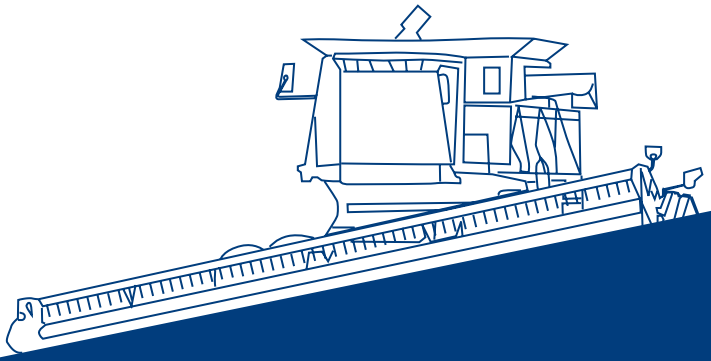
HILLCO TECHNOLOGIES



Operator's Manual

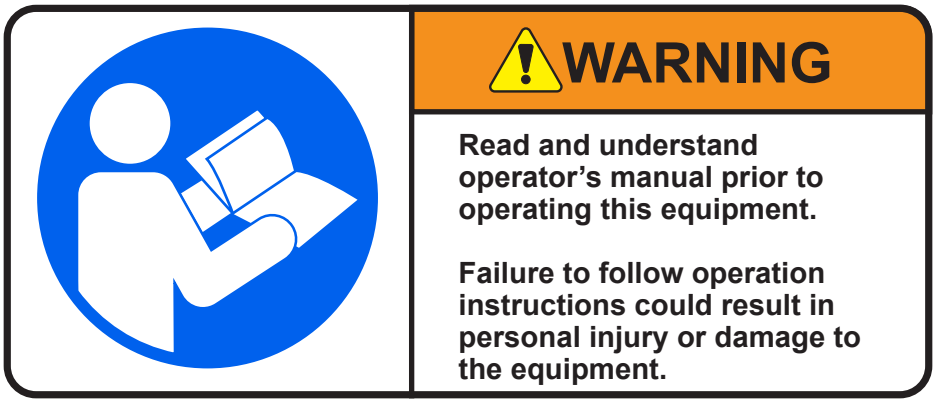
Model CH9040

Hillside Leveling System

For CNH 7260, 8260, & 9260 Combines

SN CH9040-25001 thru CH9040-25999

D-231105CMA01A
October, 2024



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www.hillcotechnologies.com

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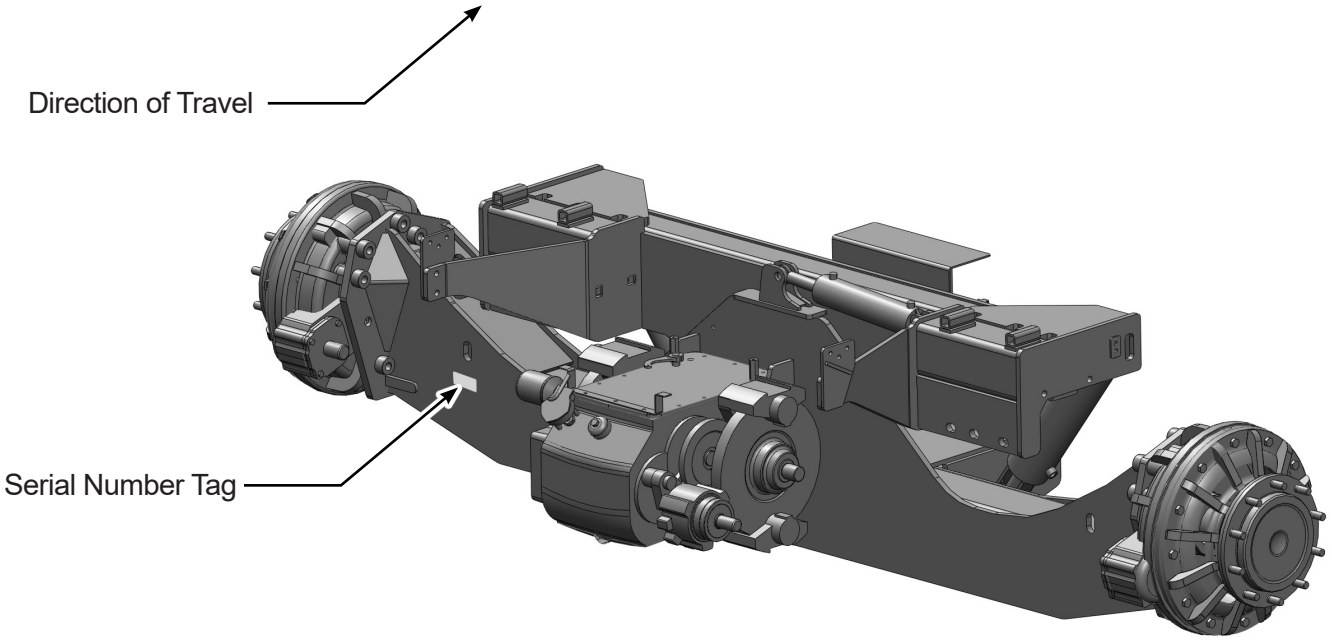
Model and Serial Number



Write the serial number and the model number of the leveling system and combine on the lines provided. It is important to reference these numbers when ordering parts or requesting technical support. We suggest that you give the leveling system serial number to your Case IH dealer to be kept with their combine serial number records.

Leveling System Model Number	CH9040
Leveling System Serial Number	CH9040-
Combine Model Number	
Combine Serial Number	

Maximum Header Weights

CH9040	11,100 lbs

Hillco does not guarantee any non Case-IH header applications and will not be responsible for any damage occurring from improper header configurations.

Please call Hillco Technologies if you have any questions regarding the CH9040 or any other header configuration.

Statement of Limited Warranty

Class I Warranty

Attached / Integrated Equipment, Parts, & Labor

Hillco warrants its Class I products to be free from defects in material and workmanship for a period of twelve (12) consecutive months following the warranty start date.

The warranty start date for Hillco products invoiced by Hillco from October 1st through May 31st is the first day of June following the Hillco invoice date, or the first date of use, whichever is earliest. For Hillco products invoiced by Hillco from June 1st through September 30th the warranty start date is the date of invoice. Once the warranty period has begun, it cannot be stopped or interrupted.

Hillco warrants genuine Hillco replacement parts and components to be free from defects in material and workmanship for a period of ninety (90) consecutive days following the Hillco invoice date, or the remainder of the original equipment warranty period, whichever is longer.

Hillco's obligation under this product and parts warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part(s) that, in Hillco's judgment, shows evidence of such defect. Hillco additionally agrees to repair any physical damage to the product to which the Hillco product is directly attached provided that the damage is directly attributable to a defect in the design or manufacture of the Hillco product, as determined by Hillco, and that the damage occurs during the effective warranty period of the Hillco product.

Limitations to Warranty

This warranty does not cover:

1) Any product damaged by accident, abuse, misuse, negligence, or improper maintenance.
2) Any unauthorized product alteration or modification.
3) Any unauthorized repairs made with parts other than genuine Hillco parts unless specifically authorized by Hillco.
4) Any repairs performed by anyone other than Hillco or an authorized Hillco dealer unless specifically authorized by Hillco.
5) Any claims directly resulting from improper installation, except those installations performed by Hillco.

Warranty Procedure

No warranty claims will be accepted without a completed Dealer PDI on file at Hillco.

For warranty submission instructions please email warranty@hillcotechnologies.com and request a Warranty Claim Form. Complete the Warranty claim form and submit the claim, via email to warranty@hillcotechnologies.com.

All warranty work must be performed, and claims submitted, within thirty (30) days of the occurrence of the claim and within the warranty period.

All parts removed during warranty repair should be held for a period of sixty (60) days after the warranty claim has been submitted to Hillco.

Hillco reserves the right to either inspect the product at the original retail purchaser's location, or the authorized Hillco's dealer's location; or require it to be returned to Hillco, transportation charges prepaid, for inspection.

For additional details on Hillco's Warranty Program refer to Hillco's current "Warranty Policy Guide".

Limitation of Liability

Hillco makes no express warranties other than those, which are specifically described herein. Any description of the goods sold hereunder, including any reference to buyer's specifications and any descriptions in circulars and other media published by Hillco is for the sole purpose of identifying such goods and shall not create an express warranty that the goods shall conform to such description.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. There are no implied warranties of merchantability or fitness for a particular purpose. This warranty states Hillco's entire and exclusive liability and buyer's exclusive remedy for any claim for damages in connection with the sale or furnishing of Hillco products, their design, suitability for use, installation, operation, or for any claimed defects herein. HILLCO WILL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, NOR FOR ANY SUM IN EXCESS OF THE PRICE RECEIVED FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

Neither representative of Hillco nor any dealer associated with Hillco has the authority to change the items of this warranty in any manner whatsoever, and no assistance to purchaser by Hillco in the repair or operation of any Hillco product shall constitute a waiver of the conditions of this warranty, nor shall such assistance extend or revive it.

Hillco reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

D-230314ADB01

Introduction

Thank you for choosing the Hillco CH9040 Leveling System to compliment your farming operation. This product has been designed and manufactured to meet the needs of a discriminating buyer for increasing the performance of a combine.

Safe, efficient and trouble free use of your Hillco CH9040 Leveling System requires that you and anyone else who will be operating or maintaining the leveling system, read and understand the safety, operation, and maintenance information contained in the Operator's Manual.

If extra copies of the operator's manual are needed, contact Hillco at (800) 937-2461 and ask for the document number found on the front cover page.

Hillco Model CH9040 Hillside Leveling System
This manual covers the Hillco Model CH9040 (for the Case IH 7260, 8260, or 9260 combines) Leveling System. Use the Table of Contents as a guide when searching for specific information.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Hillco dealer or Hillco if you need assistance or information at (800) 937-2461.

OPERATOR ORIENTATION – The directions left, right, front, and rear, as mentioned throughout this manual, are as seen from the combine operator's seat and facing in the direction of forward travel.

SAFETY ALERT SYMBOL

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

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

SIGNAL WORDS

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

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

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

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

NOTICE - is used to address practices not related to physical injury.

OPERATION SAFETY

1. Read and understand the Operator's Manual and all safety labels before operating the leveling system.
2. Make sure that all controls are in the manual position before starting the combine.
3. Clear the area of all bystanders, especially children, before starting the leveling system and during operation.
4. Make sure all safety shields are in place before operating the combine. Never operate the machine with the shields removed.
5. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
6. Stay seated in the cab during operation.
7. Operate controls only when sitting in the seat of the combine.
8. To avoid engine damage, do not run the machine for extended periods of time when it is in the leveled over position.
9. Always travel at a safe speed. Use caution when making turns or traversing ditches.
10. The leveling system is equipped with a maximum level warning lamp. This lamp indicates when the machine has reached its maximum leveling capability. There are restrictions as to tread width and tire selection for combines used in harvesting slopes greater than the maximum leveling capability of the leveling system.
11. The use of after-market grain tank extensions is prohibited from use on combines equipped with the Model CH9040 leveling system.
12. Level Limit Stops should be used on combines that rely on the limit switches to stop the leveling prematurely to prevent sheet metal damage

HYDRAULIC SAFETY

1. Do not search for high-pressure hydraulic leaks without hand and face protection. A tiny, almost invisible leak can penetrate skin, thereby requiring immediate medical attention.
2. Use cardboard or wood to detect leaks – never your hands!
3. Before inspecting the hydraulic system of the leveling system, install the safety stops.
4. Before operating the leveling system, ensure that there are no obstructions between the chassis and the carriage.
5. Maintain proper hydraulic fluid levels.
6. Ensure all fittings and hoses are in good repair.
7. Do not make any repairs to the leveling system hydraulic system including: valves, hydraulic hoses, adapters, pumps, manifolds, or reservoirs without first contacting your authorized Hillco dealer.

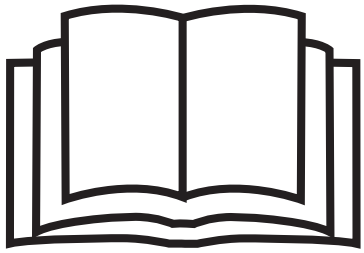
SERVICING AND MAINTENANCE SAFETY

1. Review the Operator's Manual and all safety items before servicing or maintaining the leveling system.
2. Place the Auto/Off/Manual leveling switch in the "Off" position, stop the combine engine, wait for any moving parts to stop, block the tires, the header, and the cylinder areas before servicing, repairing, adjusting, or maintaining the leveling system.
3. Hydraulic oil is under pressure. Use caution when dealing with the hydraulic system.
4. Keep hands, feet clothing and hair away from all moving and/or rotating parts.
5. Clear the area of bystanders, especially children, when carrying out any maintenance, repairs or making any adjustments.

HIGHWAY OPERATION AND TRANSPORT SAFETY

1. Check with local authorities regarding combine transport on public roads. Obey all applicable regulations and laws.
2. Check clearance elevations and widths of combine for travel near power lines, bridges, trees, etc.
3. Make sure the Auto/Off/Manual leveling toggle switch is in the "Off" position for all transport and highway travel situations.
4. Always travel at a safe speed. Use caution when making corners or meeting traffic.

READ OPERATOR'S MANUAL SYMBOL



Decals, which display the —Read Operator's Manual symbol, are intended to direct the operator to the Operator's Manual for further information regarding maintenance, adjustments and/or procedures for particular areas of the leveling system. When a decal displays this symbol refer to the Operator's Manual for further instructions.

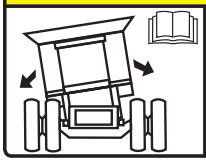
Safety Labels

Familiarize yourself with the location of all safety labels. Read them carefully to understand the safe operation of your machine.

TO APPLY NEW OR REPLACEMENT LABELS

1. Make sure the label area is smooth by removing any debris such as dirt or old labels.
2. Wash the area with soap and water and then dry it thoroughly.
3. After the area has completely dried, peal the backing off the safety label and place it onto the cleaned area.
4. Make sure all areas of the label have adhered to the machine by pressing down on the entire face of the label, including the corners.

CAUTION



- This machine is equipped with a Leveling System.
- Make sure the Auto/Manual leveling control switch is in the manual position before starting machine.
- Read operator's manual before operating this machine.

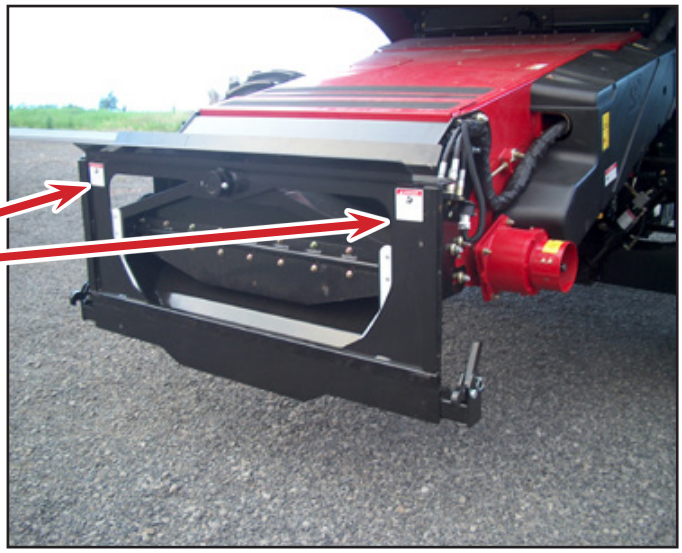
LL20-100782

DANGER

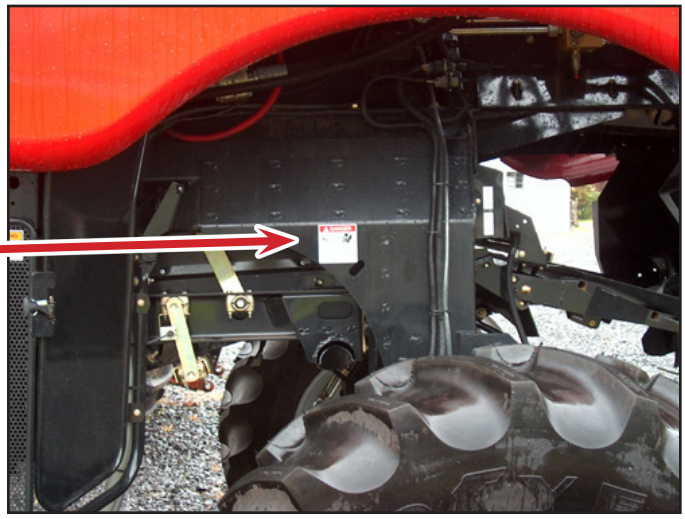
PINCH POINT HAZARD

- Keep hands, feet and body away from moving parts.
- Do not stand or climb on machine when operating.
- Hazard occurs during leveling and header trim.

