MAN-01905

Shelbourne Header

Cvs-Rvs-Rsd

PRE-DELIVERY & SETUP MANUAL

Shelbourne REYNOLDS

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SHELBOURNE HEAD PRE-DELIVERY INSPECTION SHEET

TO BE COMPLETED BY THE DEALER BEFORE DELIVERY TO THE CUSTOMER

For Cvs heads only. To be used in conjunction with operators manual & set up manual.
Please complete the information at the top of the sheet.
Please tick the items after carrying out the checks.
Please sign to indicate that all checks have been carried out.

Serial Number: _____ Model: _____ Date: _____

Dealer: _____ Customer: _____

Engineer's Signature: _____

Lubrication

1) Grease PTO shafts (3 or 2 joints depending upon width)

2) Grease rotor bearing and 2 ball couplings

3) Grease crop deflector arms and hood pivots (both ends of each)

4) Check oil level in input and rotor gearboxes

5) Ensure both rotor and input pulley sheaves have been greased along with cam follower bearings. Note a conical type grease gun end is required to insert into greaser system on end of cam follower bearings.

Rotor

1) Check anti-wrap knives and centre fingers adjustment

2) Check rotor turns freely

Auger

1) Set clearance at back and underneath of auger (5mm at back 20mm underneath)

2) Check that the correct amount of fingers are in the auger

3) Check flight extension to see if they are required

Chains

1) Check auger drive chain tension

2) Check auger alignment

Rotordrive belt

1) Ensure machine has full speed range (400-800 rpm)

2) Belt must be fully tensioned

Hydraulics

1) Check for leaks and operation of crop deflector

Guards

1) Check all guards and safety locks

2) Check PTO guard

Varispeed control

1) Fit control unit in cab in accessible position and check for correct function

Tacho

1) Fit tacho in cab in visible position – see operators manual for fitting and testing

General

Run up head and check for operation.
Ensure that stands are not fitted to rotor ends.
Ensure that that all safety systems and guards are in place.
Do not allow auger speed to exceed 200RPM.

For setting up combine refer to operators manual.

If you have any queries please contact your Shelbourne Reynolds authorised dealer.

This combine and header set up manual is designed for dealers and operators as a reference when setting up headers in the field. All Shelbourne headers are delivered to dealers complete and inspected, they are ready to go to the field with the exception of the following adjustments which can only be done in conjunction with the combine the header is to be fitted to. Many of the practices in this manual need to be repeated if the header is switched to another make of combine. If at any stage there is any doubt do not hesitate to contact Shelbourne Reynolds at Colby, KS on 785-462-6299 for assistance.

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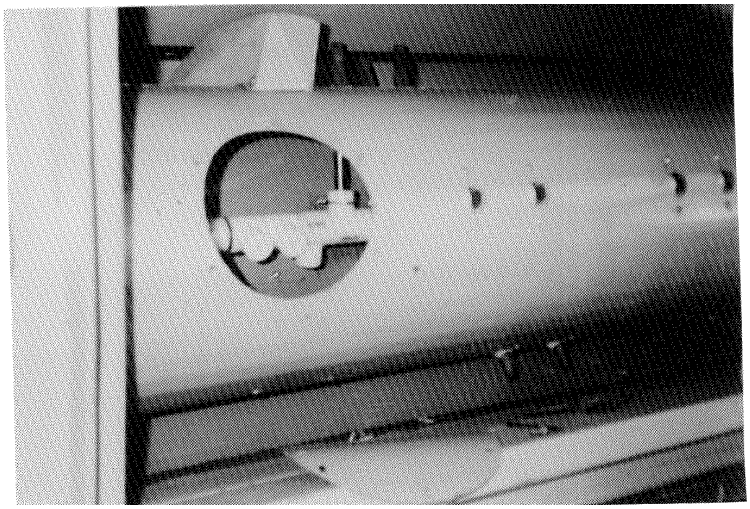
Header Adjustments

1) Check that the correct number of retractable fingers are fitted to the header auger for the combine, the same applies to the auger drive sprocket. Table 1 gives this information. It is essential that no retractable fingers are working outside the width of the feeder house opening. If it is necessary to remove fingers then remove the auger cover. *(see photo 8)* Remove the same number of fingers from each row and always remove the ones closest to the ends of the header first. After removal, replace the balls with a covering plate (part number: 190735 01) or fill the balls with silicone and rotate them a half turn.

Photograph 1



It is also essential to make sure that the correct drop box select gears and auger drive sprocket are fitted to ensure that the rotor and auger speeds are correctly calibrated for your combine. ***Failure to do this can result in serious header damage.***

Table 1 gives some very useful information regarding the correct drop box gears, auger drive sprockets, quantity of retractable auger fingers, the type of PTO yoke and hydraulic fitting required to fit a Shelbourne header to most makes of modern combines.

The remainder of the header PDI process will be easier if the header is mounted on a combine for easy raising and lowering. However as a safety precaution never connect the drive shaft to the combine until last to prevent someone engaging the header drive while you are in or on the header. While working around the combine and header always remove the combine ignition key to prevent accidents. When working under the header be sure that the combine feeder house safety latch is lowered.

Table 1

Shelbourne Reynolds header / combine variations

HEADER MODEL	COMBINE MODEL	I NPUT GEARBOX GEAR SELECTION		AUGER DRIVE SPROCKET	AUGER FINGERS	PTO SHAFT / YOKE	SPLINE
RVS/CVS WITH G/BOX	CLAAS/LEXION	192592 01 42 TOOTH	193599 01 27 TOOTH	192768 08 13 TOOTH	24 OFF	PTO-26001 / 00082	21 SPLINE
RVS/CVS WITH G/BOX	NH EUR TX/TF/TC	192592 02 49 TOOTH	193599 02 20 TOOTH	192768 10 22 TOOTH	24 OFF	PTO-26004 / 00080	6 SPLINE
RVS/CVS WITH G/BOX	NH USA TR	192592 07 45 TOOTH	193599 07 24 TOOTH	192768 04 16 TOOTH	18 OFF	PTO-26004 / 00080	6 SPLINE
RVS/CVS WITH G/BOX	JOHN DEERE	192592 06 47 TOOTH	193599 06 22 TOOTH	192768 18 18 TOOTH	20 OFF 9750/9760 24 OFF 9600/9610	PTO-26001 / 00082 PTO-26002 / 00070	21 SPLINE HEX
RVS/CVS WITH G/BOX	CASE	192592 06 47 TOOTH	193599 06 22 TOOTH	192768 18 18 TOOTH	16 OFF ALL CASE	PTO-26002 / 00070	HEX
RVS/CVS WITH G/BOX	NH CX/CR/8010	192592 07 45 TOOTH	193599 07 24 TOOTH	192768 04 16 TOOTH	24 OFF	PTO-26004 / 00080	6 SPLINE
RVS/CVS WITH G/BOX	GLEANER	192592 07 45 TOOTH	193599 07 24 TOOTH	192768 16 15 TOOTH	16 OFF	PTO-26001 / 00082	21 SPLINE
RVS/CVS WITH G/BOX	NH EUR TX/TF/TC	192592 12 39 TOOTH	193599 12 30 TOOTH	192768 10 22 TOOTH	24 OFF	PTO-26004 / 00080	6 SPLINE
RVS/CVS WITH G/BOX	NH USA TR	192592 11 35 TOOTH	193599 11 34 TOOTH	192768 04 16 TOOTH	18 OFF	PTO-26004 / 00080	6 SPLINE
RSD/CVS WITHOUT G/BOX	JOHN DEERE	192592 09 37 TOOTH	193599 09 32 TOOTH	192768 18 18 TOOTH	20 OFF 9750/9760 24 OFF 9600/9610	PTO-26001 / 00082 PTO-26002 / 00070	21 SPLINE HEX
RVS/CVS WITH G/BOX	CASE	192592 09 37 TOOTH	193599 09 32 TOOTH	192768 18 18 TOOTH	16 OFF ALL CASE	PTO-26002 / 00070	HEX
RSD/CVS WITHOUT G/BOX	NH CX/CR/8010	192592 11 35 TOOTH	193599 11 34 TOOTH	192768 04 16 TOOTH	24 OFF	PTO-26004 / 00080	6 SPLINE
RSD/CVS WITHOUT G/BOX	GLEANER	192592 11 35 TOOTH	193599 11 34 TOOTH	192768 16 15 TOOTH	16 OFF	PTO-26001 / 00082	21 SPLINE

