MacDon

Model D50 and D60
Harvest Header®
with
CA20 Combine Adapter

UNLOADING and
ASSEMBLY INSTRUCTIONS
for
NORTH AMERICAN SHIPMENTS

Published: October 2010
INTRODUCTION

This instructional manual describes the unloading, set up and pre-delivery requirements for the MacDon D50 and D60 Harvest Headers® with a CA20 Combine Adapter.

Use the Table of Contents to guide you to specific areas.

Retain this manual for future reference.

CAREFULLY READ ALL THE MATERIAL PROVIDED BEFORE ATTEMPTING TO UNLOAD, ASSEMBLE, OR USE THE MACHINE.
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GENERAL SAFETY

CAUTION

The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.

Protect yourself:

- When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that COULD be necessary for the job at hand. Don't take chances.

- You may need:
  - a hard hat.
  - protective shoes with slip resistant soles.
  - protective glasses or goggles.
  - heavy gloves.
  - wet weather gear.
  - respirator or filter mask.
  - hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.

- Provide a first-aid kit for use in case of emergencies.

- Keep a fire extinguisher on the machine. Be sure the extinguisher is properly maintained and be familiar with its proper use.

- Keep young children away from machinery at all times.

- Be aware that accidents often happen when the operator is tired or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.

- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.

- Keep hands, feet, clothing and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.

- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.

(continued next page)
• Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.

• Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.

• Stop engine, and remove key from ignition before leaving operator’s seat for any reason. A child or even a pet could engage an idling machine.

• Keep the area used for servicing machinery clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.

• Use adequate light for the job at hand.

• Keep machinery clean. Do not allow oil or grease to accumulate on service platforms, ladders or controls. Clean machines before storage.

• Never use gasoline, naphtha or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.

• When storing machinery, cover sharp or extending components to prevent injury from accidental contact.
RECOMMENDED TORQUES

A. GENERAL

The tables shown below give correct torque values for various bolts and capscrews.

- Tighten all bolts to the torques specified in chart unless otherwise noted throughout this manual.
- Check tightness of bolts periodically, using bolt torque chart as a guide.
- Replace hardware with the same strength bolt.
- Torque figures are valid for non-greased or non-oiled threads and heads unless otherwise specified. Do not grease or oil bolts or capscrews unless specified in this manual.
- When using locking elements, increase torque values by 5%.

B. SAE BOLTS

<table>
<thead>
<tr>
<th>BOLT DIA. &quot;A&quot;</th>
<th>NC BOLT TORQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAE-5</td>
</tr>
<tr>
<td>in.</td>
<td>ft·lbf</td>
</tr>
<tr>
<td>1/4</td>
<td>9</td>
</tr>
<tr>
<td>5/16</td>
<td>18</td>
</tr>
<tr>
<td>3/8</td>
<td>32</td>
</tr>
<tr>
<td>7/16</td>
<td>50</td>
</tr>
<tr>
<td>1/2</td>
<td>75</td>
</tr>
<tr>
<td>9/16</td>
<td>110</td>
</tr>
<tr>
<td>5/8</td>
<td>150</td>
</tr>
<tr>
<td>3/4</td>
<td>265</td>
</tr>
<tr>
<td>7/8</td>
<td>420</td>
</tr>
<tr>
<td>1</td>
<td>640</td>
</tr>
</tbody>
</table>

C. METRIC BOLTS

<table>
<thead>
<tr>
<th>BOLT DIA. &quot;A&quot;</th>
<th>STD COARSE BOLT TORQUE*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.8</td>
</tr>
<tr>
<td></td>
<td>ft·lbf</td>
</tr>
<tr>
<td>M3</td>
<td>0.4</td>
</tr>
<tr>
<td>M4</td>
<td>2.2</td>
</tr>
<tr>
<td>M5</td>
<td>4</td>
</tr>
<tr>
<td>M6</td>
<td>7</td>
</tr>
<tr>
<td>M8</td>
<td>18</td>
</tr>
<tr>
<td>M10</td>
<td>37</td>
</tr>
<tr>
<td>M12</td>
<td>66</td>
</tr>
<tr>
<td>M14</td>
<td>103</td>
</tr>
<tr>
<td>M16</td>
<td>166</td>
</tr>
<tr>
<td>M20</td>
<td>321</td>
</tr>
<tr>
<td>M24</td>
<td>553</td>
</tr>
<tr>
<td>M30</td>
<td>1103</td>
</tr>
<tr>
<td>M36</td>
<td>1917</td>
</tr>
</tbody>
</table>

* Torque categories for bolts and capscrews are identified by their head markings.
D. HYDRAULIC FITTINGS

FLARE TYPE

- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection, and hand-tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body, and with the second, tighten the swivel nut to the torque shown.

<table>
<thead>
<tr>
<th>SAE NO.</th>
<th>TUBE SIZE O.D. (in.)</th>
<th>THD SIZE (in.)</th>
<th>NUT SIZE ACROSS FLATS (in.)</th>
<th>TORQUE VALUE* (ft·lbf N·m Flats Turns)</th>
<th>RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3/16</td>
<td>3/8</td>
<td>7/16</td>
<td>6 8 1 1/6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1/4</td>
<td>7/16</td>
<td>9/16</td>
<td>9 12 1 1/6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5/16</td>
<td>1/2</td>
<td>5/8</td>
<td>12 16 1 1/6</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3/8</td>
<td>9/16</td>
<td>11/16</td>
<td>18 24 1 1/6</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1/2</td>
<td>3/4</td>
<td>7/8</td>
<td>34 46 1 1/6</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>5/8</td>
<td>7/8</td>
<td>1</td>
<td>46 62 1 1/6</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>3/4</td>
<td>1-1/16</td>
<td>1-1/4</td>
<td>75 102 3/4 1/8</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>7/8</td>
<td>1-3/8</td>
<td>1-3/8</td>
<td>90 122 3/4 1/8</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1-5/16</td>
<td>1-1/2</td>
<td>105 142 3/4 1/8</td>
<td></td>
</tr>
</tbody>
</table>

* The torque values shown are based on lubricated connections as in re-assembly.

