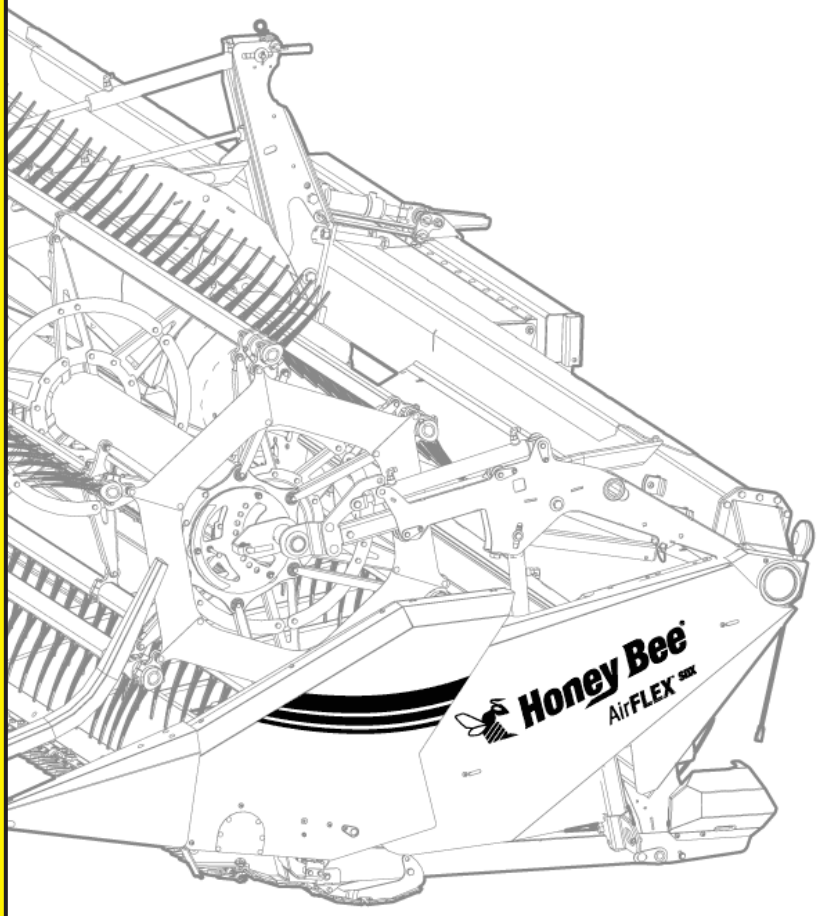
2018

AirFLEX

SDX Series

FLEX Header
Operator Manual



Honey Bee®

Revision 1.0 P/N: 95099

2 - SDX Pre Delivery Inspection

TO THE DEALER: *This form must be completed and returned to Honey Bee Manufacturing Ltd. along with the Warranty Registration Form. (please print)*

Model: _____ Serial #: _____

Check Completed By: _____ Signature: _____

Dealer Name: _____ Date: _____

As soon as you receive this machine, inspect it thoroughly to be certain that it is in good order and complete. Finish a pre-delivery inspection, paying special attention to the steps listed below, prior to delivery to the customer. Indicate with a tick mark in the left-hand column when correct/complete.

Refer to the page numbers listed below in the operator manual for detailed instructions.

Upon Receipt of Header:

___Set front reel bats to operational position (reinstalled from transport position). - *page 37*

___Remove reel tie-downs installed from factory.

___Install crop dividers.- *page 37*

___Check draper tension as per decal on back panel. Adjust if necessary. - *page 92*

___Walk around the header, checking belts, bolts and shields to ensure everything is tight and in good working order.

___Install AutomatixLite harness on the combine, note if the electrical system is positively or negatively switched, hook up the battery leads accordingly. - *page 40*

___Install AutomatixLite control panel in combine cab & connect to electrical harness. - *page 40*

___Unlock the transport cart and draw bar, lift header with the combine then remove the cart and draw bar. - *page 38*

___Attach multicoupler and electrical connection(s) - *page 40*

___Attach the drive shafts to the left and right hand sides of the combine feeder house. - page 41

___Check the clearance between the feed auger drum, stripper plate and feeder house. - *page 51*

___Check feed auger finger timing, ensure adjustment arm is in middle hole with fingers in fully forward position. - *page 50*

___Set the faceplate angle using adjustment bolts on the combine's feeder house (if possible) - *page 45*

___Set header to rigid mode & pressurize to 90-115psi, ensure all tabs on flex sensing rod are in proper position. - *page 107*

___Set reel finger pitch to a starting point of 5. - *page 58*

___Ensure reel fingers clear cutter bar by minimum of 1 1/2". Adjust reel height if necessary. - *page 59*

___Set Auto Header Height parameters in combine control panel (Combine and Sensitivity Settings)

___Calibrate combine (In FLEX mode)

___Run header and fine tune drive belt to minimize vibration and get it running smoothly.

___Walk around the header while it is running to ensure everything is running smoothly

___If possible test in the field or lot and fine tune sensitivity settings if needed

___Red draw bar holder and tie-down bracket removed from header. - *page 38*

___Ensure Optional equipment as per sales order is installed and functioning.

Before Transporting:

___Tilt cylinder retracted. - *page 57*

___Drive shafts in storage position. - *page 119*

___Header in rigid mode (air system pressurized to 100 psi). - *page 63*

___Hydraulic & electrical connectors/lines in storage positions.

___Reel lowered, retracted, tied down and prevented from rotating.

___Transport cart & front draw bar axle properly installed. - *page 115*

___AutomatixLite display and electrical harness, dividers, extensions & accessories securely stored.

___Warning lights, decals, reflectors & signs all legible and in place. - *page 27*

___Front reel fingers dropped into transport position. - page 114

3 - Copyright Information

Original Instructions

Patents: https://www.honeybee.ca/patents.php all other patents pending.

4 - Table of Contents

5 - Products Covered & Important Information

IMPORTANT!

This manual covers the SDX header ONLY.

IMPORTANT!

Review the sections of this manual regarding adjustments, settings, leveling, and table height before attempting to operate this header.

Without proper adjustment, damage to the header may occur.

IMPORTANT!

Please wash this equipment after transporting!

Honey Bee Manufacturing will not be responsible for any paint deterioration resulting from salt or harsh chemical corrosion if this equipment is not properly washed after transport. Use a mild soap solution, then rinse thoroughly.

If this equipment is stored near salted roadways through the winter months, it should be cleaned each spring.

6 - Purchase Information

Dealers Name: _____

Address: _____

Phone: ( ) _____

Purchase Date: _____

Model: _____

Serial Number: _____

Delivery Date: _____

Modification Record	
Date	Modification

Honey Bee Manufacturing Limited is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

7 - Header Identification Number

The AirFLEX SDX Header serial number plate is located directly on top of the hydraulic bulkhead as shown below. The letters and numbers stamped on the plate identify the header. Please have this serial number on hand when ordering replacement parts. If ever stolen, the serial number is needed for law enforcement to trace.

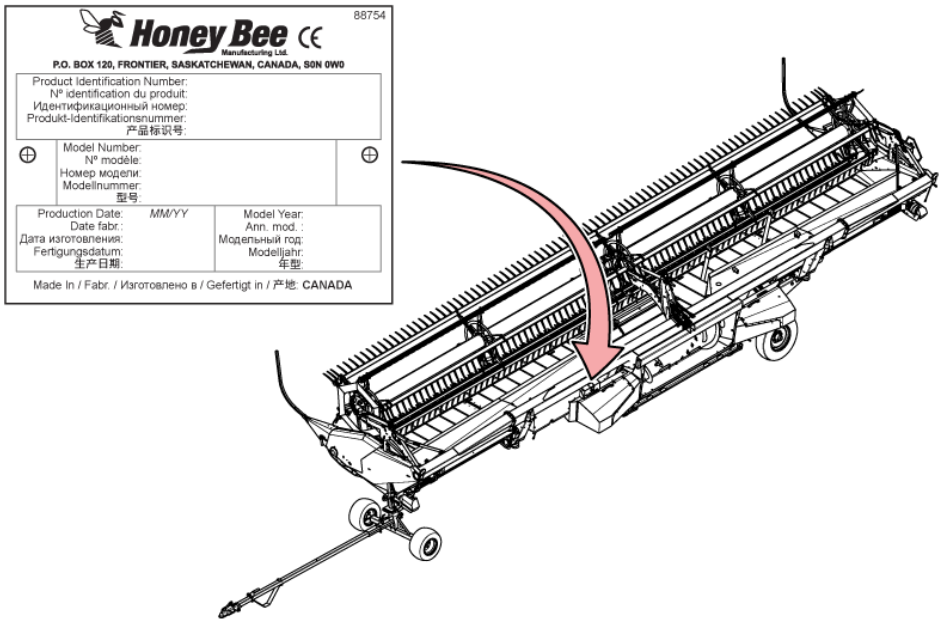


Fig. 1 - Serial number plate location

8 - Introduction

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

This manual should be considered a permanent part of your header and should remain with the machine when you sell it.

Use only correct replacement parts and fasteners. Metric and inch fasteners require a specific metric or inch wrench.

All names given in this document for equipment components are those in use at the time of design.

Please write down your equipment serial numbers in the Specification section to help in tracing the header should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place away from the header.

8.1 - Directions

Right and left hand sides are determined by facing in the direction the implement will travel when going forward.

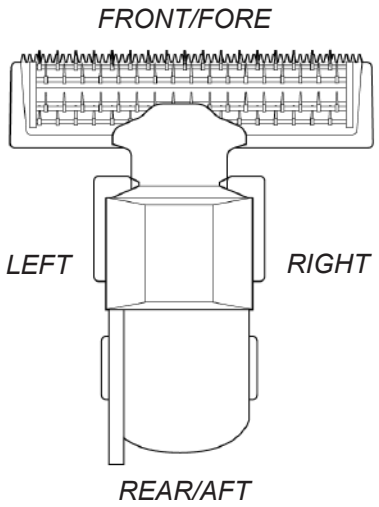


Fig. 2 - Reference directions

8.2 - Warranty

The warranty is provided as part of Honey Bee's support program for customers who operate and maintain their equipment as described in this manual.

Honey Bee Manufacturing Ltd. (Honey Bee) warrants your new Header to be free of defects in material and workmanship, under normal use and service. Obligations under this warranty shall extend for a period of 1 year (12 months) following the date of first use to the original purchaser and shall be limited to, at the option of Honey Bee, replacement or repair of any parts found, upon inspection by Honey Bee, to be defective.

Warranty Claims

The purchaser claiming under this warranty shall report a warranty claim to his Authorized Dealer. The dealer shall complete the claim, on the prescribed form online, for inspection by an authorized company representative. Warranty claims must be submitted online within 60 days of warranty expiration on the Honey Bee Manufacturing Ltd Claim Form (CFI).

Limitations of Liability

This warranty is expressly in lieu of all other warranties expressed or implied and all other obligations or liabilities on our part of any kind or character, including liabilities for alleged representations or negligence. We neither assume nor authorize any person to assume, on our behalf, any liability in connection with the subsequent sale of the Header.

This warranty shall not apply to any Header which has been altered outside the factory in a way that Honey Bee judges to affect its operation or reliability, or which has been subject to misuse, neglect, or accident.

Operator's Manual

The purchaser acknowledges having received training in the safe operation of the Header and that Honey Bee does not assume any liability resulting from the operation of the Header in any manner other than described in this manual.

9 - Safety

9.1 - Recognize Safety Information

This is a safety-alert symbol. When you see this symbol, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.

9.2 - Understand Signal Words

The following are safety terms used around the equipment and throughout this manual. Please read and understand their descriptions.

DANGER!

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

WARNING!

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

CAUTION!

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

IMPORTANT!

Warns of potential damage to the header if proper procedures are not followed.

NOTE:

Notifies you of important information to which you should pay attention.

9.3 - Read and Understand Instructions and Warnings

Please read and understand all warnings and safety information contained within this manual and the signs located on your equipment.

You may find additional safety information on after-market equipment not included in this manual.

Only allow trained individuals to operate the header.

Unauthorized equipment modifications can cause injury or equipment failure that is not covered under warranty.

9.4 - Protective Clothing

WARNING!

When working around running equipment, secure all loose items such as long hair, jewelry, or loose clothing are secured so they do not contact moving parts. Failure to do so will result in injury or death.

Wear hearing protection to protect against hearing damage.

Operating equipment safely requires your full attention, do not wear headphones while operating the header.

9.5 - In Case of Emergency

NOTE:

Keep a first aid kit and fire extinguisher with your header at all times. Keep phone numbers for emergency services near your telephone.

9.6 - High Pressure Spray

IMPORTANT!

Avoid spraying yourself, electronics or hydraulic connections with a pressure sprayer.

9.7 - Store the Header Safely

⚠ WARNING!

Ensure your header and all attachments are secured when not in use. Keep bystanders away from equipment and storage area. Failure to comply can result in injury or death.

9.8 - Safety Around Moving Parts

⚠ DANGER!

Never attempt to service your equipment while in operation. Always shut off the combine and wait for all moving parts to come to a complete stop before approaching the header.

Keep guards and shields in place at all times. Ensure that they are serviceable and installed correctly.

Cutterbar, auger, reel, drive shafts, and drapers cannot be completely shielded due to their function. Stay clear of these moving elements during operation.

9.9 - High-Pressure Hydraulics

⚠ DANGER!

High pressure hydraulic leaks can penetrate the skin causing serious injury. Always relieve pressure before disconnecting hydraulic lines and tighten all connections before applying pressure.

Hydraulic leaks can be extremely small and difficult to see. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

9.10 - Transporting the Header

STOP IMPORTANT!

When transporting the header, frequently check for traffic from the rear, especially in turns. Always use headlights, flashing warning lights, and turn signals (when turning) day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order, replace if necessary.

Whenever possible avoid transporting the header on public roadways with header attached to the combine.

If combine must be transported with header attached, ensure all warning lights are operating, and reflective material is clean and visible.

Completely retract and lower the reel before transporting.

Use of a spotter or pilot vehicle is recommended on busy, narrow or hilly roads and when crossing bridges.

Drive at a speed safe for conditions.

Do not exceed 25 mph (40 kph) when transporting the header on the optional transport package.

9.11 - Using Correct Torque Values

STOP IMPORTANT!

It is extremely important that you use the correct torque values when servicing your AirFLEX header. Failure to follow the torque recommendations on page 128 can result in equipment damage.

9.12 - Practice Safe Maintenance

⚠ WARNING!

Before attempting to service your equipment, ensure that you fully understand any procedure that you are about to attempt.

Ensure all equipment is secured against sudden drops.

Keep the work area clean and dry.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove buildup of grease, oil, or debris.

If welding on the header, first disconnect battery ground cable (-). before making adjustments to electrical systems or welding on the header.

The header must be lowered to the ground before servicing. If the work requires that the header or reel be lifted, provide secure support. If left in a raised position, hydraulically supported devices can settle or drop suddenly.

Do not support the header on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a header that is supported only by a jack.

Do not attempt to clean drive belts or drapers with flammable cleaning solvents.

9.13 - Fire Safety

⚠ WARNING!

Build up of chaff and crop debris near moving parts is a fire hazard. Check and clean these areas frequently. Before inspection or service, shut off engine, engage the parking break, remove the key and wait for all moving parts to come to a stop.

Keep a fire extinguisher with your equipment at all times and ensure the operator is educated in its operation.

9.14 - Keep Equipment Clean

STOP IMPORTANT!

Inspect and clean your equipment before every use. Clear away all material buildup. Pay special attention to all moving parts such as drive belts, drive shafts, and bearings. Failure to keep the equipment clean can result in fire.

10 - Specifications

10.1 - Dimensions & Specifications

Model	225	230	236	240	245	250
Size	25ft (7.62m)	30ft (9.14 m)	36ft. (10.97 m)	40ft. (12.19 m)	45ft. (13.72 m)	50ft (15.24 m)
Header Weight - Operating Configuration	6210 lbs 2823 kg	6699 lbs 3045 kg	7115 lbs 3234 kg	7883 lbs 3583 kg	8271 lbs 3760 kg	8659 lbs 3936 kg
Header Weight - Transport Configuration	6995 lbs 3180 kg	7484 lbs 3402 kg	7900 lb 3591 kg	8668 lbs 3940 kg	9056 lbs 4116 kg	9444 lbs 4293 kg
Optional Transport Package	785 lbs 356 kg					
Optional Cross Auger	Hydraulically driven cross auger.					
Cutting System	Mechanically driven knife drive with SCH sections. 9” (22.9 cm) of FLEX.					
Drapers	Mechanically driven with simple to use tensioning system.					
Draper Shield	A new patented system that directs the flow of crop to the center deck without the need for moving parts					
Reel	Hydraulically driven, with multiple crop settings and finger spacing options. Automatic reel speed control					
Transport	Heavy duty road transport with electric brakes					
Record your equipment serial numbers below for reference in the event of service or theft.						
Header Serial Number:						
Reel Serial Number						
These specifications are subject to change without notice or obligation.						

11 - Safety Decal Locations

Please take a moment to walk around your equipment and familiarize yourself with the safety decals and features on your equipment. Refer to the figure below and the decal list on the following pages for assistance.

Please ensure that you fully understand all safety warnings and instruction before operating this equipment.

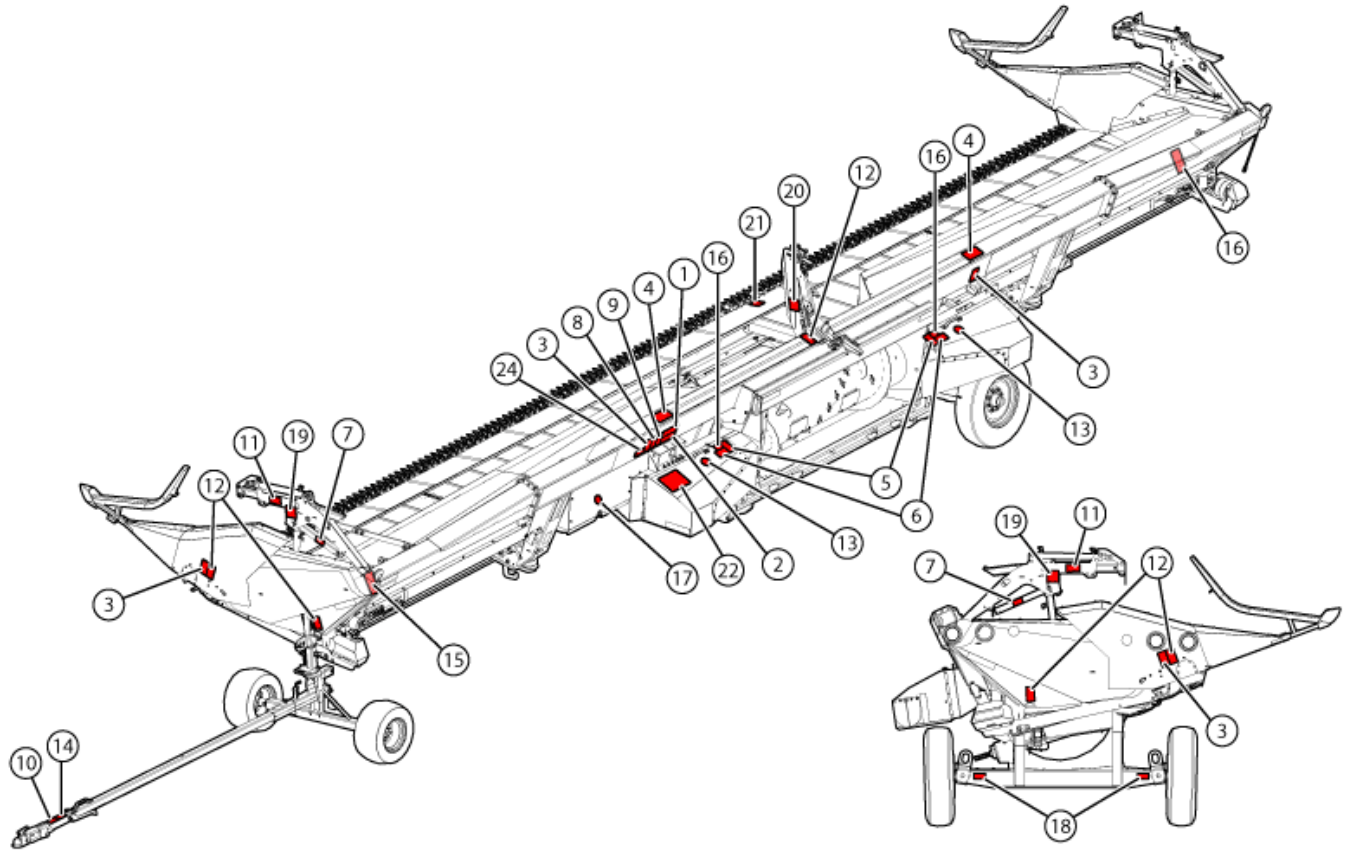


Fig. 3 - Decal Locations

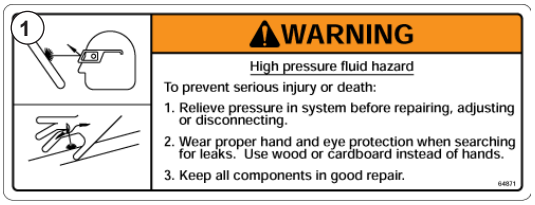


Fig. 4 - High Pressure Fluid Hazard

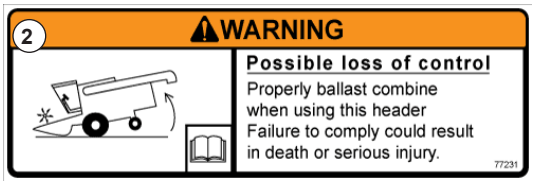


Fig. 5 - Properly Ballast Combine

Fig. 6 - Keep your Distance

Fig. 7 - Not a Step - Falling Hazard

Fig. 8 - Keep Clear of Rotating Drive Shaft

Fig. 9 - Keep Clear of Drive Belts

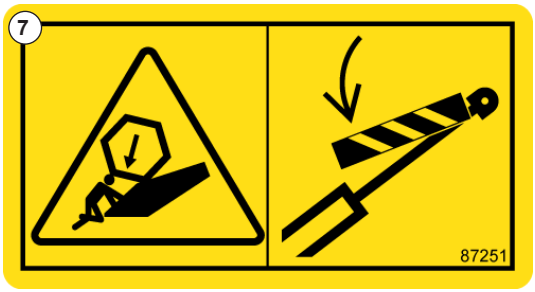


Fig. 10 - Engage Reel Stop Before Servicing

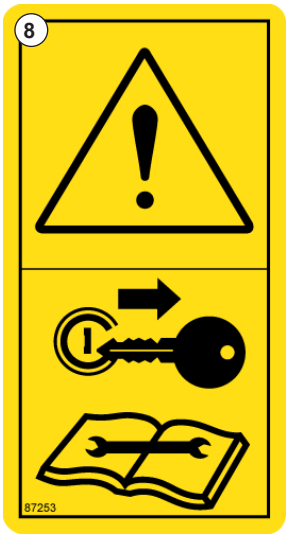


Fig. 11 - Turn off Engine when Servicing

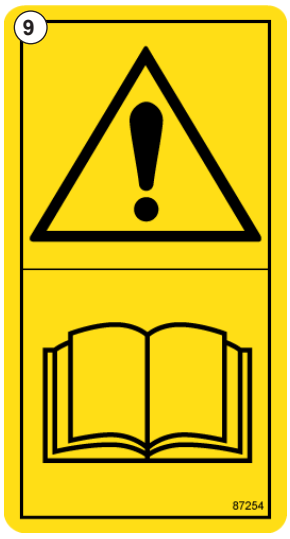


Fig. 12 - Read the Manual

Fig. 13 - Maximum Speed

Fig. 14 - Turn off Engine when Servicing Reel

Fig. 15 - Pinch Points

Fig. 16 - Do Not Step Here

Fig. 17 - Do not transport with deflated air bags.

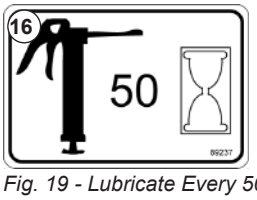


Fig. 19 - Lubricate Every 50 Hours

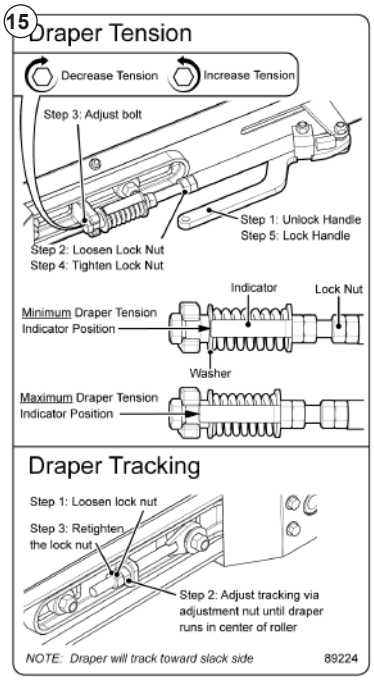


Fig. 18 - Draper Tension & Tracking

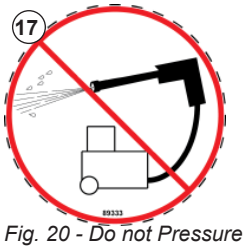


Fig. 20 - Do not Pressure Wash

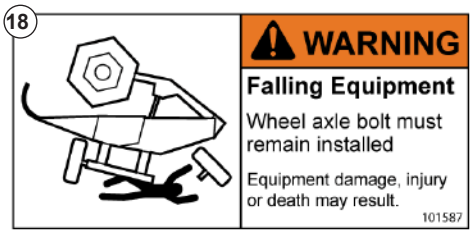


Fig. 21 - Do not remove axle bolt

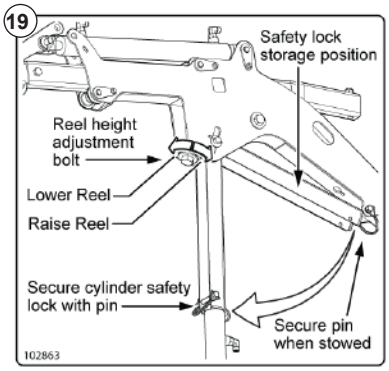


Fig. 22 - Reel Arm Instructions

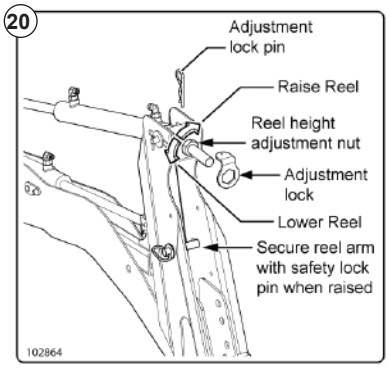


Fig. 23 - Center Reel Arm Instructions

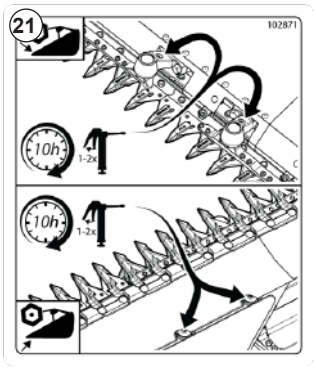


Fig. 24 - Knife Lubrication

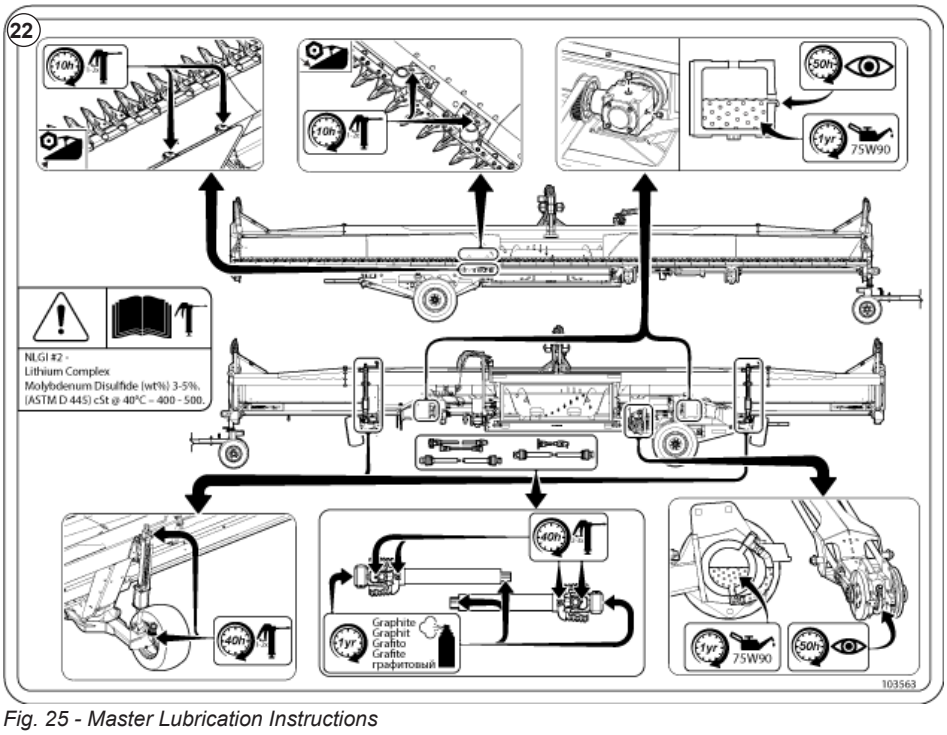


Fig. 25 - Master Lubrication Instructions

12 - Equipment Overview

Please take a moment to familiarize yourself with the header, its components and modes of operation.

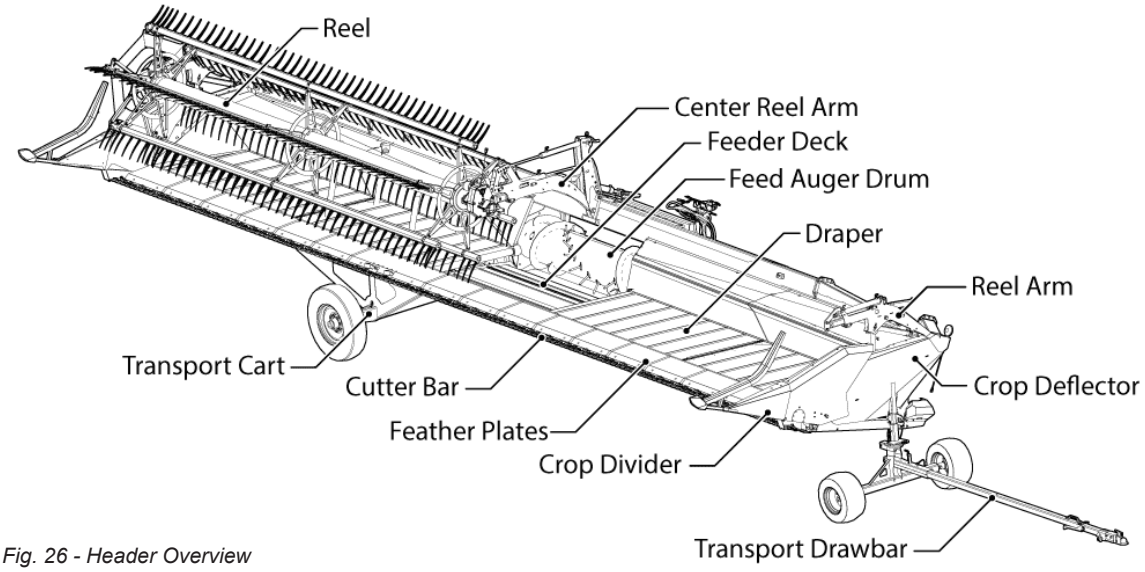


Fig. 26 - Header Overview

12.1 - Flexible Cutter Bar

The cutter bar has up to 9” (23 cm) of flex, allowing it to hug uneven ground in order to maximize crop harvest.

The sensor system keeps the cutter bar in position with very little contact with the ground resulting in reduced UHMW wear.

The system performs very well in wet ground conditions and does not ‘push mud’.

12.2 - Optional Transport Package

Featuring removable transport cart with minimal impact on balance, weight and function. The full transport can be safely removed and installed by a single person.

The transport is designed to be towed by a vehicle or combine when not on the header.

12.3 - Automatic Header Height Control (HHC)

The Header Height system relays the table’s proximity to the ground to the combine. This allows the combine to adjust feeder house height and tilt (if equipped), to maintain float in FLEX mode.

NOTE:

Your combine must be equipped with lateral tilt for the header to function properly with automatic header height.

12.4 - Interchangeable Combine Adapters & Drive Pulleys

The header is designed to be easily adaptable to fit all major brands of combine. Faceplates, multi couplers, PTO shafts, drive pulleys and adjustable auger strippers are available for JD, CNH, LEXION, and AGCO combines.

12.5 - Drive System

Most components on the header are mechanically driven, excluding the reel and its related functions (Fore/Aft, Reel Up/Down) and hydraulic header tilt.

There is no hydraulic pump or tank on the header. Hydraulic devices on table are powered using combine hydraulics.

The mechanical drive system is designed to synchronize knives in opposing motion to minimize vibration transferred to frame and combine.

12.6 - Flexible Cutter Bar

The cutter bar on the header is flexible and will automatically follow the contours of the land. Sensing the location of each paddle and reacting to the highest one on each side of the header, the cutter bar can FLEX up and down with a range of approximately 9” (23 cm).

This mode of operation is ideal for low lying crops.

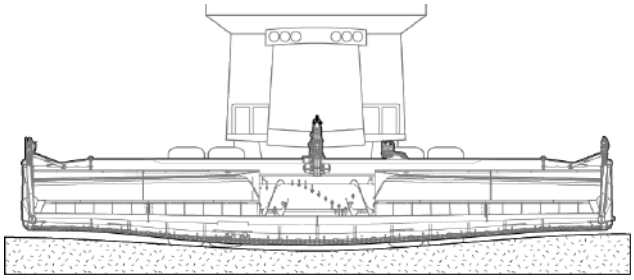


Fig. 27 - Flexible Cutter Bar

13 - Before First Use and Pre-Season Inspection

13.1 - Combine Specific Header Modifications

IMPORTANT!

Some combine configurations will require special modifications to the header header prior to mounting. It is extremely important to read this section and follow all applicable steps prior to installing/operating the header.

13.1.1 - 2016 or Newer JD Combines

If installing the header on a 2016 or newer John Deer Combine, a check valve must be installed on the header to ensure proper operation. Follow the instructions in section 24.6 on page 127 prior to mounting the header.

13.1.2 - Combines with 'Bang-Bang' or 'Switching' style directional control valves.

If installing the header on a combine equipped with 'Bang-Bang' style directional control valves, the BeeBox should be installed to prevent header height 'hunting'. Follow instructions in section 24.5 on page 126 prior to mounting the header.

