AUGER HEADER PRODUCTIVITY GUIDE

FEATURING

- Safety
- Header Installation
- Service Inspections
- Maintenance
- Header Height Control
- Adjustments
- Accessories
- Storage
- Grain Platform Kits

GENERAL INFORMATION

Introduction

For over 30 years, Case IH Axial-Flow® combine owners have capitalized on the foremost harvesting technology, gathering their crops in the finale of each season of investment, planning, hours of hard work; putting their very being into reaping the bounty of the land. Throughout the rich history with nearly 20 models of Axial-Flow combines, tremendous gains in combine efficiency, capacity and reliability have placed ever-increasing demands on grain heads. While crop yields, and thus material volume, have increased over the years; the demand for wider and more efficient heads has continued to grow right along with combine capacity. An ever-larger volume of material must be gathered and fed smoothly into the combine to satisfy the hunger of these industry-leading machines.

A wide selection of auger headers are available to compliment the features of current Axial-Flow 2577 and 2588 combines. Rigid model 1010 headers are available in three sizes from 20 to 30 feet for standing crops such as wheat and other small grains. Farmers with soybeans and other low hanging crops need a ground-hugging flexible cutter bar, and can choose from one of fours sizes of Model 1020 heads, spanning 20 to 30 feet. 7010 and 8010 Axial-Flow combine owners can feed their machines with three rigid Model 2010 headers from 20 to 30 feet, as well as 20, 25, 30 and 35 foot standard flex model 2020 headers.

Current model Case IH auger headers offer hydraulic reel lift and reel drive as standard equipment in addition to other options such as dividers that fit your specific cropping needs. Full fingered augers promote positive feeding on 25 and 30 foot 1020 flex heads and all 2020 flexible heads. A large 26 inch diameter auger sweeps crop along the 2020's stainless steel auger trough to the combine feeder.

CONTENTS

Introduction (cont.)

Traditionally, great attention is devoted toward combine thresher and separator adjustments during a performance evaluation to assure the crop is thoroughly threshed and cleaned, and every kernel is delivered to the grain tank. However, in the brief moment that the crop is gathered and collected by the header, overall combine efficiency can be greatly affected. The impact of incorrect header settings and operation is often down played, and not felt to have a significant effect on harvesting efficiency, and ultimately your operation's profitability.

Like Case IH Axial-Flow combines, rigid and flex Auger headers are designed for the best performance in the widest range of harvesting conditions. While easy to adjust as conditions and crops change, mis-adjustment or operational errors can adversely affect combine performance. The Operator's Manual is the best tool to assist operators in evaluating performance, isolating issues and identifying adjustments that will best suit the machine to the specific operating conditions. This Productivity Guide gathers and summarizes the most common questions and answers that affect auger headers. It may be used in conjunction with the Operator's Manual to quickly and accurately evaluate and adjust for conditions such as crop loss or difficult conditions, or header height and float control function.

SAFETY

Safety

Combines and harvesting heads employ the use of aggressive gathering, cutting and conveying components that could present a potential for injury to careless operators or bystanders. Operators must understand and recognize this potential and be constantly aware of their responsibility to keep harvest time a safe and productive season. The best way to assure safe operation is to remember and work by certain basic safety rules that apply to all machine operation, and specifically to harvesting equipment. Specific rules of safe operation are included in the machine Operator's Manual and should be reviewed prior to each season's use. Some of the basic rules for combine and combine header operation are:

- When servicing the machine, make accidental contact or entanglement with moving parts impossible by disengaging all drives and stopping the engine before starting service work. This rule applies to all circumstances such as adjustment, repairs or unplugging the machine.
- Prior to working under or near the combine header, either lower the header completely to the ground, or raise the header completely and lower the header safety stop or stops on the combine feeder lift cylinders *(see figure 4.1)*
- Like the header, the reel height adjustment cylinders are also equipped with safety locks. Lower safety locks when working in the vicinity of the reel, auger, cutter bar and front of the header. The reel should be lowered to the bottom of its travel, or against the safety stops before disconnecting hoses when removing the header.
- Plugged or wrapped material in the auger or reel may "unwind" unexpectedly while working on the machine. Stay clear of the cutter bar knife and exercise caution when unplugging the header.
- During operation, maintain the safest possible work environment by keeping all guards and shields in place and in good condition as intended by the manufacturer
- Observe and understand warning decals that are placed on the machine in specific areas. See your Case IH dealer for replacement decals, should they become damaged or worn and unreadable.

Figure 4.1

- To maintain optimal steering control and machine balance, the rear axle of the combine must be adequately ballasted according to the size and weight of the header. Refer to Operator's Manuals for minimum ballasting requirements for specific combine and header configurations. Operating conditions such as hilly or uneven terrain may require additional ballast for best control.
- When transporting the machine on public roads, at any time of day, make sure all safety warning lights provided with the machine and/or required by local statute are functioning properly for maximum visibility of the machine to other motorists. Make sure the SMV, slow-moving vehicle sign is visible to the rear of the machine, is clean and in good condition. Observe the rules of the road and be a good neighbor. When safe to do so, move over and allow traffic to pass.
- Wider headers may require transport on a trailer to reduce obstruction to other traffic and for overall safe transport. A few minutes to remove and properly transport the head, even a short distance, is better than spending hours dealing with an accident or an eternity living with the consequences. Specific requirements vary with different states or provinces; check with local authorities for specific transport regulations.

HEADER INSTALLATION

Mounting the Header

Note: Before installing a header on a combine for the first time, verify the header opening width matches the width of the combine feeder. Stripper extensions on the rear side of the header opening are adjustable, using different mounting hole patterns, to allow the head opening to match the combine feeder.

When connecting the header to the combine, the following key steps must be observed.

1. Make sure the header engagement saddle on top of the feeder is clean, allowing the header to fully seat in the feeder.
2. Raise the feeder slightly, engaging the header. Stop lifting momentarily, checking to ensure the header is fully engaged in the feeder saddle before lifting the header completely.
3. Lower the header cylinder stops immediately after raising the header to the full height.
4. Immediately connect and secure the header latches to secure the header to the feeder (*see figure 5.1).* The header latches should have a firm over-centering force when latching to ensure the header is firmly engaged and remains locked during operation.

The configuration and latching procedures may vary between combine and header models, however these basic steps are fundamental to all machines.

Make the necessary mechanical drive connections between the combine feeder and the header *(see figure 5.2).* Apply Case IH 251 EP grease to the driveshaft hex or splines and telescoping sections before connecting driveshaft couplers. Grease universal joints and protective shields as instructed in Operator's Manuals.

Hydraulic hoses and coupler connections between the feeder and the header should be cleaned thoroughly before hookup to prevent the introduction of dirt and contamination into the combine hydraulic system *(see figure 5.3).* Single point connections, such as those on 7010 and 8010 combines, have covers that should prevent dirt contamination on coupler surfaces. However, it is suggested to inspect components and clean if necessary before connecting *(see figure 5.4).*

On machines using individual hoses between the combine and header, make sure hoses are properly connected to prevent crossing of circuits.

Figure 5.1

Figure 5.2

Figure 5.3

Figure 5.4

HEADER INSTALLATION

Mounting the Header (cont.)

Make necessary electrical connections such as header control and lighting leads between the combine and header. Check warning lights after making connections and prior to transporting on public roads.

When disconnecting the header from the combine, properly install hose and coupler caps and covers to prevent dirt contamination during storage *(see figure 6.1).* Do not connect header hoses together during storage, as fluid may flow through the connected hoses, allowing components such as the reel to shift unexpectedly if the head is moved into storage on a trailer or other handler.

Connect combine feeder hoses together as instructed in the specific combine Operator's Manual. These hose connections are necessary to allow free oil flow through circuits that are not in use when the machine is operated with no head, or with headers not using all available hydraulic circuits.

Properly stow header driveshafts in holders during storage or transport.