O-RING TYPE

- Inspect O-ring and seat for dirt or obvious defects.
- On angle fittings, back off the lock nut until washer (A) "bottoms out" at top of groove (B) in fitting.
- Hand-tighten fitting until back-up washer (A), or washer face (if straight fitting), bottoms on part face (C), and O-ring is seated.
- Position angle fittings by unscrewing no more than one turn.
- Tighten straight fittings to torque shown.
- Tighten angle fittings to torque shown in the following table, while holding body of fitting with a wrench.

<table>
<thead>
<tr>
<th>SAE NO.</th>
<th>THD SIZE (in.)</th>
<th>NUT SIZE ACROSS FLATS (in.)</th>
<th>TORQUE VALUE* (ft·lbf N·m Flats Turns)</th>
<th>RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3/8</td>
<td>1/2</td>
<td>6 8</td>
<td>2 1/3</td>
</tr>
<tr>
<td>4</td>
<td>7/16</td>
<td>9/16</td>
<td>9 12</td>
<td>2 1/3</td>
</tr>
<tr>
<td>5</td>
<td>1/2</td>
<td>5/8</td>
<td>12 16</td>
<td>2 1/3</td>
</tr>
<tr>
<td>6</td>
<td>9/16</td>
<td>11/16</td>
<td>18 24</td>
<td>2 1/3</td>
</tr>
<tr>
<td>8</td>
<td>3/4</td>
<td>7/8</td>
<td>34 46</td>
<td>2 1/3</td>
</tr>
<tr>
<td>10</td>
<td>7/8</td>
<td>1</td>
<td>46 62</td>
<td>1-1/2 1/4</td>
</tr>
<tr>
<td>12</td>
<td>1-1/16</td>
<td>1-1/4</td>
<td>75 102</td>
<td>1 1/6</td>
</tr>
<tr>
<td>14</td>
<td>1-3/16</td>
<td>1-3/8</td>
<td>90 122</td>
<td>1 1/6</td>
</tr>
<tr>
<td>16</td>
<td>1-5/16</td>
<td>1-1/2</td>
<td>105 142</td>
<td>3/4 1/8</td>
</tr>
<tr>
<td>20</td>
<td>1-5/8</td>
<td>1-7/8</td>
<td>140 190</td>
<td>3/4 1/8</td>
</tr>
<tr>
<td>24</td>
<td>1-7/8</td>
<td>2-1/8</td>
<td>160 217</td>
<td>1/2 1/12</td>
</tr>
</tbody>
</table>

* The torque values shown are based on lubricated connections as in re-assembly.
<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>INCH-POUND UNITS</th>
<th>FACTOR</th>
<th>SI UNITS (METRIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UNIT NAME</td>
<td>ABBR.</td>
<td>x FACTOR =</td>
</tr>
<tr>
<td>Area</td>
<td>acres</td>
<td>acres</td>
<td>0.4047 =</td>
</tr>
<tr>
<td>Flow</td>
<td>US gallons per minute</td>
<td>gpm</td>
<td>3.7854 =</td>
</tr>
<tr>
<td>Force</td>
<td>pounds force</td>
<td>lbf</td>
<td>4.4482 =</td>
</tr>
<tr>
<td>Length</td>
<td>inch</td>
<td>in.</td>
<td>25.4 =</td>
</tr>
<tr>
<td></td>
<td>foot</td>
<td>ft</td>
<td>0.305 =</td>
</tr>
<tr>
<td>Power</td>
<td>horsepower</td>
<td>hp</td>
<td>0.7457 =</td>
</tr>
<tr>
<td>Pressure</td>
<td>pounds per square inch</td>
<td>psi</td>
<td>6.8948 =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.00689 =</td>
</tr>
<tr>
<td>Torque</td>
<td>pound feet or foot pounds</td>
<td>lbf·ft or ft·lbf</td>
<td>1.3558 =</td>
</tr>
<tr>
<td></td>
<td>pound inches or inch pounds</td>
<td>lbf·in. or in·lbf</td>
<td>0.1129 =</td>
</tr>
<tr>
<td>Temperature</td>
<td>degrees Fahrenheit</td>
<td>°F</td>
<td>°F - 32 x 0.56 =</td>
</tr>
<tr>
<td>Velocity</td>
<td>feet per minute</td>
<td>ft/min</td>
<td>0.3048 =</td>
</tr>
<tr>
<td></td>
<td>feet per second</td>
<td>ft/s</td>
<td>0.3048 =</td>
</tr>
<tr>
<td></td>
<td>miles per hour</td>
<td>mph</td>
<td>1.6093 =</td>
</tr>
<tr>
<td>Volume</td>
<td>US gallons</td>
<td>US gal.</td>
<td>3.7854 =</td>
</tr>
<tr>
<td></td>
<td>ounces</td>
<td>oz.</td>
<td>29.5735 =</td>
</tr>
<tr>
<td></td>
<td>cubic inches</td>
<td>in.³</td>
<td>16.3871 =</td>
</tr>
<tr>
<td>Weight</td>
<td>pounds</td>
<td>lb</td>
<td>0.4536 =</td>
</tr>
</tbody>
</table>
STEP 1. UNLOAD HEADER

CAUTION

To avoid injury to bystanders from being struck by machinery, do not allow persons to stand in unloading area.

CAUTION

Equipment used for unloading must meet or exceed the requirements specified below. Using inadequate equipment may result in chain breakage, vehicle tipping or machine damage.

<table>
<thead>
<tr>
<th>LIFTING VEHICLE</th>
<th>HEADER SIZE</th>
<th>15 - 25 FT.</th>
<th>30 - 45 FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Capacity *</td>
<td>6500 lb (2948 kg)</td>
<td>9000 lb (4082 kg)</td>
<td></td>
</tr>
<tr>
<td>Minimum Fork Length</td>
<td>78 in. (1981 mm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* At 48 in. (1220 mm) from back end of forks.

IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) from “back end” of the forks. To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.

a. Move trailer into position, and block trailer wheels.
b. Lower trailer storage stands.

c. Approach the header, and slide forks underneath shipping support (B) of header as far as possible without contacting the shipping support of opposite header.
d. Remove hauler's tie down straps and chains.

c. Be sure forks are secure before moving away from load. Stand clear when lifting.

e. Slowly raise header off deck.
f. Back up until unit clears trailer, and slowly lower to 6 in. (150 mm) from ground.
g. Take header to storage or set up area.
h. Repeat above steps for second header.
i. Check for shipping damage and missing parts.