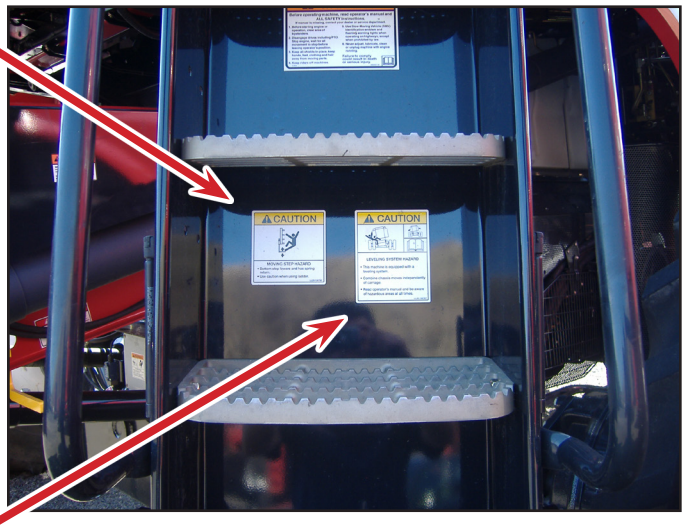
LL20-100784



DANGER
CRUSHING HAZARD
To prevent serious injury or death:
• Keep all persons and objects clear while any part of this machine is in motion.
LL20-100783

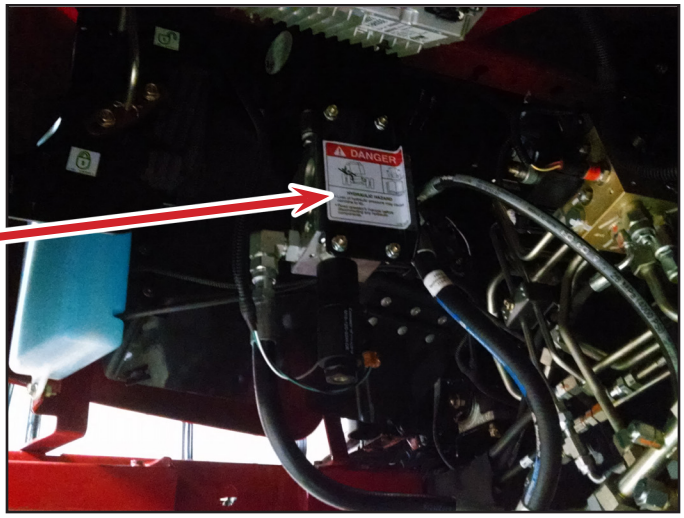


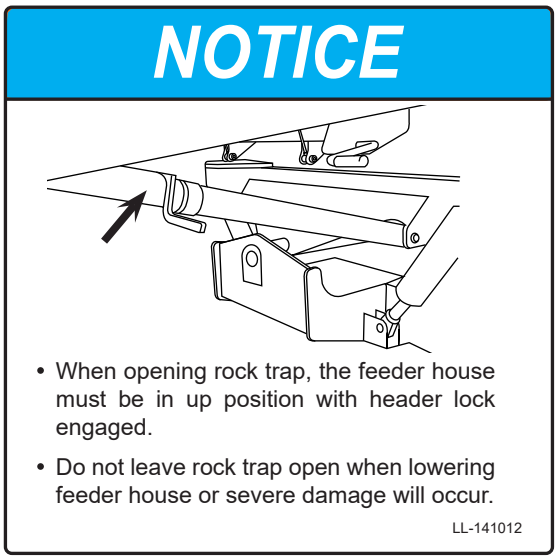
CAUTION
MOVING STEP HAZARD
Bottom step lowers and retracts upward.
Use caution when using ladder.
LL20-100785

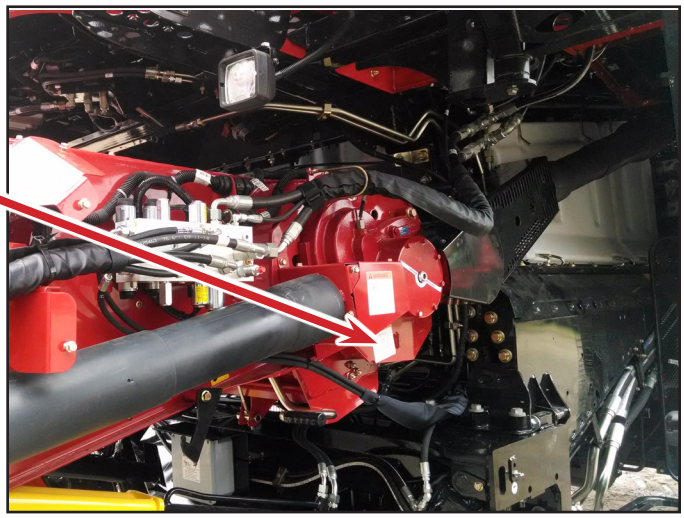

CAUTION
CAUTION

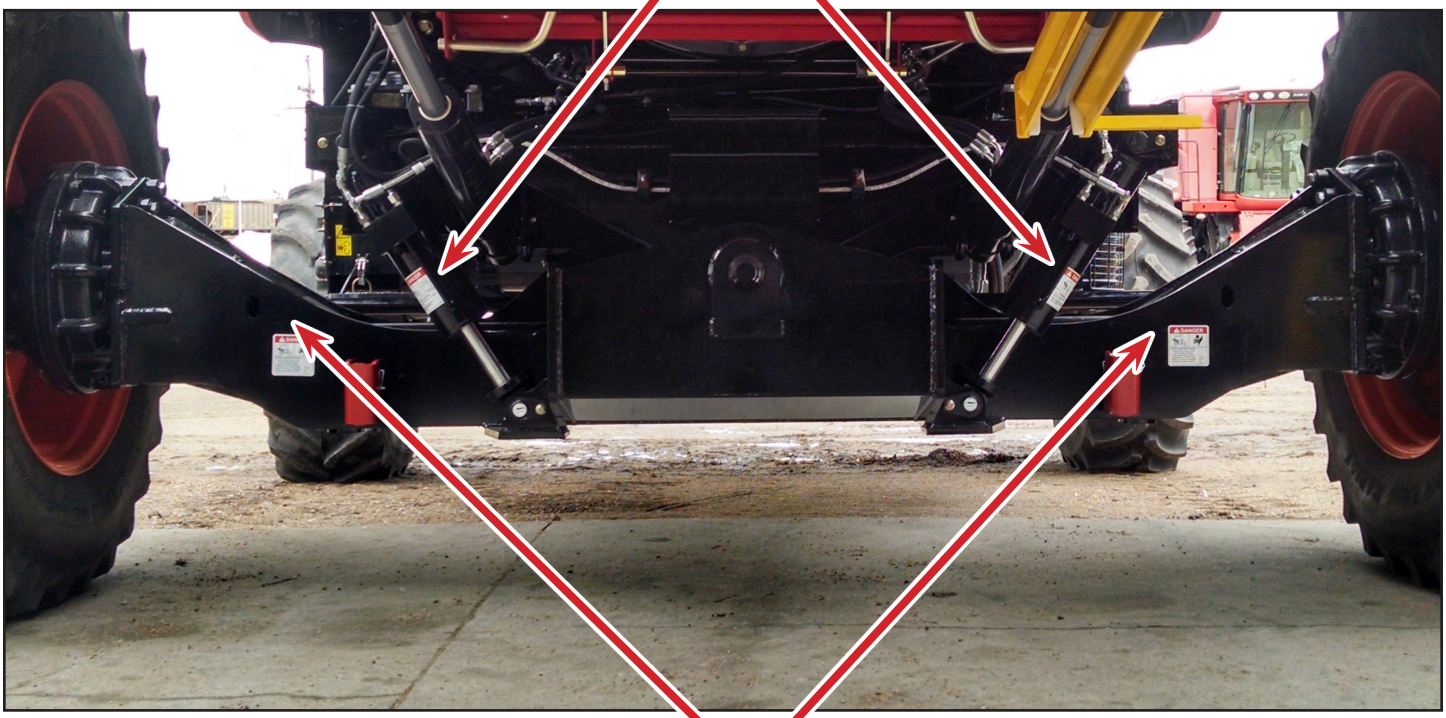
CAUTION
LEVELING SYSTEM HAZARD
• This machine is equipped with a leveling system.
• Combine chassis moves independent of carriage.
• Read operator's manual and be aware of hazardous areas at all times.
LL20-100787

DANGER
HYDRAULIC HAZARD
• Loss of hydraulic pressure may cause combine to tip.
• Read operator's manual before disconnecting any hydraulic components.
LL20-100788


DANGER

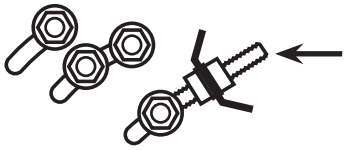

NOTICE
• When opening rock trap, the feeder house must be in up position with header lock engaged.
• Do not leave rock trap open when lowering feeder house or severe damage will occur.
LL-141012




DANGER
HYDRAULIC HAZARD
• Loss of hydraulic pressure may cause combine to tip.
• Read operator's manual before disconnecting any hydraulic components.
LL20-100788
DANGER
AVOID CRUSHING INJURY
Install safety stops on the main leveling cylinders before performing repair or maintenance on the leveling system to prevent accidental tipping of combine chassis.
LL-143621

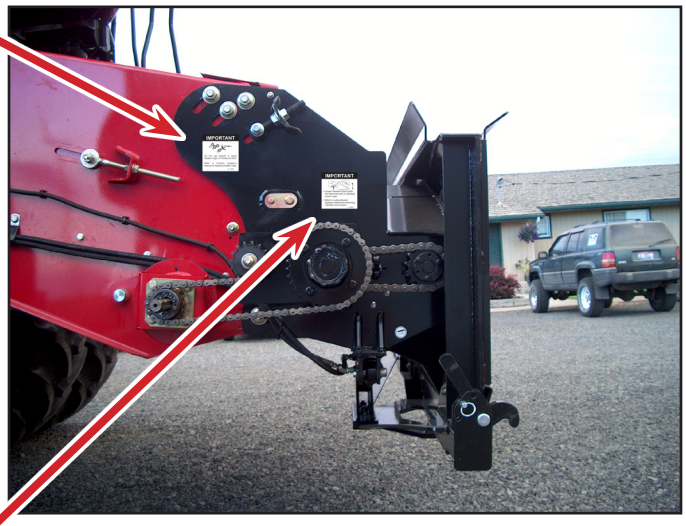
Paddle Beater Transition

Notice

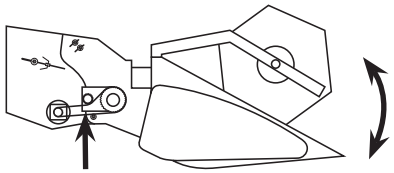


- Do Not use Eyebolt to Adjust Header Angle or Threads will Strip.
- Refer to Combine Operator's Manual for Adjusting Header Angle.

150681



Notice



- Loosen Transition Drive Chain and disconnect prior to adjusting header angle.
- Refer to Leveling System Operator's Manual for tensioning Transition Drive Chains.

150691

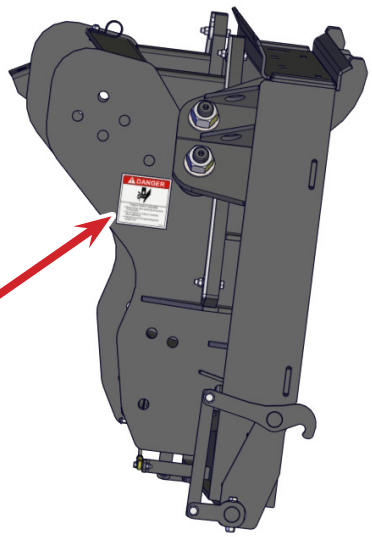
Beater Less Transition

DANGER

PINCH POINT HAZARD

- Keep hands, feet and body away from moving parts.
- Do not stand or climb on machine when operating.
- Hazard occurs during leveling and header trim.

100784



Operation, Setup, and Maintenance

Leveling System Controls

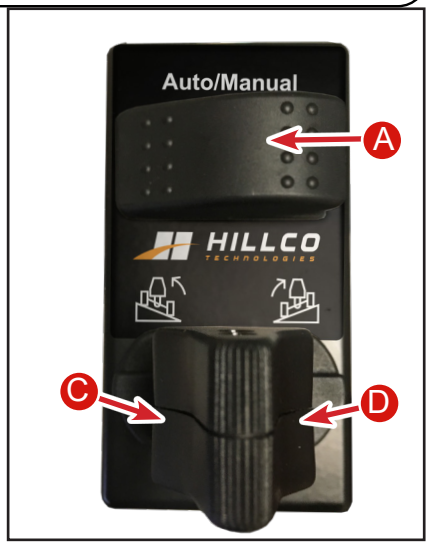
The leveling controls on the Home Screen are shown below. The monitor and controls are located to the right side of the Pro 1200 monitor.

AUTO: Pushing the Auto/Manual Leveling Button (B) once will toggle between Auto & Manual. When Auto is showing on the display (C), this means automatic leveling operation is engaged. The automatic leveling controller monitors changes in slope and corrects chassis position to maintain a level chassis position. The Manual Left/Right Leveling Buttons (D, E) will override the automatic leveling controller while the switch is depressed. Upon release of the switch, the leveling system will return to automatic leveling mode.

MANUAL: Push the Auto/Manual Leveling Button (B) once to enter the Manual Leveling mode (Manual will be displayed). In Manual mode the Manual Left/Right leveling switches will level the combine left and right. When the switch is released the combine chassis will maintain its current position.

Notice

Monitor defaults to Manual each time system is powered up. This is done to prevent any accidental leveling.



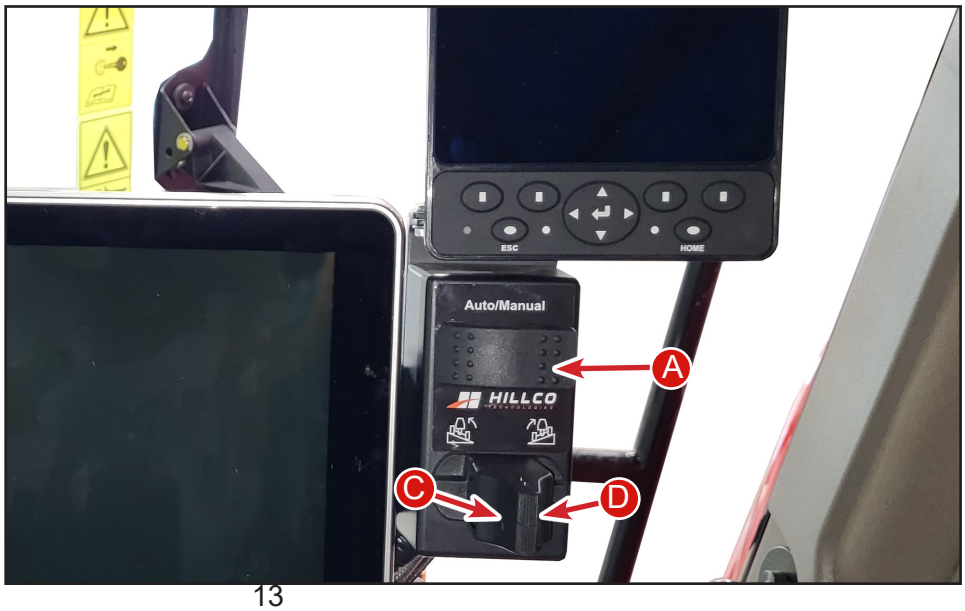
A - Auto/Manual Switch

B - Auto/Manual Indicator

C - Manual Left

D - Manual Right

Leveling Controls: Located on the right side of the Pro 1200 monitor. These switches allow for Auto/Manual control (A) and Left/Right leveling (C, D).



Maximum Level

The leveling system is equipped with a maximum level warning indicator on the monitor. On the Main Control Screen Max Level will be displayed. This indicates when the machine has reached its maximum leveling capability. Hillside Leveling Systems reach maximum level at 27%. Sidehills reach maximum level at 18%.

Header Trim Controls

The header trim switch is the four-position header control switch mounted in the combine's SR control lever. It is used to raise and lower the header as well as trim the header left and right.

TILT LEFT: Push the switch to the left to tilt the header counterclockwise.
TILT RIGHT: Push the switch to the right to tilt the header clockwise

Header Trim Switch

4WD Alarm

The 4WD Warning Alarm is located in the Leveling System Control Monitor. It will sound an alarm, a warning light will flash and 4WD Alarm will be displayed on the monitor if the combine is traversing down a slope that is greater than 20% and the 4WD is engaged. Disengage the 4WD and the warning will be cleared. On downhill slopes less than 20%, level ground or uphill slopes the warning will not come up if 4WD is engaged.

See your combine's Operator's Manual to understand how to operate the Rear Wheel Assist (RWA).

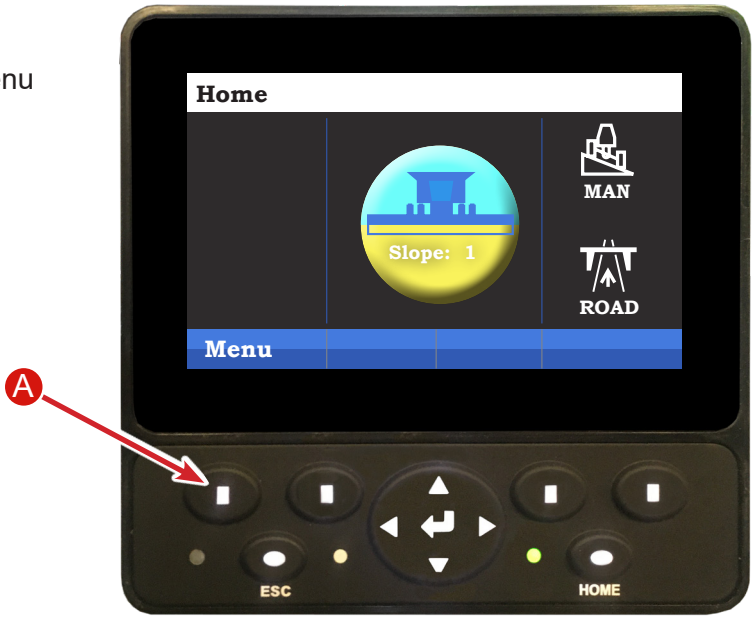
4WD Engage/Disengage

4WD Alarm will be displayed.

⚠WARNING When the 4WD Alarm Sounds and Warning is displayed IMMEDIATELY DISENGAGE the Rear Wheel Assist or Control of the Combine COULD be lost.

Operator Adjustments

From the Home Screen, push the button (A) below Menu to enter the Main Menu.



Push the up or down arrows (B) to move to the desired function. Once the desired function is highlighted press the Enter button (↵) (C) to go into that page. Press the Home button to go to the Home screen.

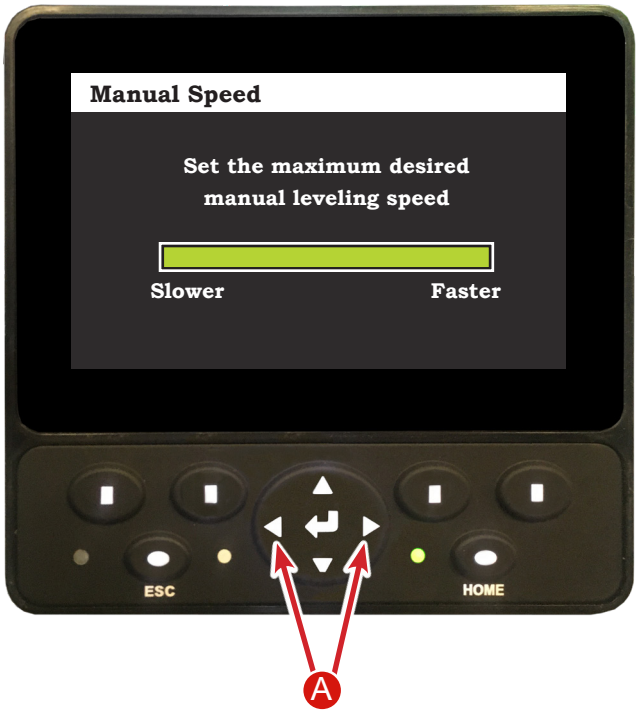
Operator Settings Menu

Select the desired Function in the Operator Settings Menu. Scroll up and down using the up and down arrows. When the desired function is highlighted select the enter button. To go back to the main menu select the Back button.

Manual Speed

The manual leveling speed can be sped up or slowed down (A). This setting only affects manual leveling and not auto leveling speed.

Adjust the green bar left and right using the left and right arrow buttons. To save your settings and return to the Operator Settings Page press the ESC button.



Display Backlight

The brightness can be adjusted up and down. Use the left and right arrows (B) to adjust the brightness and then hit Enter to save the setting.

Smart Unload

Smart Unload is an optional safety feature that puts the leveling system from auto leveling to manual leveling when unloading. This prevents the unloading auger from coming in contact with the grain cart while unloading on the go on changing terrain.

As soon as the unloading auger starts to swing out the system changes from Auto Leveling to Manual Leveling.

When the auger is in all the way the operator must cycle the auto manual switch to go back to auto leveling.