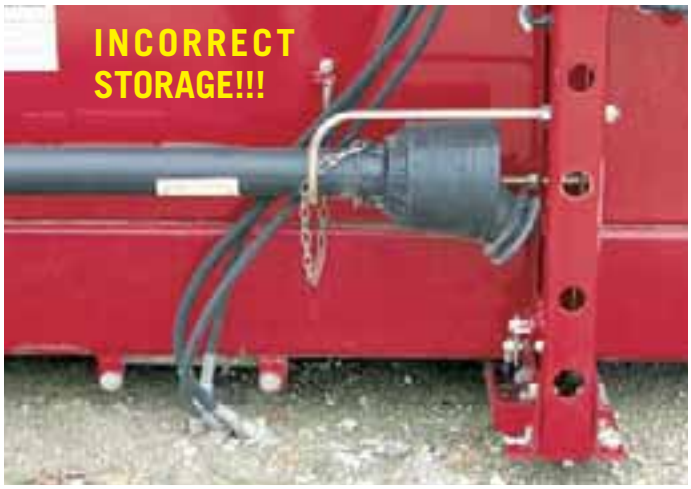


Figure 6.1

Leveling the Header

The header should be leveled on non-hillside model Axial-Flow combines and combines not equipped with the lateral tilt option.

1. Park the combine on level ground, and ensure that both drive tires are inflated to equal pressure.
2. Measure from a common point on both ends of the header, to the ground.
3. If applicable, the draw bolt on the top left side of the feeder is used to make leveling adjustments *(see figure 6.2).* Loosen the top cover nuts on the combine feeder and the draw bolt jam nuts.
4. To raise the left end of the head, loosen the rear nut and tighten the front nut. Adjust in the opposite direction to raise the right end of the header.

Refer to the combine Operator's Manual for any specific variation to these general instructions and for proper hardware torque specifications after adjustment is complete.

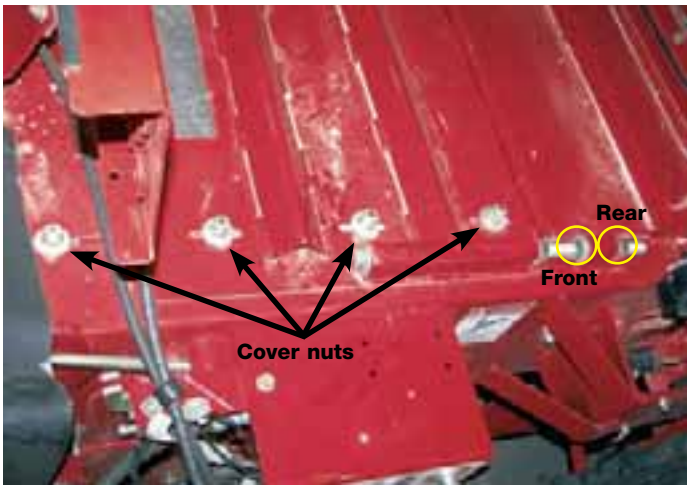


Figure 6.2

SERVICE INSPECTION

Take Full Advantage of its Capabilities

Have you, or did someone you know purchase a new combine in the last few years and continued to use it in much the same way as the combine it replaced? Many times operators do not fully realize and take advantage of modern features. As a result of not fully utilizing the combine's features, the owner may not be receiving all the value from the money spent.

Many of the items suggested in this booklet can be completed by the owner when preparing for the season or the operator when starting a new field. Other adjustments, service procedures or repairs might be more effectively completed by your dealer's trained service technicians.

MAINTENANCE CHOICES, BE PREPARED FOR DEMANDING CONDITIONS

Ask your Case IH dealer about Customized Maintenance Inspections. It is a proactive way to be sure your combine will operate at its best possible performance when you need it.

Customized Maintenance Inspections include a visual and functional inspection of your combine. They can be used as a pre-season or as a post-season tune-up.

Benefits include:

- Increased productivity
- Less downtime during the season
- Lower operating costs
- Improved fuel economy
- Documented maintenance
- Service by Case IH trained technicians
- Service with Genuine Case IH lubricants, filters and parts

The combined advantages of Customer Maintenance Inspection services should result in a lower cost of ownership and higher resale values.

Documented Service Promotes High Resale Value

When you schedule your equipment for annual maintenance inspection services, your Case IH dealership places an annual UPTIME Action Maintenance decal on your equipment after each inspection, distinguishing your commitment to keep your machines running in top condition. Not only does annual maintenance support your productivity in the field, each decal symbolizes completed service—which may increase the resale value of your equipment.

Because Case IH technicians use Customized Maintenance Inspection checklists for each inspection, you can rest assured the service is thorough and nothing is overlooked.

MAINTENANCE

An annual pre- or post-season combine and header inspection professionally performed by your Case IH dealer is a wise investment toward insuring your harvest season against wasteful breakdowns and downtime. Conscientious daily and periodic maintenance on the part of the combine owner/operator completes the equation that equals on-time, efficient harvest with little lost time. And as every farmer knows, time is money, especially when it comes to getting your crop out of the field and on its way to market.

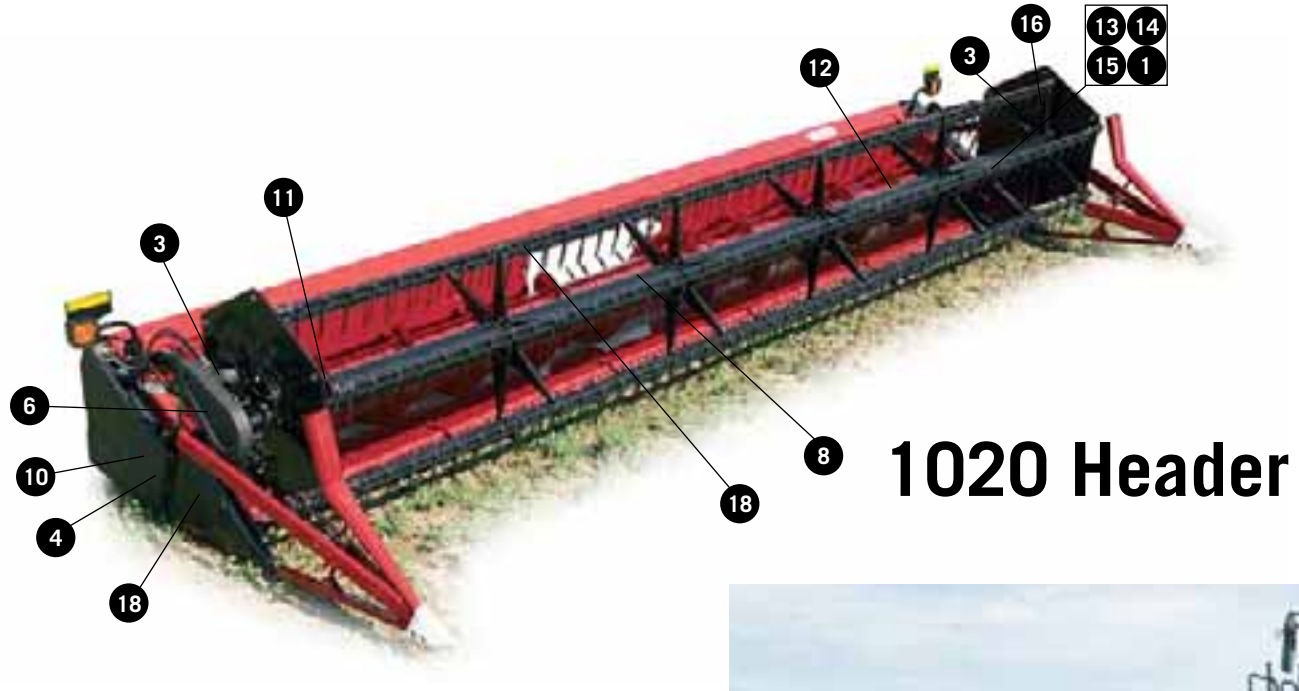
The following table *(see table 8.1)* is a basic representation of combine auger header maintenance needs. Since this guide is general in nature, and cannot reflect exact needs for all models, refer to your Operator's Manual for the most complete information.