CAUTION

Avoid lifting the second header and ensure the forks do not interfere with the shipping frame. If the forks contact the second header, damage to the headers may occur.
STEP 2.  LOWER HEADER

Re-position header as follows in preparation for assembly and set-up:

a. Choose an area with level ground.

b. Remove the endshields if not already removed, as they may be damaged when lowering the header.

c. Drive lifting vehicle to approach header from its "underside".

**IMPORTANT**

_Do not lift at cutterbar when unloading from trailer. This procedure is only for laying the machine over into working position._

1. Attach chain to shipping support at center reel arm.

**CAUTION**

_Stand clear when lowering, as machine may swing._

2. Back up SLOWLY while lowering forks until header rests on the ground.

3. Place 6 inch (150 mm) blocks under each end and center of cutterbar, and lower header onto blocks.

4. Remove chain.
STEP 3. REMOVE SHIPPING STANDS

The removable stands are painted yellow.

NOTE
Unless otherwise specified, discard stands, and all shipping material and hardware.

a. Remove two pins at the base of each stand, and lift shipping stands off adapter.

b. Remove four bolts in each shipping stand on outboard header legs (30 FT. headers and up), and remove stands.

c. Remove reel anti-rotation brace between reel and endsheet.
STEP 4. INSTALL REEL LIFT CYLINDERS

**CAUTION**
Braces on Reel Arms Keep Reel From Sliding Forward. Do Not Remove.

a. Remove top bolt on outboard reel arm supports.

b. Remove two top bolts on center reel arm support. (DOUBLE REEL ONLY).

c. Position sling around the reel tube close to outboard end of reel, and attach sling to a forklift (or equivalent).

d. Remove shipping wire/banding from cylinder, and remove pins from lug and arm.

e. Lift reel so that reel lift cylinder mounting holes line up with lug on endsheet and hole in reel arm.

(continued next page)
f. Secure cylinder to endsheet and reel arm with pins as shown. Note orientation of pins. Secure with cotter pins.

g. Remove sling and re-position around reel tube near reel center support arm. (DOUBLE REEL ONLY).

h. Lift reel so that reel center lift cylinder mounting holes line up with bracket on frame. (DOUBLE REEL ONLY).

i. Remove shipping wire/banding from cylinder, and remove pin from frame. (DOUBLE REEL ONLY).

j. Attach cylinder to frame with pin as shown. Secure with cotter pin. (DOUBLE REEL ONLY).

k. Remove sling, and re-position around reel tube near opposite outboard reel arm.

l. Remove shipping wire/banding from cylinder, and remove pins from lug and arm.

m. Lift reel so that reel lift cylinder mounting holes line up with lug on endsheet and hole in reel arm.

n. Secure cylinder to endsheet and reel arm with pins as shown. Note orientation of pins. Secure with cotter pins.

(continued next page)
UNLOADING AND ASSEMBLY

o. Remove shipping wire from center arm hose bundle, and remove bolt and nut from hose clip. (DOUBLE REEL ONLY).

CAUTION
Braces On Reel Arms Keep Reel From Sliding Forward. Do Not Remove.

p. Re-install bolt with hose clip through upper hole in reel prop. (DOUBLE REEL ONLY).

q. Hold support, and remove two bolts at base of center reel arm shipping support so that plate drops free. (DOUBLE REEL).

r. Slide lower support off cutterbar.

s. Remove the two reel arm supports from endsheets.
STEP 5. RE-POSITION GEARBOX

a. Remove shipping wire and wrapping on brace, and swing brace (A) clear of gearbox.

b. Loosen nut (B), and move bolt out of shipping position slot.

c. Rotate gearbox, and move bolt into working position slot (C). Tighten nut.

d. Remove bolt (D) and nut from bracket on gearbox.

e. Position brace (A) inside bracket, and re-install bolt (D) and nut.
UNLOADING AND ASSEMBLY

A. FILLER CAP

a. Remove filler cap from bag.

b. Remove yellow shipping cover (A) from adapter frame. Discard cover and keep screws.

CAUTION

Cap may be under pressure. Allow pressure to equalize by lifting cap slightly with some of the screws remaining.

c. There are two gaskets - one on either side of the filler strainer flange. Remove the top gasket (B) for use in step d.

d. Place gasket (B) that was removed from the top of the filler strainer onto filler cap neck, and align holes.

e. Install #10-32 screws on filler cap, pressing screws through the gasket.

f. Apply Loctite® #565 (or equivalent) to screws.

g. Place filler cap (complete with screws) over opening, aligning the machine screws with the threaded holes.

h. Carefully thread in the machine screws using a cross pattern to prevent cross threading of tapped holes.

i. Repeat pattern to gradually tighten screws to 31 lbf-in. (3.5 N·m).

j. Install filler cap.
UNLOADING AND ASSEMBLY

STEP 6. INSTALL REEL SPEED SENSOR

NOTE
This step is not applicable to CASE/CNH combines. Proceed to STEP 7. INSTALL OPTIONS.

IMPORTANT
Except for CAT Lexion combines, sensors are not supplied with MacDon Combine Adapters having Serial Numbers earlier than 177626_07. Sensors need to be purchased as per the following:

<table>
<thead>
<tr>
<th>COMBINE</th>
<th>SENSOR PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOHN DEERE - ALL</td>
<td>John Deere #AH116104 and Two Nuts #H104418</td>
</tr>
<tr>
<td>AGCO - ALL</td>
<td>AGCO #71 391 021</td>
</tr>
</tbody>
</table>

CAUTION
To avoid personal injury, before servicing header or opening drive covers:

- Fully lower the header. If necessary to service in the raised position, always engage lift cylinder stops.
- Stop engine and remove key.
- Engage park brake.

A. REMOVE COVER
I. D60 HARVEST HEADER

a. For single reels, remove four screws (A), and remove cover (B).

b. For double reels, remove six screws (C), and remove drive upper cover (D).

c. Remove cotter pin (E), and remove slotted nut (F) from drive motor shaft.

d. Remove knock-out (G) in chain case for wire harness routing.

NOTE
Clean off grease to expose knock-out.

(continued next page)
UNLOADING AND ASSEMBLY

e. If necessary, clean up holes (H) with a 0.125 in. (3.2 mm) drill.

f. Remove bolts (J) in chain case.

g. Retrieve existing harness (K) from reel arm.