The setting is defaulted to OFF. If you wish to turn it on push the right arrow (A). The red OFF will turn white and the “On” will turn from white to green. To turn off, puch the left arrow. (B)
Press the ESC button to return to the previous screen.

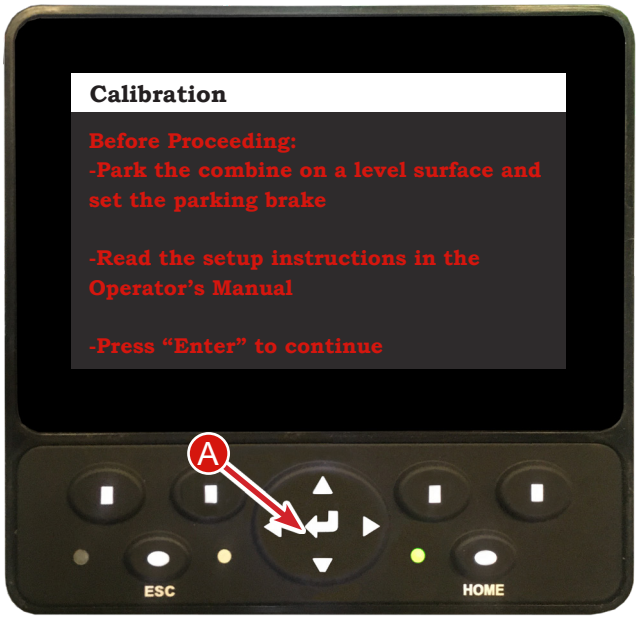
Calibration

From the main menu, using the up/down arrows (C), highlight calibration. Press enter (D).

Continued on next page.

After you select Calibration the message to the right appears.

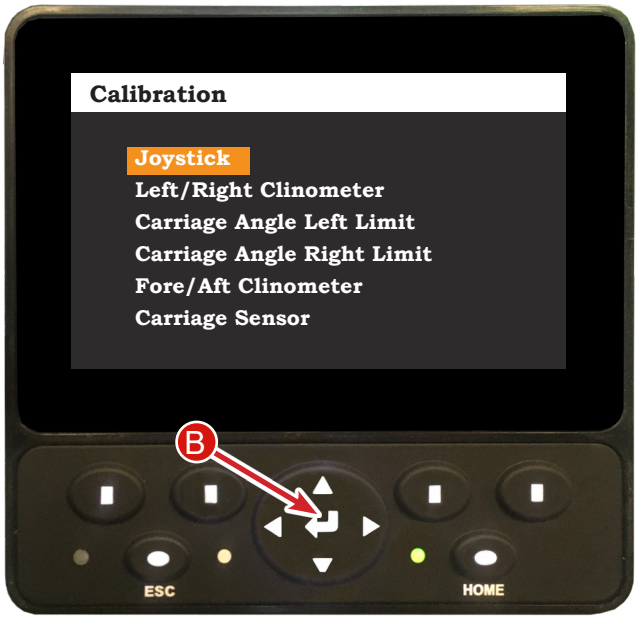
Press Enter (A)



Joystick Calibration

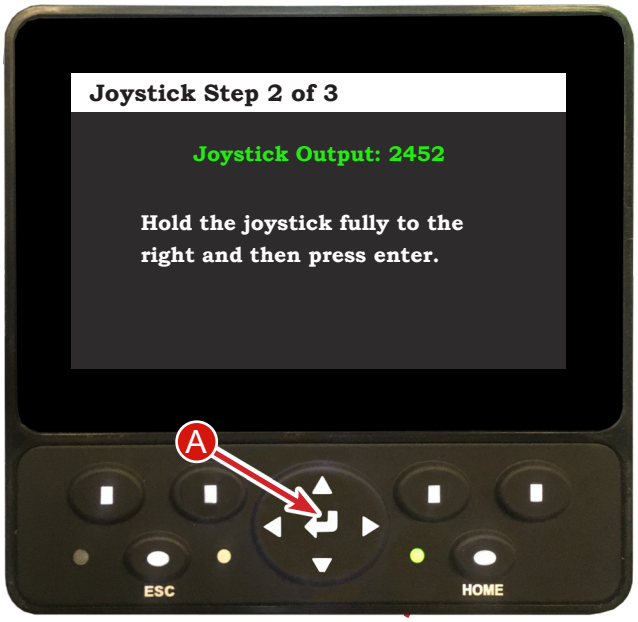
Highlight Joystick and press Enter (B).

Notice When in the Calibration Menu screen all limits have been deactivated. The carriage can rotate until the cylinders bottom out.



With the Joystick in the center position press the Enter button (C).

Push the Joystick lever all the way to the right and then press the Enter button (A).



Push the Joystick lever all the way to the left and then press the Enter button (B).

The screen will show the calibration is saved. Joystick Calibration is now complete. Press the ESC button (C) to return to the calibration menu.

Left/Right Clinometer Calibration (Level Zero Point)

Using the up/down arrows, highlight Left/Right Clinometer and press Enter (A).

Follow the directions on the screen. When the combine is level side to side press Enter (B).

The screen will show the limit has saved. Press ESC (C) to return to the calibration menu.

Carriage Angle Left Limit

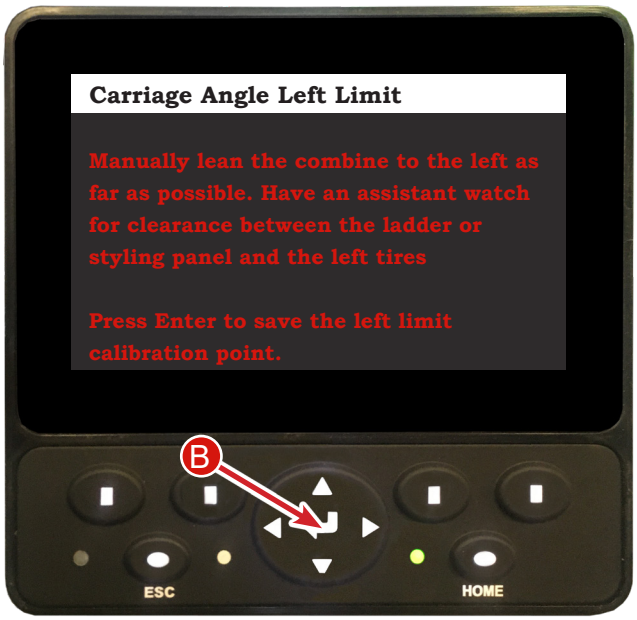
This setting sets the maximum tilt to the left.

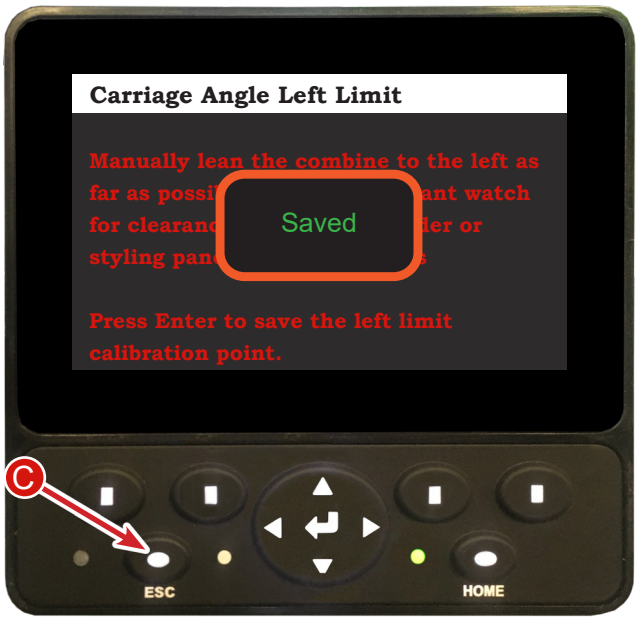
To set the carriage angle left limit, park the combine on level ground and set the parking brake. Then raise the feeder spout and drop the header lift cylinder safety stop.

Select the Carriage Angle Left Limit and press Enter (A) from the Calibration Menu.

Lean the combine to the left until either the maximum leveling capabilities of the leveling system are reached or contact is made between two points. The software will automatically set back approximately one inch.

When maximum level has been achieved press the Enter button (B). When saved is displayed, hit ESC (C) to return to calibration menu.





Notice

With certain tire selections the limit sensors can be used to prevent the need to modify the sheet metal on the left and right side panels of the combine. Installation of level limit stops is recommended to prevent sheet metal damage in the event of a limit switch failure. (See LEVEL LIMIT STOPS section)

Notice

If Level Limit Stops are used be sure that the left limit sensor has been calibrated with that stop in place. Damage to the cylinderts or other leveling system components may occur if sensors aren't set properly.

Carriage Angle Right Limit

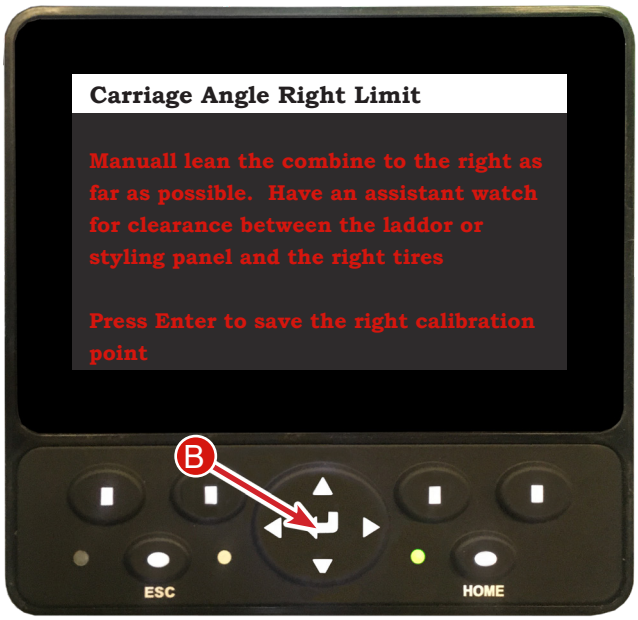
This setting sets the maximum tilt to the right.

To set the carriage angle left limit, park the combine on level ground and set the parking brake. Then raise the feeder spout and drop the header lift cylinder safety stop.

Select the Carriage Angle Right Limit and press Enter (A) from the Calibration Menu.

Lean the combine to the right until either the maximum leveling capabilities of the leveling system are reached or contact is made between two points. The software will automatically set back approximately one inch.

When maximum level has been achieved press the Enter button (B). When saved is displayed, hit ESC (C) to return to calibration menu.



Notice

With certain tire selections the limit sensors can be used to prevent the need to modify the sheet metal on the left and right side panels of the combine. Installation of level limit stops is recommended to prevent sheet metal damage in the event of a limit switch failure. (See LEVEL LIMIT STOPS section)

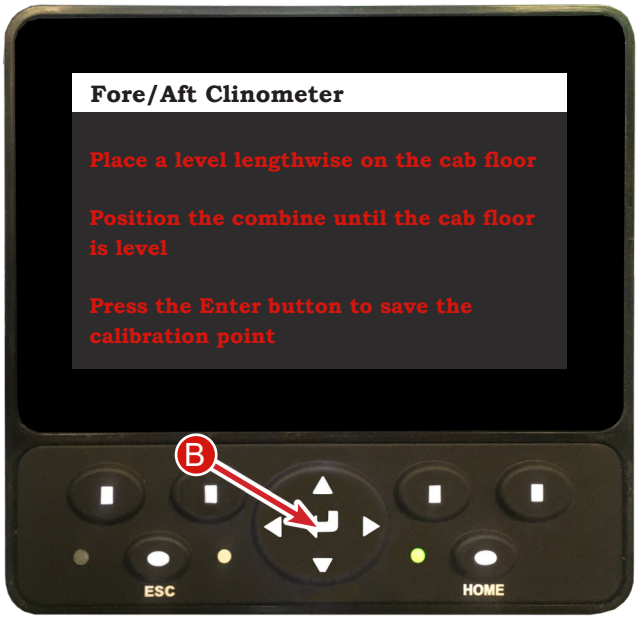
Notice

If Level Limit Stops are used be sure that the left limit sensor has been calibrated with that stop in place. Damage to the cylinders or other leveling system components may occur if sensors aren't set properly.

Fore/Aft Clinometer

Using the up/down arrows highlight Fore/Aft Clinometer and press Enter (A).

When the combine is level front to back press Enter (B).



The screen will show saved. Press ESC (C) to return to the calibration menu.

Carriage Sensor

Using the up/down arrows highlight Carriage Sensor and press Enter (A).

When the combine is on a level surface and the cab is level, Press Enter to Save. (B).

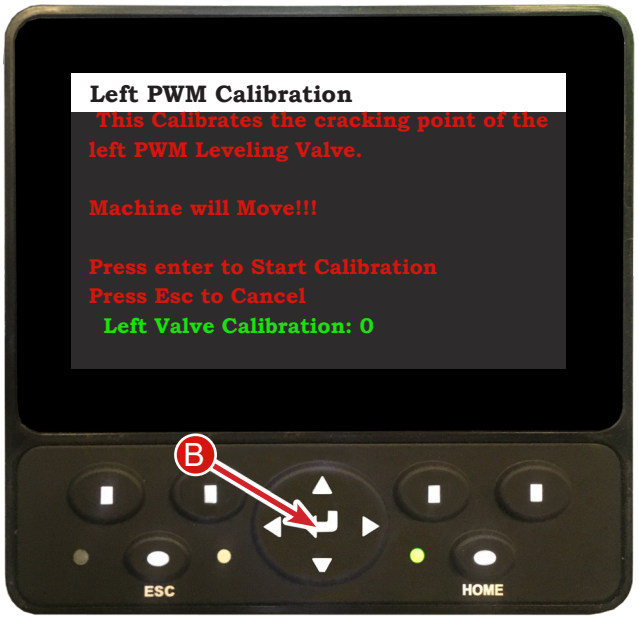
The screen will show saved. Press ESC (C) to return to the calibration menu.

Left PWM Calibration

Using the up/down arrows highlight Left PWM Calibration and press Enter (A).

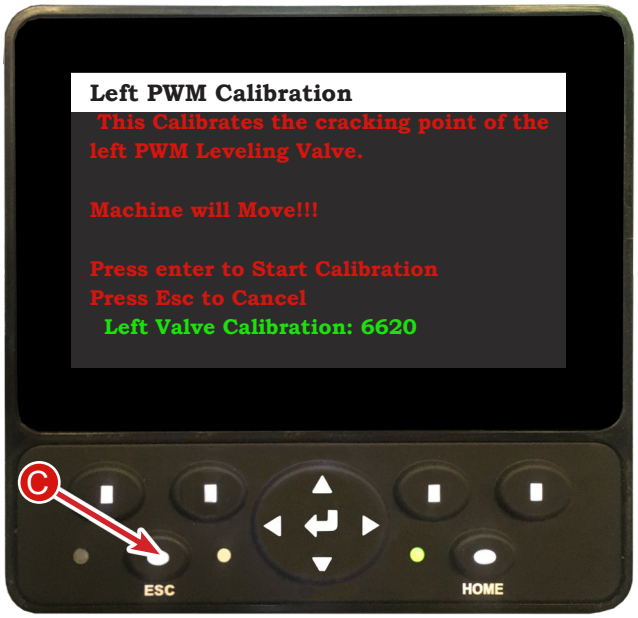
Make sure the machine is level. Press enter (B) to start the calibration process. The number on the last line in green will begin counting. The machine will dip slightly to the left once cracking has been achieved.

Always be ready to press ESC in case of failure.



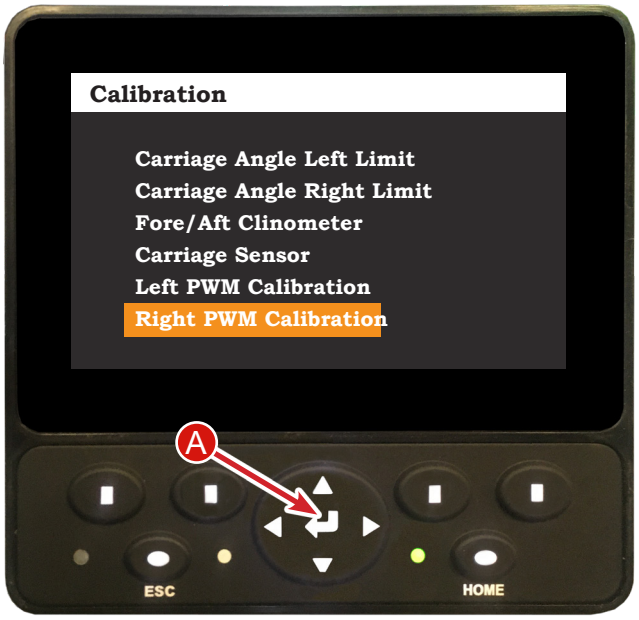
The machine will move slightly to the left and the Calibration value will stop counting. At this point, calibration is done. Press ESC (C) to return to the calibration menu.

** Value shown is an example*



Right PWM Calibration

Using the up/down arrows highlight Right PWM Calibration and press Enter (A).



Make sure the machine is level. Press enter (B) to start the calibration process. The number on the last line in green will begin counting. The machine will dip slightly to the left once cracking has been achieved.

Always be ready to press ESC in case of failure.

The machine will move slightly to the right and the Calibration value will stop counting. At this point, calibration is done.

This completes Calibration. Press ESC (C) twice to return to the main menu.

** Value shown is an example*

Diagnostics

From the Main Menu highlight Diagnostics using the up/down arrows. Press Enter (A) to enter the diagnostics menu.

The Diagnostics menu allows the operator to view output information from the electrical system on the leveling system.

Using the up/down arrows, highlight Clinometers and press Enter (A) to view the output of the clinometers.

Clinometers

Fore/Aft (B) shows the current clinometer output. By driving up or down a hill this value will change.

Left/Right (C) shows the current clinometer output. By leveling the combine back and forth the values will change.

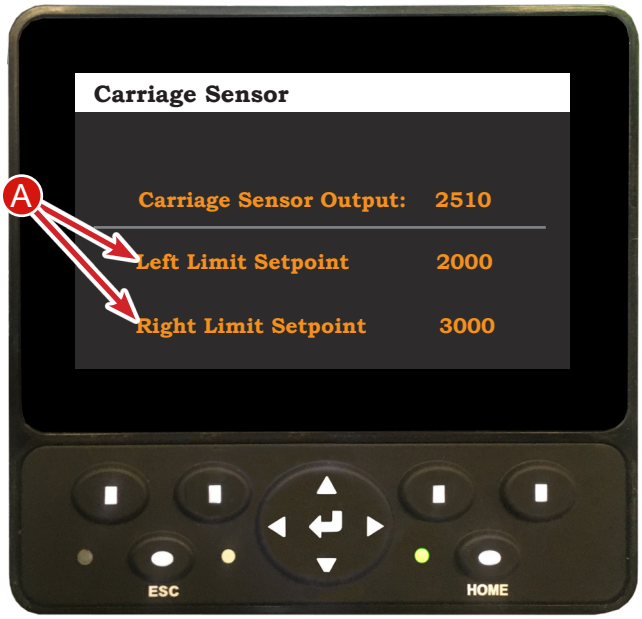
The value for Level Zero Setpoint and 4WD Zero Setpoint (D) are the current calibration values. These values are set in the Calibration screen under Left/Right Clinometer and Fore/Aft Clinometer.