COMBINE MODEL	ADAPTOR PLATE	HYD OPTION	ELECTRICAL KIT	ADAPTOR MANUAL
CLAAS/LEXION	196555 01	KIT-01717		MAN-03173
NH EUR TX/TF/TC	196555 06	KIT-01702		MAN-03175
NH USA TR	196555 07	KIT-01710		MAN-03175
JOHN DEERE	196555 03 J D	KIT-01707/ 9600/9610/9750 KIT-01727 9660/9860	193516 01 PRE 50 SERIES, 195207 01 50 SER N/A	MAN-03174
CASE IH	196555 08 CASE	KIT-01709	N/A	MAN-03178
NH CX/CR/8010	196555 12 CX/CR 196555 13 8010	KIT-01726 CX/CR, 8010	197147 01 CX/CR 197040 01 8010	MAN-03175 CX/CR MAN-03178 8010
GLEANER	196555 09	KIT-01720	N/A	MAN-03177

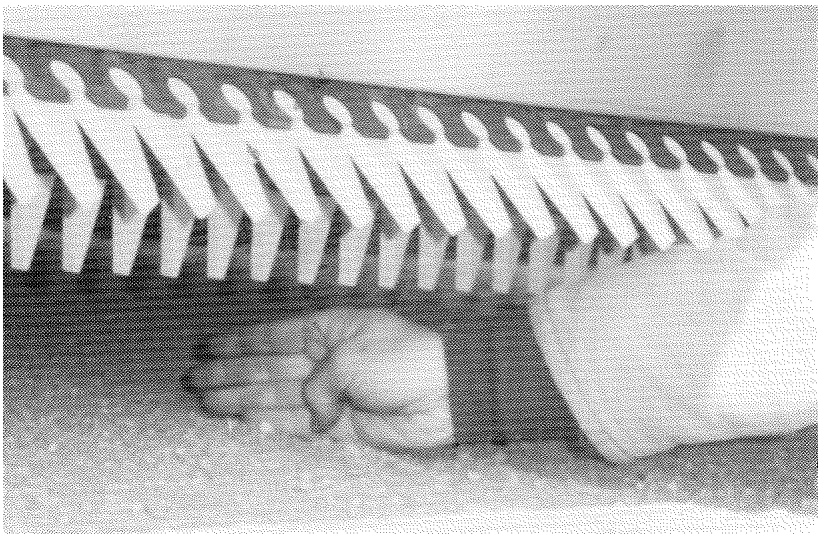
2) Ensure that when the auger is rotated, none of the retractable fingers hit on the feeder house, if they do, then adjust the timing crank on the right end of the header.

3) Check for ¼ inch clearance behind the auger and ensure that there is at least 5/8 inch of clearance underneath the auger flights. This will help feeding lodged crops. These measurements must be taken when the machine is fixed to the combine.

4) Level the header from front to rear, first use the plate adjuster bolts (36mm wrench needed) and crank the plate all the way into the header (bringing the front of the header up) this also decreases the clearance between the header auger and combine feeder chain leading to better crop feed. The gap between the top of the plate and the top wing should be set at ½ inch. *(see photo 2)*

Photograph 2

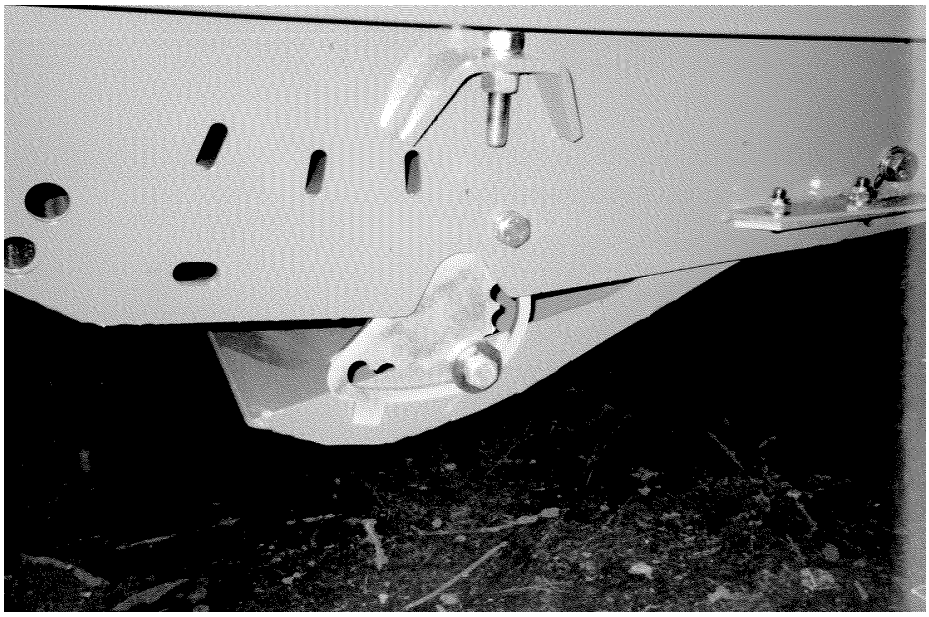
Once the header has been tilted back on the plate the skids should be adjusted so that there is 3-4 inches of clearance between the rotor fingers and the ground when the header is sitting on the skids. This distance may be decreased when dealing with crops that are extremely short, hailed or lodged. Note that the closer to the ground the rotor is running the more obstructions it will encounter. Ex. Rocks, dirt lumps. *(see photo 3)*



Photograph 3

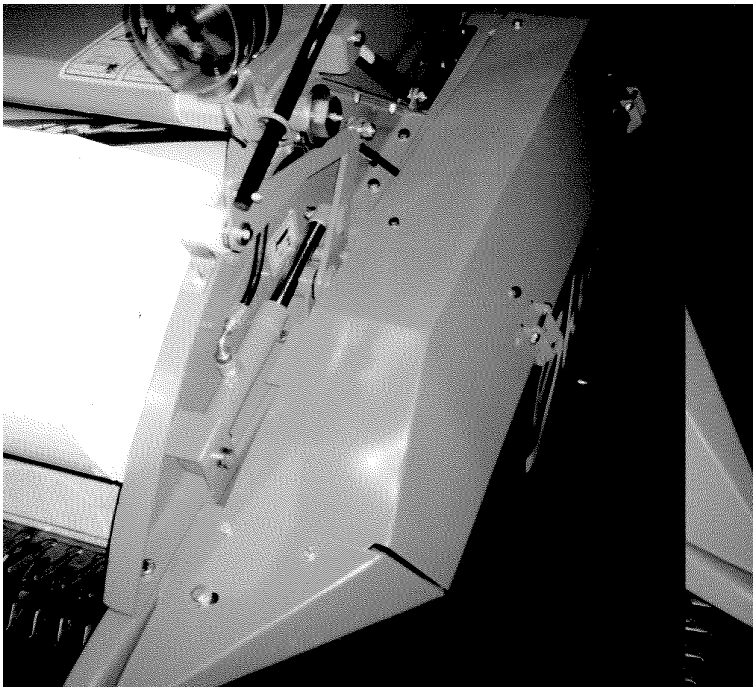
The skids are adjusted by slackening both 24mm (15/16th) bolts on the side of the skid as in photo 11. The skid can then be lowered by turning a 24mm (15/16th) wrench on the skid lowering lug. **Ensure ctr skids are 2 notches higher than outside skids.** *(see photo 4)*

