

REDEKOP™

ACTUATED TAILBOARD CASE AFX

WITH MAV CHOPPER

INSTALLATION MANUAL

PRODUCT NUMBER: 290-220

CS0357-01_R3

0 Safety

0.1 Introduction

0.1.1 IMPORTANT: Read through this instruction thoroughly and familiarize yourself with the machine before removing these components. Do not skip steps or perform them out of order.

This instruction manual explains the proper procedure for preparing the combine and removing the Factory Spreader Components in order to install the Redekop MAV Chopper



0.2 Recognize Safety Information

0.2.1 This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



0.3 Understand Signal Words

0.3.1 A signal word - DANGER, WARNING, or CAUTION - is used with the safety-alert symbol. DANGER identifies the most serious hazards.

WARNING or CAUTION safety signs are located near specific hazards or precautionary areas in this manual.



0.4 Follow Safety Instructions

0.4.1 Carefully read all safety messages in this manual and on your machine. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your dealer.



0.5 Safe Operating Practices

0.5.1 DO NOT stand near combine when machine is running.

ALWAYS refer to your Combine Operator's Manual, and review Safety section before operating machine. The Combine Operator's Manual details safe operating practices that must be followed to protect you and others from accidental death and/or injury.

Operate machine only when all guards are correctly installed.

Before moving away, always check immediate vicinity of machine (e.g. for children). Ensure adequate visibility. Use the horn as a warning immediately before moving away.

When making turns, always take into consideration the width of the attachment and the fact that the rear end of the machine swings out. Attachments and ground conditions affect the driving characteristics of the combine.

Never leave machine unattended as long as engine is running.



0.6 Work In Ventilated Area

0.6.1 Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

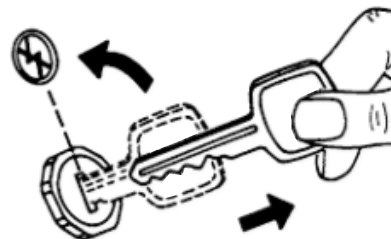


0.7 Remove Key from Ignition

0.7.1 ALWAYS shut off combine engine prior to working on it.

Apply park brake, remove key and lock operators cab.

If the combine is equipped with an additional safety master power switch, turn this to the Power OFF position.



0.8 Block Wheels

0.8.1 Park the combine on level ground.

Always engage the park brake and block the combine wheels prior to working to prevent the combine from moving.



0.9 Practice Safe Maintenance

0.9.1 Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

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

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



0.10 Guards and Shields

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



0.11 Avoid Contact With Moving Parts

0.10.1 Keep hands, feet and clothing away from power driven parts. Never clean, lubricate or adjust machine when it is running.



0.12 Avoid High-Pressure Fluids

0.12.1 Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

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.

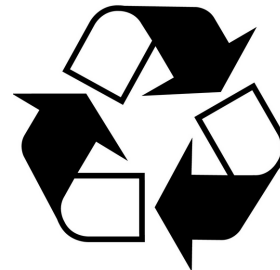


0.13 Dispose of Waste Properly

0.13.1 Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste includes such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.



0.14 Use Proper Lifting Equipment

0.14.1 Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual.

Ensure lifting equipment is rated for the job

Ensure operator is appropriately licensed to operate lifting equipment



0.15 Personal Protective Equipment (PPE)

0.15.1 A Qualified Person designated by the employer, who is knowledgeable about and familiar with all relevant specifications and assembly instructions and is capable of identifying existing or potential hazards in surroundings or working conditions which may be hazardous or dangerous to employees shall determine appropriate Personal Protective Equipment required for this assembly.

Personal Protective Equipment (PPE) are devices worn by the employees to protect against hazards in the environment. Examples include safety glasses, face shields, respirators, gloves, hard hats, steel-toe shoes, and hearing protection. Wear close fitting clothing and safety equipment appropriate for the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



0.16 Sound Level

0.16.1 This product produces sound pressure levels in excess of 90 dB within 10m of discharge area.



Hearing protection is required!

Interference with speech communication, acoustic signals is possible.

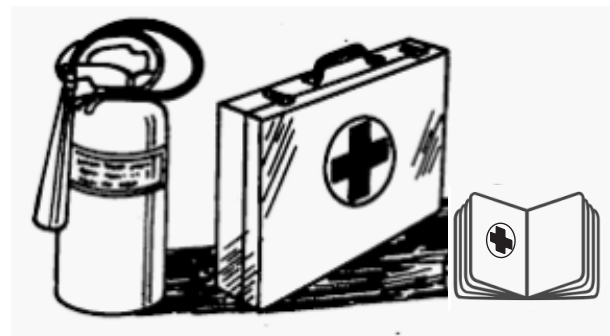


0.17 Prepare for Emergencies

0.17.1 Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.



0.18 Fire Extinguisher

0.18.1 A 6 kg (15 lb) general-purpose fire extinguisher meeting national certification requirements must be installed on left side of operator's platform.

Maintain fire extinguisher to keep it in operating condition.

Make sure that the fire extinguisher is always ready for use. Refer to the fire extinguisher's manual for instructions on how to operate it. Once extinguisher is operated - no matter how long - it must be recharged.

Keep the engine clean and free of dust, chaff and straw to prevent the possibility of fire.



0.19 Remove Accumulated Crop Debris

0.19.1 The build up of chaff and crop debris in the engine compartment, on the engine, near bearings and moving parts is a fire hazard. Check and clean these areas frequently.



0.20 In the Event of Fire

0.20.1 Stop work immediately at first sign of fire. This may be the smell of smoke or the sight of smoke or flames. Get off the machine immediately and move away from the fire. Do not return to the machine or fire!



CAUTION: Avoid personal injury.
If a fire is too far advanced, do not try to extinguish it.
Call the fire department!
The number one priority is safety. Always put the safety of the operator and bystanders first.

If a fire can be safely extinguished, proceed carefully and follow these guidelines:

1. Remove fire extinguisher from bracket and carry it to the area of fire.
2. Approach area of fire with your back to the wind.
3. Pull the safety pin out of actuating lever.
4. Hold extinguisher upright, pointing nozzle away from you and aim hose at base of the flames.
5. Squeeze the lever slowly and evenly to discharge fire extinguisher.
6. Move extinguisher nozzle side to side to cover the source of the fire evenly with extinguishing agent.



Torque Table		
Nominal Size	Class 8.8	Class 10.9
	Nm / (ft-lbs)	Nm / (ft-lbs)
M8 - flanged	27 / (20)	39 / (29)
- non flanged	25 / (18)	35 / (26)
M10 - flanged	54 / (40)	57 / (42)
- non flanged	49 / (36)	70 / (51)
M12 - flanged	93 / (69)	134 / (98)
- non flanged	85 / (63)	121 / (90)
M16 - flanged	231 / (171)	331 / (244)
- non flanged	210 / (155)	301 / (222)



1 Software Update

1.1 Verify software is up to date:

Use the 240-Series Electronic Service Tool (EST) to set the new configurations on 230-Series and 240-Series machines, if required.