REF	1000 Series	2000 Series	Hours	Description	Check	Lube	Lubricant
1		X	50	Knife Head Bushing		X	EP Grease
1	X		10	Knife Head Bushing		X	EP Grease
2		X	10	Knife Drive Idler Pivot		X	EP Grease
3	X	X	10	Reel End Bearing		X	EP Grease
4	X	X	10	Auger Drive Chain	X	X	Chain Lube/ SAE 30
5		X	50	Reel Pivot Arm		X	EP Grease
6	X	X	50	Reel Drive Chain	X	X	Chain Lube/ SAE 30
7	X		10	Main Drive Shaft Universal Joint & Covers (1010, 1020)		X	EP Grease
7		X	50	Main Drive Shaft Universal Joint (2010, 2020)		X	EP Grease
8	X	X	Annual	Auger Retractable Fingers		X	SAE 30
9		X	50	Wobble Box	X	X	SAE 80W90
9		X	Annual	Wobble Box		Change	SAE 80W90
10	X		50	Auger Chain Idler		X	EP Grease
11	X		50	Runner Pivots		X	EP Grease
12	X		50	LH Runner Pivots		X	EP Grease
13	X		100	Knife Drive Pivots (Front and Rear)		X	EP Grease
14	X		Annual	Knife Drive Pivots (Center - 6 Pumps Only)		X	EP Grease
15	X		50	Knife Drive Pivot (Lower)		X	EP Grease
16	X		50	Divider Pivots		X	EP Grease
17	X	X	50	Drive Shaft Slip Joints and Splines *		X	EP Grease
18	X	X	Annual	Steel Pickup Tine Coils		X	SAE 30

* No grease fittings, hand-apply grease

Table 8.1

MAINTENANCE



1020 Header

2020 Header

MAINTENANCE

General Maintenance

The sickle or knife drive is typically a V-belt system, driven from the main header driveshaft. Designs used on various models have specific adjustment requirements. For example, in some cases the V-belt system is used as the drive protection slip clutch for the knife drive, making correct adjustment especially critical.

Regular inspection of the belt, pulleys and surrounding area for signs of excessive wear and slippage is necessary to ensure long belt life and trouble-free operation *(see figure 10.1)*. Additional suggested belt maintenance includes keeping the belt clean and free of any oil or grease which may be thrown onto the belt from other components.

Figure 10.1

Belt dressings are not recommended, as they offer only temporary correction of slipping tendencies and often lead to shortened belt life. When the belt drive is used as an overload protection, belt dressings can have a detrimental effect, and may result in damage to other components.

Belt slippage simply is most often caused by wear that has narrowed the belt "V" section, or increased the "V" section of the pulleys. This reduces the gripping and traction effect of the "V", and lowers the belt system capacity to the point when slippage occurs. Replacement of the belt and other worn components is the only suitable correction.

Chains and sprockets used to drive the reel and auger should be inspected for proper tension as specified in the Operator's Manual *(see figure 10.2)*. Lubrication such as chain lubricants or SAE 30 engine oil may be used on chain drives. However, keep in mind that once a chain is lubricated, it will likely attract a greater degree of contamination, and will require consistent lubrication from that point, throughout the life of the chain. Regular lubrication flushes contaminants from the chain and provides protective lubrication.

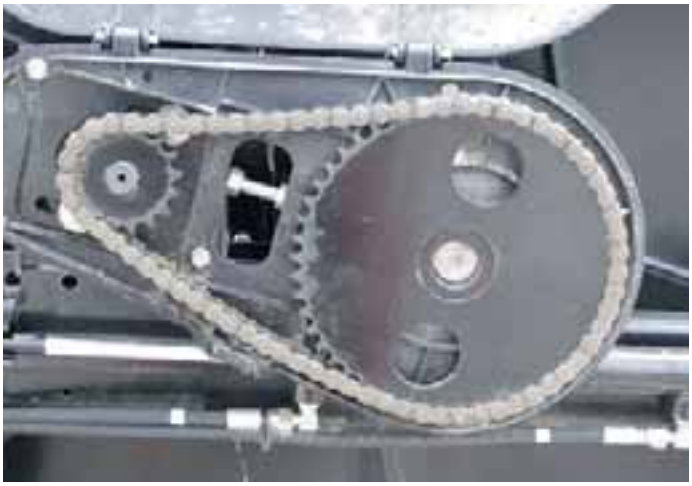


Figure 10.2

Lubricating chains at the end of the workday while the chain is still warm permits the oil to flow freely into critical areas. When the oil cools and sets, it is less likely to be thrown off the chain at start-up the next day.

Sickle

The sickle knife and the knife drive system work hard on the combine header *(see figure 10.3).* In addition to cutting a large volume of crop stalks, occasional weeds with thick, woody stems present even greater challenges to the system. The environment in which the knife operates is often very severe, especially in applications such as soybeans or edible beans where the knife is likely cutting right at ground level, exposing the knife to considerable soil and abrasives.

Figure 10.3

Sickle (cont.)

Several adjustments are necessary to ensure efficient cutting, with minimal power requirement, vibration and component wear. Some variations in knife design over the years again dictate specific reference to Operator's Manuals for exact inspection and adjustment criteria. However, reviewing some of the basics of knife inspection and adjustment will be helpful in applying the specifics pertaining to your particular header model.

The primary element in sickle knife adjustment and maintenance is to confirm sickle knife sections are in correct alignment with the back rib bearing area, and the forward ledger surface of the guard. The "Proper Guard Maintenance" illustration *(see figure 11.1)* shows the correct orientation of the sickle sections with the bearing areas of the guard. Rib "**A**" supports the rear of the sections, and the knife portion of the section to lies flat on the ledger surface, "**B.**" This promotes optimum shearing action for the most efficient cutting, with the least power requirement and vibration. The hold-down clips "**C**" are adjusted to hold the forward part of the section on the ledger, allowing the lip on the forward portion of the guard "**D**" to remain straight, maintaining a slight clearance to the top of the knife.

Bending adjustments to the guards are illustrated in Operator's Manuals and are used to maintain correct sickle knife and guard alignment.

Common mis-adjustments are shown in the "Improper Guard Maintenance" illustration *(see figure 11.1).* The rear of the section is supported by the back rib. However the tip of the guard is low, and does not provide a level ledger surface on which the knife can ride and provide an efficient shearing action. To prevent interference and binding, the guard tip is often bent upward, while the section hold down clips may be improperly adjusted, allowing the section to move vertically over the ledger area. The result is poor cutting, with high power requirement and excess vibration.

Many wider heads are equipped with counter-stroking double sickle knives that are driven for from both ends of the head. Overlapping sections in the center of the head are accomplished by orienting the right sickle approximately ⅛ inch above the left. Special sections with countersunk hardware allow mating sections to slide over one another, free of interference. Proper shimming is therefore critical to allow the sickles to run straight and to slide smoothly as the sickles reciprocate.

The correct shimming methods are illustrated in Operator's Manual drawings, explaining the correct shimming operations necessary to achieve proper knife operating clearances and alignment *(see figure 11.2)*.