Carriage Sensor

The Carriage Sensor Output is the current voltage output at a given carriage position.

Leveling the combine back and forth will change this value. Leveling to the right will increase the value.

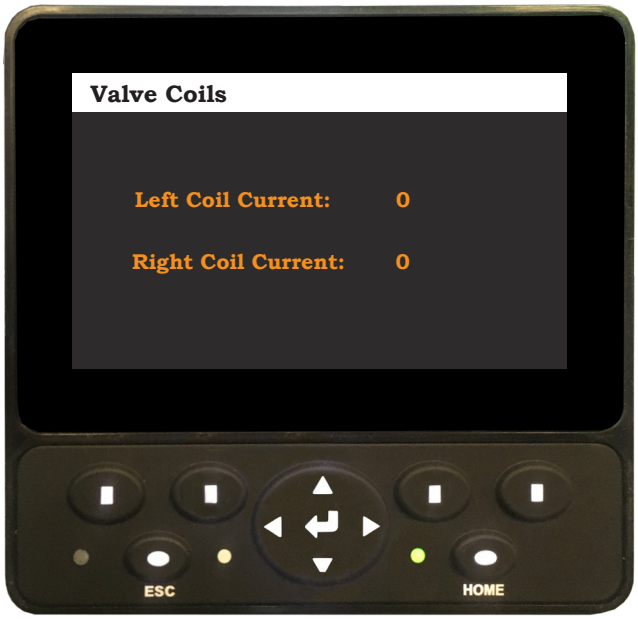
The value for Left and Right Limit Setpoint (A) are the current calibration values for maximum level to both sides.



Valve Coils

Range is from 0-18000.

Only one coil will be activated at a time.



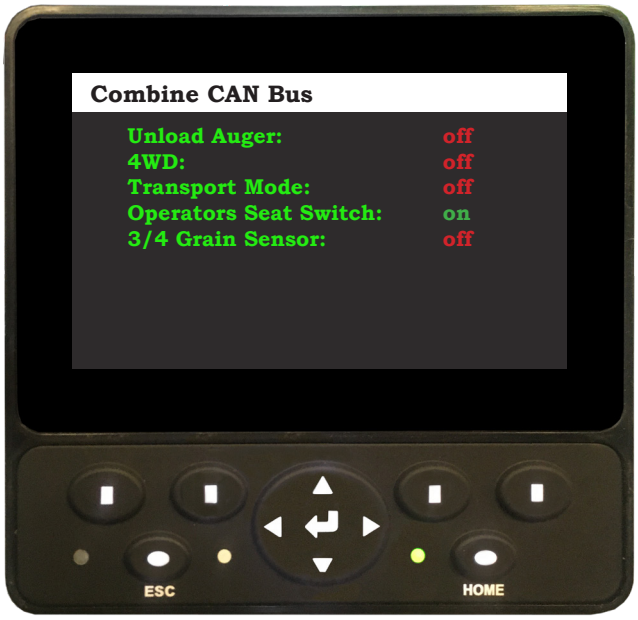
Joystick

Range is from 500-4500.

Combine CAN

The Signal can be OFF, ON, or " - - - ".

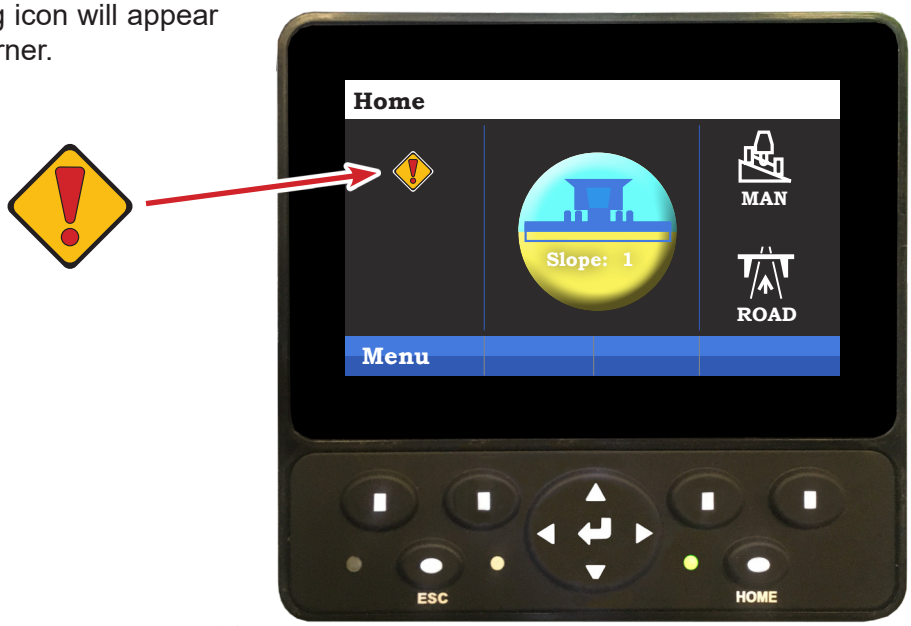
" - - - " means the display is not reciving the CAN message. Off will be red and On will be green.



Active Alarms

From the Main Menu hightlight Active Alarms using the up/down arrows and press ENTER (A).

If you have an Active Alarm the warning icon will appear on the home screen in the upper left corner.



The Active Alarms that will appear are:

Clinometer Fault
Carriage Sensor Fault
Joystick Fault

If any of the sensors output fall outside of the expected range an alarm will trigger on the screen listing the fault and the current output of the sensor in question. While the alarm screen can be cleared the automatic function of the leveling system may be disabled until the fault is corrected. Once an alarm screen has been cleared the fault condition is denoted by an alert icon in the top left of the screen. If the icon is displayed then the active alarms screen in the system menu will show which sensors are in a fault condition.

Carriage sensor Fault

Clinometer Fault

Joystick Fault

Dealer Settings

Dealer Settings is a password protected screen that is for dealers to make adjustments to the leveling system.

Password protected page:

Level Limit Stops

On the Model CH9040 Leveling System a Level Limiting Spacer Kit can be clamped on the main leveling cylinders to mechanically stop leveling if the carriage position sensor were to fail. To determine how many spacers are needed to create a mechanical stop follow these steps:

1. Park the combine on level ground and apply the parking brake.

2. Raise the feeder spout and drop the header lift cylinder safety stop.

3. Lean the combine to the left until either the maximum leveling capabilities of the leveling system are reached or there is approximately one inch of clearance between the tires and any metal that may interfere with them.

4. Shut off the machine and measure the distance between the packing gland on the rod end of the cylinder and the ring that is welded to the rod end.

5. Write down this dimension and repeat the process for the right side. (Both sides must be measured due to the fact that the combine may level further one direction than the other.)

6. The dimensions obtained will determine how many spacers are needed. There is no additional charge for the level limit stops (Call Hillco with dimensions to order).

Cylinder Stops

Notice If Level Limit Stops are used be sure that the max level position sensor is calibrated to stop leveling before the level limit stops make contact. Damage to the cylinders or other leveling system components may occur if the position sensor is not calibrated correctly.

Leveling Controller Function

The Hillco Model CH9040 Leveling System is equipped with a proportional leveling system with manual control and automatic with manual override control. The clinometer, located in the control box, monitors changes in slope and corrects the position of the combine's chassis using proportional leveling. The clinometer maintains leveling accuracy to +/- 1/10th degrees by sending the leveling signal to the proportional leveling control valve on the manifold. As the combine reaches higher degrees of being out of level, the clinometer sends more voltage to the directional control valve's coil and pulls the spool open further to allow oil to flow faster and speed up leveling. As the combine gets closer to +/- 1/10th degrees out of level, less voltage is sent to the coil to slow leveling.

Mechanical Adjustments

Tread Width

The CH9040 Leveling System is designed around a main undercarriage length of 3120mm (122-13/16"), which is identical to the combine's original axle tube length with 265mm (10-7/16") axle extensions. The final drives are mounted directly to the undercarriage and axle extensions are not required.

⚠ WARNING Dual tires are required on all combines equipped with the CH9040 Leveling System. The dual tire and wheel package sold from Hillco creates a 120"-180" tread spacing.

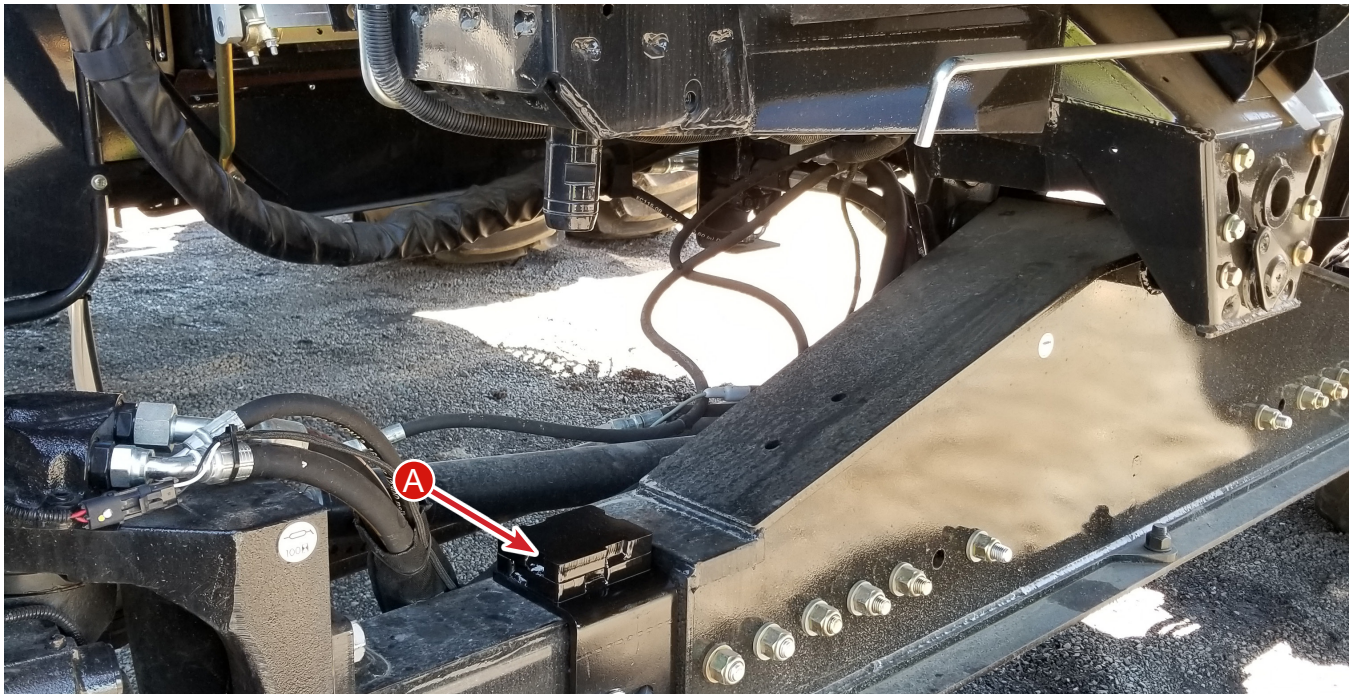
Tire Selection

Notice

Model CH9040 Dual Drive Tires – Combines equipped with the Model CH9040 Leveling System must be equipped with 650/65R38 dual tires with a minimum load rating of 175A8 to safely support the weight of the combine.

Notice

Model CH9040 Steering Tires – Combines equipped with the Model CH9040 Leveling System must not have tires larger than 28L26 or 750/65R26 for proper fuel tank and side panel clearance. Rotation stops (A) must be installed with these tire sizes to prevent fuel tank and side panel interference.



Notice

Model CH9040 Dual Drive Wheels – Combines equipped with the Model CH9040 Leveling System must be equipped with the 38” dual wheel and adapter package that is sold through Hillco. No other wheel package is approved for this application.

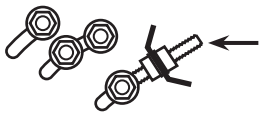
Feeder Adjustment for Tire Size - Paddle Beater

Adjust the feeder adapter to obtain the proper header angle and cutter bar height as shown in the 7260, 8260, and 9260 Operator's Manual. The chart shown in those manuals will no longer be a correct guide to adjust the feeder adapter due to the height increase created by the leveling system.

Notice

When rotating the transition throat to obtain proper header angle, pay special attention to the 60P chain tension. The 60P chain will have to be lengthened when rotating rearward.

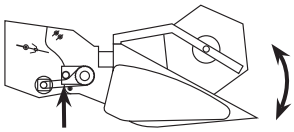
Notice



- Do Not use Eyebolt to Adjust Header Angle or Threads will Strip.
- Refer to Combine Operator's Manual for Adjusting Header Angle.

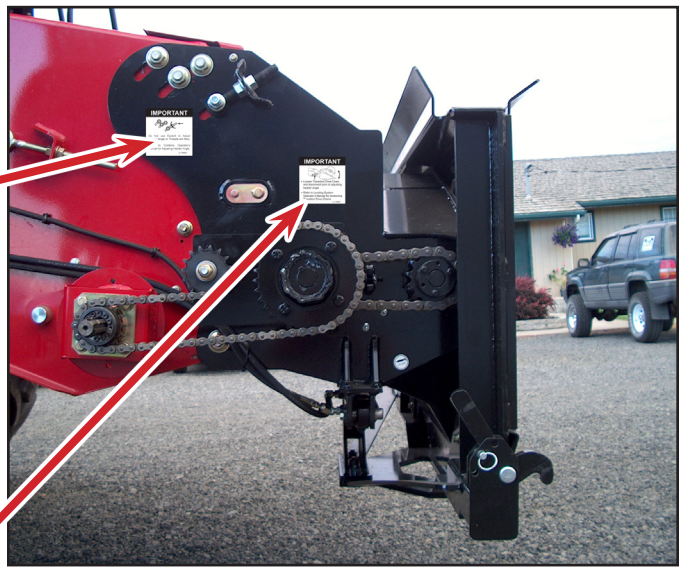
150681

Notice



- Loosen Transition Drive Chain and disconnect prior to adjusting header angle.
- Refer to Leveling System Operator's Manual for tensioning Transition Drive Chains.

150691



Feeder Adjustment for Tire Size - Beaterless

The beaterless transition has no fore/aft adjustment for cutter bar angle.

Conveyor Drum Fore/Aft Position - Paddle Beater Transition

The conveyor drum may need to be repositioned. The position of the conveyor drum should be set fore or aft so that there is approximately a 1-inch distance between feeder chain slat tip and the paddle beater.

Conveyor Drum Fore/Aft Position - Beaterless Transition

As the feeder chain wears and the feeder drum moves forward in the slot, the feeder chain may contact the header adapter before reaching the end of the adjustment slot. Monitor the distance between the feeder chain and the header adapter as it moves forward in the adjustment slot.

Header and Combine Connection

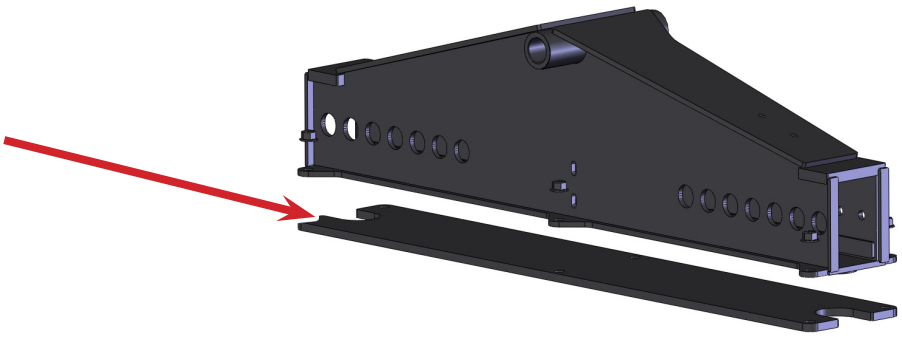
Refer to the 7260, 8260, and 9260 Operators Manual for instructions on connecting the header to the combine. All headers require header kits to function properly on the Model CH9040 Leveling System. Contact your dealer for additional information on these kits.

Rear Axle Weighting

Proper rear axle weighting of a combine equipped with a CH9040 leveling system is critical to the performance and safety of operation. Rear axle weighting increases the tip angle of the combine to improve down hill maneuvers. The appropriate weighting is dependent on such items as feeder house length, header selection, and tire selection. Consult your authorized Hillco Leveling System dealer for weighting information.

Weight can be added to the rear axle through:
1) Calcium Chloride in rear tires
2) Hillco Rear Axle Weight Package (Up to 10 weights at 150 lbs per weight)

150 lbs weights can be added to the bottom of the Hillco drop axle. Maximum of 10 weights.



Use caution when using individual turning brakes. Installation of a Hillco Leveling System transmits additional weight to the rear axle of the combine. Excessive braking to turn can damage your combine chassis.

⚠ WARNING The responsibility for making the final determination of appropriate rear axle weighting lies with the operator.

When first operating the CH9040 leveling system in hillside conditions, begin operation on gradual slopes and work up to more severe slopes only after you have determined that rear axle weighting is appropriate for downhill maneuvers. The first indication of insufficient rear axle weighting is sluggish or unresponsive steering while traveling down hill. This effect will worsen if the operator decelerates. Make sure rear axle weighting is sufficient for safe down hill maneuvers, under normal deceleration, in your most severe down hill conditions.

Notice Use of grain tank extensions other than those provided by the Combine manufacturer is strictly forbidden. Use of such extensions voids both the Hillco and Case IH NEW Equipment Warranties.

Rear Axle Toe In

If the rear tire and wheel size changed after the proper sized rear tires were installed the toe in should be checked. Consult your combine's operator's manual on the correct toe in for your tire and wheel size.

Feeder Conveyor Slip Clutch

The feeder conveyor slip clutch should be adjusted yearly to make sure it will protect all of the feeder drive components. Consult your combine's operator's manual on the correct procedure for adjusting the slip clutch.

Transition Drive Chain (Paddle Beater Transition)

Check to see that the transition drive chain is in proper alignment and has proper tension. Misalignment of these sprockets will cause premature wear of the sprockets and chain. Chain tension is maintained on the 60-pitch chain with an idler sprocket and on the 80-pitch chain by moving the jackshaft assembly. Both are located on the right side of the transition.