(after the S/N break below)

The new cab machines start at S/N YDG218540

Software required is: UCM1 - V33.33.0.0 or newer, UCM2 - V33.34.0.0 or newer (for S/N above and newer) as well as Display Software (Part # 48109497 Combine Axial Flow) V30.8.0.0 or newer

Machines <YDG218540 do not get software update and would require the spreader/chopper speed sensor placed on the 7-tooth target

1.2 Check Residue System

Under Toolbox --> Residue tab, if system is currently configured with the settings described in 1.4, no EST is required, go to section 4

1.3 If required, have a technician use the EST to change the Machine Configuration to values listed in 1.4

1.4 Set configuration to:

Configuration Name	Type ID	Value
Residue System*	0x209C	*Impeller with 32cc Pump & 90cc Motor In-CAB Adjust*
Windrow Door	0x20A1	1 (installed)
Left Spread Deflector	0x2112	1 (installed)
Center Spread Deflector	0x2113	0 (not installed)
Right Spread Deflector	0x2114	1 (installed)
Hood Mount Chopper	0x2111	1 (installed)
Windrow Chute Extension	0x20A4	0 (not installed)

← Updatable with Electronic Service Tool (EST)

*For MY14 and newer machines with existing 90cc spreader motor and 32cc pump with in cab adjust, Value = 6

*For MY13 UCM machines with existing 74cc spreader motor and 28cc pump, Value = 3

1.5 Calibrate the windrow door and spread control actuators following the instructions in the Combine Owner's Manual

2 Removing Manual Control Components



Caution - Pinch Hazard

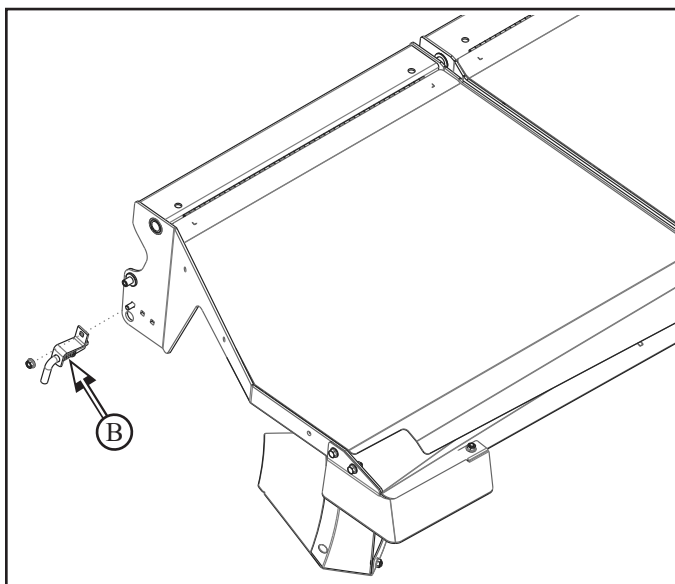
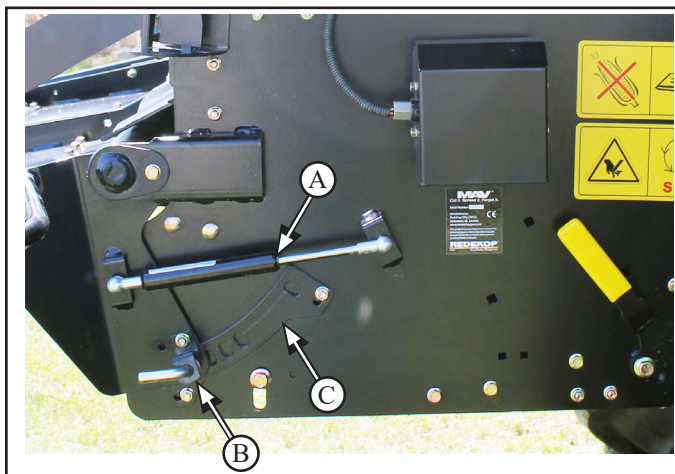
2.1 Remove gas spring (A) from the tailboard and chopper housing

- both sides
- gas spring and hardware to be re-installed

2.1.2 Block the tailboard up securely

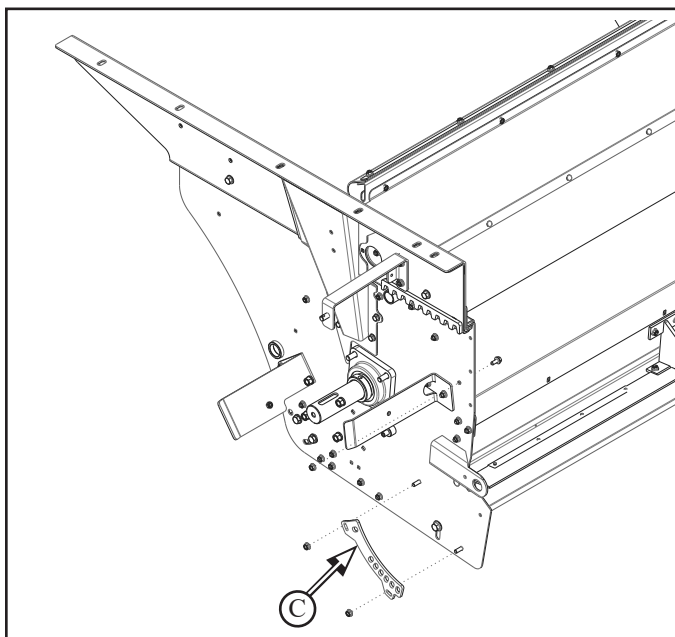
2.1.3 Remove adjustable latch assembly (B) from the tailboard

- both sides



2.2 Remove tailboard adjustment lug (C) from the chopper housing

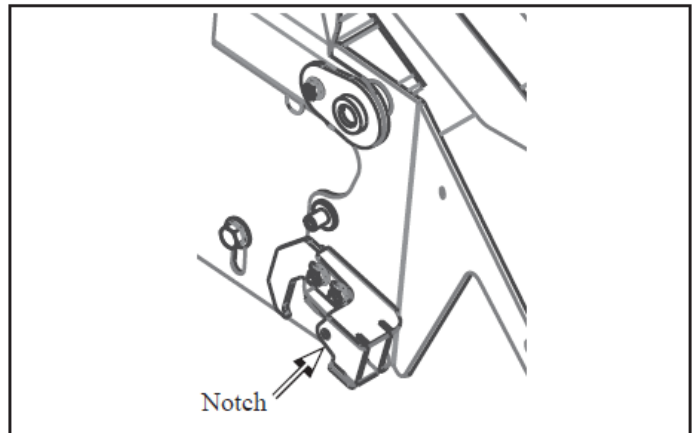
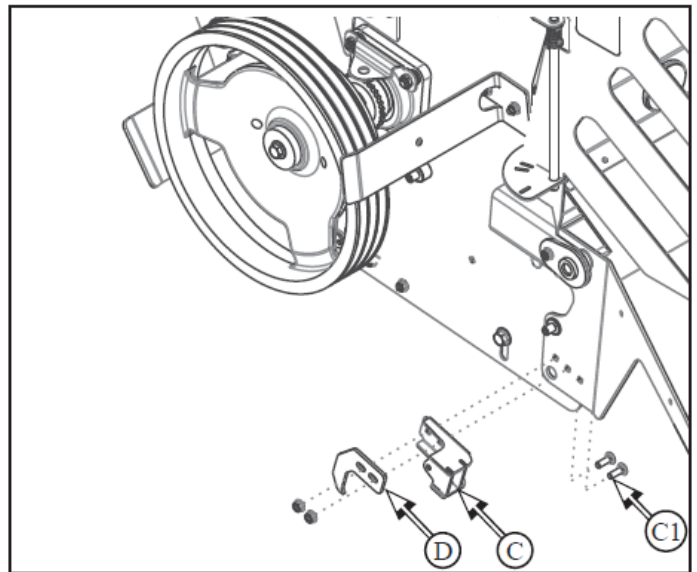
- both sides