13.1.3 - Gleaner/Massey Ferguson/ Challenger Combines

If installing the header on an Gleaner, Massey Ferguson, or Challenger combine, ensure that the proper bezel configuration is installed on the faceplate prior to mounting the header to the combine. See section 24.1 on page 121 for details.

13.2 - Header Inspection

Dirt & Material Build-up

Inspect the header for dirt, material buildup and obstructions then clean/clear as necessary (inside drapers, under side shields, around drive belts, feeder house etc.).

Cutting System

Inspect the cutting system for signs of damage, wear or material buildup.

Check for broken knife sections, guards & hold-downs.

Ensure knife timing is correct. (See Fig. 144 and Fig. 145 on page 97)

Drive Belts

Ensure drive belts are undamaged, clean, properly aligned and tensioned. See section 22.5 on page 83 for details.

Drapers

Check the three draper belts for damage, debris or uneven wear. Replace when required.

Ensure the draper belts are properly tensioned and that they are tracking properly. See section 22.7 on page 92 for details.

Crop Dividers

Ensure the crop dividers are properly installed & free from material buildup. (See Fig. 32 on page 37)

Safety Shields

Inspect the header and ensure all protective shields are in place. Replace all damaged or missing shields. Inspect the shields for missing/ loose fittings.

Header Height Control Sensors

Ensure header height sensors are installed and undamaged. Replace if necessary. Clean away material buildup.

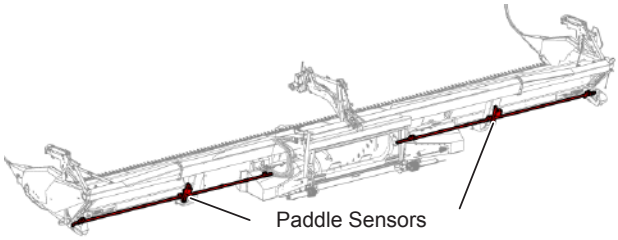


Fig. 28 - Auto Header Height Control Sensor Locations

Support Straps

There are a number of heavy-duty permanent fabric support straps located around the header, these straps allow added support while also allowing header to flex where needed. At the beginning of every season, inspect these straps for signs of wear or damage.

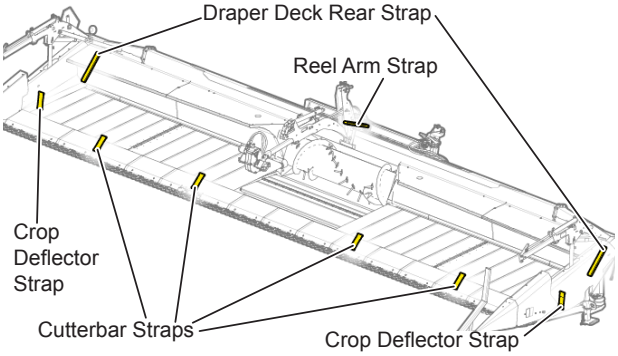


Fig. 29 - Support Strap Locations

Combine Feeder house

Inspect the combine feeder house for material buildup and clean as necessary.

Header Feed Auger

For initial setup ensure the feed auger drum is in its fully forward position & that it will not come into contact with any other parts of the equipment during operation. This can be adjusted later to suit the combine. See section 22.11 for details.

Hydraulic Tilt Cylinder Position

Inspect the hydraulic tilt cylinder to ensure it is in the correct position for your combine. See section 22.12 on page 104 for details.

Reel

Ensure the reel bats are in their operational position.

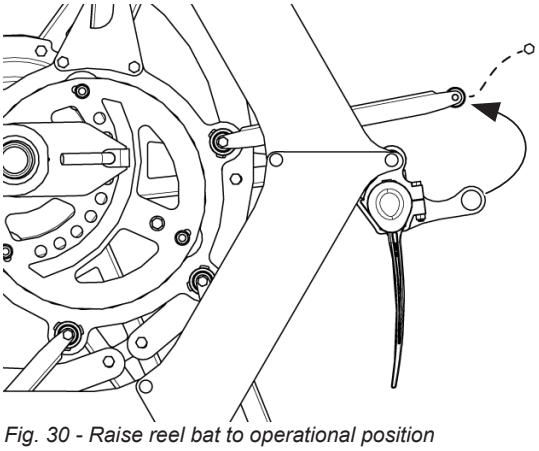


Fig. 30 - Raise reel bat to operational position

Multicoupler

Thoroughly inspect the connection faces on the header and the combine sides of the hydraulic multicoupler. Ensure the o-rings are in place and clean all debris from the fittings.

Inspect the hydraulic hoses and replace/repair as needed.

Verify the header is equipped with the appropriate multicoupler, drive shafts, drive pulleys and adapter plate for use with your combine model.

Lubrication

Check fluid levels on all gearboxes.

Apply grease where needed as outlined in section 22.18 on page 108 section of this manual.

Optional Transport Cart

Check the transport cart axle to ensure the wheel axle bolts are installed. If these bolts are removed, the wheels may fall off during transport.

Take Note

...of items that require attention after the header is connected to the combine as outlined in the combine operator's manual.

13.3 - Before First Use and Pre-Season Checklist

Combine Specific Header Modifications

- ☐ **2016 or new JD Combines:** Install line lock kit as described in section 24.1 on page 121
- ☐ **Combines with 'Bang-Bang' style directional control valves:** Install the BeeBox as described in section 24.5 on page 126
- ☐ **Gleaner/Massey Ferguson/Challenger Combines:** Ensure correct bezel is installed as per section 24.1 on page 121 for details.
- ☐ Inspect the combine feeder house for material buildup and clean as necessary.
- ☐ Calibrate combine as per combine operator's manual

Header Checklist

- ☐ Inspect the header for dirt, buildup and obstructions then clean as necessary (inside drapers, under side shields, feeder house etc.).
- ☐ Inspect the cutting system for signs of damage, wear or material buildup.
- ☐ Ensure knife timing is correct. (See Fig. 144 and Fig. 145 on page 97)
- ☐ Ensure drive belts are undamaged, properly aligned & tensioned. See section 22.5 on page 83 for details.
- ☐ Check the three draper belts for damage or uneven wear. Replace when required.
- ☐ Ensure the draper belts are properly tensioned and that they are tracking properly. See section 22.7 on page 92.
- ☐ Ensure the crop dividers are properly installed & free from material buildup. (See Fig. 32 on page 37)
- ☐ Ensure all protective shields are in place. Replace all damaged or missing shields. Inspect the shields for missing/loose fittings.
- ☐ Ensure header height sensors are installed and undamaged. Replace if necessary. Clean away material buildup.
- ☐ There are a number of heavy-duty permanent fabric support straps located around the header, these straps allow added support while also allowing header to flex where needed. At the beginning of every season, inspect these straps for signs of wear or damage.
- ☐ Ensure the feed auger drum is in its fully forward position & that it will not come into contact with any parts of the header or combine during operation. See section 22.11 for details.
- ☐ Inspect the hydraulic tilt cylinder to ensure it is in the correct position for your combine. See section 22.12 on page 104 for details.
- ☐ Ensure the reel bats are in their operational position.
- ☐ Thoroughly inspect the hydraulic multicoupler. Clean all debris from the fittings.
- ☐ Inspect the hydraulic hoses and replace/repair as needed.
- ☐ Verify the header is equipped with the appropriate multicoupler and adapter plate for use with your combine model.
- ☐ Check fluid levels on all gearboxes & apply grease where needed as outlined in section 22.18 on page 108 section of this manual.
- ☐ Ensure transport cart axle bolts are installed. If these bolts are removed, the wheels may fall off during transport.
- ☐ Take note of items which require attention after the header is connected to the combine as outlined in the combine operator's manual.

14 - Mounting the Header to the Combine

14.1 - Combine Preparation

Follow all relevant instructions outlined in your combine operators manual prior to hooking up the header.

Check all locking mechanisms and/or lock pins on the Combine's Feeder House to ensure they are working properly and will not interfere with the initial mounting of the header.

If the combine has a hydraulic tilt faceplate, tilt the face plate to an angle that allows easy hookup to the header.

⚠ WARNING!

If the feeder house is tilted forward, the front of the header may dig into the ground when the table is lifted.

14.2 - Header Preparation

1. Park the header on flat, hard, level ground.
2. Inspect the header and remove all tie-downs and wires used to secure the equipment during the shipping process.
3. Raise the front reel bats into operational position & secure each end to timing arms using a 5/16" x 1-1/2" UNC bolt and 5/16" UNC C-Lock nut.

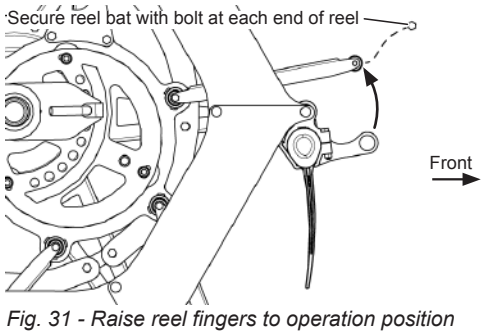


Fig. 31 - Raise reel fingers to operation position

4. Install the crop dividers, and crop divider pipes (or divider extensions) to the ends of the table by sliding the two notched tabs on the bottom rear of each divider onto the two slots at the bottom of the frame face.
5. Lock each divider in place securing the provided nuts, washers and bolts as shown below.

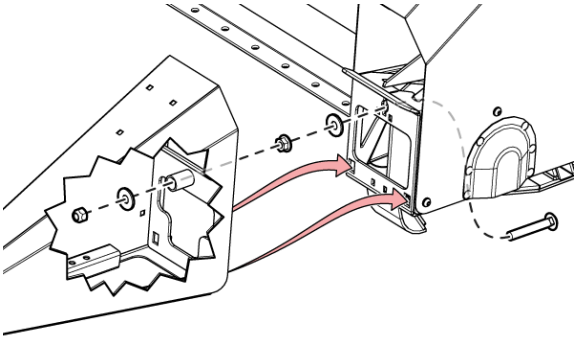


Fig. 32 - Install Crop Divider

NOTE:

If a quick remove solution is desired, the dividers can be secured using the lock handle provided.

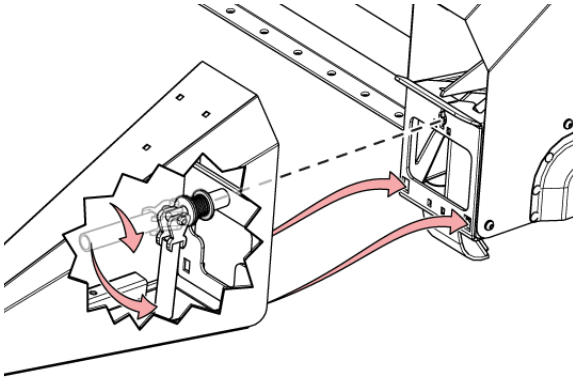


Fig. 33 - Install Crop Divider using optional handle

14.3 - If the Optional Transport Package is Purchased

IMPORTANT!

Ensure the header rests on the ground to take the tension off the lock pins.

1. Remove the red hold-down on the draw bar mounting bracket and the red draw bar holder that extends below one of the struts on the left side of the header. Place in a secure storage location.

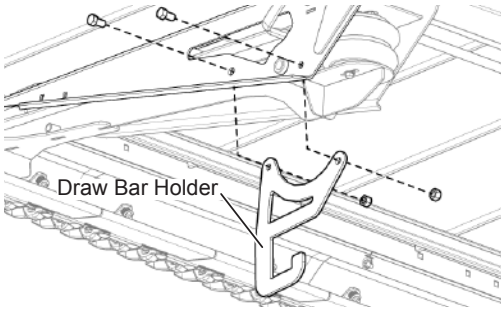


Fig. 34 - Remove Draw Bar Holder

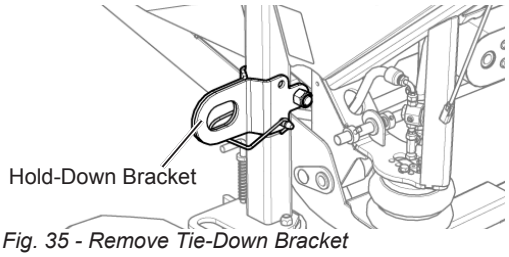


Fig. 35 - Remove Tie-Down Bracket

2. Disconnect the header electrical cable from the draw bar axle.
3. Remove the pin securing the draw bar axle to the header frame. It will drop away when the header is lifted in a later step.

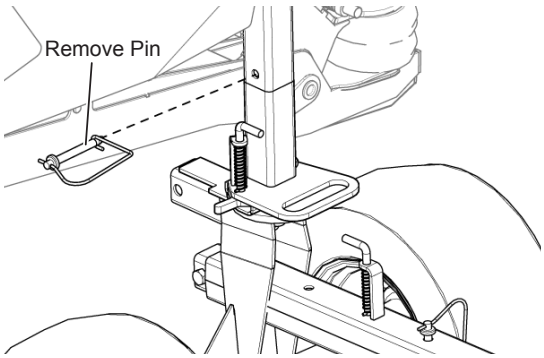


Fig. 36 - Remove Draw Bar Axle Pin

4. Release the two lock pins by first lifting up on the pin lock (A), then lift the handle back towards the rear of the header (B) then pull the lock pin out from between its lock ribs (C).

   Disconnect the transport's electrical cable from the header.

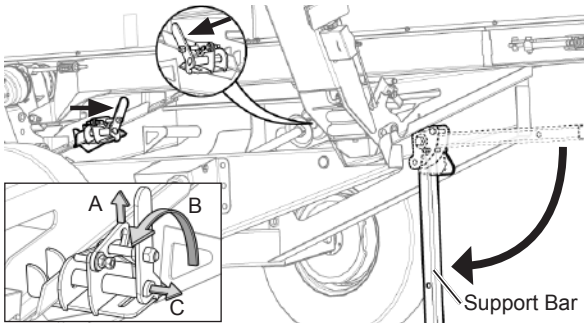


Fig. 37 - Unlock Transport & Lower Support Bar

5. Once the header has been mounted to the combine and raised, use the hand crank on the transport cart to lower it to the ground via its straps. Disconnect the straps from the header.

14.3.1 - Transport Storage

The draw bar and transport can be hooked together and towed to a storage location.

1. Lock support bar in horizontal position.
2. Insert the support bar into the draw bar axle and lock in place with pin.

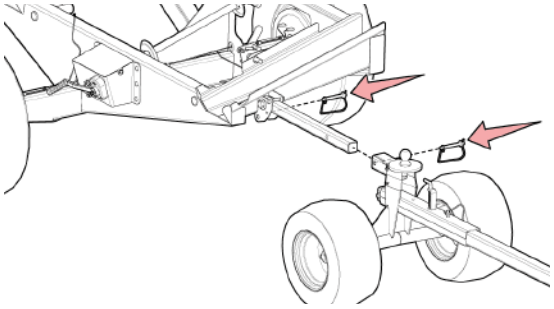


Fig. 38 - Transport Storage Position

WARNING!

Do not exceed 25 mph (40 kph) when towing the transport cart.

14.4 - Mounting the Header to Combine

NOTE:

If the optional transport package is installed, unlock the transport cart and disconnect the cart's lift straps prior to lifting the header (see section 23.5).

1. Position combine directly behind the Header with the Feeder House aligned as closely as possible, on center, with the Feeder House Adapter on the Header.
2. Lower the combine feeder house and slowly drive the Combine forward until the top of the Feeder House is able to cradle the top Cross Member of the Subframe on the Header.

IMPORTANT!

Ensure the combine feeder chain has a minimum of 1/2" clearance from the feed auger drum.

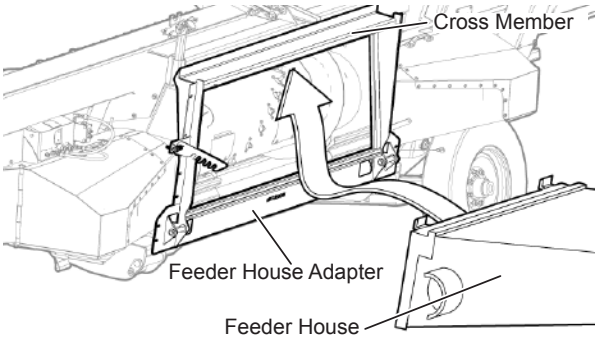


Fig. 39 - Insert Feeder House into Adapter Plate

3. Slowly raise the Feeder House until the it makes contact with the inside top of the Feeder House Adapter.
4. Check clearance and alignment of the Feeder House to the Feeder House Adapter, the Adapter Frame & the Feed Auger Drum. If required, adjust the Feed Auger Drum to a more forward position in the Adapter (See section 16.2 on page 50 for details).
5. Check feeder house alignment and clearances, start the engine and raise the Feeder House (and header) to its fully raised position.

IMPORTANT!

If Feeder House and the Feeder House Adapter ARE NOT properly aligned, repeat this section of the manual.

WARNING!

To prevent injury, shut OFF engine, set parking brake, and remove the key before exiting the cab. Engage the feeder house cylinder safety locks before approaching the header.

6. Secure the header by inserting all lock pins and/or header adapter locking bolts as described in your Combine owner's manual.

WARNING!

Ensure all locks are properly secured before proceeding.

14.5 - Hydraulic & Electrical connections

Connect the Hydraulic Multicoupler, AutomatixLite Electrical Harness and the Combine Electrical Harness to the header as shown below.

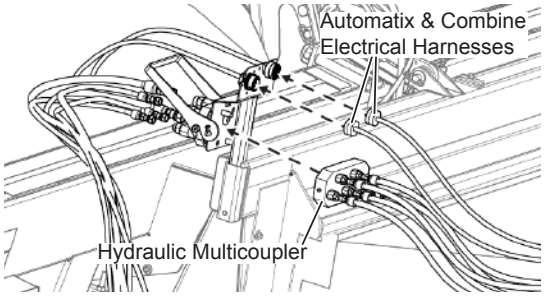


Fig. 40 - Connect Multicoupler & Electrical Harnesses

NOTE:

The multicoupler and harness design will vary between different combine makes.

1. Connect the Main Electrical Harness to the header.

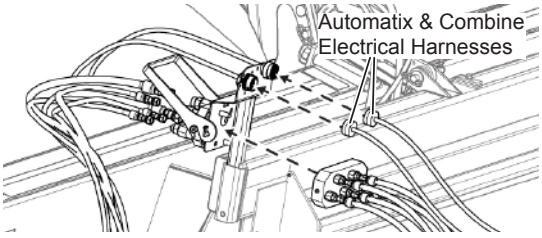


Fig. 41 - Connect Multicoupler & Electrical Harnesses

2. If using a combine equipped with `Bang-Bang` style directional hydraulic valves, install the BeeBox as described on page 126.
3. Connect one end of the AutomatixLite Extension Cable to the Main Automatix Harness.
4. Route the AutomatixLite Extension Cable as close to the combine cab as possible, keep in mind where you want the cable to enter the cab while routing.
5. Using the provided suction cup, mount the AutomatixLite control panel inside the cab in an easily viewable and accessible location.

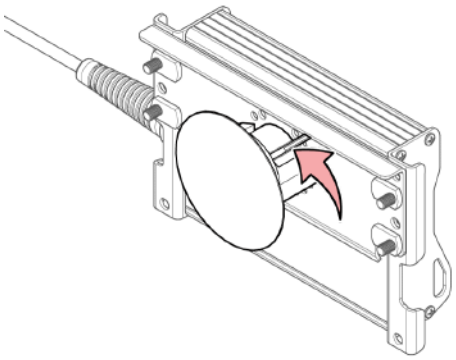


Fig. 42 - Suction cup lock tab

NOTE:

Ensure everything is clean and dust free prior to installation using the suction cup. The suction cup can only be installed on a flat window.

IMPORTANT!

When routing cables around the combine, always ensure that there are no high temperature or moving parts that might damage or interfere with the cable. To prevent equipment damage, always secure cables with zip ties or cable hold-downs.

14.6 - Drive Shaft Hookup

1. Connect the telescoping drive shaft on the left side of the feeder house adapter and attach to feeder house drive shaft. Verify the quick attach collar is fully locked on drive shaft.

IMPORTANT!

A pry bar may be required to help align the drive shaft with the combine's output shaft. Do not damage the grease zerk!

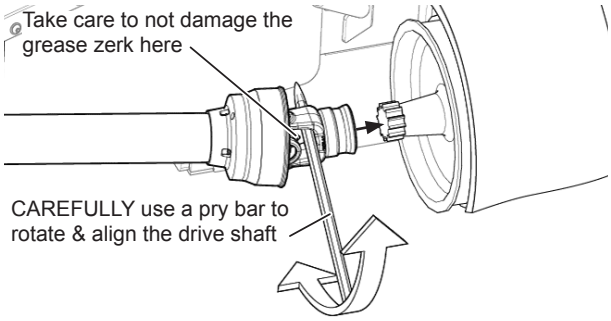


Fig. 43 - Connect Drive Shafts (both sides of feeder house)

NOTE:

To connect the PTO drive line, push the button on the collar and push the PTO onto the shaft. It will click as the collar snaps into place.

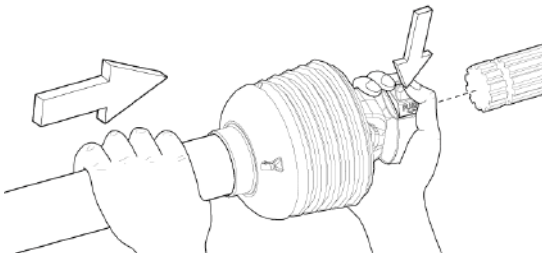


Fig. 44 - Connect PTO

2. Repeat these steps for the drive shaft on the right side of the feeder house.
3. Secure the drive shaft shields in place using their attached safety chains as shown below. This will prevent the shields from rotating and wearing out prematurely.

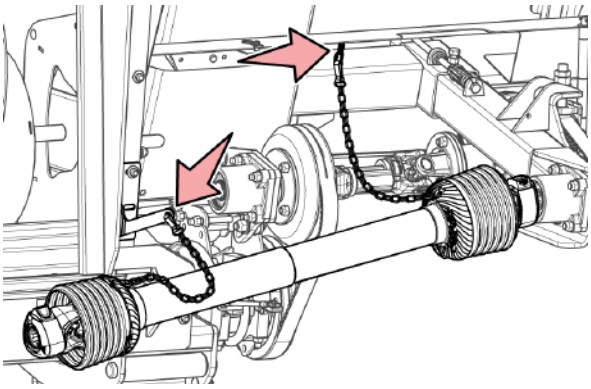


Fig. 45 - Secure drive shaft chains in place

WARNING!

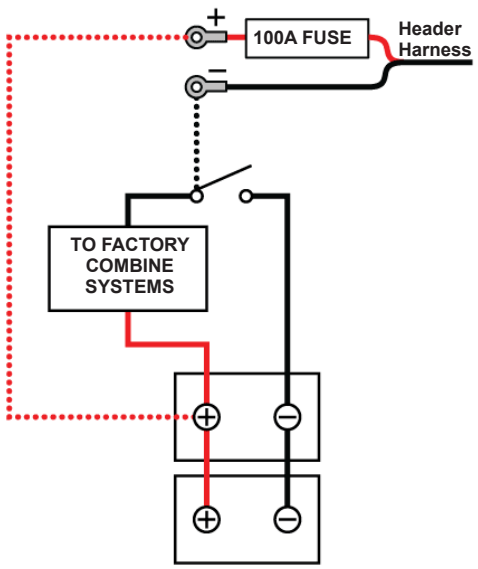
Ensure drive shields are secured in place.

4. Route the two power connectors on the automatix lite electrical harness to the combine's electrical power supply. Connect the power lines to the battery using the following rules:
   - Both of the power cables must not be connected directly to the battery. Always ensure that the circuit can be interrupted with a switch in order to prevent the battery from discharging during storage.
   - Connect the un-switched automatix power wire to the same battery to which the master switch is connected. This ensures the Automatix system will not be subjected to more than 12 volts. Some combines have battery relays that combine voltage to 24 volts. Anything over 12 volts can damage the system. If in doubt, use a multimeter to check the voltage.
   - Most modern combines use a positive switched system but some older combines use a negative switched system. Please inspect the combine to verify which system it uses as the connection points will differ.

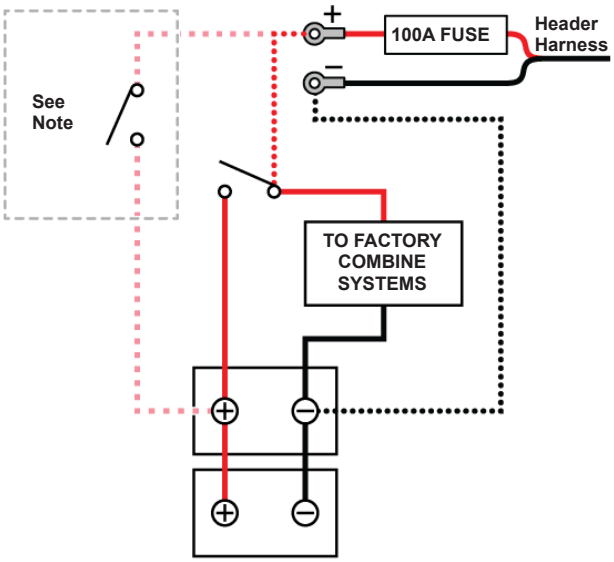
NOTE:

The battery master switch can be difficult to access on Gleaner combines. It may be required to install a second power switch for the automatix power connection. Use a positive switched connection.

12V Negative Switched Battery System



12V Positive Switched Battery System



14.7 - Mounting Checklist

- □ Combine feeder house securely connected to adapter plate on header with all locks in place.
- □ Electrical connection between header and combine in place.
- □ Hydraulic connection between header and combine in place.
- □ Drive lines (PTO) connected to left and right sides of combine feeder house.
- □ PTO covers are chained in place.
- □ Reel fingers in operational position.
- □ Optional Draw bar front axle and Transport cart removed and stored.
- □ If optional transport cart was used and optional skid shoes were purchased, two skid shoes must be installed on the struts to which the transport was attached.
- □ Red draw bar storage bracket and hold-down removed (if applicable).
- □ All safety shields and decals in place and undamaged.
- □ Automatix lite display installed in combine cab.
- □ Automatix power harness properly connected to combine's electrical supply.
- □ Hydraulics and air lines inspected for damage or leaks.

15 - Combine Calibration

Combine calibration must be performed with the header in FLEX mode, with the header tilted forward using the hydraulic tilt cylinder.

NOTE:

Do not use header float (accumulator) functions with the header. The only known exception is Gleaner combines, where some accumulator float can be used after all calibrations are complete (~25% on).

IMPORTANT!

Manually adjusting tilt and height settings may deactivate automatic functions. Auto header height may need to be reactivated on some combines that don't allow manual adjustments while header height is engaged.

15.1 - Combine Feeder House Speed

IMPORTANT!

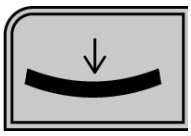
Machines equipped with a variable-belt drive feeder house are designed for use with a corn head or row-crop head. Using variable-belt drive at excessive speeds when the combine is equipped with a cutting platform can cause vibration and excessive wear to cutterbar parts.

If your combine's feeder house is configured to run at multiple speeds, ensure it is set to run at the 'Grain' speed.

15.2 - Combine Feeder House Angle

The Combine Feeder House must be tilted at a specific angle for optimal header operation. To set proper operation angle.

1. Set the header to FLEX mode and lower the air pressure until 30psi is reached.



2. Fully retract the hydraulic tilt cylinder.
3. Lower the table until the cutter bar is fully pushed up.

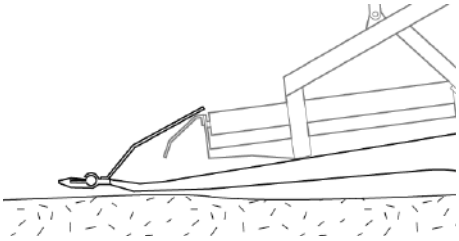


Fig. 46 - Cutterbar pushed up

IMPORTANT!

Do not lower the header too far. This will result in the entire table tilting backward and may damage the header.

4. Slowly raise the header until 1.80 volts (7 bars) show on the sensor bar graph on the AutomatixLite display.

Fig. 48 - 1.85 V -7 Bars

⚠ WARNING!

Shut OFF engine, set parking brake, and remove the key before exiting the cab.

5. Measure down to the ground from the pivot point of the paddle. There should be an 8” (20 cm) space when at the optimal feeder house angle.
   - If the paddle ‘heel’ is more than 8” (20 cm) above the ground, the tilt is too steep and the cutter bar guards will dig into the ground.
   - If the paddle ‘heel’ is less than 8” (20 cm) above the ground, the angle is shallow and the rear of the paddle will drag on the ground.

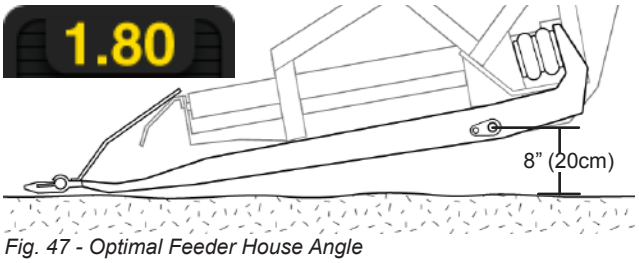


Fig. 47 - Optimal Feeder House Angle

6. Adjust the feeder house angle as necessary and re-test the angle as outlined in the previous steps. Tilt can be adjusted to suit ground conditions and habits of the operator.

15.3 - Float

Float interferes with proper automatic header height functionality and should be disabled on the combine (accumulators turned off).

Refer to your combine manual to see if your combine has the float option.

STOP IMPORTANT!

Combine float systems will actively interfere with the auto header height control system. Disable the combine’s float system prior to operating the header or damage to your equipment may result.

One exception is Pressure Float (may be called by a different name, depending on combine brand). Pressure float momentarily turns on float when there is upward pressure on the bottom of the cutter bar. The value should be set low (about 30 psi). This can protect the cutter bar from being bent if the header height is not reacting quickly enough to terrain changes.

15.4 - Hydraulic Header Raise and Drop Rates

Raise Rate: Set your combine’s raise rate so it takes 6 seconds to lift the header from the lowest position to the highest position.

Drop Rate: Set your combine’s drop rate so it takes 7 seconds to lower the header from the highest position to the lowest position.

15.5 - Combine header height calibration

While the header is in FLEX mode, calibrate your combine's header height via the combine's controls. Please refer to your combine's operator manual for information on where these settings can be changed.

15.5.1 - Combine Header Height/Tilt Sensitivity

1. When first calibrating the header, slowly increase your header height sensitivity via the combine controls until the header starts hunting up and down.
2. Decrease the sensitivity by 10-20% until the header stops hunting.
3. When set properly, the header should not hunt when it is standing still.
4. Repeat these steps for header tilt sensitivity.

15.6 - Other Combine Settings

Ensure all other combine settings (as outlined in your combine operator's manual) are properly configured before harvesting.

16 - Header Setup

16.1 - Reel Setup

16.1.1 - Reel Finger Timing Adjustment

Set the reel finger timing (angle) to a position suitable for your crop conditions. Always check finger clearance after adjusting timing.

See section 18.2.1 on page 58 for details.

16.1.2 - Reel Height Adjustment (bottom limit based on finger timing)

Once finger timing has been determined, adjust the reel height via the reel height adjustment bolts. With the header in rigid mode, ensure the reel maintains a distance of 1 1/2” (3.8 cm) from the cutter bar & feather plates.

Adjust the reel arms at the ends of the table first, then adjust the center reel arm. Multiple adjustments may be required.

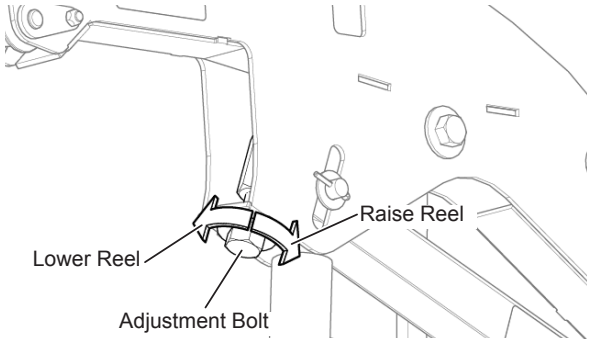


Fig. 49 - Reel Height Adjustment Bolt

To adjust the center reel arm height, release the indicated pin and adjustment lock, turn the adjustment bolt to adjust the height, then re secure the lock and pin.

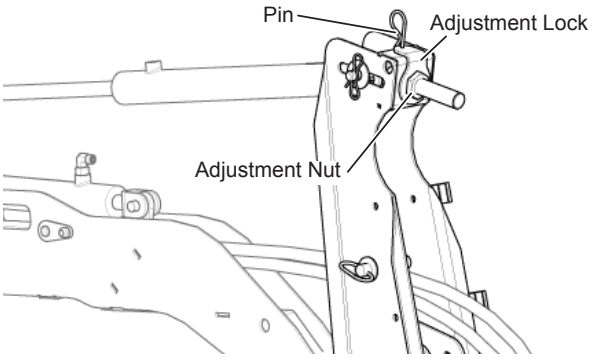


Fig. 50 - Center Reel Arm Height Adjustment

IMPORTANT!

Maintain a minimum of 1 1/2” (3.8 cm) of clearance between the reel fingers and cutter bar/feather. This clearance must be set while the header is in Rigid mode.

If harvesting low or downed crops, you may reduce this clearance to 1” (3.8 cm) but will risk cutting the reel fingers in the cutter bar, this damage is not covered under warranty.

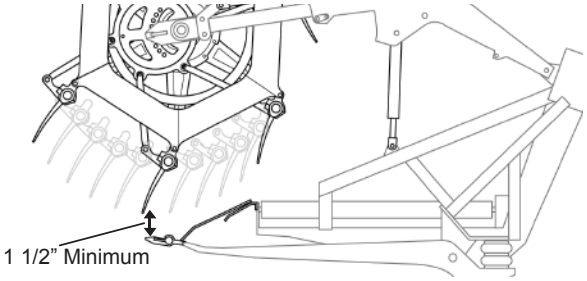


Fig. 51 - Reel Finger Clearance

16.1.3 - Reel Centering

Measure the distance between the left end of the reel and the left end of the header, then measure the distance between the right end of the reel and the right end of the header. The measurement should be equal on both ends, this ensures the reel is correctly centered on the header.

If adjustment is required, loosen the two indicated bolts on the reel arm brace, adjust the reel arm position then retighten the bolts.