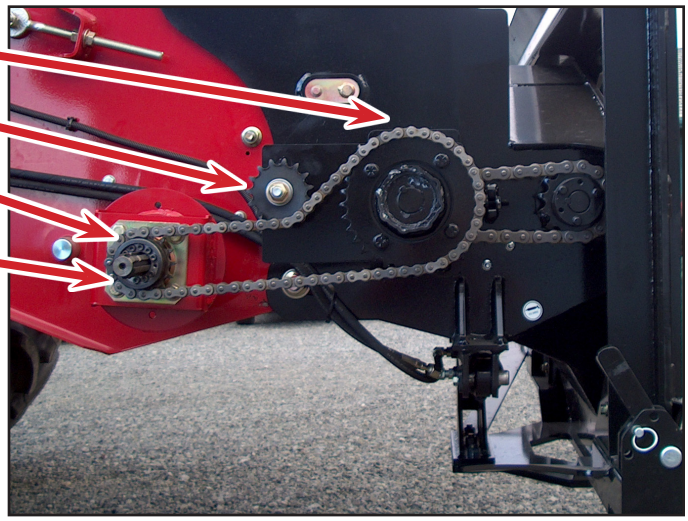
80-Pitch is adjusted by moving jackshaft assembly

60-Pitch chain tightener

Make sure sprockets are in alignment

60-Pitch chain will have to be lengthened when rotating rearward

Do not over tension chain or premature chain and sprocket wear will occur.



Transition Slip Clutch

The transition slip clutch is preset at the factory so that damage will not occur to any of the transition drive components. It is not adjustable. To prevent premature wear it is imperative that it is greased according to the lubrication schedule in the maintenance section.

Operator's Platform

There are two operator's platform configurations that can be used with the CH9040 leveling system and still maintain full leveling to the left.

Configuration 1

No Platform Extensions.

Configuration 2

One 6 Inch Platform Extension (A) Provided By Hillco - Refer to the combine Operator's Manual for information on adjusting the platform.

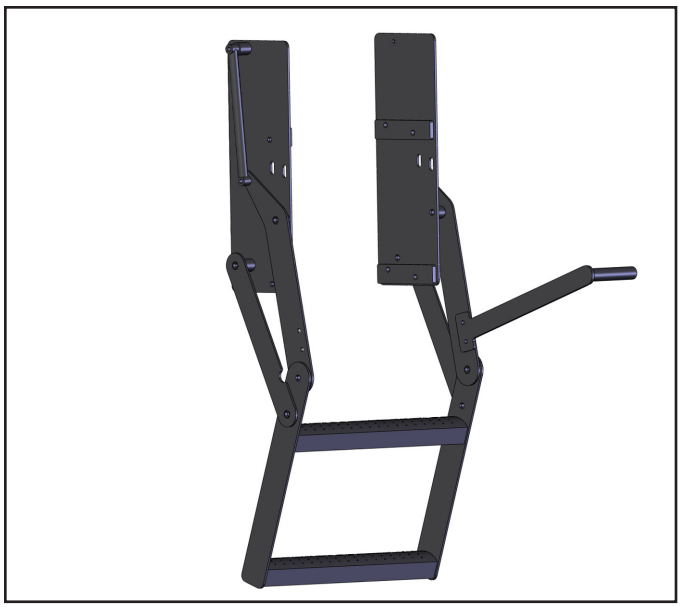
Configuration 3

If the Operator's platform is set up with Case IH P/N 84591089 (Platform Extension) (B), which is approximately 24 inches, left leveling will be reduced from 27% to approximately 15% to prevent the tires from contacting the ladder structure.

Ladder

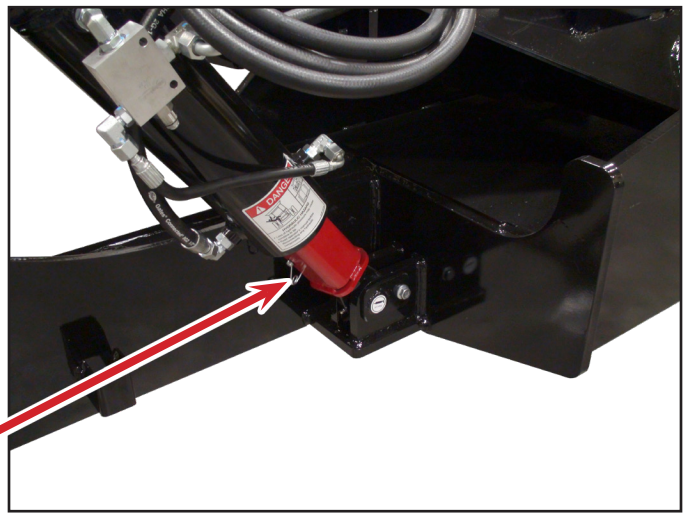
If the ladder doesn't extend and retract properly check the fasteners in all of the pivot locations and make sure they aren't over tightened. Over tightening of these fasteners will cause the ladder to bind.

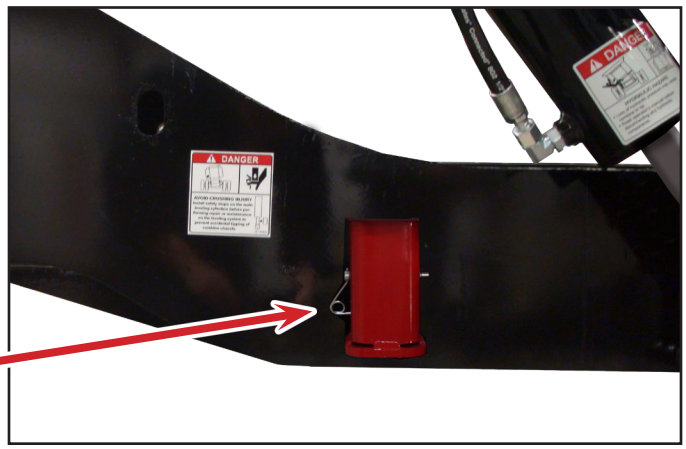
Make sure that the gas-charged struts keep the ladder fully retracted. Replace the struts if they appear to be weak. If the ladder doesn't fully retract permanent damage may occur during field operation.



Leveling Cylinder Safety Stops

When the leveling cylinder safety stops are installed on the leveling cylinders, the carriage cannot rotate. The stops must be installed before working on or around the leveling system and also when hauling the combine. It is recommended that the stops be used during long term storage. When the stops are not being used, they should be stored on the mount next to the leveling cylinder.





General Shielding

Before operating the combine all shields must be in place and in working condition. Shield to tire clearance needs to be checked once the correct tires are installed on the combine. Check to see if the clearance is correct by having someone watch the tire and shields as the operator leans the combine to the far right and far left. Some tire selections require limit switches to be set slightly early to allow enough tire clearance between the left and right front side panels.

Hydraulic Settings

Refer to the Hydraulic Safety section located on page 6 for precautions regarding the hydraulic system.

The Model CH9040 Leveling System utilizes the existing auxiliary combine hydraulic system for their hydraulic requirements with the exception of the addition of a stand-alone leveling manifold located behind the left shield to the rear of the operator's platform. The hydraulic schematic located in the rear of this manual covers the leveling system circuitry. Consult your combine's operator's manual or contact your Case-IH dealer for diagnostics and maintenance regarding the remainder of the hydraulic system.

Notice

All adjustments on the hydraulic system are preset at the factory for optimal leveling and header trim performance. DO NOT MAKE ANY ADJUSTMENTS TO THESE SETTINGS WITHOUT FIRST CONTACTING YOUR AUTHORIZED HILLCO DEALER.

Hydraulic Hoses

Inspect hydraulic system for leaks, damaged hoses, improper routing, and loose fittings. Hydraulic hoses that are not routed correctly could become worn from working against abrasive edges or moving parts. If abrasions or holes do occur, the hydraulic hoses can only be repaired by replacement. Do not attempt repairs with tape or cements. High pressure will burst such repairs and cause system failure and possible injury. Hydraulic Hose Connections – When tightening loose hoses on the cylinders, pump, etc., always use one wrench to keep the hose from twisting and another wrench to tighten the union. Excessive twisting will shorten hose life and allow the fitting to loosen during operation. Do not over-tighten fittings or adapters. Refer to the 7260, 8260 and 9260 Operator's Manual for information regarding hydraulic oil check intervals, and reservoir fluid levels. Leveling and header trim speeds are preset at the factory. If different speeds are desired please contact your Hillco dealer.

Hydraulic Cylinder

⚠ WARNING

Each leveling cylinder is equipped with a safety valve (counterbalance valve) that is in place to prevent unintentional leak down of the cylinder. These safety valves are preset at the factory, and should not be adjusted.

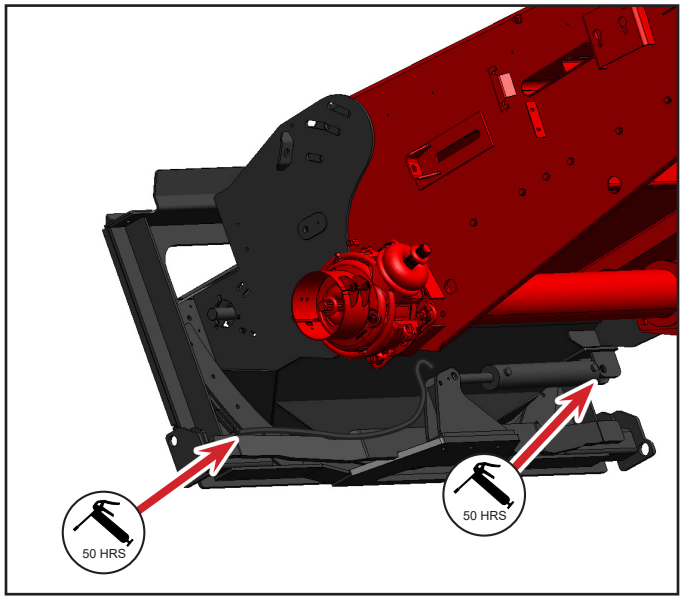
⚠ WARNING

Do not make any repairs to the cylinders, disconnect valves, or disconnect any hoses connected to the cylinders, counterbalance valves, bulkhead mount or manifold without first contacting your authorized Hillco dealer. These hydraulic components stabilize the chassis of the combine. Improper repair or replacement of these components could lead to uncontrolled leveling of the combine's chassis. The leveling cylinder safety stops can be used to prevent accidental tipping of the combine during repair.

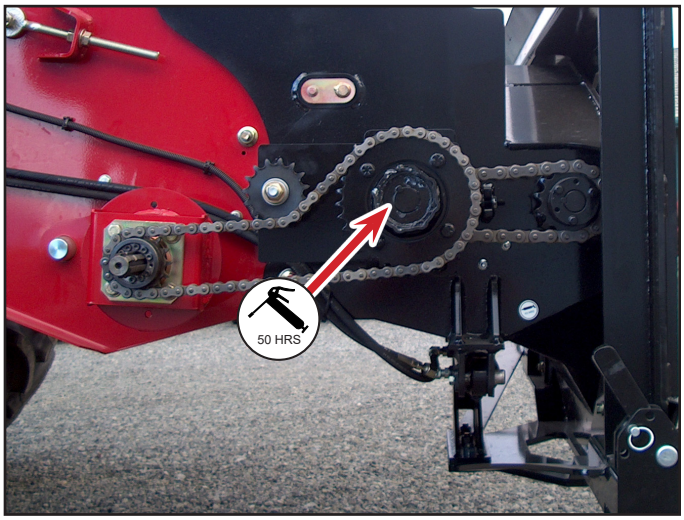
Grease Locations

Paddle Beater Transition

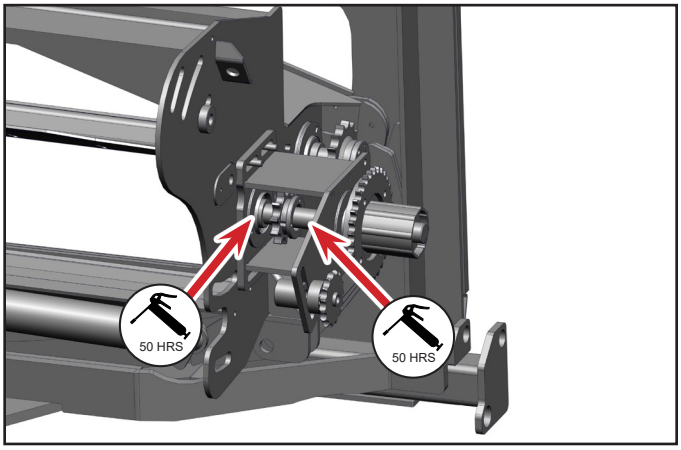
Use Case-IH 251H EP or equivalent NLGI #2 Multi-Purpose Lithium Grease.



Slave Cylinder
(base and rod ends)
50 hrs.
2 Zerks



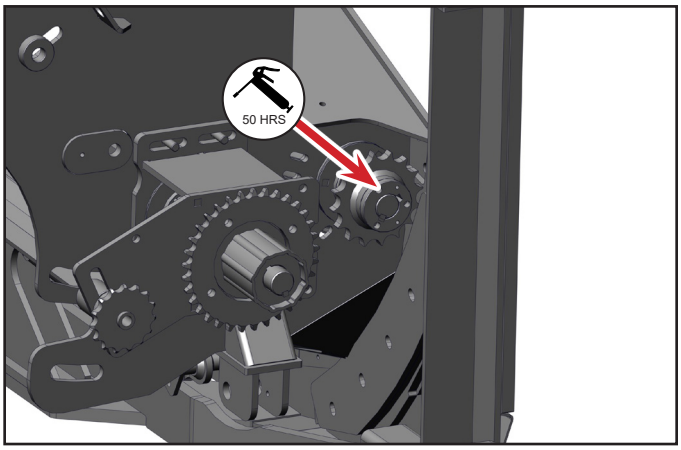
Transition Slip Clutch
Grease on 50 hour interval with little to no slippage. Grease daily in adverse feeding conditions where slippage may occur more often. Pump until grease comes out.



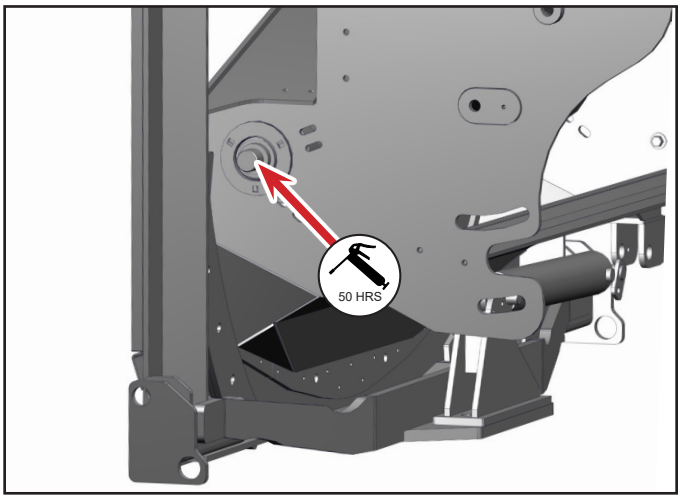
Paddle Beater Jackshaft

50 hrs.
2 Zerks

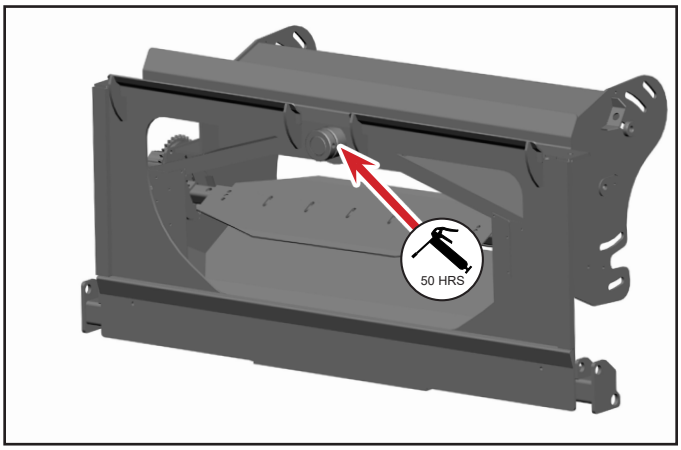
Bearing on Right Side
Paddle Beater
50 hrs.
1 Zerk



Bearing on Left Side
Paddle Beater
50 hrs.
1 Zerk

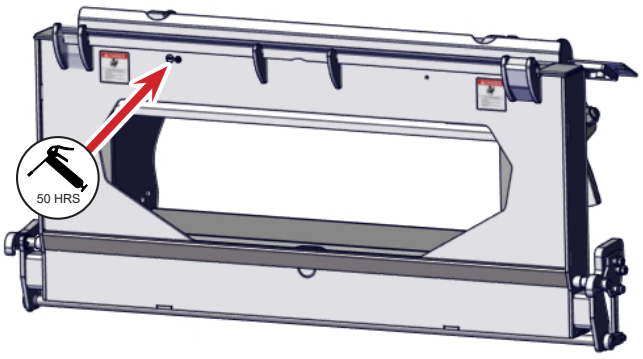


Transition Pivot Pin
50 hrs.
1 Zerk

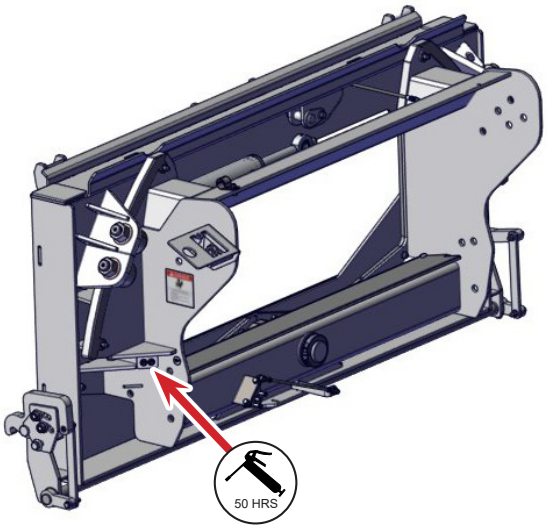


Beaterless Transition

Slave Cylinder Rod End
1 zerk
50 hrs.



Slave Cylinder Barrel End and Pivot Pin
2 zerks
50 hrs

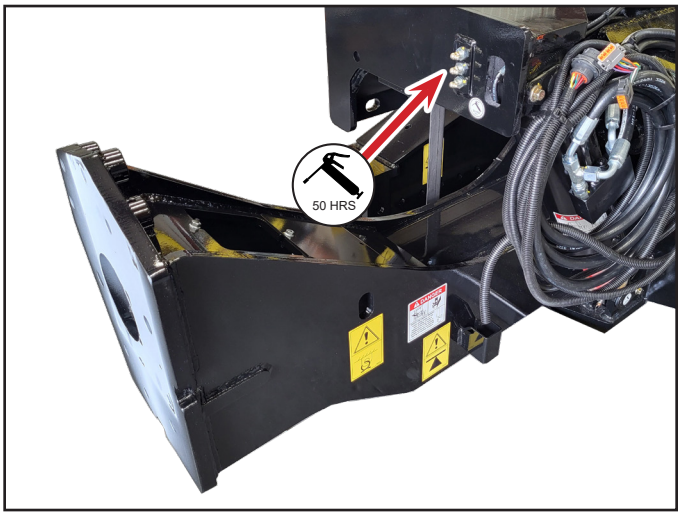


Main Carriage

Top
Master Cylinder
(Base End)
50 hrs.