Photograph 4



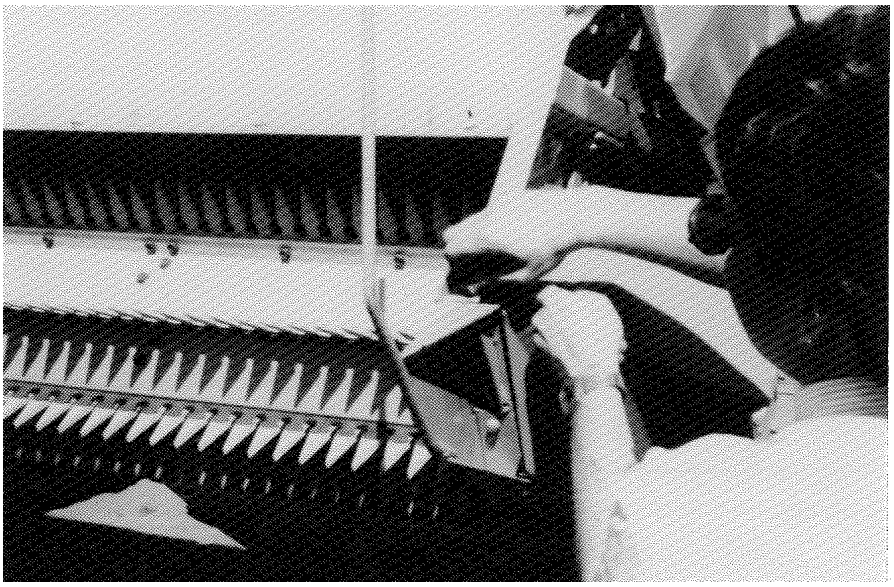
5) Couple the hydraulic fitting on the header to the combine reel lift/lower hydraulic outlet, the front crop deflector shipping brackets can then be removed. *(see photo 5)* Be careful to keep fingers out of the way as the hydraulic system may not be pressurized and the crop deflector may drop suddenly.

Photograph 5



6) Fit crop dividers(marker type or floating type*(see photo 6&6a)*

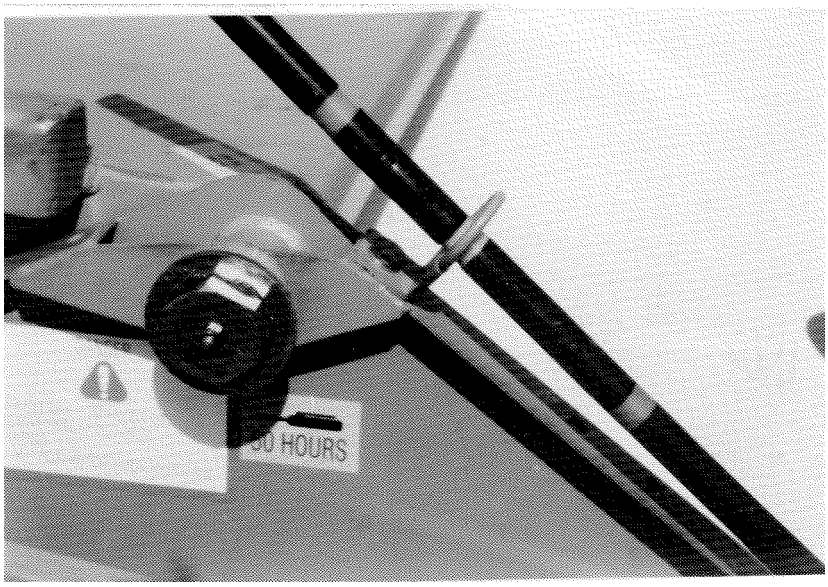
Photograph 6



Photograph 6a

7) Check central rotor division plate clearance and anti-wrap knife clearance at rotor ends. (There should be no contact in the middle of the rotor and the anti-wrap knives should be gently tensioned against the header end plates.)

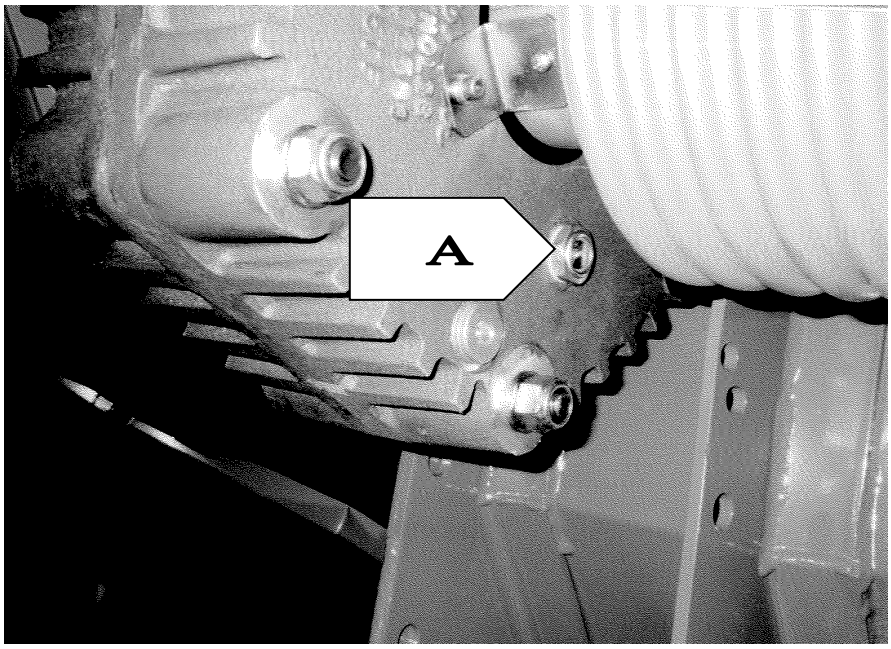
8) Remove deflector height indicator rod and place it in sight ring. *(see photo 7)*



Photograph 7

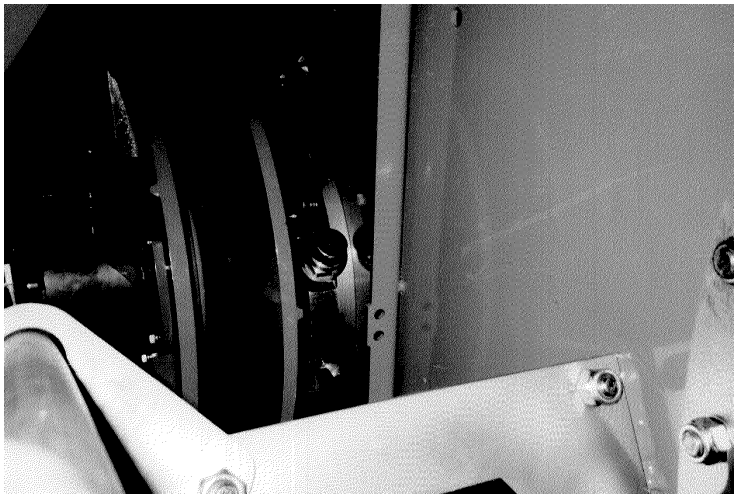
9) Fit Shelbourne Reynolds monitor in combine cab. (see Shelbourne header operators manual for installation instructions).

10) Check the gearboxes for correct fluid levels, remember to have the header at the correct level. With the lower edge of the mainframe parallel to the ground both the rotor gearbox and the input gearbox can be checked at the same time. This is simply done by viewing the sight gauges which should be at least half covered. Mobile Lube SHC 75W-90 synthetic gear oil should be used. *(see photos 8, 9)*



Photograph 8

Photograph 9



11) Finally once all these checks have been made it is time to connect the header drive shaft to the combine output drive and run the header

12) The following *(photo 10)* illustrates the correct position of the parking stands. When parking the header on the ground it is essential that these are used to prevent the head from leaning too far forward for the combine to be able to pick it back up.

