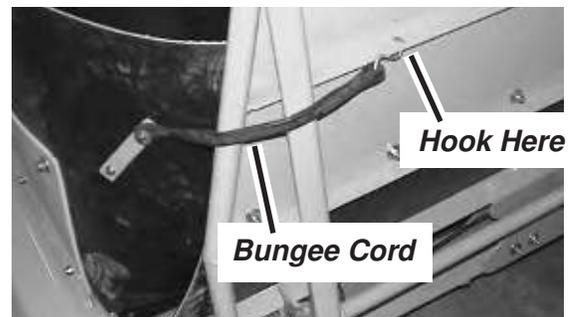
The feed table must be lowered to the ground before the side panels can be setup.

Check to be sure the area in front of the feed table is clear before lowering.

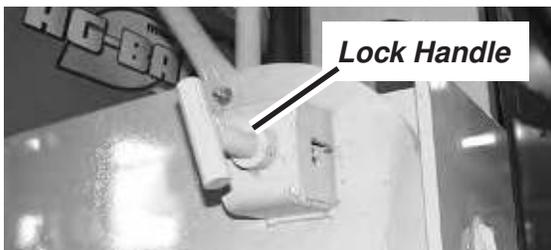
1. Unlock the feed table transport lock.
2. Using the feed table raise/lower switch on the right side console in the cab, lower the feed table to the ground. Release the switch when the feed table reaches the ground.
3. Lift the side panels up until the spring loaded locks enter into the lock plate hole. The locks can be pulled up and rotated to remain in the unlocked (up) position which is helpful when lowering the side panels down to the feed table.
4. Stretch the bungee cords from the front panel around the front of each side panel and hook in place to hold the front rubber flap up.



Side Panel Lock



Front Rubber Flap Bungee Cord



Feed Table Lock



Feed Table Down



Feed Table Setup

Bag Identification

Remember to use only Ag-Bag® bags. They are designed to fit and function properly.

Locate the bag size indicated on the box. Make sure you are using the correct size for your bagger.

Locate the arrow on the side of the box. It should be pointing toward the bagger.

IMPORTANT: Be sure to select the best surface for bag placement. Refer to bagging surface in the “Bagging Instructions” section of this manual.

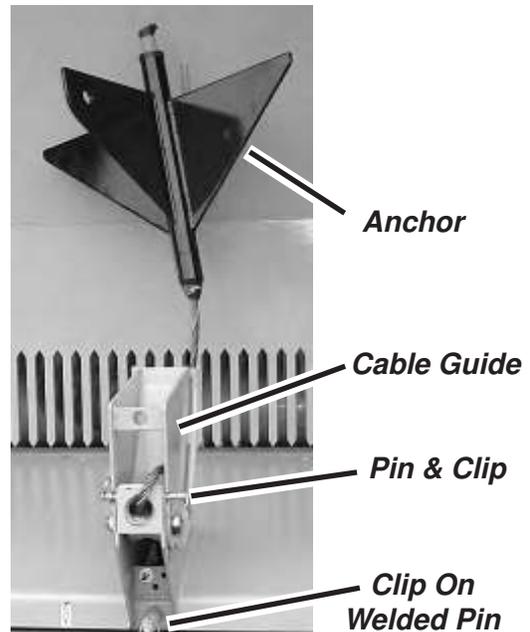


Bag Identification

Remove Anchors From Storage Hooks

Before placing the bag onto the tunnel, the two anchors have to be removed from the storage hooks.

1. Remove the clips and pins holding the cable guides in the up position. Store pins inside cab while bagging.
2. Remove the clips from the welded pin and lower the guides down. Secure in the lowered position with the clips.
3. Remove the anchors from the hooks and position in front of the tunnel.
4. Repeat for the other anchor.



Anchor and Guide In Storage Position

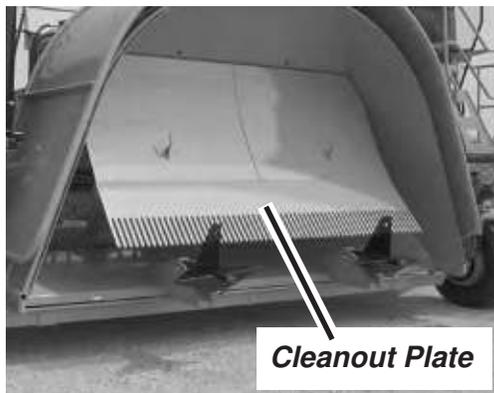
- Return to the cab, sound the horn, start the engine and use the anchor In/Out switch on the right side console to retract both anchors. Retract both of them all the way in to the guides.



Anchors In Bagging Position

Tunnel Cleanout

Before placing the bag onto the tunnel, use the tunnel cleanout switch on the right side console to open and close the cleanout plate. Be sure cleanout is closed and tunnel cleanout icon turns off before bagging.



Tunnel Cleanout



Tunnel Cleanout Open Icon

Install The Bag On To The Tunnel

Use the bag boom to lower the bag cradle to the ground.

- Hook the bag boom cable hook to the loop at the center of the cradle.
- Lift the cradle off the top of the tunnel, swing out and lower to the ground in front of the tunnel. Be sure the cradle is centered in the tunnel and close to the tunnel.



Bag Cradle Placement

- Line up the box with the back of the tunnel and cradle, making sure the arrow on the end of the box is pointing toward the tunnel. Cut the plastic bands from the box and remove the outer lid. DO NOT remove the ties around the bag until the bag is on the tunnel. Remove the inner shell and the box will flatten.



Arrow On Bag Box

 **CAUTION**

Caution should be used when moving bags. Bags are heavy.

4. Unfold the bag and lift the top half of the bag and place it on the bag cradle. Using the winch on the bag boom, raise the bag up. Once the bag is raised, rotate the bag so the stretch measure marks are between 1 and 3 o'clock.

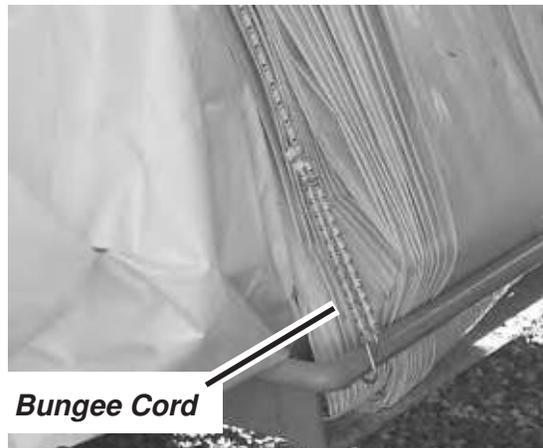
NOTE: Do Not roll the bag while placing on the tunnel. Keep the folds flat. Bag damage could occur if bag is not flat.

5. Lower the bag pan to allow placement of the bag around the tunnel and in the bag pan.
6. Raise the cradle with the bag boom winch up until the cradle is above the tunnel. Swing the boom and cradle toward the tunnel. Carefully work the bag around the tunnel, making sure the bag maintains its flat look and is flat between the tunnel and the bag pan.
7. Lower the cradle until it is resting on top of the tunnel. Make sure the cradle is on the tunnel and not on the tunnel extension. The cradle should rest between the two pipes on the top of the tunnel. Once the cradle is in place on the tunnel remove all the ties that hold the bag folds together.
8. Use the bag pan control to bring the bag pan in toward the tunnel until there is approximately 3/4" between the bag pan and the tunnel.
9. Place the long tunnel bungee cord over the bag on the tunnel and hook on to the bag pan on each side of the tunnel.

IMPORTANT: To avoid damage to the bag during operation and setup, be sure the lifting eye on the top of the tunnel extension is laying flat against the tunnel extension.



Bag On Tunnel



Bungee Cord

Bag In Bag Pan With Bungee Cord

-
10. Attach the four ropes of the tunnel bungee cord to the four loops evenly spaced on the tunnel. Be sure the ropes are straight and over the top of the bag. These four ropes hold the long tunnel bungee cord from following along with the bag as it is fed off the tunnel.



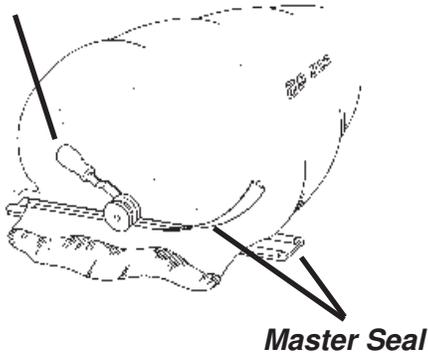
***Bungee Cord Rope Loops On Tunnel
(one loop shown)***

Seal Beginning End Of Bag

1. Pull 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 under the bag bungee cord.
2. Seal the end of the bag using one of the two following methods:
 - a. Using the Master Seal®. Follow the instructions that are included with the Master Seal. Master seal and tool (Zip Tool Part Number 42.1500273) are available from your Miller Ag-Bag dealer.

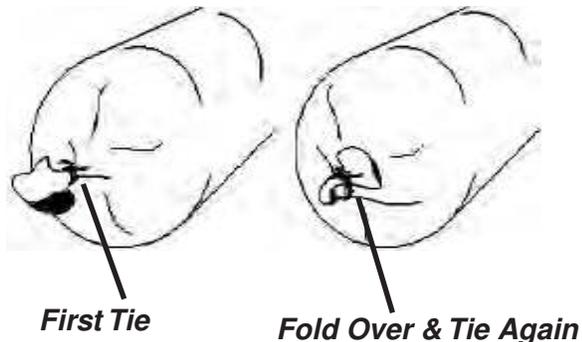
42.1500272 - 250 Ft. Roll

Master Seal Tool



Knot At Beginning Of Bag
(Photo is for knot placement only - stretch bars must be at 1 or 3 o'clock not as shown)

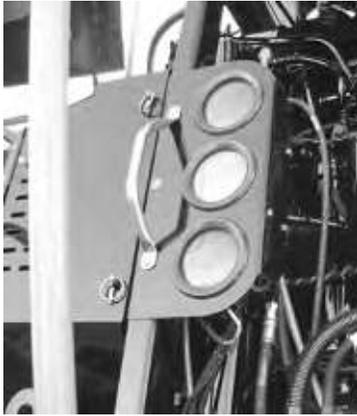
- b. Use a double knot tie. Find the end of the bag, gather the bag to the center. Twist the bag tight and tie the bag tight. Leave enough bag to fold over and tie a second time giving the bag an air tight seal.



Bagging Procedure Before Starting The Bagger

It is important that you set up a communication system between the operator of the bagger and all other persons involved with the bagging process. By using the RED, YELLOW and GREEN communication lights located at the engine end and the cab end of the bagger. Sound the horn before starting engine.

The communication lights are controlled by the two rocker switches on the right side console in the cab.



Communication Lights Engine End



Communication Lights Cab End

Bagger Start-Up Procedure

1. Using the warning procedure established, warn all people to move away from the bagger. After giving enough time for everyone to move away, visually make sure the area is clear.
2. Sound the horn, then start the engine by turning the ignition switch to the start position. Check all warning and diagnostic messages on the System Monitor display. Refer to the “Features and Controls” section “In Cab Controls” for a detailed explanation.
3. Start the rotor. Use the HPTO controller on the right front cab post to start the rotor. Press the engage/disengage button at the lower left corner of the controller and hold for 3 seconds. The controller will not engage if activated with the engine rpm over 1100 rpm.
4. After the flashing green clutch engaged LED turns solid, increase the engine rpm to 1850 by using the throttle switch or the high idle switch on the right side console. Watch the System Monitor display for engine rpm. Refer to the “Features and Controls” section “In Cab Controls” for a detailed explanation.

Clutch Engaged LED



HPTO Clutch Controller

IMPORTANT: If the operator leaves the operators seat during bagging operations the following will happen:

A message will appear on the System Monitor display and a timer will start a count down. To clear the timer, sit in the operator seat and move the feed table control to the center position.

If not cleared:

The feed table will stop after 4 seconds.

The engine will start to decelerate after 8 seconds from the time the operator leaves the seat.

The HPTO clutch will disengage and the rotor and lower beater will stop after 10 seconds from the time the operator leaves the seat.

If this happens the operator will have to re-start the rotor and feed table once the operator is seated in the operators seat.

5. Start the feed table by moving the controller on the right side console in the desired direction either away from the rotor or toward the rotor. Moving the controller farther from center will increase the speed of the feed table. Refer to the “Features and Controls” section “In Cab Controls” for a detailed explanation.
6. Start the upper beater in a clockwise or counter-clockwise direction by activating the upper beater switch in the appropriate direction. Refer to the “Features and Controls” section “In Cab Controls” for a detailed explanation.



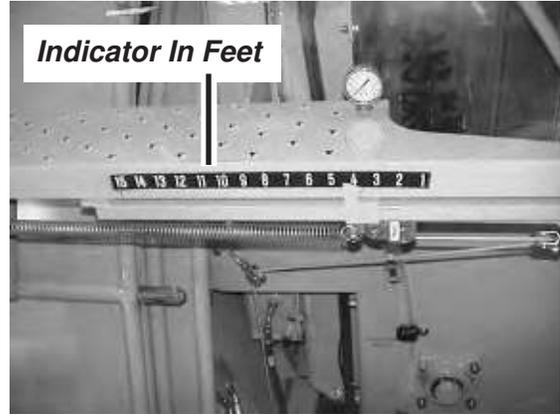
System Monitor Display - Seat Switch Open

Filling The Bag

When filling the bag, watch the System Monitor display for all important settings and pressures as the bag is being filled.

For all controls that follow, refer to the “Features and Controls” section “In Cab Controls” for a detailed explanation.

1. Set the brake pressure at the engine and cab side brakes to 20 psi using the brake pressure switches on the right front cab post. Watch the System Monitor display for the brake pressure at each end.
2. Use the brake pedal to control the movement of the bagger when starting a new bag. Apply pressure to the brakes as needed.
3. Check the anchor float switch on the right side console to make sure it is in the off position.
4. Start moving product into the bag.
5. Start the inoculant applicator after product has started into the bag. Shut off the inoculant applicator anytime the product has stopped moving into the bag.
6. Monitor the loads placed into the bag. When you have bagged between 15 to 25 tons of product, turn the anchor float switch on.
7. Watch the anchor indicator just outside the cab windshield. When the anchors are out 5 feet (indicator pointing to 5), turn off anchor float and watch anchor pressure on System Monitor. If anchor pressure stabilizes below 1000 psi, actuate anchor float switch again to allow anchors to extend an additional foot. Turn off anchor float and check anchor pressure. Repeat this procedure until anchor pressure stabilizes at 1000 to 1500 psi. This setting will depend on conditions of the crop, the wetter the crop the less amount of cable should be fed out.
8. Reduce the wheel brake pressure to 10 psi after turning the switch off. At this time you can discontinue using the brake pedal to control the bagger movement.
9. Monitor the stretch bars on the bag, do not allow the bag to stretch beyond the bag manufacturers recommendations.
10. Increase/decrease the brake pressure at the wheels or increase/decrease the amount of cable fed out as needed to create a smooth bag. More cable fed out will increase the drag/pressure on the anchors. Watch the System Monitor display to monitor the anchor pressure. The pressure should be maintained between 1000 psi and 1500 psi. These pressures will vary depending on the moisture of the product being bagged. It is important that you continually monitor the pressure and remain in the range specified.



Anchor Indicator

IMPORTANT: Do not allow anchor pressure to exceed 1600 psi at any time. Anchors may not retract if pressure exceeds 1600 psi.

Removing The Bag

IMPORTANT: Monitor the length of the bag and the number of folds remaining on the tunnel. Start the following procedure when there is 6 to 7 folds remaining on the tunnel.

1. Prior to the last load pull the anchors in using the anchor switch on the right side console. Increase the brake pressure on the engine and cab end brakes pressing the top (+) of the pressure switches on the right front corner cab post. Watch the System Monitor display for brake pressure at each end. When the final load is in the bag there should be approximately 5 folds left on the tunnel.

IMPORTANT: If using the inoculant applicator, turn it off at this time.

2. Release the brake pressure on the cab and engine end brakes by pressing the bottom (-) of the brake pressure switches on the front right corner cab post. Watch the System Monitor display for brake pressure at each end.

IMPORTANT: Always turn the rotor off before activating the tunnel cleanout. Do not turn the rotor on unless the tunnel clean out is completely closed.



Tunnel Cleanout Open Icon

3. Drive the bagger away from the end of the bag approximately four feet to allow the tunnel cleanout to operate properly.
4. Push and hold the top of the cleanout switch on the right side console to open (push away from rotor) the tunnel clean out. When the tunnel clean out is open an icon will appear on the display panel on the right side corner post alerting the operator that the clean out is open.
5. Push and hold the bottom of the cleanout switch to close (bring it toward the rotor) the tunnel clean out. Once the tunnel clean out is completely closed, the icon on the display will disappear. Do not turn the rotor on unless the icon has disappeared.
6. Open and close the tunnel cleanout several times to move as much product as possible into the bag.
7. Pull the bagger forward until the bag has been pulled from the tunnel.
8. After the 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.
9. Seal the end of the bag using either Master Seal strips or the double tie method. Refer to "Bagging Instructions" for additional information.

NOTE: No matter which method is used when sealing the end of the bag, loose plastic should be weighted down. Do Not use material that will be abrasive to the bag material.

Install the vent into the bag. See Venting the Bag.

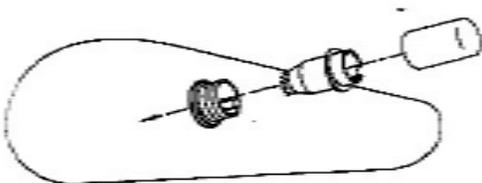
Venting The Bag

Immediately after the bag is sealed a vent must be installed to remove the gases produced by the product. A reusable vent valve and vent tool are available from your Miller Ag-Bag dealer.

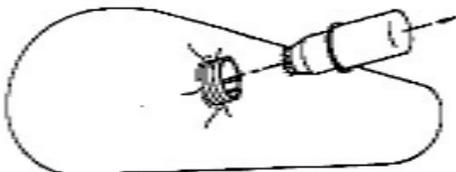
Reusable Vent Valve Part Number 42.1500893
Vent Installation Tool Part Number 42.1500568

Insert the vent valve as follows:

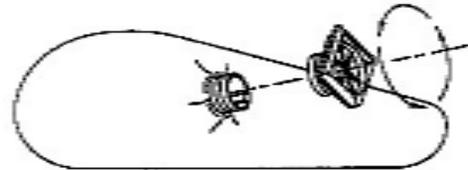
1. Remove the cover from the vent cutter tool. Turn the cutting portion of the tool around (cutter away from cover), line up the notches and insert the cutter into the cover.
2. Take the threaded side of the valve, line up the notches and slide it over the cutter end of the tool. Slide the threaded portion all the way onto the cutter.



3. After you have located the spot where you want the vent to be installed, about 10 feet from the end and about 3/4 of the way up the height of the bag, press the cutter portion of the tool into the plastic to create a hole. Push the tool with the threaded portion of the vent through the hole and pull the cutting tool out leaving the threaded end of the vent sticking out through the bag.



4. Assemble the valve lid onto the threaded portion. Turn the lid to the left and tighten securely.



Slide the lid of the vent open enough to allow the gases to escape. Within 1-2 days, close the lid and leave the vent in the bag until that end of the bag is fed out.

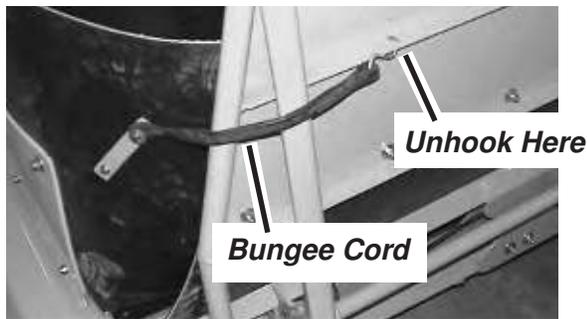
NOTE: If excessive gassing occurs, leave the vent open an additional day. If the bag puffs up again after closing the valve, open the valve again until gasses recede, then close the valve.

Prepare The Bagger For Transport

Feed Table

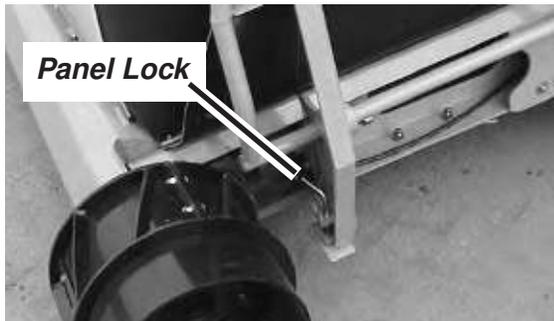
Before raising the feed table up, the feed table sides have to be folded down onto the feed table belt.

1. Unhook the bungee cords from each side panel holding the front rubber flap in place. Pull the rubber flap outside the side panels.



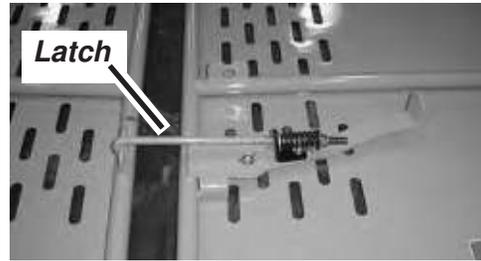
Front Rubber Flap Bungee Cord

2. Unlock the side panels one at a time and lower the side panels down on the feed table belt. Be sure the front rubber flap remains out from under the side panels.