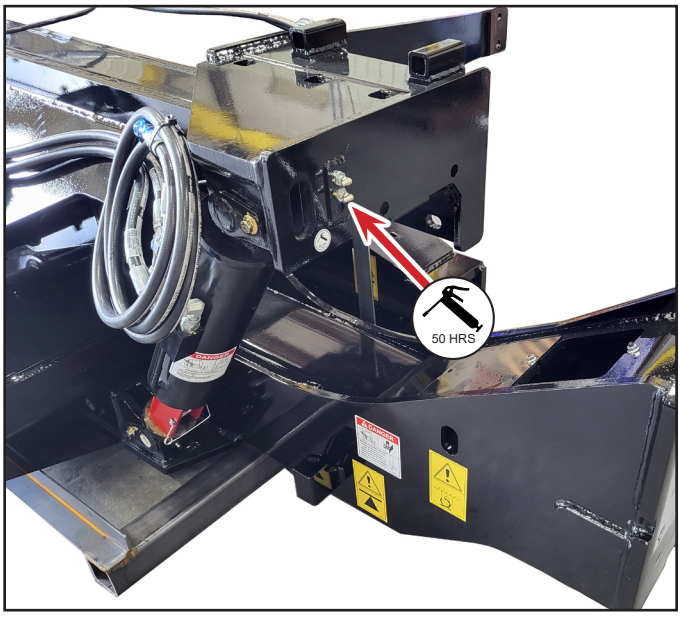
Middle
Master Cylinder
(Rod End)
50 hrs.

Bottom
Right Leveling Cylinder Base
50 hrs.

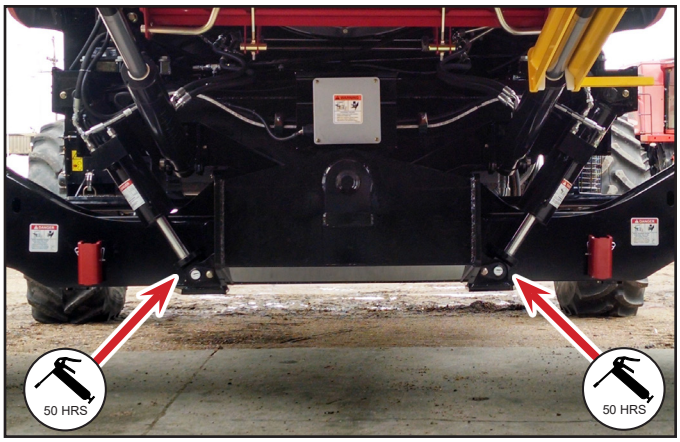


Top
Main Pivot Pin
50 hrs.

Bottom
Left Leveling Cylinder Base
50 hrs.

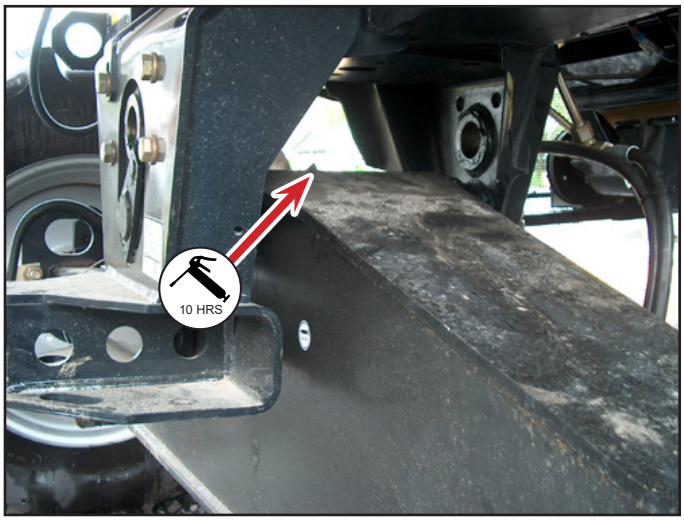


Leveling Cylinders Rod End
50 hrs.
2 Zerks



Drop Axle

Steering Axle Pivot
10 hrs.
1 zerk



Fasteners

Check Bolt Tightness
- After the first 10 hours of operation
- Every season

The following bolts are torqued to special specifications because of the application in which they are used:

Transmission Mounting Bolts: Case IH® torque specifications is 230-264lb/ft
(#243 Medium Strength Loctite® applied on threads)

Drive Wheel Hub Bolts: Case IH® torque specifications (See Wheel Bolt Torque below)

Final Drive Housing Bolts: Case IH® torque specifications (See Final Drive Mounting Bolt Torque on page 47)

Steering Wheel Hub Bolts: Case IH® torque specifications

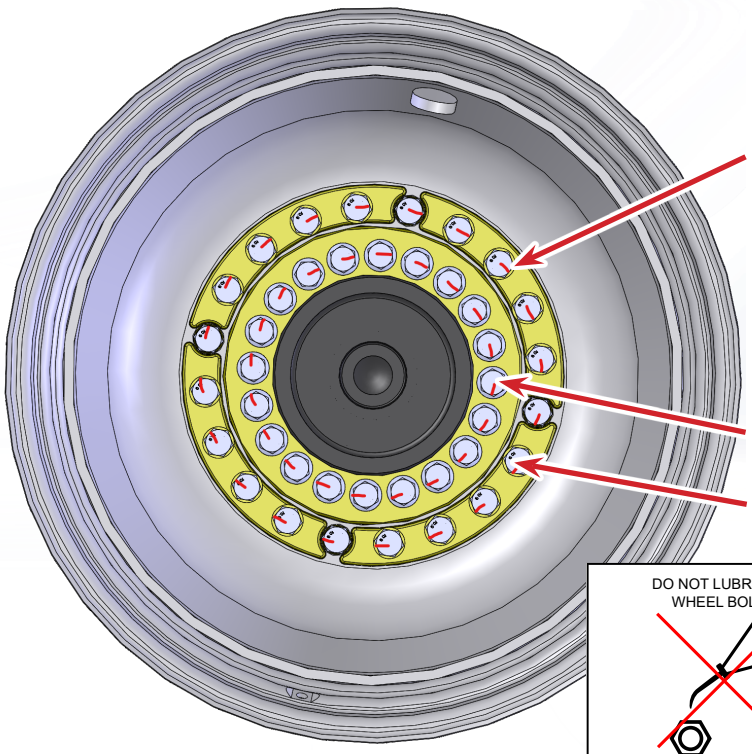
Rear Axle Wheel End Mounting Bolts: Case IH® torque specification is 575-634lb-ft
(#243 Medium Strength Loctite® applied on threads) Recommend torque checking bolts at 575lb-ft. If a bolt moves before torque is reached, remove the bolt and discard, replace with a new bolt, apply #243 Medium Strength Loctite® on threads and torque to 590 lb-ft.

Notice

Consult your Case IH 7260, 8260 and 9260 Operator's Manual to verify that correct bolts and spacers are used for the Rear Wheel Application.

Pages 50 & 51 have torque charts for Metric and Standard fasteners. Use these charts for checking torques on bolts not shown above.

Wheel Bolt Torque



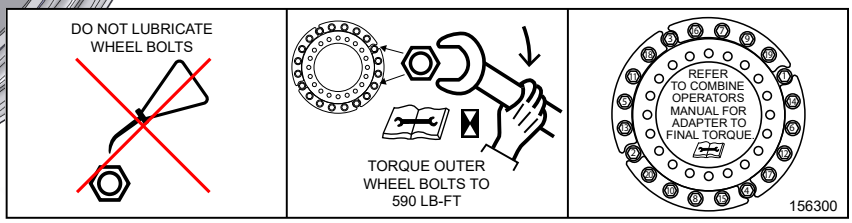
Check wheel bolt torque after first 10 hrs of use if:
Wheels have just been installed
Wheels were removed for any reason.

Recommend putting torque marks on the heads of the bolts after torquing in a circular pattern as shown for visual inspection.

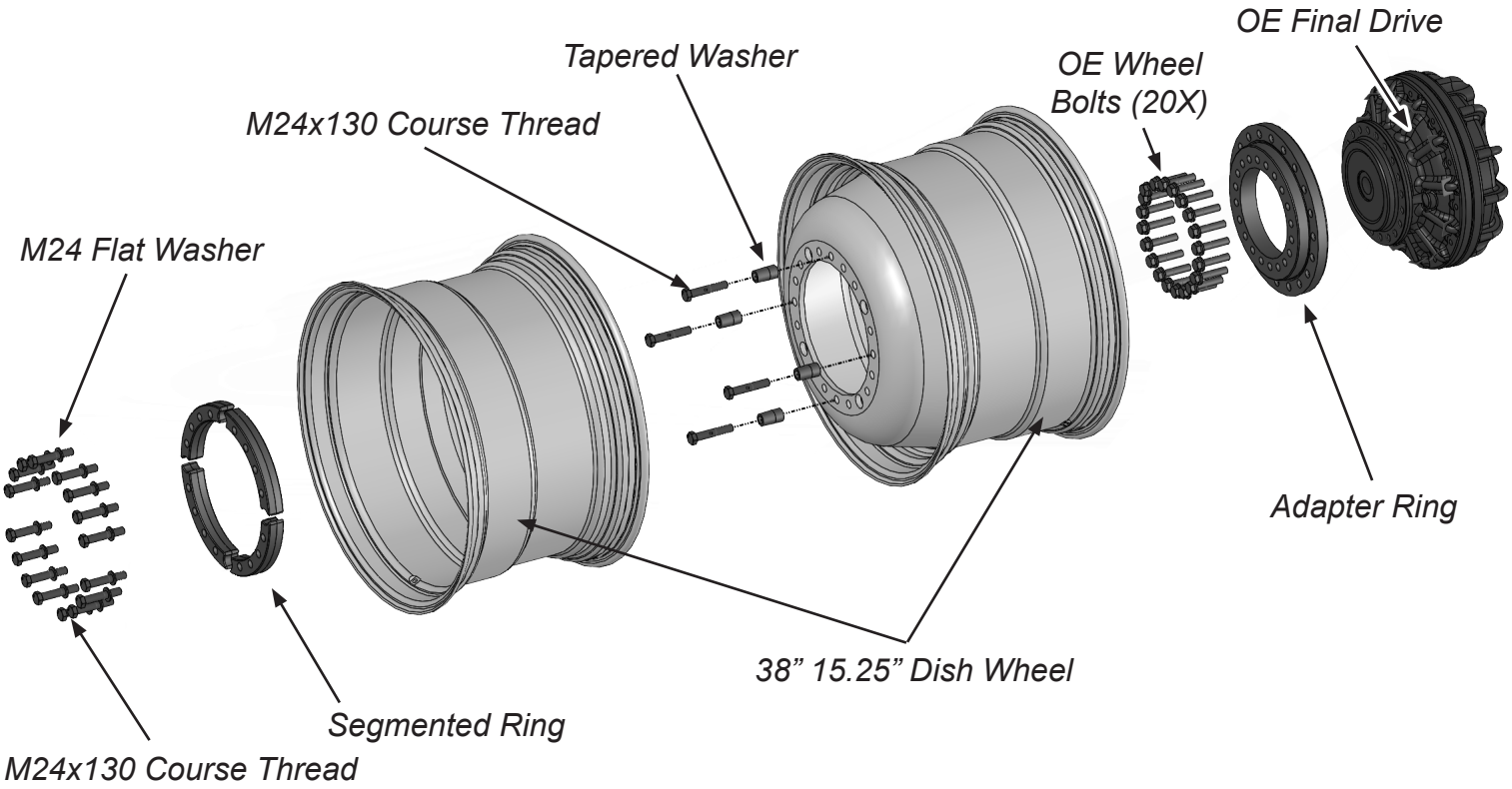
Perform daily Inspections of the torque marks.
- Look for the marks that do not line up. This is a sign of loosening.

Inner Bolts - Case IH torque spec

Outer Bolts - Torque to 590 lb-ft.



Adapter Ring & Wheel Installation

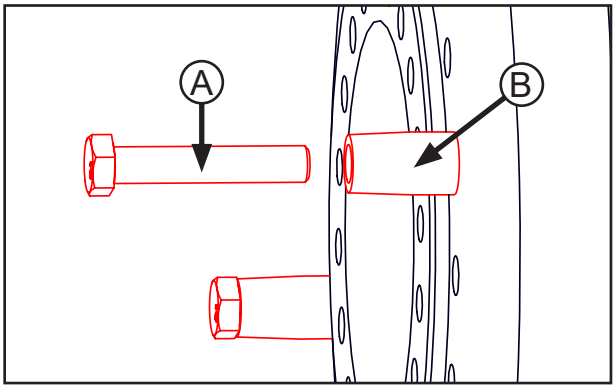


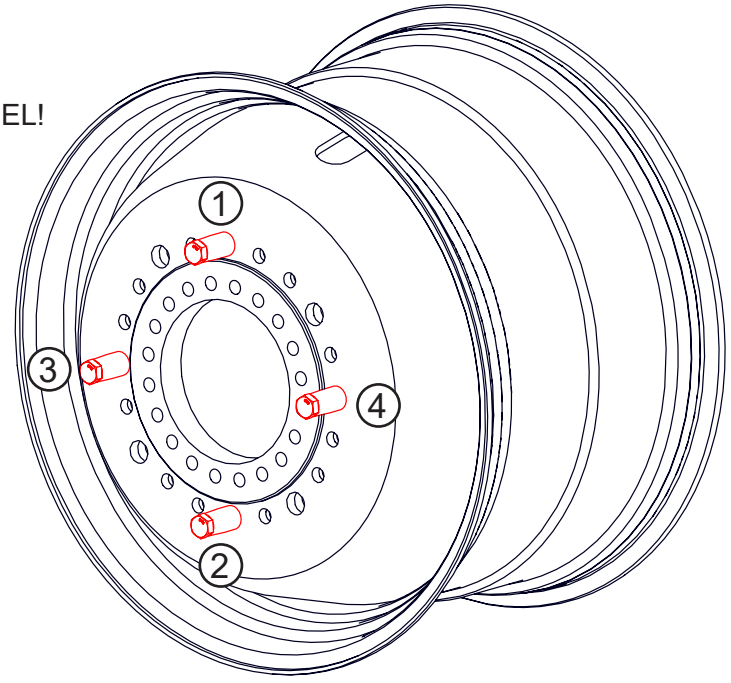
- Install adapter ring to the final using the OE fasteners and recommended OE torque. (Do not use OE Segmented Rings)

- Remove paint from inner wheel where the wheel contacts the adapter.
- Mount the inner wheel. Secure in place with (4) M24x130 bolts (A) and (4) tapered washers (B).
  Install taper so that the large end is against the inner wheel and there are 4 blank holes between mounting bolts.

  DO NOT INSTALL TAPERED WASHER
  ON OVERSIZED HOLES OF INNER WHEEL!

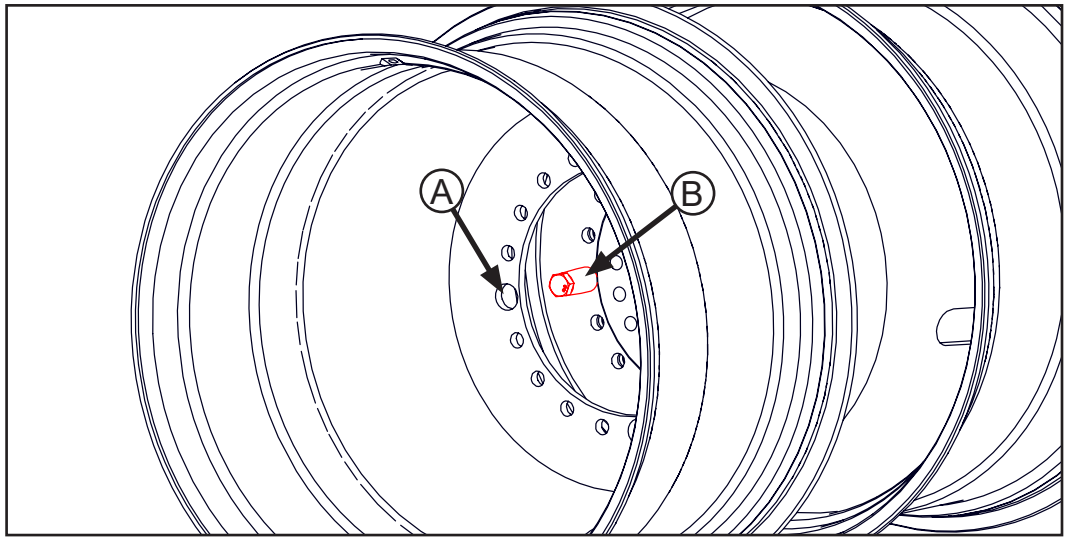
  Torque to 590 lb-ft according to torque pattern shown.



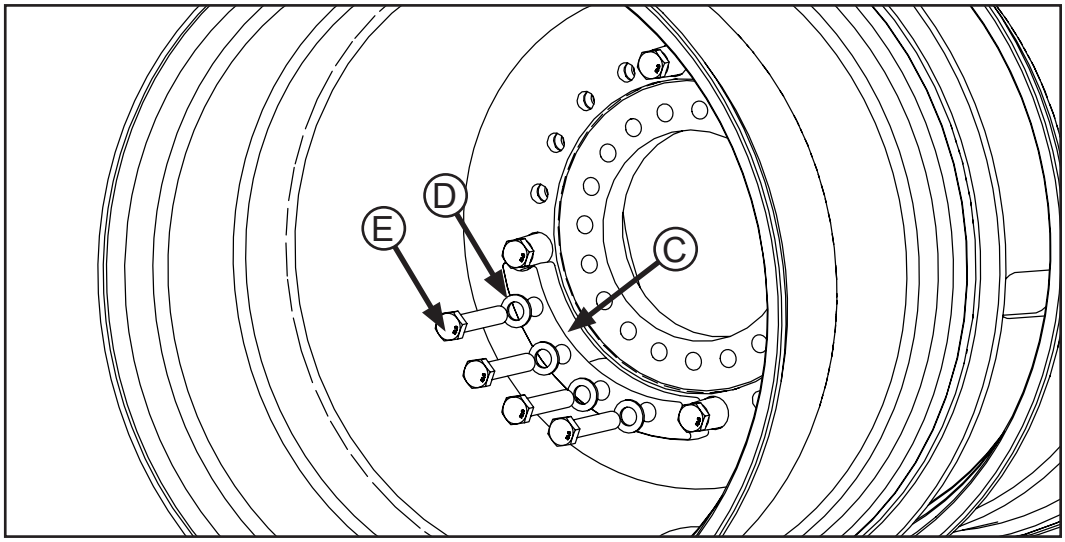


Continued on next page

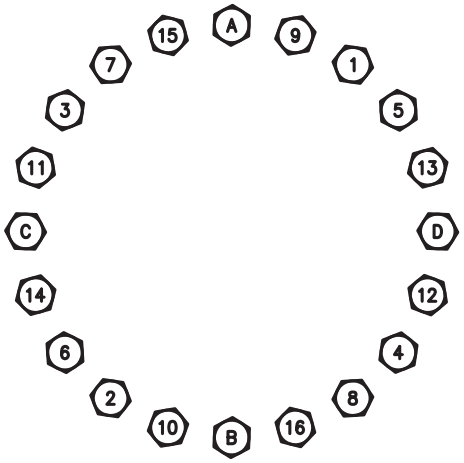
- Remove paint from inner and outer wheel where they contact. It is not necessary to remove paint from outer wheel where the segmented rings contact the wheel.
- Mount outer wheel so that the 4 oversized holes (A) line up with the 4 tapered washers (B).

