

Massey Ferguson®

9183 / 9190 / 9192
Rotary Disc Header

SERVICE MANUAL 4283362M2

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ADJUSTMENTS

HAY CONDITIONER ADJUSTMENTS (3.96 M (13 FT) ROTARY HEADER)

Hay Conditioner Roll Spacing

FIG. 1: The roll spacing is the gap between the raised area on the bottom roll (1) and the recessed area on the top roll (2). Make sure the spacing is the same at both ends of the rolls.

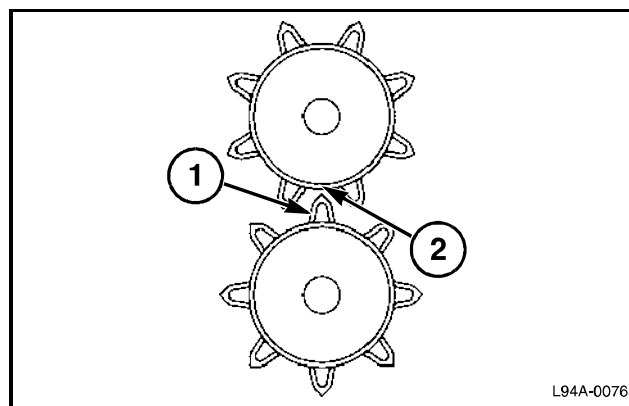


FIG. 1

FIG. 2: The adjustment bolt (1) for the roll spacing is on the rear of the header (2).

To change the roll spacing:

- Loosen the jam nut (3) on the adjustment bolt on both sides of the machine.
- One complete turn of the adjustment nut (4) will change the roll spacing approximately 1.6 mm (1/16 in).

Loosen the adjustment nut to decrease roll spacing (increase crop conditioning).

Tighten the adjustment nut to increase roll spacing (decrease crop conditioning).

- Tighten the jam nut on the adjustment bolt on both sides of the machine after roll spacing is set.
- Measure the distance between the pivot assembly (5) and the stop (6). Make sure that the distance is the same on both sides.

NOTE: The factory roll spacing setting is 4 mm (5/32 in) between the indicator and the stop.

IMPORTANT: Never allow the rolls to operate with a zero roll spacing. Damage to the rolls will occur.

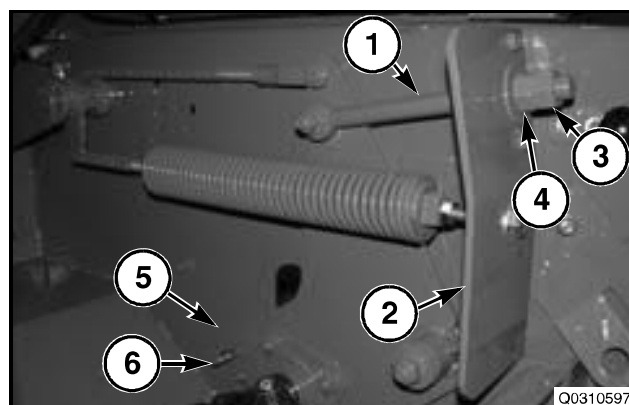


FIG. 2

Adjustments

Hay Conditioner Roll Spacing Indicator

FIG. 3: To reset the roll spacing stop (1), loosen the nuts holding the roll spacing stops on both sides of the machine.

Loosen the jam nut (2) on the adjustment bolt (3) on the hay conditioner pivot assembly on both sides of the machine.

Slowly turn the adjustment nuts (4) counterclockwise until a steel angle (5) on one roll just touches the valley (6) between the steel angles on the other roll. Make sure the adjustment is the same at both ends of the rolls. Turn both of the adjustment bolts clockwise 1/2 turn to make a slight gap between the rolls.

Move the roll spacing stop against the pivot assembly (7) on both sides of the machine. Tighten the nut on the roll spacing stop on both sides of the machine.

See Hay Conditioner Roll Spacing in this section to make the proper roll spacing adjustment.

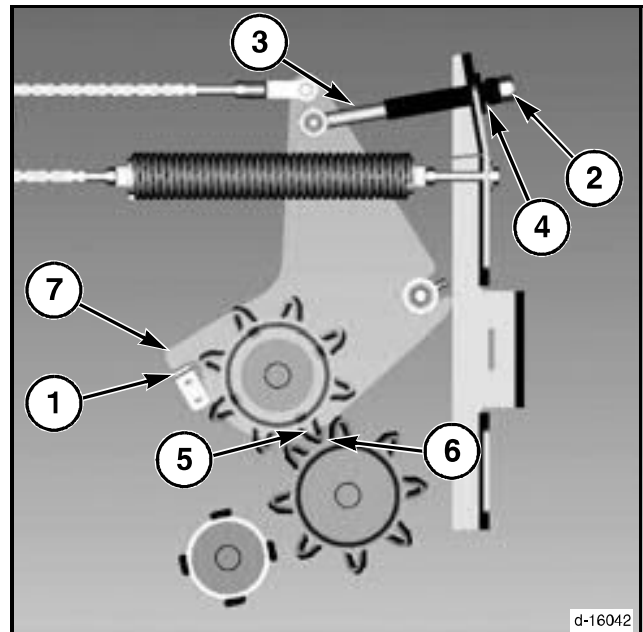


FIG. 3

Hay Conditioner Roll Timing

FIG. 4: Loosen the bolts (1) in the timing flange (2) at the left-hand end of the header.

Rotate the top hay conditioner roll counterclockwise until contact is felt. Make a mark on both the timing flange and sheave.