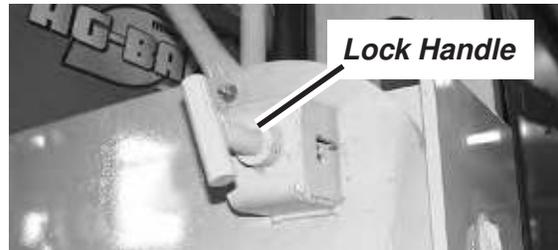
Side Panel Lock

3. Latch the panels together to hold them in place while raising the feed table.



Side Panels Latched Together

4. Once the side panels are both down and latched, raise the feed table up to the transport position and lock in place with the transport lock. Be sure the transport lock is fully engaging the feed table.



Feed Table Lock

Bag Cradle

The bag cradle is stored on top of the tunnel before the tunnel extension is pinned in place.

1. Use the bag boom to lift the bag cradle up and set on top of the tunnel. Be sure the cradle is centered from side to side on the tunnel and between the pipes on the tunnel.
2. Unhook the bag boom from the cradle when in position.

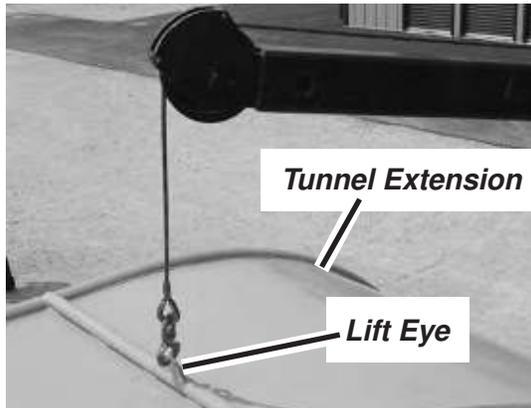


Bag Cradle In Transport Position

Tunnel Extension

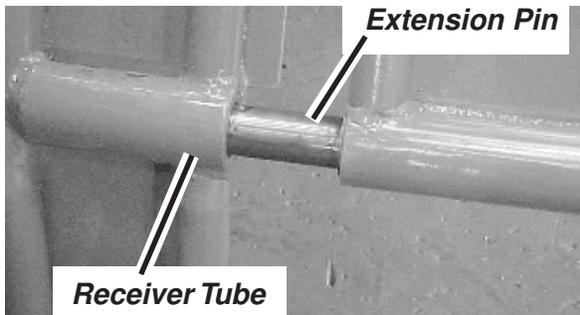
The tunnel extension is stored on top of the tunnel during transport. Be sure the bag cradle is in place before placing the tunnel extension on top of the tunnel.

1. Use the bag boom to lift the tunnel extension. Connect the hook from the bag boom cable to the lifting eye on the top of the tunnel. Remove the slack in the cable.



Boom Winch Attached To Tunnel Extension Lift Eye

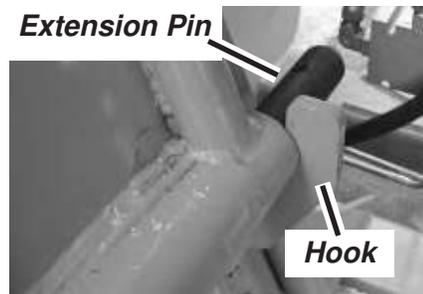
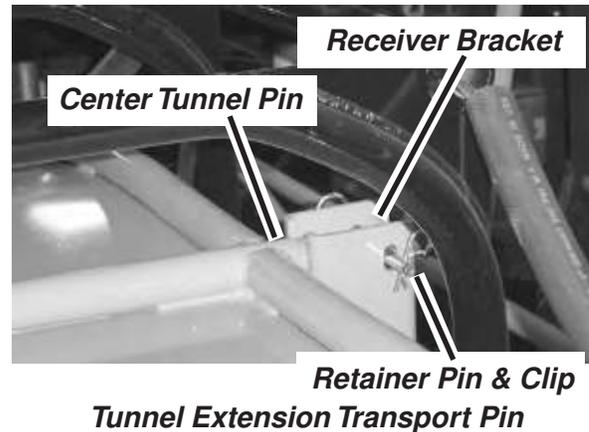
2. Remove the retainer pins holding the extension pins to the receiver tubes on the tunnel.



Tunnel Extension Pins

3. Using the bag boom, pull the tunnel extension out of the receiver tubes. Lift the tunnel extension up and place on top of the tunnel.

4. Line up the top center pin with the receiver bracket on the top of the tunnel. Line up the lower pins with the hooks on the sides of the tunnel. Secure top in place with the retainer pin and clip.
5. Lower the boom arm down to the top of the tunnel extension and remove the slack in the cable. The boom must remain in this position for transport.



Tunnel Extension Lower Pins In Hooks

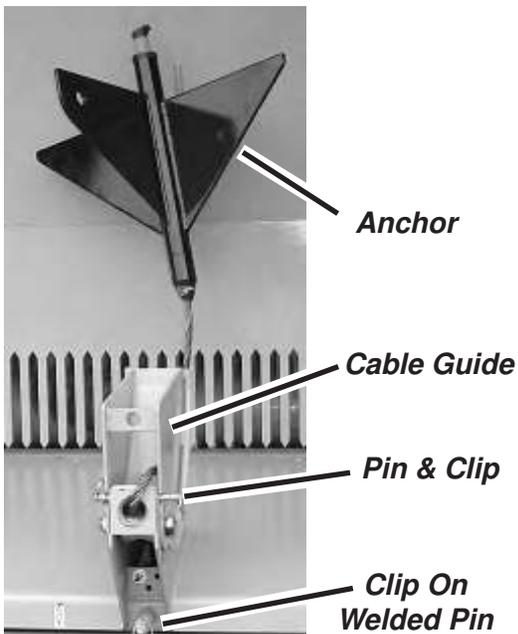


Tunnel Extension In Transport Position

Anchors In Storage Position

The anchors must be hung on the storage hooks for transport.

1. Hang the anchors on the storage hooks located on the tunnel cleanout plate.
2. Use the anchor in switch on the right side console in the cab to remove the slack in the anchor cables. Do not pull the cables tight. If the cables are pulled tight, kinking of the cables will occur.
3. Remove the clip pin holding the cable guide to the welded pin on the frame.
4. Swing the cable guides up and pin in the up position with the transport pin and clip.



Anchor and Guide In Storage Position

Place Wheels Into Transport Position

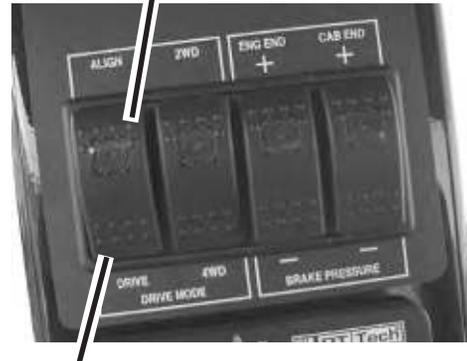
1. Lower the cab end lift jack enough to slightly lift the wheels.
2. Press the “Align” switch on the switch panel on the right side corner post.
3. Steer the wheels straight, front to back, ± 2 degrees.
4. Lower the cab end wheels to the ground by lifting the jack all the way up.
5. Lower the engine end lift jack enough to slightly lift the wheels.



6. Steer the engine end wheels straight, front to back, ± 2 degrees.
7. Lower the engine end wheels to the ground by lifting the jack all the way up.
 - A. Wheels at engine and cab ends must be within 5 degrees of each other.
 - B. When this is true press the “Drive” switch on the right side corner post.
 - C. Cab end will automatically adjust to match engine end.

- E. Press the “Align” switch on the switch panel on the right side corner post, steer the wheels to within 5 degrees, then press the “Drive” switch. Transport or Trailer Mode will display.

Press This End For Align



**Press This End For Drive
Align and Drive Switch**



Display for Transport Mode

- D. If the “Drive” switch is pressed with the wheels more than 5 degrees apart, “In Between Mode” will be indicated on the display.

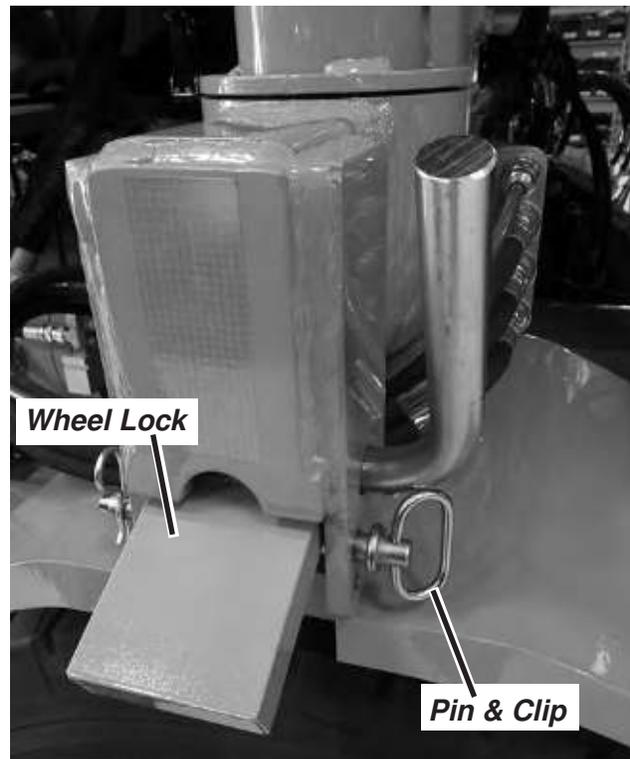


Display for In Between Mode

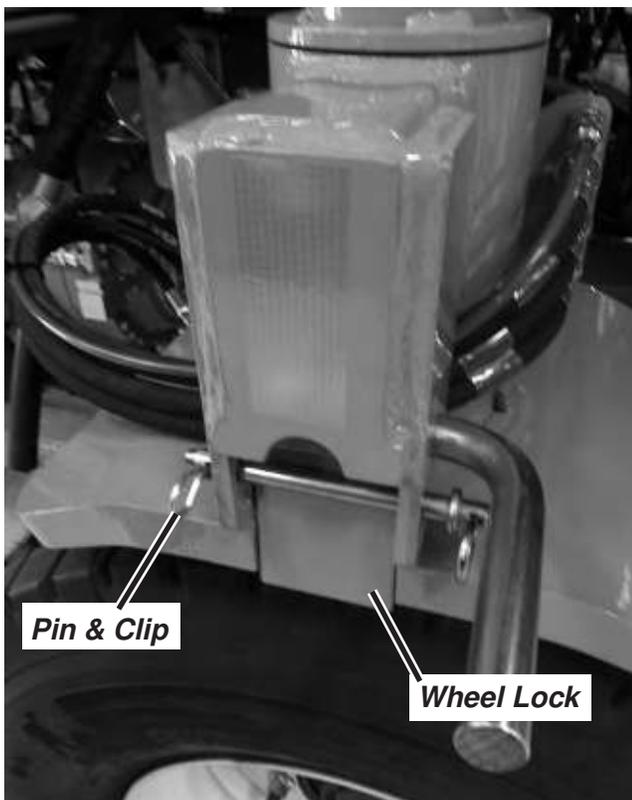
Transport Lock

The transport lock is only required when towing the bagger with a tow vehicle.

1. If transporting with a tow vehicle, the engine end wheels have to be locked in the straight front to back position.
2. The lock is located next to the engine end wheel on the feed table side.
3. Remove the retaining pin and clip. Allow the lock to swing down into the notch on the wheel column.
4. Reinstall the retaining pin and clip in the lower hole to secure the lock in the transport position.
5. When not using the transport lock, remove the pin and clip, raise the lock up away from the wheel column and re-insert the pin in the upper hole under the lock to hold it up. Clip in place.



Wheel Lock In Unlocked Position

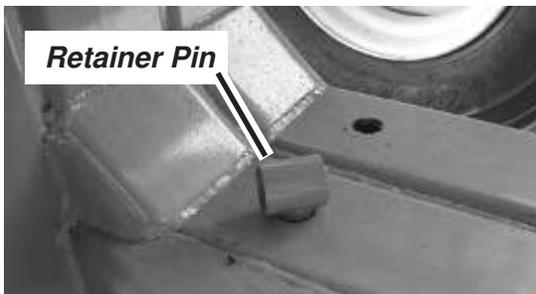


Wheel Lock In Locked Position

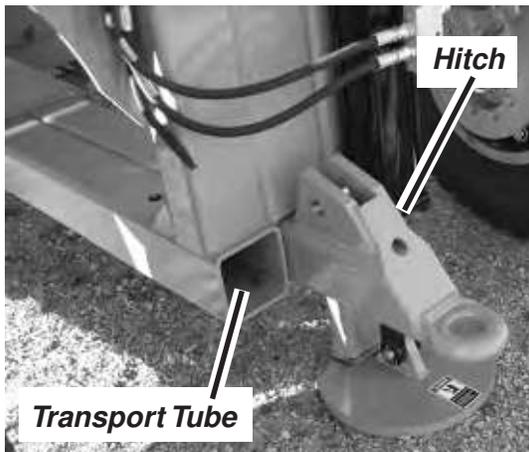
Pintle Hitch

For transporting with a tow vehicle the tow hitch and hitch brace have to be secured to the cab end of the bagger. This hitch is only required when transporting the bagger with a tow vehicle.

1. Remove the clip and retainer pin holding the hitch in the storage tube on the bagger.
2. Pull the hitch out of the storage tube and place into the transport tube.
3. Insert the retainer pin and clip to secure the hitch in the transport tube.

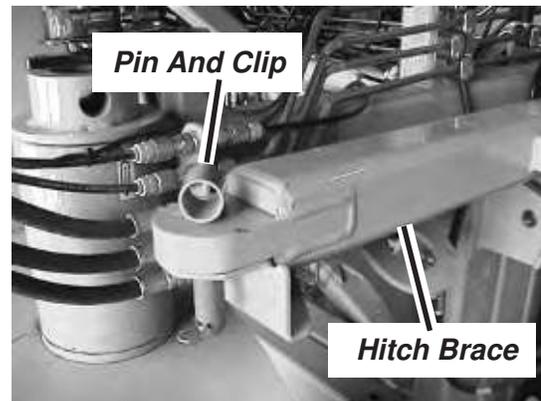


Hitch Retainer Pin



Hitch In Storage Tube

4. Remove the clips and pins securing the hitch brace to the frame at the cab end of the bagger.
5. Using the same pins and clips, place the brace between the bagger frame and the pintle end of the hitch. Secure in place by placing the pin through the mounting plates and the ends of the brace. Clip the pins in place.



Hitch Brace In Stored Position



Hitch And Brace In Transport Position

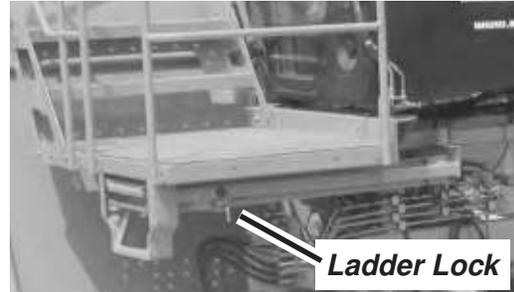
Transporting

IMPORTANT: You must obey all applicable highway safety laws and rules when transporting this vehicle on public roads.

Transporting Bagger On A Equipment Trailer

IMPORTANT: This vehicle is **NOT** designed to be driven on a public road, It **MUST** be transported on an equipment trailer or towed with the towing hitch.

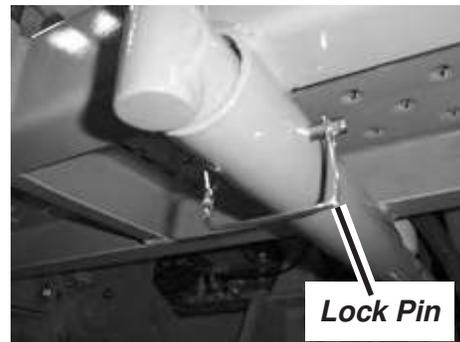
1. Drive the bagger onto the equipment trailer with the bagger drive in the Trailer Mode.
2. Place the drive in neutral.
3. Set the parking brake.
4. Securely tie the vehicle down. Use a minimum of a four corner tie down method. Be sure to secure tie downs to sturdy solid points on the frame or tie down points, never to vulnerable areas such as cylinder rods or sheet metal areas.
5. Close the exhaust by taping the exhaust pipe shut with duct tape to keep the turbo-charger from spinning without lubrication.
6. Raise the ladder up into the storage position and secure in place. Never transport the bagger with the ladder in the down position.
7. Be sure the platform next to the engine on the feed table side is pinned in the transport (in) position.



Ladder In Transport Position

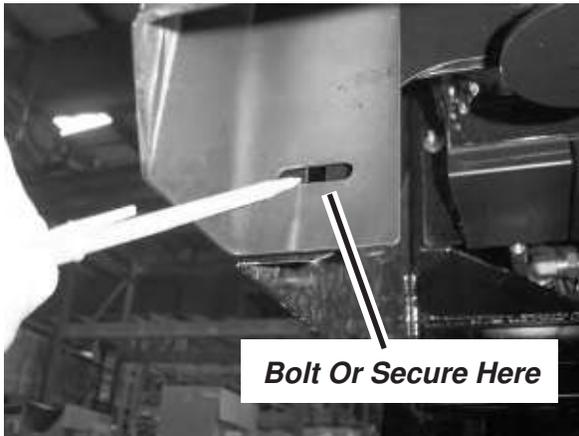


Engine Platform In Transport Position



Platform Lock Pins

8. The outer screen on the outside of the radiator should be secured in place before transporting. Locate the slotted tabs under the lip of the screen opposite of the hinge. Use a bolt and nut, tie strap or some other means to hold the screen in the closed position.



Slotted Tab Under Lip

Transporting With A Tow Vehicle

IMPORTANT: This vehicle is NOT designed to be driven on a public road, It **MUST** be transported on an equipment trailer or towed with the towing hitch.



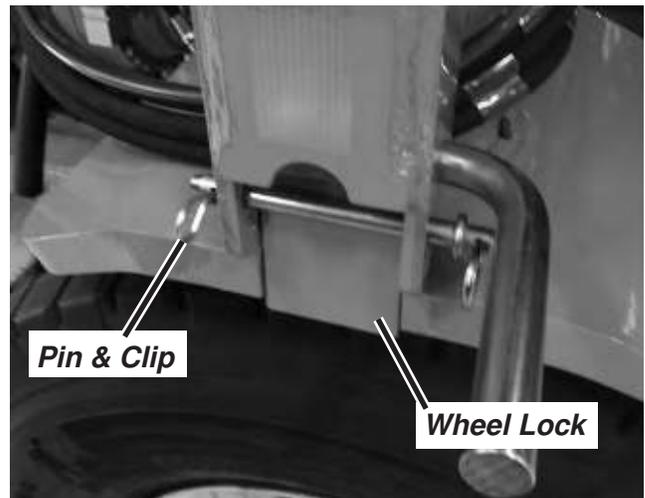
CAUTION

Maximum towing speed is 25 MPH.



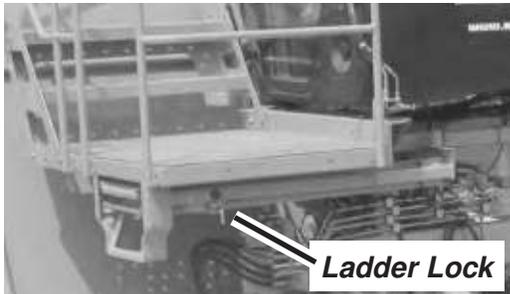
Bagger Hooked To Tow Vehicle

1. Be sure the tow vehicle is rated to tow the bagger.
2. The wheel lock must be engaged on the engine end wheels.



Wheel Lock In Locked Position

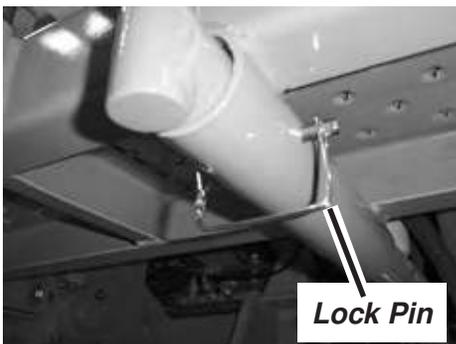
3. Raise the ladder for the cab and slide under the cab. Slide the ladder all the way in and lock into place. Be sure the ladder lock is engaged completely.
4. Be sure the platform at the engine is folded in and clipped into position. Be sure the railing is pushed all the way in and the clips are securely fastened.



Ladder In Transport Position

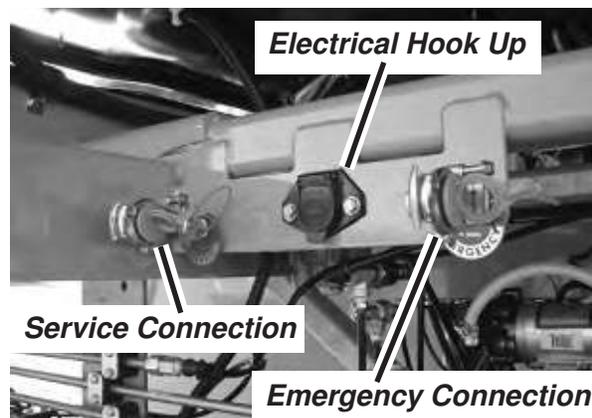


Engine Platform In Transport Position

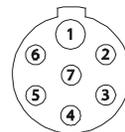


Platform Lock Pins

5. Lower the cab end lift jack to raise the cab end of the bagger high enough to hook the pintle hitch of the bagger on to the pintle hitch of the towing vehicle. Lower the bagger down onto the tow vehicle hitch and raise the lift jack all the way up. Never transport the bagger with the lift jack down.
6. Shut the bagger engine off.
7. Close the exhaust by taping the exhaust pipe shut with duct tape to keep the turbo-charger from spinning without lubrication.
8. Connect the air lines from the tow vehicle to the air connections on the bagger. Connect the brake air line to the "Service" connection on the bagger. Connect the constant air supply line to the "Emergency" connection on the bagger.
9. Connect the 7 pin electrical cord between the tow vehicle and the connection on the bagger. The plug terminal on the bagger is wired per the ANSI/SAE S279.13 Specifications.