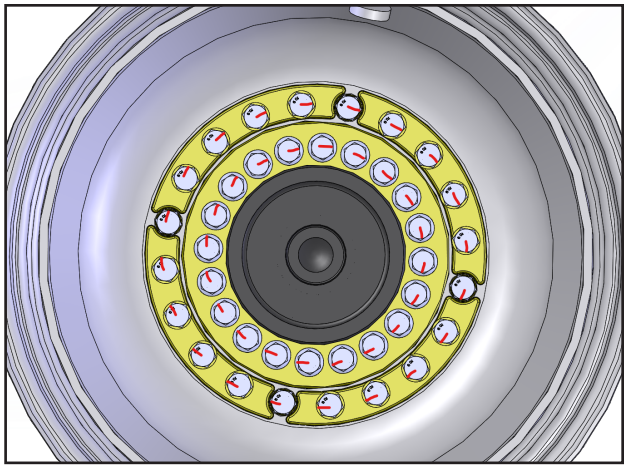


- Install the (4) segmented rings (C), (16) M24 washers (D), & (16) M24x130 bolts (E).



- Torque 16 M24 bolts to 590 lb-ft. follwoing the torque pattern shown.
- Retorque OE fasteners according to OE operator's manual for bolts going into final. Torque Hillco M24 fasteners according to same schedule.
- After bolts have been properly torqued, add a torque mark as showed for visual inspection. Inspect marks daily for signs of movement. Retorque as necessary.





Final Drive Mounting Bolt Inspection Procedure

CH9040 & CS9040 Leveling Systems on Case IH 250 Series Combines

NOTICE!

It is easiest to check final drive mounting bolt torque when the wheels/tires are removed. All 8 bolts on each final drive can be torqued with a ¾" drive torque wrench and 30mm socket. No other special tools are required.

Recommended Tool List (With Wheels Installed)

#243 Medium Strength Loctite®
Permanent Marker or Paint Pen
3/4" Drive Torque Wrench – capable of torquing at minimum 400 ft-lbs
3/4" Drive 30mm (1-3/16") Wobble Socket
3/4" Drive 12 Inch Extension
3/4" Drive 30mm (1-3/16") Socket
1/2" Drive Torque Wrench – capable of torquing to 250 ft-lbs.
1/2" Drive 30mm (1-3/16") Socket
3/8" Drive, 13mm socket
3/8" Drive Ratchet
Block of Wood, 5" X 4" X 3"
20-ton Hydraulic Jack
Blocking to Place Under Front Axle for Safety

Inspection Procedure (With Wheels Installed)

1. Drive the combine to a level surface and set the Emergency Brake

2. Put the leveling system in manual and level the combine all the way to the right to access the bolts on the left final drive.

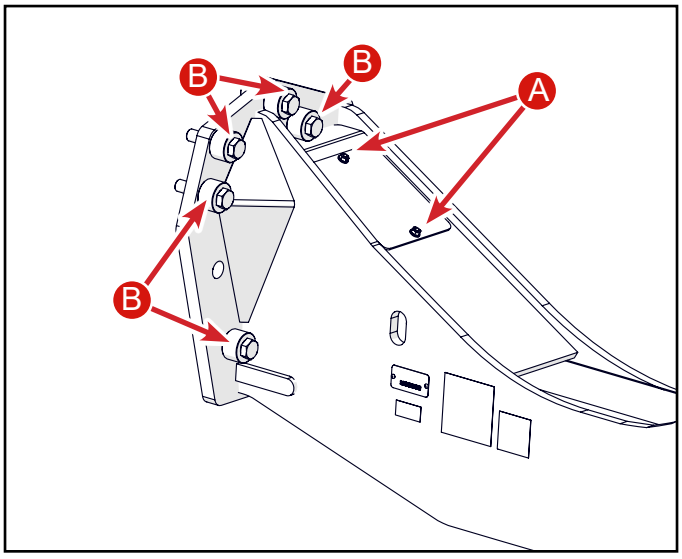
3. Set the header down on the ground.

4. Turn off the combine.

5. Place a 20-ton hydraulic jack under the front axle and lift high-enough so the wheels/tires aren't carrying the load.

6. Place safety blocking under the front axle.

7. Remove the two 8mm nuts (A) that secure the cover plate and remove.



IMPORTANT!

If any of the 20mm final drive mounting bolts are removed and replaced, start the bolt by hand and then use a ½" drive ratchet and 30mm socket and turn a couple of turns to ensure threads are started properly before using an impact!

8. Clean out the cavity under the cover plate so the three bolts are visible. (C)

9. Verify that all 8 bolts are intact and not missing. 5 outside of the axle tube (B). 3 inside the axle tube (C).

If any of the bolts are missing, verify if the bolt has broken off and the threaded portion is still in the hole. If the hole is clear, install a new bolt and washer per instructions.If the threaded portion of the bolt is still in the hole, first try removing the bolt with a left-handed drill bit and an easy out. If there is no access to drill, the final drive will need to be removed so the bolt can be extracted.

10. Set the 3/4 drive torque wrench to 325 ft-lbs and install a 12” extension and 30mm socket to the torque wrench. Check the torque on the 5 bolts that are outside of the axle tube.(B)

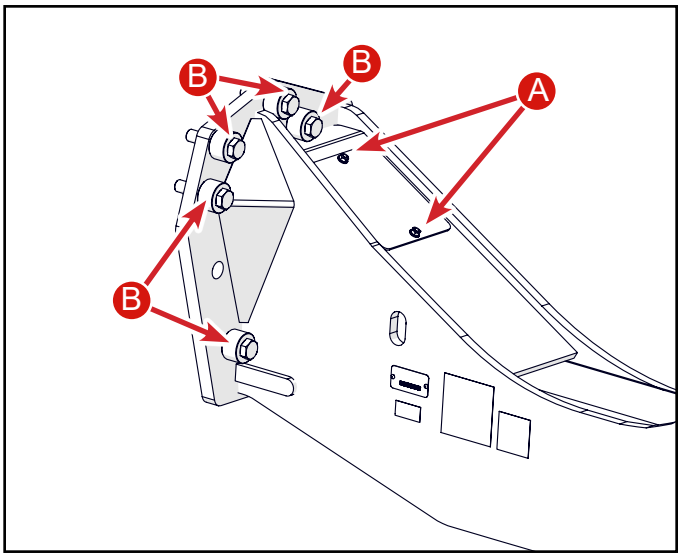
11. If the bolts do not turn before the torque is reached, place a hash mark on the head of the bolt with a paint pen or permanent marker signifying it has been torqued.

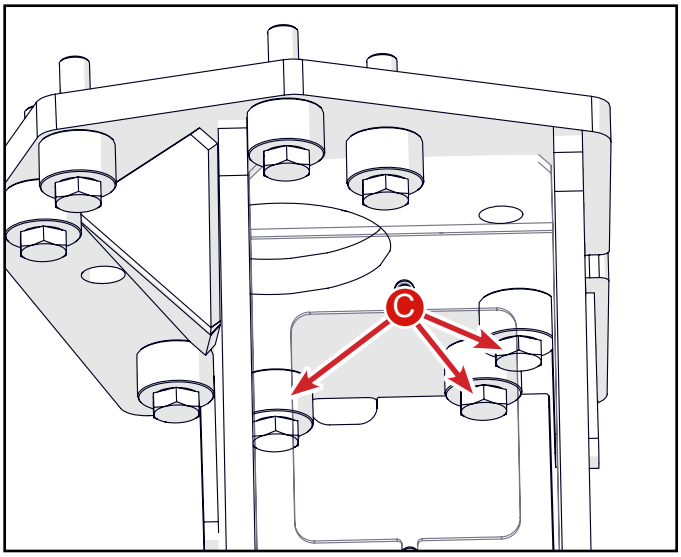
12. If any of the bolts turn before the torque is reached, remove the bolt and discard, replace with a new bolt apply #243 Loctite to the threads and torque to 360 ft-lbs. Mark the head of the bolt signifying it has been torqued.

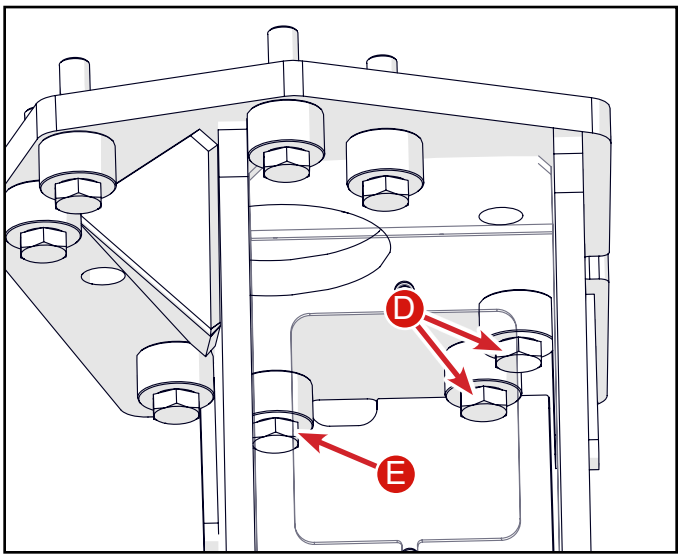
13. Set the 3/4 drive torque wrench to 325 ft-lbs and install a 30mm wobble socket to the torque wrench. Check the torque on bolts (D). Drop the 5”x4”x3” block of wood between the torque wrench head and the wall to keep the torque wrench from twisting.

14. If the bolts do not turn before the torque is reached, place a hash mark on the head of the bolt with a paint pen or permanent marker signifying it has been torqued.

15. If any of the bolts turn before torque is reached, remove the bolt and discard, replace with a new bolt and apply #243 Loctite to the threads and torque to 360 ft-lbs., then mark the head of the bolt signifying it has been torqued.







Note: Bolt (E) is not accessible with a ¾" drive torque wrench due to tire/wheel clearance.

16. Using a ½" drive torque wrench set at 250 ft-lbs. and a 30mm socket check the torque on this bolt.

17. If the bolt does not turn before torque is reached, place a hash mark on the head of the bolt with a paint pen or permanent marker signifying it has been torqued.

18. If the bolt moves before torque is reached, remove the bolt and discard, replace with a new bolt and apply #243 Loctite® to the threads. Torque to 250 lb-ft. To reach the final torque of 360 lb-ft, make two marks 1/8" apart on the 30mm socket and rotate the socket so they can be seen thru the access hole.(F) Make a mark on the bushing that lines up with the mark on the right.(G) Turn the socket until the mark on the left of the socket lines up with the mark that was made on the bushing. Mark the head of the bolt signifying it has been torqued.

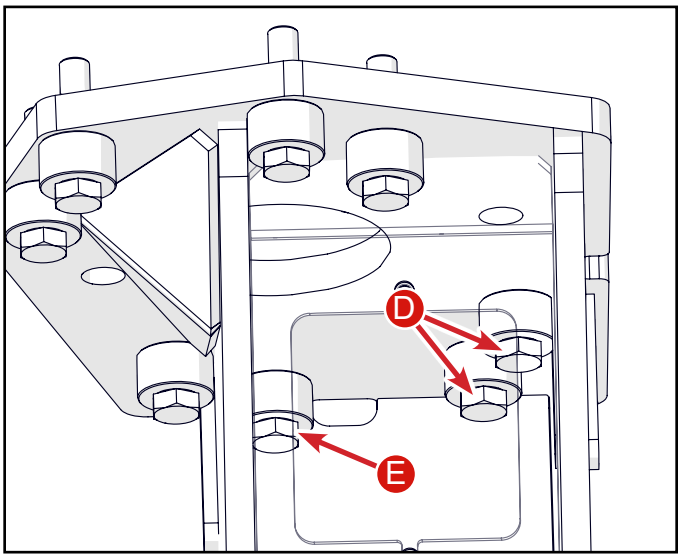
19. Reinstall the cover plate (H) with the two M8 nuts that were removed.

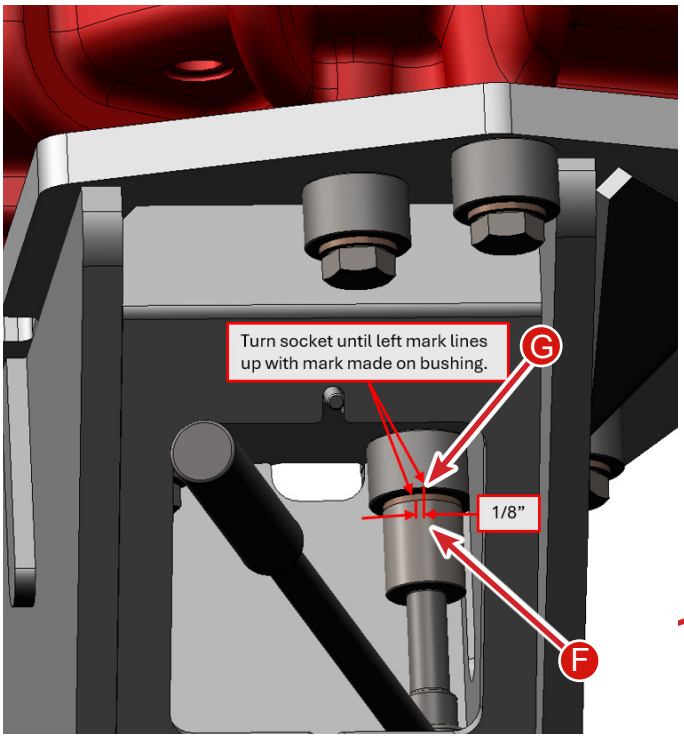
20. Remove the jack and blocking.

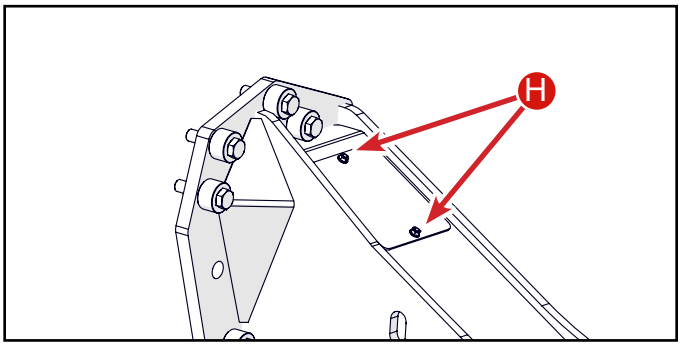
21. Perform the same inspection on the right-hand final drive.

22. If the wheels were removed to access final drive mounting bolts, make sure they are properly installed and torqued per the instructions below.

THIS COMPLETES THE INSPECTION PROCEDURE ON THE FINAL DRIVE MOUNTING BOLTS.



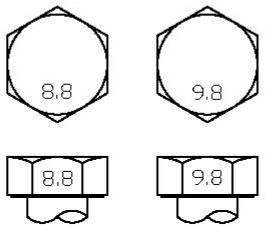
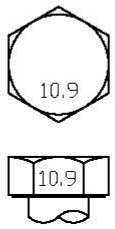
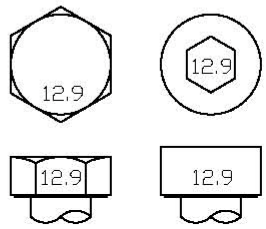
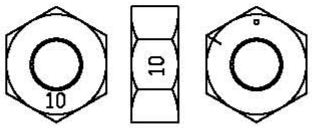
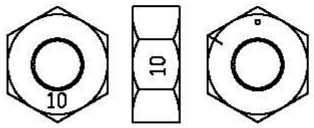
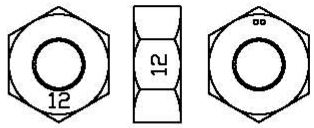




Metric Torque Chart

SI Bolt and Cap Screw Torque Values

(For Hillco Leveling Systems Only)

Property Class and Head Markings			
Property Class and Nut Markings			

	Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated(1)		Dry(2)		Lubricated(1)		Dry(2)		Lubricated(1)		Dry(2)	
SIZE	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft
M6	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	22	16	28	20	32	24	40	30	37	28	47	35
M10	43	32	55	40	63	47	80	60	75	55	95	70
M12	75	55	95	70	110	80	140	105	130	95	165	120
M14	120	88	150	110	175	130	225	165	205	150	260	190
M16	190	140	240	175	275	200	350	255	320	240	400	300
M18	260	195	330	250	375	275	475	350	440	325	560	410
M20	375	275	475	350	530	400	675	500	625	460	800	580
M22	510	375	650	475	725	540	925	675	850	625	1075	800
M24	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

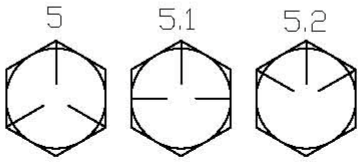
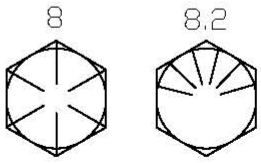
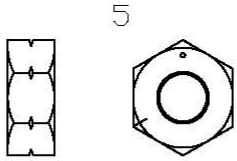
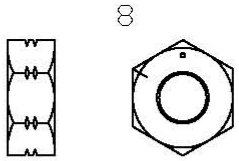
(1) "Lubricated" Means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings.

(2) "Dry" means plain or zinc plated without any lubrication.

Standard Torque Chart

Unified Inch Bolt and Cap Screw Torque Values

(For Hillco Leveling Systems Only)

SAE Grade and Head Markings		
SAE Grade and Nut Markings		

	Grade 5, 5.1, or 5.2				Grade 8 or 8.2			
	Lubricated(1)		Dry(2)		Lubricated(1)		Dry(2)	
SIZE	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft	N*m	lb-ft
1/4	9.5	7	12	9	13.5	10	17	12.5
5/16	20	15	25	18	28	21	35	26
3/8	35	26	44	33	50	36	63	46
7/16	55	41	70	52	80	58	100	75
1/2	85	63	110	80	120	90	150	115
9/16	125	90	155	115	175	130	225	160
5/8	170	125	215	160	240	175	300	225
3/4	300	225	375	280	425	310	550	400
7/8	490	360	625	450	700	500	875	650
1	725	540	925	675	1050	750	1300	975
1-1/8	900	675	1150	850	1450	1075	1850	1350
1-1/4	1300	950	1650	1200	2050	1500	2600	1950
1-3/8	1750	1250	2150	1550	2700	2000	3400	2550
1-1/2	2250	1650	2850	2100	3600	2650	4550	3350

(1) "Lubricated" Means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings.

(2) "Dry" means plain or zinc plated without any lubrication.