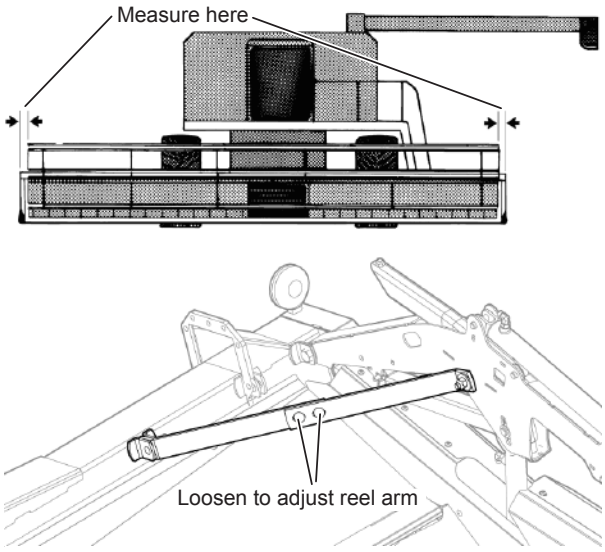


Fig. 52 - Reel centering

16.2 - Feed Auger Finger Timing

Adjusting finger timing is critical in achieving proper material flow from the center draper to the combine feeder house. The feed auger finger timing handle has 3 positions:

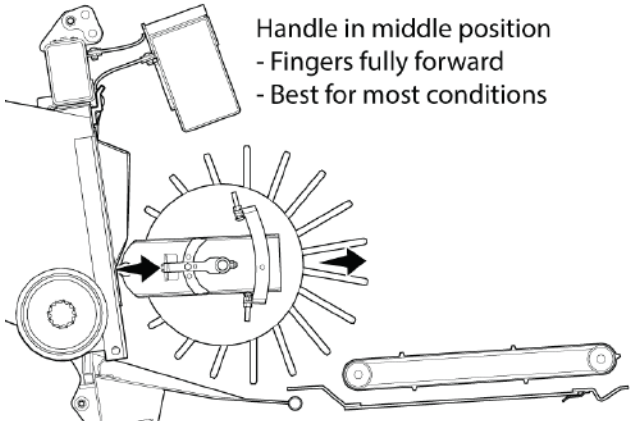


Fig. 53 - Feed auger drum fingers in middle position

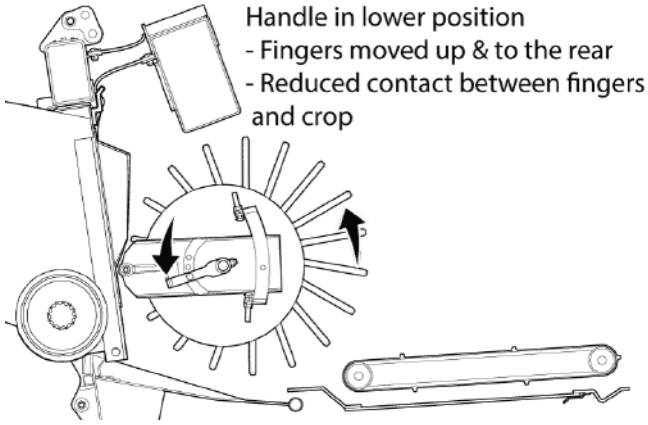


Fig. 54 - Feed auger drum fingers raised

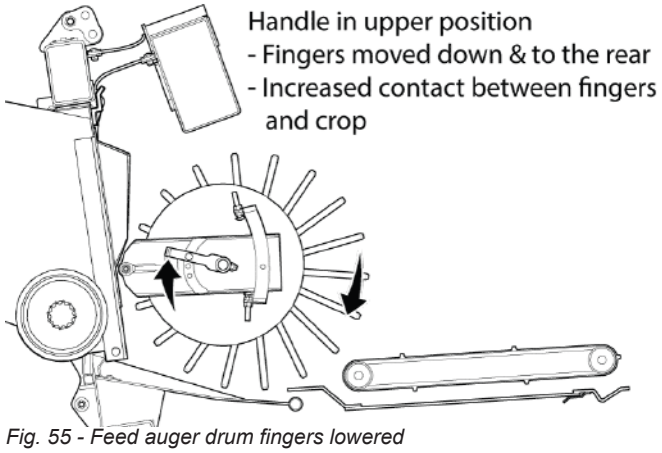


Fig. 55 - Feed auger drum fingers lowered

⚠ CAUTION!

Failure to secure the finger timing handle lock bolt will result in damaged equipment.

⚠ CAUTION!

Thoroughly check the clearance all the way around the feed auger drum.

Take special care to ensure the flighting on feed auger drum does not contact the combine feeder house.

All clearances must be re-checked after adjusting the hydraulic tilt cylinder.

IMPORTANT!

The two stop bolts must be adjusted to prevent the feed auger fingers from contacting anything unintentionally. This distance to the top stop bolt (A) must be less than the distance between the top fingers and the upper tube (B).

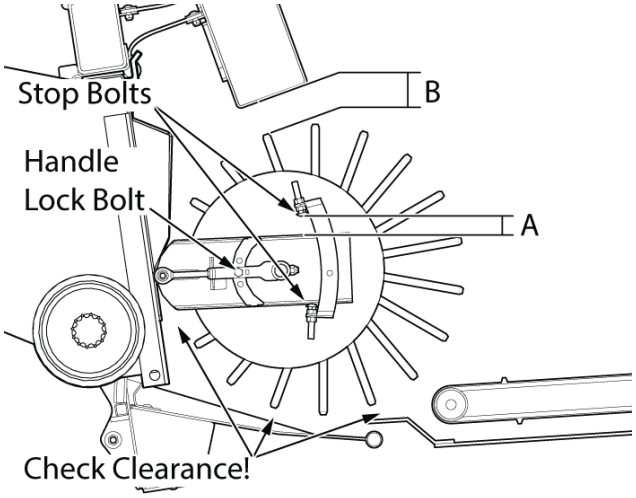


Fig. 56 - Feed Auger Drum Clearances

16.3 - Optional Components

16.3.1 - Skid Shoes

The optional skid shoes provide additional protection to the underside of the header while harvesting crops.

There are three possible positions for the skid shoes, this can be adjusted via the indicated bolt.

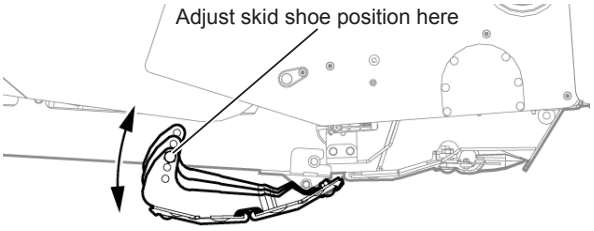


Fig. 57 - Skid shoes - 3 possible positions

If the optional transport cart is installed, two skid shoes must be installed on the paddles closest to the transport cart when the transport cart is removed.

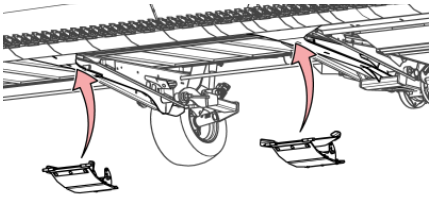


Fig. 58 - Skid shoes - install at transport cart location

16.3.2 - Terrace Kit

If equipped, the terrace kit is typically installed on headers used for harvesting soybeans and when operating on terraced fields.

This kit includes:

- UHMW guides along the bottom of the cutter bar which protect the transition plate from damage (these can be purchased separately from the skis).
- End paddle skis which prevent the end paddles from being pushed around by crop material.

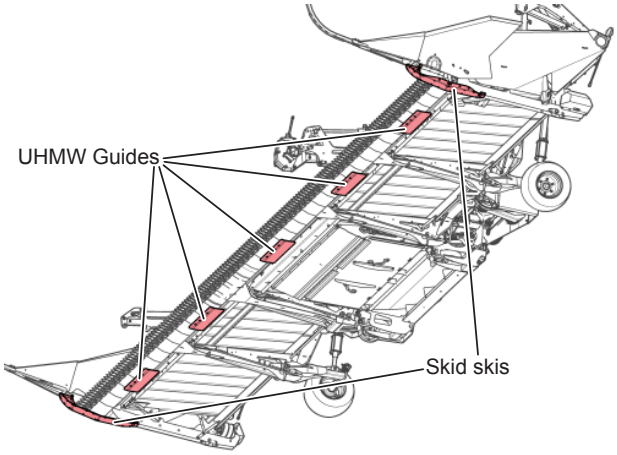


Fig. 59 - Terrace Kit

16.3.3 - Cross Auger

The optional cross auger should be adjusted so the flighting engages the crop to help move it towards the feeder deck opening.

The adjustment jacks are used to change how far the cross auger is extended. The lock bolts can be loosened to allow the angle of the cross auger to be adjusted. Always tighten the lock bolts after adjustment.

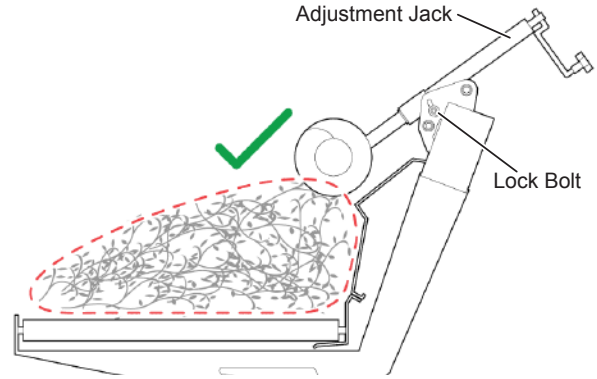


Fig. 60 - Adjust hold-down clearance to cutting section

The cross auger may contact the back panel if moved too close. Allow a minimum of 3/4” of space between the cross auger and back panel.

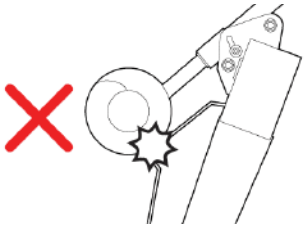


Fig. 61 - Cross auger impacting back panel

Too much space between the cross auger and the back panel will allow crops to wrap around the cross auger. This can be caused by over-extending the cross auger, or by over-adjusting the cross auger angle.

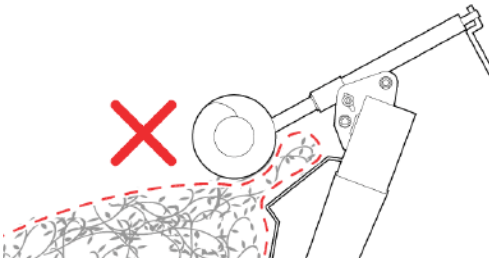


Fig. 62 - Crop wrapping around cross auger

The speed of the cross auger can be adjusted via the flow control located on side of the hydraulic manifold as shown below. There is a mechanical limiter to the flow control limiting the range from 1-4, with 1 being the slowest and 4 being the fastest.

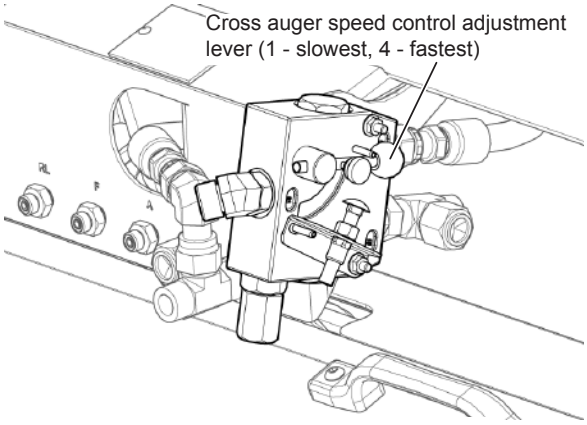


Fig. 63 - Cross auger flow/speed control

⚠ WARNING!

Do not bypass the mechanical speed limiter. Setting a speed higher than 4 can result in equipment damage or injury.

16.4 - Check for Problems

Run platform for a few minutes.

⚠ WARNING!

Shut OFF engine, set parking brake, and remove the key before exiting the cab.

Check for overheating bearings and gearbox leaks.

Inspect in and around the drapers for foreign objects that may have been dislodged while running the header.

17 - Daily Inspection

17.1 - Safety & Protective Shields

Check all safety shields and ensure they are securely in place. Tighten all loose hardware. Clean out all crop debris.

17.2 - Dividers

Crop dividers must be properly installed. The crop divider tips must be installed on the dividers.

⚠ WARNING!

Crop dividers are heavy! To avoid strain or back injury, use lifting aids and proper lifting technique when moving the dividers.

17.3 - Air Hoses

Inspect air hoses, air fittings, and air bags for damage or leaks (see section 22.17 on page 107 for details).

- The air tank is located to the left of the feeder house area.
- There is an air bag located at the rear of each strut and the rear left/right corners of the subframe.

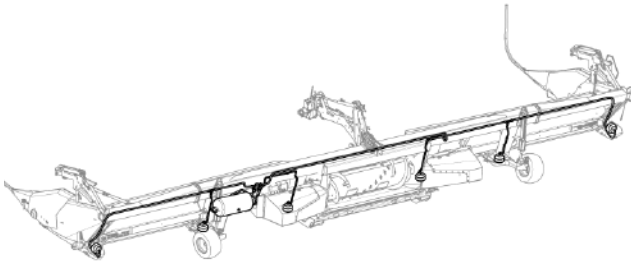


Fig. 64 - Air System

17.4 - Knife Guards & Sections

Inspect the cutter bar. Replace broken guards and cutting sections. See section 22.9.6 on page 101 for details.

17.5 - Header Height Control Sensors

Inspect and adjust the header height sensor bar as outlined in section 22.16 on page 107.

17.6 - Feed Auger

Ensure the finger timing on the feed auger drum is set to best handle the crop you are harvesting.

In most situations, you want both the drum and fingers in their fully forward position (without contacting anything). Ensure there is enough clearance around the feed auger. See section Fig. 56 on page 51 for details.

17.7 - Drapers

Ensure that all drapers are tensioned and aligned. Make sure the tension handle for each draper is in the correct position.

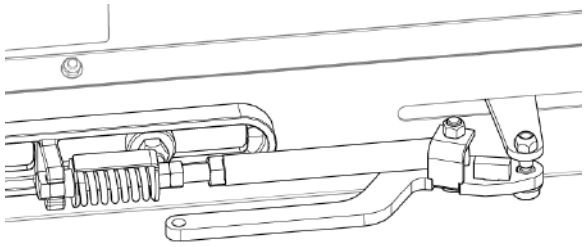


Fig. 65 - Draper Tension Handle Correct Position

17.8 - Belts

Ensure drive belts are properly aligned and tensioned. See section 22.5 on page 83 for details. Clear the belts of all debris & material buildup.

17.9 - Lubrication

The knife heads must be greased at four locations every 10 hours of operation, it is recommend that you apply grease every day prior to operating the equipment. See section 22.18 on page 108 for lubrication details & other lubrication points.

18 - Operation

IMPORTANT!

When cutting close to the ground, it is important to avoid over-lowering the combine feeder house as this may drive the cutterbar and center draper pan into the ground, causing damage.

IMPORTANT!

The header is designed to work with Automatic Header Height Control engaged. Do not disengage Automatic Header Height Control when operating the header or damage to your equipment will result.

IMPORTANT!

When operating the header, **it is EXTREMELY important to grease the knife head bearings every 10 hours** (or every day of operation). Failure to grease regularly will drastically shorten the lifespan of the knife head bearings. Use appropriate grease types only, see section 22.18 on page 108 for details.

18.1 - Hydraulic Header Tilt

The header can be tilted forward or back using the hydraulic tilt cylinder.

Header tilt is controlled by first selecting the header tilt option on the automatix lite control panel, then using the combine's reel height controls to tilt the header.

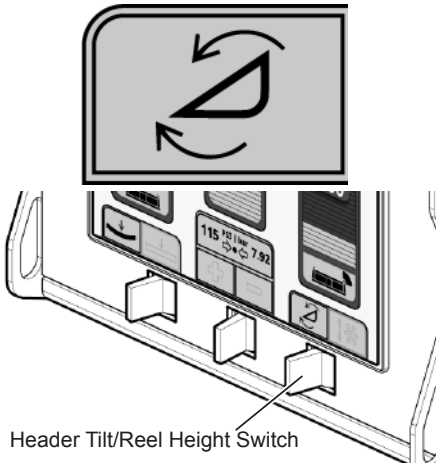


Fig. 66 - Activate Header Tilt mode

The tilt indicator is located next to the hydraulic tilt cylinder.

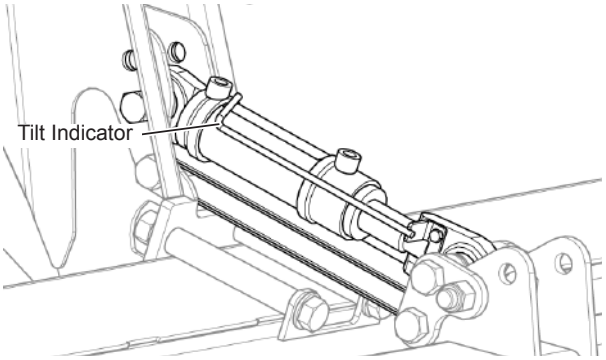


Fig. 67 - Hydraulic Tilt Cylinder & Indicator

18.2 - Reel Settings & Controls

The reel on the header is designed to assist in separating cut crops from uncut crops then sweep them across the feather plates between the knife and the drapers in order to obtain a steady flow.

Reel configuration is extremely important for optimal header performance. The order of importance of these settings are:

- Finger Pitch
- Fore-Aft position.
- Reel Height
- Reel Speed.

NOTE:

See section 22.8 on page 95 for reel adjustment information

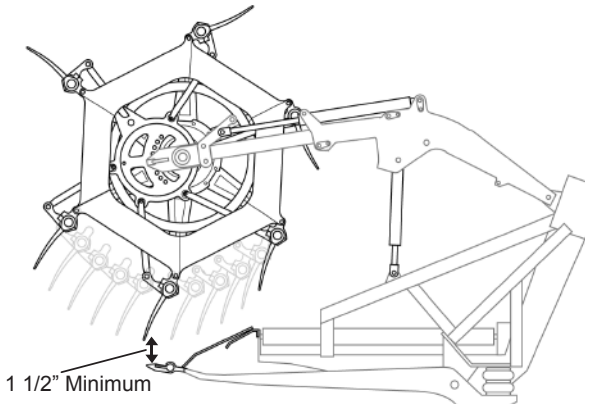


Fig. 68 - Reel Finger Clearance

18.2.1 - Finger Pickup Settings (Pitch)

Start by adjusting the finger pitch so fingers are perpendicular to the cutter bar.

For crops that are down or lodged, adjust fingers to be more aggressive, lifting the crop and dropping it onto the draper decks.

If the crop starts to wrap around reel, this indicates the need to adjust the fingers to a less aggressive setting and/or finger spacing (2 1/2", 5" or mixed spacing).

Adjust the fingers to suit your individual needs and make note of the best settings for each of the crop conditions you encounter.

WARNING!

To avoid serious injury, raise reel, engage reel lift safety stops, shut OFF engine, set parking brake, and remove key before exiting the cab.

IMPORTANT!

Maintain a minimum of 1 1/2" (3.8 cm) of clearance between the tips of the reel fingers and the cutter bar/feather plates. If harvesting low or downed crops, the clearance can be reduced to 1" but will run the risk of damaging the reel fingers which is not covered under warranty.

Reel to knife clearance must be readjusted whenever finger pitch is changed.

1. Firmly grasp the handle then pull and rotate lock pin to one side so it is disengaged from reel.

WARNING!

Failure to secure the handle when pulling the pin will result in the reel bats dropping suddenly.

2. Lift the handle up for less aggressive finger pitch.

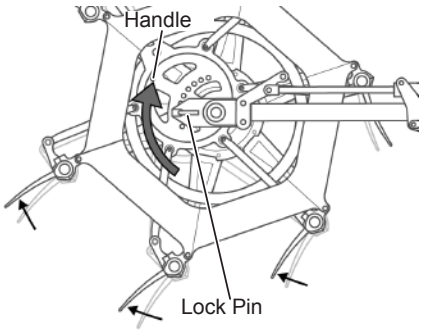


Fig. 69 - Less Aggressive Finger Pitch

3. Lower the handle for more aggressive finger pitch.

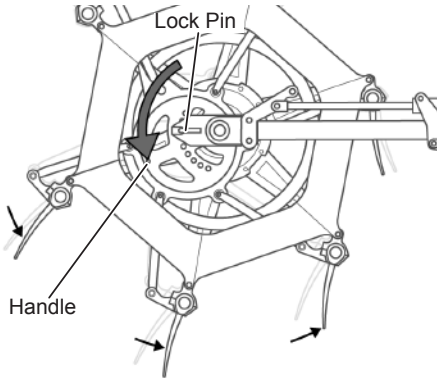


Fig. 70 - More Aggressive Finger Pitch

NOTE:

The finger pitch adjustment holes are numbered from 1 to 9, with 1 being the least aggressive setting and 9 being the most aggressive.

4. Once desired setup is obtained, re-engage the lock pin.
5. Repeat this process for the other end of the reel to ensure each side has identical finger pitch.
6. Readjust reel height and reel fore/aft in order to maintain a minimum safe knife clearance (1 1/2” (3.8 cm)).

IMPORTANT!

Reel finger to cutter bar clearance must be determined while the header is in rigid mode so the knife is in its highest position.

Setting the clearance while the header is in flex mode will result in reel finger damage.

18.2.2 - Hydraulic Reel Height and Fore/Aft Control

For general usage, the center of the reel should be positioned slightly behind the cutter bar.

For lodged or down crops, adjust reel so the center of the reel is ahead of cutter bar.

The reel height and fore/aft controls are located on the combine’s controls. Please see your combine’s operator manual for details.

Before attempting to adjust the reel height using the combine controls, ensure the reel height option is selcted via the Automatix Lite control panel.

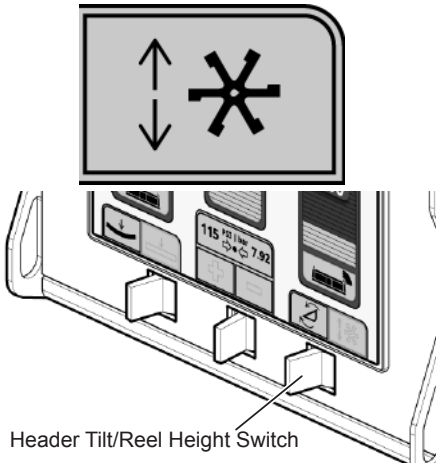


Fig. 71 - Activate Reel Height mode

For details on setting the minimum reel height, see section 22.8.2 on page 95.

IMPORTANT!

It is important that a reel clearance of 1 1/2” from the cutter bar has been set with the header in rigid mode prior to attempting to operate the hydraulic reel height and fore/aft controls, or the reel fingers may become damaged.

18.2.3 - Reel Speed

The reel speed is controlled and viewed via the combine’s control panel and display. Please see your combine’s user manual for details.

Set reel speed slightly faster than ground speed.

When traveling over 2 mph (3.2 kph), the reel should move ~10% faster than ground speed.

When traveling under 2 mph (3.2 kph), the reel should move ~20% faster than ground speed.

18.3 - Knife, Feed Auger Drum and Draper Speed.

On the header, the knife, feed auger drum and draper speeds are directly linked to the combine feeder house pto speed .

18.4 - Crop Dividers

Adjust the divider float so it feels just heavy enough to skim along the ground without being lifted up by crops or stubble. See section 22.10 for details.

18.4.1 - Locking Dividers

The crop dividers can be locked in place if required (if using vertical shear for example) using the following components on each crop divider:

- 1 of 1/2’ x 2” UNC Grade 5 Bolt
- 2 of 1/2” SAE Washer
- 1 of 1/2” UNC Grade A Nut

These components are provided with the optional vertical shear kit. If vertical shear is not purchased for your equipment, the nut, washers and bolt must be purchased separately.

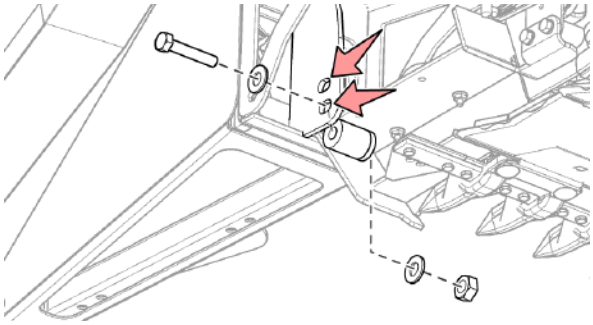


Fig. 72 - Lock dividers using bolt

NOTE:

The divider lock may not be available on older headers, if this feature is unavailable on your header, engage RIGID mode via the automatix control panel.

18.5 - Operation Guidelines - Default FLEX mode.

When harvesting, the cutter bar flexes to follow the contour of the ground. Ensure the header is tilted back by retracting the hydraulic tilt cylinder.

To activate FLEX mode:

1. Move the cutting mode switch to the left until the FLEX icon is actiavated.

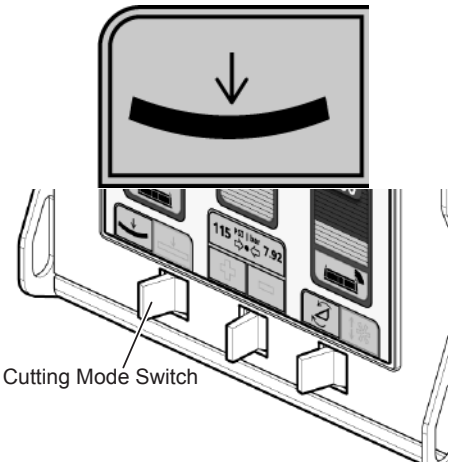


Fig. 73 - Activate FLEX mode

2. Use the air pressure switch to set the system pressure to 32-50 psi.

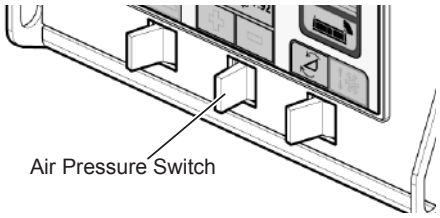


Fig. 74 - Set air pressure to 32-60 psi

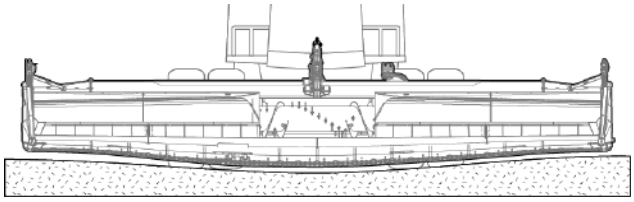


Fig. 75 - FLEX Mode

IMPORTANT!

The header will not work properly if it is tilted forward.

3. Lower the header until the sensor bar graph shows 1.80 volts (7 bars) and set this as the cut height via the combine controls.

18.5.1 - Air Pressure Recommendation

The header air pressure should range between 25 PSI and 80 PSI.

To maximize platform performance, operate at pressures within the following recommended ranges:

- **Lower than 32 psi** for terraces.
- **32-35 PSI** for firm/fast ground conditions.
- **36-39 PSI** for normal ground conditions.
- **40-50 PSI** for soft/sticky/wet/slow ground conditions.
- **Higher than 50 PSI** in severe rocky conditions.

IMPORTANT!

These pressures will need to increase if accessories add weight to the cutter bar. For example, an additional 10psi is required when skid shoes are installed on the cutterbar paddles.

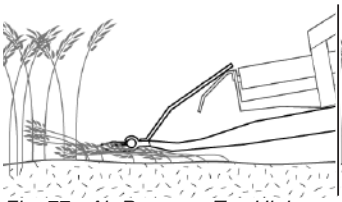


Fig. 77 - Air Pressure Too High, Riding On Top of Crop

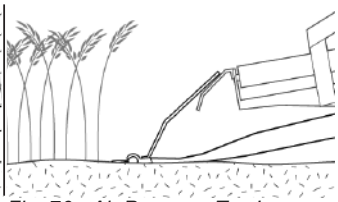


Fig. 76 - Air Pressure Too Low, Guards Digging Ground

Adjust the 'weight' of the cutter bar via the '+' and '-' buttons on the Automatix Lite control panel.

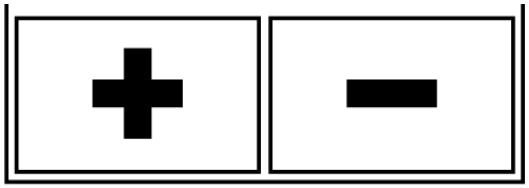


Fig. 78 - Air pressure adjustment

- The '+' button adds air, making the cutter bar lighter.
- The '-' button removes air and makes the cutter bar heavier.

Adjust as necessary to prevent the cutter bar from hanging up (normally seen on the ends).

IMPORTANT!

Pressures listed are recommended. Depending on field conditions, an operator may be required to operate above or below recommended pressure.

18.5.2 - Divider settings

See section 22.10.2 on page 102 for details on adjusting the dividers.

18.5.3 - Reel settings

When using the Flex cutting mode, you generally want the reel fingers to be pitched more aggressively in order to help pick up crops. See section 22.8 on page 95 for details.

Reel speed should be set approximately 20% faster than the ground speed.

Always ensure the reel fingers have enough clearance (1 1/2" (3.8 cm)) from the cutter bar & feather plates.

18.5.4 - Ground speed

The header can often be run at faster ground speeds than other similar sized headers.

Adjust your speed according to the terrain, crop yield and combine capacity.

Adjust air pressure to work at operating speed and ground moisture. Wetter conditions require more pressure for a lighter cutter bar.

The speed at which the combine can raise the table in response to changes in terrain may limit ground speed.

18.5.5 - AutomatixLite Operating Screens

Please see section 19 on page 67 for details on operating the AutomatixLite system.

18.6 - Operating Guidelines - Simple RIGID mode

If desired, the air system can be fully pressurised to 90-115psi in order to lock the cutter bar into a RIGID structure. This mode can be useful when cutting high off the ground in situations where automatic header height control is not required.

To activate simple RIGID mode:

1. Move the cutting mode switch on the AutomatixLite control panel to the right until the RIGID mode icon is activated.

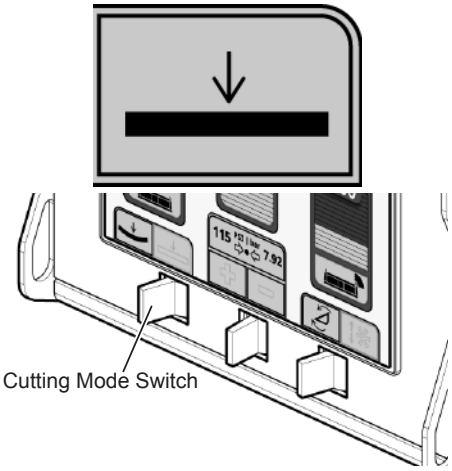


Fig. 79 - Activate RIGID mode

2. Move the air pressure switch to the left so the '+' symbol is activated. This will activate the compressor. Monitor the air pressure until 90-115 psi is achieved, then move the air pressure switch back to the middle position to deactivate the air compressor.

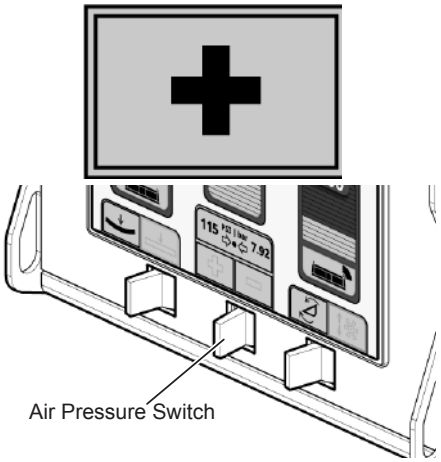


Fig. 80 - Add air until 90-115 psi is reached.

NOTE:

Return to cut height can be activated through the combine controls to set the cut height as there are no Header Height sensors in Rigid mode on the SDX. Please refer to combine manual for using this function.

WARNING!

Activating RIGID mode will deactivate all header height sensors and disable automatic header height control. The header will no longer automatically react to changes in the terrain.

18.6.1 - Recommended Reel settings

When using Rigid mode, the reel fingers should be pitched less aggressively in order to assist with gently pulling crops towards the cutter bar.

See section 22.8 on page 95 for details.

Reel speed should be set approximately 10% faster than the ground speed.

Always ensure the reel fingers have enough clearance (1 1/2" (3.8 cm)) from the cutter bar & feather plates.

18.6.2 - Recommended Ground speed

Adjust ground speed according to the terrain, crop yield and combine capacity. The speed at which the combine can raise the table in response to terrain may limit ground speed.

18.7 - Reverse Operation

When the combine feeder house is reversed, the drapers, knife and feed auger drum run backwards to assist with unplugging. Please keep in mind that the reel will only reverse if the combine supports reverse oil flow direction via the multicoupler.

⚠ WARNING!

Do not reverse the mechanical system until all parts have come to a complete stop. Failure to do so WILL result in damage to the header.

18.8 - Feed Auger Drum Settings

Set the feeder house finger adjustment plate to the middle position (fingers extended fully forward).

See section 16.2 on page 50 for details on adjusting the feed auger.

18.9 - Combine Header Height Settings

When setting the Header Height sensitivity, increase the value until the header starts hunting then back off 10-20% for both lift and lateral tilt.

- Raise Rate: 6 seconds (bottom to top)
- Drop Rate: 7 seconds (top to bottom)

Ensure the Header Height system is calibrated on the header first, then on the Combine.

18.10 - Blue LED Air Compressor Indicator Lamp

There is a blue LED indicator mounted on the panel above the air tank (left side of subframe). This LED will light up when the air compressor is running.

18.11 - General Crop Specific Productivity

Harvesting Standing Cereal Crop

Harvest in **RIGID** cutting mode. Lower platform until cutterbar cuts below lowest grain heads or pods. For maximum combine efficiency, take in only as much crop material as necessary. Position the reel above the cutterbar & feather plates. Raise/lower the reel until the bats pull the crop toward the cutter bar and the fingers comb the cut crop across the feather plates.