**NOTE**
*Harness may be stored inside hose cover on top of reel arm.*

h. Proceed to procedure B, C, D or E for your particular combine.

II. D50 HARVEST HEADER

a. Remove six screws (A), and remove cover (B).

b. Remove bolt (C), lockwasher (D), and flat washer (E).

c. Retrieve existing harness (F) from reel arm.

d. Proceed to procedure B, C, D or E for your particular combine.
B. JOHN DEERE

I. D60 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Position speed sensor disc (A) on shaft, and re-install slotted nut (B). Torque to 10 - 20 in·lbf (1.1 - 2.2 N·m).

d. Install cotter pin (C). Tighten nut to next slot if required.

e. Locate bracket (D) on chain case, and re-install bolts (E). Torque to 75 ft·lbf (102 N·m).

f. Locate sensor (F) in bracket, and adjust gap between sensor and disc (A) to 0.12 in. (3 mm) with nuts (G). Tighten nuts.

g. Locate black wire (H) against harness connector (J) as shown, and feed connector through hole in chain case.

h. Connect other end to sensor connector (K).

(continued next page)
i. Secure harness to support (D) with two cable ties (L).

**IMPORTANT**
Ensure harness is clear of chain and sprockets, and that motor can be moved up and down fully in slots without damaging harness.

j. Locate cover (M) over harness, and attach to chain case with two rivets (N).

k. Perform F. INSTALL COVER.

II. D50 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Locate sensor holder (A) on reel drive case, and secure with two 3/8 in. x 0.62 long self-tapping screws (B) in existing holes in drive case.

d. Install sensor disc (C) onto drive sprocket with bolt (E), lockwasher (F), and flat washer (G).

e. Torque bolt to 18 ft·lbf (24 N·m).

(continued next page)
f. Route sensor harness (H) through hole in drive case as shown.
g. Remove jam-nut (J) on sensor, and install sensor (K) in holder (A). Install jam-nut. Adjust gap between sensor and sensor disc using jam-nuts. Gap should be 0.12 in. (3 mm). Tighten jam-nuts.
h. Secure wires to support (A) with plastic cable tie (M). Route tie behind sensor.
i. Perform F. INSTALL COVER.
C. LEXION 500 SERIES

I. D60 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

IMPORTANT
Steps c. and d. are required to establish the amount of slack in the harness, and to determine the harness location on the cover, so that when the chain (A) is loosened, the harness or sensor will not be damaged.

c. Loosen four bolts (B)

d. Loosen drive chain (A) by sliding motor mount (D) "down" towards reel shaft.

e. Position speed sensor disc (E) on shaft and re-install slotted nut (F). Torque to 10 - 20 in·lbf (1.1 - 2.2 N·m).

f. Install cotter pin (G). Tighten nut to next slot if required.

g. Locate support (H) on chain case and re-install bolts (J). Torque to 75 ft·lbf (102 N·m).

h. Locate sensor (K) in support (H), and adjust gap between sensor and disc (E) to 0.12 in. (3 mm) by bending support. After gap is achieved, secure sensor with ¼ in. x 0.5 long self-tapping screw (L).

(continued next page)
i. Locate black wire (M) against harness connector (N) as shown, and feed connector through hole in chain case.

j. Connect other end to sensor (K).

k. Locate cover (O) over harness, and attach to chain case with two rivets (P).

l. Secure harness to cover (O) with cable tie (Q) exactly as shown.

**IMPORTANT**
Ensure harness is clear of chain and sprockets, and that motor can be moved up and down fully in slots without damaging harness.

m. Tighten drive chain by motor mount (D) “up” away from reel shaft. Hand force should deflect the chain 1/8 in. (3 mm).

n. Tighten bolts (B) to 75 ft·lbf (102 N·m).

o. Perform F. INSTALL COVER.
II. D50 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Locate sensor holder (A) on reel drive case, and secure with two 3/8 in. x 0.62 long self-tapping screws (B). Do not fully tighten.

d. Install sensor disc (C) onto drive sprocket with bolt (D), lockwasher (E), and flat washer (F).

e. Torque bolt to 18 ft·lbf (24 N·m).

f. Route sensor harness (F) through holder and drive case as shown.

g. Assemble sensor (G) to holder (A) with self-tapping screw (H).

h. Secure harness to holder (A) with plastic cable tie (J).

i. Adjust gap between sensor and disc to 0.12 in. (3 mm) by moving sensor holder (A). Tighten screws after gap is set.

j. Perform F. INSTALL COVER.
D. LEXION 400 SERIES

I. D60 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Position speed sensor disc (A) on shaft, and re-install slotted nut (B). Torque to 10 - 20 in-lbf (1.1 - 2.2 N·m).

d. Install cotter pin (C). Tighten nut to next slot if required.

e. Locate bracket (D) on chain case, and re-install bolts (E). Torque to 75 ft-lbf (102 N·m).

f. Locate sensor (F) in bracket, and adjust gap between sensor and disc (A) to 0.12 in. (3 mm) with nuts (G). Tighten nuts.

g. Locate black wire (H) against harness connector (J) as shown, and feed connector through hole in chain case.

h. Connect other end to sensor (F).

i. Locate cover (K) over harness, and attach to chain case with two rivets (L).

(continued next page)
j. Secure harness to support (D) and cover (K) with cable ties (M).

**IMPORTANT**
Ensure harness is clear of chain and sprockets, and that motor can be moved up and down fully in slots without damaging harness.

k. Perform F. INSTALL COVER.