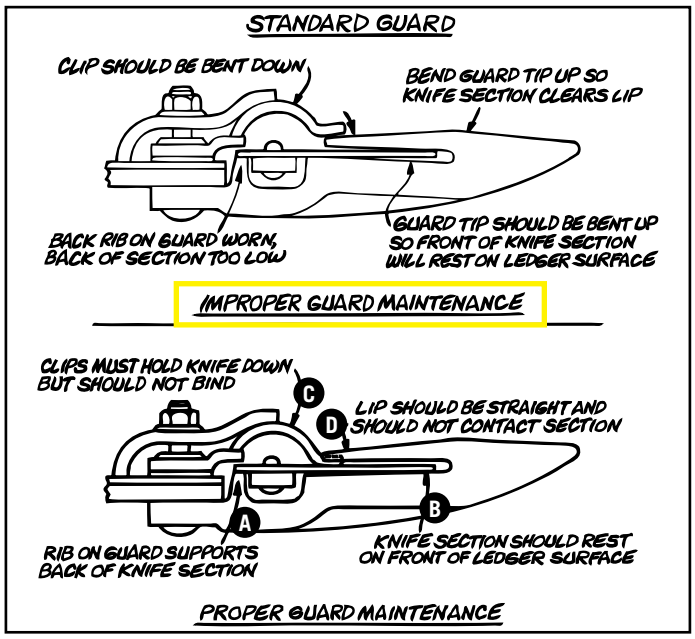


Figure 11.1

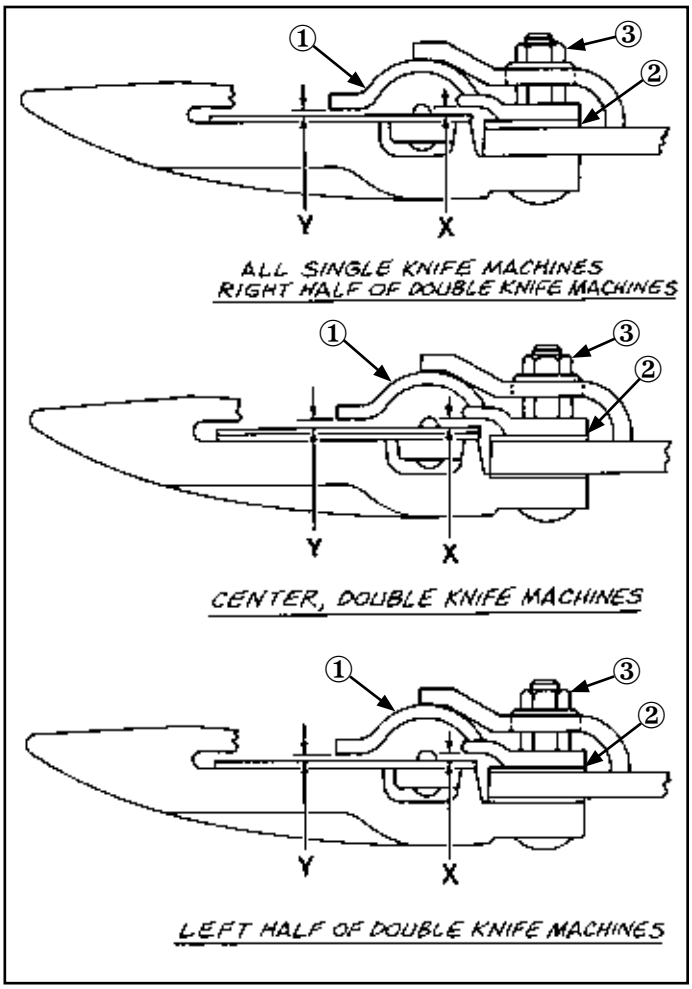


Figure 11.2

MAINTENANCE

Sickle Driver Maintenance

The "wobble box" sickle driver on Case IH auger grain heads may use an external bent axis camshaft, or a fully enclosed gearbox with oil bath lubrication, to oscillate the sickle drive yoke. The knife drive is belt driven, and overload protection is provided in the form of calculated drive belt slippage *(see figure 12.1).*

Typically, the open shaft design uses sealed, or greaseable bearings, that should be maintained in accordance with the Operator's Manual lubrication section. A 50 hour oil level check interval, with annual oil change is typically specified for enclosed wobble box drives.

An important aspect of knife drive adjustment is the vertical position of the drive arm relative to the sickle guards. Alignment is correct when the sickle sections glide smoothly across the ledger portion of the guards and are not forced upward or downward by their connection to the knife drive arm. Adjustment on some heads is performed by loosening the drive and moving it vertically in slotted holes. On other heads, the knife drive bushing clamp bolt is loosened, and the bushing is moved up or down in the arm to position the knife head in alignment with the drive arm and guards *(see figure 12.2).*

Knife register, or the orientation of the horizontal travel of the knife relative to the guards, may also have limited shimming adjustment. See the Operator's Manual for specific information.

Extra Sickle

In addition to proper alignment, maintaining a sharp sickle is the most important part of maintaining efficient cutting. Many heads are equipped with a storage location for an extra sickle *(see figure 12.3),* making it convenient to replace the sickle during operation. Sickle replacement is generally suggested when operation dulls the sickle and results in a noticeable increase in header vibration, noise and inefficient cutting.

Auger Maintenance

Auger hand opening covers should be removed, and auger fingers should be inspected on an annual basis. Lubricate nylon bearings as part of a pre- or post-season inspection *(see figure 12.4).*

During harvest, operators should visually inspect fingers and observe them during operation. Any questionable movement should be investigated to avoid an incident in which a finger is lost and ingested into the combine.

Figure 12.1

Figure 12.2

Figure 12.3

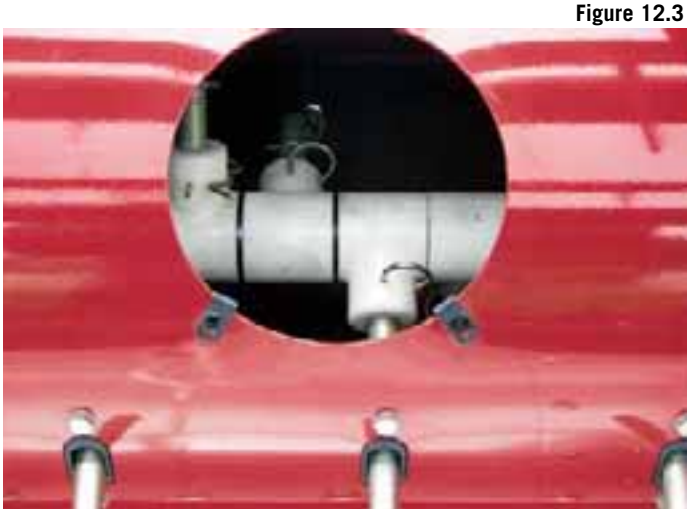


Figure 12.4

HEADER HEIGHT CONTROL

Flex Head and Header Height Control

While flexible headers may vary in specific design, the basics of their operation, and general requirements for best flotation and header height control all revolve around the same conditions *(see figure 13.1).*

For example, the cutter bar and platform trough require a spring suspension to maintain light ground pressure. The suspension will be a balance between being "heavy" enough to return the cutter bar to the lower position after clearing obstacles and high spots in the field; while being "light" enough to allow the cutter bar to slide over soft ground and plant debris without pushing and bunching. Adjustment methods vary, but generally change the effective length of the suspension springs, and therefore the lifting force on the cutter bar. For example, turning the adjustment bolts to move the adjusting bar forward increases spring force and reduces ground pressure *(see figure 13.2).* Generally, the suspension is adjusted to the maximum ground pressure allowable while avoiding pushing soil or plant debris with the runner skids.

A coil spring is mounted to the end of the header and the left hand runner, or both outer runners on double sickle heads. The additional lift is necessary to provide sufficient flotation while carrying the weight of the sickle drive wobble box. *(see figure 13.3).*

The electronic header control starts with "feelers" *(see figure 13.4)* that monitor the position of the cutter bar relative to the header and reports the position as an electronic signal. The system responds by raising the header slightly as the cutter bar floats upward to keep the spring suspension operating near the center of its optimal range. Likewise, when the surface drops away from the header and the cutter bar lowers to follow the terrain, the system will allow the header to lower slightly, maintaining the cutter bar in its vertical range of operation. This automatic operation of header height control is crucial when harvesting low-hanging crops, freeing the operator of concern for damage to the header or cutter bar, or possible clogging due to insufficient flotation.