Photograph 10

Warning: Do not engage the header drive while the parking stands are fitted.

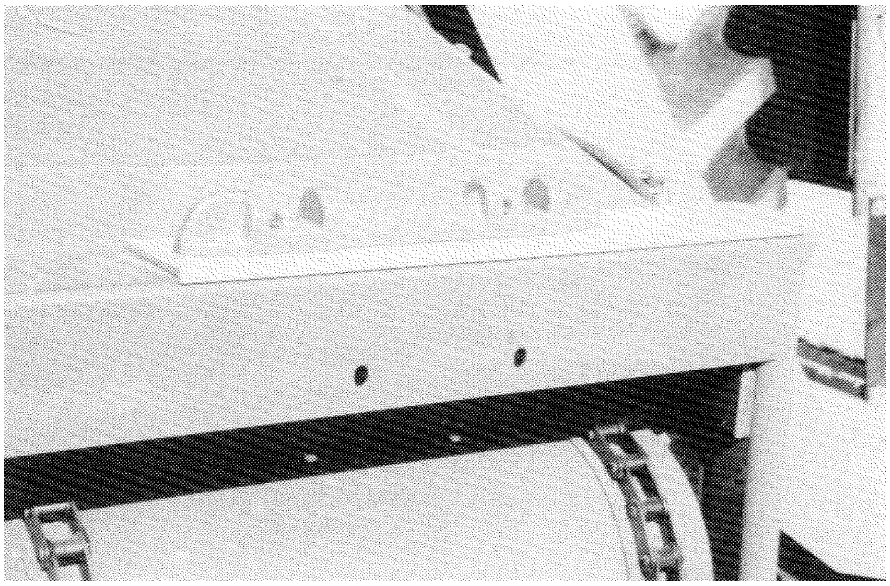
John Deere Combine Installation

The following is a guide as to which of the Shelbourne R/cvs headers are suitable for different John Deere combine models:

6620/7700/7720/9400/9450:	R/cvs20, R/cvs22, R/cvs24
9500/9510/9550/CTS:	R/cvs24, R/cvs28
8820/9600/9610:	Cvs28 optional Cvs32
9650/9750 STS	Cvs28,Cvs32

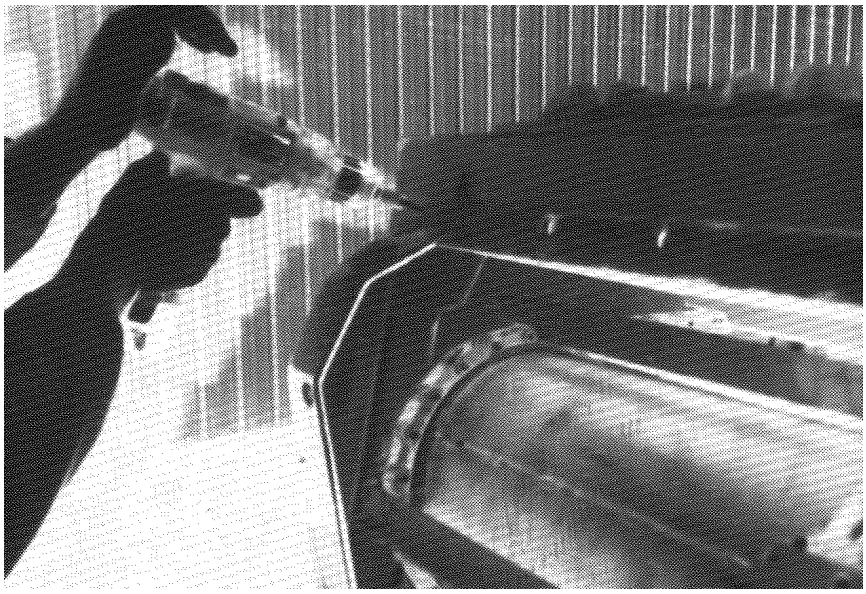
Combine Adjustments

1) Remove all John Deere spacer plates from underneath the header attachment lugs on top of the feeder house on both sides and replace them with Shelbourne Reynolds plates if needed on left side of the feeder house. This will raise the left side of the header if required to compensate for the headers offset weight. Ensure that the plates are fitted so they reach out to the outside edge of the feeder house so they support the full width of the adapter plate.
(see photo 12)



Photograph 12

2) Remove only the top dust shield from the front of the feeder house, it is then necessary to self-tap or bolt the top of the two side dust shields so that they are secured firmly to the front of the feeder house. This prevents any interruption of material flow into the feeder house.*(see photo 13)*

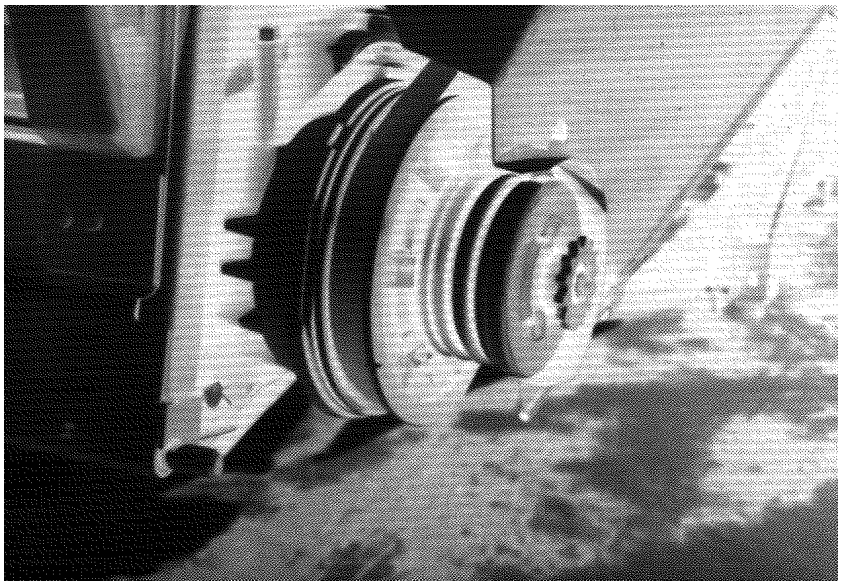


Photograph 13

3) Raise the front feeder chain into the top (corn) position. *(see photo 14)*

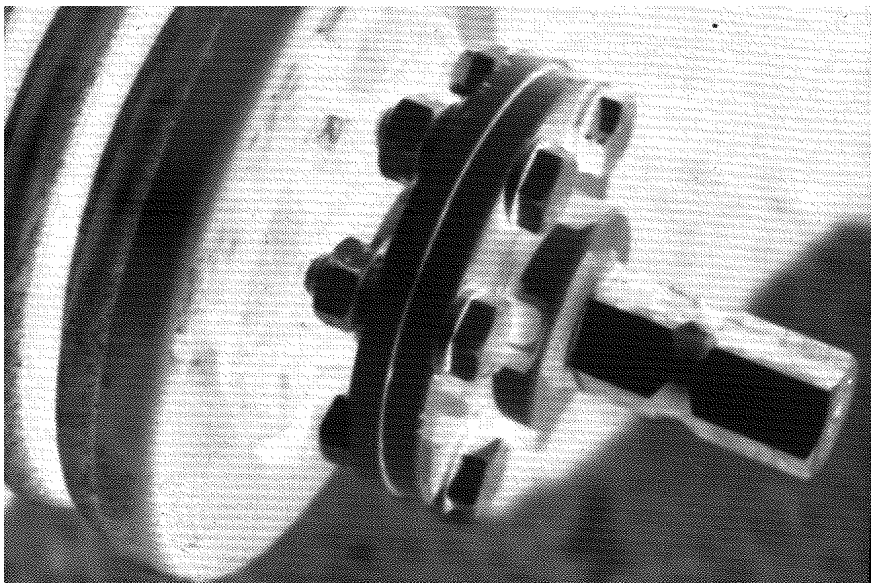
Photograph 14

4) Ensure that the variable speed feeder housing is in the slowest position (ex., belt is in the top of the pulley). When machine is equipped with a variable speed feeder house, KIT 01214 may be fitted to adjust the speed of the stripping rotor. *(see photo 15)*