II. D50 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Locate sensor holder (A) on reel drive case, and secure with two 3/8 in. x 0.62 long self-tapping screws (B). Do not fully tighten.

d. Install sensor disc (C) onto drive sprocket with bolt (E), lockwasher (F), and flat washer (G). Torque bolt to 18 ft-lbf (24 N·m).

e. Route sensor harness (H) through holder and drive case as shown.

f. Remove jam-nut (J) on sensor, and install sensor (L) in holder (A). Install jam-nut.

g. Secure harness (H) to holder (A) with plastic cable tie (N). Route plastic tie behind sensor (L).

h. Adjust gap between sensor and sensor disc using jam-nuts. Gap should be 0.12 in. (3 mm). Tighten jam-nuts.

i. Perform F. INSTALL COVER.
UNLOADING AND ASSEMBLY

E. AGCO SERIES

I. D60 HARVEST HEADER

a. Perform A. REMOVE COVER.

b. Retrieve speed sensor kit from combine completion package.

c. Position speed sensor disc (A) on shaft, and re-install slotted nut (B). Torque to 10 - 20 in·lbf (1.1 - 2.2 N·m).

d. Install cotter pin (C). Tighten nut to next slot if required.

e. Assemble sensor (D) to support (E) with self-tapping screws (F).

f. Locate support (E) on chain case, and re-install bolts (G). Torque to 75 ft·lbf (102 N·m).

g. Route connector end of sensor harness through hole (H) in drive case as shown.

h. Locate cover (J) over harness, and attach to chain case with two rivets (K).

i. Secure harness to cover (K) and support with cable ties (L) exactly as shown.

**IMPORTANT**

Ensure harness is clear of chain and sprockets, and that motor can be moved up and down fully in slots without damaging harness.

j. Adjust gap between sensor and disc to 0.02 in. (0.5 mm) by bending support (E).

k. Perform F. INSTALL COVER.
UNLOADING AND ASSEMBLY

II. D50 HARVEST HEADER

a. Perform A. REMOVE COVER.
b. Retrieve speed sensor kit from combine completion package.
c. Assemble sensor (A) to holder (B) with self-tapping screws (C).
d. Secure wire to holder with plastic cable tie (D).
e. Route connector end of sensor harness through hole in drive case as shown.
f. Locate sensor holder (B) on reel drive case and secure with two 3/8 in. x 0.62 long self-tapping screws (E). Do not fully tighten.
g. Install sensor disc (F) onto drive sprocket with bolt (G), lockwasher (H), and flat washer (J). Torque bolt to 18 ft·lbf (24 N·m).
h. Adjust gap between sensor and disc to 0.12 in. (3 mm) by moving sensor holder (B). Tighten screws (E) after gap is set.
i. Perform F. INSTALL COVER.
F. INSTALL COVER

a. Attach sensor connector (A) to existing harness (B) behind chain case.
b. Secure sensor harness to hose with cable tie (C).
c. Install cover as follows:

I. D60 HARVEST HEADER

1. For single reels, position cover (D), and install four screws (E).

II. D50 HARVEST HEADER

1. Position cover (H), and install six screws (J).

STEP 7. INSTALL OPTIONS

Retrieve kits supplied as options with the header, and install in accordance with installation instructions that are supplied in each kit.
STEP 8. SET UP ADAPTER

A. CENTER-LINK KIT

Some combine models require shorter center-link components to ensure clearance to the combine cab.

To avoid damage to your combine, lift feeder slowly, and check clearance between cab and header center-link.

If clearance is inadequate, order short center-link components. Installation instructions are included.

The following combine models have been identified as requiring the short center-link components:

- Case IH 5088, 6088, and 7088 without Stone Traps.
- Gleaner R Series.

B. FLIGHTING EXTENSIONS

Flighting extension kits may have been supplied with your header to improve feeding in certain crops such as rice. They are not recommended in cereal crops.

APPLICABLE COMBINES: All except New Holland CR960, 9060, 970, 9070, 9080, and 9080.

If necessary, remove auger flighting extensions as follows.

a. Remove access cover (A).
b. Remove eight bolts (B), washers, and nuts that secure flighting extension (C) to auger, and remove extension.
c. Repeat for other flighting extension.
d. Re-install access cover (A).
C. STRIPPER BARS

Stripper bar kits may have been supplied with your header to improve feeding in certain crops such as rice. They are not recommended in cereal crops.

APPLICABLE COMBINES: All except New Holland CR960, 9060, 970, 9070, and 9080.

If necessary, remove auger stripper bars as follows:

a. Remove four bolts (D) and nuts securing bars (E) to adapter frame, and remove bars.

b. Repeat for opposite set of stripper bars.

D. CR FEEDER DEFLECTORS

For New Holland CR 960, 9070, and 9080 combines, feeder kits have been installed on the adapter at the factory to improve feeding into the feeder house.

They may also have been installed as an option on older machines. If necessary, they can be removed.

CA20 adapters for the CR Models listed have short feeder kits installed at the factory.

Long feeder kits are provided for narrow feeder house combines, and are dealer-installed to replace the short feeder kits.

If required, replace the feeder deflectors as follows:

a. Determine position of existing deflector (A) by measuring gap “X” between deflector forward edge and pan.

b. Remove two bolts (B) and nuts securing deflector (A) to adapter frame, and remove deflector.

c. Position replacement deflector, and secure with bolts (B) and nuts. Maintain dimension “X” from existing deflector for replacement deflector.

d. Repeat for opposite deflector.

e. After attaching header to combine, extend center-link fully, and check gap between deflector and pan. Maintain 7/8 in. (22 mm) +/- 1/8 in. (3 mm).
STEP 9. ATTACH TO COMBINE

Refer to specific section for your combine.

<table>
<thead>
<tr>
<th>COMBINE</th>
<th>SECTION</th>
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<td>NEW HOLLAND</td>
<td>F</td>
</tr>
<tr>
<td>AGCO</td>
<td>G</td>
</tr>
</tbody>
</table>

**IMPORTANT**

Ensure applicable functions (AHHC, Draper Header Option, Hydraulic Center-link Option, Hydraulic Reel Drive, etc.) are enabled on the combine, and combine computer. Failure to do so may result in improper header operation.

**IMPORTANT**

Some combine models require shorter center-link components to ensure clearance to the combine cab.

To avoid damage to your combine, lift feeder slowly and check clearance between cab and header center-link.

If clearance is inadequate, order short center-link components. Installation instructions are included. See STEP 8. SET UP ADAPTER.

---

**A. CASE IH**

Case IH 7010, 8010, 7120, 8120, 5088, 6088, 7088.


b. Slowly drive combine up to header until feeder house saddle (B) is directly under the adapter top cross member (C).

c. Raise feeder house to lift header slightly, ensuring feeder saddle is properly engaged in adapter frame.