3 Actuator Component Installation

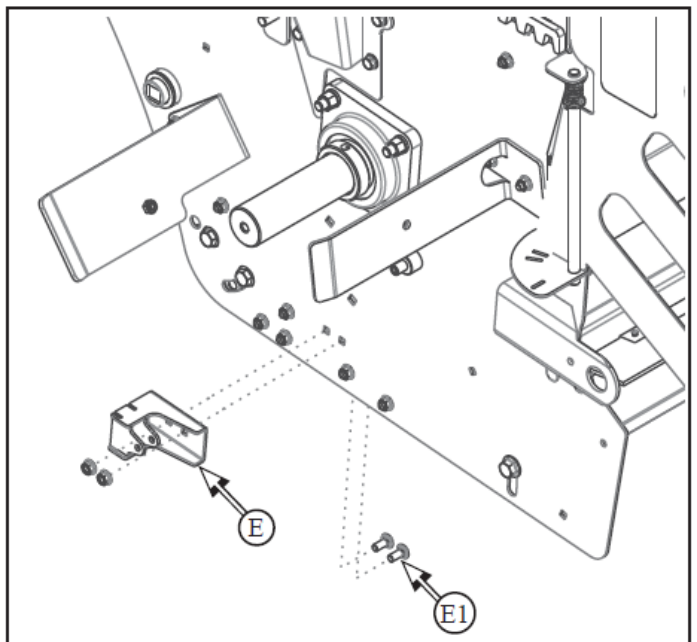
3.1 Install left actuator tailboard mount bracket (C) and hook (D) onto tailboard, with:

- M8 x 25 round head bolts and flange nuts (C1) x2
- ensure mount bracket has notch on bottom
- both sides



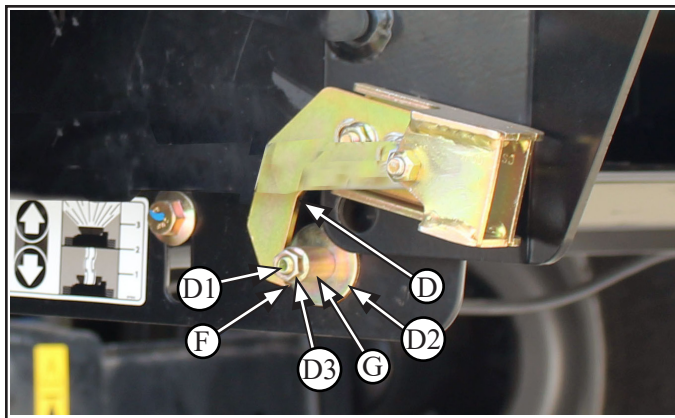
3.2 Install actuator chopper mount bracket (E) onto left side of chopper with:

- M8 x 20 round head bolts and flange nuts (E1) x2
- both sides



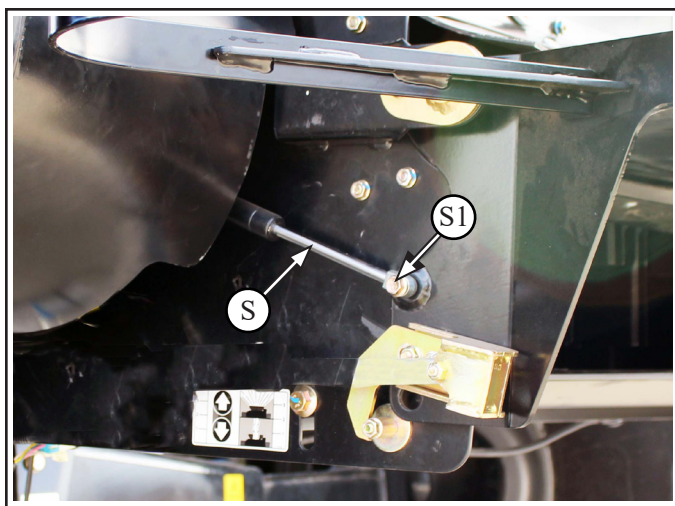
3.3 With the tailboard down, on the inside of the hook (**D**) install limiter pin (**F**) into left chopper wall with:

- M8 x 40 round head bolt (**D1**)
 - head of bolt to be on inside of chopper
- flat washer (**D2**)
- limiter tube (**G**)
- lock nut (**D3**)
- both sides



3.4 Re-install gas spring (**S**)

- both sides
- reuse mounting hardware (**S1**)



4 Monitor Configuration

Procedure to configure in cab parameters for Redekop Chopper on AFX



4.6 Scroll down the page and select Center Spread Deflector (G)

4.6.1 Select No (G1)

4.7 Ensure left and right spread deflectors are set to YES

5 Tailboard and Actuated Control

If your combine is **NOT** equipped with OEM electric spreader actuators and you wish to have cab controlled actuated tailboards order Spreader Harness #**51530710 (G)** from CASE IH.

Cab control of actuated tailboards can be done with 30, 40, and 50 series AFX machines with the “new cab”.

The “new cab” machines start with serial# YDG218540 and continue onwards.

Machines before YDG218540 cannot be equipped with cab mounted tailboard controls unless an SCU is equipped.

If your combine is **NOT** equipped with electric spreader actuators and you require manual tailboard control, order kit #**CG314K** from your local Redekop dealer

This will allow for external manual control of straw hood door by adding an external switch to the toolbox.