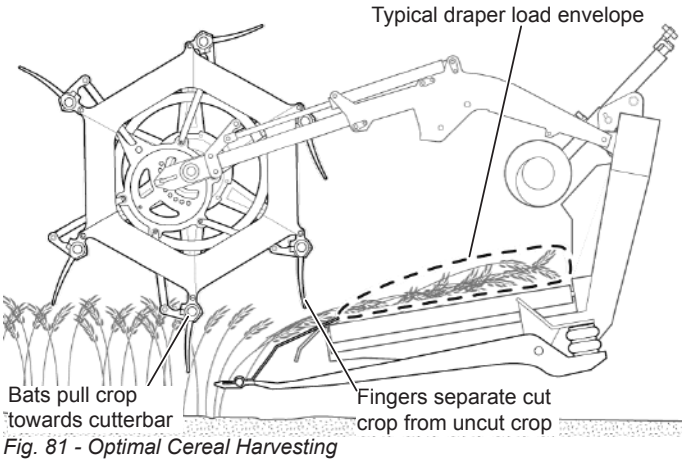


Fig. 81 - Optimal Cereal Harvesting

Harvesting Pulse Crops

Harvest in **FLEX** mode. Set the reel fingers to a more aggressive pitch. Position the reel in front of the cutter bar. Raise/lower the reel until the fingers lift the crop toward the cutterbar. The draper should be half-way filled (see illustration)

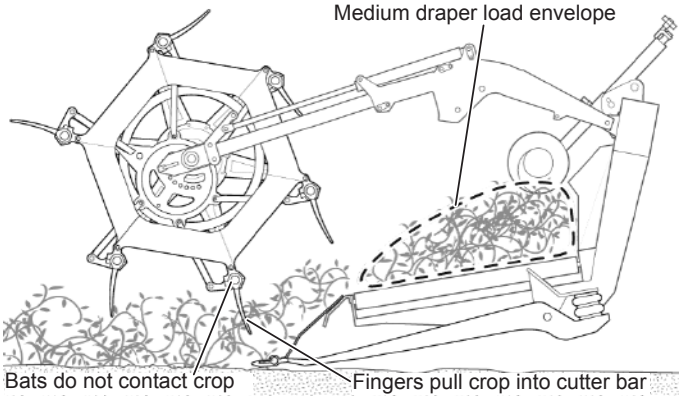


Fig. 82 - Optimal Pulse Crop Harvesting

Harvesting Bushy Crops

Harvest in **RIGID** cutting mode. Lower the platform until cutterbar cuts below the material to be collected. For maximum efficiency, completely fill the drapers so the crop reaches just to the top of the draper shields (see the illustration below). Raise and retract the reel so it is slightly behind the cutter bar so it assists in separating the cut from the uncut crop. The reel bats should not contact the crop.

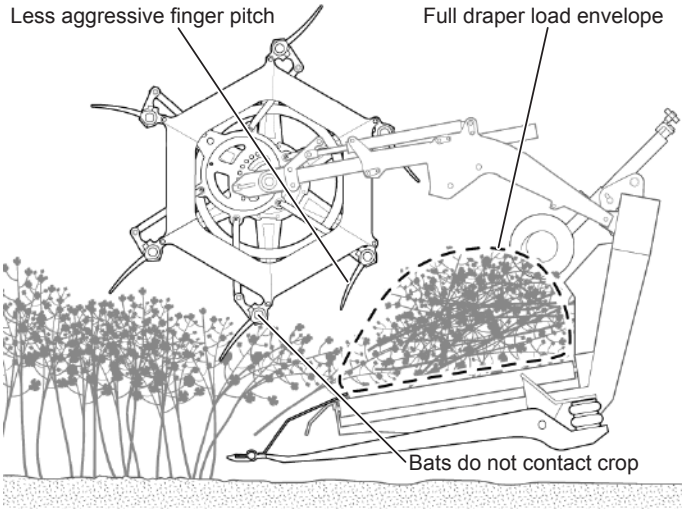


Fig. 83 - Optimal Bushy Crop Harvesting

Harvesting in Tough Feeding Crop Conditions

Move reel rearward to ensure cut, heavy crop is separated from uncut crops and transferred across the feather plates to the drapers.

Harvesting in Short, Thin Crops

Position reel low, above knife (approximately half way extended) and front area of draper, to assist crop onto drapers. The reel fingers should be directly above the cutter bar.

In thin crops, increase ground speed in order to increase crop volume to facilitate feeding.

Harvesting Soybeans

When harvesting soybeans, set air pressure for crop conditions:

- **Dry conditions:** lower pressure/heavier cutter bar
- **Wet conditions:** higher pressure/lighter cutter bar

Harvesting Sorghum

Set cutting height to cut off heads and no more stalk than necessary. Adjust reel low and rearward as much as possible to help move cut heads onto belts. Tilt the header back so the heads roll back.

Lodged/Downed Crops

Fully extend the reel toward the front of the header.

At full reel extension, the reel will pick up crop from below the cutter bar. Only use this reel position for downed crops as high finger wear will result.

The reel height should be set so the fingers have a minimum of 1 1/2” (3.8 cm) clearance from the cutter bar.

When picking up downed crops, the reel finger pitch should be adjusted to be more aggressive.

IMPORTANT!

It is very important that you check the reel finger clearance before operating the header in order to avoid cutting off the ends of the reel fingers.

Extreme Lodged/Downed Crops

Fully extend the tilt cylinder to angle the guards down.

Lower the air pressure [increasing cutter bar weight] to prevent cutter bar riding on top of down crop.

If the cutter bar is still riding on top of crops:

Raise your FLEX cut height to 6 inches. This tilts the guards down to ensure they enter under the crop. In this case the header height will have more headroom to work with and protect the cutter bar from damage.

IMPORTANT!

Increased wear will result on guards, knife sections, and knife head bearings. When running in this mode, grease the knife heads every 5 hours (not 10 hours). This method should only be used in extremely down crop on rolled land.

The feather plates will be quite steep in this mode, so set your reel to clean the top of the feather to assist crop onto the drapers. Set ground speed to ensure sufficient crop flow across the cutter bar to aid in feeding.

Bushy/Ripe Crops

The feed auger fingers should be extended fully forward or slightly upward to increase the ability of the drum to grab and pull in bulky crops.

Fully retract the reel towards the rear of the header.

When harvesting busy/ripe crops, the reel fingers should be adjusted to be less aggressive.

Easily Shelled Crops

The reel should be positioned so it has minimum contact with the crop in front of the cutter bar. Positioning the reel too far forward can result in shelled out crops dropping under the cutter bar.

Generally, the reel should be lined up to the middle of the feather plates to allow for knife clearing and good feeding with minimum losses.

Raise the reel so only the reel fingers engage the crop and not the reel bats.

Normal Crops

Position the reel to provide best crop flow with minimal interference. For grain crops, this is typically about 7” out (fingers in line with top of feather plate). For leaning or pulse crops, this is further forward at about 11” out (fingers in line with back of guards).

19 - AutomatixLite System

The bottom row of switches are used for sending commands to the Automatix system and provide access to harvesting settings used in the field.

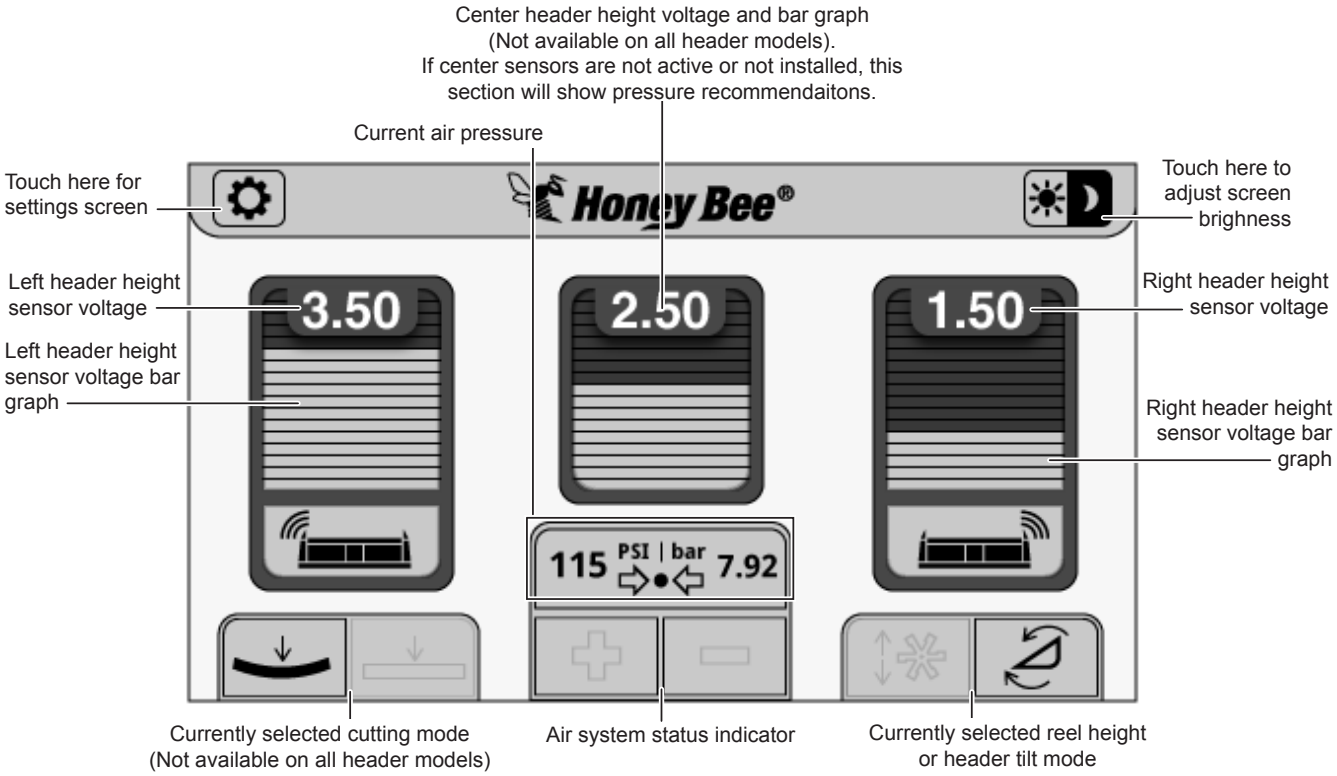


Fig. 84 - AutomatixLite Main Screen

19.1 - Screen Icons

- Left header height sensor.

- Right header height sensor.

- FLEX cutting mode (not available on all models)

- RIGID cutting mode (not available on all models)

- Air pressure is increasing (compressor is running)

- Air pressure is decreasing.

- Reel height mode is active (controlled via combine controls)

- Header tilt mode is active (controlled via combine controls)

- AutomatixLite settings

- Screen brightness adjustment.

19.2 - Physical Switches

The header functions are controlled via three physical switches that run along the bottom of the AutomatixLite control panel.

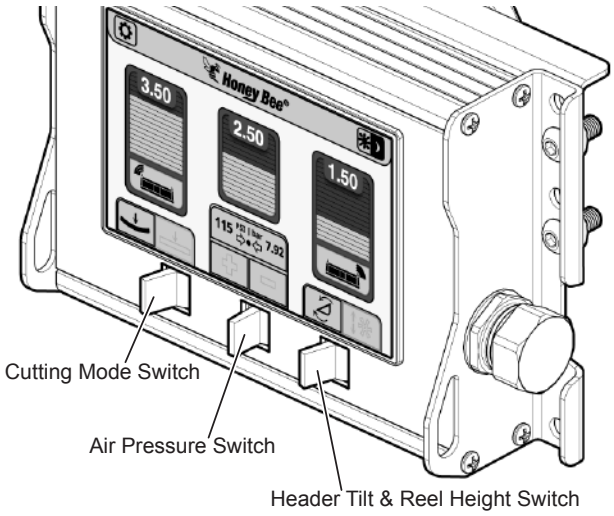


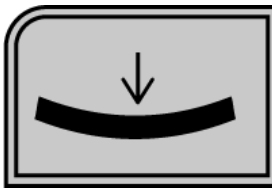
Fig. 86 - Physical switch locations

The functions of these switches are as follows:

19.2.1 - Cutting Mode Switch:

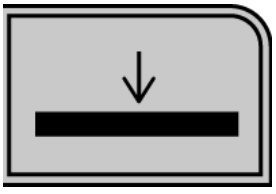
The cutting mode switch is used to select your desired cutting mode.

FLEX mode



When FLEX mode is selected, the cutter bar header height sensors become active and the air pressure recommendation is low in order to allow the cutter bar to flex to follow the terrain. Used when cutting close to the ground.

RIGID mode

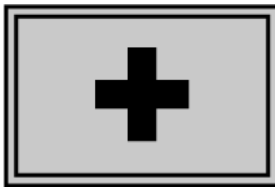


When RIGID mode is selected, the header height sensors become disabled (as shown on the display) and the air pressure recommendation is quite high. High air pressure prevents the cutter bar from flexing. Used when cutting high off the ground.

19.2.2 - Air Pressure Switch

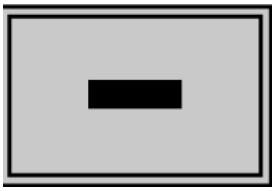
The air pressure switch has three possible positions. This switch should be left in the middle position after the desired air pressure is achieved.

Add Air Pressure



Move the switch to the left until the '+' symbol is highlighted, this activates the air compressor and will start adding pressure to the air system. The more air added to the system, the more RIGID the cutter bar becomes.

Dump Air Pressure

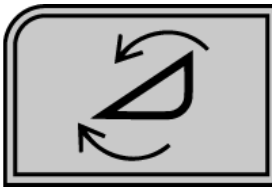


Move the switch to the right until the '-' symbol is highlighted. This will open the a valve in the pressure system that will slowly dump the air from the system. The less air in the system the more FLEXible the cutter bar becomes.

19.2.3 - Header Tilt & Reel Height Switch

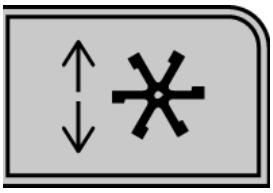
The header tilt & reel height switch is used to select the function of the header tilt/reel height controls in the combine.

Header Tilt



Move the switch to the left until the header tilt icon is activated and the combine control handle will modify the header tilt.

Reel Height



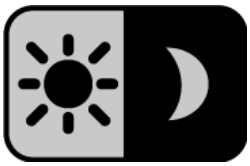
Move the switch to the right until the reel height icon is activated and the combine control handle will modify the reel height.

19.3 - Touch Screen Buttons

The AutomatixLite control panel is equipped with a touch screen. There are currently only two buttons on the screen.

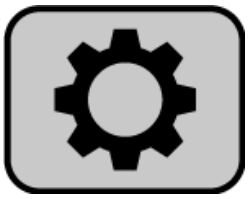
19.3.1 - Adjust Screen Brightness

Touch the brightness icon on the top right of the screen to switch between bright and dim modes.



19.3.2 - Settings

Touch the settings icon to access the settings screen.



19.4 - Settings Screen

The settings screen gives you the option to switch between a 5V and a 10V sensor system. At this point in time, the 10V system is experimental and should not be activated unless instructed to do so by a Honey Bee technician.

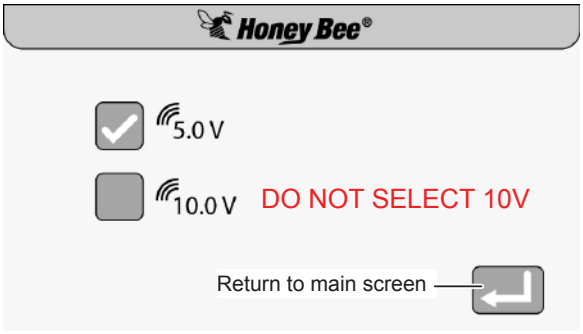


Fig. 87 - AutomatixLite Main Settings

IMPORTANT!

Activating the 10V option when using a combine with a 5V sensor system will result in inaccurate readings on the AutomatixLite display.

19.5 - Sensor Bar Graphs

The AutomatixLite display shows the live sensor voltage for the left and right sensors as well as the center sensor voltage (not available on all equipment models).

The bar graph represents the amount of motion left available to the cutter bar.

- A full bar graph with 4.5 volts showing indicates the cutter bar has its full range of motion available (approximately 9”).

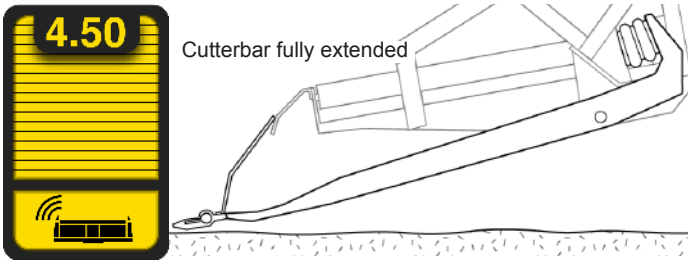


Fig. 88 - Sensor Bar Graph - Cutter bar full range available

- A mostly empty bar graph with 0.5 volts showing indicates the cutter bar has been pushed all the way up.

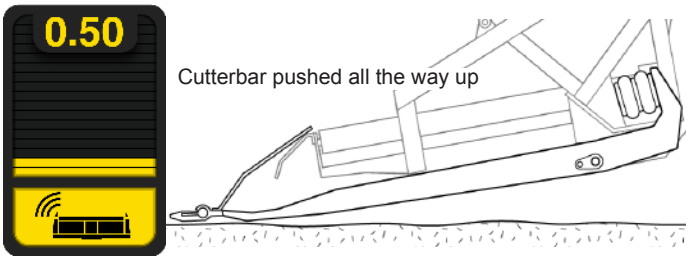


Fig. 89 - Sensor Bar Graph - Cutter bar pushed up

19.6 - Warnings

19.6.1 - Air Pressure Warnings

If the detected air pressure is too low or too high for the selected cutting mode, an animated warning will appear on the AutomatixLite display to warn the header operator. Add(+) or Dump(-) air from the system as indicated in the animation until the warning disappears.

Fig. 90 - Warning! Add air!

Fig. 91 - Warning! Dump air!

19.6.2 - Header Height Sensor Warnings

If the header height sensor is disabled or if the sensor voltage is too low to be detected, the bar graph will turn red to indicate that no sensor is active.

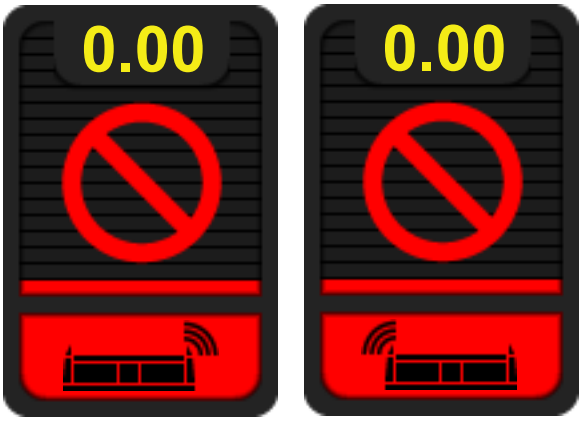


Fig. 92 - Warning! Header height sensor not detected!

IMPORTANT!

Automatic header height control will not function while this warning is visible!

20 - Troubleshooting

20.1 - Reel

Symptom	Possible Cause	Solution
Reel Wrapping in Tangled and Weedy Conditions	Incorrect reel location.	Adjust reel forward and down.
	Reel speed too fast.	Slow reel until crop flows smoothly onto belts.
	Reel fingers not able to eject material properly.	Adjust reel timing to next more aggressive setting (lower number)
Reel Carrying Around Crops or Excessive Shattering of Grain Heads	Reel speed too fast.	Slow reel speed. Reel should turn slightly faster than ground speed.
	Reel height too low.	Raise reel height to reduce amount of straw gathered by reel.
	Pickup fingers pitched too much.	Reduce finger pitch by adjusting reel timing to next less aggressive setting (higher number)
	Pickup fingers too tightly spaced	Replace 2.5” spaced reel fingers with 5” spaced reel fingers (remove every 2nd finger).
Uneven Reel Height and Fore/Aft	Reel cylinders out of phase.	Rephase cylinders (see section 22.8.6 on page 96).
	Reel stops not set to same height	Adjust reel stops.
Cutterbar Plugging or Slug Feeding	Reel speed too slow.	Increase reel speed.
	Reel too far forward	Retract reel
	Reel fingers too far from cutter bar	Lower Reel

20.2 - Drapers

Symptom	Possible Cause	Solution
Draper Jams or Stops Moving	Material is lodged in the draper mechanism	Stop the combine, wait for all parts to come to a stop and reverse the mechanical systems (see section 18.7 on page 64)
	Material is jammed in the draper cleanout or rock trap.	Clean out the rock trap and the draper cleanout. (See section 22.13 on page 105)
Drapers are slipping	Draper tension too loose.	Adjust draper tension (22.7.1 on page 92)

20.3 - Cutting Platform

Symptom	Possible Cause	Solution
Shattering of Grain Ahead of Cutterbar	Reel speed not matched to ground speed, causing crop to be overly disturbed before it is cut.	Adjust reel speed to match with ground speed so reel moves crop evenly. Reel should turn slightly faster than ground speed.
	Reel is positioned too low.	Raise reel.
	Reel speed too fast	Slow down ground speed so reel does not hit crop, causing it to shatter.
	Ground speed too slow for conditions of crop.	Increase ground speed so crop ‘pressure’ is increased, forcing more product onto the drapers.
	Reel too far forward	Position the reel above the cutter bar.
Cut Crop Building Up and Falling from Front of Cutterbar or Loss of Grain Heads at Cutterbar	Reel not adjusted low enough for good delivery of cut crop to belts.	Set reel low enough to sweep material from cutterbar.
	Ground speed too slow for crop conditions.	Increase ground speed so crop ‘pressure’ is increased, forcing more product onto the drapers.
	Reel too far forward.	Move reel closer to cutterbar.
	Cutterbar angle to steep, preventing crop from being pushed onto draper.	Use tilt adjuster at center of platform to adjust angle of cutterbar.
	FLEX Cut Set Point set too high (more than 2”).	Decrease the Cut Set Point
Ragged and Uneven Cutting of Crop	Knife dull.	Replace knife.
	Cutterbar plugged with material.	Adjust reel to sweep material off cutterbar.
	Knife sections damaged.	Replace damaged sections.
	Integral knife hold-downs adjusted loose.	Adjust hold-downs to recommended clearance.
Excessive Vibration of Cutting Parts	Feeder house lower shaft not at recommended speed.	Check basic speed of combine (see combine Operator’s Manual).
	Variable speed feeder house is too fast.	Slow variable speed feeder house (see combine Operator’s Manual).
	Knives not timed properly.	Adjust knife timing (see section 22.9.2 on page 97).
	Loose bolts on knife drive paddle	Tighten all fittings on the knife drive paddle.

20.4 - Cutting Platform (continued)

Symptom	Possible Cause	Solution
Excessive Knife Drive Loads or Inconsistent Cut Heights	Dull knife sections.	Replace knife sections.
	Dull knife guard edges.	Replace knife guards.
	Excess binding between top of knife sections and top of guard slots.	Inspect for bent guards, bent cutterbar, or improper position of guards.
Excessive Knife Drive Loads or Inconsistent Cut Heights	Dull knife sections.	Replace knife sections.
Crop is not feeding properly	Crop is not clearing the feather plates	Lower the reels, increase the speed of the power unit/reel, set reel finger timing to be more aggressive. Set reel fore/aft to clear feather plates.

20.5 - Active Header Height Control

Symptom	Possible Cause	Solution
Active Header Control Will Not Operate	Manual raise or lower does not work.	See your combine dealer.
	Active header control not enabled.	Enable active header control mode that is desired as per combine procedures.
	Feeder house to header connector not connected or loose.	Connect properly.
	Header sensor not properly connected or damaged.	Connect or repair sensor.
	Header not correctly calibrated	Calibrate header height control on header first, then combine.
Active Header Control Lowers But Will Not Raise	Defective active header control card.	See your combine dealer.
Active Header Control Raises But Will Not Lower	Defective active header control card.	See your combine dealer.
System Cycles or Hunts	Accumulator on combine has incorrect setting.	The auto header height works best with the float accumulator turned OFF.
	Combine Header Height (or tilt) sensitivity too high	Decrease Combine Header Height sensitivity (or combine tilt sensitivity if the header hunts side to side), then if the problem continues increase combine smoothing. Re-calibrate the combine HHC.
System Fails Intermittently After Manually Raising Header Over Obstacle	System was deactivated.	Reactivate combine header height system.
Header Raises or Lowers Too Slow or Too Fast	Incorrect raise/drop rate adjustment.	Adjust raise/drop rate (see combine Operator's Manual).

20.6 - Cross Auger

Symptom	Possible Cause	Solution
Crop wrapping around cross auger	Cross auger too far away from back panel	Move cross auger closer to back panel. See section 16.3.3 on page 52.

20.7 - Miscellaneous

Symptom	Possible Cause	Solution
Uneven or Bunched Feeding of Crop	Cut crop not being separated from uncut crop at cutter bar.	Adjust reel settings as described in 18.2 on page 58)
	Feeder house conveyor chain too loose.	Adjust tension (see combine Operator's Manual).
	Feed auger lower stops set too high.	Adjust lower stops downward.
	Feed auger belt drive too loose.	Adjust belt tension
	Draper tension is too loose	Increase draper tension
	Crop is bunching on feather plate	Adjust the reel
Header pushing dirt when tilted forward	Header angled too far forward	Tilt the header back
		Add air pressure to paddles
		Lower the reel make finger timing more aggressive
	Combine feed house angle not correct.	Set the correct combine feeder house angle (see 15.2 on page 45)
Hydraulic Leak Detected At Multi-Coupler	Leaking O-ring.	See your dealer.
System is not keeping air pressure while header is running	Air is leaking or compressor is not running properly	Check air lines, air bags and air fittings for leaks.
Crop Dividers are riding up on top of the crop	Improper adjustment of the crop divider	Adjust the crop divider float settings to be 'heavier' as outlined in section 22.10 on page 102

21 - Support

General Information & Sales	
E-Mail:	*sales@honeybee.ca*
Website:	*http://www.honeybee.ca*
Phone:	(306) 296-2297

Parts & Service	
Parts E-Mail:	*parts@honeybee.ca*
Service E-Mail:	*service@honeybee.ca*
Phone:	1 (855) 330-2019 (Toll free in north america)

Your Local Dealership	
E-Mail:	
Phone:	
Notes:	

Equipment manuals and service information can be found on our website:

http://www.honeybee.ca

22 - Service & Adjustment

⚠ WARNING!

The header contains many high speed mechanical components. If these components become damaged, it is extremely important that they be repaired as soon as possible. Running equipment with misaligned or damaged parts can cause additional damage to surrounding components, as well as increase the risk of fire.

22.1 - Fasteners

During operation, vibration can loosen fasteners on various components of your header. Parts with thinner metal such as safety shields tend to vibrate more than other parts, so particular care must be taken to ensure they are firmly secured.

Always ensure that all fasteners are torqued to the proper specifications (see page 128) Apply thread lock compound when necessary.

22.2 - Permanent Bushings

Inspect sealed bearings and permanent bushings every 200 hours of operation and replace as necessary.

See section 24.2 on page 123 for bushing locations.

STOP IMPORTANT!

Do not lubricate the permanent bushings. These bushings are self-lubricating. Added grease will drastically shorten their lifespan.

22.3 - Reel/Feed Auger Speed Sensor Adjustment

The speed sensors on the header are adjusted to their optimal position in the factory but may require adjustment if they are replaced or serviced.

In order for the speed sensors to work properly, they must be 0.90-0.95mm (0.035-0.037 in.) away from the surface they are measuring.

For each sensor, 1 full rotation of the adjuster nut equals approximately 1 mm of travel, so to get the best distance, screw in the sensor until it is just touching its measuring surface then back it off 90-95% of a turn.

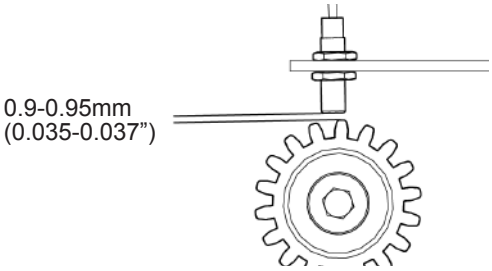


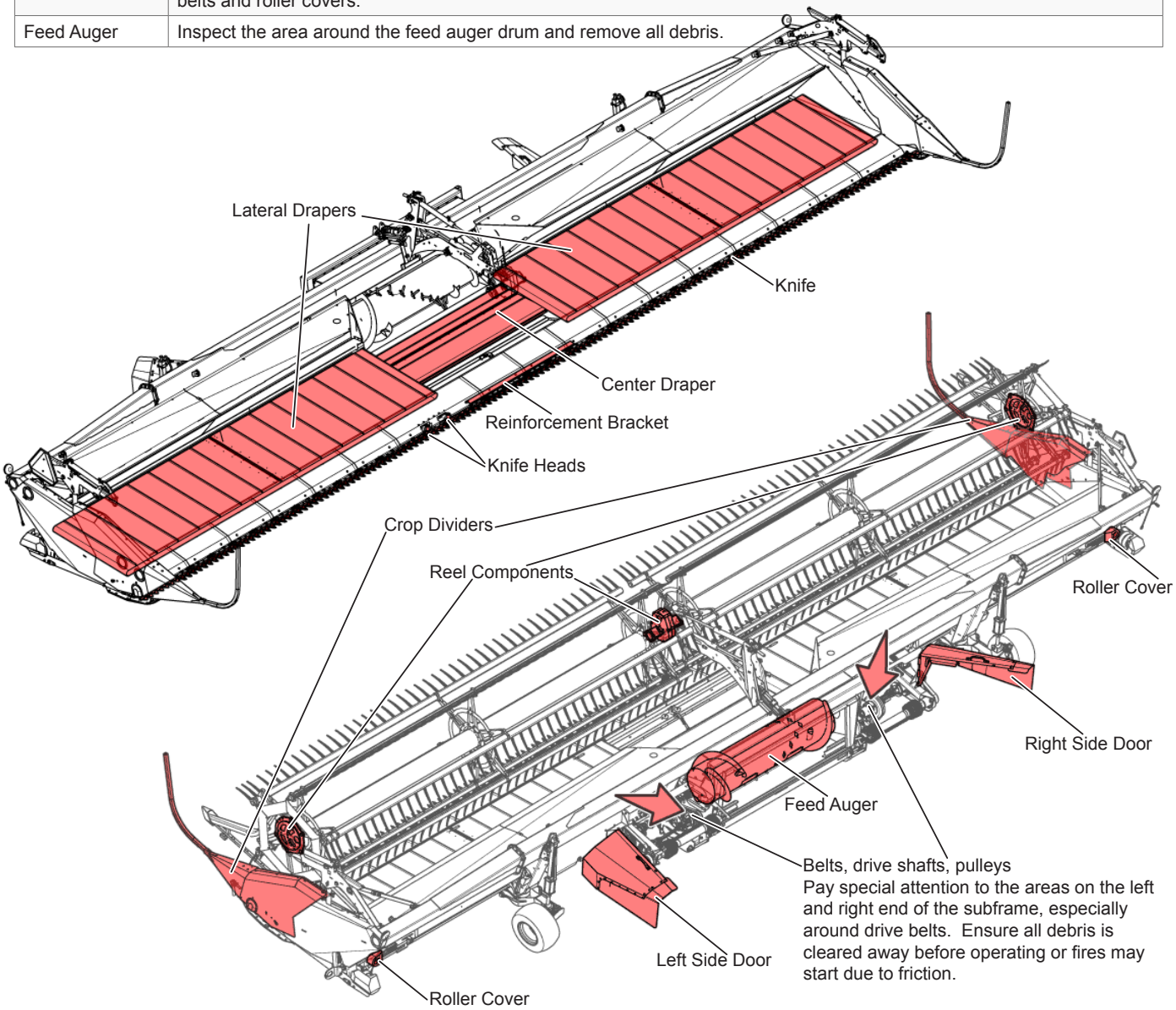
Fig. 93 - Speed Sensor Spacing

See section 22.3 on page 81 for speed sensor locations.

22.4 - Cleaning the Header

For optimal performance, inspect and clean the header every day prior to operation. Accumulation of debris will increase friction, reducing the lifetime of components and can possible cause fires.

Lateral Drapers	Inspect the rollers and the space inside the draper canvas for material buildup and remove as necessary.
Center Draper	Check the rollers and the space inside the draper canvas for material buildup and remove as necessary. Remove all debris from the center rock trap and draper cleanout as shown in section 22.13 on page 105
Crop Dividers	Ensure the area inside the crop dividers is clear of debris to allow the dividers to move freely.
Knife	Inspect the knife for gummy buildup and clean with water or diesel as needed.
Reinforcement Bracket	There is a reinforcement bracket on the center of the cutter bar beneath the transition plates, crop material can accumulate in this location. Check and clear all debris from this area.
Knife Heads	Check the area around and behind the knife heads for material buildup and clean as necessary.
Reel	Ensure all moving parts on the reel are free of wrapped crop material and clean as necessary.
Roller Covers	Check the roller covers on the rear left and right hand ends of the header for material buildup and clean as needed.
Side Doors	Open both side doors and inspect all moving components within. Clean out all debris from the drive shafts, pulleys, drive belts and roller covers.
Feed Auger	Inspect the area around the feed auger drum and remove all debris.



22.5 - Drive Belt Tension

All drive belts should have proper tension and alignment. If any belts appear to be damaged, they must be replaced and the cause of damage must be determined and rectified.

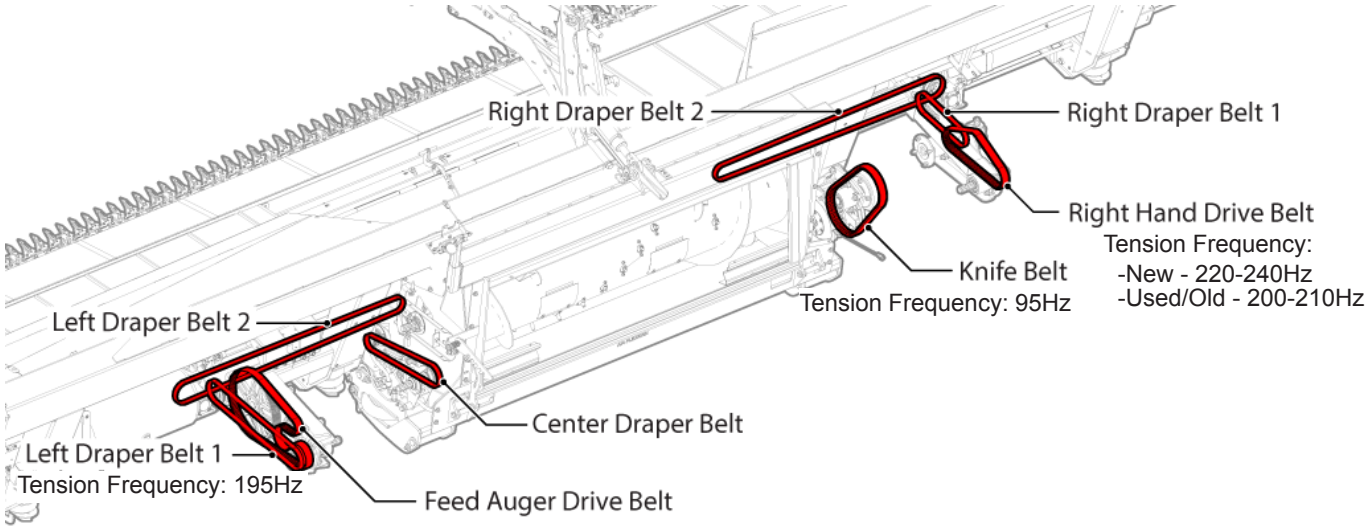


Fig. 94 - Drive Belt Locations

⚠ WARNING!