Figure 13.2

Figure 13.3

Figure 13.1

Figure 13.4

HEADER HEIGHT CONTROL

Flex Head & Header Height Control (cont.)

A pointer is included on some heads to indicate the relative position of the cutter bar in its operating range *(see figure 14.1)*. The pointer can be used while adjusting the height control in the cab to run the cutter bar near the center of the operating range.

Figure 14.1

Header Calibration

The method of 'measuring' the cutter bar vertical position varies between headers. Generally, a shaft is installed across the width of the header, with "fingers" or "paddles" that engage the top side of the cutter bar flotation arms or springs. An electronic position switch, or potentiometer *(see figure 14.2),* is attached to the shaft, and is rotated as the shaft is moved by the sensor mechanism. This converts the cutter bar vertical position to an electronic signal which is used by the header control.

On combines equipped with the header lateral tilt feature, potentiometers on the end runners provide position sensing for the lateral tilt control system *(see figure 14.3).*

Figure 14.2

The system controls must "learn" the characteristics of the potentiometer to consistently translate a physical position to an electrical value; this process is called calibration. In general, during calibration the technician or operator performs control functions to move the header through specified positions where the voltage values are read and stored. Calibration must be performed when system components are replaced or adjusted, or other circumstances occur where the header height control system must re-learn the header position characteristics.

Procedures vary, so refer to the Operator's Manual for your specific combine and header. If questions exist, your Case IH dealer is trained and familiar with various calibration procedures, and can be of further assistance.

Header Height Control Maintenance

To maintain smooth and accurate header control operation, the entire system should be inspected prior to each season. Freedom of movement of the cutter bar, suspension springs and support runners will ensure the cutter bar can move freely through the entire range of vertical operation. The feeler cross- shaft and potentiometer linkage should also be verified to move freely. Check feeler paddles and adjust as necessary to ensure even contact with all runner arms throughout the entire range of the cutter bar. Sluggish and inconsistent height control reaction will result if incorrectly adjusted. Check and adjust linkage as shown in the Operator's Manual for the particular head.

Figure 14.3

The system should be checked periodically during the season for dirt or debris that may impair system operation.

HEADER HEIGHT CONTROL

Flex/Rigid Head Conversion

IMPORTANT: *Always raise the head and lower the cylinder safety stop before making head conversion or performing any other adjustments.*

Flexible headers may be used in some operations to harvest standing crops such as sorghum or small grains. In this case, the unit must be converted to rigid cutter bar operation when cutting above the ground without use of automatic header control. The header height control system must be deactivated as specified by the combine Operator's Manual.

The cutter bar must be placed in the flexible configuration for crops such as soybeans where the header is customarily operated on or near the ground. The header must be "unlocked" and placed in flex mode to allow operation of the automatic header height control system.

In rigid operation, lockout straps are used on 1020 headers *(see figure 15.1)* to position the flex head runners up under the bottom of the header, and the cutter bar in its highest position. Cutter bar lockout tubes may also be used in some applications to stiffen and support the cutter bar sickle when used in rigid operation.

An adjustable link is used to lock up the outer runner(s) when converted to rigid operation. Refer to the Operator's Manual for specific link adjustment and orientation.

Model 2020 headers use cutter bar locking nuts that thread onto a bolt protruding from the bottom of the header floor, aligning with a hole in the runner *(see figure 15.2)*. As with installing lockout plates, the runners are raised one at a time, starting on one end of the head, and the locking nuts are installed to hold the runners up. Nuts are tightened until snug against the runners and locked in place with the protection plate.

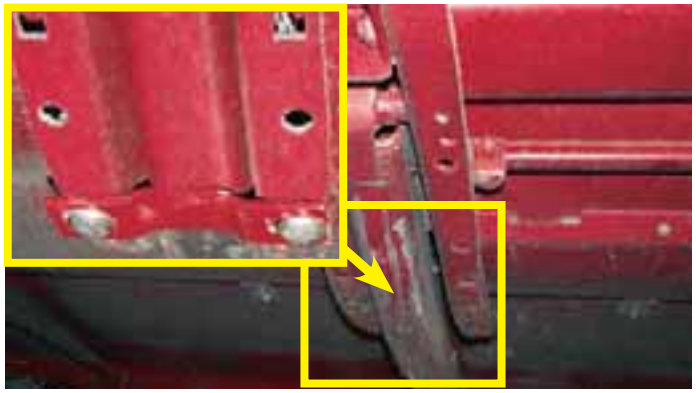


Figure 15.1

Figure 15.2

Figure 15.3

Figure 15.4

Header Adjustments

Reel Height

The normal reel operating height is set so the reel bats contact the crop just below the lowest heads. If the reel is too low, crop will likely not flow into the auger properly, and be carried around the reel. If the reel is too high, the bats will contact the grain heads, resulting in excessive shatter of grain from heads.

The minimum reel height is normally set using the threaded adjustment on the reel lift cylinder rods *(see figure 15.3)*. The reel tines must be set to clear the cutter bar by at least one inch when the reel is in the lowest position and the cutter bar is flexed up to its highest position or is locked rigid.

If the reel is not level with the header, open the bleed screw on the left-hand reel lift slave cylinder and bleed air from the reel lift system as described in the Operator's Manual *(see figure 15.4)*.

ADJUSTMENTS

Reel Fore-and-Aft

The reel fore-and-aft position can be adjusted to provide adequate lifting of the crop across the sickle into the auger, while reducing contact with the grain heads and excess shatter. Fore-and-aft reel position may be adjusted from the cab on machines with hydraulic control *(see figure 16.1),* or with mechanical crank fore-and-aft adjustment. With manual control, use the reel position indicators to ensure both sides of the reel are set to the same position.

Figure 16.1

Reel Tine Pitch

Reel tine pitch is adjusted to enter the crop vertically, or with a slight pitch to the rear. The tines then hold and lift the crop, sweeping it across the sickle and releasing it into the lower front part of the auger. If tine pitch is excessive, crop may be dropped on top of the auger, or may be carried around the reel and dropped on the ground in front of the header.

Tine pitch is adjusted by loosening the locknut on the adjustment lever and moving the lever to the desired tine angle *(see figure 16.2).* Rice heads and larger grain heads have adjustment levers on both ends of the reel, which must be adjusted evenly.

Figure 16.2

Auxiliary pickup tines are available to attach to the outside of the reel eccentric support plate to help move crop from the knife to the auger at the end of the header. Auxiliary tines should not be used when the header is equipped with the long dividers.

Auger Height and Fore-and-Aft Adjustment

The auger height above the header bottom trough, and fore-and-aft position affects the ability of the auger to smoothly move the crop toward the center of the header, to the combine feeder.

In normal conditions, the auger is set ½ inch above the trough. Auger height adjustment is made by adjusting a threaded rod, "**A**" *(see figure 16.3)* that moves a wedge under the front end of the auger bearing carrier. Turning the nut clockwise on the rod moves the wedge to the rear, raising the auger. Turning the nut counter-clockwise allows the wedge to be pushed forward, lowering the auger.

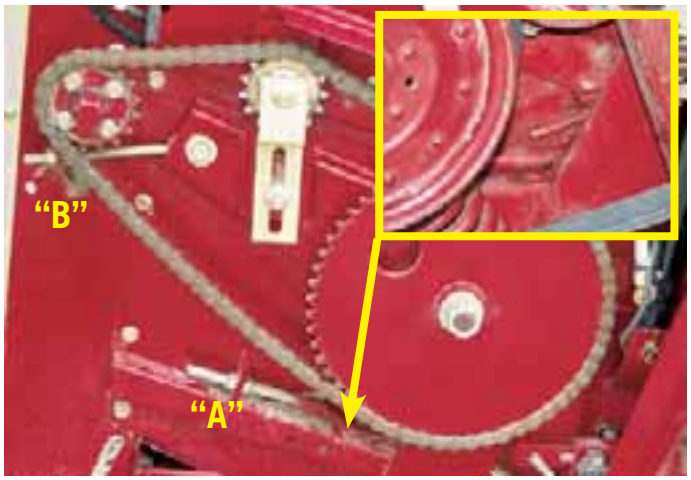


Figure 16.3

Auger height is adjusted with rod "**B**" *(see figure 16.3)*. Turning the nut on the rod moves the auger bearing carrier to achieve the desired distance between the auger flighting and the rear of the header and auger strippers.