Tire Inflation

Tire	Load Index	PSI
Drive (650/75R32) R1 & R3 Tread	175A8	46
Drive (650/65R38) 550 Tread	175A8	46
Drive (24.5R32) R3 Tread	6*	46
Steer (28LR-26) R1 & R3 Tread	173A8	36
Steer (28LR-26) 390 Tread	178A8	36
For all other steer tires see the combine's operator's manual for correct pressure		

All Hillside combines are required to follow the Wheel and Tire Association Standards which states that the tire pressure must be such that the tire has adequate load carrying capability for the maximum possible weight (counting head weight and full grain tank). Both under-inflation and over-inflation are detrimental to tire life. Don't reinflate a tire that has been run flat or when there is obvious or suspected damage to the tire or wheel components. Check the tire pressure weekly or after 50 hours of operation.

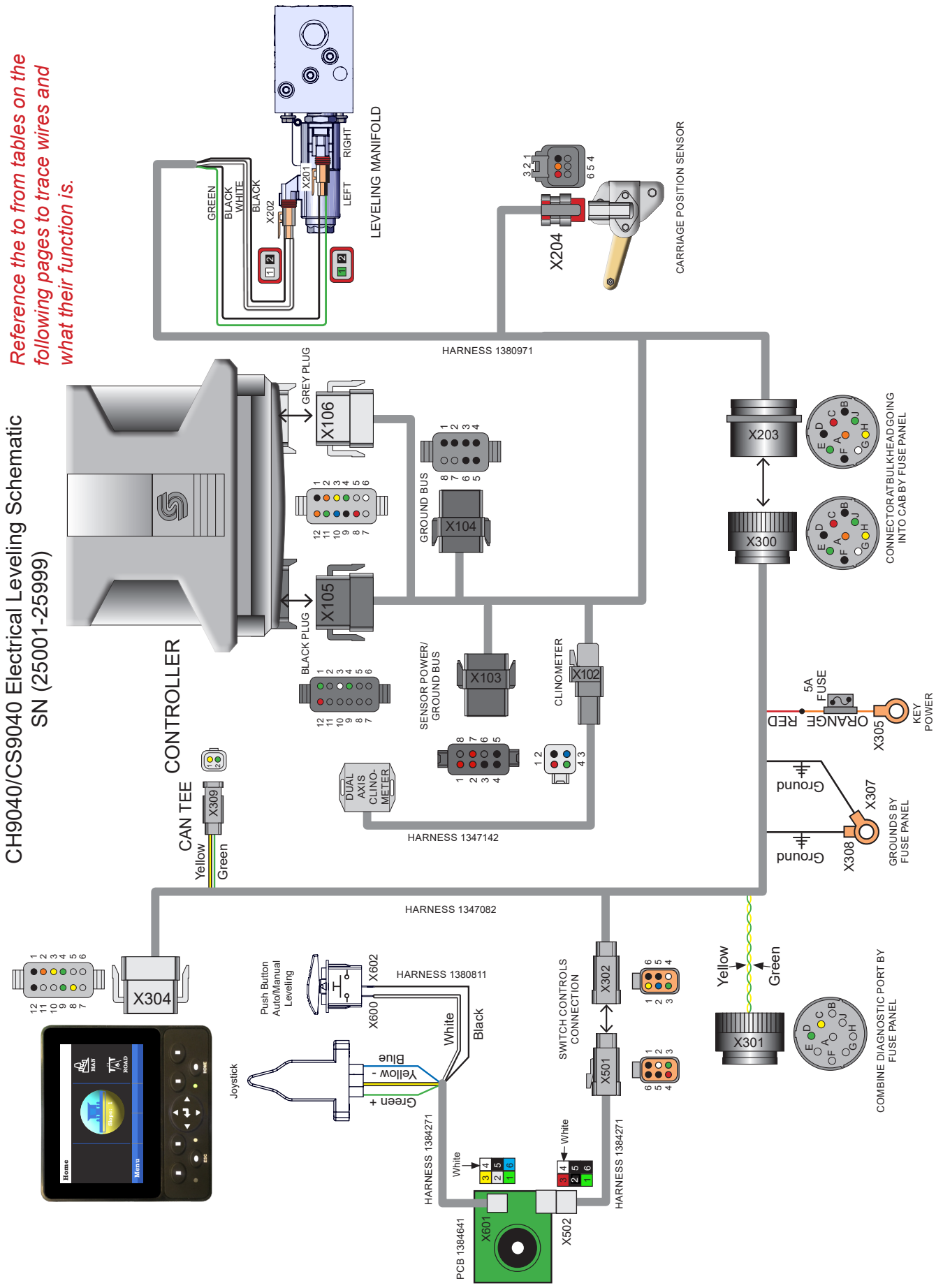
WARNING

When inflating tires, use a clip on air chuck and extension hose long enough to allow you to stand to one side and NOT in front or over the tire assembly. Use a safety cage if available.

WARNING

A tire can explode during inflation and cause serious injury or death. Never increase air pressure beyond 35 PSI to seat the bead on the rim. Replace a tire if it has a defect. Replace a wheel rim, which has cracks, wear or severe rust. Make sure that all the air is removed from a tire before removing the tire from the rim. Never use force on an inflated or partially inflated tire. Make sure the tire is correctly seated before inflating.

Schematics


CH9040/CS9040 Electrical Leveling Schematic
SN (25001-25999)
Reference the to from tables on the following pages to trace wires and what their function is.
CONTROLLER
LEVELING MANIFOLD
LEFT
RIGHT
X201
X202
GREEN
BLACK
WHITE
BLACK
X204
CARRIAGE POSITION SENSOR
HARNESS 1380971
GREY PLUG
BLACK PLUG
X106
X105
X104
GROUND BUS
X103
SENSOR POWER/
GROUND BUS
X102
CLINOMETER
DUAL AXIS CLINO-METER
HARNESS 1347142
X203
X300
CONNECTOR AT BULKHEAD GOING INTO CAB BY FUSE PANEL
5A FUSE
ORANGE
RED
X305
KEY POWER
Ground
Ground
X307
X308
GROUNDS BY FUSE PANEL
CAN TEE
X309
Yellow
Green
HARNESS 1347082
X304
Push Button Auto/Manual Leveling
X602
X600
HARNESS 1380811
White
Black
Joystick
Blue
Yellow -
Green +
SWITCH CONTROLS CONNECTION
X302
X501
Yellow
Green
X301
COMBINE DIAGNOSTIC PORT BY FUSE PANEL
HARNESS 1384271
HARNESS 1384271
White
White
PCB 1384641
X601
X502

CH9040/CS9040 Electrical Leveling Schematic
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X102 - Clinometer MPC			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Clinometer Power	X105	12
2	Black	Clinometer Ground	X104	3
3	Blue	Clinometer Left/Right Signal	X106	10
4	Green	Clinometer Fore/Aft Signal	X106	11

X103 - Sensor Power Bus			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Sensor Power Supply	X106	8
2	Red	Joystock Power	X203	C
3	Black	Sensor Ground	X106	9
4	Black	JoyStick Ground	X203	D
5	Black	UC Sensor Ground	X204	1
6	-	-	-	-
7	Red	UC Sensor Power	X204	3
8	-	-	-	-

X104 - Ground Bus			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	Groud Bus Supply	X203	B
2	Black	Controller Ground	X106	1
3	Black	Clinometer Ground	X104	3
4	Black	Left Valve Ground	X202	2
5	Black	Right Valve Ground	X201	2
6	Black	Auto Switch Ground	X203	F
7	-	-	-	-
8	-	-	-	-

X105 - Controller B Black Connector			To	
Pin	Wire Color	Description	Connector	Pin
1	Green	Joystick Signal	X203	E
2	-	-	-	-
3	White	Left Valve Power	X202	1
4	Green	Right Valve Power	X201	1
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	Red	Clinometer Power	X102	1

X106 - Controller A Grey Connector			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	Clinometer Ground	X104	2
2	Orange	Controller Power	X203	A
3	Yellow	CAN High	X203	H
4	Green	CAN Low	X203	J
5	-	-	-	-
6	White	Auto Switch Signal	X203	G
7	Purple	4WD Signal	Leave Loose	-
8	Red	Sensor Power Supply	X103	1
9	Black	Sensor Ground Supply	X103	3
10	Blue	Clinometer Left/Right Signal	X102	3
11	Green	Clinometer Fore/Aft Signal	X102	4
12	Orange	UC Sensor Signal	X204	2

CH9040/CS9040 Electrical Leveling Schematic
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X201 - Right Valve			To	
Pin	Wire Color	Description	Connector	Pin
1	Green	Right Valve Power	X105	4
2	Black	Right Valve Ground	X104	5

X202 - Left Valve			To	
Pin	Wire Color	Description	Connector	Pin
1	White	Left Valve Power	X105	3
2	Black	Left Valve Ground	X104	4

X203 - Cab Bulkhead			To	
Pin	Wire Color	Description	Connector	Pin
A	Orange	Controller Power	X106	2
B	Black	Controller Ground	X104	1
C	Red	Joystick Power	X103	2
D	Black	Joystick Ground	X103	4
E	Green	Joystick Signal	X105	1
F	Black	Auto Switch Ground	X104	6
G	White	Auto Switch Signal	X106	6
H	Yellow	X106	X106	3
J	Green	CAN Low	X106	4

X204 - UC Sensor			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	UC Sensor Ground	X103	5
2	Orange	UC Sensor Signal	X106	12
3	Red	UC Sensor Power	X103	7
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-

X300 - Cab Bulkhead			To	
Pin	Wire Color	Description	Connector	Pin
A	Orange	Key Power	X304	3
B	Black	Controller Ground	X308	1
C	Red	Joystick Power	X302	1
D	Black	Joystick Ground	X302	2
E	Green	Joystick Signal	X302	3
F	Black	Auto Switch Ground	X302	5
G	White	Auto Switch Signal	X302	4
H	Yellow	CAN High	X304	7
J	Green	CAN Low	X304	8

X301 Diagnostic MPC			To	
Pin	Wire Color	Description	Connector	Pin
A	-	-	-	-
B	-	-	-	-
C	Yellow	CAN1 High	X303	7
D	Green	CAN1 Low	X303	8
E	-	-	-	-
F	-	-	-	-
G	-	-	-	-
H	-	-	-	-
J	-	-	-	-

X302 - Switch Box			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Joystick Power	X300	C
2	Black	Joystick Ground	X300	D
3	Green	Joystick Signal	X300	E
4	White	Auto Switch Signal	X300	G
5	Black	Auto Switch Ground	X300	F
6	-	-	-	-

CH9040/CS9040 Electrical Leveling Schematic
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X303 - Display B			To	
Pin	Wire Color	Description	Connector	Pin
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	Yellow	CAN1 High	X301	C
8	Green	CAN1 Low	X301	D
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

X304 - Display A			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Battery Power	X305	1
2	Black	Display Ground	X307	1
3	Orange	Keyed Power	X300	A
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	Yellow	CAN0 High	X300	H
8	Green	CAN0 Low	X300	J
9	Black	USB Ground	USB	
10	White	USB Data +	USB	
11	Green	USB Data -	USB	
12	Red	USB Power	USB	

X305 - Keyed Power			To	
Pin	Wire Color	Description	Connector	Pin
1	Orange	Keyed Power	X300	A
			X304	3

Note: Orange wire with Ring termanal connects to 5 amp fuse. That then T's and one leg goes to X300 pin a and the other leg goes to X304 pin 3.

X306 - Battery Power			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Battery Power	X304	1

Note: Red wire connects to orange wire 5 amp fuse.

X307 - Display Ground			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	Display Ground	X304	2

X308 - Controller Ground			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	Controller Ground	X300	B

X309 - CAN Tee			To	
Pin	Wire Color	Description	Connector	Pin
1	Yellow	CAN O High Tee	X300	H
			X304	7
2	Green	CAN O Low Tee	X300	J
			X304	8

Yellow wire tees with legs going to X300 pin H and X304 Pin 7. Green wire tees with legs going to X300 pin J and X304 Pin 8.

X501 Harness End			To	
Pin	Wire Color	Description	Connector	Pin
1	Red	Joystick Power	X501	3
2	Black	Joystick Ground	X501	4
3	Green	Joystick Signal	X501	1
4	White	Auto Switch Signal	X501	6
5	Black	Auto Switch Ground	X501	5
6	Black	Alarm Ground	X501	2

X502 Switch Box End			To	
Pin	Wire Color	Description	Connector	Pin
1	Green	Joystick Signal	X502	3
2	Black	Alarm Ground	X502	6
3	Red	Joystick Power	X502	1
4	Black	Joystick Ground	X502	2
5	Black	Auto Switch Ground	X502	5
6	White	Auto Switch Signal	X502	4

CH9040/CS9040 Electrical Leveling Schematic
SN (25001-25999)

X601 - Switch Box			To	
Pin	Wire Color	Description	Connector	Pin
1	Yellow	Joystick Power	X601	3
2	Blue	Joystick Ground	X601	6
3	Green	Joystick Signal	X601	1
4	White	Auto Switch Signal	X601	4
5	Black	Auto Switch Ground	X601	5
6	-	-	-	-

X602 - Auto Switch Ground			To	
Pin	Wire Color	Description	Connector	Pin
1	Black	Auto Switch Ground	Joystick	5

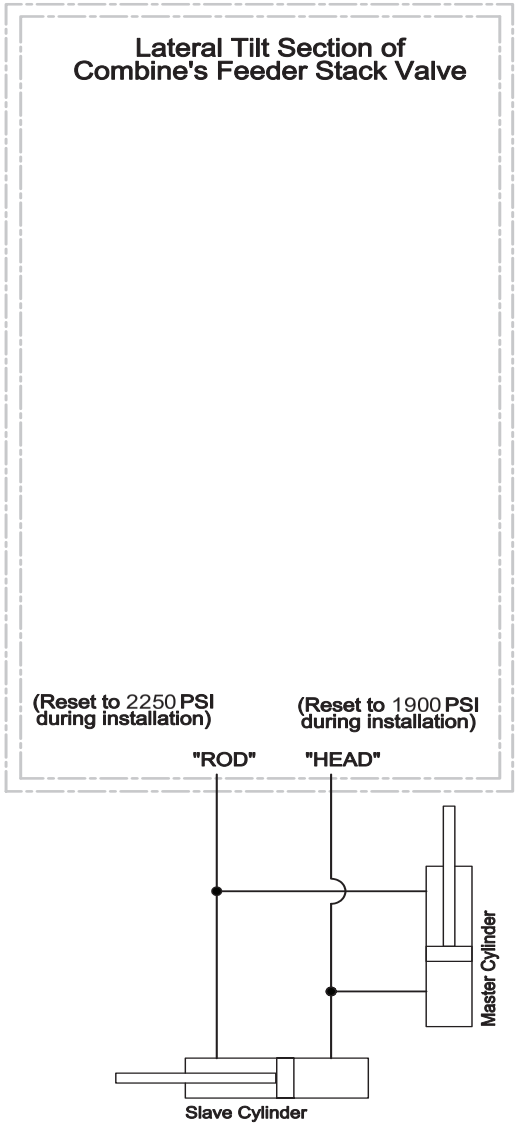
X600 - Auto Switch Signal			To	
Pin	Wire Color	Description	Connector	Pin
1	White	Auto Switch Signal	Joystick	4

Model CH9040 & CS9040 Leveling Hydraulic Schematic

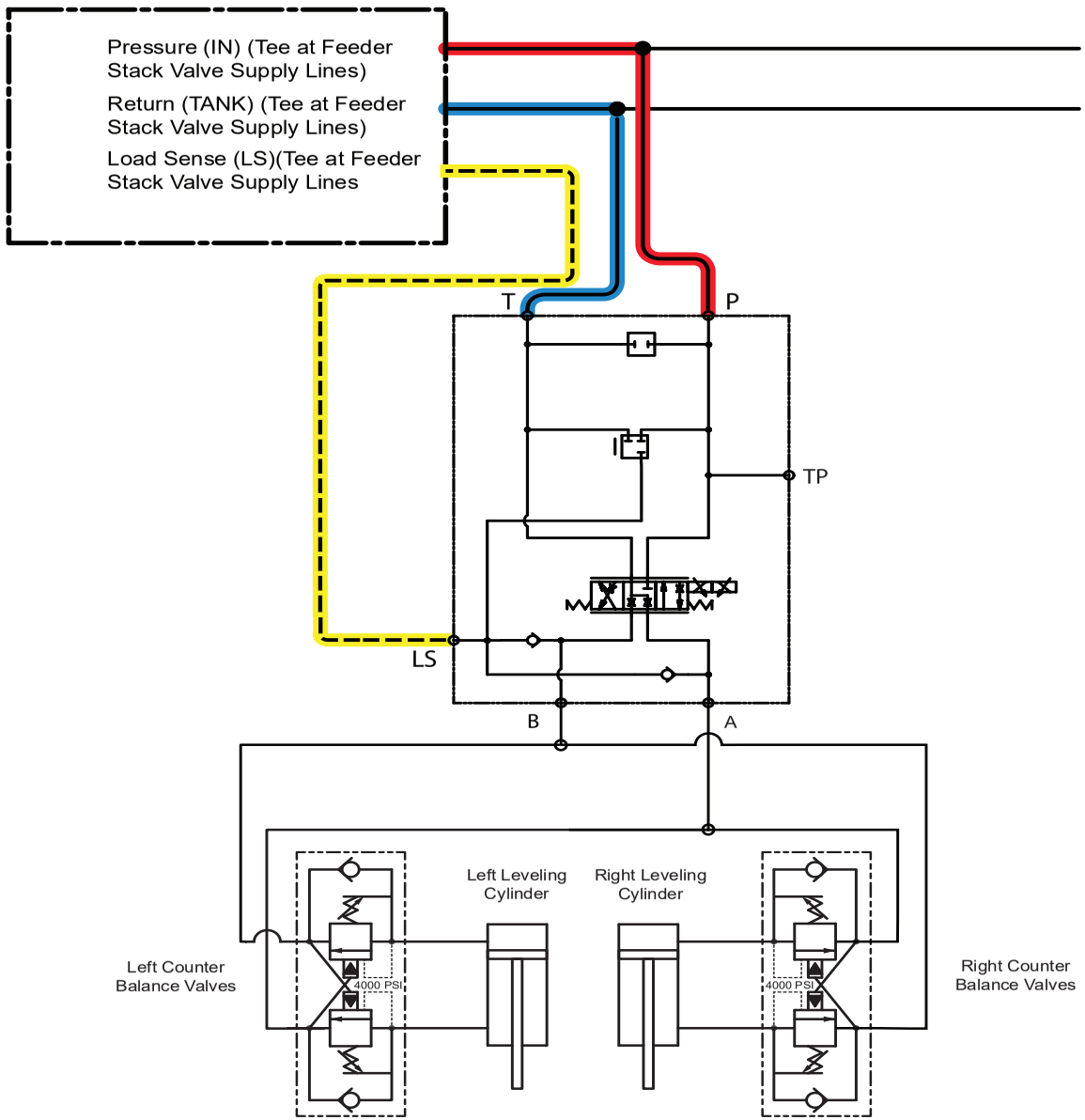
FOR ALL 7260, 8260, 9260 Case-IH Combines

HILLCO S/N 25001 -

Header Trim Circuit



Leveling Circuit



Notes