(continued next page)
UNLOADING AND ASSEMBLY

CAUTION
Stop engine, and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

d. Lift latch (D) on adapter at left side of feeder house, and push handle (E) on combine to engage locks (F) on both sides of the feeder house.
e. Push down on latch (D) so that slot in latch engages handle (G), locking it in place.
f. If lock (F) does not fully engage pin on adapter when latch (D) and handle (E) are engaged, loosen bolts (G), and adjust lock as required. Retighten bolts.
g. Remove blocks from under cutterbar.
h. Start engine, and lower header. Shutdown combine.
i. Connect combine hydraulic quick coupler to receptacle on adapter as follows:

1. Open cover (H).
2. Push in lock button (J), and pull handle (K), to position approximately as shown.
3. Remove coupler (L) from combine, and clean coupler.
4. Position coupler (L) onto adapter receptacle (M), and push handle to engage coupler pins into receptacle.
5. Push handle to closed position until lock button (N) snaps out.
6. Remove electrical connector (O) from storage cup on combine.

(continued next page)
UNLOADING AND ASSEMBLY

k. Open cover on adapter electrical receptacle (P); align lugs on connector (Q) with slots in adapter receptacle; push connector onto receptacle; and turn collar on connector to lock it in place.

l. Rotate disc (R) on adapter driveline storage hook and remove driveline from hook.

m. Pull back collar (S on end of driveline, and push onto combine output shaft (T) until collar locks.

n. Proceed to page 50, STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS.
**UNLOADING AND ASSEMBLY**

**B. CASE IH 23, 25 SERIES**

2300, 2500 Series

a. Attach adapter to combine as follows:

### Sliding Pin System

1. Move handle (A) on left side of feeder house to “up” position to retract both pins (B) at lower corners of feeder house.

2. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D).

3. Raise feeder house slightly to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.

4. Lower handle (A) to engage pins (B) into adapter.

5. Proceed to step b.

### Latch System

**WARNING**

To avoid bodily injury or death from unexpected start-up or fall of raised attachment; stop engine, remove key and engage lift cylinder stop before proceeding with hook-up.

1. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D). See illustration opposite.

2. Raise feeder house fully, and engage combine lift cylinder locks.

3. Remove pin (E), and lower latch handle (F) (one on each side of feeder house underside) to hook latch (G).

4. Lift handle to “over-center” position to lock. Requires 40 - 50 lbf (180 - 220 N) to move handle “over-center”. Adjust nuts (H) on U-bolts to vary force required on handle.

(continued next page)
UNLOADING AND ASSEMBLY

5. Tighten jam-nuts (J) when force is correct.
6. Install pin (E) as shown on previous page, to secure latch handle in locked position.
7. Remove combine lift cylinder locks, and lower header to ground.
b. Connect combine hydraulics to adapter as follows:

1. Disconnect reel drive hoses (K) and (L) (white discs) from combine and adapter receptacles.
2. Connect hose (K) from combine to adapter coupler (M).
3. Connect hose (L) from the adapter to the combine coupler (N).

4. Remove plug from reel lift coupler (O) (black disc) on combine.

5. Remove red dust cap from reel lift hose (P) on adapter, and connect hose to combine coupler (O).

6. Disconnect reel fore-aft hoses (Q) and (R) (red discs) from combine and adapter receptacles.

(continued next page)
UNLOADING AND ASSEMBLY

7. Connect hose (Q) from combine to adapter coupler (S).
8. Connect hose (R) from the adapter to the combine coupler (T).

c. Connect adapter electrical harness (U) to combine electrical connector, and if applicable connect AHHC wire harness at U1.
d. Open guard at combine output shaft.

e. Rotate disc (V) on adapter driveline storage hook, and remove driveline from hook.

f. Pull back collar on end of driveline, and push onto combine output shaft (W) until collar locks. Close guard (X).

g. If adapter is equipped with reel fore-aft/header tilt selector, connect harness (Y) to combine.
h. Proceed to page 50, STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS.
C. JOHN DEERE 60 SERIES
Contour Master, Level Land

a. Push handle (A) on combine coupler toward feeder house to retract pins (B) at bottom corners of feeder house.
b. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D).
c. Raise feeder house to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.
d. Raise or lower header until slightly off the ground.

CAUTION
Stop engine, and remove key from ignition before leaving operator’s seat for any reason. A child or even a pet could engage an idling machine.

e. Pull handle (A) to near vertical position, to engage pins (B) in adapter.
f. Check that bolts (E) on adapter brackets are tight.
g. If pins (B) do not fully engage adapter brackets, loosen bolts (E), and adjust bracket as required. Re-tighten bolts.
h. Remove blocks from under cutterbar.
i. Start engine, and lower header.
j. Pull handle (H) on adapter to release coupler (J) from storage position. Remove coupler, and push handle back into adapter to store.

(continued next page)
UNLOADING AND ASSEMBLY

k. Attach coupler (J) to combine as follows:

1. Handle (A) should be in the “nearly up” position. Clean receptacle.

2. Locate coupler (J) onto receptacle, and pull handle (A) so that lugs on coupler are engaged into handle.

3. Pull handle to full horizontal position as shown.

4. Slide latch (K) to lock handle in position, and secure with lynch pin (L).

l. Remove shipping wire from driveline.

m. Rotate disc (M) on adapter drive-line storage hook, and remove drive-line from hook.

n. Pull back collar (N) on end of driveline, and push onto combine output shaft (O) until collar locks.

o. If adapter is equipped with reel fore-aft/header tilt selector, connect harness (P) to combine.

NOTE
Connector (P) may need to be retrieved from hydraulics compartment access hole (Q).

p. Proceed to STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS (page 50).
D. JOHN DEERE 50 SERIES
Contour Master, Level Land

a. Retract pins (A) at bottom corners of feeder house.

b. Slowly drive combine up to adapter until feeder house lift lugs (B) are directly under the adapter top cross member (C).

c. Raise feeder house to lift adapter, ensuring lift lugs (B) are properly engaged in adapter frame sockets (D).

d. Raise or lower header until slightly off the ground.

CAUTION
Stop engine, and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

e. Engage pins (A) in adapter.

f. Check that bolts (E) on adapter brackets are tight.

g. If pins (A) do not fully engage adapter brackets, loosen bolts (E), and adjust bracket as required. Re-tighten bolts.

h. If required, remove blocks from under cutterbar.

i. Start engine, and lower header.

j. At left side of combine feeder house, retrieve reel aft hose, reel lift hose and electrical harness.

k. Clean couplers, and attach as shown above.

l. At right side of feeder house, disconnect reel drive hoses, and retrieve reel fore hose.