Rotate the top hay conditioner roll clockwise until contact is felt. Make another mark on the sheave in alignment with the mark on the timing flange.

Rotate the top hay conditioner roll until the mark on the timing flange is centered between the marks on the sheave.

Tighten the bolts in the timing flange to 59 Nm (44 lbf ft). Be careful not to move the timing flange when tightening the bolts.

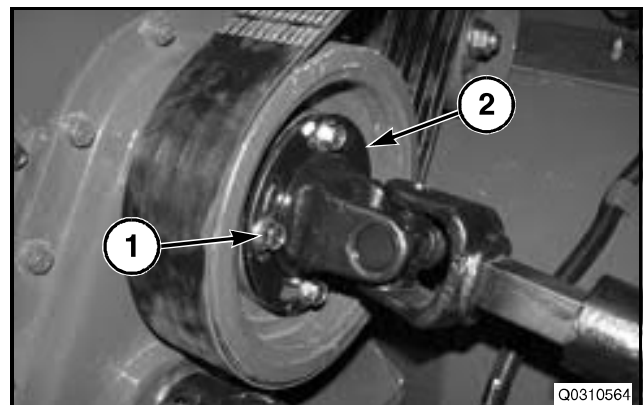


FIG. 4

Hay Conditioner Roll Pressure



WARNING: Contact with a rotating drive line can cause injury or death. Do not make adjustments to the roll tension with the header engaged. Lower the header and engage the parking brake.

NOTE: Adjusting the spacing between the hay conditioner rolls makes the most change in crop conditioning. See *Hay Conditioner Roll Spacing* in this section for more information.

FIG. 5: Hay conditioner roll pressure can be changed by adjusting the length of the springs (1) of the tension linkage on each side of the hay conditioner.

To increase hay conditioner roll pressure, turn the adjustment bolt (2) to lengthen the spring on the tension linkage.

To decrease hay conditioner roll pressure, turn the adjustment bolt (2) to shorten the spring on the tension linkage.

Adjust both springs equally.

The factory set distance (A) between the spring plugs (3) is 380 mm (15 in) (A).

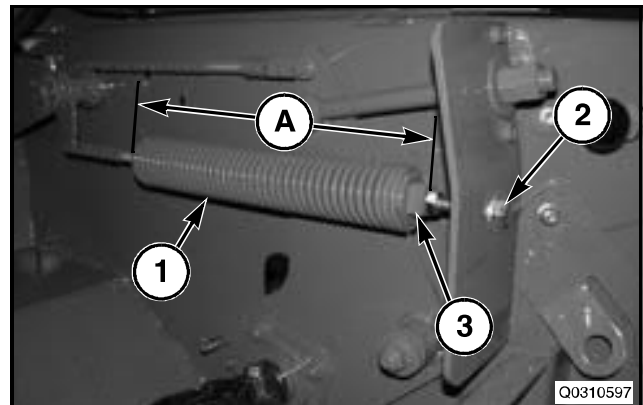


FIG. 5

Adjustments

HAY CONDITIONER ADJUSTMENTS (4.9 M (16 FT) Rotary Header)

Hay Conditioner Roll Spacing

FIG. 6: The roll spacing is the gap between the raised area on the bottom roll (1) and the recessed area on the top roll (2). Make sure the spacing is the same at both ends of the rolls.

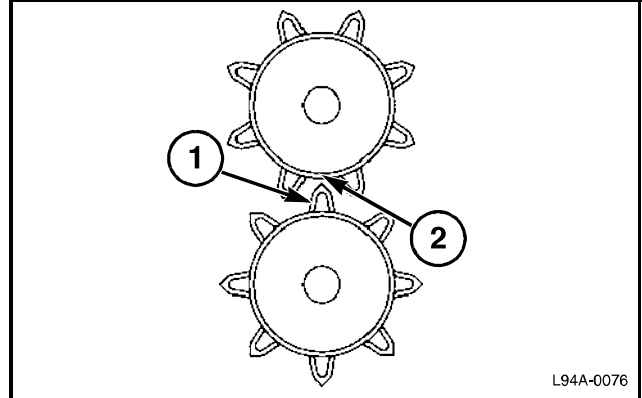


FIG. 6

FIG. 7: Single Conditioner - The adjustment bolt (1) for the roll spacing is on the top hay conditioner pivot assembly (2).

To change the roll spacing:

- Loosen the jam nut (3) on the adjustment bolt on both sides of the machine.
- Loosen the adjustment nut (4) to decrease roll spacing (increase crop conditioning). Tighten the adjustment nut to increase roll spacing (decrease crop conditioning). One complete turn of the adjustment nut will change the roll spacing 1.6 mm (1/16 in).
- Tighten the jam nut on the adjustment bolt on both sides of the machine after roll spacing is set.
- Measure the distance between the indicator (5) and the stop. Make sure that the distance is the same on both sides.

NOTE: The factory roll spacing setting is 3 mm (1/8 in) between the indicator and the stop.

IMPORTANT: Never allow the rolls to operate with a zero roll spacing. Damage to the rolls will occur.

FIG. 8: Double Conditioner - The adjustment bolt (1) for the roll spacing is on the top hay conditioner pivot assembly (2).

To change the roll spacing on either conditioning roll:

- Loosen the jam nut (3) on the adjustment bolt on both sides of the machine.
- Loosen the adjustment nut (4) to decrease roll spacing (increase crop conditioning). Tighten the adjustment nut to increase roll spacing (decrease crop conditioning). One complete turn of the adjustment nut will change the roll spacing 1.6 mm (1/16 in).
- Tighten the jam nut on the adjustment bolt on both sides of the machine after roll spacing is set.