250 Series Only - Optional: Order:

Harness 90464581 INSTEAD OF 51530710

Harness 51483455

Harness 51462838

Switch 48044472

Bracket 51458059

Bolt 87681207 x2

Nut 87681210 x2

Decal 47893472

5.1 Gas Shock & Actuator Installataion

- for use with OEM console controls

Parts List:

part included in CS1130BS box

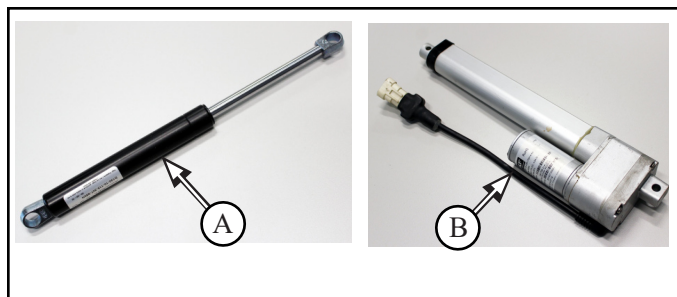
hardware located in CS672S bag

RP951A Gas Spring (A)

Qty 2

RP1058 Actuator (B)

Qty 2

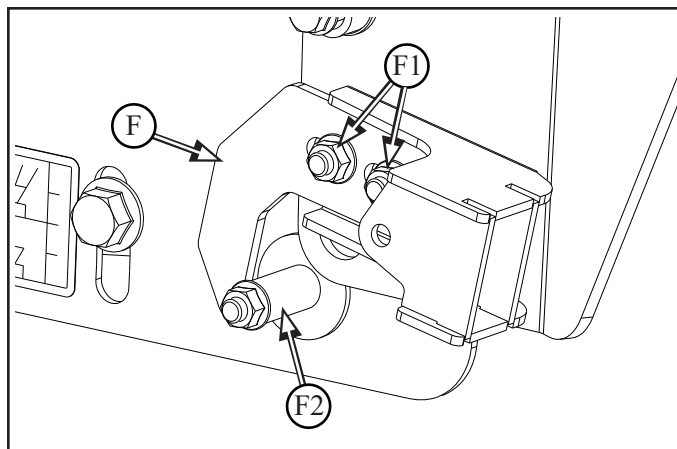


5.1.1 In order to position the tailboards, the installed hook (F) will have to be removed (F1) and then reattached with the tailboard in the horizontal position which will allow the hook to be on the front side of the stop pin (F2) as shown

- both sides

5.1.2 Re-mount hook (F) so that it is slid most rearwards (towards the tailboard fins)

Note: Tailboard stop hook (F) can be adjusted later if tailboards do not line up



5.1.3 Install gas spring (**A**) on to chopper and tailboard studs, with:

- M8 x 20 flange bolt (**A1**) x2
- both sides

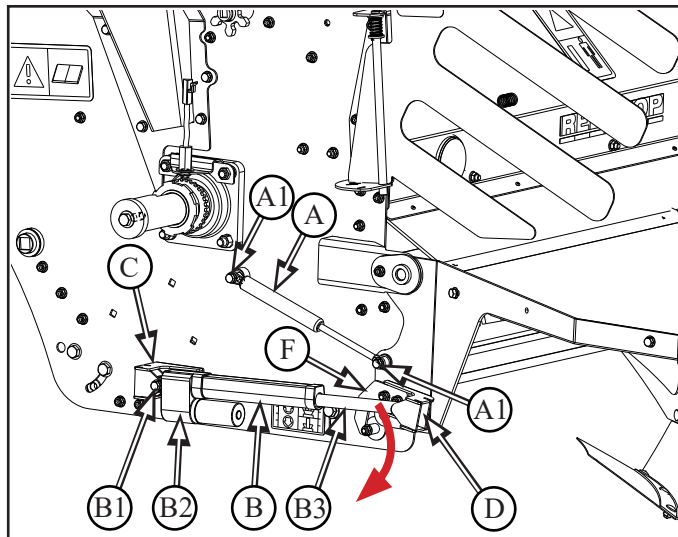
5.1.4 Install Actuator (**B**)



Install Actuators with the motor side down.

5.1.5 Install base (**B2**) of actuator (**B**) in to bracket (**C**) on chopper with:

- M8 x 40 flange bolt and lock nut (**B1**)
- do not tighten completely, leave bolt slightly loose to allow rotation
- let shaft end (**B3**) hang loosely
- both sides

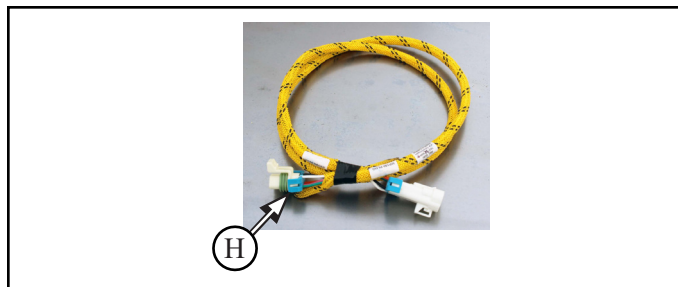


5.2 OEM Spreader Harness and Actuator Extension Harness Installaion

If your combine has electric spreader actuators and the OEM harness is installed, skip to section 11.3.4

Parts List:

	OEM Spreader Harness (G)	Qty 1
RP977	Harness Tailboard Actuator (H)	Qty 1

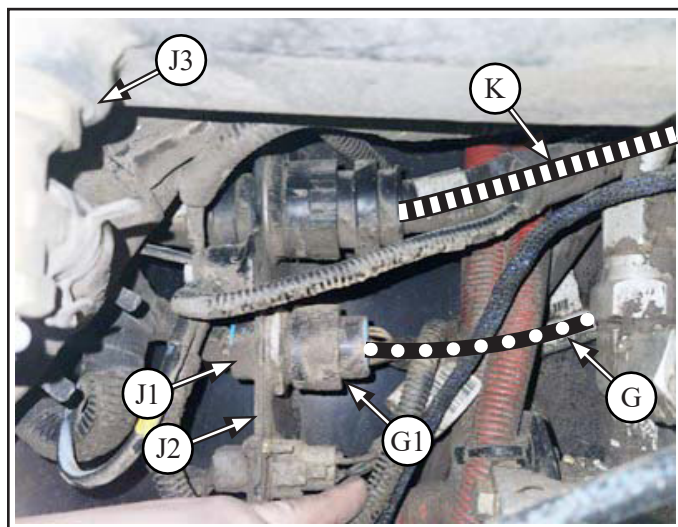


5.2.1 Install OEM spreader harness connector (**G1**) to mating circular connector (**J1**) of combine

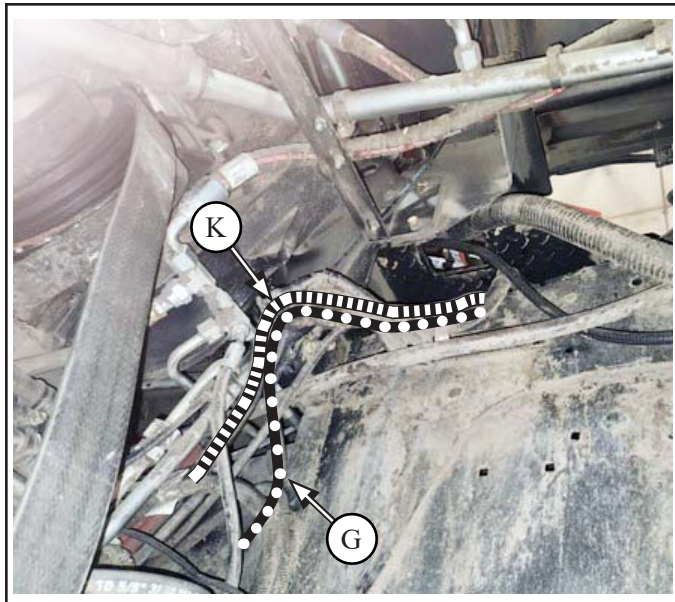
- located on left side of combine on flange (**J2**) below PTO oil case sump (**J3**)