(continued next page)
m. Clean couplers, and attach as shown above.

n. Open shield (H) on combine.

o. Remove shipping wire securing driveline to adapter.

p. Rotate disc (J) on adapter drive-line storage hook, and remove drive-line from hook.

q. Pull back collar (K) on end of driveline, and push onto combine output shaft (L) until collar locks.

r. Close drive shield (H) on combine.

s. If adapter is equipped with reel fore-aft/header tilt selector, connect harness (M) to combine.

**NOTE**

Connector (M) may need to be retrieved from hydraulics compartment access hole (N).

t. Proceed to STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS (page 50).
E. CAT LEXION 400, 500 SERIES

a. Handle (A) on the CA20 adapter should be in raised position, and pins (B) at bottom corners of adapter should be retracted.
b. Slowly drive combine up to header until feeder house is directly under the adapter top cross member.
c. Raise feeder house to lift adapter, ensuring feeder house posts (C) are properly engaged in adapter frame (D).
d. Position header slightly off the ground.

CAUTION

Stop engine, and remove key from ignition before leaving operator’s seat for any reason. A child or even a pet could engage an idling machine.

e. Remove locking pin (E) from adapter pin (B).
f. Lower handle (A) to engage adapter pins into feeder house. Re-insert locking pin (E), and secure with hairpin.
g. Remove blocks from under cutterbar.
h. Start engine, and lower header. Shutdown the combine.

(continued next page)
i. Connect hydraulic hoses as follows:

**500 Series**

1. Unscrew knob (H) on combine coupler (J) to release coupler from combine receptacle.

   ![Image 500 Series 1](image1)

2. Remove cover (K) from adapter receptacle.

   ![Image 500 Series 2](image2)

3. Locate coupler (J) onto adapter receptacle (L), and turn knob (H) to secure coupler to receptacle.

4. Place cover (K) on combine receptacle.

5. Proceed to step k.

**400 Series**

1. Unscrew knob (M) on combine coupler (N) to release coupler from combine receptacle.

   ![Image 400 Series 1](image3)

2. Remove cover (O) from adapter receptacle, and place on combine receptacle.

   ![Image 400 Series 2](image4)

(continued next page)
3. Locate coupler (N) onto adapter receptacle (P), and turn knob (M) to secure coupler to receptacle.

4. Disconnect hoses (Q) and (R) on combine at couplers.

5. Connect hose (Q) to coupler (S) on adapter.

6. Connect hose (R) to coupler (T) on adapter.

7. Connect wiring harness (U) to adapter connector (not shown).

j. Remove shipping wire securing driveline to adapter.

k. Rotate disc (V) on adapter drive-line storage hook, and remove drive-line from hook.

l. Pull back collar (W) on end of driveline, and push onto combine output shaft (X) until collar locks.

(continued next page)
m. If adapter is equipped with reel fore-aft/header tilt selector, connect harness (Y) to combine.

**NOTE**
Connector (Y) may need to be retrieved from hydraulics compartment access hole (Z).

n. Proceed to STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS (page 50).
F. NEW HOLLAND

CR, CX

a. Ensure handle (A) is positioned so that hooks (B) can engage adapter.

b. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D).

c. Raise feeder house to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.

CAUTION

Stop engine, and remove key from ignition before leaving operator’s seat for any reason. A child or even a pet could engage an idling machine.

d. Lift lever (E) on adapter at left side of feeder house, and push handle (A) on combine so that hooks (B) engage pins (F) on both sides of the feeder house.

e. Push down on lever (E) so that slot in lever engages handle to lock handle in place.

f. If hook (B) does not fully engage pin on adapter when (A) and (E) are engaged, loosen bolts (G), and adjust lock as required. Re-tighten bolts.

g. Connect combine hydraulics to receptacle on adapter as follows:

1. Open cover (J).
2. Push in lock button (K), and pull handle (L) “halfway up” to “open” position.

(continued next page)
3. Remove coupler (H) from storage location on combine, and clean mating surface of coupler.

4. Position coupler (H) onto adapter receptacle, and push handle (L) to engage pins into receptacle.

5. Push handle (L) to "closed" position until lock button (K) snaps out.

h. Attach combine electrical connector to adapter as follows:
   1. Remove cover on adapter electrical receptacle.
   2. Remove connector (N) from combine.
   3. Align lugs on connector (N) with slots in adapter receptacle, and push connector onto receptacle. Turn collar on connector to lock it in place.

i. Rotate disc (P) on adapter driveline storage hook, and remove driveline from hook.

j. Pull "back" collar (Q) on end of driveline, and push onto combine output shaft (R), until collar locks.

k. Proceed to page 50, STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS.
G. AGCO
Gleaner R Series, A Series
Challenger 660, 670, 680B
Massey 9690, 9790, 9895

IMPORTANT
Some combine models require shorter center-link components to ensure clearance to the combine cab.

To avoid damage to your combine, lift feeder slowly and check clearance between cab and header center-link.

If clearance is inadequate, order short center-link components. Installation instructions are included. See STEP 8.

SET UP ADAPTER.

a. Retract lugs (A) at base of feeder-house with lock handle (B).

b. Slowly drive combine up to adapter until feeder house is directly under the adapter top cross member (C), and alignment pins (D) are aligned with holes (E) in adapter frame.

ALL EXCEPT GLEANER ‘R’ SERIES

ALL EXCEPT GLEANER ‘R’ SERIES and ‘LL’ MODEL

GLEANER ‘R’ SERIES

‘LL’ MODEL

(continued next page)
c. Raise feeder house to lift adapter, ensuring feeder house saddle (F) and alignment pins are properly engaged in adapter frame.
d. Position header slightly off the ground.

**CAUTION**

Stop engine, and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

e. Engage lugs (A) with adapter using lock handle (B).

f. Remove blocks from under cutterbar.
g. Start engine, and lower header. Shutdown the combine.

**NOTE**

The CA20 Combine Adapter is equipped with a multi-coupler that connects to the combine.

If your combine is equipped with individual connectors, a multi-coupler kit (single-point connector) must be installed. The kits are available through your AGCO dealer and include installation instructions.