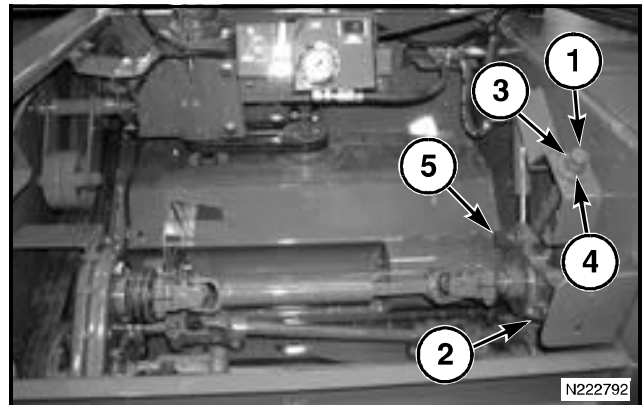


FIG. 7

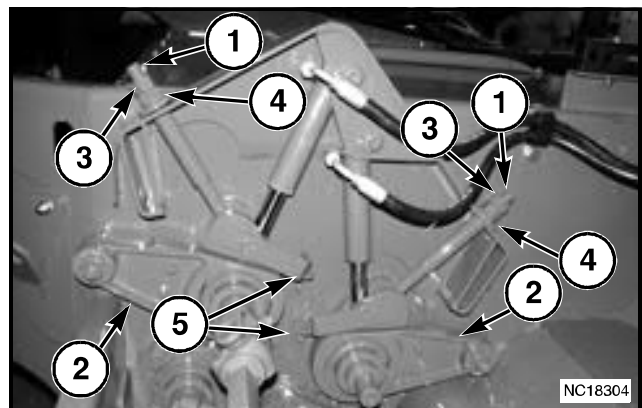


FIG. 8

- Measure the distance between the indicator (5) and the stop. Make sure that the distance is the same on both sides of each roll.

NOTE: The factory roll spacing setting is 3 mm (1/8 in) between the indicator and the stop.

IMPORTANT: Never allow the rolls to operate with a zero roll spacing. Damage to the rolls will occur.

Hay Conditioner Roll Spacing Indicator

FIG. 9: Single Conditioner - To reset the roll spacing indicator (1), loosen the nuts holding the roll spacing stops (2) on both sides of the machine.

Loosen the jam nut (3) on the adjustment bolt (4) on the hay conditioner pivot assembly on both sides of the machine.

Slowly turn the adjustment nuts (5) counterclockwise until a steel angle (6) on the bottom roll (7) just touches the valley (8) between the steel angles on the top roll (9). Make sure the adjustment is the same at both ends of the rolls. Turn both of the adjustment bolts clockwise 1/2 turn to make a slight gap between the rolls.

Move the roll spacing stop against the roll spacing indicator on both sides of the machine. Tighten the nut on the roll spacing stop on both sides of the machine.

See Hay Conditioner Roll Spacing in this section to make the proper roll spacing adjustment.

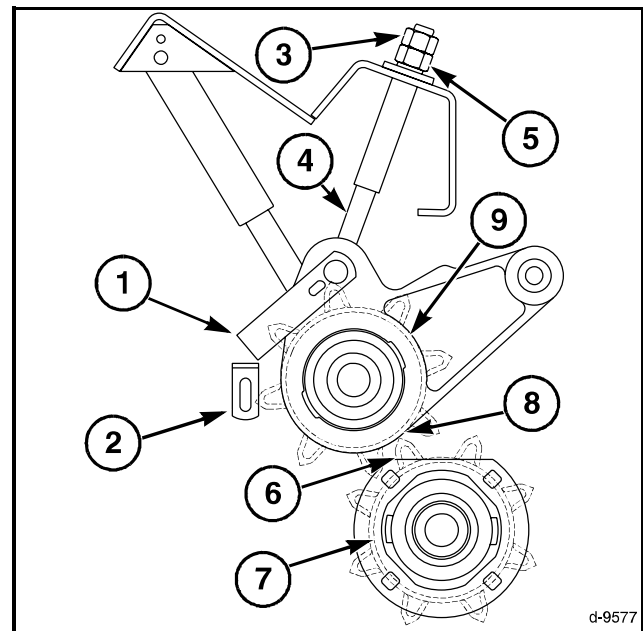


FIG. 9

FIG. 10: Double Conditioner - To reset the roll spacing indicator (1), loosen the nuts holding the roll spacing stops (2) on both sides of the machine.

Loosen the jam nut (3) on the adjustment bolt (4) on the hay conditioner pivot assembly on both sides of the machine.

Slowly turn the adjustment nuts (5) counterclockwise until a steel angle (6) on the bottom roll (7) just touches the valley (8) between the steel angles on the top roll (9). Make sure the adjustment is the same at both ends of the rolls. Turn both of the adjustment bolts clockwise 1/2 turn to make a slight gap between the rolls.

Move the roll spacing stop against the roll spacing indicator on both sides of the machine. Tighten the nut on the roll spacing stop on both sides of the machine.

See Hay Conditioner Roll Spacing in this section to make the proper roll spacing adjustment.