Air And Electrical Hook Ups



Light plug terminal identification

1	Ground	
3	Bright Amber	LH Turn & Flash
4	Bright Red	Stop Lamps
5	Bright Amber	RH Turn & Flash
6	Dim Red	Tail Lamps

Light receptacle wired per ANSI/SAE S279.13

Bagging Instructions

Read and follow these procedures for proper bagging of product as well as feed out rates and bag placement.

Bag Information

NOTE: The tons per bag are approximate and will vary based on moisture and length of crop and crop types.

Capacity of Tons Per Running Foot of 12 Foot Bag

12 Ft..... 2 - 2.25 Ton per foot (approx.)

Suggested Feed Out Rates Per Day

Winter Feed Out Rate - October to April

Feet per day (2.5 feet)

Tons per day (5 - 5.6 tons)

Summer Feed Out Rate - May to September

Feet per day (3 feet)

Tons per day (6 - 6.75 tons)

Capacity of Tons Per Running Foot of 14 Foot Bag

14 Ft..... 2.75 - 3 Ton per foot (approx.)

Suggested Feed Out Rates Per Day

Winter Feed Out Rate - October to April

Feet per day (3 feet)

Tons per day (8.25 - 9 tons)

Summer Feed Out Rate - May to September

Feet per day (3.5 feet)

Tons per day (9.6 - 10.5 tons)

The Crop

- a. Maturity (pre-bloom)
- b. Moisture Level (60 to 65 percent target)
- c. Crop Length (3/4" target)

Haylage and Corn Silage:

Apply enough anchor pressure to fill the bag to within 2 inches of the top of the tunnel. Keep the bag stretch indicators within the bag manufacturer's specifications.

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 approximately 30 feet back from the bagger. Keep the stretch indicators within the bag manufacturer's specifications.

Product Moisture

Refer to the "3M's of Silage" supplement available from your Miller Ag-Bag dealer for more detailed information on product moisture levels. Moisture levels play an important part of product quality.

Dry Product

Dry product makes a lumpy bag. Long dry chop is hard on the bagger. Remember when trying to make good haylage, dry feeds have more resistance. They will pack higher in the bag and less anchor pressure is required.

Wet Product

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

Bag Location - pick an area using the following recommendations

- a. Remove rocks and sticks from the site
- b. Good drainage of site is important
- c. Concrete, asphalt, gravel or packed limestone works well under bags
- d. Pick a site away from rodents
- e. Protect your site from livestock with fencing.

Bag Installation

Enclosed in each box of bags is an instruction sheet with pictures to help you properly install the bag on your bagger. Please take time to understand the best method of bag installation. The bag should be placed on the machine with the bag logo in an area between 1 and 3 o'clock.

Watch the stretch indicators on the bag. The bag is overfilled when the stretch indicator exceeds the manufacturer's recommendations.

Correcting Bag Stretch

Ground To Ground Method Of Checking

Tie weights (hex nuts) approximately 1/4 lb to one end of a string and one weight (hex nut) approximately 1/8 lb to the opposite end of the string. The distance between the nuts need to be 29 feet 6 inches for a 14 foot bag or 26 feet 6 inches for the 12 foot bag.

Straddle the string over the bag approximately 15 feet away from the bagger.

While bagging, when the single nut touches the ground, increase the anchor pressure and/or brake pressure. If the nut comes off the ground more than 3 inches, reduce the anchor pressure and/or brake pressure.

NOTE: Use this procedure only as a visual aid. Remember, measuring the stretch bars on the bag and maintaining appropriate stretch dimension is important. Keep the bag stretch indicators within the manufacturer's specifications.

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

Anchor Out: The further out the anchors extend, the more pressure will be exerted, meaning the bag will have higher compaction. Watch the anchor gauge so you will know how much cable is out. This will cause the stretch bars on the bag to lengthen. You can let more cable out by using the anchor float switch on the right side console. Do not use the anchor cable in/out switch to let the anchor cable out while bagging, this can create slack in the anchor cables

Anchor In: By pulling the anchors back toward the tunnel you will lessen the amount of pressure and cause the stretch bars to become smaller. Use the anchor cable in switch on the right side console to pull the anchors in. Watch the anchor pressure on the System Monitor display and keep it in the correct range.

Sealing and Venting

As soon as the bag is filled, seal the finished end of the bag as outlined with the Master Seal instructions or using the double knot method. The sooner oxygen is sealed out, the sooner the fermentation process can begin. It is very important to vent the bag after sealing. Refer to “Venting The Bag” section of this manual. Order Master seal and reusable vents from your local Miller Ag-Bag dealer. Refer to the list that follows for specific part numbers:

Part Number 42.1500272 - 250 Ft. Roll of Master Seal

Part Number 42.1500893 - Reusable bag vent

Part Number 42.1500568 - Vent installation tool

Protecting the Bag From Wind Damage

Wind damage can be caused by the wind whipping the loose end of the bag. To prevent damage, the loose bag end needs to be secured 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.

Bag Management and Inspection

Periodic inspection of the bag is essential to maintain the oxygen free environment inside the bag. It is recommended that repairs be made with Ag-Bag mending tape as soon as they are discovered. Repair tape can be ordered from your local Miller Ag-Bag dealer using the following part numbers:

Part Number 42.1500523
2” x 36 yard roll, 18 rolls per case

Part Number 42.1500525
3” x 36 yard roll, 24 rolls per case

Part Number 42.1501331
4” x 36 yard roll, 18 rolls per case

Bagging Surface

IMPORTANT: Do not bag on a hillside. Tip-over or bag roll could result.

Bag up hill rather than down hill. Avoid bagging on a hillside. The bagger can drift and the bag may roll.

Surface conditions may affect bagging quality and ability. Soft ground conditions will act as a brake and may cause the bagger to sink. A hard clean and level surface is best to bag on. By cleaning the area, rodent problems can be reduced or eliminated.

Bad Weather Bags

NOTE: Remember to place bags in a location that feed out can be done when you need the feed.

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.

Storage

It is important that the bagger be thoroughly cleaned before storing. Thoroughly wash the entire bagger to remove any residue left from the bagging season.

Completely rinse and drain the liquid inoculant tank and system on the bagger.

If the temperature is expected to drop down below freezing, completely drain all water from the inoculant tank and system. Charge the complete inoculant system (tank through nozzles) with approximately 5 gallons of RV antifreeze. Leave some RV antifreeze in the inoculant tank.

Thoroughly clean all forage residue from the tunnel, feed table and rotor area. Crop juices are very corrosive if left to stand in the hopper, tunnel and feed table area.

Grease all fittings to purge any forage residue juice from the bearings.

Refer to the Engine Operation and Maintenance Manual for storage procedures for the engine.

Use touch up paint on any areas that the paint has been worn off to prevent rusting and corrosion during storage.

Store the bagger inside and out of the weather.

Trouble Shooting



WARNING:

Turn off engine and remove ignition key before attempting to inspect, clean, lubricate, adjust or perform other service on this machine.

Hydraulic System



WARNING:

Avoid high pressure fluids.

Avoid the hazard by relieving all pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Never use your hand or any other body part to search for leaks. Protect hands and body from high pressure fluids.

Hydraulic System Cleanliness

IMPORTANT: The greatest contributor to hydraulic component failure is contamination of the oil with dirt and other debris. Keep all hydraulic access areas completely clean, such as around the hydraulic reservoir filter and filler cap. Immediately repair any fittings, hoses or other components where leakage is observed. Wipe up any leakage.

Engine

Refer to the Cummins Engine Operation and Maintenance Manual for problems not covered in this manual.

Engine Trouble Shooting

Engine Fault Codes

The Cummins QSX engine has onboard diagnostic capabilities built into it to troubleshoot the engine fault codes.

FAULT DETECTION: Engine fault codes can be detected while the engine is running. If a fault occurs, the engine computer takes a snapshot of engine operating parameters and logs the fault code into memory.

The System Monitor will display active fault codes as they occur. The display can also be used to view inactive fault codes.

The System Monitor will display fault codes. Refer to the display representation of an actual code on the following page. Use these codes as they are displayed to determine corrective action. These codes are found in the Engine Fault Code tables the follow.

Engine Fault Codes

Refer to the System monitor screen represented below as an example of how the engine codes will be displayed.

The SPN/FMI code displayed below is represented in the Engine Fault Code Tables that follow.



Display Showing Engine Fault

Engine Fault Codes - QSX Engines

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
94	16	449	Yellow	Excessive Fuel Supply Pressure Was Detected At The Fuel Pressure Sensor	Engine Will Have Black Smoke And Will Run Derated	Check For Fuel Restriction In The Fuel Return Circuit. Call Cummins Service.
94	18	482	Yellow	Fuel Pressure Low - Data Valid But Below Normal Operating Range - Moderately Severe Level. Low Fuel Supply Pressure Was Detected At The Fuel Pressure Sensor.	Engine Does Not Start, Has Low Power, Can Possibly Have White Smoke, Or Runs Rough	Check For Fuel In Tank. Check For Fuel Restriction. Call Cummins Service.
94	3	546	Yellow	High Voltage Detected On The Fuel Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service
94	4	547	Yellow	Low Voltage Detected On The Fuel Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service
97	15	418	Maintenance	Water Was Detected In The Fuel Filter	Possible White Smoke, Loss Of Power, Or Hard Starting	Drain Water From Fuel Filter. Call Cummins Service.
97	3	428	Yellow	High Voltage Detected In The Water-In-Fuel Circuit	None On Performance	Call Cummins Service
97	4	429	Yellow	Low Voltage Detected In The Water-In-Fuel Circuit	None On Performance	Call Cummins Service
100	3	135	Yellow	High Voltage Detected At The Oil Pressure Circuit	No Engine Protection For Oil Pressure	Call Cummins Service
100	4	141	Yellow	Low Voltage Detected At The Oil Pressure Circuit	No Engine Protection For Oil Pressure	Call Cummins Service
100	1	143	Yellow	Engine Oil Pressure Low - Warning. Engine Oil Pressure Signal Indicates Engine Oil Pressure Is Below The Engine Protection Warning Limit.	Progressive Power Derate Increasing In Severity From Time Of Alert	Call Cummins Service
100	1	415	Red	Engine Oil Pressure Low - Critical. Engine Oil Pressure Signal Indicates Engine Oil Pressure Is Below The Engine Protection Warning Limit.	Progressive Power Derate Increasing In Severity From Time Of Alert	Check For Loose Or Plugged Oil Filter. Call Cummins Service.
100	2	435	Yellow	An Error In The Oil Pressure Sensor Signal Was Detected By The Ecm	None On Performance, No Engine Protection For Oil Pressure	Call Cummins Service
102	3	122	Yellow	High Voltage Detected At The Intake Manifold Pressure Sensor Circuit	Derate In Power Output Of The Engine	Call Cummins Service
102	4	123	Yellow	Low Voltage Detected At The Intake Manifold Pressure Sensor Circuit	Derate In Power Output Of The Engine	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
102	2	433	Yellow	Voltage Signal At The Intake Manifold Pressure Circuit Indicates High Intake Manifold Pressure, But Other Engine Characteristics Indicate That Intake Manifold Pressure Must Be Low.	Derate To No Air Setting	Call Cummins Service
103	16	595	Yellow	Turbocharger Speed High (Calculated). Turbocharger Sped Calculation Indicates Turbocharger Speed Is Above The Engine Protection Warning Limit.	Engine Will Run Derated	Call Cummins Service
105	3	153	Yellow	High Voltage Detected At The Intake Manifold Temperature Circuit	Possible White Smoke. Fan Will Stay On If Controlled By The Ecm. No Engine Protection For Coolant Temperature	Call Cummins Service
105	4	154	Yellow	Low Voltage Detected At The Intake Manifold Temperature Circuit	Possible White Smoke. Fan Will Stay On If Controlled By The Ecm. No Engine Protection For Coolant Temperature	Call Cummins Service
105	0	155	Red	Intake Manifold 1 Temperature - Data Valid But Above Normal Operating Range - Most Severe Level. Engine Coolant Temperature Signal Indicates Engine Coolant Temperature Above Engine Protection Critical Limit.	Progressive Power Derate Increasing In Severity From Time Of Alert	Check For Restricted Air Flow Through Charge Air Cooler. Call Cummins Service.
108	3	221	Yellow	High Voltage Detected At The Ambient Air Pressure Sensor Circuit	Derate In Power Output Of The Engine	Call Cummins Service
108	4	222	Yellow	Low Voltage Detected At The Ambient Air Pressure Sensor Circuit	Derate In Power Output Of The Engine	Call Cummins Service
110	3	144	Yellow	High Voltage Detected At The Coolant Temperature Circuit	Possible White Smoke. Fan Will Stay On If Controlled By The Ecm. No Engine Protection For Coolant Temperature	Call Cummins Service
110	4	145	Yellow	Low Voltage Detected At The Coolant Temperature Circuit	Possible White Smoke. Fan Will Stay On If Controlled By The Ecm. No Engine Protection For Coolant Temperature	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
110	0	151	Red	Engine Coolant Temperature - Data Valid But Above Normal Operating Range - Most Severe Level. Intake Manifold Air Temperature Signal Indicates Intake Manifold Air Temperature Above Engine Protection Critical Limit.	Progressive Power Derate Increasing In Severity From Time Of Alert	Check Coolant Level. Check For Restricted Air Flow Through Radiator. Call Cummins Service.
111	1	235	Red	Coolant Level Signal At Pin 22 Of The Sensor Harness Indicates Coolant Level Is Below The Normal Range	Progressive Power Derate Increasing In Severity From Time Of Alert	Check Coolant Level. Call Cummins Service.
111	2	422	Yellow	Voltage Detected Simultaneously On Both The Coolant High And Low Signal Circuits Or No Voltage Detected On Both Circuits	No Engine Protection For Coolant Level	Check Coolant Level Wire Harness For Shorts Or Open Circuits. Call Cummins Service.
157	3	451	Yellow	High Voltage Detected On The Front Rail Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service
157	4	452	Yellow	Low Voltage Detected On The Front Rail Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service
157	16	553	Yellow	Unexpectedly High Rail Pressure Was Detected On The Three Front Cylinders	Engine Will Return To Idle Speed, Then Only Idle Or Shut Down	Call Cummins Service
157	18	559	Yellow	Unexpectedly Low Rail Pressure Was Detected On The Three Front Cylinders	Low Power Or Rough Idle	Call Cummins Service
157	7	755	Yellow	Incorrect Fueling Was Detected On The Front Three Cylinders	Engine Will Misfire	Check For Fuel Return Line Restriction. Check For Air In Fuel. Call Cummins Service.
166	2	951	None	A Power Imbalance Was Detected By The Ecm	Engine Can Have A Rough Idle Or Misfire	Call Cummins Service
167	16	596	Yellow	High Battery Voltage Detected By The Battery Voltage Monitor Feature	Yellow Lamp Will Be Lit Until High Battery Voltage Condition Is Corrected	Check Alternator And Battery Connections. Call Cummins Service
167	18	597	Yellow	Low Battery Voltage Detected By The Battery Voltage Monitor Feature	Yellow Lamp Will Be Lit Until High Battery Voltage Condition Is Corrected	Check Alternator And Battery Connections. Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
167	1	598	Red	Very Low Battery Voltage Detected By The Battery Voltage Monitor Feature	Red Lamp Will Be Lit Until High Battery Voltage Condition Is Corrected	Check Alternator And Battery Connections. Call Cummins Service
168	18	441	Yellow	Battery Voltage Below Normal Operating Level	Possible No Noticeable Performance Effects Or Possible Rough Idle	Check Battery Connections, Check 15 Amp Fuses, Check Oem Harness Connections. Call Cummins Service.
168	0	442	Yellow	Battery Voltage Above Normal Operating Level	None On Performance	Check Battery Connections, Check 15 Amp Fuses, Check Oem Harness Connections. Call Cummins Service.
175	3	212	Yellow	High Voltage Detected At The Oil Temperature Circuit	No Engine Protection For Oil Temperature	Call Cummins Service
175	4	213	Yellow	Low Voltage Detected At The Oil Temperature Circuit	No Engine Protection For Oil Temperature	Call Cummins Service
175	0	214	Red	Engine Oil Temperature High - Data Valid But Above Normal Operating Range - Most Severe Level. Engine Oil Temperature Signal Indicates Engine Oil Temperature Above Engine Protection Critical Limit.	Progressive Power Derate Increasing In Severity From Time Of Alert	Call Cummins Service
190	2	115	Red	Camshaft Engine Position Sensor Circuit. No Engine Speed Signal Detected From The Camshaft Engine Position Sensor.	Engine May Take Longer To Start	Call Cummins Service
190	10	121	Yellow	No Engine Speed Signal Detected From The Crankshaft Engine Position Sensor	Hard Starting, Low Power, Rough Idle, Or Possible White Smoke	Call Cummins Service
190	0	234	Red	Engine Speed Signal Indicated Engine Speed Is Greater Than 2650 Rpm	Fuel Shutoff Valve Closed Until The Engine Speed Falls To 2000 Rpm	Avoid Overspeed Condition. Call Cummins Service.
251	2	319	Maintenance	Real-Time Clock Lost Power	None On Performance. Data In Ecm Will Not Have Accurate Time And Date Information.	Call Cummins Service
620	4	187	Yellow	Low Voltage Detected On The Ecm Voltage Supply Line To Some Sensors (Vsen2 Supply)	Engine Will Run Derated. No Engine Protection For Oil Pressure Or Coolant Level.	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
620	3	227	Yellow	High Voltage Detected On The Ecm Voltage Supply Line To Some Sensors	Engine Will Run Derated. No Engine Protection For Oil Pressure Or Coolant Level.	Call Cummins Service
620	4	352	Yellow	Low Voltage Detected On The Ecm Voltage Supply Line To Some Sensors	Engine Is Derated To No Air Setting	Call Cummins Service
623	3	255	Yellow	Engine Fuel Shutoff Valve Drive Circuit - Voltage Above Normal Or Shorted To High Source. Open Circuit Or Short To Voltage Source Detected At Fuel Shutoff Valve Circuit.	None On Performance. Fuel Shutoff Valve Stays On.	Call Cummins Service
627	2	434	Yellow	Supply Voltage To The Ecm Fell Below +6.2 Vdc For A Fraction Of A Second Or The Ecm Was Not Allowed To Power Down Correctly For 30 Seconds Between Key Off And Key On	Possible No Noticeable Performance Effects Or Engine Dying Or Hard Starting.	Check For Low Voltage During Cranking. Wait 30 Seconds Between Key Off And Turning Key Back On. Call Cummins Service
629	12	111	Red	Error Internal To The Ecm Related To The Memory Hardware Failures Or Internal Ecm Voltage Supply Circuits	Engine Will Not Start	Call Cummins Service
629	12	343	Yellow	Internal Ecm Error	Possibly None On Performance, Or Severe Derate	Check Battery And All Ground Connections. Call Cummins Service.
630	2	341	Yellow	Severe Loss Of Data From The Ecm	Possible No Noticeable Performance Effects, Or Engine Dying, Or Difficulty In Starting The Engine. Fault Information, Trip Information And Maintenance Monitor Data Can Be Inaccurate	Check Battery Connections, Check 15 Amp Fuses, Check Oem Harness Connections. Call Cummins Service.
632	4	254	Red	Less Than 6 Vdc Detected At Fuel Shutoff Circuit Or An Excessive Current Draw From The Ecm Or A Faulty Ecm Output Circuit.	The Ecm Turns Off The Fuel Shutoff Supply Voltage. The Engine Will Shut Down.	Call Cummins Service
632	7	259	Yellow	The Ecm Detected That The Fuel Shutoff Valve Is Stuck Open Mechanically Or Leaking	Engine Will Have A Torque Derate	Call Cummins Service
633	5	378	Yellow	Low Current Or Open Circuit Detected At Front Fueling Actuator Circuit	Engine Will Run Using Only The 3 Rear Cylinders	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
633	6	379	Yellow	High Current Detected At Front Fueling Actuator Circuit	Engine Will Run Using Only The 3 Rear Cylinders	Call Cummins Service
635	5	394	Yellow	Low Current Or Open Circuit Detected At Front Timing Actuator Circuit	Engine Will Run Using Only The 3 Rear Cylinders	Call Cummins Service
635	6	395	Yellow	High Current Detected At Front Timing Actuator Circuit	Engine Will Run Using Only The 3 Rear Cylinders	Call Cummins Service
636	9	285	Yellow	The Ecm Expected Information From A Multiplexed Device But Did Not Receive It Soon Enough, Or Did Not Receive It At All	At Least One Multiplexed Device Will Not Operate Properly	Check All J1939 Wiring And Devices Controlled By The Engine. Call Cummins Service.
636	13	286	Yellow	The Ecm Expected Information From A Multiplexed Device But Only Received A Portion Of The Necessary Information	At Least One Multiplexed Device Will Not Operate Properly	Check All J1939 Wiring And Devices Controlled By The Engine. Call Cummins Service.
639	2	426	None	Communication Between The Ecm And Another Device On The J1939 Datalink Has Been Lost	None On Performance. J1939 Devices Possibly Do Not Operate.	Check All J1939 Wiring And Devices Controlled By The Engine. Call Cummins Service.
647	4	245	Yellow	Less Than 6 Vdc Detected At Fan Clutch When On. Indicates An Excessive Current Draw From The Ecm Or A Faulty Ecm Output Circuit.	The Fan Can Stay On All The Time	Call Cummins Service
723	7	731	Yellow	Engine Speed Sensor And Camshaft Position Sensor - Mechanical Misalignment Between Camshaft And Crankshaft Sensors. Engine Position Signal From The Engine Speed Sensor And Camshaft Position Sensor Do Not Match.	Engine Will Run Derated. Excessive Smoke, Hard Start And Rough Idle Possible.	Call Cummins Service
723	2	753	Yellow	Engine Position Signal From The Camshaft And The Crankshaft Engine Position Sensors Do Not Match Up	Low Power, Rough Idle, Or Possible White Smoke	Call Cummins Service
1043	4	284	Yellow	Incorrect Voltage Detected On The Ecm Voltage Supply Wire To The Crankshaft Engine Position Sensor	Engine Can Possibly Not Run Or Will Run Derated. Possible Hard Starting, Low Power, Or White Smoke	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
1043	11	496	Yellow	Incorrect Voltage Detected On The Ecm Voltage Supply Line To The Camshaft Engine Position Sensor	Engine Does Not Run, Is Hard To Start Or Will Run Derated	Call Cummins Service
1079	3	386	Yellow	High Voltage Detected On The Ecm Voltage Supply Line To Some Sensors (Vsen1 Supply)	Engine Is Derated To No Air Setting	Call Cummins Service
1188	3	465	Yellow	High Voltage Detected At The Wastegate Actuator Number 1 Circuit When No Voltage Was Being Supplied By The Ecm	Engine Will Run Derated	Call Cummins Service
1188	4	466	Yellow	Less Than +6 Vdc Detected At The Wastegate Actuator Number 1 Circuit When On Indicates An Excessive Current Draw From The Ecm Or Faulty Ecm Output Circuit	Engine Will Run Derated	Check Engine Block Ground. Check Starter Solenoid Positive Connections. Call Cummins Service.
1189	3	491	Yellow	High Voltage Detected At The Wastegate Actuator Number 2 Circuit When No Voltage Was Being Supplied By The Ecm	Engine Will Run Derated	Call Cummins Service
1189	4	492	Yellow	Less Than +6 Vdc Detected At The Wastegate Actuator Number 2 Circuit When On Indicates An Excessive Current Draw From The Ecm Or Faulty Ecm Output Circuit	Engine Will Run Derated	Check Engine Block Ground. Check Starter Solenoid Positive Connections. Call Cummins Service.
1244	5	396	Yellow	Low Current Or Open Circuit Detected At Rear Fueling Actuator Circuit	Engine Will Run Using Only The 3 Front Cylinders	Call Cummins Service
1244	6	397	Yellow	High Current Detected At Rear Fueling Actuator Circuit	Engine Will Run Using Only The 3 Front Cylinders	Call Cummins Service
1245	5	398	Yellow	Low Current Or Open Circuit Detected At Rear Timing Actuator Circuit	Engine Will Run Using Only The 3 Front Cylinders	Call Cummins Service
1245	6	399	Yellow	High Current Detected At Rear Timing Actuator Circuit	Engine Will Run Using Only The 3 Front Cylinders	Call Cummins Service
1265	4	223	Yellow	Incorrect Voltage Detected At The Centinal Actuator Circuit By The Ecm	None On Performance. Centinal System Deactivated.	Call Cummins Service
1349	3	483	Yellow	High Voltage Detected On The Rear Rail Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service