5.2.2 Route OEM spreader harness (**G**) up along the rear straw hood harness (**K**)

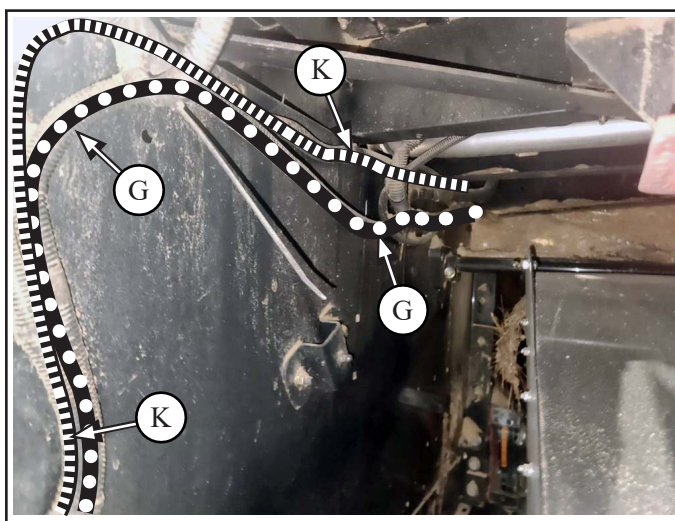
- located directly above the OEM spreader harness connector (**G1**)



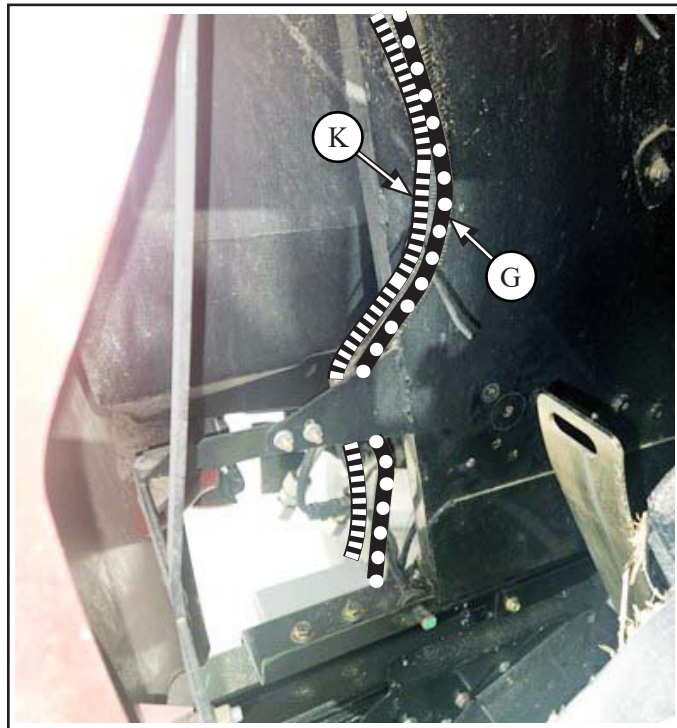
5.2.3 Run the OEM spreader harness (**G**) up and over the left side wall with straw hood harness (**K**)
- wire tie harnesses (**G & K**) together



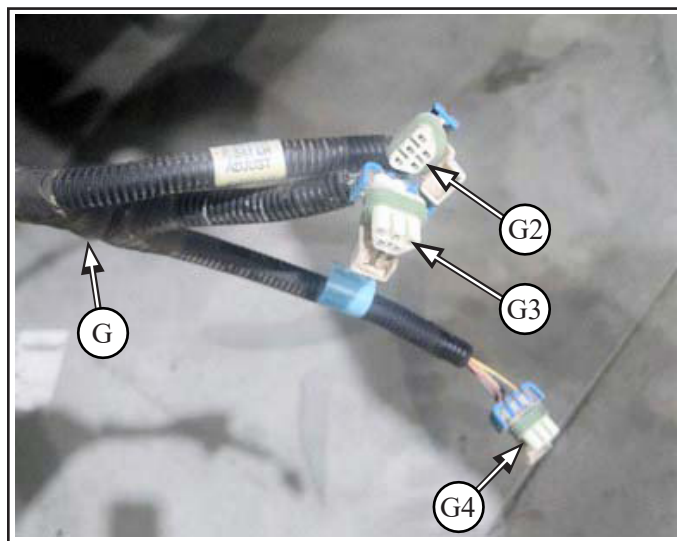
5.2.4 Continue running the OEM spreader harness (**G**) along straw hood harness (**K**) inside the left combine wall towards the rear of the combine and downwards
- wire tie harnesses (**G & K**) together



5.2.5 Continue running the OEM spreader harness (**G**) along straw hood harness (**K**) inside the left combine wall, let the 3 5-pin plugs hang down
- wire tie harnesses (**G & K**) together

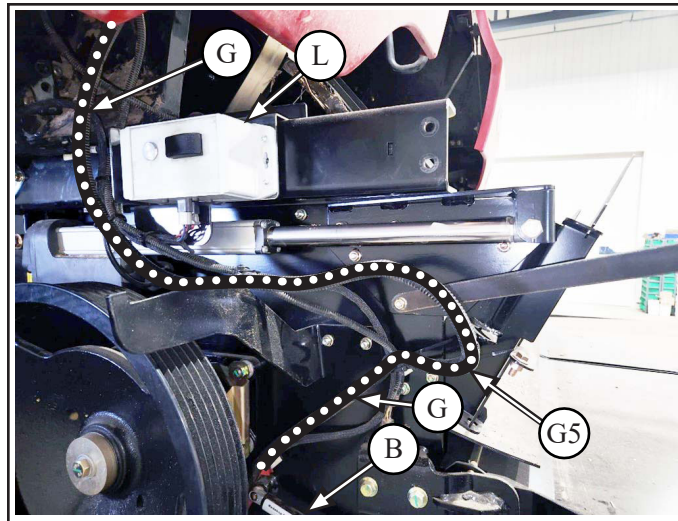


5.2.6 The OEM spreader harness (**G**) will have 3 5-pin plugs (**G2**, **G3**, **G4**)



5.2.7 Continue running the OEM spreader harness (**G**) along other harnesses along the left side of chopper - ensure that there is slack (**G5**) in the harness (**G**) between the control box (**L**) and rear of chopper to allow for chopper movement