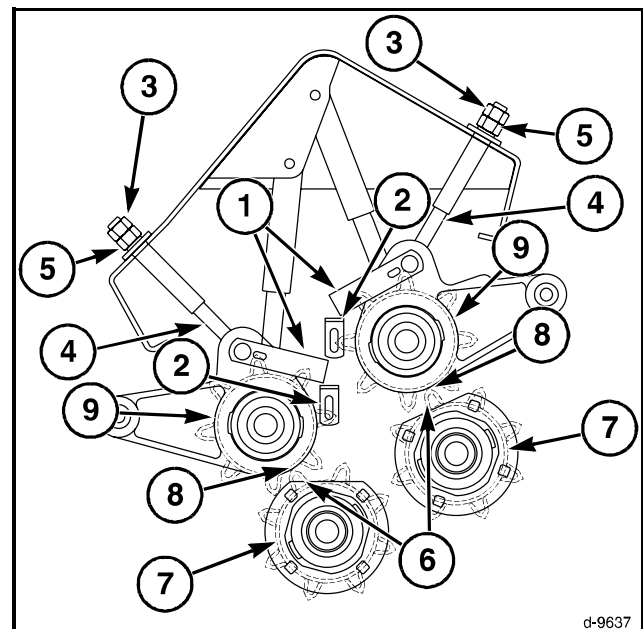


FIG. 10

Adjustments

Hay Conditioner Roll Timing

FIG. 11: Loosen the bolts (1) in the timing flanges (2) at the end of the header.

NOTE: The timing flanges for the front rolls are located on the left-hand side of the header. The timing flanges for the rear rolls are located on the right-hand side of the header.

Rotate the bottom hay conditioner roll counterclockwise until contact is felt. Make a mark (A and B) on both timing flanges.

Rotate the bottom hay conditioner roll clockwise until contact is felt. Make another mark (C) on the outer timing flange in alignment with the mark (A) on the inner timing flange.

Rotate the bottom hay conditioner roll until the mark on the inner timing flange is centered between the marks on the outer timing flange.

Tighten the bolts in the timing flanges to 59 Nm (44 lbf ft). Be careful not to move either timing flange when tightening the bolts.

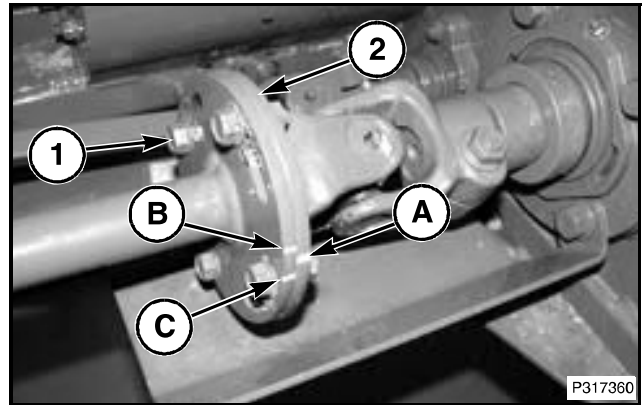


FIG. 11

Hay Conditioner Roll Pressure



WARNING: Contact with a rotating drive line can cause injury or death. Do not make adjustments to the roll tension with the header engaged. Lower the header and engage the parking brake.

NOTE: Adjusting the spacing between the hay conditioner rolls makes the most change in crop conditioning. See *Hay Conditioner Roll Spacing* in this section for more information.

FIG. 12: Hay conditioner roll pressure can be changed by adjusting the gauge pressure on the control panel (1) under the left-hand drive shield. Hydraulic pressure is applied to the cylinders (2) on the ends of the top hay conditioner roll (3). The accumulator gives a flotation function to the hay conditioner rolls.

NOTE: The recommended starting gauge pressure setting is 5516 kPa (800 psi).

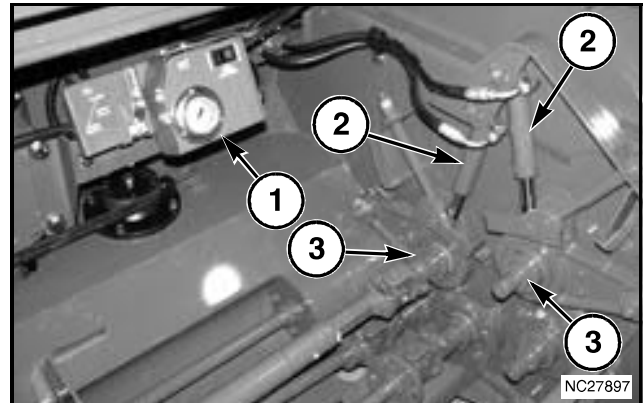


FIG. 12

Adjustments

FIG. 13: To adjust the hay conditioner roll pressure:

- Start the tractor and lower the header to the ground. Apply the parking brake. Set the engine speed to low idle and engage the parking brake. Do not engage the header.
- Press and hold the adjustment switch (1) in the direction to either increase or decrease the roll pressure. Press the left-hand side of the adjustment switch to increase the gauge pressure. Press the right-hand side of the switch to decrease the gauge pressure.
- Slowly open the ball valve (2) until the needle on the pressure gauge (3) begins to move.
- Close the ball valve when the desired roll pressure setting is reached. Release the adjustment switch.

IMPORTANT: Do not operate with the roll pressure below 3447 kPa (500 psi). Damage to the accumulator can occur.

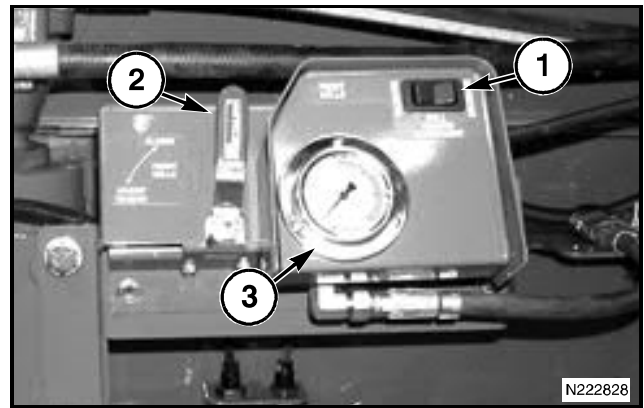


FIG. 13

SKID SHOE ADJUSTMENT

FIG. 14: To adjust the skid shoes (1), remove the hairpins (2) from the clevis pins (3). Remove the clevis pins from the adjustment bracket (4).