When performing either adjustment, make sure both sides are adjusted evenly. Turn the auger by hand to make sure it does not contact the auger strippers or header trough, and adjust auger strippers if necessary, after changing the auger position. Auger position adjustments also move the auger drive sprocket, therefore auger drive chain tension must be adjusted after the auger position is changed.

Figure 16.4

Auger Height and Fore-and-Aft Adjustment (cont.)

Auger lift links are connected between the auger bearing carrier and the reel lift arms *(see figure 16.4).* When raising the reel fully, the auger is lifted slightly to aid in removing material, should the feeder and/or auger become plugged.

Auger Stripper Clearance

Auger strippers are adjustable plates on the rear side of the header, which are normally adjusted to 1/8 inch from the auger flighting *(see figure 17.1 and 17.2).* Strippers catch and hold the crop under the auger, preventing carryover and helping the auger move the crop horizontally toward the combine feeder. Strippers are mounted in slotted holes and can be adjusted by loosening the hardware and sliding the header to the stripper, to the desired position.

Auger Finger Pitch/Extension

Auger finger pitch and extension adjustment may be changed based on crop conditions. The fingers must extend fully to engage crop, then pull it rearward toward the feeder. The point at which the fingers retract may vary depending on the crop volume and is easily adjusted.

On 2020 Series heads, loosen the locking bolts on the adjusting lever on the right end of the head *(see figure 17.3).* Move the lever clockwise to move finger retraction closer to the feeder, helping to move light crop to the feeder. In heavy or weedy crops, move the lever counter-clockwise to release material sooner for smoother flow into the feeder.

On 1020 heads, the bolts are loosened in the adjustment tube on the left end of the head *(see figure 17.4).* The tube is rotated using the combine rotor rocking wrench.

Re-check finger-to-header trough clearance after determining final finger adjustment to ensure adequate running clearance.

Figure 17.1

Figure 17.3

Figure 17.2

Figure 17.4

ADJUSTMENTS

Auger Chain Tension

A spring adjuster or fixed idler may be used to adjust auger drive chain tension. Refer to the specific header Operator's Manual for the correct adjustment style for your header *(see figure 18.1).*

Auger speed may be adjusted to improve crop flow, or reduce shatter. 2020 headers include a double drive sprocket to adjust speed. Other headers can be equipped with optional driven sprockets to change auger speed.

Figure 18.1

Sickle Belt Tension Adjustment

The sickle driver belt is spring tensioned on current grain heads. The correct tension is achieved by adjusting the spring to a specified length *(see figure 18.2).*

Different sickle driver pulleys are available to increase the driver speed if desired. Increased speed is helpful in lighter crops were higher ground speeds are necessary to maintain even crop flow into the combine.

Figure 18.2

Header Angle

The header angle can be adjusted to change the relationship of the sickle, cutter bar skids and the ground surface to suit different operating conditions and combine setup.

For example, tipping the head forward slightly *(see figures 18.3 and 18.4)* may allow cutter bar skid plates to slide over crop debris or soft soil more easily than a more aggressively angled rearward position.

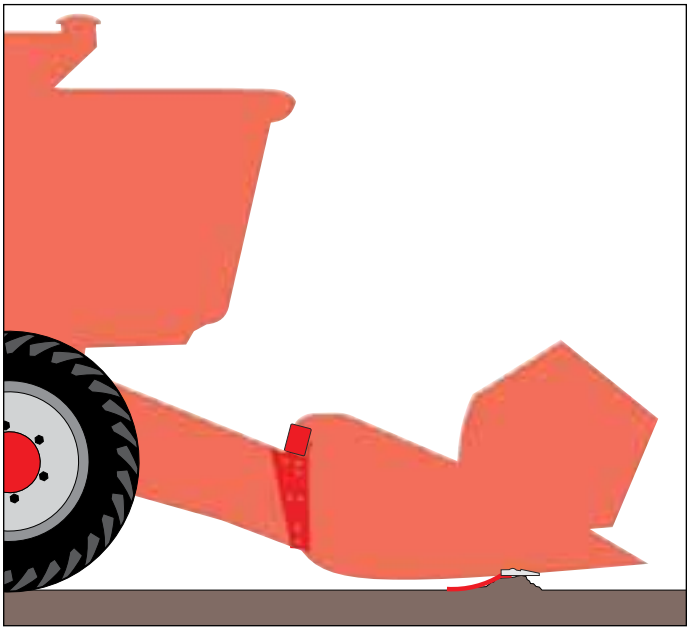


Figure 18.3

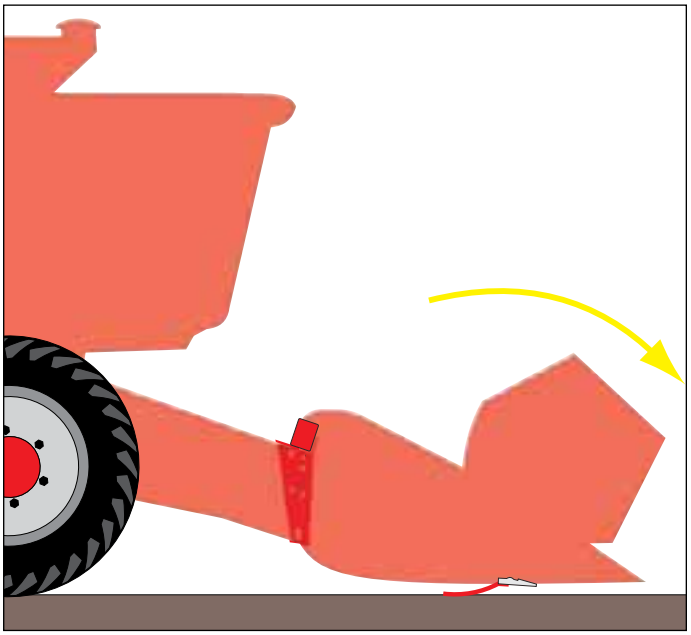


Figure 18.4

Header Angle (cont.)

The adjustment is made by loosening the capscrews attaching the feeder cradle to the combine feeder *(see figure 19.1).* The combine Operator's Manual will provide full details on correct header angle adjustments.

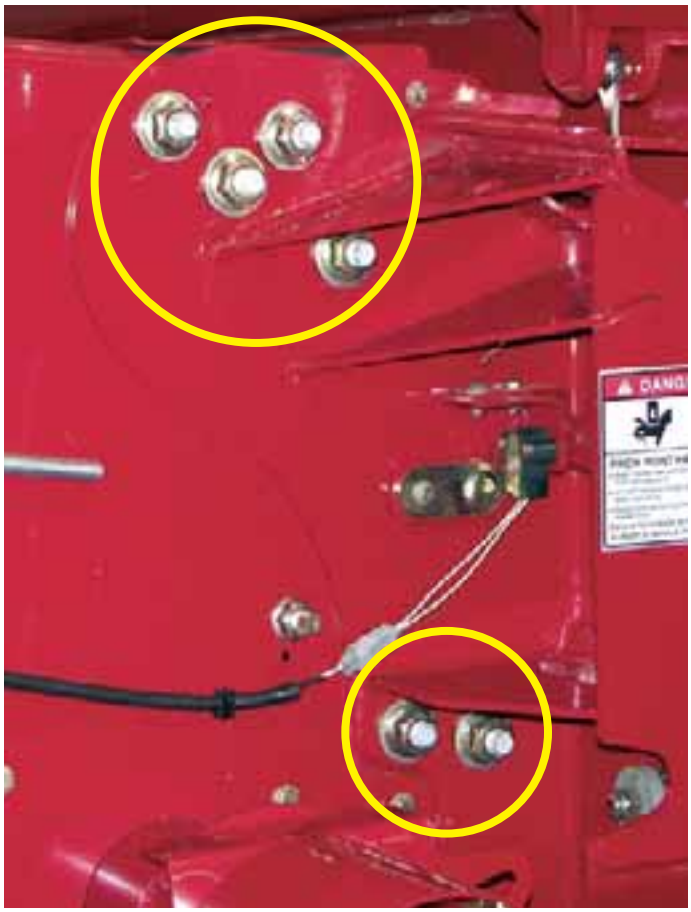


Figure 19.1

Dividers

Dividers lift and divide the crop at the ends of the header as the machine passes through the field. The types of rows, method of planting and characteristics of the plant and crop head determine the type of divider that is best for varying conditions.