Before adjusting belt tension, shut off the combine, engage the parking break and wait for all moving parts to come to a stop before approaching the header.

STOP IMPORTANT!

Under-tensioned belts can slip, generating heat which will shorten the belt lifespan and damage cog pulleys!

Over-tensioning belts will result in belt stretching and reduced bearing lifespan.

If belt tension is adjusted, it is important to re-check the tension after a day of usage to ensure all adjustments are secure.

When adjusting belt tension, check the belt for fraying or cracks. Replace if necessary.

STOP IMPORTANT!

Check the belt tension after the first 100 hours of operation.

The tension for most belts is adjusted by its tension indicator. The various indicators will vary slightly in construction but the basic function will remain the same. Simply loosen the lock mechanism, turn the adjustment bolt (or nut in some situations) until the indicator is aligned with the washer, then re-tighten the lock mechanism.

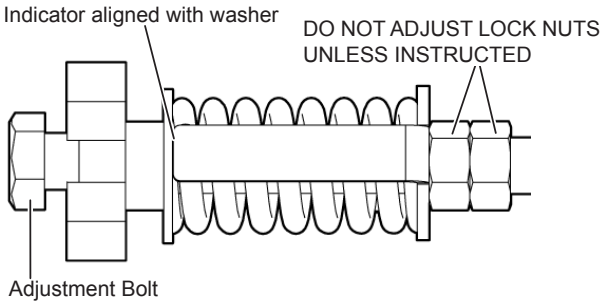


Fig. 95 - Tension Indicator Position

STOP IMPORTANT!

Do not adjust the lock nuts unless otherwise instructed!

22.5.1 - Tension Verification Using Smartphone App

Some of the belts in the header drive system require a tuner app for verifying belt tension.

Honey Bee recommends the following apps as they have been tested for accuracy. Take note of the app icon and developer name as there multiple apps with similar names.

NOTE:

Using an app to measure belt frequency requires a quiet location in order to take accurate measurements.

Please note this is a 3rd party application which is not published by Honey Bee. The software may be removed or changed without notice, this is beyond Honey Bee's control.

22.5.1.1 - Apple Devices (IOS)

App Name: Fine Tuner

Developer Name: 9928189 Canada Inc.

Link: http://www.finetunerapp.com

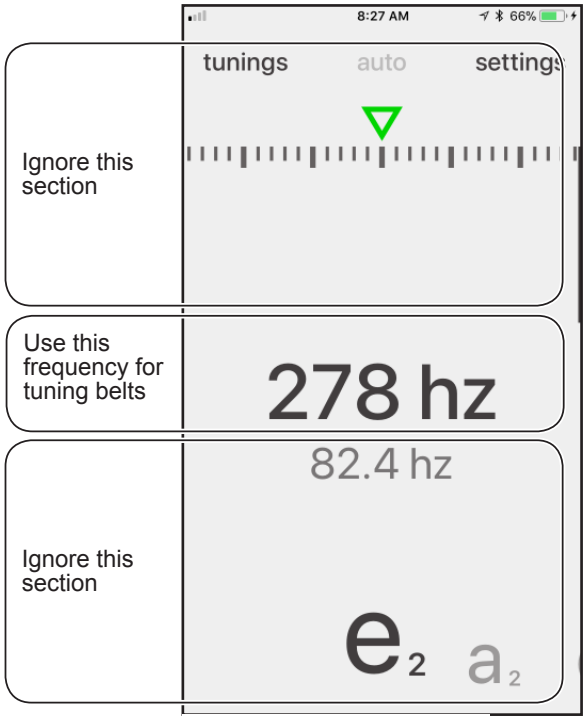


Fig. 96 - iOS - Fine Tuner app

22.5.1.2 - Android Devices

App Name: Simple Tuner

Developer Name: Julian Schakib

Link: https://play.google.com/store/apps/details?id=tuner.simple.jdse03.com.tuner

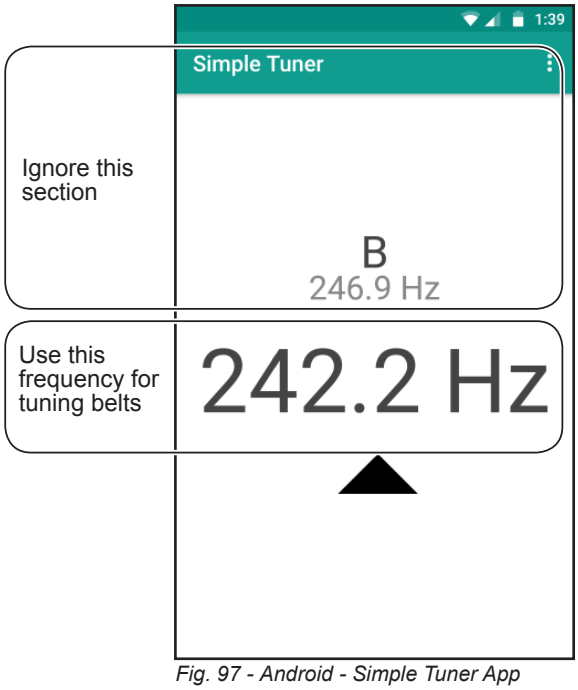


Fig. 97 - Android - Simple Tuner App

22.5.2 - Feed Auger Drive Belt Tension

The feed auger drive belt is located just to the left of the subframe.

1. Loosen the lock nut.
2. Adjust the tension, then re-tighten the lock nut.

Correct tension is achieved when the bottom section of belt vibrates at 195Hz when plucked. Use a tuner app to verify the frequency.

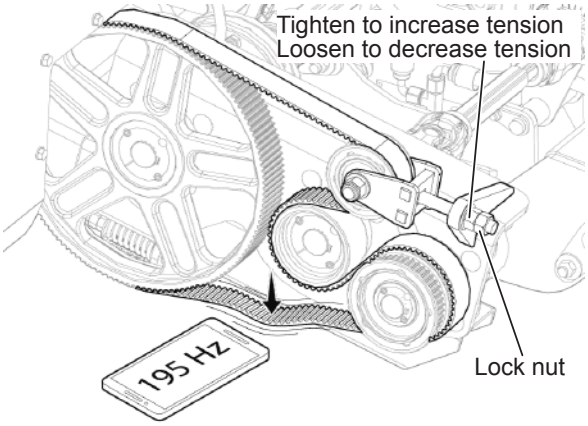


Fig. 98 - Feed Auger Drive Belt Tension Adjustment

22.5.3 - Left Draper Drive Belt 1 Tension

1. Loosen the two lock bolts and lock nut.
2. Adjust the belt tension with the adjustment bolt.
3. Retighten the lock nut and lock bolts when desired tension is achieved.

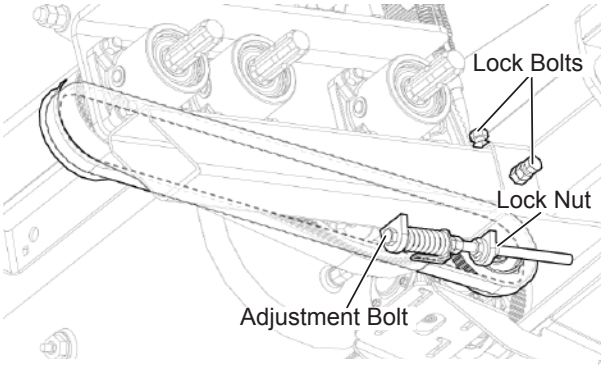


Fig. 99 - Left Draper Drive Belt 1 Tension Adjustment

22.5.4 - Left Draper Drive Belt 2 Tension

4. Loosen the four lock bolts on the bottom of the gearbox then loosen the lock nut.
5. Adjust the belt tension via the adjustment nut.
6. Retighten the lock nut and lock bolts when desired belt tension is reached.

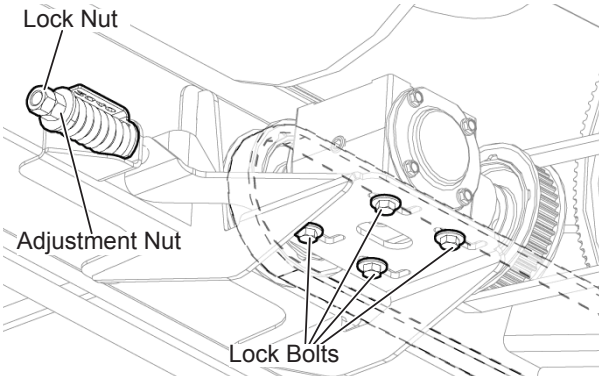


Fig. 100 - Left Draper Drive Belt 2 Tension Adjustment

22.5.5 - Center Draper Drive Belt Tension

The center draper drive belt is located on the left side of the feed auger drum enclosure, under the shield.

1. Simply adjust the belt tension via the adjustment bolt. Do not adjust any of the lock nuts!

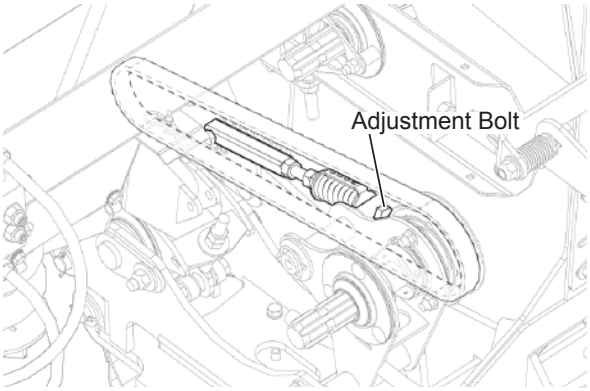


Fig. 101 - Center draper tension adjustment

22.5.6 - Right Hand Drive Belt Tension

1. Loosen the lock nut
2. Adjust the belt tension via the adjustment nut.
3. Retighten the lock nut when desired tension is reached.

Correct tension is achieved when the bottom section of belt vibrates at the frequency specified below when plucked. Use a tuner app to verify the frequency.

- New belts are properly tensioned when they vibrate at 220-240 Hz.
- Old/Used belts are properly tensioned when they vibrate at 200-210 Hz.

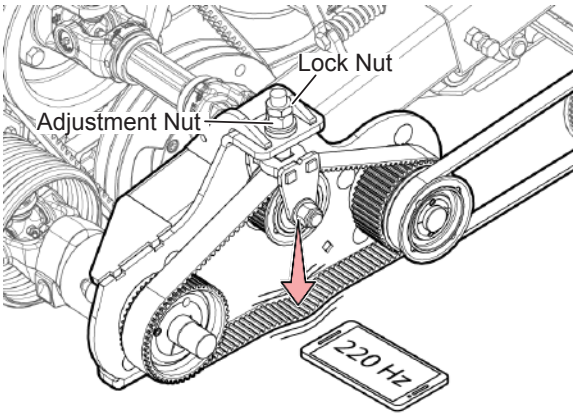


Fig. 102 - Right hand drive belt tension

22.5.7 - Right Hand Draper Belt 1 Tension

1. Loosen the two lock bolts and lock nut
2. Adjust the belt tension via the adjustment bolt
3. Retighten the lock bolts and lock nut when desired tension is reached.

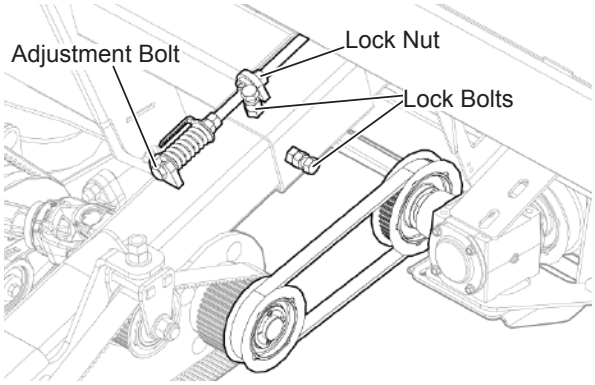


Fig. 103 - Right draper belt 1 tension adjustment

22.5.8 - Right Hand Draper Belt 2 Tension

1. Loosen the four lock bolts on the underside of the gearbox.
2. Loosen the lock nut and adjust the belt tension via the adjustment nut.
3. When desired tension is reached, re-tighten the lock bolts.

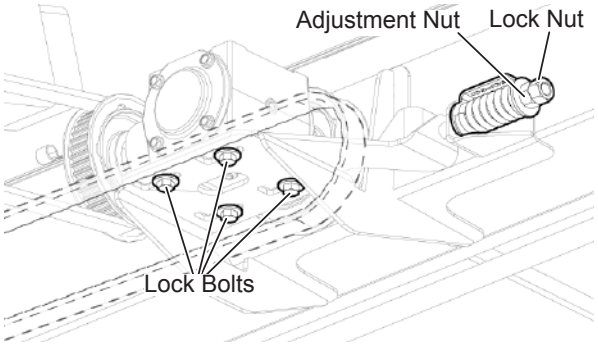


Fig. 104 - Right draper belt 2 tension adjustment

22.5.9 - Knife Drive Belt Tension

1. Loosen the lock nut and lock bolt but do not remove.

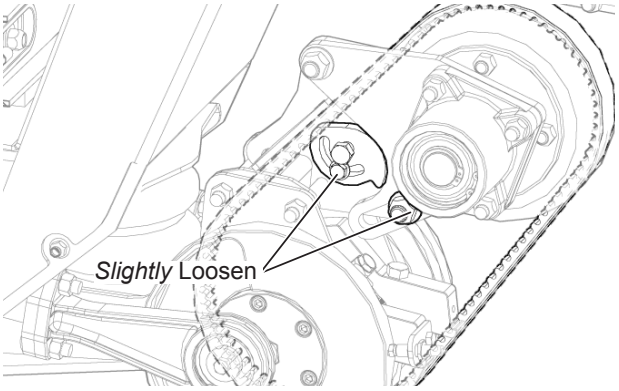


Fig. 105 - Knife Belt Tension - loosen lock nut and bolt

2. Place a torque wrench on the adjustment bolt and lift with 180 ft/lb (244 Nm) of force. As soon as the indicated torque is reached, tighten the lock bolt to lock the tension. Re-tighten the lock nut.

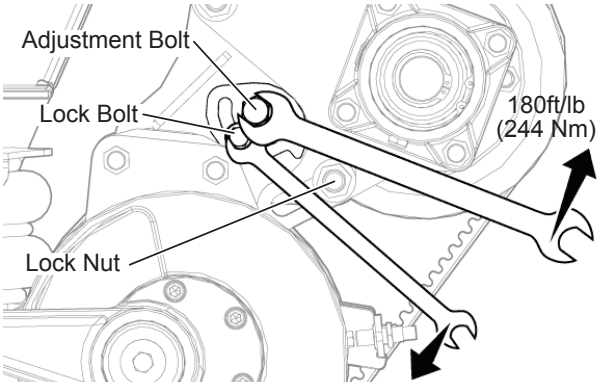


Fig. 106 - Torque bolt to tension belt

3. Correct tension is achieved when the belt vibrates at 95Hz when plucked like a guitar string. Use a tuner smartphone app to verify the frequency.

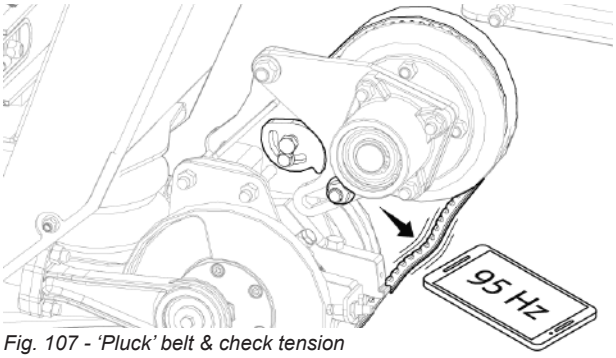


Fig. 107 - 'Pluck' belt & check tension

22.6 - Drive Belt Replacement

IMPORTANT!

When replacing or adjusting the drive belts, NEVER bend the belts beyond the diameter of the smallest pulley they will be installed on. Bending the belts too far will result in drastically reduced belt lifespan and possible equipment damage.

When replacing drive belts, check the pulleys for excessive tooth wear.

22.6.1 - Knife Drive Belt Replacement

Take note of which nuts, washers and bolts are used with which components when removing them to make the reassembly process easier.

1. Disconnect the pto driveshaft and right-hand pitman arm from the knife drive belt assembly.

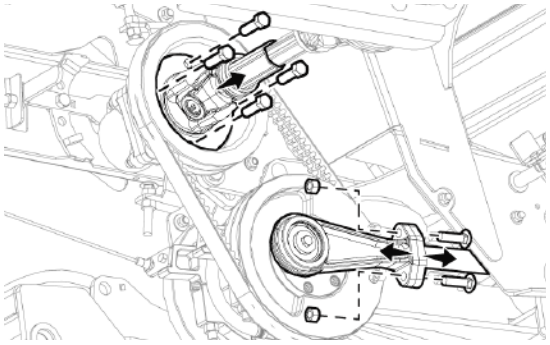


Fig. 108 - Disconnect pitman arm & PTO

2. Loosen the tension from the belt as shown below.

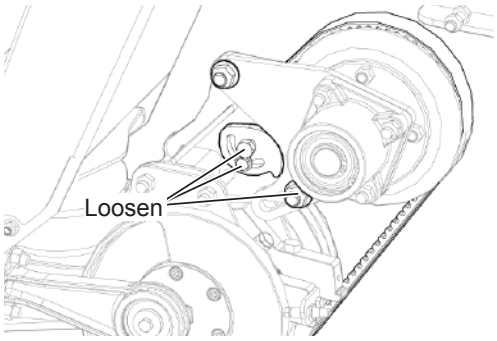


Fig. 109 - Loosen locking mechanisms

3. Remove the old belt and install the new belt.
4. Reinstall the pitman arm and drive shaft by performing the removal process in reverse. See 24.7 on page 128 for torque recommendations.
5. Ensure the new knife belt is properly tensioned by following the directions section 22.5.9 on page 87. All fittings must be properly re-tightened after this procedure is complete.

22.6.2 - Feed Auger Belt Replacement

1. Open the side shield as described in section 22.14 on page 106.
2. Remove the left hand draper belt 1 as described in section 22.6.3 on page 89.
3. Loosen the feed auger belt tension by loosening the indicated bolt.
4. Loosen (but do not remove) the nut holding the tension pulley in place. This will release the pulley bracket allowing you to remove the draper belt.

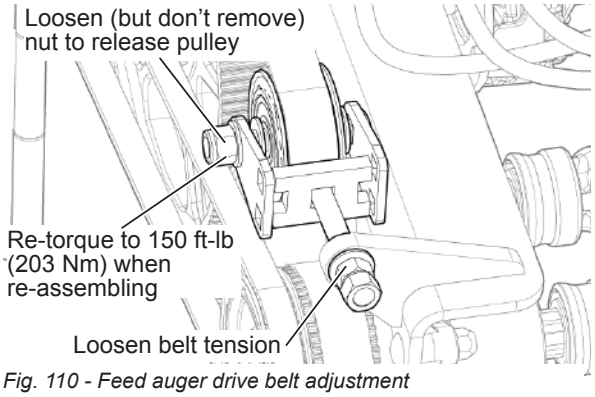


Fig. 110 - Feed auger drive belt adjustment

IMPORTANT!

If you completely disassemble the pulley, take note of the washers used on each side of the pulley to separate it from the bracket. The system will not function without these washers.

5. Take note of the belt orientation and how it is fed through the pulleys. Remove the old belt and install the new belt. See Fig. 98 on page 85 for belt orientation.
6. Reinstall the first draper belt.
7. Reinstall the pulley and ensure the tension is properly adjusted for both belts as described in section 22.5 on page 83.

22.6.3 - Left Draper Drive Belt 1 Replacement

The left hand draper uses two drive belts, the first belt runs parallel to the feed auger drive belt on the left of the sub frame.

1. Loosen the two lock bolts shown below.

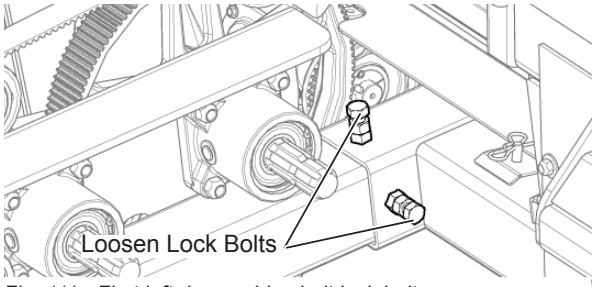


Fig. 111 - First left draper drive belt lock bolts

2. Loosen tension via the tension bolt to decrease belt tension to allow you to slide the old belt off the pulleys.

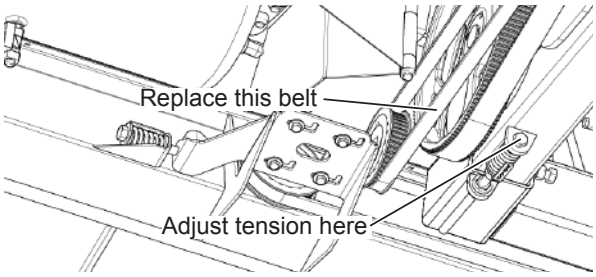


Fig. 112 - Remove the first left draper belt

3. Install the new belt on the pulleys and then re-tighten the belt tension. Ensure the belt tension is properly set as described in section 22.5.3 on page 85.
4. Retighten the two lock bolts.

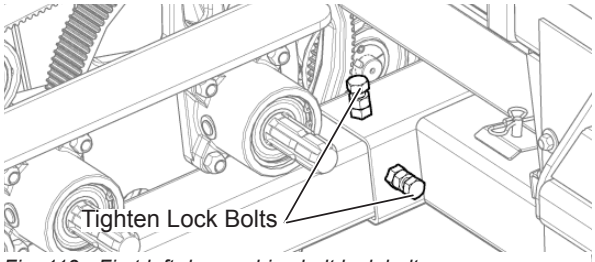


Fig. 113 - First left draper drive belt lock bolts

IMPORTANT!

It is critical that the belt is correctly tensioned and that the two lock bolts shown in Fig. 111 are securely tightened prior to operating the header.

22.6.4 - Left Draper Drive Belt 2 Replacement

The second left hand draper belt is located behind the feed auger belt assembly between the draper deck and the feed auger frame.

1. Before replacing this belt, fully extend the tilt cylinder (tilt the table forward) to allow more room for accessing belt hardware.

WARNING!

Lock the Feeder House in raised position as described in your Combine Owner's Manual. Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab.

2. Loosen the draper belt tension

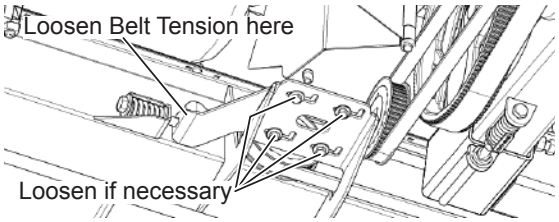


Fig. 114 - Left draper drive belt loosen tension

3. Remove the cover from the other end of the draper belt and remove the belt from the pulleys.

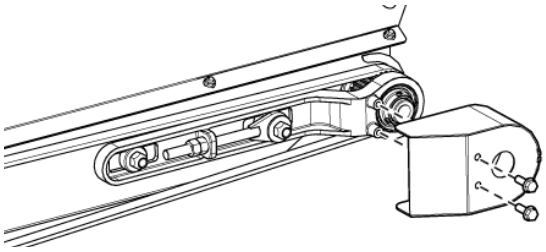


Fig. 115 - Remove left draper drive belt cover

4. Install the new belt and reinstall the cover.

IMPORTANT!

Ensure the cover shown above is installed before operating the header.

5. Ensure the belt tension is properly set as described in section 22.5.4 on page 85.

22.6.5 - Right Hand Drive Belt Replacement

1. Before replacing this belt, tilt the table forward to allow more room for accessing belt hardware.

⚠ WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab.

2. In order to replace the right-hand drive belt, you must first remove the right hand draper belt 1 as described in section 22.6.5.
3. Loosen the indicated lock nut, loosen the drive belt tension via the adjustment nut. Loosen but do not remove the pulley nut to release the belt.

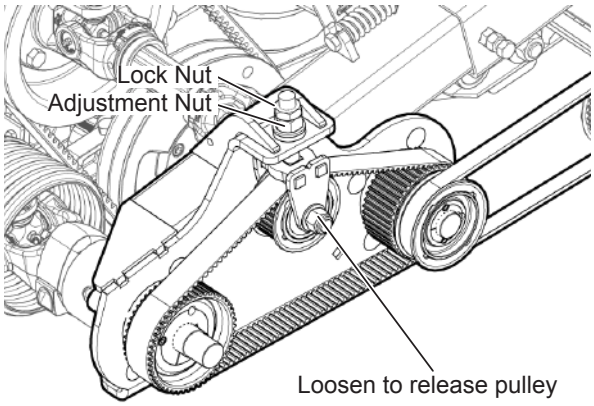


Fig. 116 - Right drive belt replacement

4. Replace and re-secure the drive belt then reinstall the right hand draper belt 1. Re-tension as outlined in section 22.5 on page 83.

22.6.6 - Center Draper Drive Belt Replacement

1. Release the belt tension via the adjustment bolt.
2. Slide the belt off the front pulley.
3. Remove the pin to release the rear pulley assembly in order to remove the belt.
4. Slide the new belt onto the two pulleys.
5. Reinstall the pin to secure the rear pulley assembly.
6. Re-tension the new belt via the adjustment bolt.

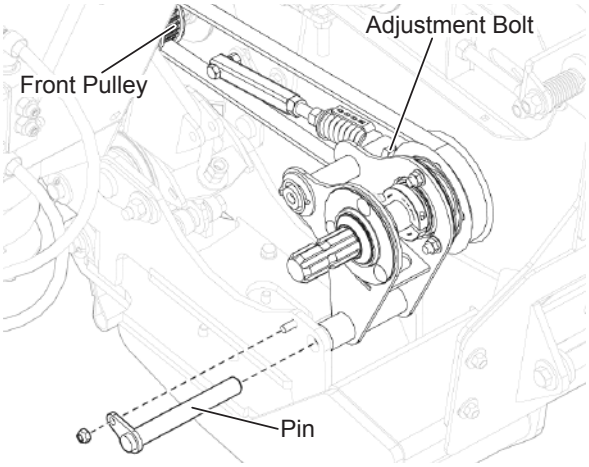


Fig. 117 - Center draper drive belt replacement

22.6.7 - Right Hand Draper Belt 1 Replacement

1. Loosen the two lock bolts and lock nut then loosen the belt tension via the adjustment bolt.

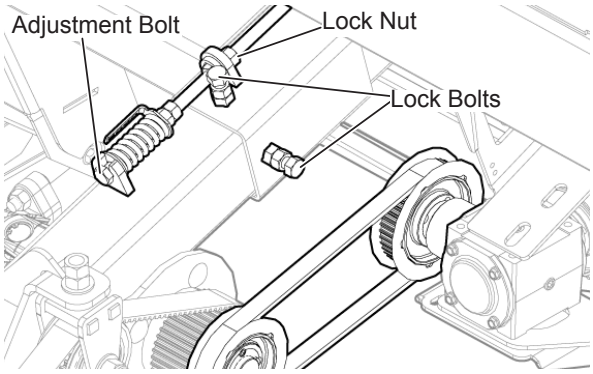


Fig. 118 - Remove RH draper belt 1 to access drive belt

IMPORTANT!

It is critical that the belt is correctly tensioned and that the two lock bolts shown in Fig. 118 are securely tightened prior to operating the header.

2. It may be necessary to loosen the tension on the right hand draper belt 2 by loosening the lock nut, adjustment nut and lock bolts in order to allow the gearbox to shift far enough to release the right hand draper belt 1.

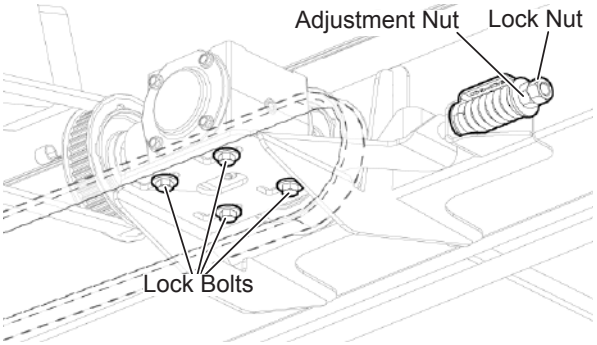


Fig. 119 - Right draper belt 2 tension adjustment

3. Install the new right hand draper belt 1 then re-tension both right hand draper belts as described in section 22.5 on page 83.

22.6.8 - Right Hand Draper Belt 2 Replacement

1. Loosen the tension by loosening the lock nut, adjustment nut and 4 lock bolts in order to allow the gearbox to shift along the 4 L shaped slots on the bottom.

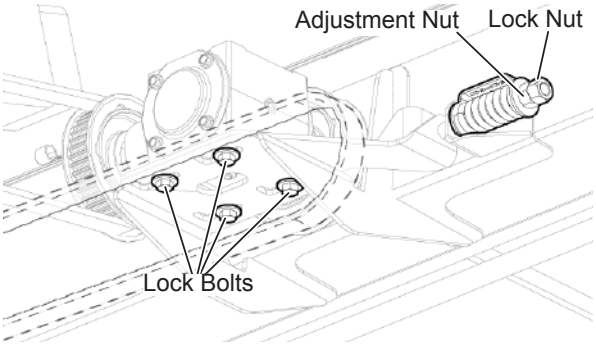


Fig. 120 - Right draper belt 2 tension adjustment

2. Slide the gearbox along the L slots to allow room for removing the belt.
3. Remove the old belt and install the new belt.
4. Move the gearbox back to its original position on the L slots then retighten the 4 lock bolts, lock nut and adjustment nut.
5. Readjust the belt tension as shown in section 22.5 on page 83.

22.7 - Drapers

22.7.1 - Side Draper Belt Tension

NOTE:

In wet or heavy crop conditions, additional belt tension is required to prevent belt slippage. Increase belt tension only when necessary as belt life, tracking, and drive components are affected.

Proper tension must be maintained on the draper to prevent slipping on the drive rollers. The draper tension is adjusted via the idler roller.

1. Engage the power unit drive with the engine at low idle.
2. Observe from the cab how drapers are tensioned.

WARNING!

Lower the header, raise the reel and engage cylinder locks. Shut down the engine before exiting the cab.

3. Take note of the tension indicator position against the spring.
4. Unlock the handle to release tension.
5. Turn the adjuster bolt until the indicator is aligned with the washer.
6. Lock the handle and tighten the lock nut.

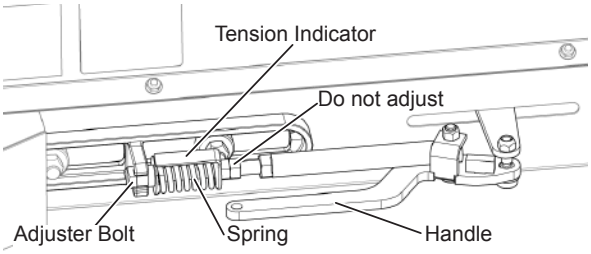


Fig. 121 - Draper Tension Adjustment

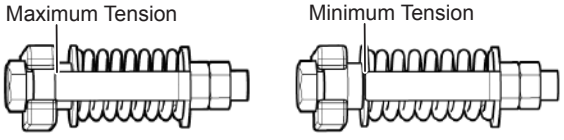


Fig. 122 - Tension Indicator Position

7. Restart the Combine and repeat the running test. Re-adjust as necessary.

22.7.2 - Side Draper Belt Tracking

If your draper drive roller is not properly aligned, the draper may start rubbing the side of its channel causing improper crop flow and equipment damage.

1. Inspect the draper for proper tracking. When not properly tracking, the draper will pile up against the edge of the draper channel.

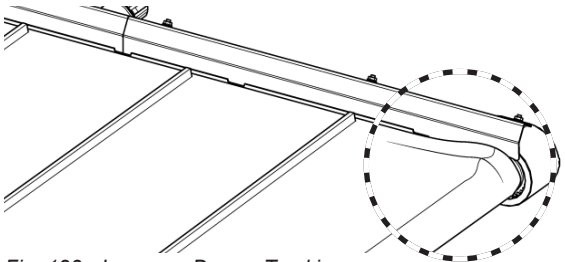


Fig. 123 - Improper Draper Tracking

2. The drive roller must be at exactly 90 degrees to the draper frame.

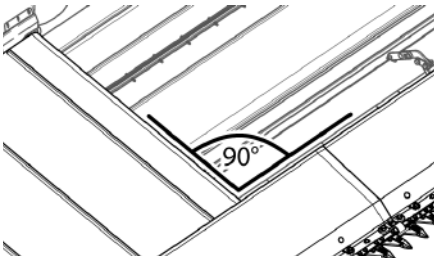


Fig. 124 - Draper tracking/alignment

3. If adjustment is required, first release the draper belt tension handle, then loosen the lock nut and reposition the drive roller via the adjustment nut. Re-engage the draper tension handle.

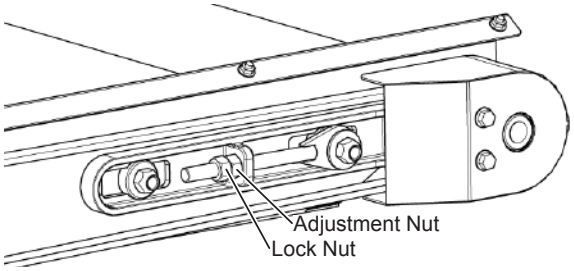


Fig. 125 - Center Draper Tension Adjustment

4. Once satisfied with drive roller alignment, re-tension the draper drive belt as described in section 22.6.

22.7.3 - Center Draper Belt Tension

WARNING!

When working under platform always lower hydraulic cylinder safety stop onto cylinder rod to prevent platform from lowering.

NOTE:

For difficult crops, additional belt tension may be required. Increase belt tension only if necessary as belt life, tracking, and drive are affected.

To tension the center draper:

1. Locate the two tensioners on each side of the center draper on the underside of the header.
2. Loosen the 1/2” UNC Jam Nut, hold the lock nut with a wrench to prevent it from moving and turn the adjuster bolt until the tension indicator is in line with the end of the spring. Retighten the jam nut.
3. Repeat the process for the adjuster bolt on the other side of the center draper.

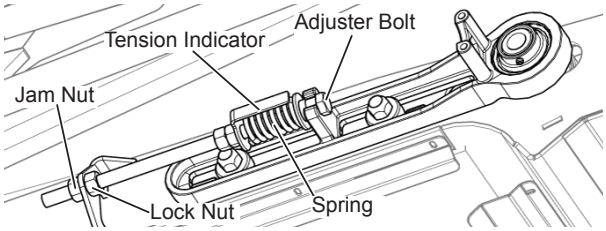


Fig. 126 - Center Draper Tension Adjustment

IMPORTANT!