Put the skid shoe in the desired position and install the clevis through the holes in the adjustment bracket and adjustment strap. Install the hairpin in the clevis pin.

The optional gauge rollers can be adjusted in the same way.

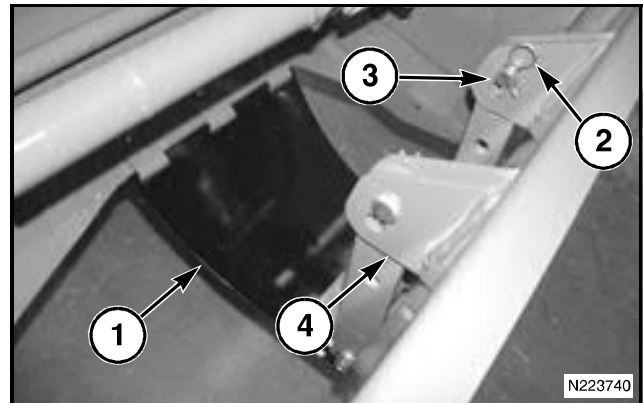


FIG. 14

SWATHBOARD

FIG. 15: Adjust the swathboard (1) by pulling the spring loaded locking pin (2). Put the swathboard in the desired position, and release the spring loaded locking pin. Make sure the spring loaded locking pin engages a slot on the adjustment bracket (3).

An electric actuator kit is available that allows the operator to adjust the swathboard position for the cab. See Electric Swathboard Actuator in the Accessories and Options section for more information.

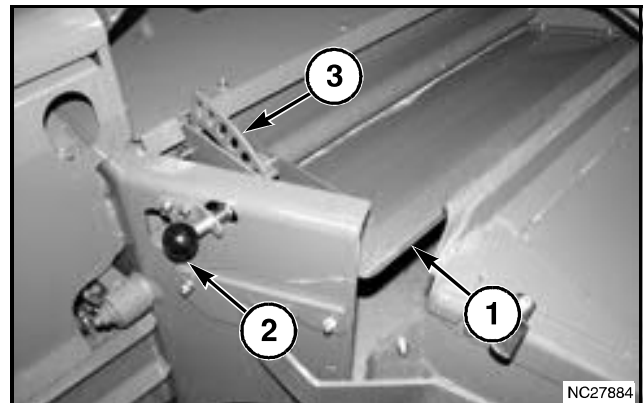


FIG. 15

WINDROW FORMING SHIELDS

FIG. 16: To adjust the windrow forming shields (1) loosen the front (2) and rear (3) adjustment handles. Put the windrow forming shields in the desired location. Tighten the adjustment handles.

To adjust the deflector (4) loosen the side adjustment handles (5). Put the deflector in the desired location. Tighten the adjustment handles.

The height of the rear deck is raised and lowered by moving the adjustment chains (6) in the slots.

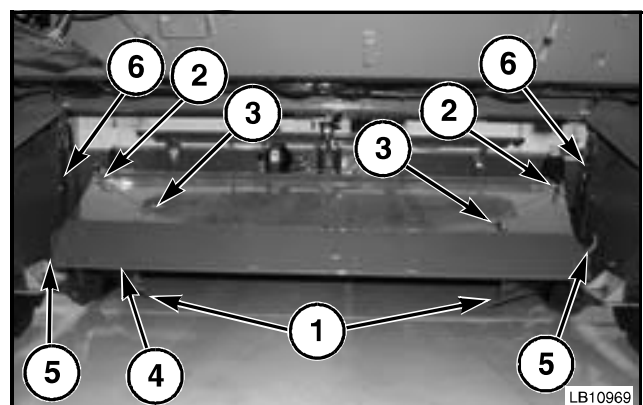


FIG. 16

Adjustments

BELT TENSION ADJUSTMENTS (3.96 M (13 FT) ROTARY HEADER)

Hay Conditioner Drive

FIG. 17: Hold the spring plug (1) in the tensioner spring (2) and loosen the jam nut (3) on the adjusting bolt (4). Adjust the spring so the dimension from the inside of the hook to the end of the spring plug is 200 mm (7.87 in). Hold the plug and tighten the jam nut.

NOTE: Too much tension can cause premature belt failure.

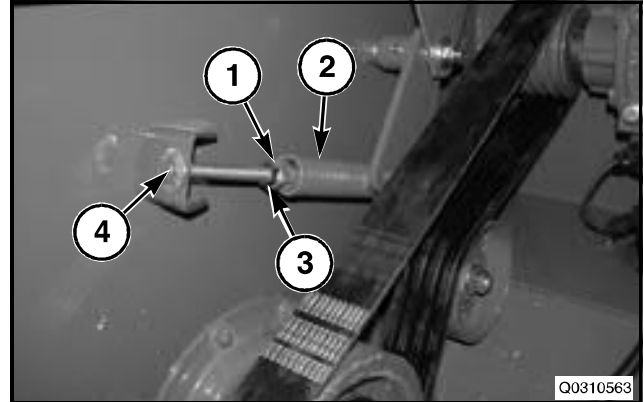


FIG. 17

Helper Roll Drive

FIG. 18: Check the tension of the helper roll drive belts (1) between the drive pulley (2) on the lower hay conditioner roll, and the helper roll pulley (3). The tension is correct when there is 3 mm (0.12 in) deflection at mid span with 14 N (3.1 lb) of force.