5.2.7.1 Run the OEM spreader harness (**G**) down to the left tailboard actuator (**B**)

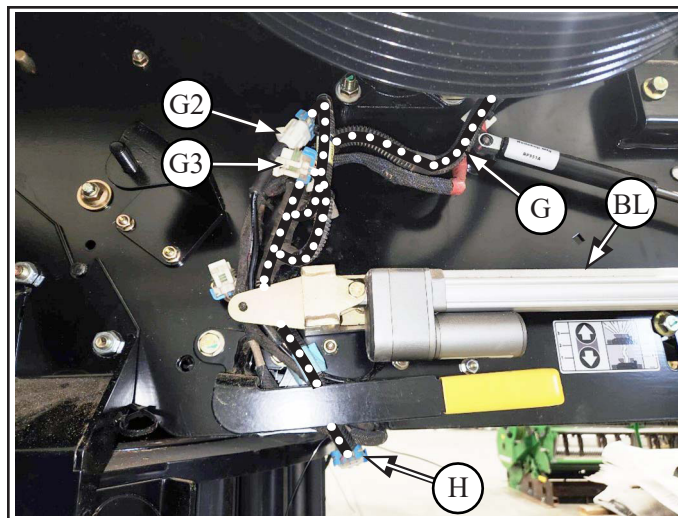


5.3 Attaching to Tailboard Actuators

5.3.1 The OEM spreader harness connector/label (**G2**) that says “LEFT” will be connected to the left tailboard actuator (**BL**)

5.3.2 The center OEM spreader harness connector/label (**G3**) that says “CENTER” will not be used

5.3.3 The OEM spreader harness connector/label (**G4**) that says “RIGHT” will be connected to the harness extension (**H**) connected to the right tailboard actuator (**BR**) in next step



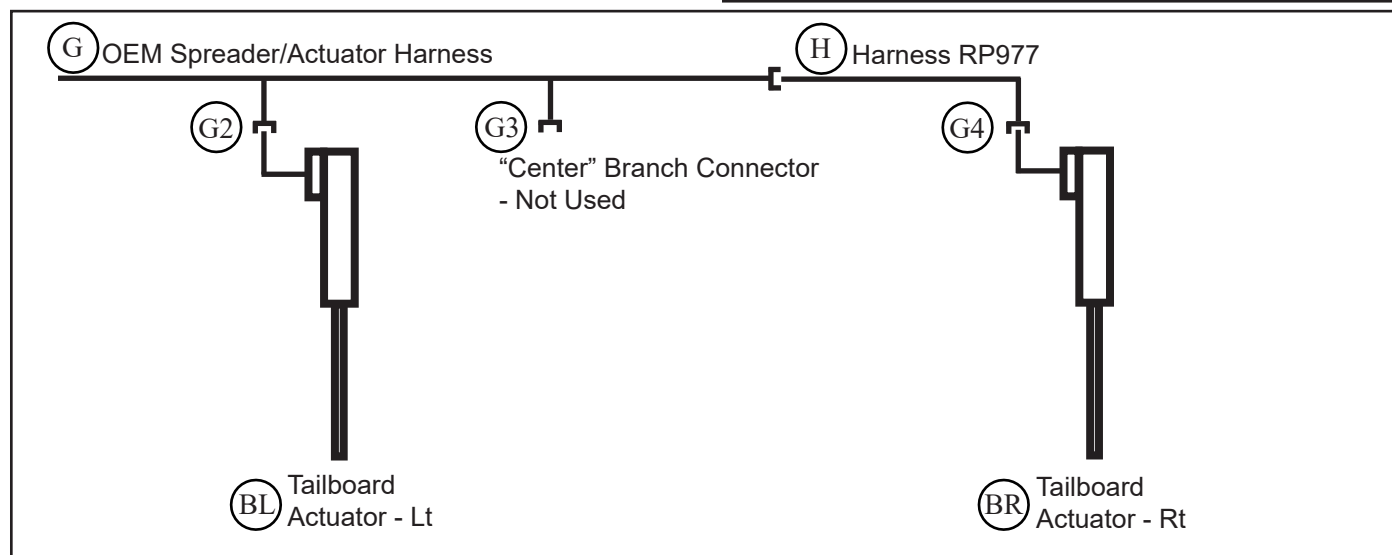
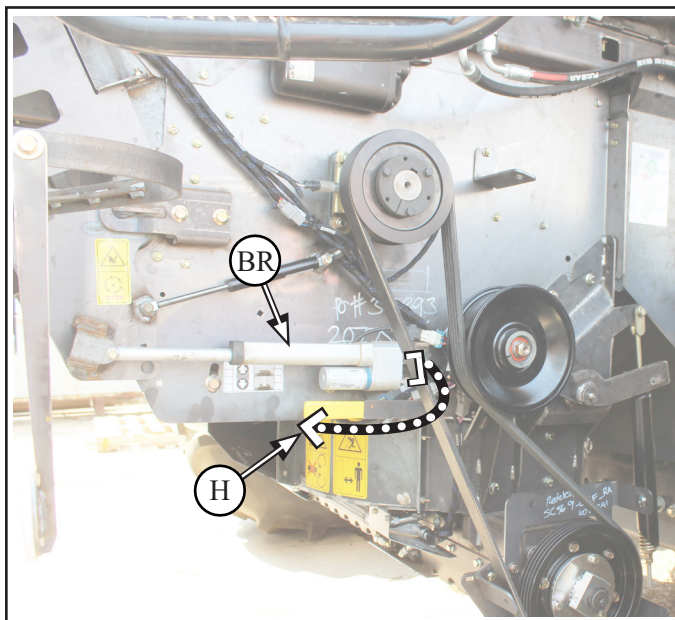
5.3.4 Tailboard Actuator Extension Harness

Installation

If SCU is being installed, reference SCU Installation Manual for harness installation as a different harness is used

5.3.4.1 Install Tailboard Actuator Extension Harness (H)

- connect harness (H) to right tailboard actuator (BR)
- route harness underneath chopper to right OEM connector (G4)
- use cable tie straps to secure harness (H) running along/under chopper



5.3.5 On cab console, remove covers on blank buttons (ML) and (MR)

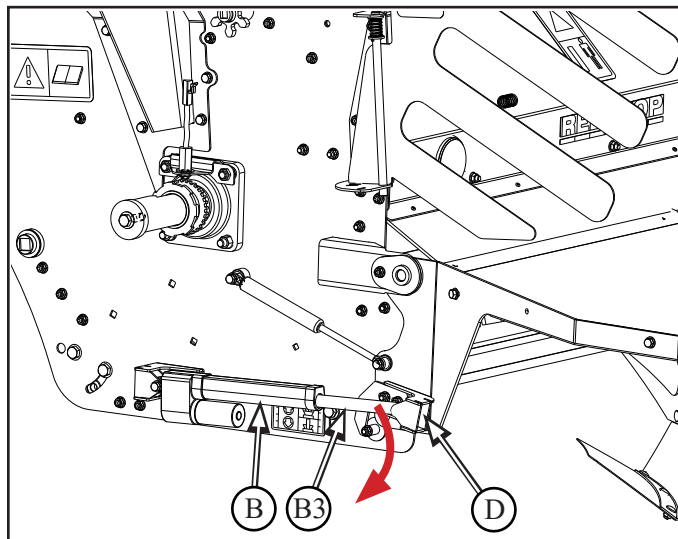
- The RH and LH spreader adjust buttons are already installed and will now work to adjust tailboard position



5.4 Actuated Tailboard Calibration

5.4.1 Calibration of tailboard actuators is required to complete installation of tailboards. If an OEM actuator harness is being installed for the first time, or if the tailboard actuators cannot be moved using the OEM console buttons then steps 11.4.1-4 must be performed. If the tailboard actuators can be controlled using the OEM console buttons skip steps 11.4.1-5 and proceed to step 11.4.6