If the tension spring is fully compressed and the draper is still not tensioned, the draper alignment/tracking needs to be adjusted. Ensure the idler roller is correctly aligned as described in section 22.7.2 on page 92.

22.7.4 - Draper Installation

1. Make sure that the quick release lever is in the open position prior to installing the draper on the deck.
2. Place draper bundle on the top of deck runners, and unroll with the slats facing up. Be sure to align the v-guide with the notched side of the roller toward the rear end of the header.
3. Wrap draper around one of the rollers and feed draper into the bottom runner of the deck. The bottom runners will support the draper, and prevent it from hanging down.
4. Pull draper through bottom runner, and wrap around the other roller. Pull the ends of the draper together. Install a connector bar to close the joint.

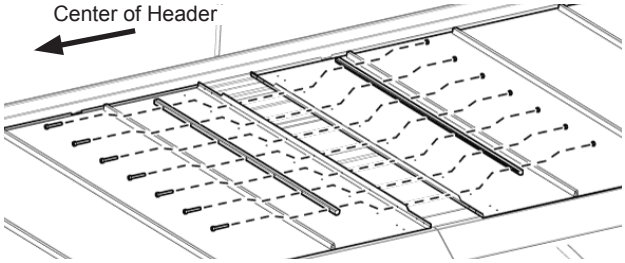


Fig. 127 - Installing Draper Connector Bar

5. The bolts for the connector bar should be installed with the bolt heads facing the center of the header. This helps prevent the crop being caught on the screws. Complete the installation by adjusting tension and tracking as described on the following pages.
6. Once the draper is installed on the draper deck, close the quick release lever (shown on following page) to apply tension to the draper.

22.7.5 - Draper Tensioner Setup

If the draper tensioner is ever disconnected, or if you suspect the tensioner has become misconfigured, and needs to be set up again, please follow these instructions:

1. Loosen the adjustment and lock nuts next to the spring indicator.

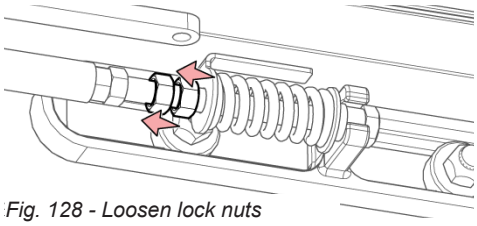


Fig. 128 - Loosen lock nuts

2. Push the indicator, spring, washer and ferrule tube up against the shoulder bracket as shown below. Ensure the ferrule tube is fully seated in the bracket.

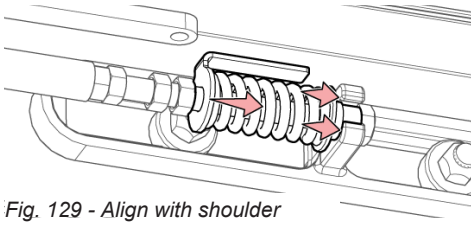


Fig. 129 - Align with shoulder

3. Tighten the first 1/2” nut until it JUST starts to compress the spring. Do not overtighten.

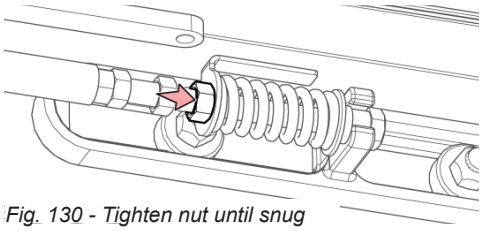


Fig. 130 - Tighten nut until snug

4. Tighten the lock nut up against the adjustment nut.

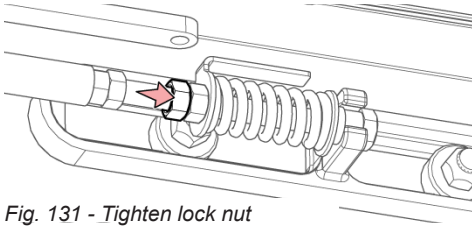


Fig. 131 - Tighten lock nut

5. Proceed to section 22.7.1 on page 92 to re-tension the draper.

22.7.6 - Remove & Install Center Draper Belt

1. When installing the center draper belt, you should first remove the bottom cleanout panel to allow access under the draper.

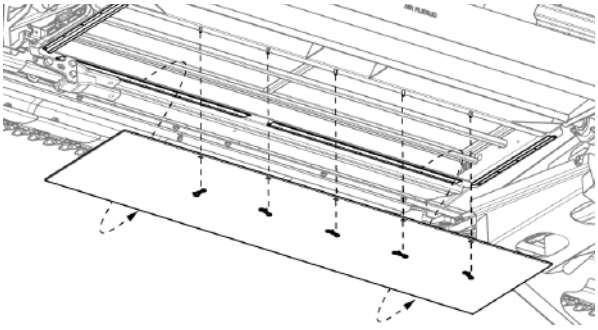


Fig. 132 - Remove Center Draper Cleanout Panel

2. Unpack and unroll the new draper on top of the center feed deck.

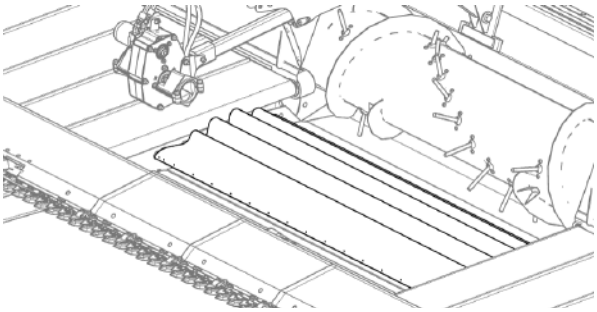


Fig. 133 - Unroll new draper onto center deck

3. Feed the draper around the rollers, under the center deck and back out the top.
4. Connect the ends of the draper together using the connector bars. Insert the bolts from the feed auger side of the center draper deck.

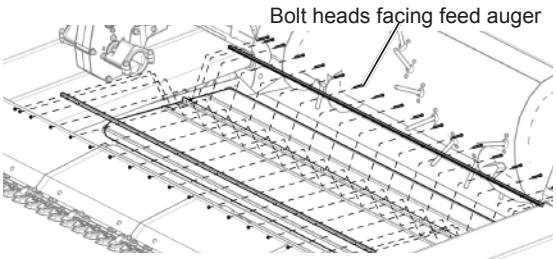


Fig. 134 - Secure Draper With Connector Bars

22.8 - Reel

22.8.1 - Set Reel Safety Stops

End reel arms: Raise reel completely and engage safety stops on reel lift cylinders at each end of the header. The stop must be snapped over cylinder with the lock pin.

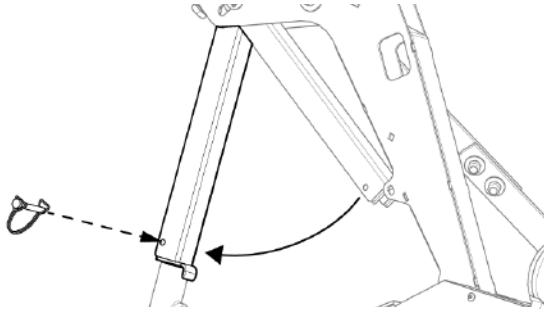


Fig. 135 - Reel Arm Safety Stop

Center reel arm: Pin reel arm in front of arm on center reel arm tower to hold it up mechanically.

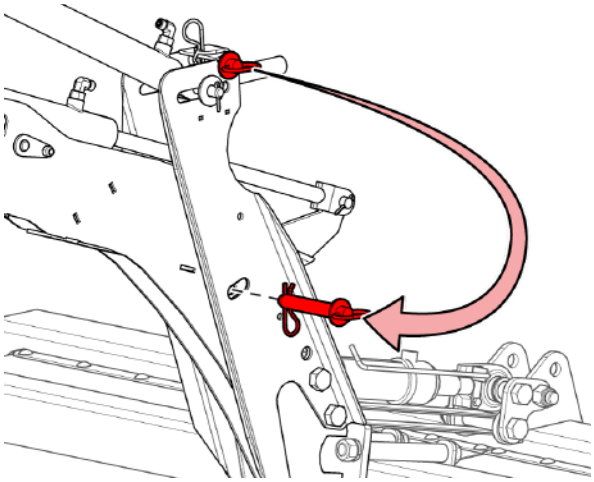


Fig. 136 - Center Reel Arm Lock Pin

22.8.2 - Minimum Reel Height and Leveling Reel

Proper setting of minimum reel height will protect against unexpected reel movements that can place reel fingers in contact with cutterbar.

1. Set the header to Rigid mode and wait for the knife to become fully rigid (up to 15 minutes).
2. Fully lower table. Fully lower reel.
3. Adjust finger pitch so the tips of the reel fingers are as close to the cutter bar as possible. See section 18.2 on page 58 for details on adjusting finger pitch.
4. Position reel fingers as close to cutterbar & feather plates as possible, using fore/aft cylinders.
5. Using a wrench to rotate the 3/4” UNC adjustment bolts on the left and right reel arms, raise or lower reel. Adjust each shaft so the clearance between the reel fingers and cutterbar is a minimum of 1 1/2” (3.8 cm) along full length of reel.

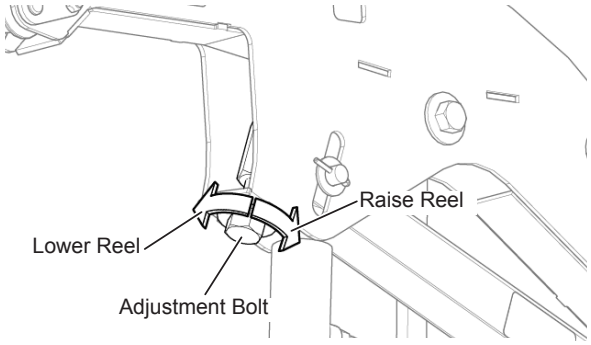


Fig. 137 - Reel Height Adjustment Bolt

6. Adjust the center reel arm height (if applicable) by removing the pin, releasing the lock and turning the 1” UNC adjustment nut as shown below.

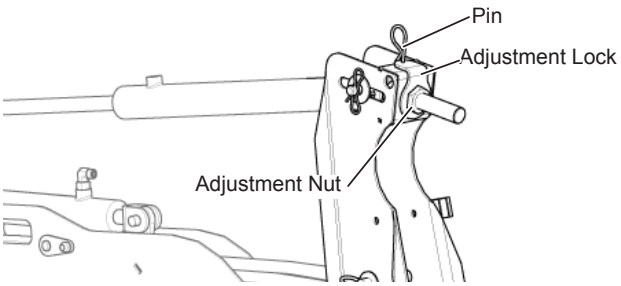


Fig. 138 - Center Reel Arm Height Adjustment

IMPORTANT!

Note that reel timing adjustments will change the reel finger-cutterbar clearance. The operator needs to be aware of finger clearance at all times.

22.8.3 - Reel Finger Replacement

WARNING!

To avoid serious injury, completely raise reel, shut OFF engine, set parking brake, and remove key. Engage reel lift safety stops,

1. Using a pair of slip-joint pliers, grab, squeeze and pull to remove the spacer next to the reel finger to be replaced.

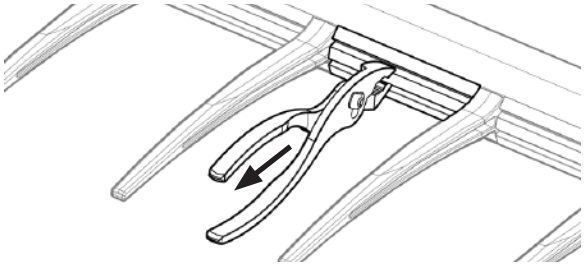


Fig. 139 - Remove reel finger spacer

2. Twist the reel finger counter-clockwise and pull to remove it from the channel.

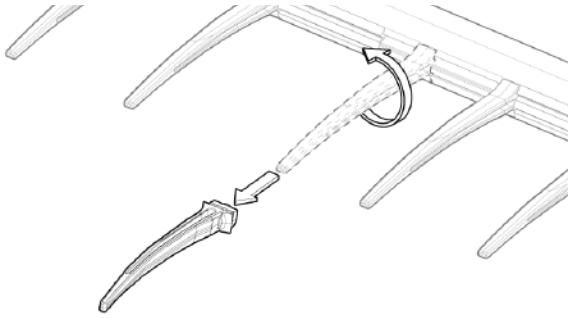


Fig. 140 - Twist clock-wise and pull to remove finger

3. Reverse the above procedure to install the new reel finger.

NOTE:

If multiple reel fingers are being replaced, only 1 spacer must be removed, the remaining spaces can be slid side to side while installing the fingers.

22.8.4 - Automatic Reel Speed

The reel speed sensor is calibrated for various combines. Additional calibrations can be added via software updates.

Generally, auto reel speed only works when auto header height is active.

NOTE:

Normally, this automatic control will not work if ground speed is less than 1 km/h (0.62 mph). When driving the header slowly through a down and lodged crop, temporarily shut off auto control and use manual speed controls.

It is recommended that the reel speed be set 10-20% faster than combine ground speed.

22.8.5 - Reel Speed Sensor Adjustment

The reel speed sensor (and all other speed sensors) need to be adjusted so that the face of the sensor is touching the rotating trigger, and then unscrew 1.5 turns (1 turn = 1mm). On the reel speed sensor, the rotating trigger is the teeth on the small reel drive gear. This is adjustable externally without any disassembly requirements. When adjusting the speed sensors, unplug the connecting wire so that the body of the sensor can spin in or out to its required position without twisting the wire. When done, tighten the jam nut and reconnect the wire. A ¾" wrench is required for the speed sensor jam nuts.

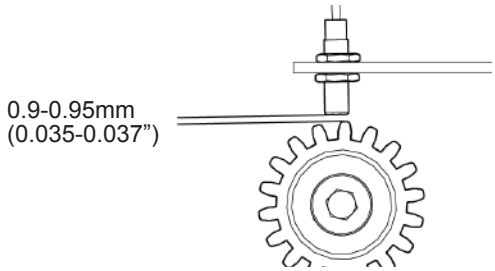


Fig. 141 - Speed Sensor Spacing

22.8.6 - Rephasing Reel Cylinders

If cylinders become unevenly extended then retract the cylinders and hold the cylinder retract switch for a few seconds to remove air from the system.

22.9 - Knife

22.9.1 - Knife Drive Component Torque Recommendations

When servicing the knife drive components, refer to the illustration below for recommended torque values.

NOTE: Apply red loctite to threaded bolts unless otherwise specified

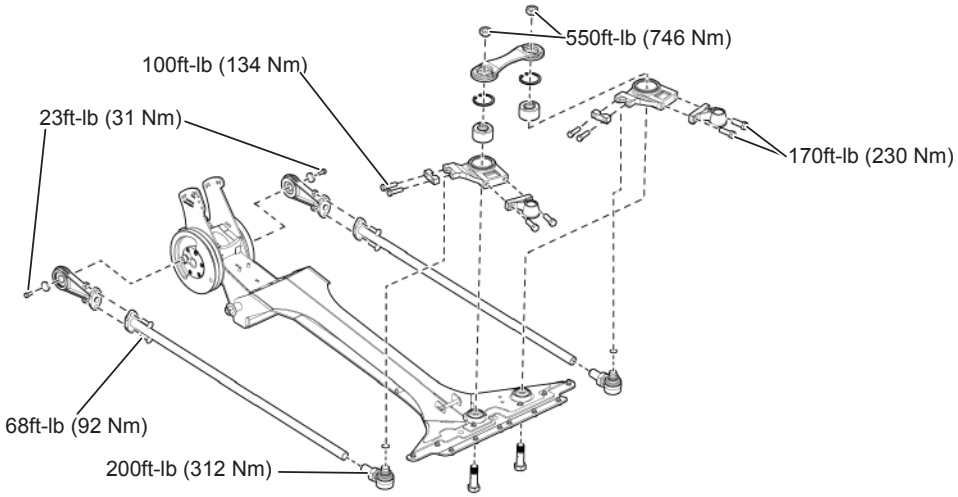


Fig. 142 - Knife Drive Torque Recommendations (see 24.7 on page 128 for details)

22.9.2 - Set Cutterbar Knife Timing

⚠ WARNING!

Ensure the combine feeder house is full raised and all safety locks are secured in place. Failure to do so can result in injury or death.

1. Disconnect the drive shaft PTO from the knife drive system to allow you to move the knives freely while aligning.
2. Remove the shield covering the flywheel.
3. Run a long bolt or rod through the alignment hole of the two flywheels to keep them aligned with each other.

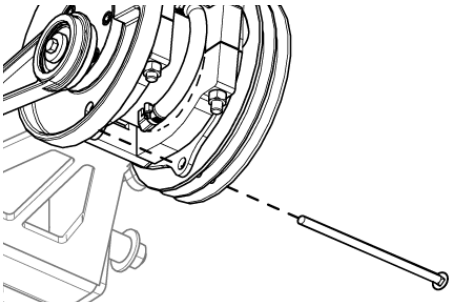


Fig. 143 - Align Drive Plates with a Bolt

4. Remove the feather plate from above the two knife heads on the cutter bar.
5. Check alignment of bell cranks and cutting sections to determine if timing adjustment is necessary.

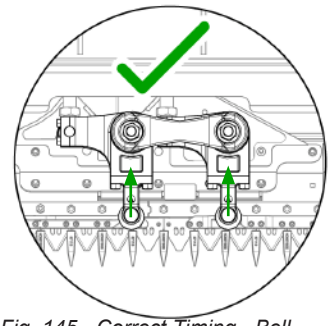


Fig. 145 - Correct Timing - Bell Cranks Aligned

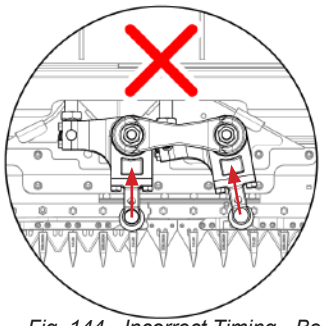


Fig. 144 - Incorrect Timing - Bell Cranks Not Aligned

6. Loosen the drive arm jam nuts

(Continued on following page)

7. Disconnect the two knife drive arms from each of the two knife drive flywheels as illustrated.

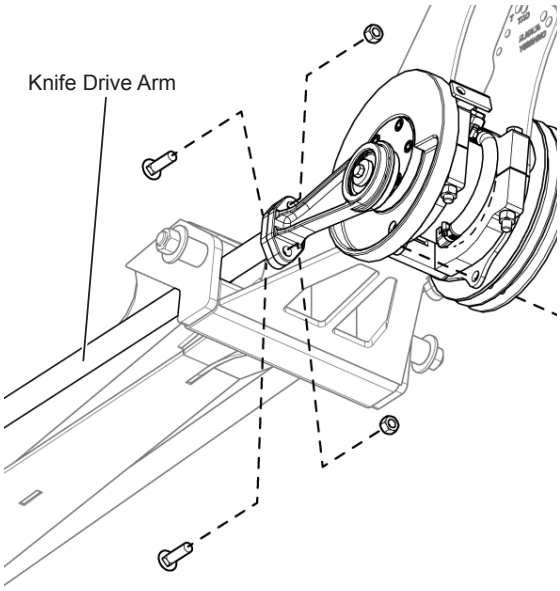


Fig. 146 - Disconnect both Knife Drive Arms

8. Adjust the knife drive arm length until the bell cranks and cutting sections are aligned. Screw/unscrew until tight.
9. Re-attach the knife drive arms to the flywheels when satisfied with alignment.
10. Re-torque everything.
11. Remove the bolt/rod that was inserted in the alignment hole on the flywheels.
12. Reinstall the safety shields & ensure the knife belt is properly tensioned.

IMPORTANT!

Remember to remove the rod or bolt that was temporarily installed in the flywheels to keep them aligned.

22.9.3 - Knife Section Service Kit

Service kits are available from your Honey Bee dealer to replace individual sections, or complete knife.

Kit contains all necessary hardware, sections and instructions.

22.9.4 - Cutterbar Maintenance

For optimal performance and durability of knife:

- Inspect for broken or improperly adjusted hold-downs.
- Inspect for dull or broken knife sections
- Inspect for dull, worn or broken guard cutting edges.
- Inspect for excessive binding between top of knife sections and top of guard slot. Binding can be caused by bent/misaligned guards or a bent cutterbar.
- Inspect knife head and knife drive alignment with first guard slot to ensure binding is not present in these areas.
- Ensure cutting system turns freely by rotating the drive by hand (drive shaft removed). If system does not turn freely, repeat inspection.

22.9.5 - Replacing the Knife

⚠ WARNING!

Knife sections are sharp!

Wear protective gloves when handling knives.

Raise platform completely and engage feeder house safety stop. Raise reel completely. Shut OFF engine, set parking brake, remove key. Engage reel lift cylinder safety stops

1. In order to replace either the left or right hand knife, you must first remove the feather plate from above the knife head bearings.

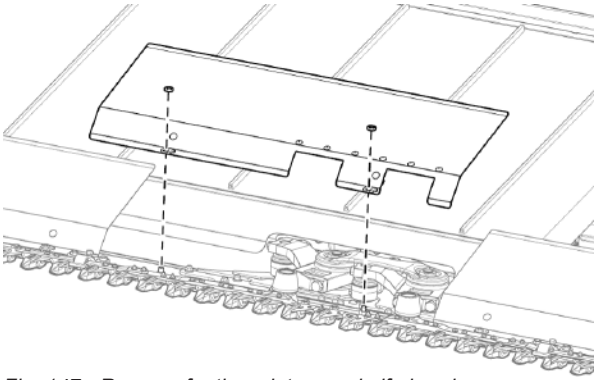


Fig. 147 - Remove feather plate over knife bearings

22.9.5.1 - Removing the Right Hand Knife

1. Remove the center divider from between the two knife heads.

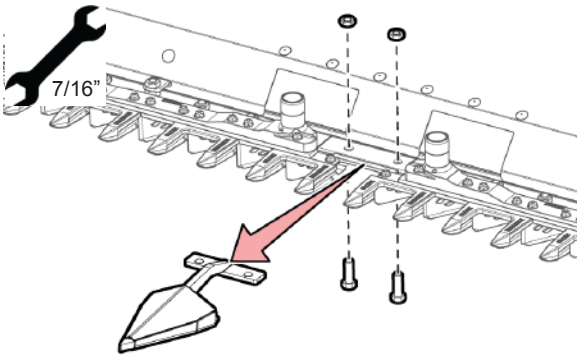


Fig. 148 - Remove center divider

2. Remove 4 to 6 guards from around the right hand knife head.

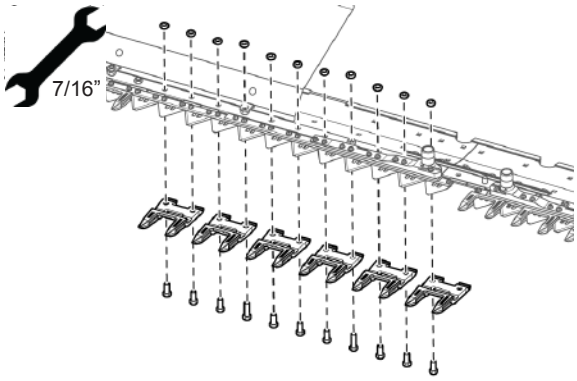


Fig. 149 - Remove guards around right-hand knife head

3. Remove the bearing housing from the right hand knife head.

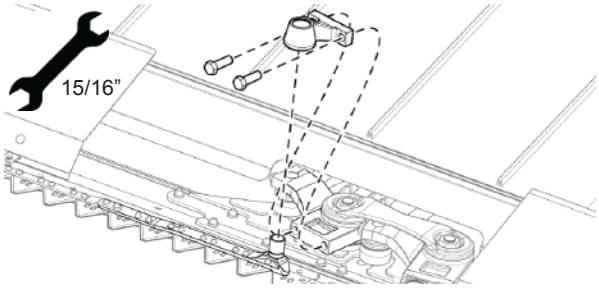


Fig. 150 - Remove bearing housing from right hand knife head

IMPORTANT!

There are a number of loose components within the knife head that you must take care to keep in place when reassembling. Take special precautions not to disturb the needle bearings within.

4. Wearing protective gloves, lift and pull knife head out from guards.

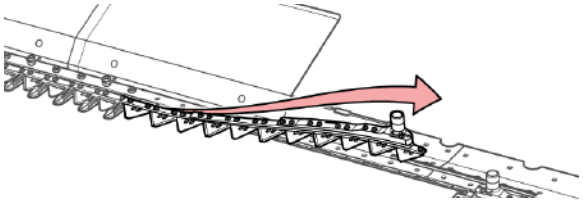


Fig. 151 - Lift & pull out the right-hand knife

NOTE:

It is easiest to lift the right-hand knife to remove it from the cutter bar but you may require a second person to help support the knife to prevent it from getting caught on the guards.

If performing this procedure alone, you may wish to lower the knife in order to pull it out of the cutter bar.

22.9.5.2 - Removing the Left-Hand Knife

1. Remove the center divider from between the two knife heads.

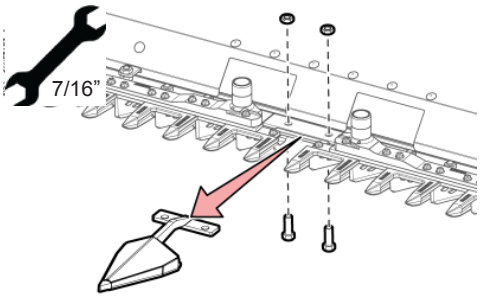


Fig. 152 - Remove center divider

2. Remove 4 to 6 guards from around the left hand knife head.

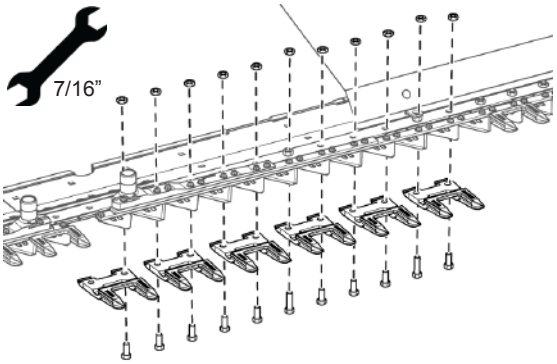


Fig. 153 - Remove guards around the left hand knife head

3. Remove the bearing housing from the left hand knife head.

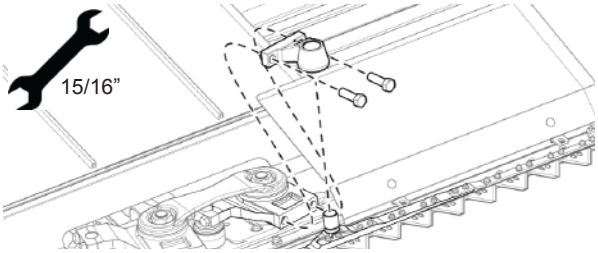


Fig. 154 - Remove left hand knife head bearing

IMPORTANT!

There are a number of loose components within the knife head that you must take care to keep in place when reassembling. Take special precautions not to disturb the needle bearings within.

4. Wearing protective gloves, lower and pull the knife head out from guards.

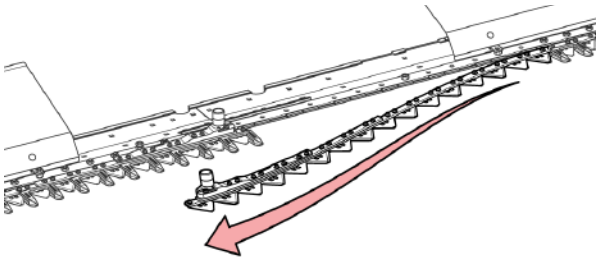


Fig. 155 - Lower and pull out the left hand knife

22.9.5.3 - Installing the new knife (left or right)

1. Slide the new knife into place.
2. Pack the bearing housing with grease, taking care not to dislodge the needle bearings.
3. Push the bearing housing back into place by hand only. Do not use a hammer or damage will result.
4. Check the bearing housing to ensure it is properly seated. When properly installed, the shiny bearing should not be visible below the housing.

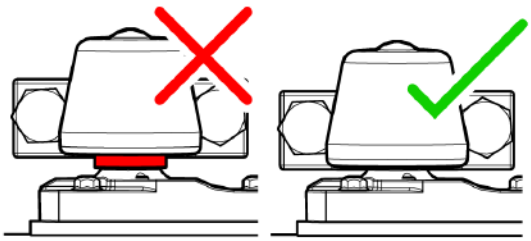


Fig. 156 - Ensure bearing is properly seated

5. Bolt the bearing housing in place and reinstall the grease zerk. Torque the two bolts to 170 ft-lb (230 Nm).

6. Use a grease gun to add grease to the bearing housing via the zerk until excess grease oozes out.
   - This will pressurize the bearing housing and push the knife head down hard.
   - Once some grease has purged out of the seal and greasing has finished, you will need to simultaneously pry up the knife head [pushing it into the bearing housing] and poke the grease zerk to allow excess grease pressure to be released.
   - Once the knife head is pushed all the way up into the bearing housing, release the zerk to seal it off again.

⚠ WARNING!

Failure to follow the steps above will result in premature wear of the knife and guards under the knife head. This is due to extreme friction that generates wear and high heat that could cause a fire.

7. Reinstall the 4 to 6 guards
8. Reinstall feather plate section above the knife heads.

STOP IMPORTANT!

Lubricate the knife head as described in section 22.18 on page 108.

22.9.6 - Remove and Install Knife Sections

⚠ WARNING!

Wear protective gloves when handling knives.

Raise platform completely and engage feeder house safety stop. Raise reel completely. Shut OFF engine, set parking brake, and remove key. Engage safety stops on reel lift cylinders.

Position knife so hold-downs and guard tangs do not inhibit section removal.

1. Remove the guard(s) around the broken knife section.

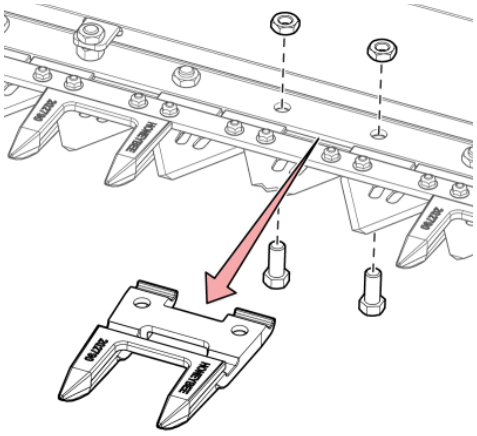


Fig. 157 - Remove Guard(s)

2. Remove the broken cutting section.

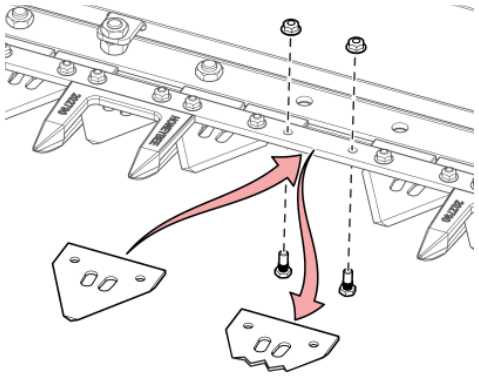


Fig. 158 - Replace broken section.

3. Install the new cutting section.
4. Re-install the guard.

22.9.7 - Repair Broken Knife Back

If the knife breaks during use, repairs can usually be made with a connector bar. Most often the knife back will break across a sickle section bolt hole. To use the connector bar properly, the damaged section needs to be cut out and/or a section of knife removed.

IMPORTANT!

If the knife breaks close to the knife head, remove that section of knife, reconnect the knife head, and then add the new section to the far end of the knife where there is less mechanical stress. The join in the two knives must be located midway under a sickle section, not in the gap between two sickle sections.

When you encounter this type of break, inspect the knife for dull/damaged guards, and sections, and gummy build-up which might cause binding.

22.9.8 - Connector Bar

The connector bar is used to repair a broken knife back. The break should be cut out and ground smooth. A cutting section should bridge the break and the connector bar should be installed on the top of the knife back as shown below.

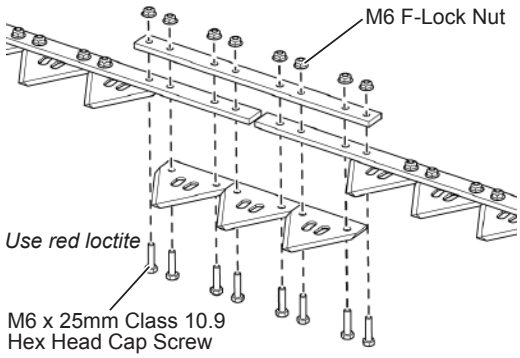


Fig. 159 - Connector Bar

Knife sections must be installed on the bottom side of the knife back.

NOTE:

When ordering a connector bar, request part number 100779.

22.10 - Dividers

22.10.1 - Divider Handle

Over time, the crop divider removal handle may become difficult to use. If this occurs, install one extra washer behind the handle as shown below. This will compensate for any 'slack' in the handle.

Fig. 160 - Add washer to tighten loose handle

22.10.2 - Divider Spring Float Setting

The crop divider float spring settings should be adjusted so the divider acts just heavy enough to follow the ground without riding up on top of the crop material.

If the divider bounces up and down, the spring float is set too light.

The recommend 'weight' of the divider will vary by crop conditions and will need to be adjusted for your application.

To adjust the float, simply remove the divider cover and:

- Tighten the bolt to increase float (make the divider lighter)
- Loosen the bolt to decrease float (make the divider heavier)

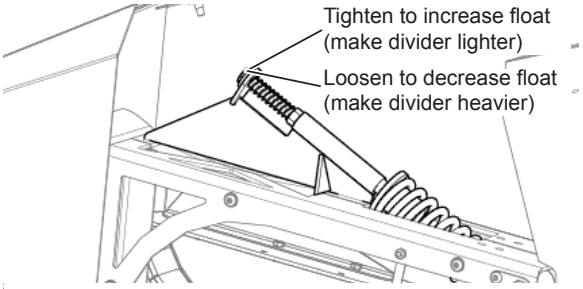


Fig. 161 - Divider Spring Float Adjustment

22.11 - Feed Auger

22.11.1 - Finger Timing Adjustment

In most circumstances, the feed drum finger timing should be set so the fingers are fully extended at their most forward position (timing handle in middle hole as shown below)

To adjust the finger timing:

1. Remove the lock bolt.
2. Adjust the Feed drum finger timing handle as necessary:
   - Move the feed drum finger timing handle down to move the fingers up and toward the rear of the header.
   - Move the feed drum finger timing handle up to move the fingers down and toward the rear of the header.
3. Re-install the lock bolt.