To adjust the tension, loosen the tensioner nut (4). Tighten the tensioner strap nut (5) to move the position of the tensioner. When the tension on the helper roll drive belts is correct, tighten the tensioner nut.

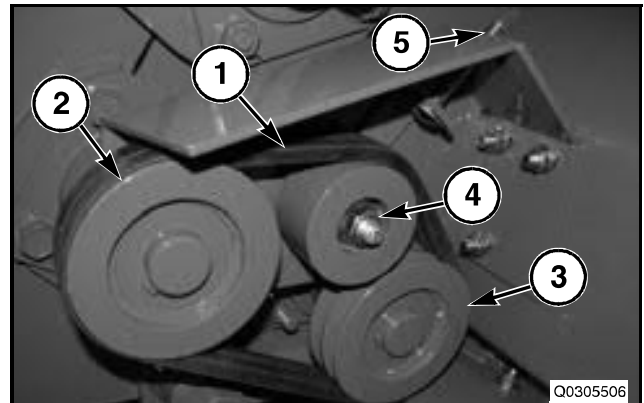


FIG. 18

BELT TENSION ADJUSTMENTS (4.9 M (16 FT) ROTARY HEADER)

Hay Conditioner Drive

The procedure is the same for both the right-hand and the left-hand sides.

FIG. 19: Hold the retaining nut (1) next to the spring washer (2) and loosen the jam nut (3) installed on the adjustment rod (4). The gap (A) between the idler spring tube and the spring washer must be 2 to 4 mm (0.07 to 0.15 in). Hold the retaining nut and tighten the jam nut.

NOTE: Too much tension can cause premature belt failure.

The hay conditioner drive belt must be centered on the idler pulley. If necessary, loosen the bolts on the mounting bracket (5) and the pivot bolt (6). Move the idler pulley into the correct position. Tighten the bolts on the mounting bracket and the pivot bolt.

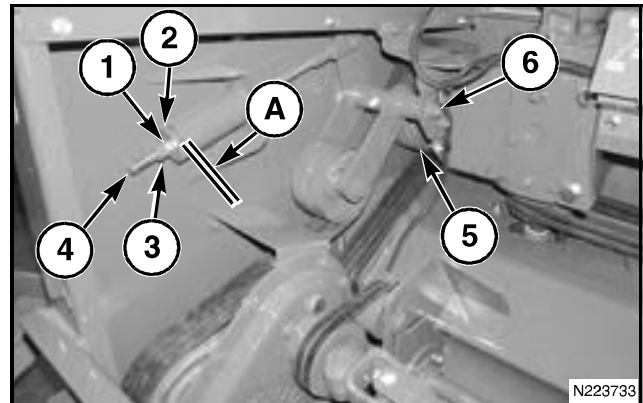


FIG. 19

Center Cage Drive

The procedure is the same for both the right-hand and the left-hand sides.

FIG. 20: Check the tension of the center cage drive belts (1) between the drive pulley (2) and the center cage pulley (3). The tension is correct when there is 2.5 mm (0.10 in) deflection at mid span with 19.5 N (4.4 lb) of force.

To adjust the tension, loosen the four capscrews (4) that fasten the center cage assembly to the header. Tighten the adjustment bolt (5) to move the position of the center cage assembly. When the tension is correct, tighten the four capscrews.

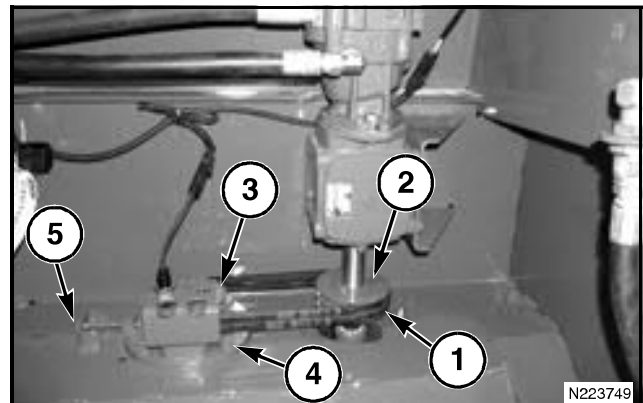


FIG. 20

Adjustments

Auger Drives

Right-Hand Side

FIG. 21: Single Conditioner - Loosen the two mounting bolts (1). Pivot the jack shaft assembly (2) using a breaker bar inserted in the hole (B) to adjust the belt. Tighten the two mounting bolts.

The tension is correct when there is 3.8 mm (0.148 in) of deflection (one belt) at mid span (A) with 17.8 to 19.1 N (4.0 to 4.3 lbf) of force.

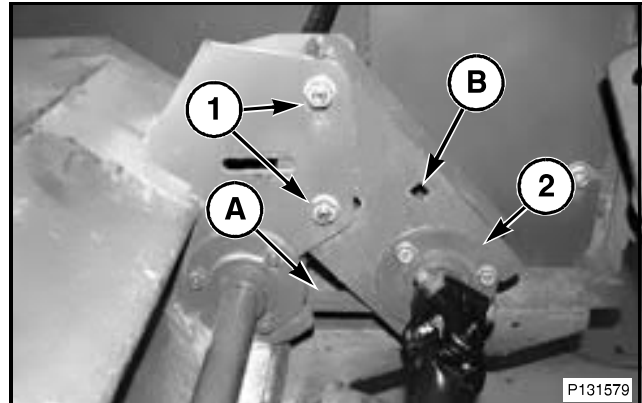


FIG. 21

FIG. 22: Double Conditioner - Early Units - Loosen the mounting bolt (1). Move the tensioner (2) to adjust the tension on the belt. Tighten the mounting bolt.