Flex heads are equipped with spring-loaded rear dividers. Rear dividers may be complimented with the addition of tube divider extensions, used commonly for small grains; and the Wing Divider Extension *(see figure 19.2)* for flexible cutter bar operation such as harvesting soybeans.

Figure 19.2

The Wing Divider Extension is fully adjustable to tailor the divider to existing crop conditions *(see figure 19.3).*

1. Outer wing adjustable in or out to ensure a smooth flow of standing crop past the outside of the rear divider; and to lift and divide crop. Adjust up or down according to crop height for best crop lifting and dividing of cut crop. Usually adjusted lower than inner wing.
2. Inner wing adjusted in or out to provide smooth flow to reel. Adjust up and down to help lift down crops.
3. Upper wing is adjusted up or down to assist inner and outer wings in separating cut and standing crop, and moving cut crop into reel and across sickle.

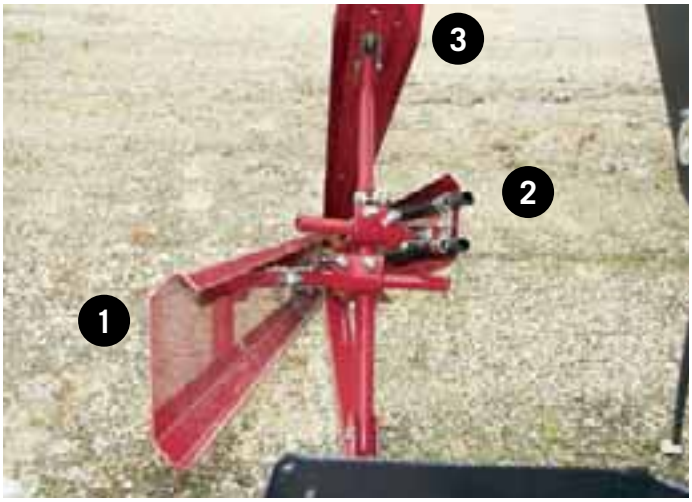


Figure 19.3

ACCESSORIES

Some additional accessories may be installed on 1000 and 2000 Series Grain Headers to improve performance in special harvest conditions.

1. **Auxiliary Skid Shoes** provide additional surface area behind the sickle to allow lighter ground pressure when soil is soft or sandy and susceptible to pushing.
2. **Grain Lifters** *(see figure 20.1)* provide additional lift under down crop to assist the reel in moving crop across the sickle and into the auger
3. **Auger Flight Extensions** increase the aggressiveness of the auger in the center, helping to move crop into the feeder, especially with short and dry small grains. Also helps prevent wrapping in the center of the auger.

Figure 20.1

Unplugging the Auger

During operation, the auger may become plugged due to lodged crop, poor sickle performance, incorrect reel adjustment, excessive ground speed or other possible causes. Three different methods can be used to free the auger to continue harvest.

1. Raise the reel fully, allowing the auger lift links to raise the auger. This relieves pressure on the auger, and may free the auger to turn when the feeder switch is engaged.
2. Raise the reel fully, and use the feeder reverser if equipped to turn the auger backwards to release jammed material. Refer to the combine Operator's Manual for operation of the feeder reverser. Return to normal operation to allow the header to empty, and resume harvest.
3. Raise the reel fully. Disengage the feeder and stop the engine. Use the rotor rocking wrench to rotate the auger drive sprocket hub in reverse to free the auger. Remove or evenly distribute material in the header and restart the combine and feeder.

The table below *(table 20.1)* provides an overview of the basic grain header settings for most harvest conditions. Should conditions and situations arise during harvest for which you require diagnostic help, refer to the comprehensive Troubleshooting Guides in the combine and header Operator's Manuals. Here, a "Condition," "Probable Cause" and "Correction" format is a very efficient and convenient means of providing the most common solutions to most crop cutting and gathering challenges.

Condition	Reel Height	Reel Fore & Aft	Reel Speed	Reel Tine Pitch	Auger Fore & Aft	Auger Height	Auger Finger Extension	Auger Stripper Clearance	Auger Speed	Knife Speed	Header Flotation
Crop Conditions											
Soybeans Standing	High, to prevent carryover	Rearward, near auger	Normal ①	5 Degrees Rear Pitch ②	1/8" to fixed stripper	1/2" above bottom of header	Mid-to forward retraction	1/8"	Normal Standard Sprocket	Normal Standard Pulley	
Soybeans Down	Low, aggressive pickup	Forward lift crop to sickle	Normal to slightly faster	10 Degrees Rear Pitch ③	1/8" to fixed stripper	1/2" above bottom of header	Mid-to forward retraction	1/8"	Normal Standard Sprocket	Normal Standard Pulley	
Rice/Small Grain-Standing	High, to prevent carryover	Rearward, near auger	Normal ①	5 Degrees Rear Pitch ②	Forward in trough	1/2" above bottom of header	Mid-to forward retraction	1/8"	Normal Standard Sprocket	Normal Standard Pulley	
Rice/Small Grain-Down	Low, aggressive pickup	Forward lift crop to sickle	Normal to slightly faster	10 Degrees Rear Pitch ③	1/8" to fixed stripper	Rice-Closer to bottom of header	Mid-to forward retraction	1/8"	Normal Standard Sprocket	Normal Standard Pulley	
Dry, Easy Shatter Crop	High, to prevent carryover & shatter	Rearward, near auger	Reduce to minimum & maintain feeding	Reduce to minimize interference with crop	1/8" to fixed stripper	Closer to bottom of header	Mid-to forward retraction	1/8"	Decrease-Reduce Shatter	Slowest Possible	
Heavy, Bulky Crops	Rearward, near auger	Rearward, near auger	Normal ①	Vertical to 5 Degrees Rear Pitch ②	1/8" to fixed stripper	Up to 1" increases capacity	Move retraction point forward	Up to 1" Avoid carryover	Increase Higher Capacity	Normal Standard Pulley	
Wet, tough Crop/Straw	Rearward, near auger	Rearward, near auger	Normal ①	5 Degrees Rear Pitch ②	1/8" to fixed stripper	Closer to bottom of header	Move retraction point forward	1/8"	Normal Standard Sprocket	Increase	
Light or Short Crops	Move forward	Move forward	Increase with higher ground speed	5 Degrees Rear Pitch ②	Forward in trough re-adjust strippers	Closer to bottom of header ④	Move retraction point forward	1/8"	Decrease-Reduce Shatter	Increase with Higher Ground Speed	
Field/Soil Conditions											
Hard or Rocky Solid											Higher ground pressure, faster lowering
Soft, Wet or Sandy Soil											Lower ground pressure, raises easier

Table 20.1

① Normal reel speed is slightly faster than ground speed, sufficient to sweep crop from a standing position rearward into the auger. Excess reel speed drastically increases shatter at the header.
② Insufficient tine pitch may allow crop to drop before reaching the auger.
③ Excessive rear tine pitch may result in crop carryover or wrapping on reel.
④ Optional auger flight extensions will improve feeding of short, dry crops such as wheat and barley.