SPN #	FMI #	Cummins Fault #	Lamp Color	Reason For Fault	Effect If Fault Is Active	Course Of Action
1349	4	484	Yellow	Low Voltage Detected On The Rear Rail Pressure Sensor Circuit	Engine Will Run Derated	Call Cummins Service
1349	16	485	Yellow	Unexpectedly High Rail Pressure Was Detected On The Three Rear Cylinders	Engine Will Return To Idle Speed, Then Only Idle Or Shut Down	Call Cummins Service
1349	18	486	Yellow	Unexpectedly Low Rail Pressure Was Detected On The Three Rear Cylinders	Low Power Or Rough Idle	Call Cummins Service
1349	7	758	Yellow	Incorrect Fueling Was Detected On The Rear Three Cylinders	Engine Will Misfire	Check For Fuel Return Line Restriction. Check For Air In Fuel. Call Cummins Service.
1381	3	581	Yellow	High Voltage Detected On Fuel Inlet Restriction Sensor Signal Pin	Fuel Inlet Restriction Monitor Deactivated	Call Cummins Service
1381	4	582	Yellow	Low Voltage Detected On Fuel Inlet Restriction Sensor Signal Pin	Fuel Inlet Restriction Monitor Deactivated	Call Cummins Service
1381	18	583	Yellow	Restriction Has Been Detected By The Fuel Inlet Restriction Sensor	Fuel Inlet Restriction Monitor Warning Is Set	Check For Plugged Fuel Filter. Check Fuel Lines For Restriction. Call Cummins Service.
1383	31	611	None	Engine Shutdown By Operator Before Proper Engine Cooldown	No Action Taken By The Ecm	Allow Engine To Run At Low Idle Speed For A Couple Of Minutes Before Shutting Down Engine. Call Cummins Service.
1384	31	299	Yellow	The Engine Was Shut Down By A J1939 Device Other Than The Key-switch Before Proper Engine Cooldown, Resulting In A Filtered Load Factor Above The Maximum Shutdown Threshold	No Action Taken By The Ecm	Check All J1939 Wiring And Devices Controlled By The Engine. Call Cummins Service.

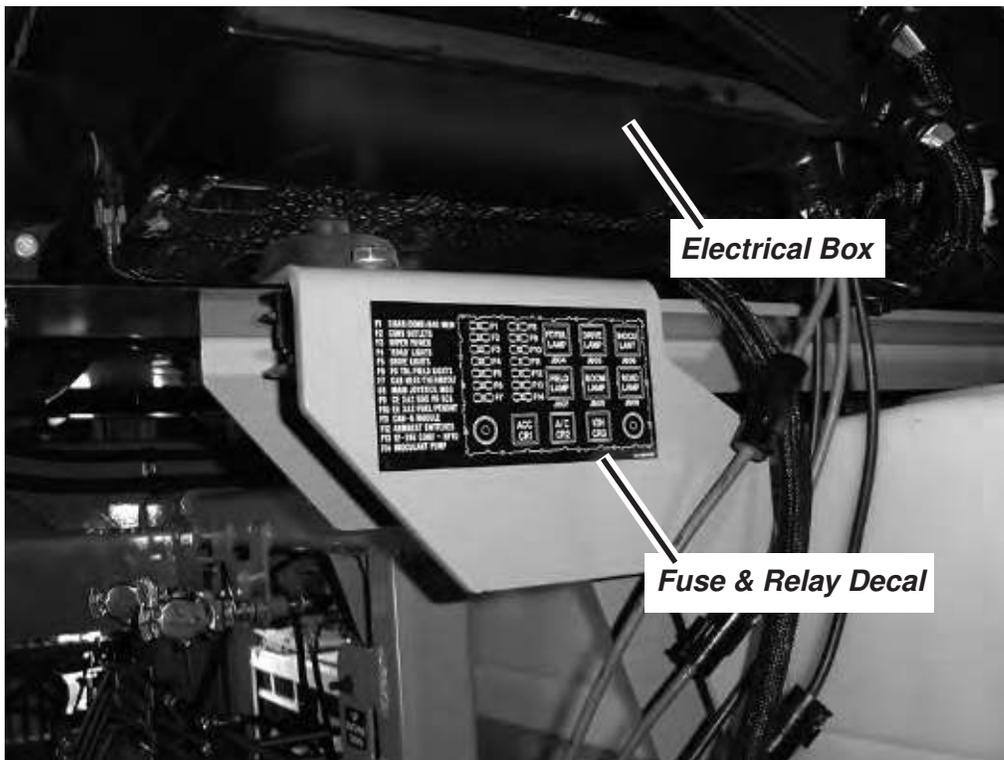
Trouble Shooting

Problem	Possible Cause	Possible Solution
Rotor drive belt slipping.	Belt loose.	Adjust belt tension.
	Foreign object in rotor.	Remove object from rotor.
Rotor not turning.	HPTO clutch not engaged.	Engage clutch.
	Clutch fault.	Refer to HPTO clutch manual.
	Rotor drive belt slipping.	Adjust belt tension.
	Clutch timed lockout.	Wait 5 minutes and attempt restart.
Wheels will not steer.	Transport pin locked.	Remove pin from locked position.
	Steering sensors out of adjustment.	See Miller Ag-Bag Dealer.
Feed table will not pull feed to rotor.	Feed too wet and heavy.	Remove some feed from belt to reduce weight.
	Drive chain binding.	Check for binding and re-align sprockets.
	Too much build up on belt rollers.	Clean belt roller of build up.
	Feed table belt too loose.	Tighten both feed table belt adjusters to get belt moving, then adjust tracking.
Anchors will not retract	Anchor float switch on.	Turn anchor float off.
	Anchors out too far. Too much pressure.	Pull machine ahead and retract anchors.
Steering angles on system display do not match actual steering angles on bagger	Steering sensors need to be reset.	Refer to adjustment section to reset steering sensors
Wheels will not steer	Sensor adjustment.	See Miller Ag-Bag Dealer.

Problem	Possible Cause	Possible Solution
Armrest switches not working.	Fuse blown.	Replace fuse.
HPTO clutch controller not functioning.	Fuse blown.	Replace fuse.
Exterior lights do not work.	Fuse blown.	Replace fuse.
	Blown or faulty lamp.	Replace lamp.
Bagger electrical system not working.	Battery disconnect switch turned to off.	Turn switch to on.

Fuse & Relay Locations

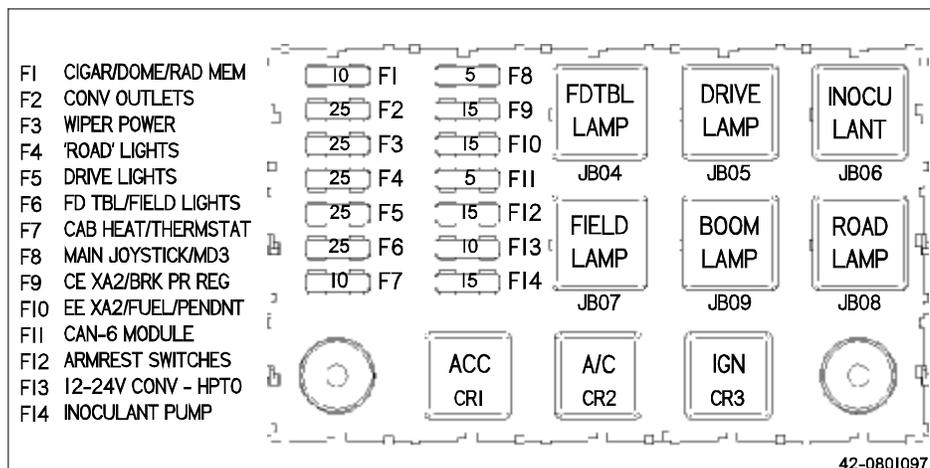
The fuse and relay panel is located inside a electrical box on the outer rear corner of the cab. Unlatch and open the electrical box to access the fuses and relays. A decal is located on the frame below the electrical box which identifies which fuse and relay controls which function.



Electrical Box

Fuse & Relay Decal

Fuse Panel & Decal



Fuse & Relay Locations

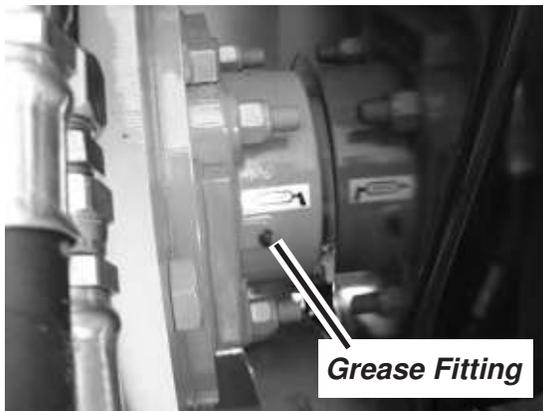
Lubrication

Use a good grade of Lithium Based grease on all fittings.

Rotor Bearing

Grease twice per bag

Locate the grease fitting on the rotor bearing opposite of the planetary drive. Clean off the fitting before attaching the grease gun. Grease this bearing twice each bag, five pumps at the beginning of the bag and five pumps halfway through the bag.

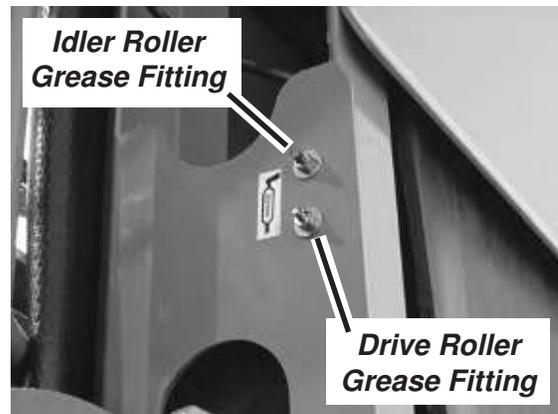


Rotor Bearing Grease Fitting

Feed Table Drive and Idler Rollers

Grease twice per bag

Locate the grease fittings on each side of the feed table. Clean off the fittings before attaching the grease gun. Grease each roller, wipe up excess grease. Grease these bearings twice each bag, two pumps at the beginning of the bag and two pumps halfway through the bag. Do not over grease. It is better to give the bearings smaller amounts of grease more often, than large amounts of grease.



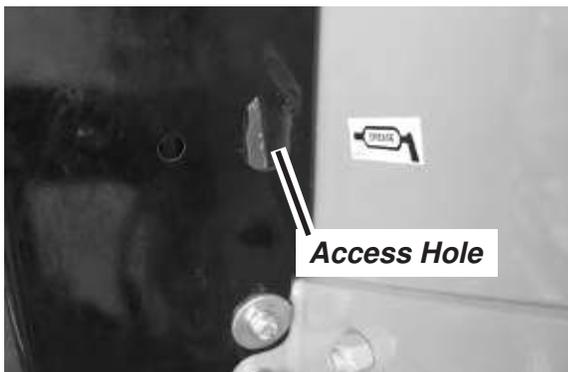
*Idler & Drive Roller Bearing Grease Fittings
(Feed Table In Raised Position)*

Lower Beater Bar Bearings

Grease twice per bag

On the cab side of the hopper, locate the shield covering the lower beater bar drive. Clean off the grease fitting through the access hole in the shield. Attach the grease gun. Wipe up excess grease. Grease this bearing twice each bag, two pumps at the beginning of the bag and two pumps halfway through the bag. Do not over grease. It is better to give the bearings smaller amounts of grease more often, than large amounts of grease.

Locate the lower beater bar bearing on the engine side of the hopper. Wipe off the fitting before attaching the grease gun. Wipe up excess grease. Grease this bearing twice each bag, two pumps at the beginning of the bag and two pumps halfway through the bag. Do not over grease. It is better to give the bearings smaller amounts of grease more often, than large amounts of grease.



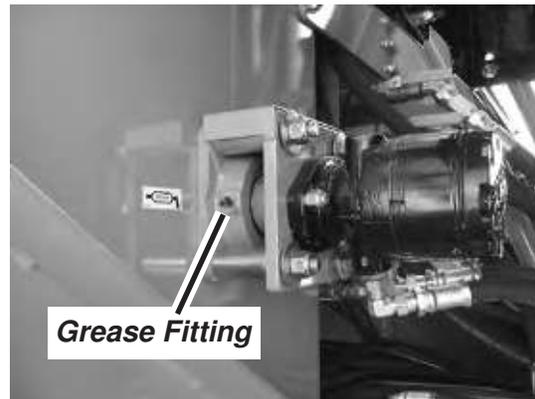
Lower Beater Drive End Bearing Grease Fitting

Upper Beater Bar Bearings

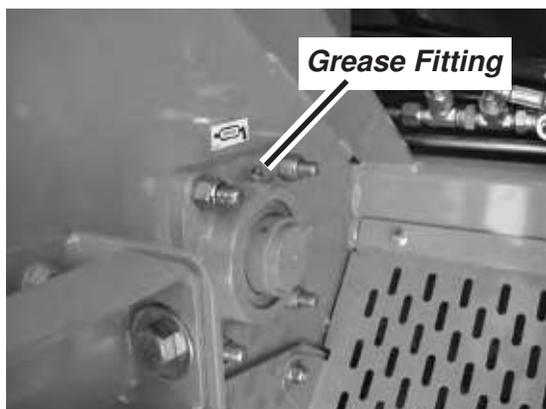
Grease twice per bag

On the engine side of the hopper, locate the drive for the upper beater bar. Clean off the grease fitting on the bearing. Attach the grease gun. Wipe up excess grease. Grease this bearing twice each bag, two pumps at the beginning of the bag and two pumps halfway through the bag. Do not over grease. It is better to give the bearings smaller amounts of grease more often, than large amounts of grease.

Locate the upper beater bar bearing on the cab side of the hopper. Wipe off the fitting before attaching the grease gun. Wipe up excess grease. Grease this bearing twice each bag, two pumps at the beginning of the bag and two pumps halfway through the bag. Do not over grease. It is better to give the bearings smaller amounts of grease more often, than large amounts of grease.



Upper Beater Drive End Bearing Grease Fitting



Lower Beater Bearing Grease Fitting

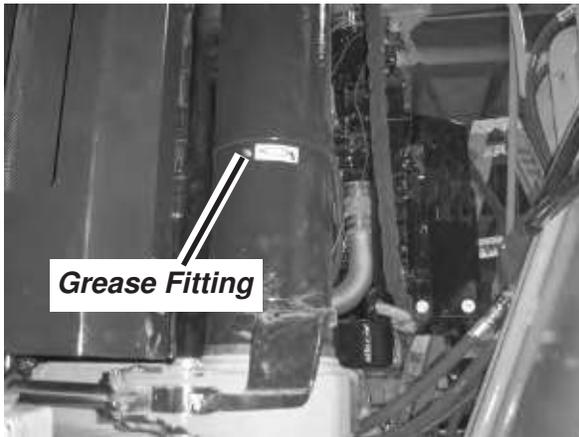


Upper Beater Bearing Grease Fitting

Bag Boom

Grease weekly

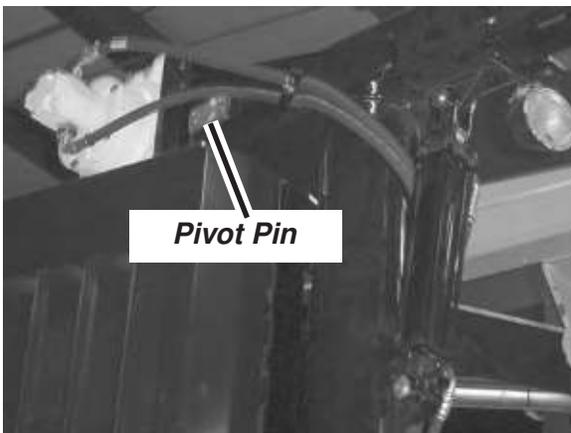
Locate the three grease fittings on the bag boom. One fitting is on the main pivot tube. One fitting is on the pivot pin where the arm pivots on the main tube. The third fitting is on the cable roller at the end of the boom arm. Clean off the fittings before attaching the grease gun. Wipe up any excess grease.



Bag Boom Tube Grease Fittings



Bag Boom Cable Roller Grease Fitting



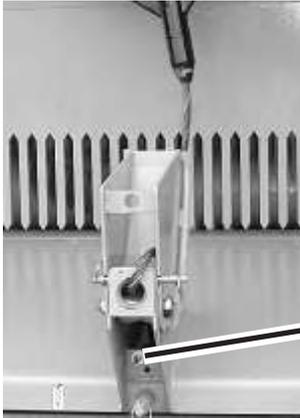
Bag Boom Pivot Pin Grease Fitting

Anchor Cable Guide Rollers

Grease daily

With the two cable guides inside the tunnel in the transport position, locate the remote grease fittings for the cable guide roller pins. There are three grease fittings inside the cable guide that is closest to the cab end of the tunnel. Wipe off the fittings before attaching the grease gun. Pump grease into each fitting.

Inside the cable guide that is closest to the engine end of the tunnel is one grease fitting. This fitting is for greasing the cable roller on that side. Clean off the fitting before attaching the grease gun. Pump grease into the fitting.

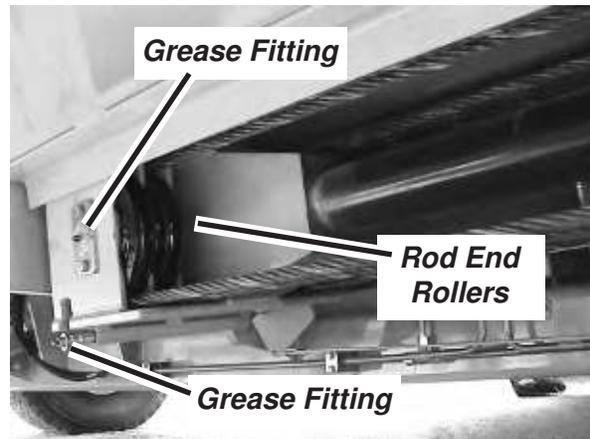


Cable Guide Roller Pins Grease Fittings (Inside Cab End Cable Guide)



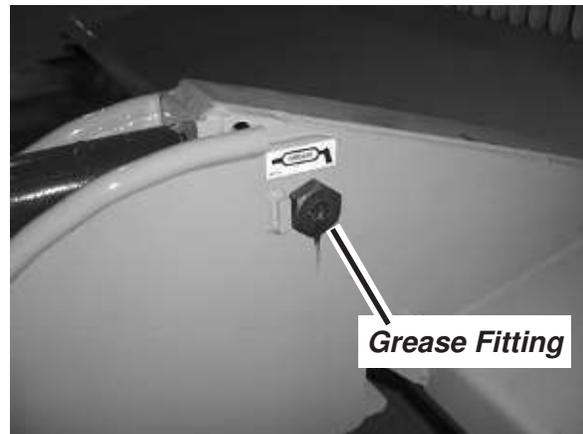
Cable Roller Grease Fitting (Inside Engine End Cable Guide)

There are two grease fittings under the tunnel on the rod end of the cable cylinder. Lower the bag pan to access these two fittings. Wipe off the fittings before attaching the grease gun. Wipe up any excess grease.