5.4.2 Ensure that the shaft end (**B3**) of tailboard actuator (**B**) is not in bracket (**D**) on tailboards, let it hang loosely downwards
- both sides



5.4.3 Follow instructions laid out in section 1 to ensure the machine is properly configured for OEM console button control of tailboard actuators

5.4.3.1 If you have installed the OEM harness, ensure covers on console buttons are removed as described in section 5.3.5

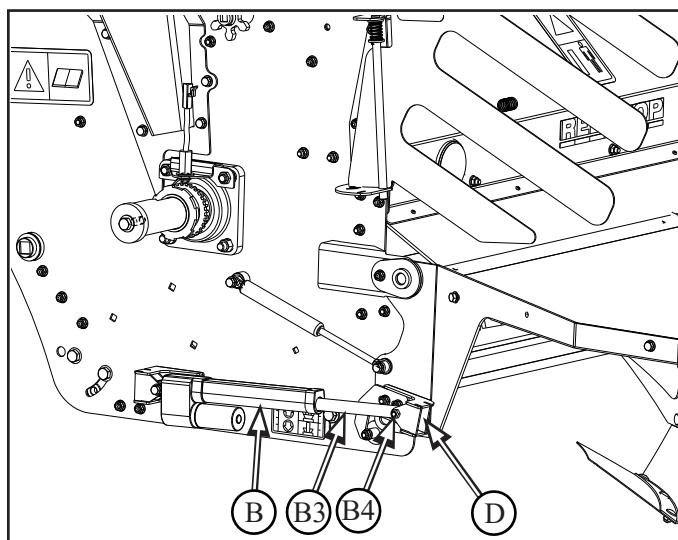
5.4.4 Follow instructions laid out in section 5.4.9 to ensure actuators are within acceptable calibration range

5.4.4.1 Follow instructions laid out in section 5.5 to calibrate tailboard actuators

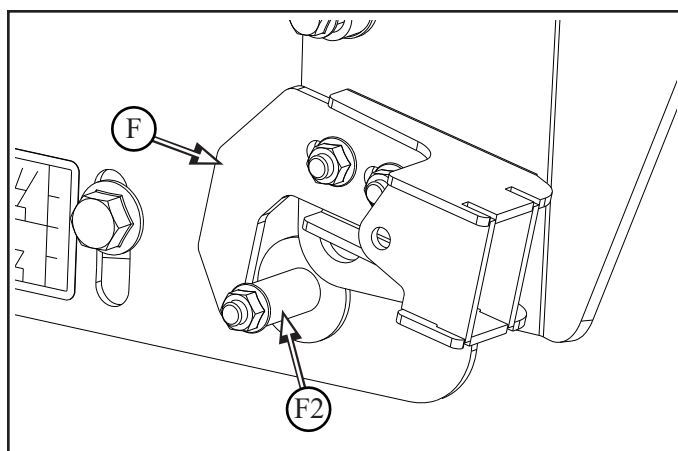
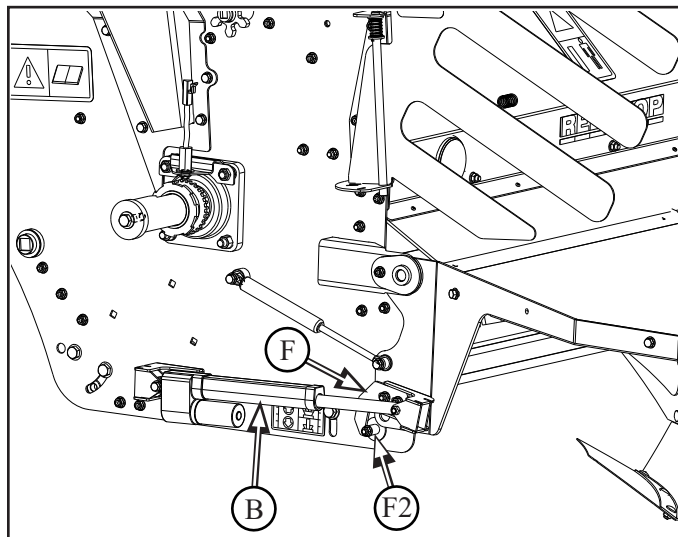
5.4.5 Fully extend actuators to synchronize

5.4.6 Retract both actuators half way so that tailboards can be attached

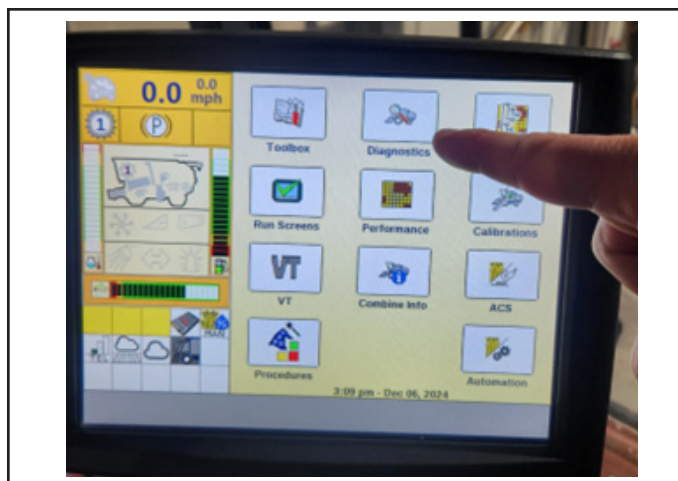
5.4.7 Attach tailboard actuator shaft end (**B3**) to bracket (**D**) on tailboards, with:
- M8 x 40 hex head bolt and steel locknut (**B4**)
- do not tighten completely, leave bolt slightly loose to allow rotation
- both sides



5.4.8 Once the tailboard actuators have been attached to the tailboards, extend the actuators fully so that that tailboards are in the most upwards position
- Left and right position hook (**F**) should be hard against stop pins (**F2**)



5.4.9 On the monitor select the Diagnostic icon



5.4.9.1 Select the Settings tab



5.4.9.2 Select “Residue” in the Group drop-down menu



5.4.9.3 In the parameter drop down menu select either the “Spreader Right Position” or “Spreader Left Position” option



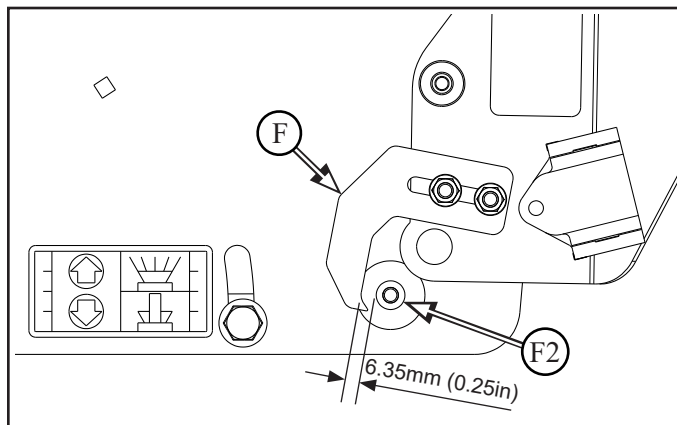
5.4.9.4 Select Graph tab and set the unit in the “Unit” drop-down menu to Voltage