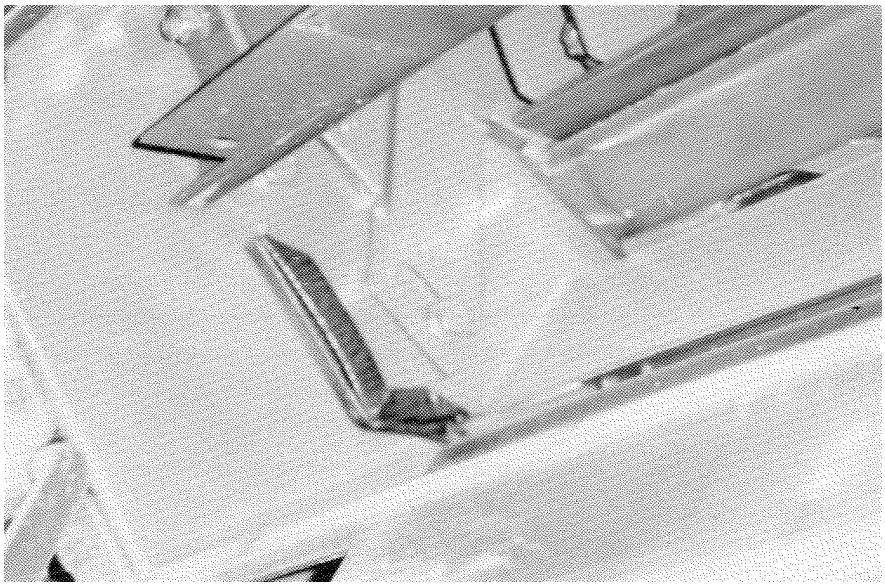
Photograph 15

5) On the 8820, 9600 or 9610 bolt the SR stub shaft assembly directly to the John Deere header drive sprocket. *(see photo 16)*
On a 9510, 9500 and 7720 or smaller remove the John Deere header drive sprocket from the shaft and file a groove in the shaft using the SR grinding jig, KIT 00978 and then direct couple the SR hexagonal female quick coupler to the JD output shaft. For 9450, 9550, 9650 and 9750 combines the Shelbourne header should be equiped with a 21 spline PTO shaft.

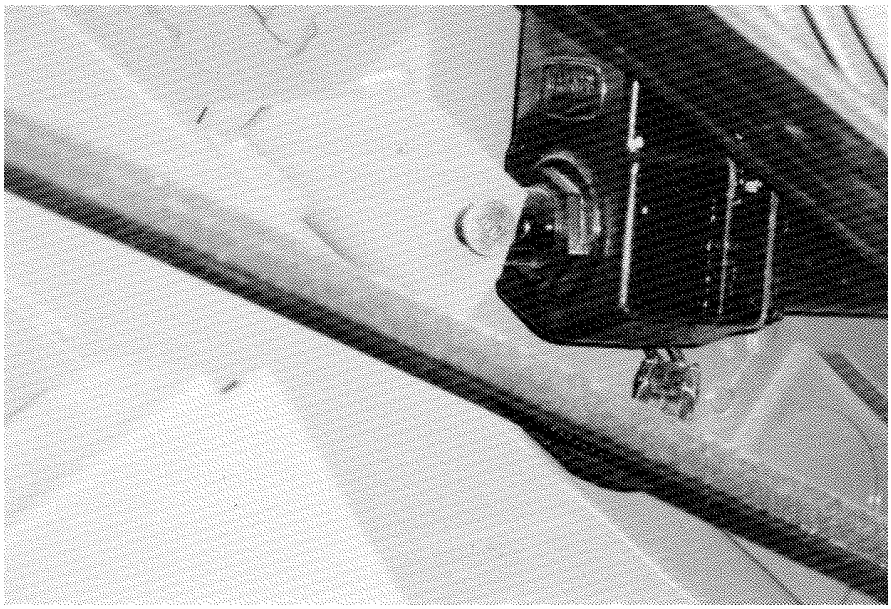


Photograph 16

6) Pull the front of the concave up as tight as possible to the cylinder without touching it, the rear of the concave should be left at factory setting, approximately ¼ inch. On newer 9000 series combines it will probably be necessary to adjust to the actuator stop on the right side of the rock trap, *(see photo 17)*.
On older 9000 series combines it may be necessary to switch to the second concave operating electric ram mounting hole on the right side of the concave. *(see photo 18)*
On 6600 thru 8800 series cut off the top on the half moon gear tooth adjuster to allow additional adjustment.



Photograph 17



Photograph 18

7) On conventional cylinder/walker John Deere combines it will nearly always be necessary to fit Concave blanking plates to the front of the concave, this will not only give a cleaner grain sample but will improve the sieve capacity of the machine. (see table 2 for application guide).

8) In a condition where there is a very small amount of material going over the straw walkers and a large amount of tailings going over the sieves, putting in corn inserts in the rear of the concave may help throughput by forcing more material up onto the walkers. (see table 2 for application guide).

9) Level the concave from side to side.

10) SIEVES, FAN AND CYLINDER ADJUSTMENT: These are just guidelines as harvest conditions vary so much. 9000 series pre-cleaners should be kept closed on 9600's and cracked slightly open on 9500's in heavier yielding crops. Sieves, chaffers and extensions should be opened approximately 20% wider than they would be with a conventional header in the same field. The cleaning fan should be sped up to maximum speed and in most cases the threshing cylinder can be slowed down.

Table 2: Application guide for concave plates and inserts.

Combine Model	**Front Blanking Plate**		**Rear Corn Insert**	
	QTY	JD Part #	QTY	JD Part #
9400-50/9500-50	8	AH130465	16	AH153688
9600 – 9650	10	AH130465	20	AH153688

7720 and 8820 will need the "strip" type front closures that fit from the top side of the concave and fit using compressed rubber plugs. Care should be taken to tighten these thoroughly.

STS Models

1) Insert all three small wire concaves.
2) Use 1 or 2 wrap around blanking plates as required depending on conditons.
3) Use 2 rows of blanking inserts on the rear seperator grate.
4) Ensure the concave is as close as it will go to the rotor(approx 3-5mm gap).

Case IH Combine Installation

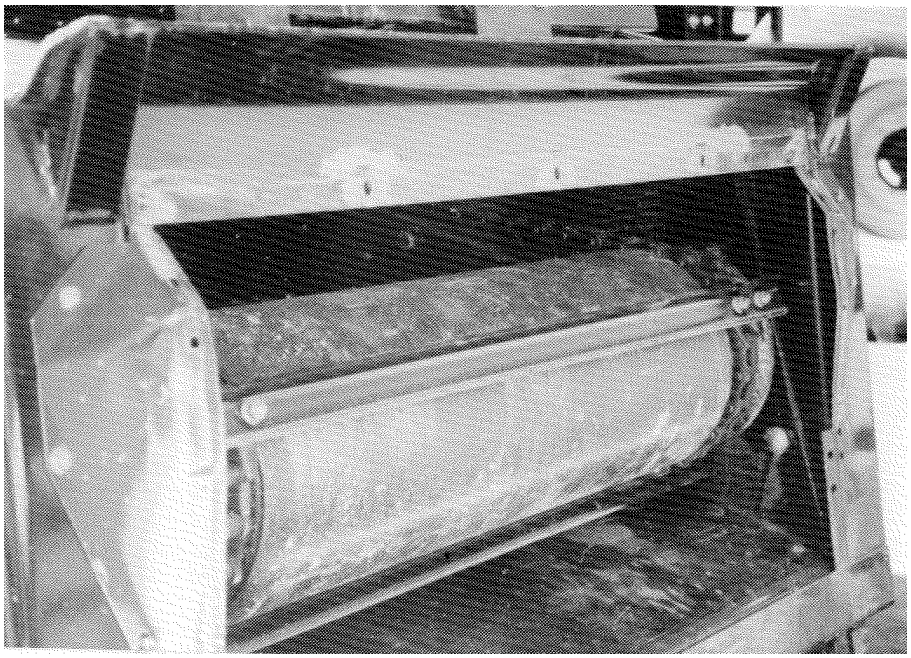
The following is a guide as to which of the Shelbourne C/Rvs headers are suitable for different IH rotary combine models:

1460/1660/1666/2166/2366:	C/Rvs20, C/Rvs22, C/Rvs24
1480/1680/1688:	C/Rvs24, Cvs28
1688/2188/2388:	Cvs28, Cvs32

Note: A third feeder house lift cylinder will be necessary for the larger headers on the 1400 series.