STORAGE

Storage

Proper storage of the grain head can have a significant impact on the ability to achieve acceptable header performance immediately on start-up in successive seasons. Storing the unit in a dry environment, and protecting the unit from rust and corrosion during storage is especially important on a grain head.

The degree of "polishing" of components during operation makes many areas of the header susceptible to moisture related damage. At the same time, the "polishing" indicates that smooth, clean surfaces are essential to promote crop flow in the header, and passage of debris and trash under the header, across the cutter bar skid plates.

1. Clean the header with high-pressure water to remove mud, dirt, crop residue and sap from the header bottom sheets, auger, sickle and skid shoes. Use care to direct high pressure water away from sealed bearings, potentiometers and other sensitive components.
2. After the header is cleaned and dry, lubricate the header as specified in the Operator's Manual
3. Inspect the sickle, auger, retractable fingers and reel; replace any worn or damaged parts.
4. Put a film of protective oil on the skid shoes, sickle, retractable fingers and the bottom of the header trough.
5. Lubricate drive chains.
6. Retract reel lift cylinders to prevent rust damage to piston rods.
7. Remove tension from the knife drive belt.

Returning the Unit to Service

1. Clean the unit and remove any rust or corrosion that may have developed during storage.
2. Lubricate the header.
3. Re-inspect the unit and replace any worn or damaged parts before returning to the field.
4. Verify the entire automatic header control system mechanical components and the cutter bar are free to move through their operating range.
5. Re-tension the sickle drive belt.
6. Lubricate drive chains.
7. Start and run the header at slow speed. Check for excessive vibration or noise, and confirm proper operation of all drives and bearings.

GRAIN PLATFORM KITS

Cutter Bar Rebuild Kits

For 820/1010/1020 Headers

Kits are available with or without the knife so you can select the knife of your choice; headed or headless for 1-1/2" or 3" systems, split knives for 3" and the section type best suited to your needs.

Kits are complete and include: guards, hold-down clips, wear plates and hardware. Kit may not include knife depending on ordering options.

Cutter bar kits for 820 headers also available.

3 Inch System

3 Inch Cutter Bar Kits -1010 and 1020 Headers

HEADER SIZE	ONE PIECE KNIFE SSS SECTIONS STD GUARDS	SPLIT KNIFE SSS SECTIONS STD GUARDS	SPLIT KNIFE SSS SECTIONS DHT GUARDS	SPLIT KNIFE SS HIGH SHOULDER SECTIONS STD GUARDS	W/O KNIFE STD GUARDS	W/O KNIFE DHT GUARDS
15'	B92858E	B95546	B95616	82797045	B92919E	B95633
16.5'	B92859E	N/A	N/A	N/A	B92920E	B95634
17.5'	B92860E	B95548	B95617	82797046	B92921E	B95635
20'	B92861E	B95549	B95618	82797047	B92922E	B95636
22.5'	B92862E	B95550	B95619	82797048	B92923E	B95637
25'	*	B95551	B95620	82797049	B92924E	B95638
30'	*	B95552	B95621	82797050	B92925E	B95639

*** Recommend Cutter Bar Kit with Split Knife**

Crop Dividers and Accessories

- Complete
- Assembled
- Poly point

Part No. B94154 (LH) shown
Part No. B94155 (RH)

Poly Point Kit

Part No. B95408

Tube Kit

Part No. B95409

Crop Deflector Kit

- Add to inside of divider to improve crop feeding away from knife
- Kit includes fingers and hardware

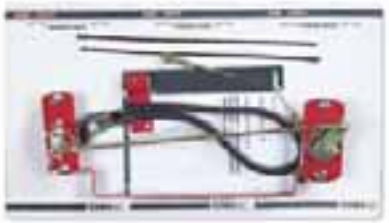
Part Number 394417A1 - Individual replacement finger

Part No. B95651

Automatic Header Height Control (AHHC) Linkage Kit

- Kit includes parts to convert from a cable to a mechanical linkage to actuate the potentiometer on all 1020 headers
- The mechanical linkage design has proven to be more reliable and durable
- Standard on all 2002 model 1020 headers
- Part No. 434092A4E - For 1400*, 1600*, 2100 and 2300 combines

*** 1400 and 1600 series combines require harness kit Part No. 87412210E**



Part No. 434092A4E

Wobble Box

For 800 and 1000 Series

For minimum downtime and new performance – choose the complete replacement.

Part No. 1330048C91 for 810/820 Headers
(Does not include pulley)

Part No. 1316987C91 for 1010/1020 Headers (Includes pulley) (Prior to 1995 models)

Part No. 398290A2E for 1010/1020 Headers (Oil bath - 1995 and After)

Wobble Box Repair Kit

- For boxes Part No. 1330048C91 and Part No. 1316987C91
- Includes bearings, shims and hardware

Part No. B95203

GRAIN PLATFORM KITS

Tine Service Kits

- Handy service kit
- Includes tine and mounting hardware

Part No.	Bill of Materials	Application
B94711	6 OF B93867 (BULK PART NO.)	1000 SERIES HEADERS
B94712	6 OF B93866 (BULK PART NO.)	1000 SERIES HEADERS
B94710	4 OF B93868 (BULK PART NO.)	1000 SERIES HIGH-VISIBILITY REEL
B95856	2 OF B95872 (BULK PART NO.)	1000 SERIES HEADER 2001 AND LATER, AND 2000 SERIES HEADERS

Part No. 95856 **Part No. B94710** **Part No. B94711** **Part No. B94712**

810/820 Series Headers

Part No. B94601

Part No. B94602

1000 Series Headers

Part No. B96216

Part No. B96219

Centralized Header Latch Kit

- This kit mounts to the left side of the feeder and has cables that connect to a pair of engagement pins that latch the header to the combine
- Combine kit includes cables, handle guards, springs, hardware and I-sheet
- Header kits include engagement pins and mounting hardware
- These kits are designed to make it easier to attach various Case IH headers to Case IH Combines
- The centralized header latch is not compatible with Hillco equipped machines

Part No. 87336803 - 1010/1020 Header (shown)
Part No. 87368704 - 2000 Series
Part No. 87337673 - 2200/3200 Corn Head
Part No. 87352570 - 1015 Pick-up Header
Part No. 87352569 - 1000 Corn Heads
Part No. 87368703 - 2015 Pick-up Header
Part No. 87973120 - 2600 6-Row Rigid
8-Row Flex
Part No. 87689161 - 2600 8-Row Rigid

See your dealer for your Axial-Flow Combine Product Support Kit Catalog and Productivity Guide!

EZ Latch Single Level Hydraulic Coupler Kit

- Kit includes coupler assembly, hydraulic lines and hardware
- Kit is designed to make it easier to connect the hydraulics on the combine to the header
- Coupler for 1010/1020 headers, 2200 Corn Heads and mid-range Axial-Flow Combines
- Combine these kits with the centralized header latch kit for even greater convenience

Part No. 87552504 - coupler half for 1000 Series Headers
Part No. 87301386E - coupler half for 1644, 1666, 1688 and later combines
Part No. 87430799 - MacDon 2000 Hydraulic & Electric
Part No. 87557886 - MacDon 2100 Hydraulic & Electric
Part No. 87662931E - coupler half for 2200 Corn Head

Part No. 87539791 -
Combines with field tracker (shown)
Part No. 87539793 -
Combines without field tracker

Now you can identify the Case IH parts you need online

- Visit www.caseih.com
- Click on Search for Parts under Parts & Service
- Enter your model number or product name
- View a parts list and diagram
- Build a list of the parts you need
- Contact your Case IH dealer to order parts

Safety Never Hurts!™ Always read the Operator's Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs, and use any safety features provided.

CNH America LLC reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions and illustrative material herein are as accurate as known at time of publication, but are subject to change without notice.

This literature has been published for worldwide circulation. Availability of some models and equipment builds varies according to the country in which the equipment is used.

CASE IH AGRICULTURE

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