The tension is correct when there is 7.1 mm (0.280 in) of deflection (one belt) at mid span (A) with 19.6 to 20.9 N (4.4 to 4.7 lbf) of force.

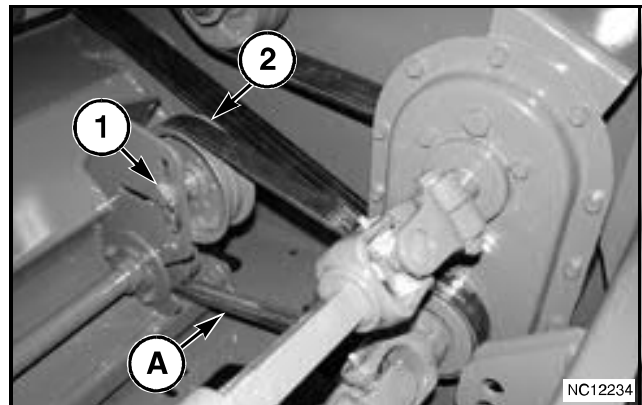


FIG. 22

FIG. 23: Loosen the mounting bolt (1) and the hex flange lock nut (2). Using a breaker bar inserted in the hole (B) rotate the mounting plate (3) to adjust the tension on the belt. Tighten the mounting bolt and the hex flange lock nut.

The tension is correct when there is 7.1 mm (0.280 in) of deflection (one belt) at mid span (A) with 19.6 to 20.9 N (4.4 to 4.7 lbf) of force.

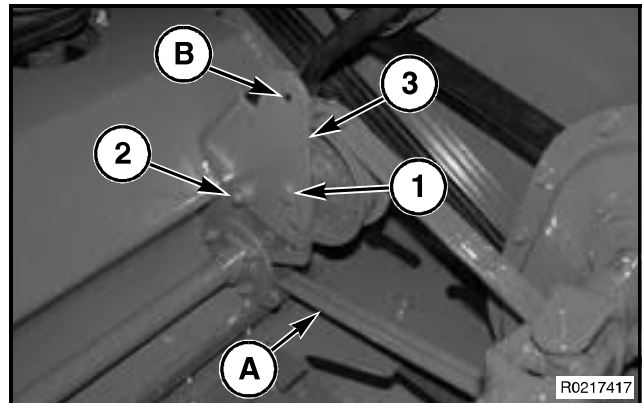


FIG. 23

Left-Hand Side

FIG. 24: Early Units - Loosen the mounting bolt (1). Move the tensioner (2) to adjust the tension on the belt. Tighten the mounting bolt.

The tension is correct when there is 3.5 mm (0.136 in) of deflection (one belt) at mid span (A) with 20.0 to 21.4 N (4.5 to 4.8 lbf) of force.

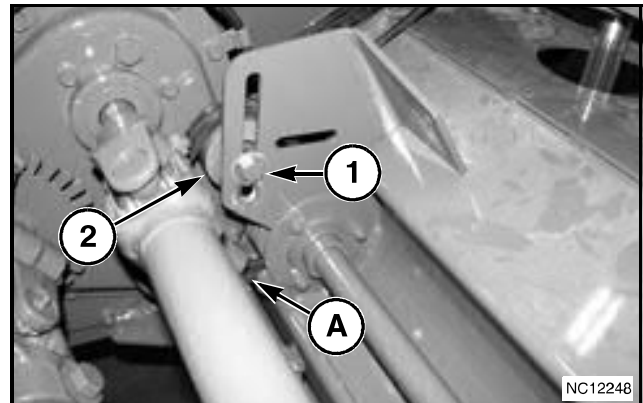


FIG. 24

FIG. 25: Loosen the mounting bolt (1) and the hex flange lock nut (2). Using a breaker bar inserted in the hole (B) rotate the mounting plate (3) to adjust the tension on the belt. Tighten the mounting bolt and the hex flange lock nut.

The tension is correct when there is 3.5 mm (0.136 in) of deflection (one belt) at mid span (A) with 20.0 to 21.4 N (4.5 to 4.8 lbf) of force.

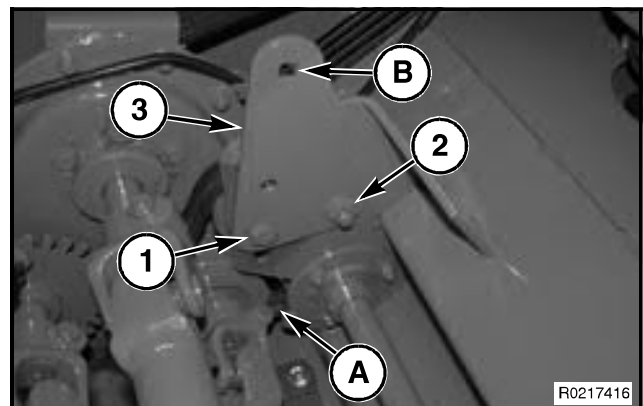


FIG. 25

Adjustments

ELECTRICAL SENSOR ADJUSTMENTS (3.96 M (13 FT) ROTARY HEADER)

The gap between the lugs on the sheave and the sensor or the teeth on the sensor disc must be 0.75 to 1.25 mm (0.030 to 0.050 in). To adjust the gap, loosen a jam nut on the sensor. Adjust the sensor gap. Tighten the jam nut 10 Nm (90 lbf inch).