5.4.9.5 The voltage plot will show the Left/Right tailboard actuator position circuit voltage. Check that in the fully raised position the circuits are reporting greater than 4V, if they are not adjust the tailboard stop hook (F) on the appropriate tailboard to allow greater upwards movement of the tailboard until the actuator reports greater than 4V

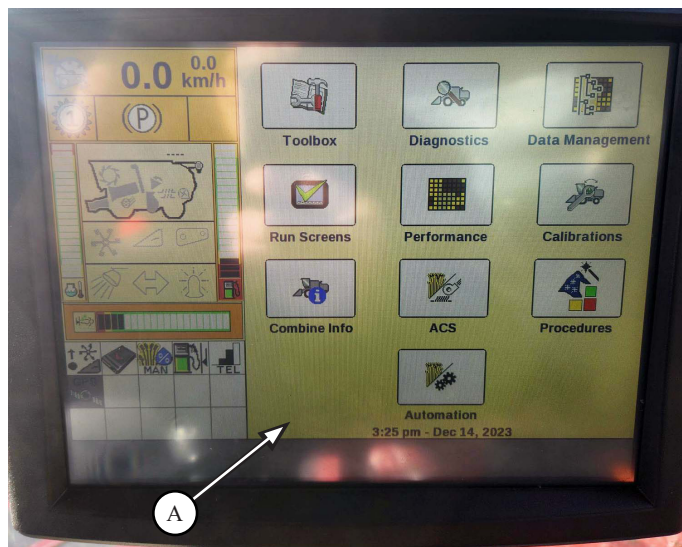
5.4.9.6 Once tailboard actuators have been attached to the tailboards and position circuit voltages have been checked re-calibrate tailboard actuators as laid out in section 5.5

5.4.9.7 With the tailboard in the fully up position, adjust tailboard hook (F) so that there is a gap between the hook (F) and the stop pin ((F2), approximately 6.35mm (0.25in)
- both sides

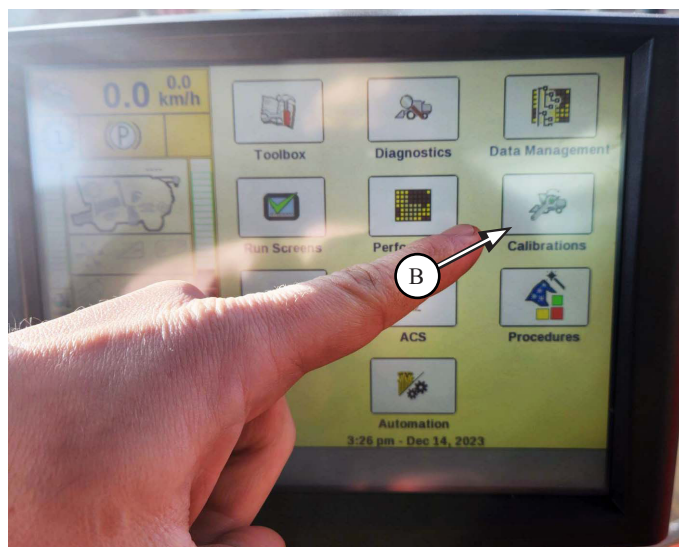


5.5 Calibrate Actuators

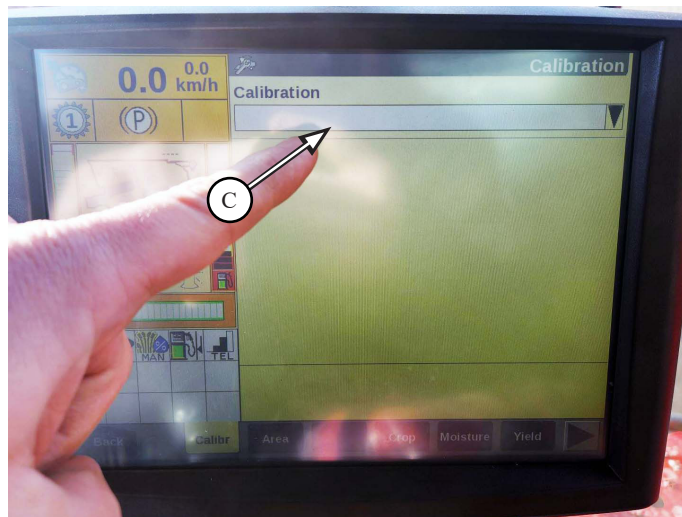
Procedure to calibrate tailboard and windrow door actuators for use with OEM console spreader controls



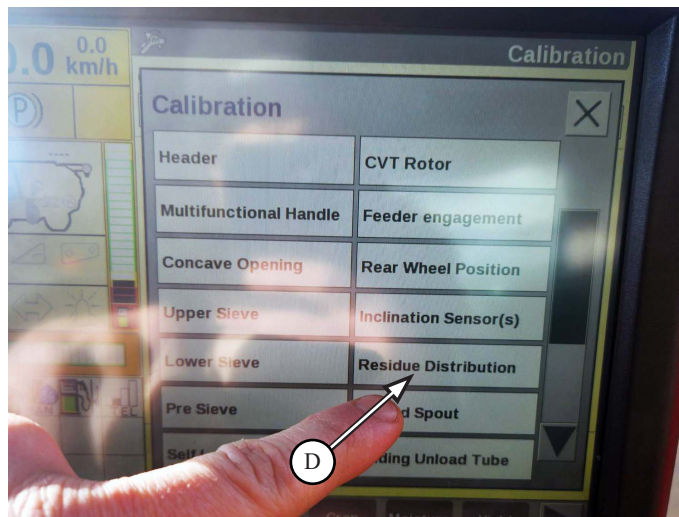
5.5.1 go to console Home Screen (A)



18.3.2 Select Calibration (A)



18.3.3 Select drop down menu (A)



18.3.4 Scroll down the list and select Residue Distribution (A)

18.3.5 Machine should perform tailboard actuator calibration

Left and right actuator can be moved up and down using the controls on the console



CAUTION

Check all fasteners to ensure they have been properly tightened

Torque Table

Nominal Size	Class 8.8	Class 10.9
	Nm / (ft-lbs)	Nm / (ft-lbs)
M8 - flanged	27 / (20)	39 / (29)
- non flanged	25 / (18)	35 / (26)
M10 - flanged	54 / (40)	57 / (42)
- non flanged	49 / (36)	70 / (51)
M12 - flanged	93 / (69)	134 / (98)
- non flanged	85 / (63)	121 / (90)



CAUTION

Wear Hearing Protection during operation



CAUTION

When starting chopper, be sure all people are clear of the rear of the combine



Start threshing module in low speed and listen for clearance problems. If a knocking noise is heard, stop the machine immediately! Fix problem and repeat procedure. Progress to full power when everything is running smoothly at lower speeds.

Notes:

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