Combine Adjustments

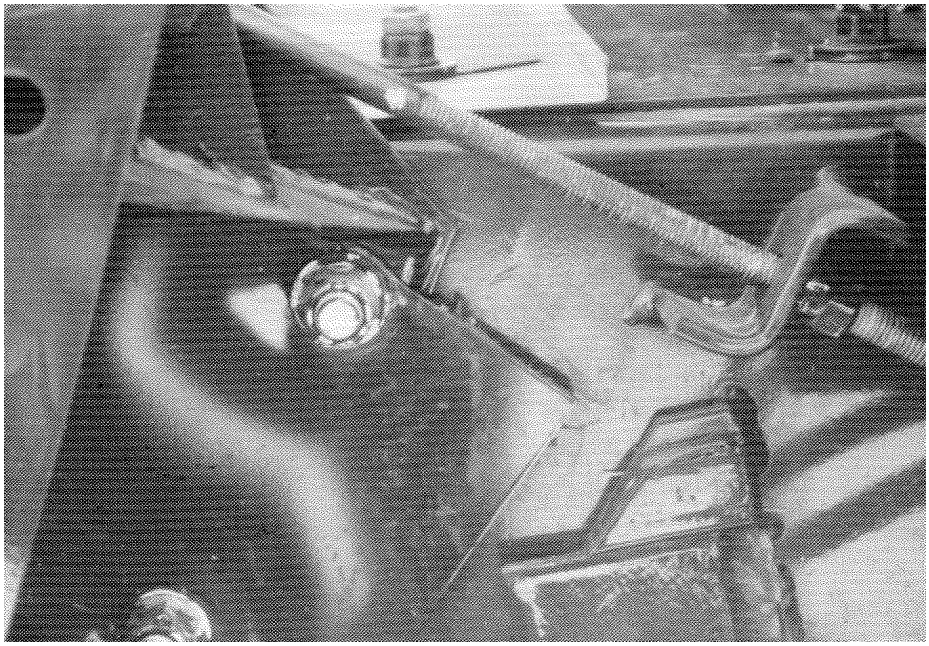
1) Remove the dust shield from the top of the feeder house opening (leave the side shields in place). *(see photo 19)*



Photograph 19

2) Loosen the 3 – 15/16th nuts *(see photo 20)* on both sides of the feeder house and then using the threaded rod *(see photo 21)* crank the feeder house face plate all the way back so there is a 1/4 inch gap between the end of the feeder chain slats and the end dust shields on the face plate. This effectively puts the header auger closer to the combine feeder chain and helps in feeding. Equipping the IH combine with a serrated feeder chain will also aid in feeding.

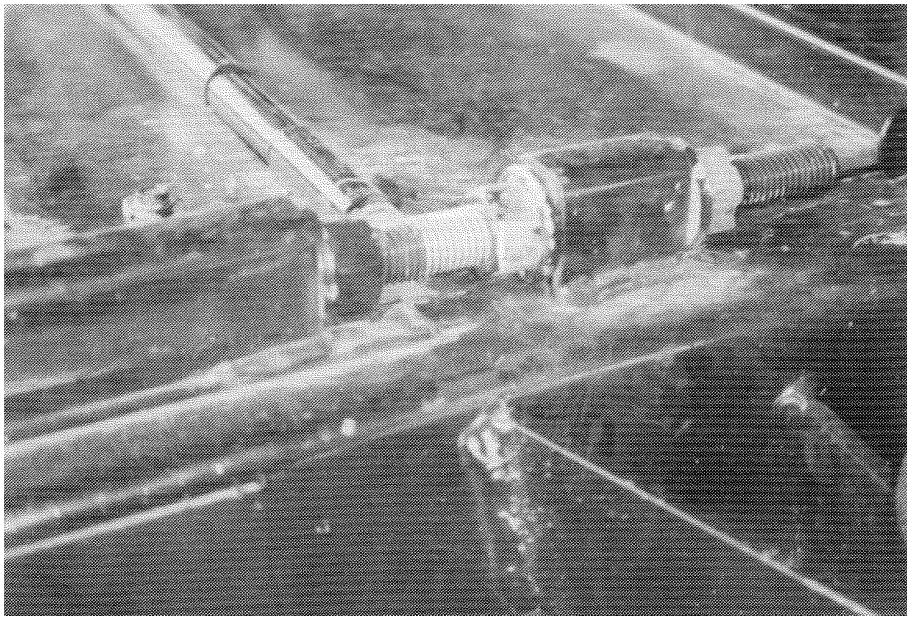
2) Raise the front feeder house chain roller into the upper (corn) position.



Photograph 20

Photograph 21

4) Raise the left side of the feeder house as far as the adjustment will allow, this is done using the turn bolt. *(see photo 22)* it will first be necessary to loosen the ¾ inch double nuts on the top left side of the feeder house to allow the sections to move. Adjust the top two locking nuts so that the adjusting bolt is pushed toward the header. This will raise the left side of the feeder house to compensate for the offset weight of the header.



Photograph 22

5) We recommend fitting different combinations of concaves and grates for different conditions and yields. (Table 3 illustrates this).

Table 3: Recommended Concave and Grate Configuration

Yield	Concaves	Grates
<30 Bushel	3 small wire	Slotted grates (with bars removed)
30-60 Bushel	3 small wire	Keystock grates
>60 Bushel	2 small / 1 large wire	Keystock grates

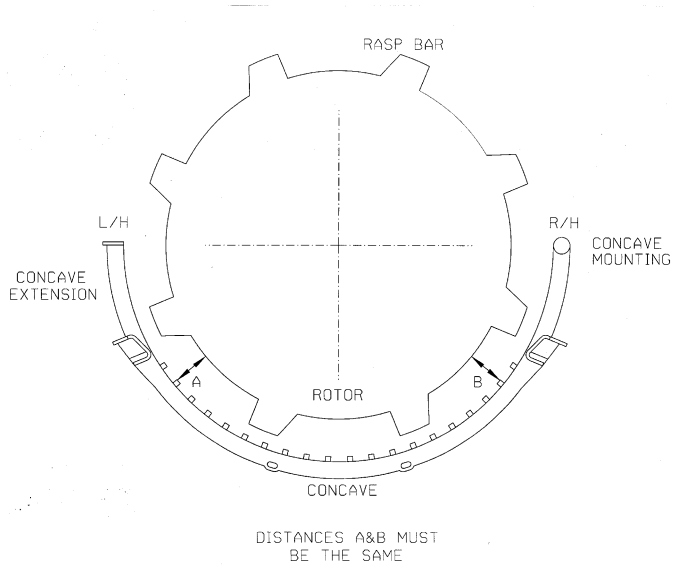
In extremely low yields or tough threshing varieties the first concave may need to be blanked off.