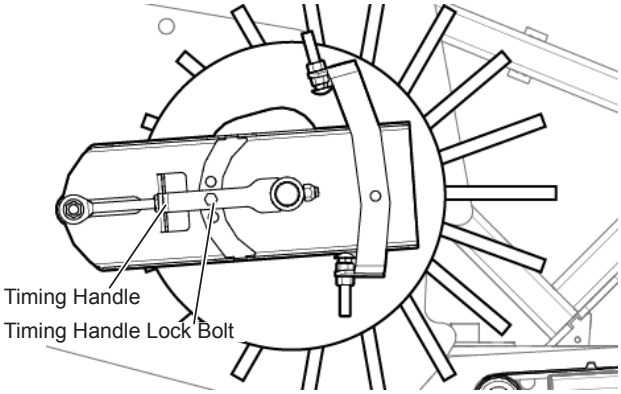


Fig. 162 - Feed Auger Drum Clearances

IMPORTANT!

After adjusting finger timing, ensure that the auger fingers will not contact anything unintentionally during operation. Failure to allow proper finger clearance will result in equipment damage.

22.11.2 - Feed Auger Drum Position

To move the feed auger drum forward or backwards, simply adjust the indicated bolt on the left and right ends of the feed auger.

IMPORTANT!

Ensure that the Feed Auger fingers will not contact anything unintentionally during operation. Failure to do so WILL result in equipment damage.

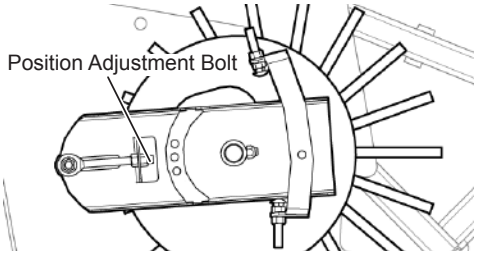


Fig. 163 - Feed Auger Drum Position

22.11.3 - Feed Auger Interior Access

To access the interior of the feed auger drum, rotate the drum until the access hatches are visible, remove the two 5/16” Torx screws holding each hatch in place, then pull the hatches away.

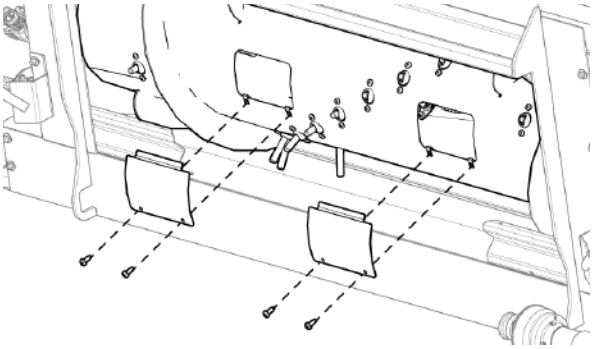


Fig. 164 - Feed Auger Drum Interior Access

22.11.4 - Remove and Install Feed Auger Fingers

Rotate the feed auger drum so the fingers are fully extended toward the front of the header. Open the access hatch and remove the indicated screw to release the finger to be replaced.

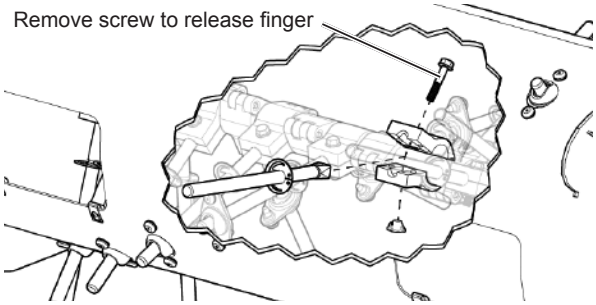


Fig. 165 - Replace Feed Auger Fingers

22.11.5 - Remove and Install Feed Auger Finger Guides

Only attempt to replace the feed auger finger guides for fingers that are fully retracted into the feed auger drum.

Remove the two 5/16” Torx screws securing the finger guide.

Remove the finger as described in section 22.11.4 on page 104.

Reinstall the finger along with the new guide.

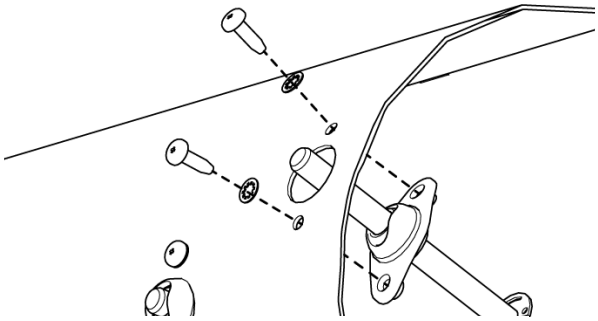


Fig. 166 - Replace Feed Auger Finger Guide

22.12 - Hydraulic Tilt Cylinder

There are two possible positions for the hydraulic tilt cylinder. The tilt cylinder should be set to the correct position for your combine from the factory, but if a different combine is ever used, you may need to adjust the position.

Position #1 Is used with combines that do not have an adjustable feeder house (the feeder house can’t tilt forward and backward).

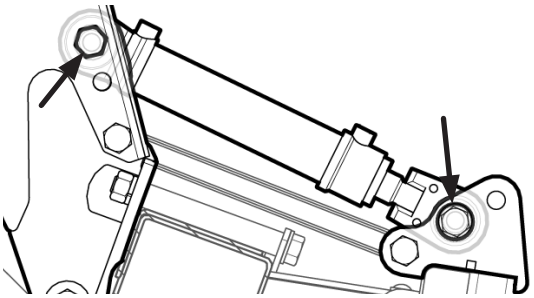


Fig. 167 - Hydraulic Tilt Cylinder - Position 1

Position #2 is used with combines that do have an adjustable feeder house (the feeder house can tilt forward and backward).

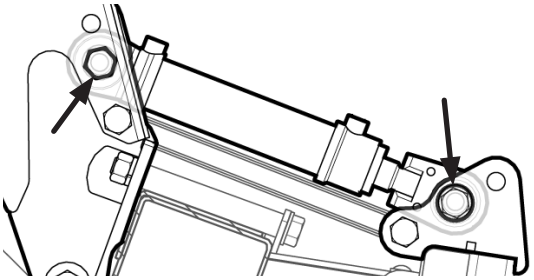


Fig. 168 - Hydraulic Tilt Cylinder - Position 2

Position #3 should only be used with combines that have a steep feederhouse or do not have an adjustable feederhouse. Also add a warning note after this section saying “If tilt cylinder position was changed please check for auger drum clearance with lateral deck and auger drum driveshaft clearance with frame before operating again”.

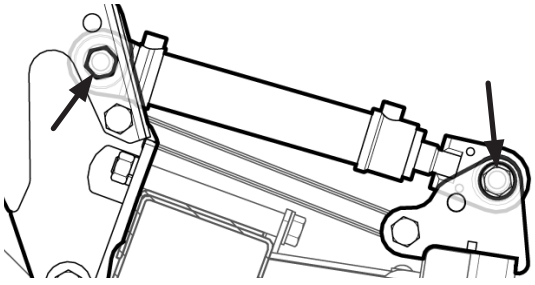


Fig. 169 - Hydraulic Tilt Cylinder - Position 3

⚠ WARNING!

Ensure the safety strap is properly installed, and undamaged prior to disconnecting the tilt cylinder.

Before attempting to adjust the tilt cylinder ensure the header is lowered to the ground and pressure is relieved from the tilt cylinder or injury/death may result.

If tilt cylinder position has been changed please check for auger drum clearance with lateral deck and auger drum driveshaft clearance with frame before operating the header.

22.12.1 - Reposition the Hydraulic Tilt Cylinder

1. With the header mounted on the combine, slowly lower the header down onto the ground until you see some slack on the tilt cylinder.

⚠ WARNING!

Shut OFF the combine engine, set parking brake, and remove key before exiting the cab.

2. Remove the bolt securing the tilt cylinder to the header frame (do not remove the pin securing the cylinder to the sub frame)
3. Reposition the cylinder to the appropriate hole and reinstall the bolt.

22.13 - Center Rock Trap and Draper Cleanout

The center deck features a rock trap behind the cutterbar. This is hinged at the front edge and held closed with a locked lever arm. To open the rock trap door, lift/push the T handle towards the center draper and the door will swing down/open. Clean out by pushing debris into the opening. When done, pull the T handle towards you and press down to lock it.

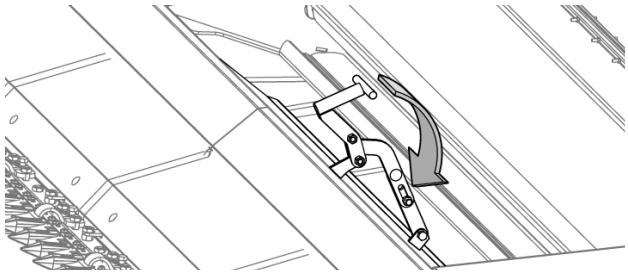


Fig. 170 - Open Rock Trap at Center Draper

STOP IMPORTANT!

Always close the center rock trap door before operating the header.

The draper cleanout is located under the center deck draper. It is held in groves on the side and front of the panel. The rear edge is held in place by a series of pins. For quick cleanout, remove only the center 3 pins, pull down the rear edge of the plastic and reach in to clean out debris. For a full inspection, all pins are removed and the plastic sheet pulled out to the rear. Ensure pins are loaded from front to back to prevent inadvertent removal by stubble, etc.

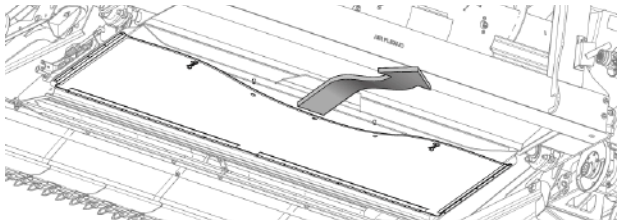


Fig. 171 - Open Center Cleanout to Remove Debris

22.14 - Open Side Shield

To gain access to the drive shafts and belts on the left side of the subframe, you must open the side shield. To open the side shield, simply remove the pin locking it in place, lift slightly and swing open.

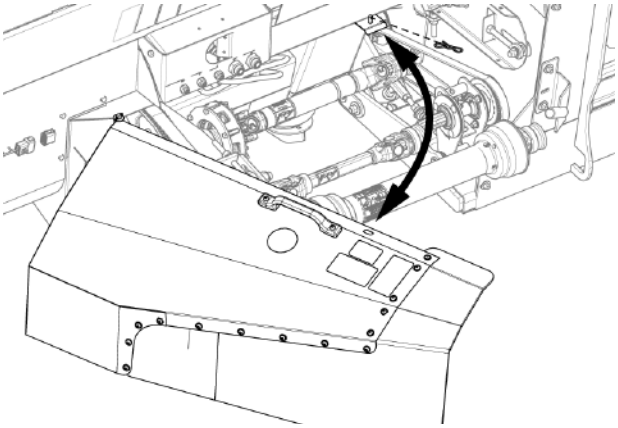


Fig. 172 - Open Side Shield

22.15 - Drive Shaft Lubrication

There are 3 points on each drive shaft that must be lubricated every 50 hours of operation.

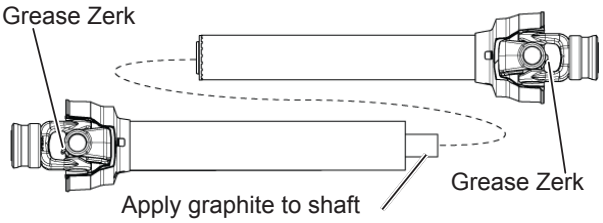


Fig. 173 - Drive shaft grease points

See section 22.18.8 on page 110 for more details.

IMPORTANT!

There is one extra grease zerk on the clutch of the feed drum drive shaft that must also be lubricated.

22.16 - FLEX Header Height Control Sensor Bar Alignment

After transport or long periods of operation, you may need to adjust the FLEX HHC sensor arms and sensor bar.

The header should be mounted on the combine and raised from the ground.

IMPORTANT!

Ensure the header is in RIGID mode and the air system is pressurised to 90-115 psi.

From the factory, the sensor contacts should be contacting their respective rollers.

All sensor contacts must remain in contact with the center of the roller. The design of the contacts may vary.

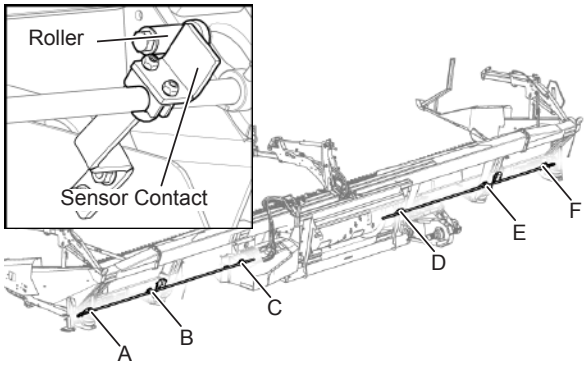


Fig. 174 - FLEX HHC sensor contact positions

Ensure that the Sensor Bar sensors are all oriented so the sensor arm and sensor wire are both pointing in the same direction as shown in the illustration below.

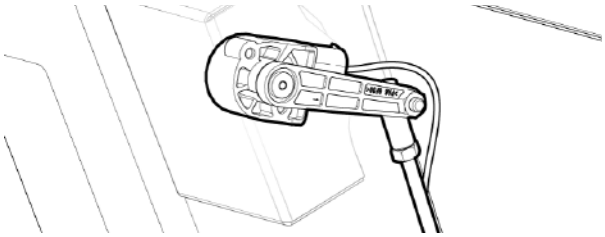


Fig. 175 - HHC Sensor Alignment

22.17 - Checking for Air Leaks

If the air system does not maintain pressure, there may be an air leak. To check for leaks, fill a spray bottle with soapy water and spray the following locations while watching for air bubbles. Replace all leaking fittings.

Check the fittings on the air tank and air manifold located just to the left of the feeder house.

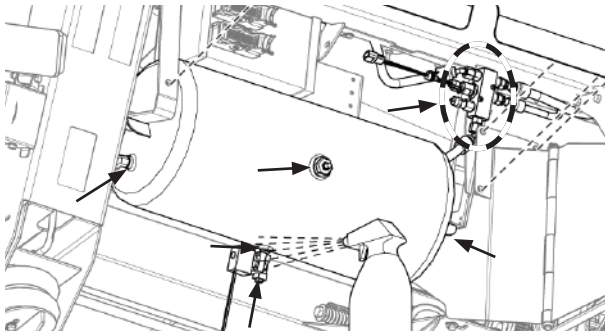


Fig. 176 - Check Air Tank for Leaks

Check the 'T' fittings located on the front of each strut (between the struts and the draper back panels)

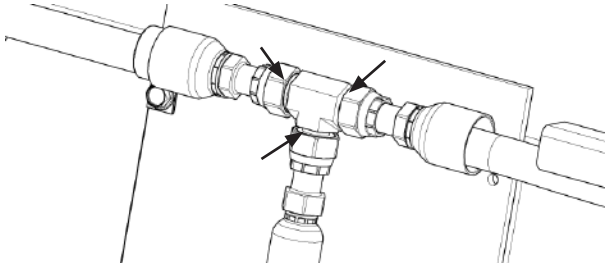


Fig. 177 - Check T Fittings On Front Side of Struts for Leaks

Check the airbag fittings located at the bottom rear of each strut.

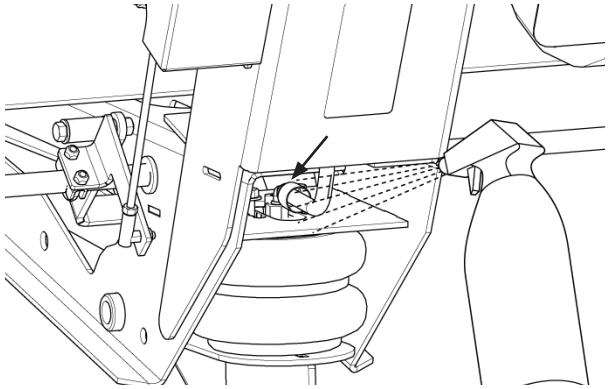


Fig. 178 - Check Airbag Fittings for Leaks

22.18 - Lubrication

It is extremely important that you are aware of ALL lubrication points on the header (see page 110 and page 111).

IMPORTANT!

Failure to use the grease specified in this manual will result in premature failure of knife bell crank bearings and knife head bearings and warranty will be void.

If a grease fitting is missing, replace it immediately. Clean fittings thoroughly before using grease gun.

22.18.1 - Grease Specifications

For all bearings on the header except for transport wheel bearing (includes knife bell crank bearing, knife head bearings, PTO shaft U-Joint bearings, gauge wheel grease points and cross auger U-Joint bearings) please use the following grease:

- Grease Specification: NLGI Grade #2 Thickener Type - Lithium Complex, Molybdenum Disulfide (wt%) - 3-5%, Viscosity of Oil (ASTM D 445) cSt @ 40oC - 400 to 500

List of Acceptable Greases:

- Mobil SCH XHP 462
- Shell Gadus S3 V460D 2
- Castrol Contractor Special 2
- Conoco Phillips 66 Megaplex NLGI 2 XD3 or XD5
- Lucas Oil Heavy Duty Mining & Construction Grease Product #10597, 10597, 10881 NLGI GC-LB
- Petro Canada Precision XL3 Moly EP2
- Cat Extreme Application Grease - Desert NLGI 2
- MyStik JT-60 Hi-Temp Grease with Moly

IMPORTANT!

Some types of grease thicken and are not compatible with others.

22.18.2 - Wheel Bearing Grease

Transport wheel bearings should be repacked once a year if used on roads. The following grease is recommended for the transport wheel bearings:

- NLGI Performance Classification GC-LB. GC-LB means bearing and chassis-load bearing. #2 EP GC-LB is the most common grade of automotive grease. EP = Extreme Pressure fortified, which is desirable.

22.18.3 - Alternative and Synthetic Lubricants

Conditions in certain areas may require lubricant recommendations different from those printed in this manual. Consult your dealer for more info.

Synthetic lubricants may be used if they meet the requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to both conventional and synthetic lubricants.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

22.18.4 - Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants. Dirty lubricant = grinding paste!

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

22.18.5 - Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your dealer to obtain specific information and recommendations.

22.18.6 - Reel Lubrication

The reel system requires NO lubrication.

IMPORTANT!

Do NOT add grease to the zerks on each end of the main reel tube. There are plastic bushings inside this assembly and the grease will shorten their lifespan.

22.18.7 - Gearbox Lubrication

75W90 oil must be used when replacing the oil in the gearboxes.

22.18.8 - Lubrication Location & Interval

	Location	Lubricant	Quantity	Interval
A	Grease knife head bearings @ zerk (top side) x2	Use only the grease type strictly specified on the previous page.	1-2 shots	10 hours
B	Grease knife bell crank bearings @ zerk (bottom side) x2		1-2 shots	10 hours
C	PTO Drive shaft U-Joint grease zerks (2 on each end of shaft)		2-3 shots	40 hours
F	Cross auger u-joint bearing @ zerk x2		1-2 shots	40 hours
G	Check main knife bearing housing oil level	75W90 Oil	as needed	50 hours
	Replace oil in main knife bearing (75W90)	75W90 Oil	0.20 L (half full)	1 year
H	Check LH & RH draper gearbox oil level	75W90 Oil	as needed	50 hours
	Replace oil in LH & RH draper gearbox	75W90 Oil	0.50 L (half full)	1 year
I	Telescoping drive shafts (5 shafts)	High quality graphite dry lubricant spray	coat shaft	1 year
J	Transport wheels hub and spindle	High quality wheel bearing grease	re-pack	1 year
K	Knife	water/diesel/ oil	Soak	as needed

All other rotating elements on this product use sealed bearings and permanent bushings (not shown). These must be replaced if worn. Typically, loose indicates the bearing is worn.

IMPORTANT!

To avoid equipment damage and system contamination, always clean grease fittings before and after lubrication. If a grease fitting is damaged or missing, replace it immediately. Always tighten plugs securely.

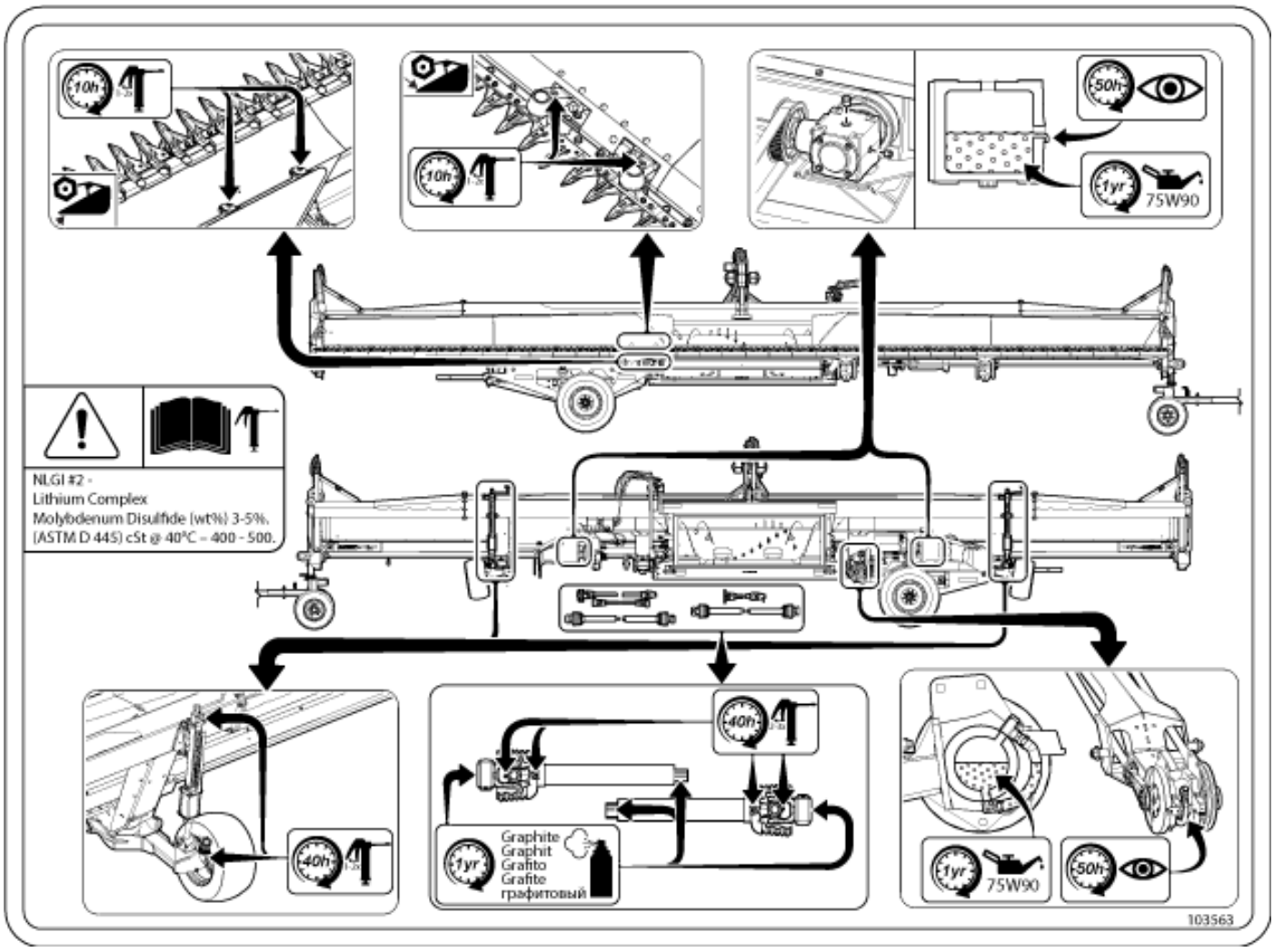


Fig. 179 - Lubrication Locations

23 - Header Transport & Storage

23.1 - Read before Transporting

There may be regulations restricting transport of heavy equipment on in your area. Be aware of local regulations before transporting.

When transporting your header via trailer or transport cart, your local regulations may require a maximum equipment width of 8 ft. (2.44 m). To achieve this width, lower the front-most reel fingers into their transport position as outlined in this section of the manual.

⚠ WARNING!

Do not exceed 25 mph (40 kph) when towing the header via transport cart. Excessive speeds can result in injury or equipment damage and may not be permitted by regulations in your area.

Do not transport header without wheel axle bolts installed!

23.2 - Measurements for Flatbed Transport

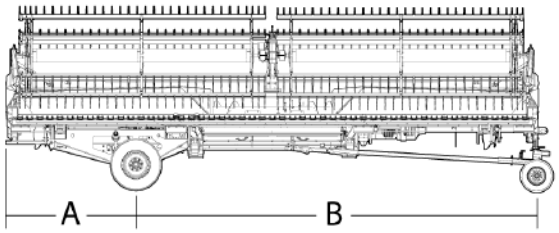


Fig. 180 - Transport Measurements

Header Size	Distance A		Distance B	
	Feet	Meters	Feet	Meters
25ft	6.4	1.96	19.6	5.99
30ft	8.9	2.71	22.4	6.83
36ft	11.8	3.59	25.6	7.81
40ft	13.8	4.20	27.3	8.32
45ft	16.4	5.00	29.9	9.12
50ft	18.9	5.76	32.4	9.88

23.3 - Transporting on Combine

⚠ WARNING!

Avoid transporting the header on the front of a combine on public roadways whenever possible. The extreme width of the header, combined with low visibility can pose danger to the equipment operator and the public.

- Reflective material must be clean and visible
- A spotter or pilot vehicle should be used when there is the possibility of encountering traffic.
- Drive at a speed that is safe for conditions.
- Completely raise platform and engage the feeder house safety stop.
- The reel must be completely retracted and at an appropriate height for maximum visibility.
- When transporting on public roads, flashing warning lights and tail lights on both sides provide warning to other vehicles. Warning lights are required when driving a combine on public roads.
- Operators should be aware of the assembled width of the Combine, and must check local regulations before transporting on public roadways.

NOTE:

Some combines disable auto header height functions when set to road mode and do not remember the settings when put back into field mode. Ensure auto header height and auto lateral tilt settings are enabled prior to operating the header again.

23.4 - Prepare the Header for Transport on Cart or Trailer

1. Remove the crop dividers as shown below.

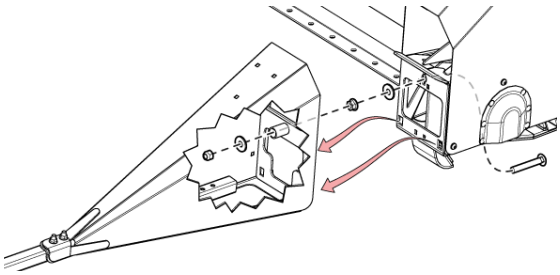


Fig. 181 - Remove Crop Dividers

⚠ WARNING!

Use lifting aids and proper lifting technique to avoid muscle strain or back injury.

2. Store the dividers on top of the center feed deck, take care not to damage the draper.

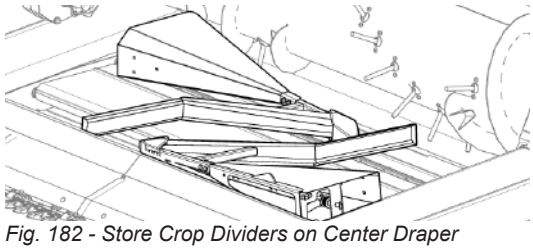


Fig. 182 - Store Crop Dividers on Center Draper

3. Completely lower and retract the reel.
4. Raise the gauge wheels
5. Secure the reel in place to prevent it from rotating during transport.
6. At each end of the reel, remove the indicated bolt to allow you to drop down the header's front-most reel finger as shown below.

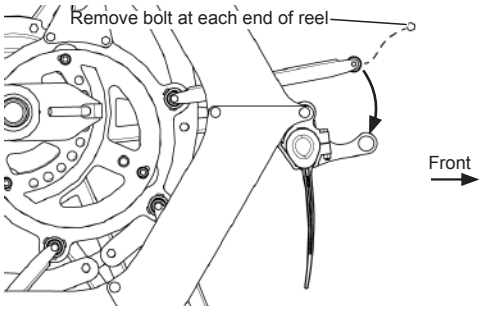


Fig. 183 - Drop Reel Fingers for Transport

7. Ensure the cutter bar is locked up in rigid mode to prevent it from bouncing during transport.

23.5 - Transport Using Optional Transport Cart

There are two components to the optional transport package: The draw bar axle and the transport cart.

1. Ensure the header is in RIGID mode with the air system fully pressurized to 100 psi.
2. Completely lower and retract the reel.
3. Tilt the header backward by fully retracting the tilt cylinder.
4. Raise the header.

⚠ WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab. Lock the Feeder House Lift Cylinders in raised position as described in your Combine Owner's Manual.

5. Roll the transport into position under the header.
6. Attach the 4 straps to the struts on the underside of the header.
7. Restart the combine and lower the header until it is one foot above the transport.

⚠ WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab.

8. Use the hand crank to raise the transport up into position.

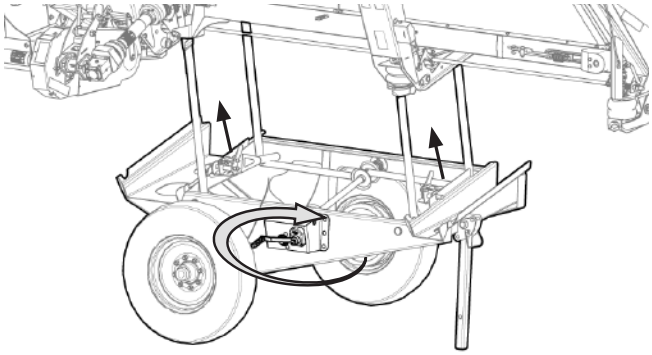


Fig. 184 - Install Header Transport Cart

9. Swing the transport support bar into its transport position, lock in place with its pin.

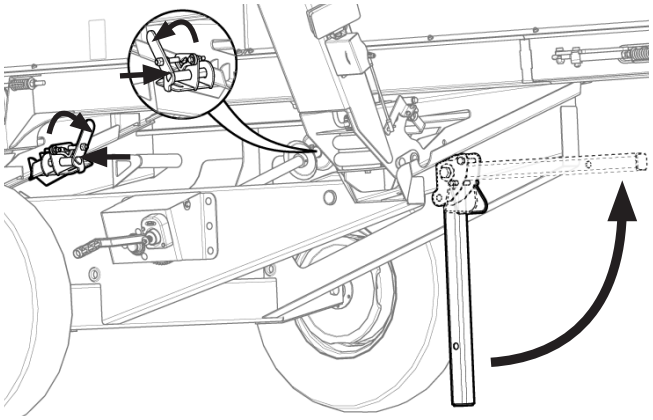


Fig. 185 - Lock Transport Cart to Header

10. Connect the transport's electrical line to the header.
11. Roll the drawbar under the drawbar mount, pull the pin to lower the draw bar mount onto the draw bar axle.

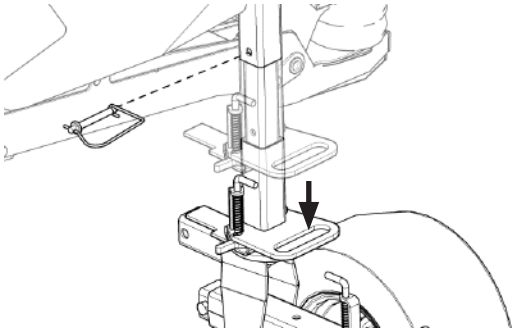


Fig. 186 - Lower draw bar bracket onto draw bar axle

12. Remove all locks, pins/bolts which hold Auger Adapter to the Feeder House of Combine.
13. Restart the combine and completely lower header to the ground.
14. Lock the transport cart in place via the two lock pins.

⚠ WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab.

15. Re-insert the pin to secure the draw bar axle in place.

16. Disconnect platform drive shafts from feeder house and place in storage positions. Ensure the drive shaft chains are hooked up and out of the way.

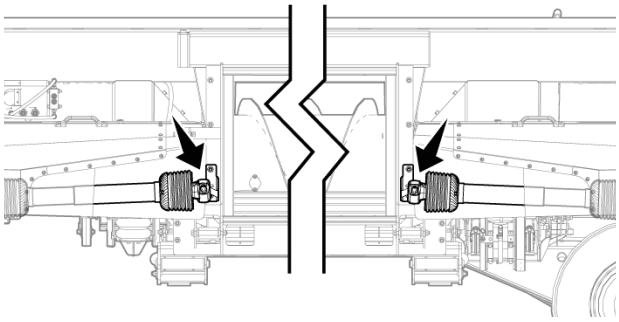


Fig. 187 - Drive shaft storage positions

17. Disconnect hydraulic coupler and place in storage position.
18. Disconnect electrical cable & place in storage position.

NOTE:

If transporting the header with installed transport cart on a flatbed trailer, skip the remaining steps and proceed to section 23.6.1 on page 117.

19. Restart the combine, lower the feeder house slightly and carefully back away.

23.5.1 - Trailer Brake Settings

Before towing the header on the optional transport cart, ensure you set the electric brake controller sensitivity in the truck's cab.

23.5.2 - Off-Road Transportation

When transporting the header in rough or off-road conditions, take extreme care to drive slowly with no sharp turns. Failure to do so can result in a roll over.

23.5.3 - On-Road Transportation

Do not exceed the speed of 25 mph (40 kph) while transporting the header on public roads. Always follow local regulations.

23.5.4 - After Transporting

Inspect and clean the right hand drive area after transporting your equipment. Rocks and debris can be flung into the drive assembly during transport.

23.6 - Transporting on Flatbed Trailer

IMPORTANT!

A combine does not have the reach to lift the header onto a flatbed trailer without a side-loading ramp. Without a ramp, specialized lifting equipment is required for lifting the header.

23.6.1 - With Optional Transport Package

Prior to following the steps in this section, ensure that you have followed the steps in section 23.5 on page 115.

IMPORTANT!

When transporting your equipment via flatbed trailer, use the provided hold-down brackets with your header to avoid equipment damage.

1. Ensure the draw bar axle hold-down bracket is in place.

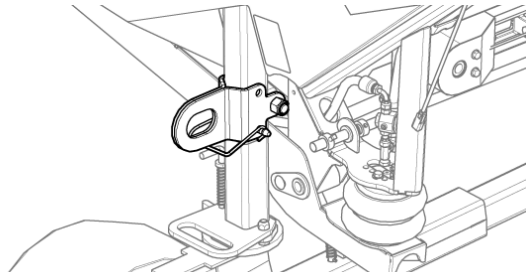


Fig. 188 - Check for draw bar axle hold-down

2. Ensure the draw bar holder is in place, install if necessary. This bracket will interfere with normal header operation and must be removed after transport is complete.