Cable Roller Pins (Under Tunnel) Cylinder Rod End

There is a grease fitting in the head of the bolt that each of the cable guides pivot on. This fitting is for greasing the roller inside the guide. Clean off the fitting before attaching the grease gun. Wipe up excess grease.

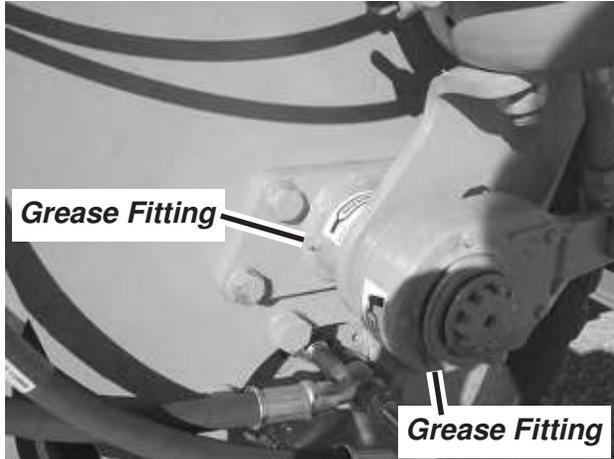


Pivot Bolt For Cable Guide and Roller

Brake Pivot Arms

Grease weekly

There are two grease fittings on each brake assembly. There are two arms on each brake, each one has a grease fitting. Wipe off the fittings before attaching the grease gun. Wipe up any excess grease. Grease the arms on all four brake assemblies.



Brake Pivot Arm Grease Fittings

Hydraulic Lift Jack Slide Tubes

Grease weekly

Locate the grease fitting on each lift jack slide tube (engine & cab end). Wipe off the fitting before attaching the grease gun. Apply ample grease to keep the slide tube well greased.



Lift Jack Slide Tube Grease Fitting

Wheel Column Posts

Grease weekly

Locate the grease fittings on each of the wheel column posts. Clean off grease fittings before attaching the grease gun. Grease the fittings until grease comes out of the post tube. Wipe up any excess grease.

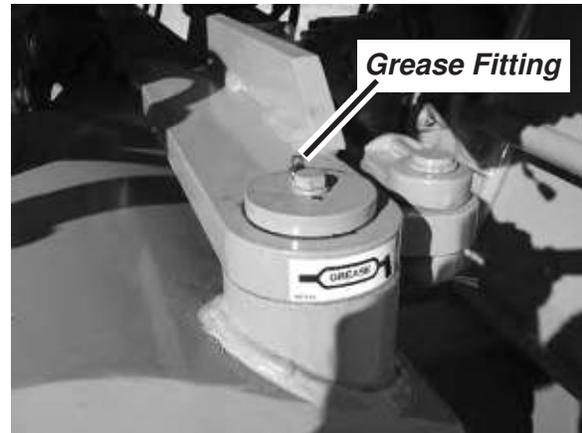


Wheel Column Post Grease Fittings

Steering Tie Rod

Grease weekly

Locate the grease fittings (one on each end of tie rod). Clean off grease fittings before attaching the grease gun. Grease the fittings until grease comes out of each pivot. Wipe up any excess grease. Repeat for the other steering tie rod.



Steering Tie Rod Grease Fittings

Beater Bar Drive Chain

Oil twice per bag

Oil the beater bar drive chain twice per bag. Once at the beginning of the bag and again half way through the bag. Oil the chain through the access hole in the cover at the cab side of the tunnel.



Oil Lower Beater Bar Drive Chain

Feed Table Drive Chain

Oil twice per bag

Oil the feed table drive chain twice per bag. Once at the beginning of the bag and again half way through the bag. Oil the chain through the opening next to the feed table drive chain motor on the cab side of the feed table at the lower end.



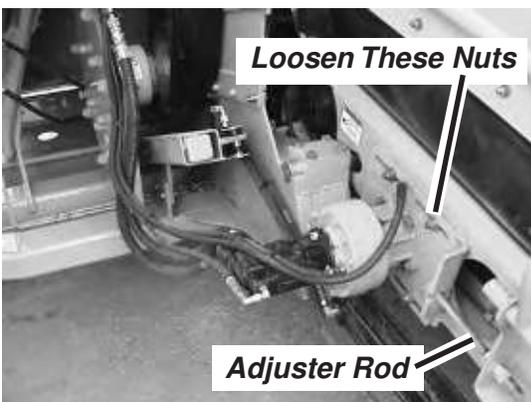
Oil Feed Table Drive Chain

Adjustments

Feed Table Drive Chain

The feed table drive chain will require periodic inspection and adjustment. Adjust as follows:

1. Lower the feed table down to the ground.
2. On the cab side of the feed table, locate the hydraulic drive motor for the feed table belt.
3. Loosen the four nuts holding the drive motor mounting plate to the side of the feed table.
4. Loosen the inner adjustment nut and the outer lock nut on the adjuster rod. Use the outer adjustment nut to tighten the drive chain.
5. After drive chain is tight (all slack removed), tighten the inner adjustment nut and then the outer locknut down against the outer adjustment nut to hold the adjuster in position.
6. Tighten the four nuts holding the drive motor mounting plate to the side of the feed table. Tighten securely.



Feed Table Drive Chain Adjustment

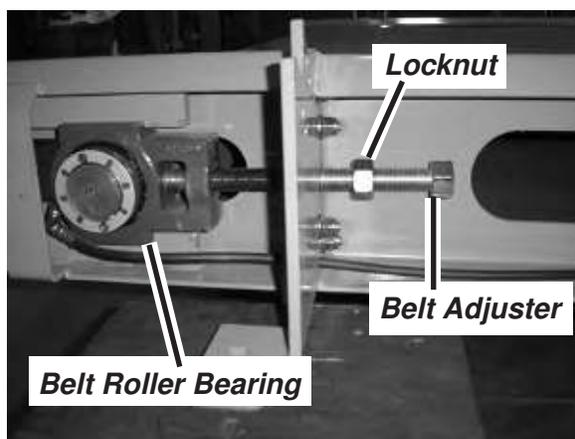
Feed Table Belt

If the feed table belt is too loose and begins to slip or does not track straight the belt needs to be adjusted.

IMPORTANT: Do not overtighten feed table belt, this may result in belt damage and premature wear of roller bearings.

Adjust as follows:

1. Lower the feed table down to the ground.
2. Tighten the adjustment bolt to push the belt away from the side you are tightening. Tighten the locknut when finished.
3. Adjust the opposite side the same amount.
4. Adjust the belt to run straight in the feed table. If it does not run straight, adjust either side as needed until belt runs straight. Tighten locknuts on each side when finished.



Feed Table Belt Adjustment

Lower Beater Bar Drive Chain

The chain for the lower beater bar is tensioned by a spring loaded tensioner. Periodically check to make sure the tensioner is pivoting freely and providing tension on the chain.

The tensioner is located under the cover at the cab side of the tunnel.



WARNING

Do not operate the bagger unless all guards and covers are secured in place or closed. Moving parts inside could cause serious injury or death.

Be sure to reassemble the cover to the frame before operating. Never operate bagger with shields or covers off or missing.



Lower Beater Drive Chain Cover

Planetary Drive Belt

If the planetary belt slips during bagging, the belt tension may need to be adjusted.



WARNING

Do not attempt to adjust or service the bagger unless the engine is shut off and ignition key is removed.

Stop the engine and remove the ignition key before starting to adjust.

Unlatch and open the planetary drive belt cover at the rear of the bagger. Before adjusting, inspect the belt for cracks or worn spots.

Keep the belt free of debris as this can cause the belt to slip.

Do not apply belt dressing to this belt as this will damage the belt and cause premature failure.

Proper adjustment is when the belt deflection mid way between the upper and lower pulleys (at both edges of belt) is less than 1" of deflection with 33 lbs of pressure. Over tensioning the belt shortens the belt life.

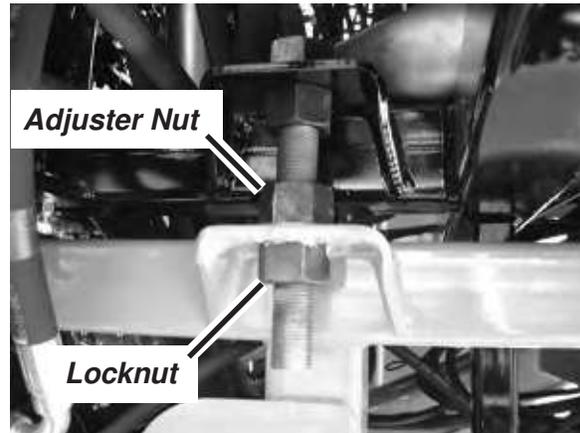
Check the belt tension daily during the first week of use. Thereafter make periodic inspections.



Planetary Drive Belt Cover

Adjust the belt tension as follows:

1. A wrench is provided for loosening the locknuts and turning the adjuster nuts. The wrench is in a storage tube at the front corner of the engine frame on the feed table side.
2. Loosen the adjuster locknuts on the four corners of the engine frame.
3. Turn the top adjuster nut to move the entire engine frame assembly up. Turn all four adjuster nuts the same amount to keep the engine level and in alignment. Adjustment usually only requires 1/8 to 1/4 turn.
4. After the belt is tensioned, lock all four adjusters with the locknuts.
5. Place the wrench back into the storage tube when finished.



Engine Adjuster

 **WARNING**

Do not operate the bagger unless all guards and covers are secured in place or closed. Moving parts inside could cause serious injury or death.

6. Close and latch the planetary drive belt cover. Never operate the bagger with any shields or covers open or missing.

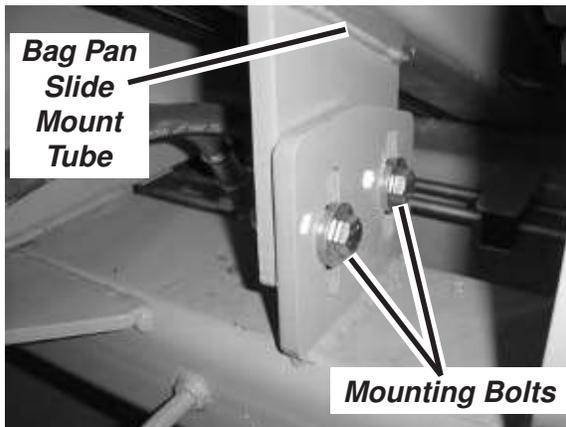


Adjuster Wrench In Storage Position

Bag Pan Clearance Gap

The gap between the lip of the bag pan and the lower edge of the tunnel should be adjusted to a 3/4" gap. If the gap is too wide more than one fold may want to feed out of the pan as the bag is being filled. If the gap is too narrow the bag may not feed out of the bag pan smoothly and may get caught. Adjust the gap as needed.

1. Locate the bag pan slides on each side of the tunnel at the feed table side of the machine.
2. Place a hydraulic jack under the center of the bag pan. Use the jack to adjust the bag pan once the mounting hardware for the slides has been loosened.
3. Loosen the two mounting bolts on each bag pan slide and, using the jack, slide the bag pan slides up or down. Sliding the bag pan slides up will increase the gap. Sliding the bag pan slides down will decrease the gap.
4. After proper gap is reached, tighten both mounting bolts on each bag pan slide mount tube.



Bag Pan Slide Mounting Bolts

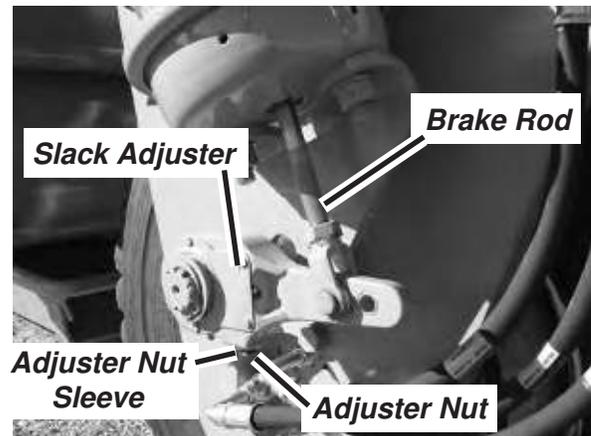
Brake Slack Adjusters



WARNING

To prevent machine from rolling, securely block both sides of the wheels before releasing the parking brake.

1. Release the parking brake.
2. Slide the adjuster nut sleeve up. Use a 9/16" wrench on the adjuster nut.
3. Tighten the adjusting nut until snug by turning the wrench counter-clockwise looking from the top.
4. When the nut is snug, loosen 1/4 turn clockwise.
5. Make sure the adjuster sleeve slides down over the nut.
6. The slack adjuster will now move so the brake rod moves up and down 1/4"
7. Adjust all four brakes as needed.



Brake Slack Adjusters

Setting High Idle Speed

The high idle speed can be reset as needed. The high idle can be set between 1700 rpm and 2100 rpm.

Reset as follows:

1. Press the menu button at the lower right corner of the System monitor display to bring up the main menu.



2. Press the "F1" key at the bottom of the display to get to the "Adjust" screen.



3. Use the up or down arrows on the right side of the display to highlight "Engine Adjust Group" and press OK.



4. Use the up or down arrows on the right side of the display to highlight "Hi-Speed Idle" and press OK.



5. Use the up or down arrows on the right side of the display to change the value (engine speed). When desired speed is reached press the OK button to set.



NOTE: If anytime you want to return to the factory default settings, press the "F2" key at the bottom of the display.

6. Press the "F1" key or use the "Back" arrow key (next to the menu key) to return to the main menu.

Setting Reversing Fan Parameters

The reversing fan time and interval between reversings can be reset.

Fan Reverse Time Duration

Reset as follows:

1. Press the menu button at the lower right corner of the System monitor display to bring up the main menu.



2. Press the "F1" key at the bottom of the display to get to the "Adjust" screen.



3. Use the up or down arrows on the right side of the display to highlight "Fan Reverse Parameters" and press OK.



4. Use the up or down arrows on the right side of the display to highlight "Fan Reverse Time" and press OK.



5. Use the up or down arrows on the right side of the display to change the value (fan reverse time). When desired duration is reached press the OK button to set.



NOTE: If anytime you want to return to the factory default settings, press the "F2" key at the bottom of the display.

6. Press the "F1" key or use the "Back" arrow key (next to the menu key) to return to the main menu.

Fan Reverse Interval

Reset as follows:

1. Press the menu button at the lower right corner of the System monitor display to bring up the main menu.



2. Press the "F1" key at the bottom of the display to get to the "Adjust" screen.



3. Use the up or down arrows on the right side of the display to highlight "Fan Reverse Parameters" and press OK.



4. Use the up or down arrows on the right side of the display to highlight "Fan Reverse Interval" and press OK.



5. Use the up or down arrows on the right side of the display to select the value (fan reverse interval). When desired interval is reached press the OK button to set.



NOTE: If anytime you want to return to the factory default settings, press the "F2" key at the bottom of the display.

6. Press the "F1" key or use the "Back" arrow key (next to the menu key) to return to the main menu.

Resetting Steering Sensors

If the steering angles on the System Monitor display do not match the actual steering angles on the bagger, the steering sensors need to be reset.

Reset as follows:

1. Place the steering in the “Alignment” mode. Press the “Alignment” switch.
2. Steer the wheels on the bagger so they are in line from engine end to cab end.



3. With the bagger in the “Transport” mode press the “F2” key at the bottom of the display.



4. Press the “F1” key at the bottom of the display to “Home” the steering sensors.



5. Once the “F1” key is pressed the “Confirmation” window will display. Press the “Continue” (F2) key to zero (“Home”) the sensors.



6. Press the “F4” key at the bottom of the display to return to the main menu.
7. Press the “Drive” switch.

Maintenance

Maintenance Schedule

Review the following maintenance schedule regularly to determine when maintenance is required. Record the maintenance on the following pages whenever it is performed. Consult the other maintenance sections of this manual for proper maintenance procedures.

Service To Be Performed	Interval														
	10 Hours	Daily	As Required	Weekly	50 Hours	100 Hours	250 Hours	400 Hours	500 Hours	Annually	750 Hours	1000 Hours	2 Years	1500 Hours	2500 Hours
Check drive belts	+														
Tighten lug nuts	+			X											
Check engine oil level		X													
Check coolant level		X													
Check hydraulic oil level		X													
Clean hydraulic suction strainers		X													
Drain fuel filter/water separator		X													
Lubricate anchor cable guide rollers		X													
Check engine air filters		X													
Check oil level in planetary drive	+	X													
Check oil level in HPTO controller reservoir	+	X													
Drain moisture from air storage tank		X													
Remove trash/debris from chassis & engine area		X	X												
Lubricate feed table drive and idler roller bearings			X												
Lubricate upper and lower beater bar bearings			X												
Lubricate rotor bearing			X												
Oil beater bar chain			X												
Oil feed table drive chain			X												
Replace engine air filters			X			X									
Clean air conditioner condenser/hydraulic oil cooler			X												
Clean or replace cab filters (in cab & charcoal)			X												
Change coolant conditioner filter/coolant filter			X												
Lubricate steering tie rod				X											
Lubricate bag boom				X											
Lubricate wheel column posts				X											
Lubricate brake pivot arms				X											
Lubricate engine & cab end lift slide tubes				X											
Inspect cooling package					X										
Check tire inflation						X									
Change engine oil and filter							X								
Check coolant PH condition (extended life coolant only)							X								
Replace main hydraulic oil filters								X							
Replace case drain oil filter								X							
Replace fuel filter/water separator								X							
Change clutch filter & oil									X						
Change feed table planetary oil									X	X					
Change main planetary oil & filter									X	X					
Clean or replace cab filters (in cab & charcoal)										X					
Clean engine vent tube										X					
Repack feed table wheel bearings										X					

Engine Maintenance

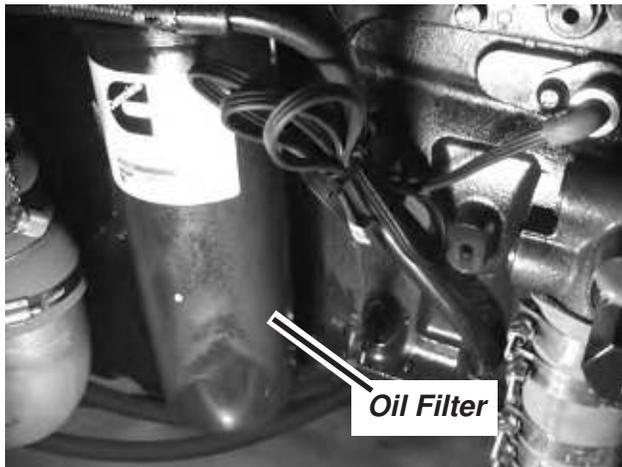
Refer to the Cummins Engine Operation and Maintenance Manual for all engine maintenance procedures and maintenance schedules not covered in this manual.

Engine Oil and Filter

Change the engine oil and filter as described in the Cummins Engine Operation and Maintenance Manual.

Drain the engine oil using the drain valve on the feed table side of the engine.

The engine oil filter is located on the tunnel side of the engine. Access the filter from the underside of the engine.



Engine Oil Filter

The crankcase fill cap is located on the feed table side of the engine between the engine and the feed table. The dipstick is mounted on the feed table side of the engine. Fill to high mark on dipstick.

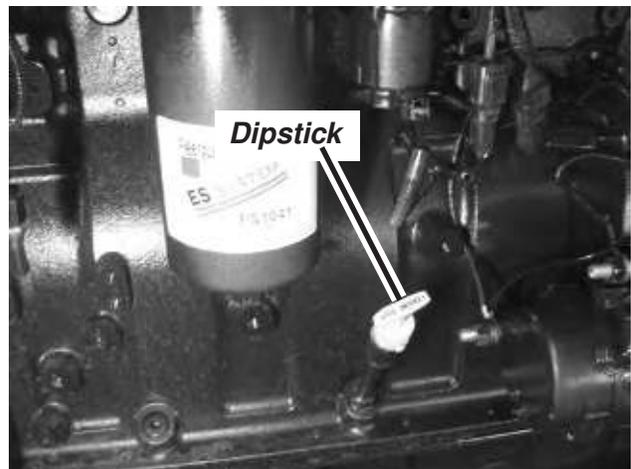
Use SAE 10W40 oil and fill as follows:

Low level on dipstick = 10 Gallons

High level on dipstick = 12 Gallons



Engine Oil Fill



Engine Oil Dipstick

Fuel Filter/Water Separator Drain Water From Water Separator Daily

Locate the fuel filter/water separator on the feed table side of the engine next to the communication lights on the side of the engine.

Shut off the engine, open the valve on the bottom of the fuel filter/water separator and drain into a container until fuel clear of water is present.