FIG. 26: The header speed sensors (1) are located on the left-hand side under the drive shield.

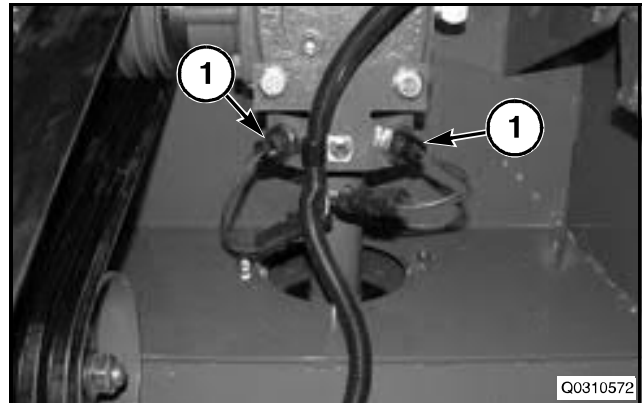


FIG. 26

FIG. 27: The hay conditioner slip sensor (1) is located on the left-hand side of the helper roll under the drive shield.

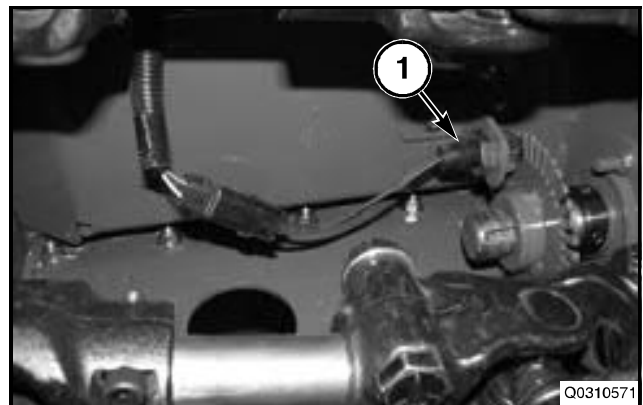


FIG. 27

ELECTRICAL SENSOR ADJUSTMENTS (4.9 M (16 FT) ROTARY HEADER)

The gap between the lugs on the sheave and the sensor or the teeth on the sensor disc must be 0.75 to 1.25 mm (0.030 to 0.050 in). To adjust the gap, loosen a jam nut on the sensor. Adjust the sensor gap. Tighten the jam nut 10 Nm (90 lbf inch).

FIG. 28: The header speed sensors (1) are located on the left-hand side under the drive shield.

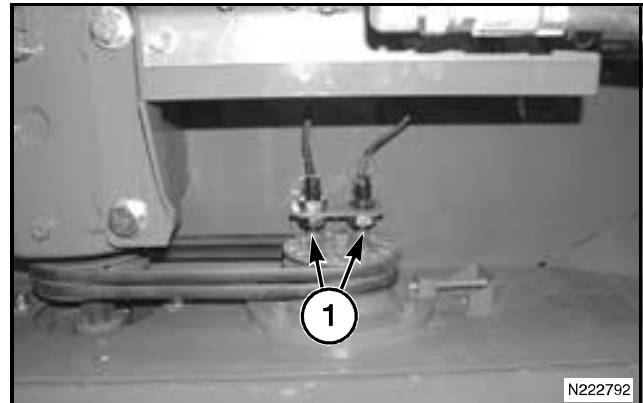


FIG. 28

FIG. 29: The cage slip sensor (1) is located on the right-hand side under the drive shield.

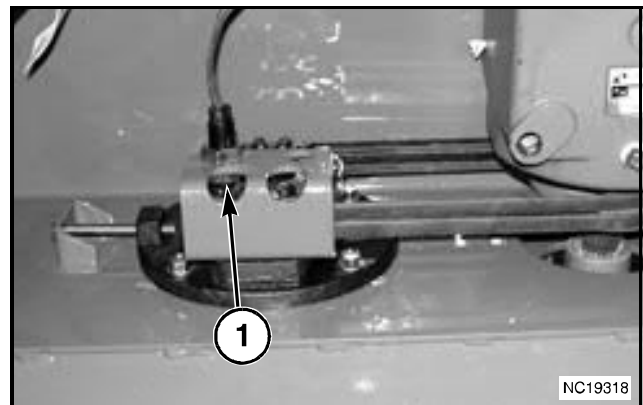


FIG. 29

FIG. 30: The hay conditioner slip sensor (1) is located on the left-hand side under the drive shield.

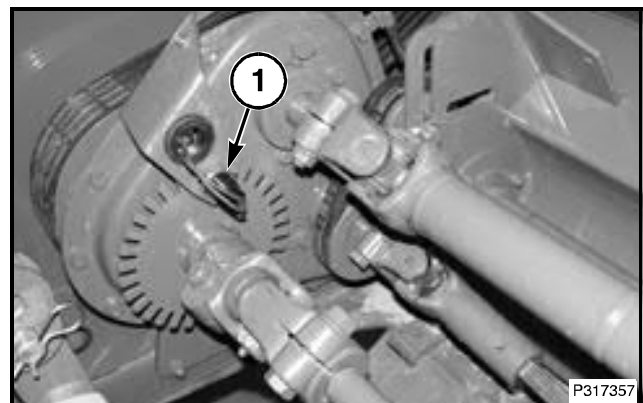


FIG. 30

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