6) It is generally felt that the best results are attained using the IH keystock grates rather than the slot type ones as they allow more grain to fall through. If equipped with slotted grates remove the bolt on bars or move them so that they do not decrease the amount of area that the grain can fall through.

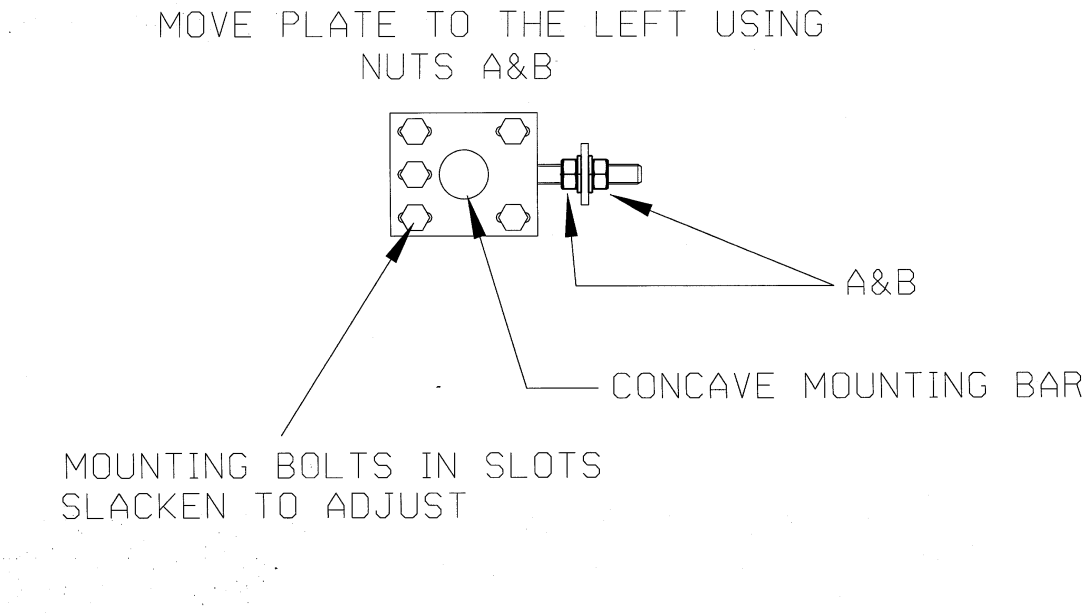
The factory setting for an IH combine is for the rotor/concave pinch point to be set on the seventh bar, this is counted down from the left side (standing behind the combine, not including the concave extensions). This is to create a pinch point for threshing, we want to separate rather than thresh so we want the concave centralised in relation to the rotor to get more even distribution of the material in the rotor and therefore less rotor loss.

7) Remove the centre concave and then re-attach the latches on the other two and pull them back up to the stops.

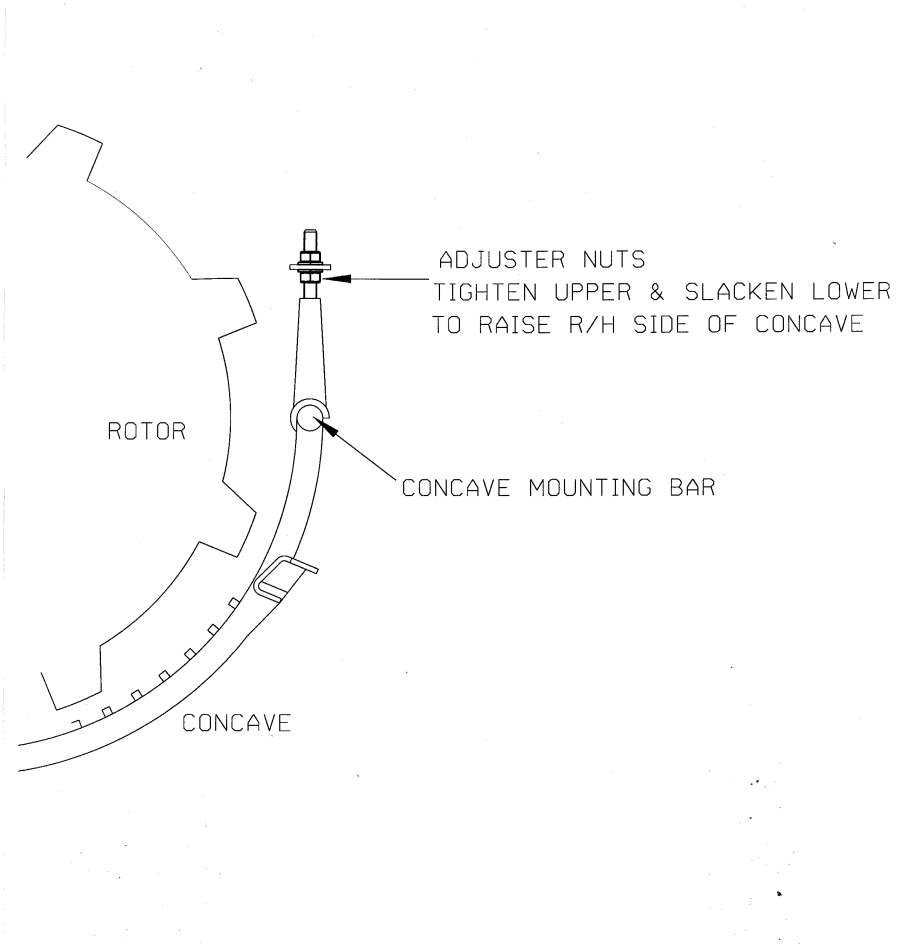
8) Measure the distance between the barrel of the rotor and the inside of the concave on either side to determine the offset (see drawing).



9) Move the concaves from right to left using the adjuster bolts at either end of the main locating bar, (see drawing)



10) If the concaves are still offset to the right (and they probably will be) then it Will be necessary to raise the right side of the concaves to decrease the distance between the concave and rotor. (see drawing)



Once the concave has been centralised it will be necessary to “zero it out” which involves setting the two stops on the left side to a position where the concave is as close to the rotor as possible to the rotor without touching it. After the concaves have been zeroed re-check that they are still centralised. If they are centred to within 3mm with the concave closed all the way then re-fit the centre concave and get ready to go.

When zeroing out the concave it is easier to put the rotor drive gearbox into neutral and turn the rotor a full 360 degrees as some rasp bars will stick out a little further out than others.

11) In some cases where a high yielding crop is being harvested it will be beneficial in terms of elevator and sieve performance to change the return elevator drive sprocket from a 27 tooth sprocket to a 30 tooth sprocket to speed up the system.

12) In tough threshing lighter crops it will be necessary to cover the first half of the first concave with a blanking plate to help cleaning. Alternatively IH interruptor bars can be fitted. The first 3 veins may be fully retarded as well to help in threshing.

13) Adjust the concaves up as tight as possible to the rotor ensuring that the pinch point is in the lower middle section of the concave on the 8th or 9th bar. If specialty rotor is being used, suggest installing one set of Gordon bars in the concave area. See your Case-IH dealer for these parts.

14) Install kicker bars on rear of specialty rotor if experiencing straw build up problems.

15) SIEVES, FAN AND ROTOR ADJUSTMENT: These are just guidelines as harvest conditions vary so much. Sieves and chaffers should be opened approximately 20% wider than for a conventional header in the same field. The cleaning fan should be sped up and in many cases the rotor can be slowed down.

RICE SETTINGS

1)Fit four elephant ears on rotor(if permissable)

2)Thirty tooth returns sprocket(except2166,2188).

3)Front retarding vane in mid position over 1st three concaves.

4)Rear retarding vane in fastest position over grates.

5)Fit 2 or 3 rubber paddles on augers as required.

6)Use three large wire concaves. Second and third concaves sometimes may need every other wire removing.

7)Fit SRE rear grates and centralise rotor as described earlier. Fit KIT-00903 on 1480,1680,1688,2188&2388 consult your dealer on other models.