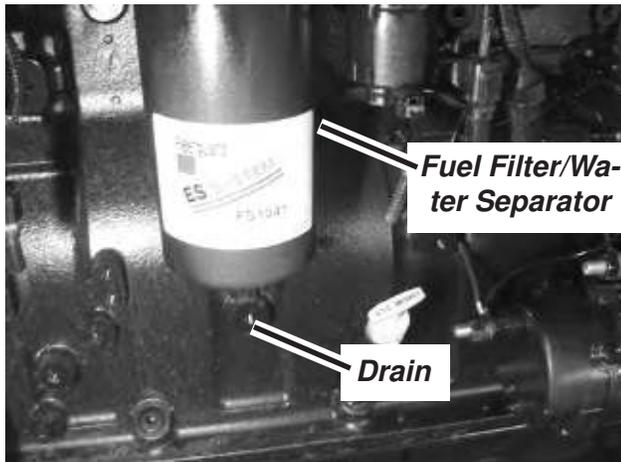
Shut the valve. Do not over tighten. Dispose of fuel properly.

Change the filter as outlined in the Cummins Engine Operation and Maintenance Manual or when the engine starts to lack power.

Chassis & Engine Compartment Inspection & Cleaning

Perform the following inspection and cleaning daily and as required by operating conditions

Inspect for and remove all trash and debris from around and on any hot components such as the exhaust, engine, turbocharger, batteries and cooling system at least once during each day and at the end of the day. Inspect and clean more often if operating conditions are severe. Keep these areas clean to avoid the possibility of fire and over-heating.



Fuel Filter/Water Separator

Radiator, Oil Cooler, Charge Air Cooler and Air Conditioning Condenser Heat Exchangers



WARNING

Do not service the engine or any components while the engine is running. Doing so could result in serious injury from contact with moving parts.

The engine radiator, charge air cooler, hydraulic oil cooler, planetary cooler, clutch cooler and the air conditioning condenser are in a side to side stacked arrangement.

The cooling fan sucks air through the coolers from the outside.



Cooling System

Cooling Package Cleaning

This bagger is equipped with a reversing fan feature that aids in keeping the cooling package clean. If the reversing fan is unable to keep the cooling package clean, manually clean the system as described below.

Cleaning should be directed from the inside of the cooling package toward the outside. Use a pressure washer or compressed air to clean the fins. The outside screen can be opened for access to the cooling package fins. Locate the screen release at the rear underside of the outer screen. Push up on the screen release and swing the screen open. Be careful not to bend the fins.

Inspect the cooling package every 50 hours of operation for debris and any leakage of the fittings. Repair any leaks immediately. Straighten any dented or damaged cooling fins.

Be sure to close the outer screen and latch into position before starting the engine.



WARNING

R-134A Refrigerant under pressure, system to be serviced by qualified personnel only.



Outer Radiator Screen Open

Engine Coolant

The radiator/top tank cap is accessed by placing the platform next to the engine in the out position. Lock the platform in place before using the platform. The radiator/top tank cap is in a cutout in the top of the engine enclosure at the front feed table side corner.



Radiator/Top Tank Cap

Check Coolant PH Level (extended life coolant only)



WARNING

Open radiator cap slowly to relieve pressure before opening. Hot liquids under pressure can cause serious burns.

Using a ph test strip kit test the ph level of the coolant at every oil change. The ph level should be maintained between 8.0 and 10.0. Test the coolant in the top tank.

Level Check



WARNING

Open radiator/top tank cap slowly to relieve pressure before opening. Hot liquids under pressure can cause serious burns.

The level of coolant in the radiator/top tank can be checked by removing the radiator cap and checking the level in the radiator/top tank. The coolant should be up to the bottom of the fill neck.

Add Coolant



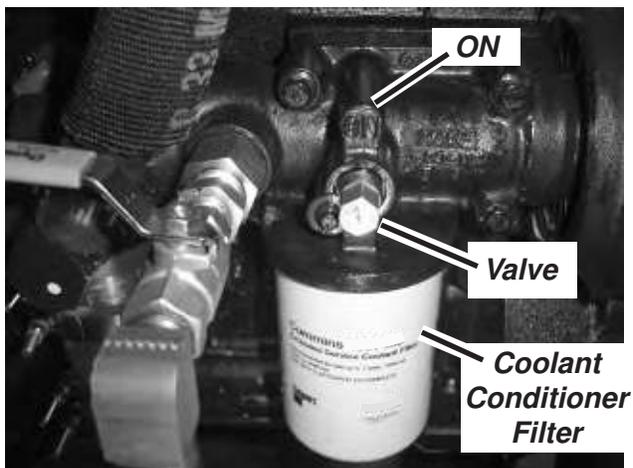
WARNING

Open radiator/top tank cap slowly to relieve pressure before opening. Hot liquids under pressure can cause serious burns.

If the coolant level is low, allow the engine and radiator to cool before attempting to open the radiator cap on the radiator/top tank. Add extended life coolant or organic acid technology OAT as needed to bring the level up to the fill neck. Replace radiator cap when finished. Never mix types of coolant.

Engine Coolant Conditioner Filter (Extended Life Coolant Only)

Locate the coolant conditioner filter on the side of the engine. Be sure the indicator arrow on the valve for the filter is pointing toward the “ON” (up) position when operating the engine. The valve should only be turned “OFF” (side ways) when servicing the filter. Change the filter when the coolant ph level is no longer between 8.0 and 10.0. Shut off the valve before removing the filter. Be sure the valve is turned to the “ON” position before operating the engine.

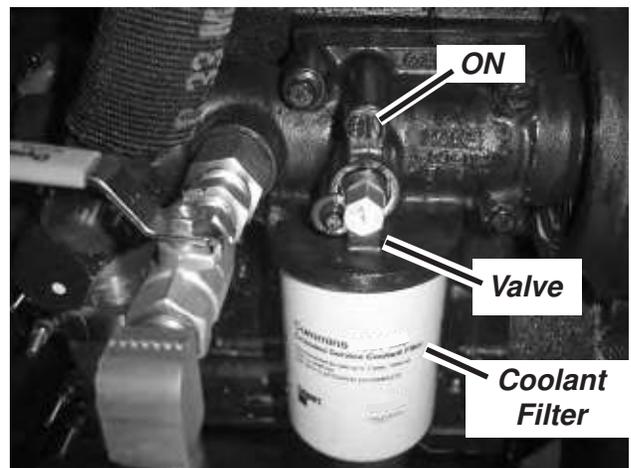


Coolant Conditioner Filter & Valve

Engine Coolant Filter (OAT Coolant Only)

Change filter annually

Locate the coolant filter on the side of the engine. Be sure the indicator arrow on the valve for the filter is pointing toward the “ON” (up) position when operating the engine. The valve should only be turned “OFF” (side ways) when servicing the filter. Change the filter annually. Shut off the valve before removing the filter. Be sure the valve is turned to the “ON” position before operating the engine.



Coolant Filter & Valve

Organic Acid Technology (OAT) Coolant

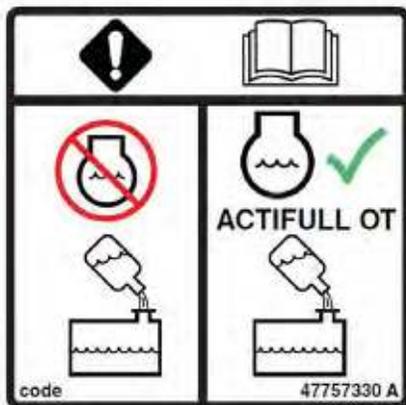
Depending on the date of manufacture, your cooling system may be equipped with conventional ethylene glycol (extended life) coolant or an Organic Acid Technology (OAT) coolant solution such as **NEW HOLLAND AMBRA ACTIFULL™ OT EXTENDED LIFE COOLANT**. You should never mix the coolant types.

The decal shown is located near the fill point of the cooling system whenever the factory fill is **NEW HOLLAND AMBRA ACTIFULL™ OT EXTENDED LIFE COOLANT**.

NOTE: NEVER mix OAT coolant with conventional (extended life) coolant. Under no circumstances should you top off a cooling system with only water. You can use a refractometer to check the concentration level. You should not use Supplemental Coolant Additives (SCA) when using **NEW HOLLAND AMBRA ACTIFULL™ OT EXTENDED LIFE COOLANT**.

Change the coolant solution at the recommended change interval.

When changing from conventional (extended life) coolant to OAT, you should follow the “Changing coolant types” procedure to attain the full benefit of the coolant.



Decal Filled With OAT Coolant

Changing Coolant Types

To change from conventional (extended life) coolant to OAT coolant:

1. Empty the engine cooling system by draining the coolant into a suitable container.
2. Fill the system with clean water.
3. Start the engine and run the engine for at least 30 min.

NOTE: Make sure that you activate the heating system (if equipped) to circulate fluid through the heater core.

4. Repeat steps 1 through 3 for a total of two washes.
5. Fill the system with OAT coolant. Refer to “Add Coolant” for the proper filling procedure.
6. Operate the engine until it is warm. Inspect the machine for leaks.
7. Attach the OAT decal to the machine when changing to OAT coolant. This will indicate the use of OAT coolant in the cooling system.

Definitions Of Coolant Types

Conventional (extended Life) coolant:

A coolant that relies on inorganic inhibitors such as silicates, nitrates and phosphates for corrosion and cavitation protection.

Organic Acid Technology (OAT) coolant:

A coolant that relies on inhibitors such as organic acid salts for corrosion and cavitation protection.

Engine Air Cleaner Filters

Perform the following procedures at 250 Hour or 3 Month Intervals

Inspect the filters twice weekly if operating in dusty conditions. Inspect daily if operating conditions are severe.

The air cleaner is mounted on the top side of the engine.

Use the following procedure to replace the filters.

1. Open the six clips around the cover to remove the cover.
2. Pull the primary filter assembly out of the cannister.
3. Do not remove the inner (secondary) filter unless it is to be replaced.
4. With the secondary filter in place, use a rag to wipe the inside of the filter cannister and cover clean.
5. If the secondary filter is being replaced, replace it after the cannister has been cleaned.
6. Check the primary filter for any damage and replace if any is discovered. Do not clean the primary filter, always replace the filter when the System Monitor indicates air filter is clogged.



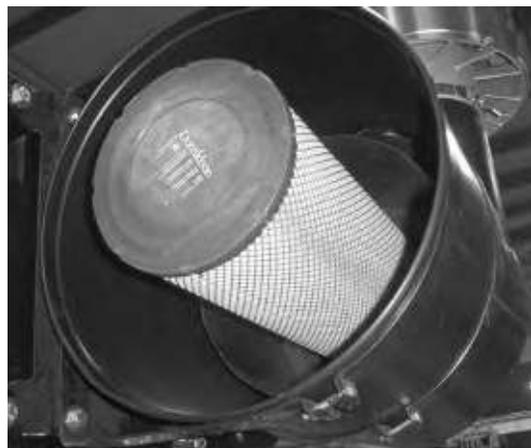
Air Cleaner



Primary Filter



System Monitor Air Cleaner Alarm



Inner (Secondary) Filter

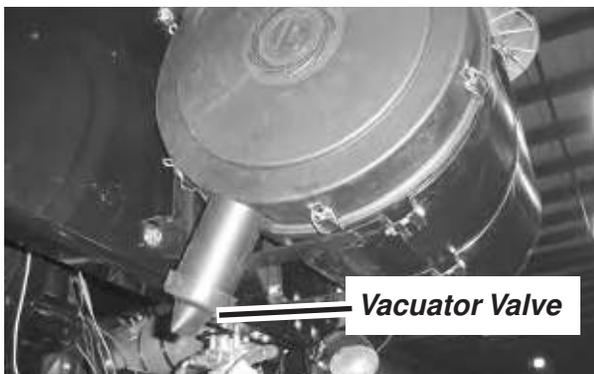
NOTE: Never operate the engine without an air cleaner. Intake air must be filtered to prevent dirt and debris from entering the engine and causing premature wear.

After servicing is complete, reinstall cover onto the cannister.

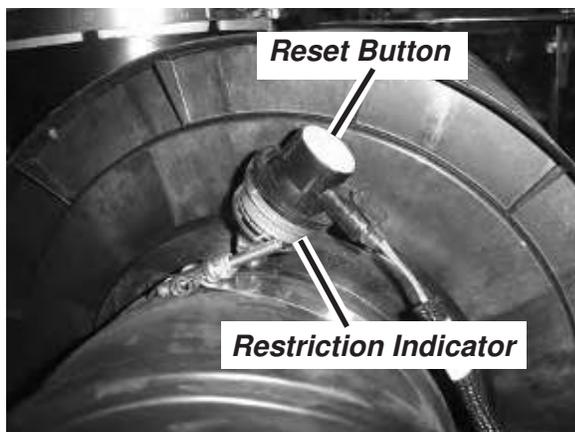
Clip the cover in place with the six clips to hold the cover in position on the cannister.

Periodically check the vacuator valve on the air cleaner cannister to make sure it is closing and sealing when the engine is running. If the vacuator valve does not close and seal properly it must be replaced.

Reset the restriction indicator after the filters are replaced. Press the yellow button on the indicator to reset.



Air Cleaner Vacuator Valve



Air Cleaner Restriction Indicator

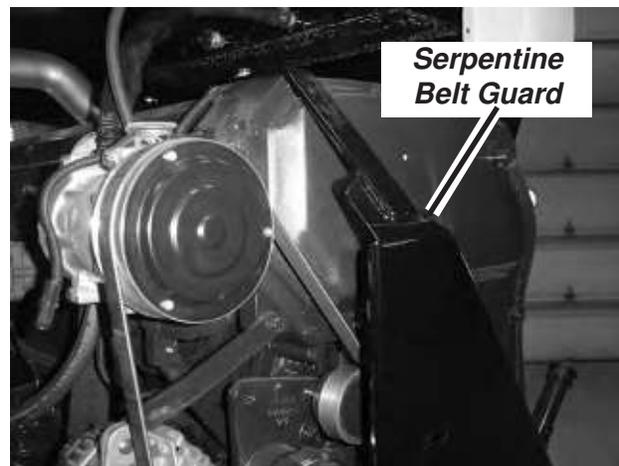
Engine Serpentine Belts

To access the engine serpentine belts, remove the bolt holding the top of the guard to the engine. Swing the guard down to access the belts. Be sure to swing the guard up and bolt in place before operating the bagger.

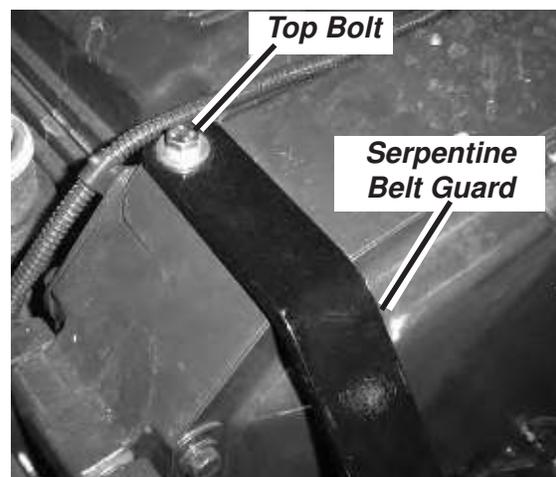


WARNING

Do not operate the bagger unless all guards and covers are secured in place or closed. Moving parts inside could cause serious injury or death.



Serpentine Belt Guard



Serpentine Belt Guard Top Bolt

Air Storage Tank

Remove moisture daily.

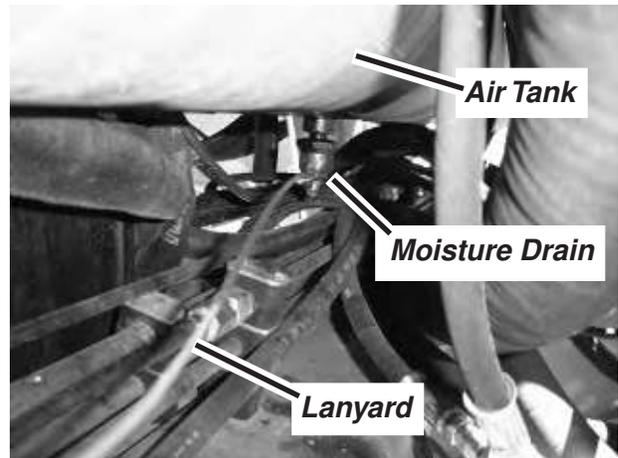
IMPORTANT: Be sure to remove all moisture from the air storage tank daily.

The air storage tank is located below the engine on the radiator side.

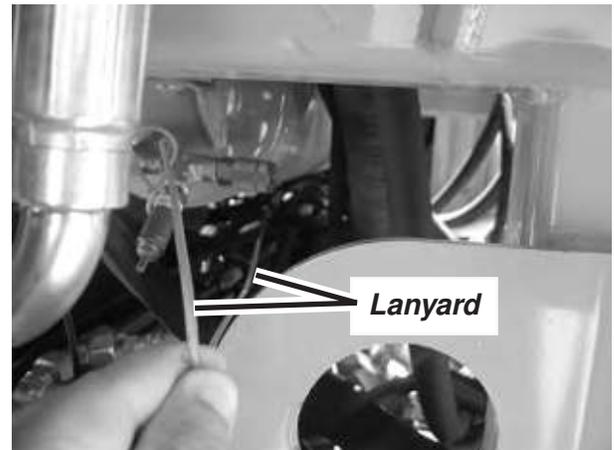
Locate the lanyard that is attached to the moisture drain on the bottom center of the tank.

The end of the lanyard is looped around the valve at the rear of the tank.

Pull on the lanyard to open the valve. Hold the valve open until all moisture has been removed from the tank. Let go of the lanyard and the valve will close.



Air Tank Drain Valve



Drain Valve Lanyard

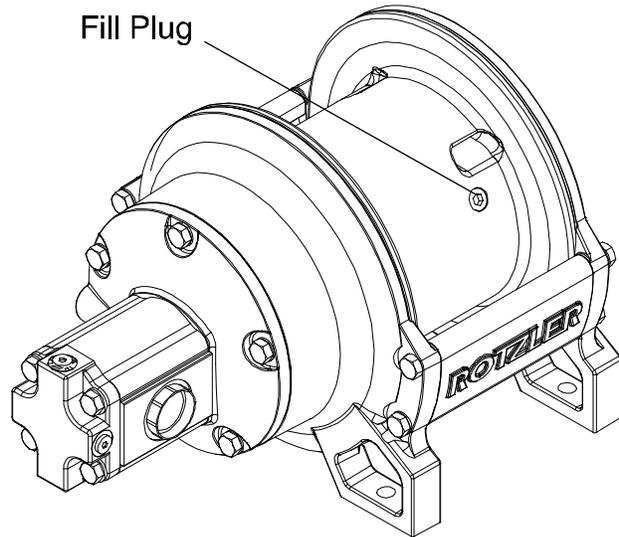
Bag Boom Winch Oil

Check oil level annually

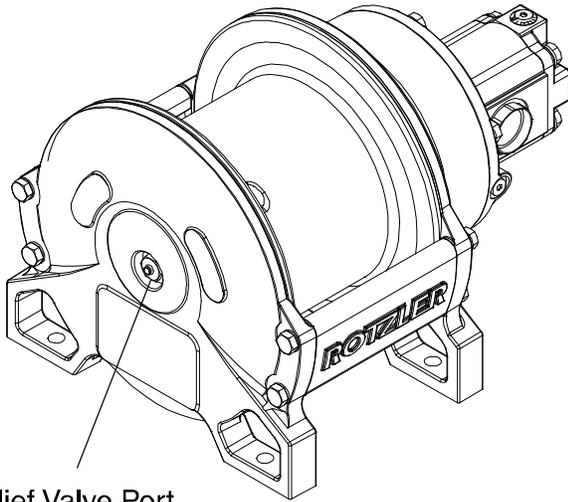
Locate the relief valve port on the end of the cable spool opposite of the hydraulic motor.

Clean the area around the relief plug and remove. The oil should be up to the bottom of the plug hole.

If oil is low, add SAE 90 gear lubricant through the relief plug hole until oil is up to the bottom of the hole. Reinstall the relief valve and tighten securely. Or oil can be added through the fill plug hole located under the cable on the spool. Using this plug will require the cable to be removed from the spool to access the plug.



Fill Plug Under Winch Cable (cable removed for clarity)



Relief Valve Port

Relief Plug (Level Check)

Hydraulic Systems

IMPORTANT: *There are three different systems on the bagger. Each system uses a different type of oil. Never mix oils in the systems. Refer to the proper system for recommendations.*

They are:

Main Hydraulic System:

Type of Oil: ISO 68 Hydraulic Oil

Reservoir Capacity: 95 Gallons

Clutch Hydraulic System:

Type of Oil: Mobil 424

Reservoir Capacity: 20 Gallons

Rotor and Feed Table Planetary Drive:

Type of Oil: Synthetic 80W-140 Gear Lube

Rotor Planetary System Capacity: 7.5 Gallons

Feed Table Planetary Capacity: 1.25 Pints

Hydraulic System Cleanliness

Important: *The greatest contributor to hydraulic component failure is contamination of the oil with dirt and other debris. Keep all hydraulic access areas completely clean, such as around the hydraulic filter and filler cap. Immediately repair any fittings, hoses or other components where leakage is observed. Wipe up any leakage.*

If the hydraulic system should be disconnected for service, protect the ends of hoses, tubing and ports of components from contamination with clean lint free towels or clean plastic bags, plugs or caps.

Before installing any replacement hose, flush the inside of the hose with clean diesel fuel or unused commercial petroleum cleaning solvent for ten seconds minimum. Do not use water, water soluble cleaners or compressed air.