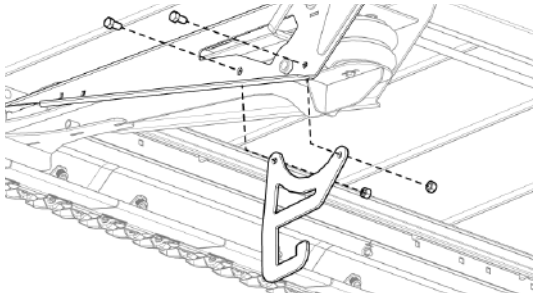


Fig. 189 - Draw bar holder

3. Swing the draw bar around and hook it onto the draw bar holder.

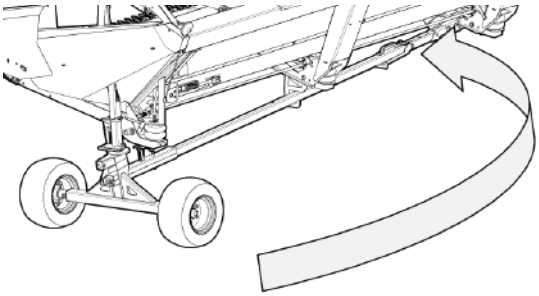


Fig. 190 - Swing Draw Bar into Storage Position

4. Inspect the axle on the header transport and ensure the indicated bracket is installed next to each wheel. This bracket should remain installed at all times.

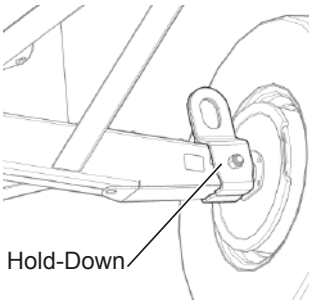


Fig. 193 - Axle Hold-Down

5. Lift the header onto the flatbed trailer and secure in place using the hold-down brackets previously mentioned. If additional strapping is required, ensure that only structural components are used to secure the header to the trailer. Strapping the header down via lightweight components such as the reel will result in equipment damage.

WARNING!

Use appropriate lifting equipment. Ensure the header is firmly secured. Keep bystanders away. Failure to follow instructions can result in equipment damage or death.

23.6.2 - Without Optional Transport Package

1. Ensure the header is in RIGID mode with the air system fully pressurized to 100 psi.
2. Completely lower and retract the reel.
3. Tilt the header backward by fully retracting the tilt cylinder.

WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab. Lock the Feeder House Lift Cylinders in raised position as described in your Combine Owner's Manual.

4. Disconnect platform drive shafts from feeder house and place in storage positions.

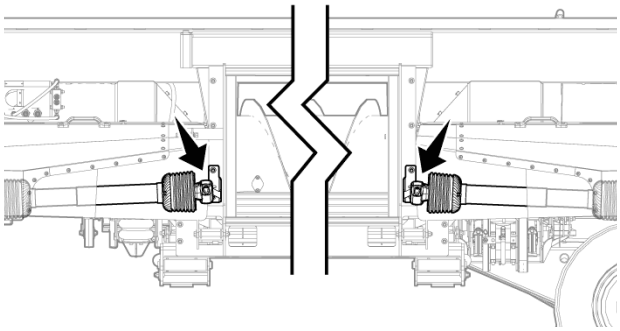


Fig. 191 - Drive shaft storage positions

5. Disconnect hydraulic coupler and place in storage position.
6. Disconnect electrical cable & place in storage position.
7. Place two wood blocks on the flatbed trailer where the header subframe will be sitting.
8. Use appropriate lifting equipment to raise the header and gently place it on the wood blocks on the flatbed trailer. A combine can only be used to lift the header if using a stable side-loading ramp.

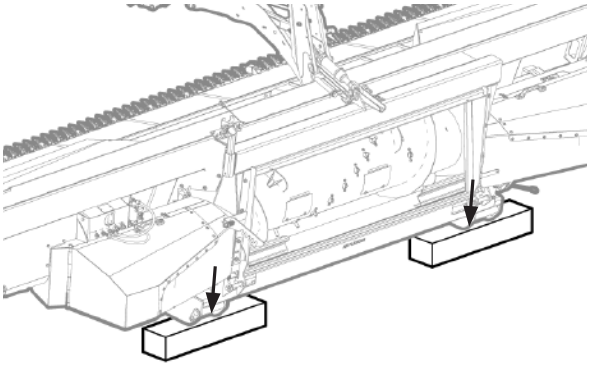


Fig. 192 - Lower Header onto Blocks

WARNING!

Use safe lifting procedures or serious injury may result.

9. Strap down the header using structural components only.

IMPORTANT!

When strapping the header to the flatbed trailer, ensure that only structural components are used to support the straps. Strapping the header down via lightweight components such as the reel will result in equipment damage.

IMPORTANT!

Ensure that all required standards and regulations are followed in regards to transporting heavy equipment on public roadways.

23.7 - Quick Dismount

The header can be lowered directly onto the ground for short or long term storage.

IMPORTANT!

If storing the header for long periods of time, ensure it is protected from the elements.

1. Ensure the ground is firm and level.
2. Place two wood blocks on the ground below the bottom strut of the subframe.
3. Start the combine, fully retract the hydraulic tilt cylinder, lower and retract the reel.
4. Remove pins and locks holding feeder house to header.
5. Gently lower the header down onto the blocks.

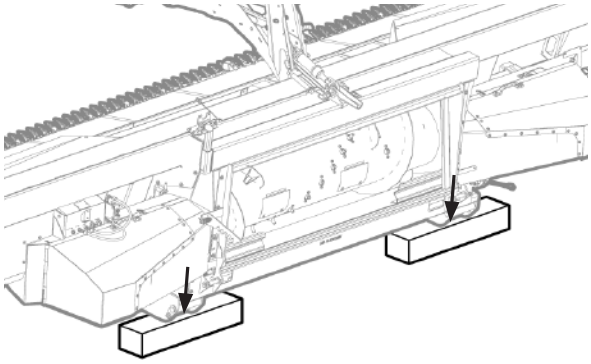


Fig. 194 - Lower Header onto Blocks

WARNING!

Engage the Parking Brake, shut down the engine and wait for all moving parts to stop before exiting the cab.

6. Disconnect platform drive shafts from feeder house and place in storage positions.

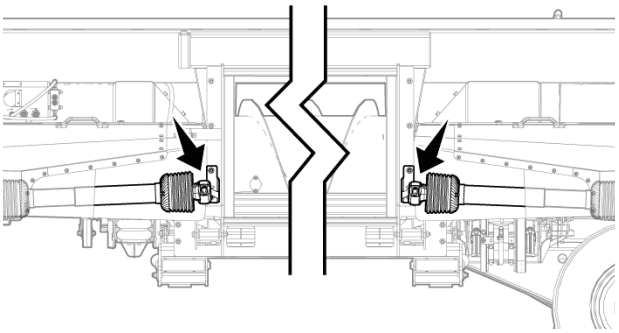


Fig. 195 - Drive shaft storage positions

7. Disconnect hydraulic coupler and place in storage position.
8. Disconnect electrical cable & place in storage position.
9. Restart the combine, lower feeder house slightly and back away.

23.8 - End of Season Storage

- ☐ Lower platform onto safety stops or blocks.
- ☐ Open side shields (see section 22.14 on page 106) and clean all chaff and debris.
- ☐ Loosen tension on side draper belts (See section 22.7.1 on page 92).
- ☐ Lift up on side drapers and power wash inside belts. Make sure to wash away all chaff and debris.

IMPORTANT!

Do not use high-pressure washer spray directly on electronics, bearings, decals, or any other sensitive areas. High-pressure water can remove seals, lubricants, decals, and damage electrical systems.

- ☐ Remove center draper belt and clean frame (see section 22.7.6 on page 94). Reinstall belt loosely.
- ☐ Check fluid levels on all gearboxes.
- ☐ Apply grease where needed as outlined in section 22.18 on page 108 of this manual.
- ☐ Completely lower and retract the reel.
- ☐ Raise the center sensor into it's storage position.
- ☐ Paint all parts where paint is worn or chipped.
- ☐ Close side shields.
- ☐ If possible, shelter header in a dry place.

24 - Appendix

24.1 - AGCO Bezels

The AGCO style of auger adapter provides a series of bezel layouts. These adapters are needed to match your new header to the opening of the feeder house on your combine.

Combine	Model	Lateral Tilt	Non Lateral Tilt	Note
Gleaner	S67, S77, S68, S78, S88, R76, R75, R66, R65, R72, R62	Layout 2	Layout 1	62/72 if equipped with removable indexing blocks.
	C62	N/A	Layout 5	Use 3/16 tab as spacer at top of web.
	A65, A66	Layout 3	Layout 3	
	A75, A76, A85, A86	Layout 4	Layout 4	Use 3/16 tab as spacer at top of web
Massey Ferguson	9790, 9895, 9795, 9540, 9560, 9545, 9565	Layout 4	Layout 4	Use 3/16 tab as spacer at top of web.
	9690, 9520, 9685	Layout 3	Layout 3	
	8780 V	Layout 3	Layout 3	
	8780 XP/W	Layout 3	Layout 3	
	8570	N/A	Layout 6	Cut end off guides and drill new inner hole to place as shown.
	8680	N/A	Layout 5	Use 3/16 tab as spacer at top of web
Challenger	670, 680B, 540C, 560C, 540E, 560E	Layout 4	Layout 4	
	660	Layout 3	Layout 3	

24.1.1 - Configuring the AGCO Bezels

Refer to the following diagram to familiarize yourself with the key components:

- Guide Plate (includes a portion bent back at 90 degrees.)
- The First Bezel.
- The Second Bezel.
- Web (extends backward from the bezels at 90 degrees.)

In addition, there are long and short sections of flat-bar used to reinforce connections.

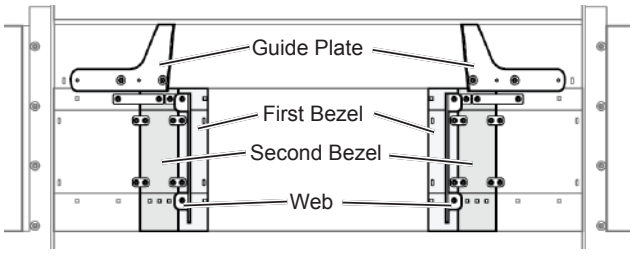


Fig. 196 - AGCO Bezels

Configuration	Components Used	Notes
Layout #1	1,2,3,4	The guide plates, (#1) are positioned using the innermost holes, as seen in the main diagram.
Layout #2	1,2,3,4	The guide plates, (#1) are moved outward exposing one hole on the inner side.
Layout #3	3,4	The guide plates, (#1) and the first bezel (#2) are removed. Reposition the web so that the vertical portion is midway on the remaining bezel.
Layout #4	4	The web is positioned in the innermost top and bottom holes, with one short support bar, used as a spacer, at the top of each web.
Layout #5	4	The web is positioned in the outermost top and bottom holes, with one short support bar, used as a spacer, at the top of each web.
Layout #6	1,2,3,4	The guide plate is positioned using the extreme outer holes, and the portion extending beyond the adapter's outer edge is trimmed off. All other components are as shown in the main diagram.

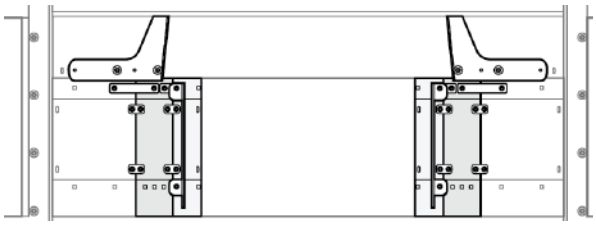


Fig. 197 - AGCO Bezel - Layout 1

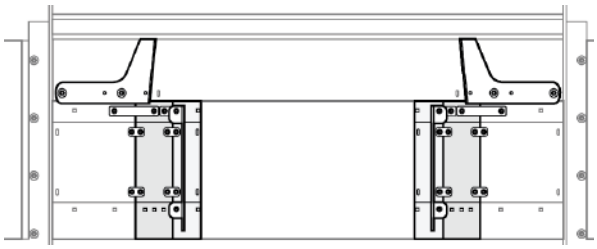


Fig. 198 - AGCO Bezel - Layout 2

Fig. 199 - AGCO Bezel - Layout 3

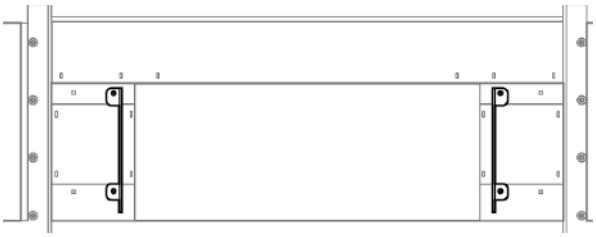


Fig. 200 - AGCO Bezel - Layout 4

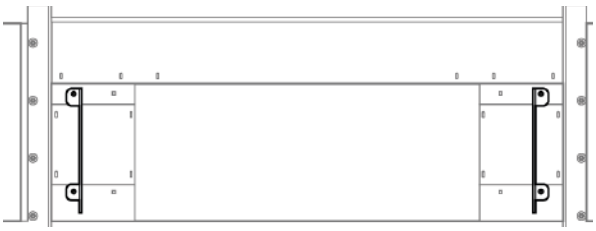


Fig. 201 - AGCO Bezel - Layout 5

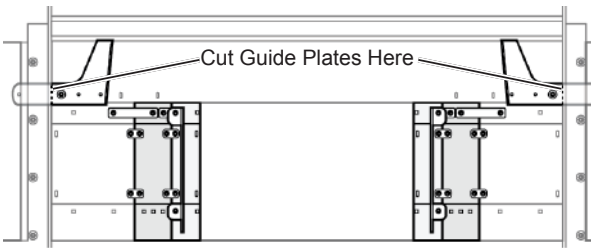


Fig. 202 - AGCO Bezel - Layout 6

24.2 - Permanently Lubricated Bushing Locations

There are a number of permanently lubricated plastic bushings used throughout the header. These bushings should be inspected for abnormal wear or damage periodically (approximately every 200 hours of operation).

	Bushing Location	Number of Bushings
A	Paddle Rear Pivot	12
B	End Paddle Crop Divider Pivot	4
C	Center Reel Arm	8
D	Center Draper Drive Belt Pivot Pulley	2
E	RH Draper Drive Belt Pivot Pulley	2
F	Header Height Control Sensor Bar	6

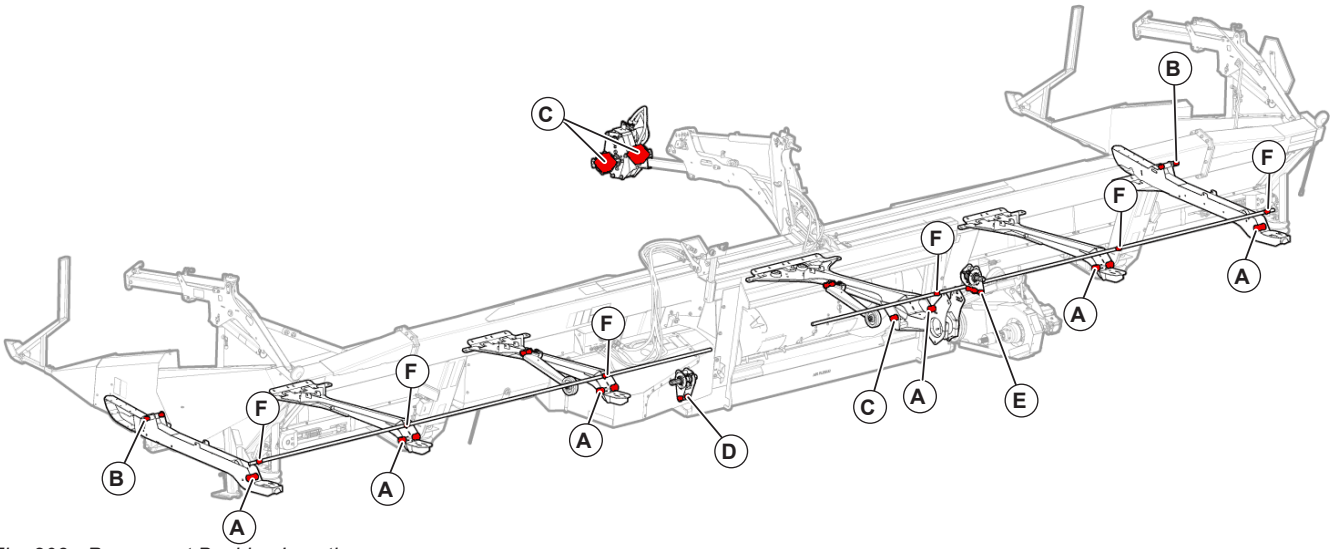


Fig. 203 - Permanent Bushing Locations

24.3 - Header Height Control Sensor Locations

The header height control sensors can be located along the rear of the header, they are connected to the sensor bar via linkages.

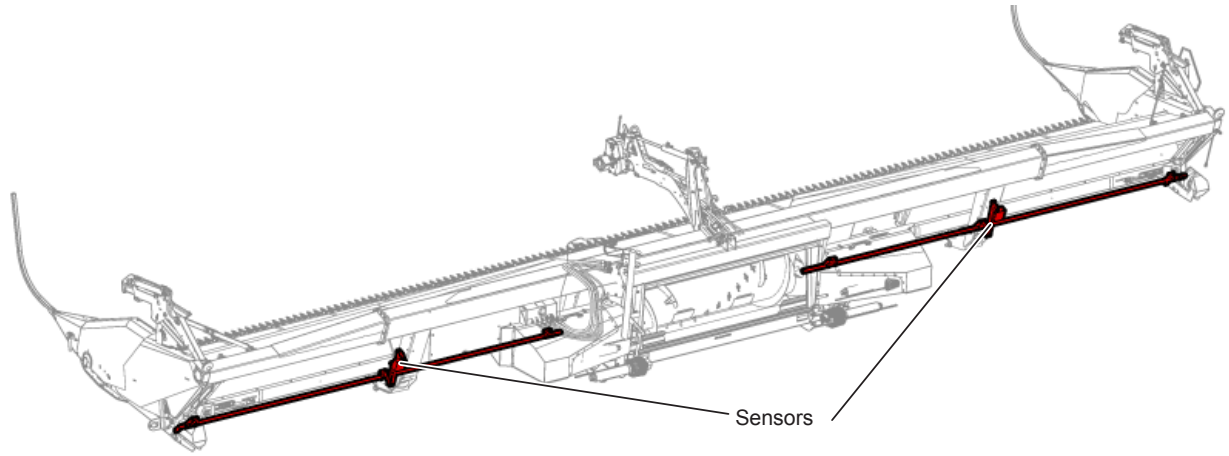


Fig. 204 - Header Height Control Sensor Locations

24.3.1 - AutomatixLite Display Sensor Identification

On the main AutomatixLite screen, the system will show the live sensor voltage for the left and right sensors shown above. The center of the screen shows the center sensor voltage (not available on all header models) or recommended air pressures if no sensor is equipped.

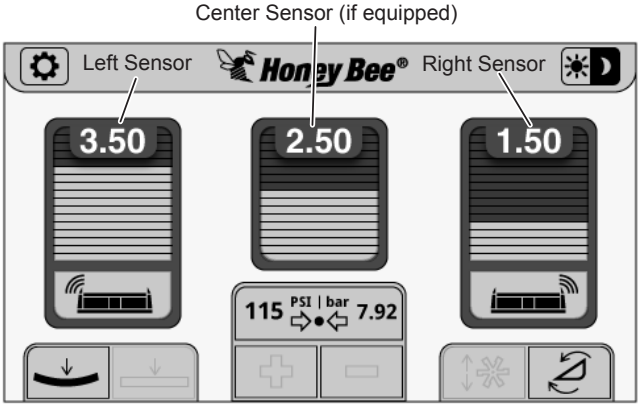


Fig. 205 - Automatix Screen HHC Sensor Identification

24.4 - Speed Sensor Locations

All speed sensors on the header operate by magnetically detecting a small bump or pit on a shaft, gear or flywheel while it is rotating. It is extremely important to ensure the speed sensors have optimal spacing from their detected surface, refer to section 22.3 on page 81 for details.

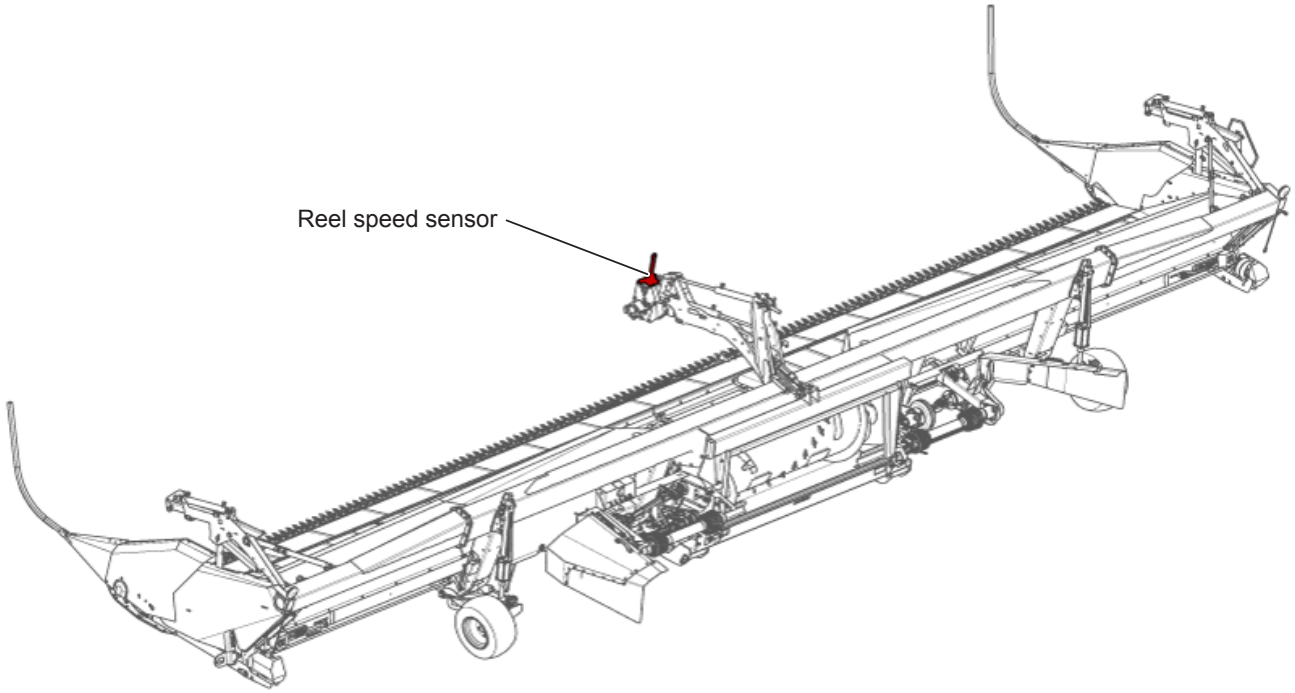


Fig. 206 - Speed Sensor Location

24.5 - Lift Valve Performance BeeBox

If using a combine equipped with 'Bang-Bang' style directional control valves, the BeeBox should be installed to prevent header height 'hunting' regardless of combine settings.

- The BeeBox is installed next to the combine's Hydraulic Valve Controller.
- The UP VALVE IN, and the UP VALVE OUT plugs must be connected to the input and output ports on of the UP Valve on the Valve Controller.
- The DOWN VALVE IN, and the DOWN VALVE OUT plugs must be connected to the input and output ports on the DOWN Valve on the Valve Controller.
- The POWER connector must be connected to the automatix electrical harness. See section 14.5 on page 40 for automatix harness information.
- The BeeBox should be installed next to the combine's Valve Controller.

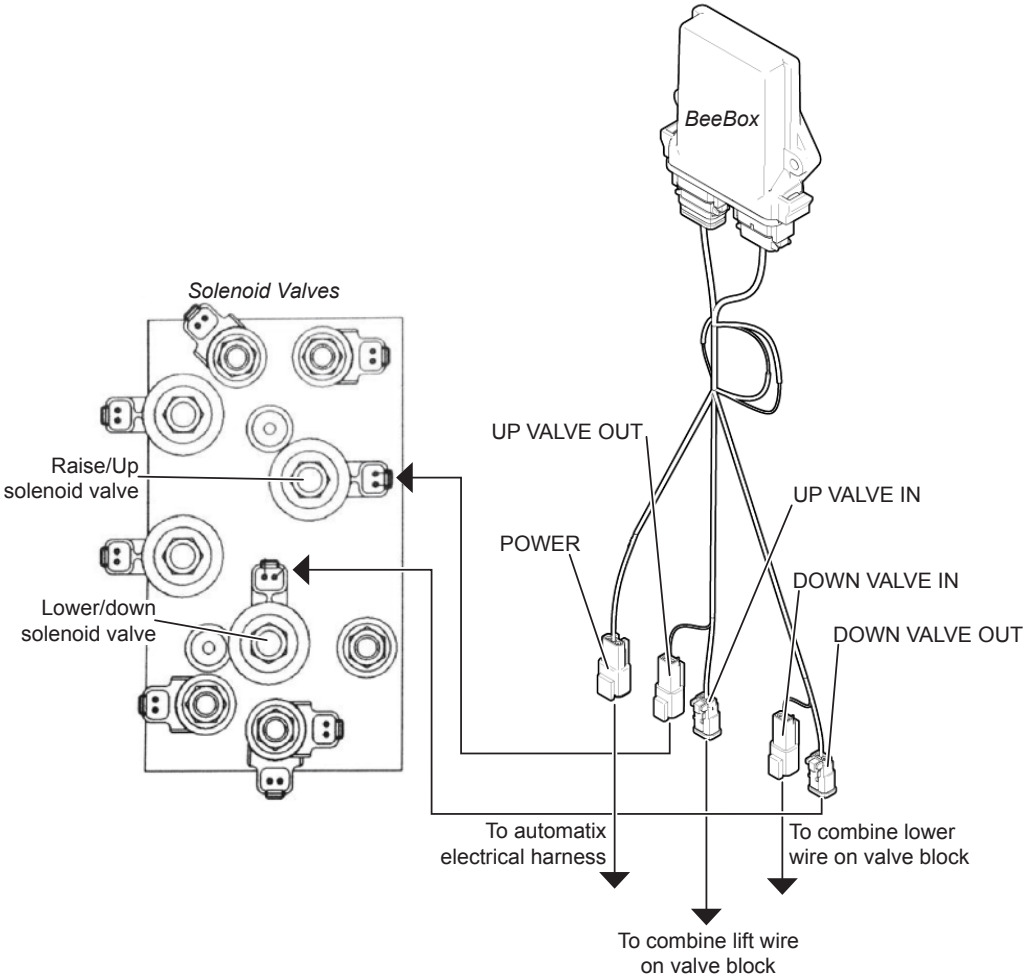


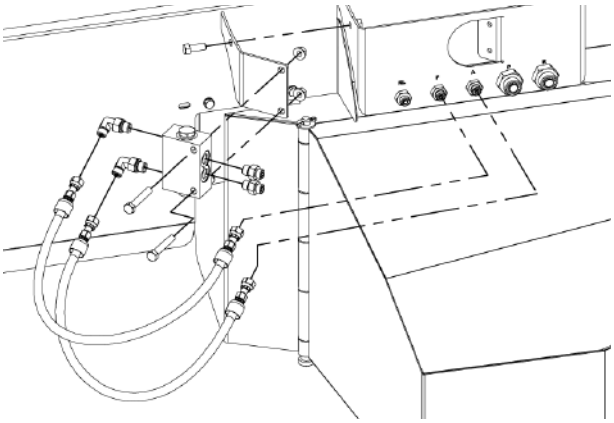
Fig. 207 - BeeBox - For 'Bang-Bang' Style Control Valve Combines

24.6 - 2016 or later JD Combine Check valve Kit

Starting for 2016 models, John Deere combines require a check valve (Comatrol #11175532) to be added to the reel fore/aft hydraulic circuit in order to prevent unexpected movements of the fore/aft system.

If installed, the line lock is located on the left side of the hydraulic manifold on the header.

If operating a 2016 or newer combine and the line lock is not installed, please contact your dealer or Honey Bee customer service for assistance.



IMPORTANT!

This section only applies to units to be mounted on John Deere 2016 or later Combines.

24.7 - Recommended Torque Values (ft-lb)

Use the values listed below unless otherwise stated in this operator manual.

Torque Values when using UNC nuts.					
Bolt Size	Grade 5		Grade 8		Wrench Size
	Loctite	No Loctite	Loctite	No Loctite	
1/4	6	8	9	12	7/16
5/16	13	17	18	25	1/2
3/8	23	31	35	44	9/16
7/16	35	49	55	70	5/8
1/2	55	75	80	107	3/4
9/16	80	109	110	154	13/16
5/8	110	150	170	212	15/16
3/4	200	266	280	376	1-1/8
7/8	320	429	460	606	1-3/8
1	480	644	680	909	1-1/2
1-1/8	600	794	960	1287	1-11/16
1-1/4	840	1120	1360	1875	1-7/8
1-3/8	1100	1469	1780	2382	2-1/16
1-1/2	1460	1950	2360	3161	2-1/4

Torque Values when using C Lock Nuts					
Bolt Size	Grade 5		Grade 8		Wrench Size
	Loctite	No Loctite	Loctite	No Loctite	
1/4	7.6	11.1	10	14.7	7/16
5/16	14.1	21.1	15.2	22.3	1/2
3/8	23	37	28	39	9/16
7/16	39	59	44	60	11/16
1/2	53	80	63	88	3/4
9/16	77	120	98	134	7/8
5/8	106	158	127	172	15/16
3/4	190	274	218	295	1 1/8
7/8	n/a	n/a	317	440	1 5/16
1	n/a	n/a	506	651	1 1/2

24.8 - Drive Shaft Lengths

The drive shaft lengths are measured from the coupler pivot point to the inner face of the shaft as shown below.

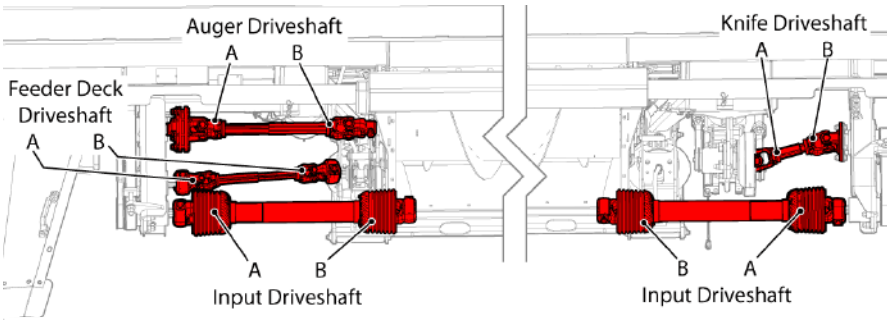


Fig. 208 - Drive Shaft Identification

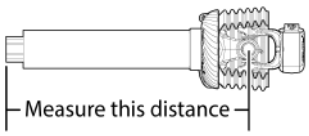
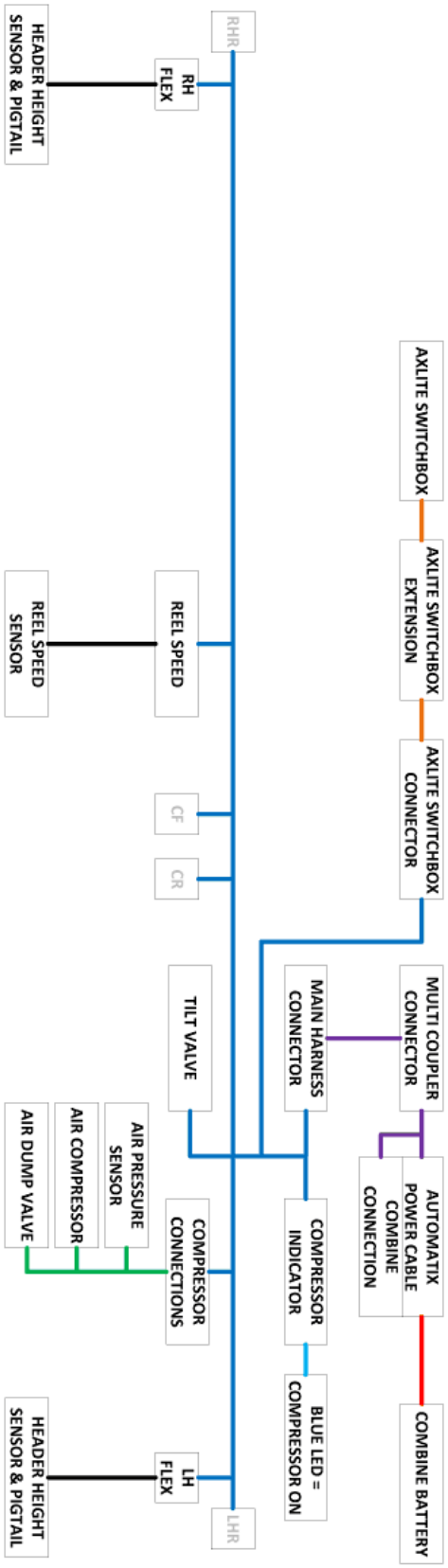


Fig. 209 - Shaft Measurement

	Input Driveshaft		Feeder Deck Driveshaft		Auger Driveshaft		Knife Driveshaft	
	A	**B**	**A**	**B**	**A**	**B**	**A**	**B**
Massey	523 mm (20.59”)	503 mm (19.80”)	310 mm (12.20”)	325 mm (12.80”)	475 mm (18.70”)	407 mm (16.02”)	242 mm (9.53”)	295 mm (11.61”)
Gleaner	643 mm (25.32”)	623 mm (24.53”)	310 mm (12.20”)	325 mm (12.80”)	475 mm (18.70”)\	407 mm (16.02”)	242 mm (9.53”)	295 mm (11.61”)
Lexion	643 mm (25.32”)	623 mm (24.53”)	310 mm (12.20”)	325 mm (12.80”)	475 mm (18.70”)	407 mm (16.02”)	242 mm (9.53”)	295 mm (11.61”)
John Deere	643 mm (25.32”)	623 mm (24.53”)	310 mm (12.20”)	325 mm (12.80”)	475 mm (18.70”)	407 mm (16.02”)	242 mm (9.53”)	295 mm (11.61”)
CNH	643 mm (25.32”)	623 mm (24.53”)	310 mm (12.20”)	325 mm (12.80”)	475 mm (18.70”)	407 mm (16.02”)	242 mm (9.53”)	295 mm (11.61”)

24.9 - Electrical Layout



Honey Bee

Harvest Faster

2018 SDX

Header
Operator Manual

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