International Harvester
Operator’s Manual
990
Mower Conditioner

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ATTACHING THE MOWER-CONDITIONER TO THE TRACTOR - Continued

Hitching to the Tractor - Continued

NOTE: Never operate a 540 r.p.m. machine with a 1000 r.p.m. tractor.

Hitch the mower-conditioner to the tractor drawbar. The hitch straps may be attached using a hitch pin that can be securely fastened to the tongue in three positions shown. Select the position that permits the tongue to be level when hitched to the tractor drawbar.

The hitch jack is provided for ease of tractor hookup and storage. Turn the handle to raise or lower the machine.

Remove the locking pin to swing the jack up or down. NOTE: Always place the jack in the "up" position when operating or transporting the machine. Secure the handle with the chain when not in use.

WORK SAFELY - FOLLOW THESE RULES

Disengage the power take-off. Shut off the tractor engine and be sure to wait until all moving parts have come to a complete stop before adjusting, cleaning, or lubricating.

Do not stand in front of or behind the machine while it is running.

Keep hands, feet, and clothing away from moving parts.

Use extreme care when operating close to ditches, fences, or on hillsides.

When working under the machine, be sure to lock the header in the raised position.

9-foot machines with welded clevis: The clevis location on the tongue depends on the power take-off speed. Tongue holes "E" are for 540 r.p.m. operation; tongue holes "F" are for 1000 r.p.m. operation.

Connect the front power take-off yoke to the power shaft on the tractor. Adjust the bearing supports until the power drive line is as straight as possible.

Connect the hoses to the tractor such that a forward or downward motion of control valve lowers the machine.

Alternate positions of hitch straps depending upon location of drawbar.
ADJUSTING AND OPERATING

DIAL HITCH

The dial hitch permits you to place the mower-conditioner in the transport position or one of several operating positions from the tractor seat. When in the transport position, the over-all width of the machine is reduced, thus making it easier to pass through narrow gates and lanes.

Pull the control rope to disengage the locking stud and move the tongue along the dial. Release the control rope to allow the locking stud to enter the desired hole in the dial.

NOTE: It may be necessary to stop the tractor in order for the locking stud to disengage from the dial.

The correct hole to be used in the dial will be the one that will allow a full cut and still provide the required clearance between the tractor tire and the standing crop.

TIRE INFLATION

Proper air pressure is the most important factor in satisfactory performance and maintenance of tires. Under inflation will damage the cord body of the tire, and cause a series of diagonal breaks in the fabric in the sidewall area. Overinflation adversely affects the performance and life of the machine. See Specifications.

It is necessary to retorque the wheel lug bolts from 80 to 90 foot pounds. This should be done after the first 20 hours of operation and periodically thereafter.

BEFORE OPERATING THE MOWER-CONDITIONER

Lubrication

Completely lubricate the mower-conditioner following the instructions for lubrication. Check the gear case oil level.

Operational Check

Check the tension on the roll drive chain, main drive, mower drive, and reel drive belts, and adjust if required.

Start the tractor engine and while idling, slowly engage the power take-off. Gradually increase the engine speed until the recommended power take-off speed is reached. Let the mower-conditioner run at this speed for a while. From the tractor seat, observe all moving parts and see that they operate freely and normally.
When the machine is assembled, attached to the tractor, and header lowered to operating position, adjust the float springs for a header weight of 55 pounds. This is measured by lifting the header at the pushover bar. This allows the header to float over any ground irregularities or obstacles. The header should be adjusted so it is only heavy enough to prevent “wavy” stubble. To adjust loosen nut “A” and turn adjusting bolt “B” to increase or decrease the float spring tension, which will increase or decrease the header weight. Tighten nut “A” to secure the adjustments.

For stony operating conditions, it is recommended that the springs be adjusted to reduce the header weight to 45 to 50 pounds.

NOTE: Recheck the float adjustment after the first 10 hours of operation.

REEL ADJUSTMENT

The reel is preadjusted to provide an even flow of material over the cutter bar and into the conditioner rolls. If the reel requires readjusting for adverse crop conditions, refer to the Trouble Shooting Section for recommendations and make the necessary adjustments.