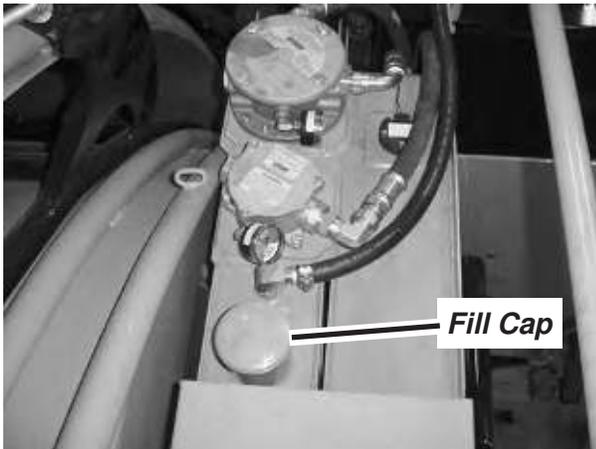


WARNING

- **Avoid high pressure fluids.**
- **Avoid the hazard by relieving all hydraulic pressure from the system before disconnecting any lines or fittings. Tighten all connections before applying any pressure.**
- **Search for hydraulic oil leaks with a piece of cardboard. Protect your hands and body from high pressure fluids.**

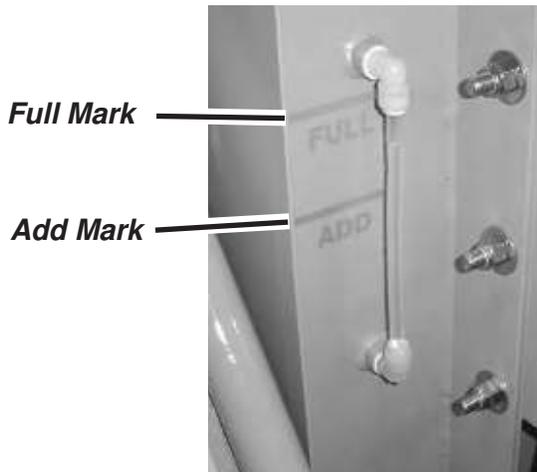
Main Hydraulic System Oil

The main hydraulic system reservoir is located between the tunnel and the feed table. The hydraulic oil fill cap is located at the engine end of the tank.



Main Hydraulic Oil Reservoir Fill

The hydraulic system reservoir holds approximately 95 gallons. Do not over fill. Fill to the full mark on the hydraulic oil level gauge located at the cab end of the reservoir.



Hydraulic Oil Reservoir Level Gauge

Main System Hydraulic Oil

It is important that a quality oil be used to insure proper longevity of hydraulic components. Following is the minimum specifications for hydraulic oil to be used on this bagger.

Typical Characteristics

ISO Classification	HV-68
Viscosity, cSt @ 40° C.....	69.0
Viscosity, cSt @ 100° C.....	11.0
Viscosity, SUS @ 100° F	352
Viscosity, SUS @ 210° F	63.4
Viscosity, cPs @ -20° C (-4° F).....	4940
Viscosity, cPs @ -30° C (-22° F).....	28700
Viscosity Index, Typical.....	150
Viscosity Loss, Sonis Shear Method	<7%
Pour Point, °F, Typical	-38
Flash Point, °F, Typical.....	430
API Gravity	30.8

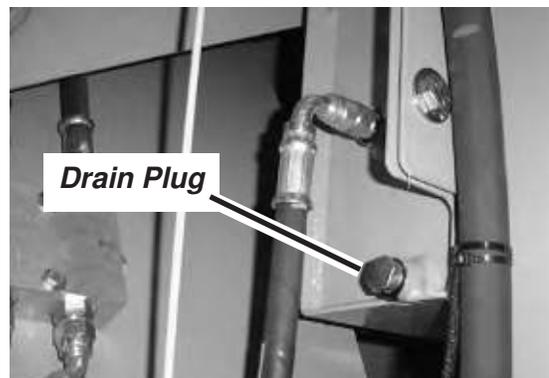
Some US mineral oil brands that meet these specifications are:

- Benz Flowmite 68 SS (shear stable)
- Amoco Rykon 68
- BP (Louisiana special) BATRANS HV68
- New Holland Multi G134
- Caltex RANDO HDZ68
- Castrol HYSPIN AWH68
- Cenex INDOL ISO 68
- Chevron RYKON Premium 68 or AW68MV
- Exxon UNIVIS N 68
- John Deere HY GARD (High Viscosity Only)
- Mobil DTE 16 M or DTE 10XL68
- Shell TELLUS T 68
- Texaco Rando HDZ 68

NOTE: In high temperature climates it may be desirable to change oil and fill with 100 weight hydraulic oil. The oil should be pre filtered to 3 micron with a filter cart to extend the life of the machine system filters.

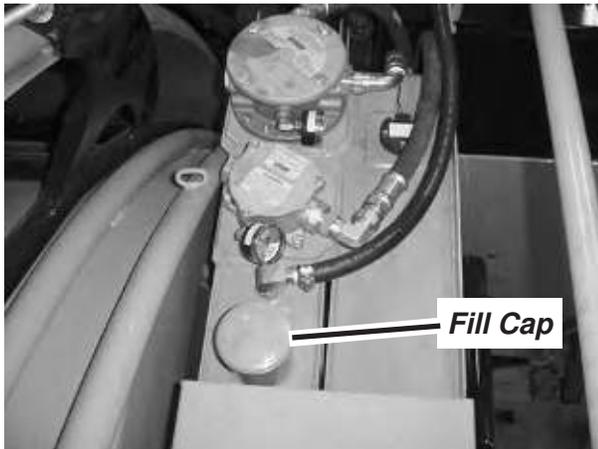
Changing Main Hydraulic Reservoir Oil (Every 1000 Hours of Operation)

1. The most important element in maintaining hydraulic oil is to keep it clean, filtered and do not allow it to over heat. Clean filtered hydraulic oil is tan colored and if properly maintained is usable for a long time. Because it is possible to encounter contamination and possible high temperature applications, it is recommended that the oil be changed annually. Any time the oil is changed the hydraulic oil filters should also be changed. Refer to “Main Hydraulic Oil Filters” for correct procedure. There are three separate filters in the main hydraulic oil reservoir.
2. If the oil turns very dark brown, it is burned from overheating. If it is milky colored it has become contaminated. If either occurs, the oil must be changed regardless of the time interval.
3. Drain the oil from the hydraulic oil reservoir into empty containers. The hydraulic system oil reservoir holds approximately 95 gallons. Remove the drain plug from the reservoir and drain completely. The drain plug is located on the cab end of the reservoir. Dispose of used oil properly.
4. Clean and replace the drain plug.

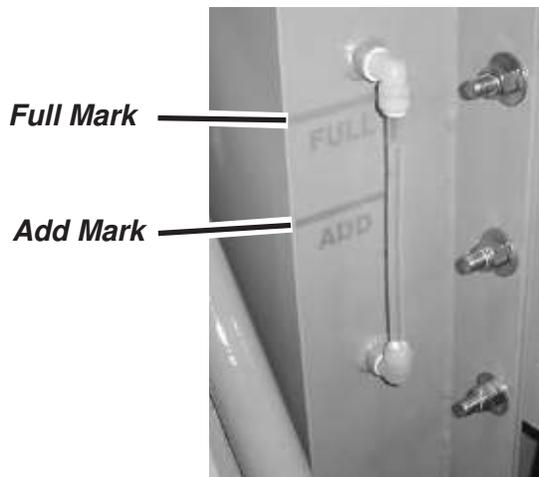


Hydraulic Oil Reservoir Drain Plug

-
-
- Remove the fill cap from the hydraulic oil reservoir and refill with clean hydraulic oil. Fill reservoir until the oil reaches the "FULL" mark in the sight gauge. Do not over fill.



Main Hydraulic Oil Reservoir Fill



Hydraulic Oil Level Gauge

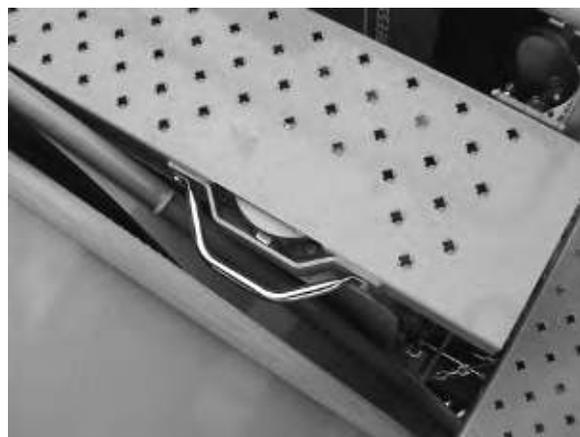
Main Hydraulic Oil Filters & Case Drain Filter (Every 400 Hours of Operation, When Gauge Indicates or When Oil is Changed)

Replacing Main Hydraulic Filters (one on each end of hydraulic oil reservoir) or Case Drain Filter

The main hydraulic oil system filters are located at the cab end and the engine end of the reservoir. Refer to the "Filters" chart on the "Important Reference Numbers" page for replacement filter part numbers.

Lift up the walkway cover to gain access to the main hydraulic filter head at the cab end. These filters require replacement when the restriction indicator indicates that the flow through the filter is becoming restricted (gauge in yellow area). Always lower the walkway down before operating the bagger.

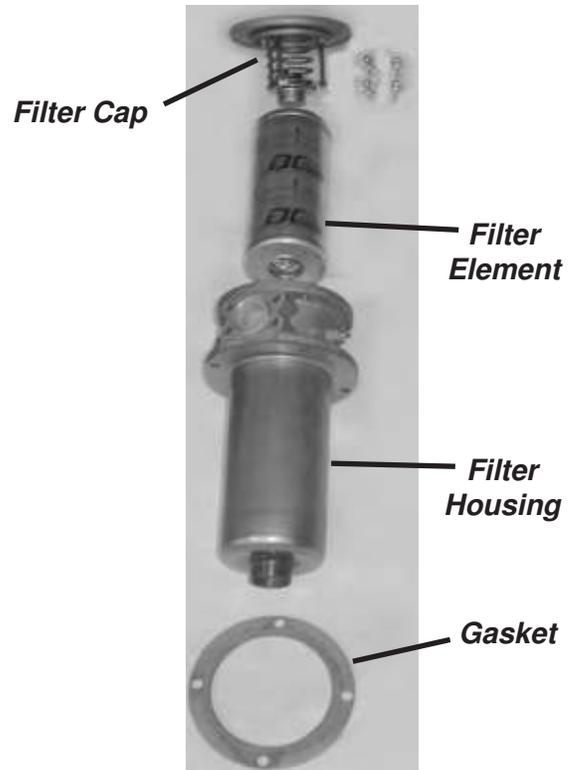
The case drain filter is located on the engine end of the reservoir next to the fill cap. This filter requires replacement when the restriction indicator indicates that the flow through the filter is becoming restricted (gauge in yellow area). Refer to the "Filters" chart on the "Important Reference Numbers" page for replacement filter part numbers.



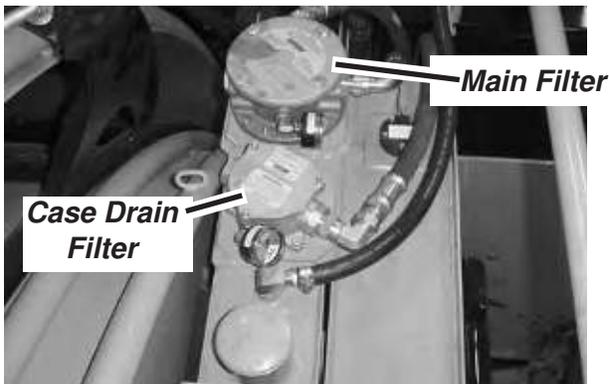
Walkway Cover Between Tunnel & Feed Table

To change Filters

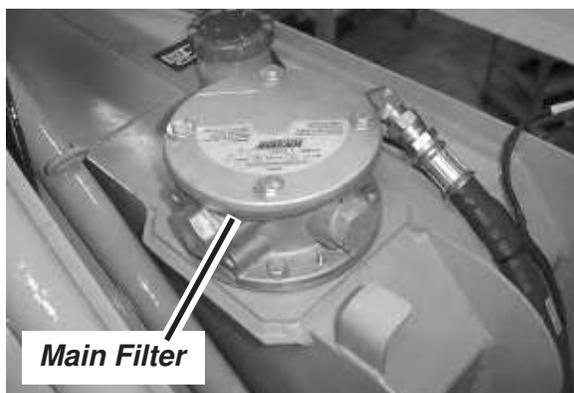
1. Remove the nuts from the studs around the filter cap and remove the filter assembly from the filter housing
2. Remove the filter element. Replace the element with a new element. Be sure to reinstall all gaskets. If gaskets or o-rings are deteriorated, replace with new parts.
3. Replace the filter assembly into the housing, being careful to line it up to properly seat the filter assembly in the housing.
4. Place the holding spring on the hub of the cap. Make sure to reinstall the o-ring seal. Reinstall the cap and tighten the nuts, being sure the spring and o-ring are properly seated so the suction filter seals to the face of the filter housing.



Main Hydraulic Oil Return Filters



Main Hydraulic Filter & Case Drain Filter (Engine End)



Main Hydraulic Filter (Cab End)



Case Drain Filter

Clutch Oil and Filter (Change oil & filter every 500 hours of operation)

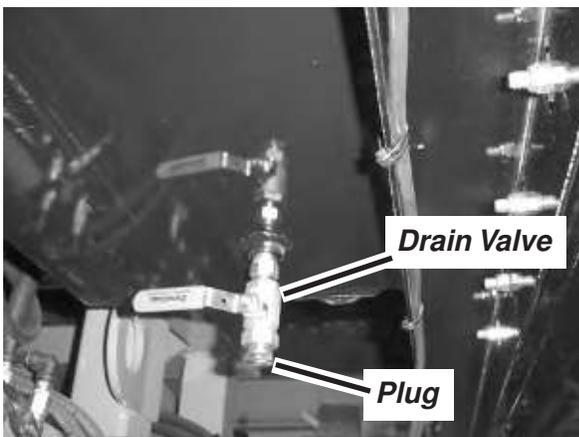
Refer to the clutch Installation & Maintenance manual supplied with your bagger for additional maintenance intervals and procedures.

Level Check:

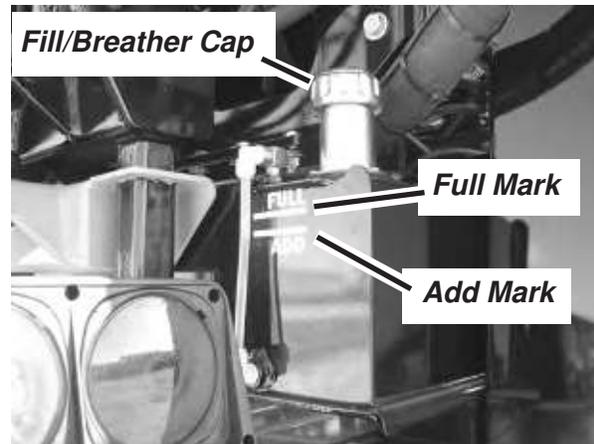
Check the oil level in the reservoir daily. If oil is low add Mobil 424 to bring the oil up to the full mark on the reservoir. Do not over fill.

Change the oil as follows:

1. Remove the drain plug from the valve in the bottom of the clutch reservoir. The reservoir is located next to the engine on the feed table side.
2. Drain the oil from the reservoir. The reservoir holds approximately 20 gallons.
3. Close the drain valve and re-install the drain plug. Dispose of used oil properly.
4. Remove the fill/breather cap on the reservoir and fill to the full mark. Fill with Mobil 424 oil only. Do not over fill.



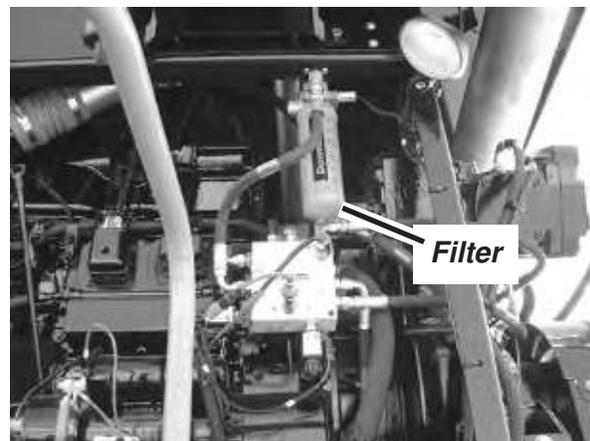
Clutch Reservoir Drain Valve



Clutch Reservoir Sight Gauge & Fill

Change clutch filter as follows:

1. Clean the area around the filter and filter head. The filter is located on the side of the engine frame on the feed table side and toward the rear of the bagger.
2. Remove the filter from the filter head.
3. Lightly oil the filter o-ring with clean Mobil 424 oil. Fill the filter with clean Mobil 424 oil and install on to the filter head. Tighten 1/2 turn after initial contact. Do not over tighten.

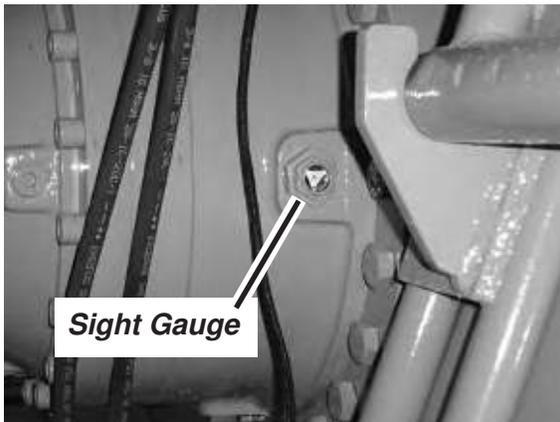


Clutch Filter

Rotor Planetary Oil and Filter **(Change oil and filter every 500 hours of operation or annually)**

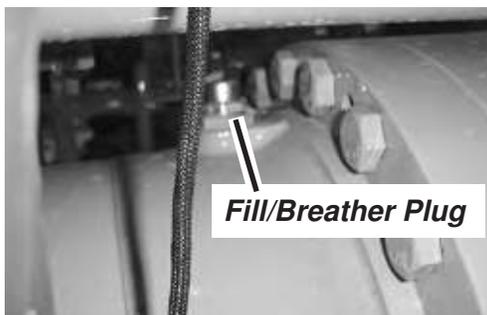
Level Check:

Check the oil level of the rotor planetary daily. Check oil level with engine running and rotor off. The oil level should be in the center of the sight gauge located on either side of the planetary. If oil is low, add synthetic oil 80W-140 gear lube to bring the oil up to the proper level. Do not over fill.



Rotor Planetary Level Sight Gauge

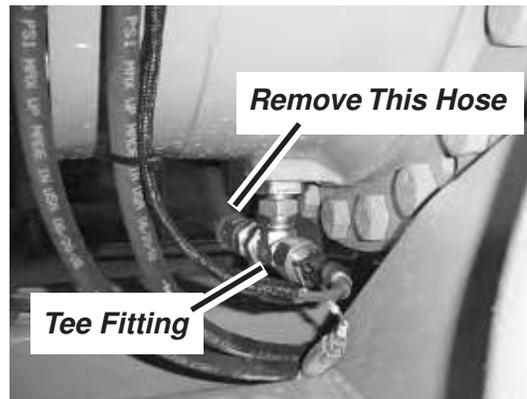
If oil is low, clean the area around the filler/breather plug at the top of the planetary. This plug can be accessed from either side of the bagger. Remove the filler plug and add synthetic 80W-140 gear lube oil until the level is in the center of the sight gauge. Re-install the fill plug and tighten securely. Recheck oil level with engine running and rotor off. If oil level is checked with the engine off, some of the oil may drain back into the planetary and the oil level will be above the sight gauge.



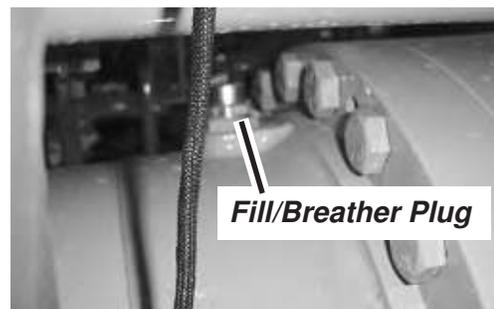
Planetary Fill/Breather Plug

Change rotor planetary oil as follows:

1. Place a container under the rotor planetary. Remove the hose from the tee fitting at the bottom of the planetary.
2. Drain the planetary oil into the container. Reassemble the hose to the tee fitting when all the oil is drained. Tighten the hose securely. Dispose of used oil properly. Change the filter at this time. Refer to "Change Rotor Planetary Filter".
3. Clean around the fill/breather plug and remove the fill/breather plug.
4. Fill the planetary to the top of the sight gauge with synthetic 80W-140 gear lube oil. Re-install the fill/breather plug and tighten securely.
5. Start the engine and check the oil level with the rotor off.



Planetary Drain



Planetary Fill/Breather Plug

Change rotor planetary filter as follows:

Change the filter each time the planetary oil is changed.

1. Locate the filter under the engine on the feed table side of the machine.
2. Clean the area around the filter and the filter head. Remove the filter and discard properly.
3. Lightly oil the filter o-ring with clean synthetic 80W-140 gear lube oil.
4. Fill the filter with clean synthetic 80W-140 gear lube oil and install on to the filter head. Tighten 1/2 turn after contact. Do not over tighten.