8)Use rotor rasp lugs over the concaves and spiked rice lugs over the grates.

9)Rotor speed set at approx 650RPM.

10)Fan speed usually 85-100% dependent on conditions.

11)Top sieve fully opened and bottom about 75% open dependent on conditions.

Gleaner Combine Installation

1) Auger flight and scraper plate extensions should be installed to aid in feeding.
(see photo 23)

Photograph 23

2) Pull the concave up tight and use concave plates if necessary.

3) Ensure that not less than 4 and not more than 8 reverser bars are fitted to the combine rotor.

4) Be sure not to run the combine rotor to fast, 650-750 rpm is a general speed. Excessive rotor speeds may lead to combine losses.

5) Small holes may have to be put into the adapter plate to allow for rivets on the front of the feeder house.

6) Level the header by adjusting the feeder house leveling bolts down underneath feeder house by the axle.

7) Adjust feeder house chain into the upper position.

8) The best results are usually obtained by running the air deflector 80% open.

9) Run the feeder house drive in the fast position.

10) Use standard concave,use blanking plates on r.h. front cage if applicable.

New Holland Combine Installation

1) Raise the feeder house rock roller up to mid-position if experiencing false door trips.

2) Turn down the sensitivity of the feeder house cut out mechanism. The material going up the feeder house will be much denser due to the small amounts of straw accompanying the grain into the machine.

2) Ensure that the small grain concaves are fitted and that they are closed as tight to the rotor as possible.

3) Ensure that small grain chaffers are used, corn chaffers will not produce a clean enough sample in most cases.

Massey Ferguson Combine Installation (750 – 860 Series)

1) The rubber paddles in the feeder house must be in excellent condition. The first paddle should be fitting with steel paddles to aid in feeding after extended periods of time. Run each feeder house shaft with only 2 paddles and offset these paddles to the next shaft 90 degrees.

2) A third lift cylinder will be necessary when fitting the larger machines to a combine.

RICE SETTINGS

1)Cylinder speed 450-550RPM dependent on conditions.

2)Concave clearance as tight as possible(3MM clearance).

3)Large grates required.

4)Rubber paddles on intake replaced by steel.

5)19” dia straw walker pulley, extra weights on curtain.

6)Remove centre screen(if not cascade).

7)Three lift cylinders.

Caterpillar/Claas Combine Installation

1) Remove top front cover on the feeder house but leave the side covers on.

(see photo 24)

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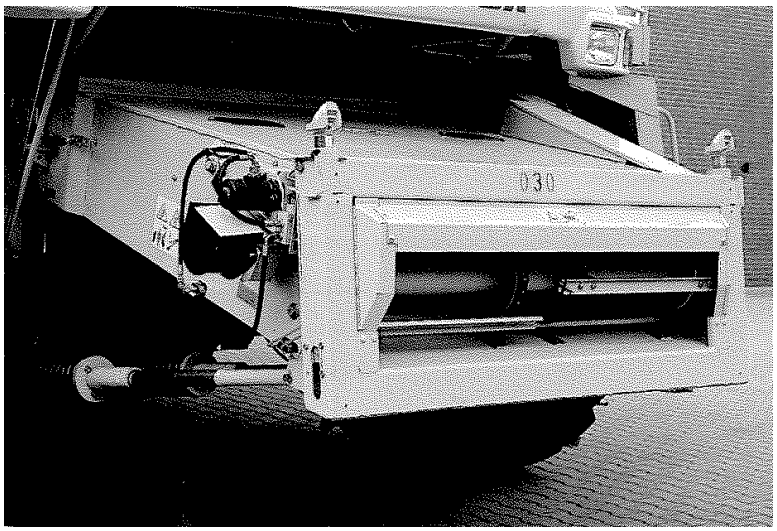
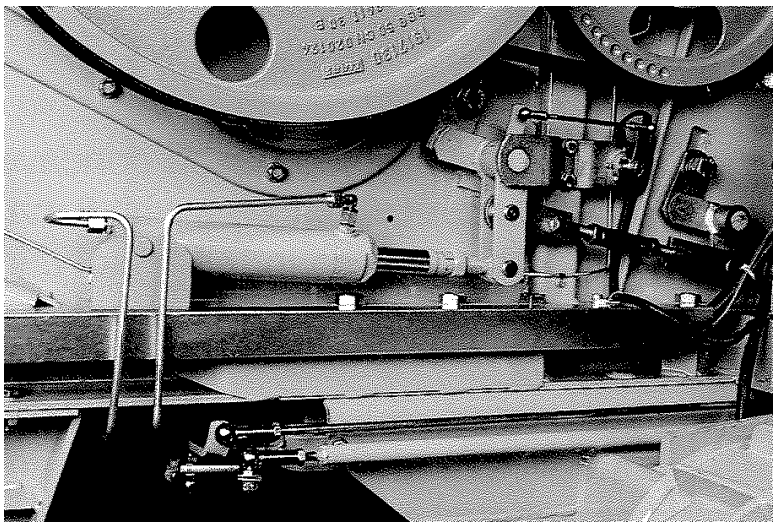


Photograph 24

2) Raise the front feeder house drum to the corn position.

3) In most conditions it will be necessary to set the cylinder and concave positions to a minimum of 3-5mm. If a spike tooth cylinder is fitted for rice this should be set as close as possible.

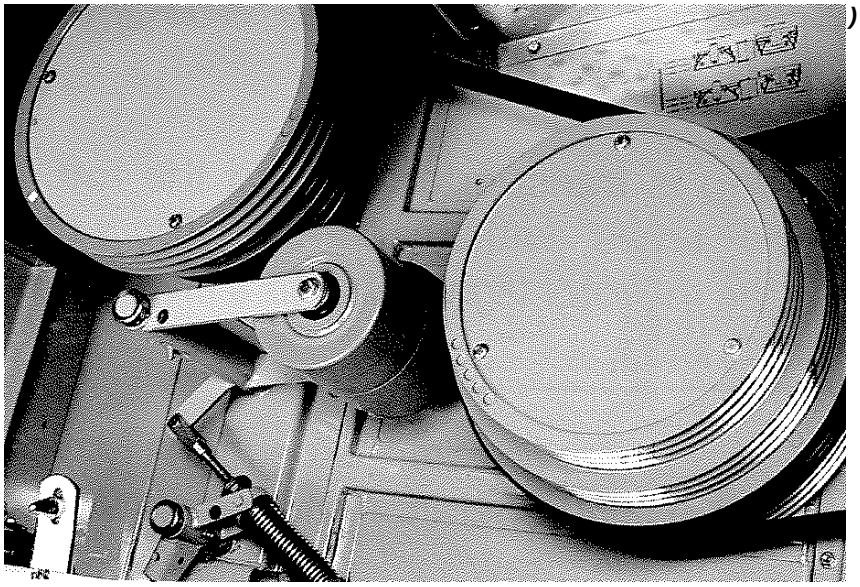
(see photo 25)



Photograph 25

3) Do not blank off APS cylinder grate if you experience sieve overload. Blank off first three bars of main concave(see Cat dealer). Depending on conditions and varieties this may or may not be necessary.

4) For most conditions and crops the cylinder speed will need to be set at 600-650rpm this may vary dependent on grain quality and sample. This applies to all Cat models (e.g.480,485/460,465).
For 480/485 models in most conditions the Rotoplus system will need to be set at 800rpm. (see photo 26)



Photograph 26

4) Generally the top sieve should be set 90% open with the lower sieve set at 75% open. It may be necessary to reset the electric adjuster rods on the sieves to achieve wider openings.

5) cleaning fan speed will be set somewhere near maximum rpm and adjust accordingly to field/crop conditions.

6) Set the wind deflector lever in the 5th hole toward the rear of the machine and the vane adjuster in the 2nd hole from the front of the machine.

(see photo 27 on the following page)

Photograph 27