After the reel adjustments are completed, turn the reel manually to be sure the pickup tines clear the cutter bar assembly, grass pan, and conditioner rolls. Adjust the reel belt tension. Check the header flotation and adjust, if necessary, as described elsewhere on this page.
ADJUSTING AND OPERATING

Speed

The reel speed was factory set for 59 r.p.m., but can be changed by adding or removing shims between the pulley halves in the reduction drive “A”. Adding shims will decrease the speed. Refer to the reel speed chart. If shims are removed, store them on the outer side of the pulley as shown at “B”.

Reel Speed Chart

<table>
<thead>
<tr>
<th>No. of shims in reduction drive pulley</th>
<th>Reel speed r.p.m.</th>
<th>Tine tip Speed m.p.h.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>70</td>
<td>9.2</td>
</tr>
<tr>
<td>1</td>
<td>66</td>
<td>8.7</td>
</tr>
<tr>
<td>2</td>
<td>65.5</td>
<td>8.2</td>
</tr>
<tr>
<td>3</td>
<td>59</td>
<td>7.7</td>
</tr>
<tr>
<td>4</td>
<td>55</td>
<td>7.2</td>
</tr>
</tbody>
</table>

In certain crop conditions, it may be desirable to convert the reel to 5 or 6 bats and tine bar assemblies (optional).

Position

Horizontal adjustment is obtained by loosening bolts “B” and “C” and sliding the reel along the side sheet ledges.

Vertical adjustment is obtained by adding or removing shims “A” from under the reel bearing supports. Store the shims that are not being used under the flange.

NOTE: The reel must be adjusted to prevent the tines from striking the hold-down clips or rolls; this can cause tine breakage.

NOTE: Both sides must be adjusted equally to prevent the reel from binding.

Tine attitude is adjusted by loosening the bolts “C” and “E” and rotating the cam either counterclockwise for a late release of material or clockwise for an early release of material. Tighten the bolts.
ADJUSTING THE ROLLS

The roll adjustments are factory set and will be satisfactory for most legumes, such as alfalfa and clover. For grass-type crops, additional roll pressure may be required. For thick stemmed crops (cane, sudex, and similar hybrids), decreased roll pressure with an increase in the roll gap will give the best conditioning results.

A crop is properly conditioned when the stems are crushed and the leaves undamaged. Excessive roll pressure will damage the leaves. Damaged leaves will dry too fast, resulting in excessive leaf loss. A delay in checking the effect of proper conditioning may be more conclusive than an immediate inspection.

Roll Gap

! CAUTION! When changing the roll gap, lock the header in the transport position.

To adjust the roll gap, remove or add shims as required at "A". Both ends of the rolls must be adjusted equally to obtain a uniform gap. The roll gap as preset for average conditions should be as follows:

- Machines with steel and rubber rolls: 1/32-inch, measured 12 inches from each end of the rolls.
- Machines with two rubber rolls: 1/64-inch, measured six inches from each end of the rolls.

Store unused shims at "B".

NOTE: Rolls that excessively contact each other may cause noise, vibration and wear.

Roll Pressure

The factory set roll pressure for average conditions is as follows:

- All 7-foot machines: .030-inch between coils of roll pressure springs.
- 9-foot machines with steel and rubber rolls:
  - Serial number 4746 and below - .010 to .015-inch between coils
  - Serial number 4747 and above - .045 to .050-inch between coils
- 9-foot machines with two rubber rolls:
  - Serial number 5216 and below - .010 to .015-inch between coils
  - Serial number 5217 and above - .045 to .050-inch between coils

To readjust the roll pressure, loosen the jam nut “C” and turn adjusting bolt “D”. Both sides must be adjusted at the same rate to obtain equal pressure along the entire length of the roll. After adjusting, check with a feeler gauge to see that the gap between the coils is equal for both springs.

NOTE: Roll pressure should not be adjusted more than four complete turns of the adjusting bolt without checking the effect of the increased or decreased pressure on the crop.

If the rolls should plug, raise the header to the transport position to allow the obstruction to pass through.