Rotor Planetary Filter

Feed Table Planetary Oil (Change oil every 500 hours of operation or annually)

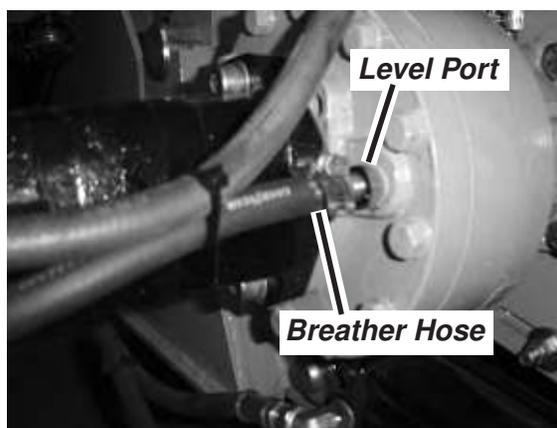
Level Check:

Check the oil level daily. To check the oil level in the feed table planetary, the feed table must be lowered down to the operating position.

Locate the breather hose on the planetary. The planetary is located at the lower end of the feed table on the cab side. Clean the area around the hose and remove the hose from the planetary. The oil level should be at the bottom of the breather hose hole.

If the oil is low, add synthetic 80W-140 gear lube oil through the level hole until the level is at the bottom of the hole.

Reassemble the breather hose to the planetary and tighten securely.

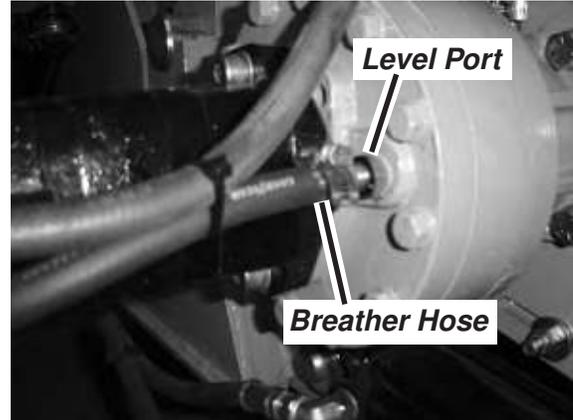


Feed Table Planetary Level Check

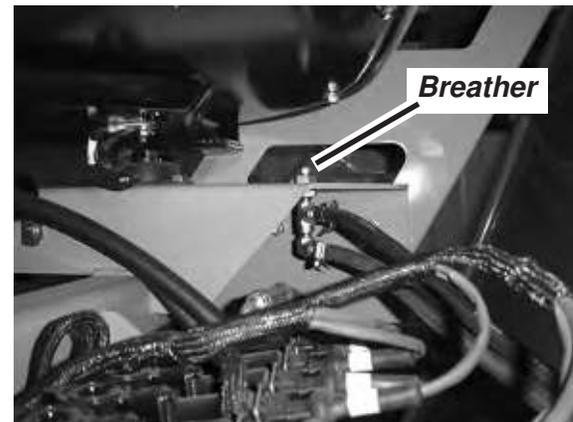
Change feed table planetary oil as follows:

The feed table must be lowered down to the operating position to drain the oil or to check level.

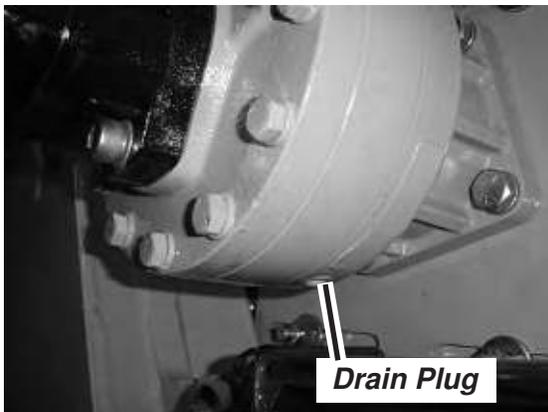
1. Locate the drain plug on the bottom of the planetary. Clean around the drain plug and remove.
2. Drain the oil into a suitable container. Replace the level plug after all the oil has drained. Dispose of the used oil properly.
3. Remove the breather hose from the level hole. Fill the planetary to the bottom of the breather hose hole with synthetic 80W-140 gear lube oil.
4. Reassemble the breather hose to the planetary and tighten securely.
5. Locate the feed table planetary breather under the front of the cab floor. Be sure the breather is clean.



Feed Table Planetary Level Check



Feed Table Planetary Breather



Feed Table Planetary Drain Plug

Check Hydraulic Hose and Fitting Condition



CAUTION:

Use of equipment with damaged hoses and/or fittings may result in personal injury or death.

1. Before operating machine, carefully make a visual inspection of all hoses and fittings, looking for leaks and/or other damage.
2. If a problem or defect is found, make all necessary repairs before operating machine.



WARNING:

Escaping fluid under pressure could penetrate the skin causing serious injury. Do not use your hand to search for hydraulic leaks. Use a piece of paper or cardboard.

Check Hydraulic Cylinders



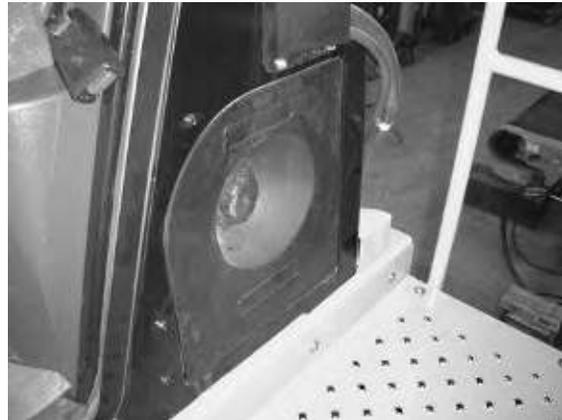
CAUTION:

Use of equipment with damaged hydraulic cylinders may result in personal injury or death.

1. Before operating machine, carefully make a visual inspection of all hydraulic cylinders, looking for leaks and/or other damage.
2. If hydraulic cylinder damage is found, make all necessary repairs before operating machine.

Cab Pressurization Filter (Charcoal)

On the outside of the cab, to the rear of the door is a cover which contains the charcoal filter which filters the cab air. This filter should be changed annually or more often if an odor is detected inside the cab.



Charcoal Filter Cover

Tine Cap Replacement

As the tine caps wear they can be replaced.

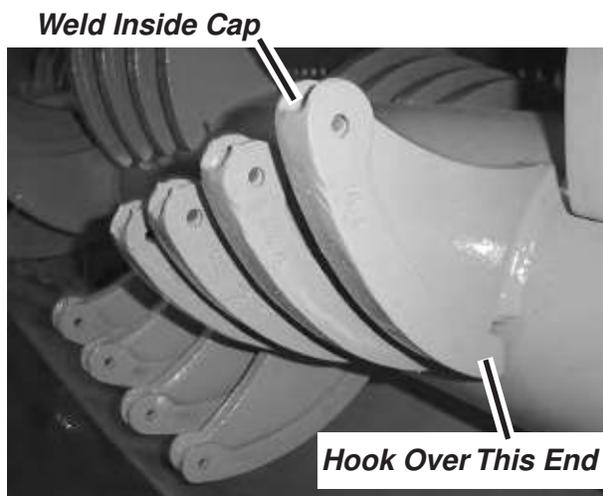
The tine caps on your bagger are welded to the rotor teeth. To remove the tine cap, grind the weld away at the tip of the cap.

Unhook the cap from the lower part of the tooth and remove.

The new tine cap can be welded in place or attached with roll pins.

If the caps are to be attached with the roll pins, you will need a 3/16" roll pin and a 5/16" roll pin for each cap.

IMPORTANT: If using the roll pins to assemble the tine cap, be sure the pins are flush on both sides of the cap.



Tine Caps Welded In Place

Tine caps are available by ordering part number 42.0901179.

3/16" roll pins are available by ordering part number 902790.

5/16" roll pins are available by ordering part number 907707.

Tire Air Pressure

It is recommended that the tire manufacturer's tire pressure as indicated on the side wall of the tire be maintained. Check the tire pressure daily.

Wheel Lug Nut Torque

Check the wheel lug nut torque weekly. Torque the lug nuts to 270 ft.-lbs (366 Nm).

Retorque the wheel lug nuts each time a wheel is removed. Then retorque the lug nuts after one hour of use.

Feed Table Wheel Bearings Repack Annually

Type of Grease: Use a good grade of lithium base wheel bearing grease.

1. Raise the feed table so the feed table wheels are off the ground.
2. Remove the hub from the spindle. Inspect the inner and outer cups in the hub. Be sure both cups are seated against the shoulders in the hub.
3. Pack the cones with grease. A pressure grease packer is recommended. To hand pack cones, force grease under cage between rollers from large end of rollers until grease shows at small end. Fill the hub with grease to I.D. of the cup race, then place the cone into the cup. Make sure the cone is straight!

IMPORTANT: Failure to correctly lubricate bearing and maintain proper lubrication may result in bearing damage which could cause wheel to lock and come off during operation.



Feed Table Wheel

4. Install grease seal. Support the seal so as not to bend the case during installation.
 5. Use grease to lubricate the seal lip.
 6. Place the hub on to the spindle. Rotate the hub while doing this so that the seal lip does not fold under as the lip goes on the seat of the spindle.
 7. Fill hub cavity with grease.
 8. Place the outer cone on the spindle and into the cup.
 9. Assemble the washer and nut onto the spindle and tighten the nut to 15-20 ft/lbs, while rotating the hub. Then back off the nut until it aligns the next available slot with the cotter pin hole. Install the cotter pin and bend around the nut. There should be between .001" - .005" end play.
- IMPORTANT: Failure to back off adjusting nut may cause bearing damage. Wheel could then lock and come off during operation.***
10. Grease inside of dust cover and install dust cover.
 11. Repeat for the other wheel.

Anchor Cables

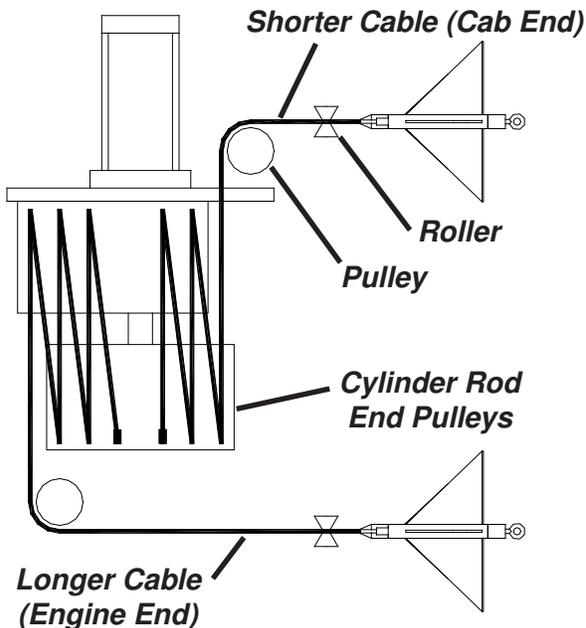
Anchor Cable Replacement



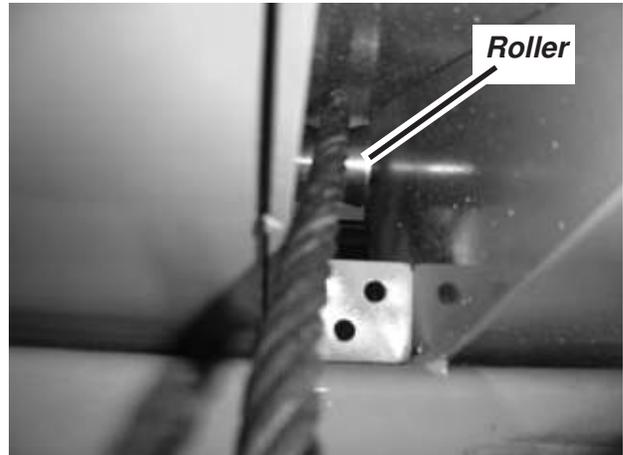
WARNING

Serious injury could occur. Always wear protective gloves when handling wire rope cables.

1. The bag pan must be fully lowered in order to access the anchor cylinder.
2. Fully extend the anchor cylinder, then retract 1 inch. Shut off the engine when measuring.
3. Insert the cable from the outside. Use the other cable as a guide when installing the new cable. The longer cable is on the engine end and the shorter cable is on the cab end.
4. Insert the cable through the cable guide and over the roller.
5. Guide the cable end around the pulley and through the hole in the plate.
6. Route the cable under the first pulley on the cylinder rod end. From the first pulley route the cable over the top of the first pulley on the cylinder. Repeat this process for the remaining pulleys.



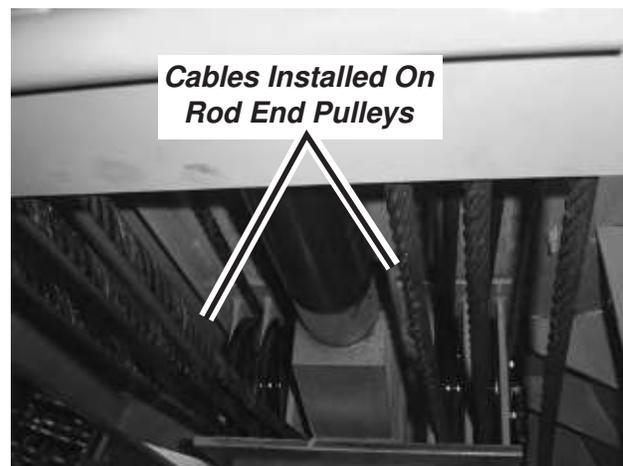
Anchor Cable Routing



Anchor Cable Over Roller

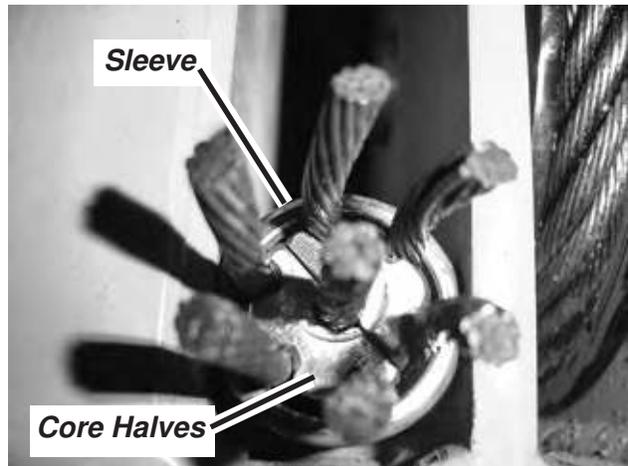


Anchor Cable Around Pulley



Anchor Cylinder Rod End Pulleys

7. Insert the end of the cable through the cable anchor tube.
8. Slide the cable through the sleeve.
9. Unravel the cable and wrap around the knob core. Keep the knob core halves flush.
10. Tap the sleeve down on to the knob core halves with a hammer.
11. Manually pull the cable tight from the outside.
12. Mark the cable as close to the fair lead as possible (outer edge of pivot assembly)
13. Extend the cable 4 feet. Pull the cable while extending.
14. Cut the cable at the mark.
15. Slide the cable through the center of the anchor. Install the cable stop on to the cable.
16. Pull on the anchor to secure the cable stop in the nose of the anchor.
17. Retract the anchors. The anchors should be tight in the sockets.
18. Repeat this procedure to replace the other cable.



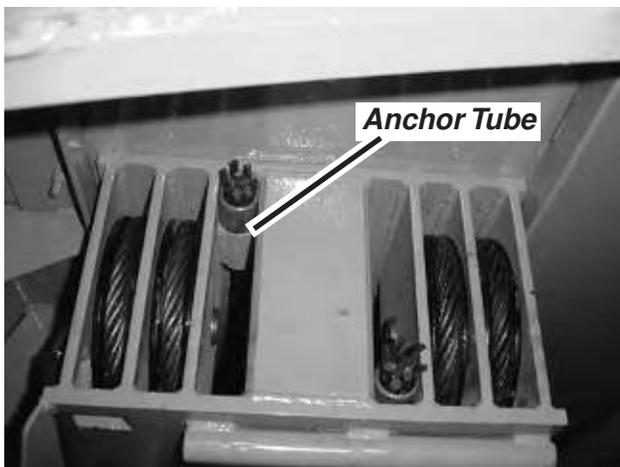
Cable, Knob Core Halves & Sleeve

Anchor Cable Adjustment

Most of the cable stretch will occur during the first bag. Adjustment will need to happen prior to the second bag. Also check each time the anchors are fully retracted. The both anchors must be tight against the sockets and feed out at the same distance.

If adjustment is required:

1. The anchor will have to be removed from the cable.
2. Fully extend the anchor cylinder, then retract 1 inch. Shut off the engine when measuring.
3. Manually pull the cable tight from the outside.
4. Mark the cable as close to the fair lead as possible (outer edge of pivot assembly)
5. Extend the cable 4 feet. Pull the cable while extending.
6. Cut the cable at the mark.
7. Slide the cable through the center of the anchor. Install the cable stop on to the cable.
8. Pull on the anchor to secure the cable stop in the nose of the anchor.
9. Retract the anchors. The anchors should be tight in the sockets.



Cable Anchor Tubes

Torque Specifications

NOTE: Use these torque values when tightening hardware (excluding: locknuts and self tapping, thread forming and sheet metal screws) unless specified otherwise.

All torque values are in lb-ft except those marked with an (*) which are lb-in (for metric torque value Nm, multiply lb-ft value by 1.355 or for lb-in multiply by 0.113).

Unified National Thread	Grade 2 		Grade 5 		Grade 8 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18	11	9	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	180	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	200	150	300	220	420	320
7/8-9	170	125	430	320	600	460
7/8-14	180	140	470	360	660	500
1-8	250	190	640	480	900	680
1-14	270	210	710	530	1000	740
Metric Course Thread	Grade 8.8 		Grade 10.9 		Grade 12.9 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
M6-1	8	6	11	8	13.5	10
M8-1.25	19	14	27	20	32.5	24
M10-1.5	37.5	28	53	39	64	47
M12-1.75	65	48	91.5	67.5	111.5	82
M14-2	103.5	76.5	145.5	108	176.5	131
M16-2	158.5	117.5	223.5	165.5	271	200

Tightening Hydraulic Fittings



WARNING

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks. **DO NOT** use your hand.

Tightening O-Ring Fittings*

1. Inspect O-ring and seat for dirt or obvious defects.
2. On angle fittings, back the locknut off until washer bottoms out at top of groove.
3. Hand tighten fitting until backup washer or washer face (if straight fitting) bottoms on face and O-ring is seated.
4. Position angle fittings by unscrewing no more than one turn.
5. Tighten straight fittings to torque shown.

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

Thread Size (In.)	Nut Size Across Flats (In.)	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(Nm)	(lb-ft)	(Flats)	(Turns)
3/8	1/2	8	6	2	1/3
7/16	9/16	12	9	2	1/3
1/2	5/8	16	12	2	1/3
9/16	11/16	24	18	2	1/3
3/4	7/8	46	34	2	1/3
7/8	1	62	46	1-1/2	1/4
1-1/16	1-1/4	102	75	1	1/6
1-3/16	1-3/8	122	90	1	1/6
1-5/16	1-1/2	142	105	3/4	1/8
1-5/8	1-7/8	190	140	3/4	1/8
1-7/8	2-1/8	217	160	1/2	1/12

Tightening Flare Type Fittings*

1. Check flare and flare seat for defects that might cause leakage.
2. Align hose end with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the hose, use two wrenches. Place one wrench on the hose end body and with the second wrench, tighten the swivel nut to the torque shown in this chart.

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

Tube Size OD (In.)	Nut Size Across Flats (In.)	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(Nm)	(lb-ft)	(Flats)	(Turns)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

MACHINE WARRANTY

LX1214 Professional Series Bagger

MILLER-ST. NAZIANZ, INC. warrants each new Ag-Bag® LX1214 professional series bagger to be free from defects in material and workmanship under recommended use and service, as stated in the Operator's Manual, as follows:

Warranty

Miller will replace, F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, any part of a new LX1214 professional series bagger which is defective in material or workmanship: Without charge for either parts or labor during the first year following delivery to the original retail customer.

All warranties on the new LX1214 professional series bagger shall apply only to the original retail purchaser from an authorized Ag-Bag dealer.

Repair Parts

Miller warrants that it will replace the failed part F.O.B. St. Nazianz, Wisconsin, or repair, as Miller elects, without charge, any genuine Ag-Bag spare part purchased after the expiration of the new LX1214 professional series bagger warranty, or to any subsequent owners that is defective in material or workmanship, within ninety (90) days of the installation date. Repair parts warranty does not cover labor to remove or replace the failed part.

Misuse

The provisions of this warranty shall not apply to any LX1214 professional series bagger which has been subject to misuse, negligence, alteration or accident, or which shall have been repaired with parts other than those obtainable through Ag-Bag.

Authorized Dealer

Repairs eligible for labor warranty must be made by Ag-Bag or an authorized Ag-Bag dealer. The purchaser is responsible for transportation of the equipment to the dealership for warranty service or for any service call expense.

Exclusive Effect of Warranty and Limitation of Liability

The remedies of the customer set forth herein are exclusive. Miller neither assumes nor authorizes any person to assume any other obligation or liability in connection with the sale of covered equipment. Correction of defects and malfunctions in the manner and for the applicable period of time provided above shall constitute fulfillment of all responsibilities of Miller to the customer and Miller shall not be liable for negligence, under contract, or in any other manner with respect to such equipment. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SUCH AS BUT NOT LIMITED TO: LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OF REPLACEMENT EQUIPMENT.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PURPOSE OR OTHER WARRANTIES, EXPRESS OR IMPLIED.

Warranty Requirements

To be covered by warranty, each machine must be properly registered with Miller within 30 days of date of original retail delivery.



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