<table>
<thead>
<tr>
<th>COMBINE</th>
<th>AGCO KIT #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenger</td>
<td>71530662</td>
</tr>
<tr>
<td>Massey</td>
<td>71411594</td>
</tr>
<tr>
<td>Gleaner ‘R’ Series</td>
<td>71414706</td>
</tr>
</tbody>
</table>

h. Connect adapter hydraulic quick coupler to combine receptacle as follows:

1. Push handle (G) on combine to full open position. Clean receptacle (H).

*(continued next page)*
2. Pull handle (J) to release coupler (K) from adapter.

3. Position coupler (K) onto combine receptacle (H), and pull handle (G) to fully engage coupler into receptacle (H).

i. Remove shipping wire securing driveline to adapter.

j. Rotate disc (M) on adapter drive-line storage hook, and remove drive-line from hook.

k. Pull back collar (N) on end of driveline, and push onto combine output shaft (O) until collar locks.

l. Connect harness (P) to combine.

**NOTE**
Connector (P) may need to be retrieved from hydraulics compartment access hole (Q).

m. Proceed to STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS (page 50).
STEP 10. CONNECT REEL TO FORE-AFT CYLINDERS

CAUTION

The reel fore-aft hydraulic cylinders must be connected to the reel prior to removing the fore-aft supports. Failure to do so may result in the reel sliding full forward when the supports are removed.

CAUTION

Reel arms must be level prior to removing reel shipping braces. Failure to do so may result in reel moving suddenly.

CAUTION

Be sure all bystanders are clear of machine before starting engine or engaging any header drives.

a. Remove shipping wire and pins from fore-aft cylinders on each reel support arm. Pin may be installed in arm.

b. Start combine engine, and level the reel arms with the combine hydraulics.

c. Extend and retract fore-aft cylinders to re-phase cylinders.

d. Align cylinders with reel arm mounting holes with combine hydraulics. Stop engine, and remove key.

e. Attach fore-aft cylinders to reel arms with clevis pins, washers, and cotter pins.

(continued next page)
STEP 11. ATTACH CAM ARMS

a. Manually rotate reel until the tine bars with the disconnected cam links are accessible.

b. Remove shipping wire if not already removed.

c. Remove bag of hardware from tine bar. It contains hardware for cam links and endshields.

d. Rotate tine bar crank (A), and position link (B) until attachment holes in bar crank and link are approximately aligned.

e. Install bolt (C) in link, and position shim (D) (5/8” ID lockwasher on D50) on bolt so that shim is between link and tine bar crank.

   **NOTE**

   *Bolts are pre-coated with Loctite®, so no further locking method is required.*

f. Re-align link and tine bar crank, and thread in the bolt (C).

g. Repeat for remaining tine bars, and torque bolts to 120 ft-lbf (165 N·m).
STEP 12. INSTALL REEL ENDSHIELDS

Up to three endshields on each end of some reels were removed for shipping purposes. If necessary, re-install shields as follows.

a. Manually rotate reel until the wired endshields are accessible. Remove endshields.

b. Manually rotate reel for accessibility to re-install the shields.

c. Loosen bolts securing endshield supports to disc, and rotate supports approximately as shown.

d. Retrieve hardware from bag removed in previous step.

e. Install endshields with lip in relation to reel rotation. Use 3/8" x 0.5 long TORX head screws, and torque to 20 ft-lbf (27 N·m). See above for hardware orientation.

The jam-nuts must be locking jam-nuts. If they are not locking nuts, use Loctite® #243 (or equivalent).

f. Re-tighten endshield support bolts, if necessary.
STEP 13. REMOVE SHIPPING SUPPORTS

The removable supports are painted yellow.

NOTE
Unless otherwise specified, discard supports, and all shipping material and hardware.

a. Remove bolts (A), and remove strap (B) from both sides of center frame.

NOTE
If strap is difficult to remove, lift on one end of header to release the load on the strap, so that bolts can be removed.

b. Remove cotter pin (C), bolts (D), and remove shipping strap (E).

NOTE
If hydraulic center-link is installed, there is only one strap.

c. Re-install cotter pin (C).

d. Repeat for opposite brace.

e. Start combine, and level the reel arms with the combine hydraulics.

f. Remove tagged bolts that lock reel bracket assemblies to reel arms. (D50 only).

g. Remove braces on reel arms. (D60 ONLY).
STEP 14. INSTALL CROP DIVIDERS

A. D60

a. At divider storage location, remove shipping wire from crop divider.

b. Lift divider to disengage lugs (A) at lower end, and then lower it slightly to disengage pin (B) from endsheet.

c. Position crop divider as shown by locating lugs (A) in holes in endsheet.

d. Lift forward end of divider until pin (C) at top of divider engages and closes latch (D).

e. Push safety lever (E) down to lock pin in latch.

f. Check that divider does not move laterally. Adjust bolts (F) as required to tighten divider, and remove lateral play when pulling at divider tip.

g. Remove divider rods from shipping location on header endsheet.

h. Position divider rod (G) on tip of crop divider as shown, and tighten bolt (H).

i. Repeat above steps for other end of header.
UNLOADING AND ASSEMBLY

B. D50

a. Remove bolt (A), and washer securing crop divider to endsheet.

b. Lift divider to disengage lugs (B) at lower end.

c. Position crop divider as shown by locating lugs (B) in holes in endsheet forward end, and lift forward end of divider to the face of the endsheet.

d. Install bolt (A), lock-washer, and flat washer. Tighten bolt.

e. Check that divider does not move laterally. Adjust bolts (C) as required to tighten divider, and remove lateral play when pulling at divider tip.

f. Remove divider rods from shipping location on header endsheet.

g. Position divider rod (D) on tip of crop divider as shown, and tighten bolt (E).

h. Repeat above steps for other end of header.
STEP 15. INSTALL HEADER ENDSHIELDS

The endshields are banded or wired to the backsheet for shipping.

Remove endshields, and discard shipping material.

Single knife headers are fitted with a hinged endshield on the LH end of the header for easy access to the header drive. The RH end is not hinged, but is still removable.

Double knife headers (DK) are fitted with hinged endshields on both ends of the header.

A. HINGED ENDSHIELD

a. Remove shipping wire from endshield support (A), and swivel support away from endsheet toward the back of the header until it latches (B).
b. Retrieve plastic endshields.
c. Remove screw (C) at top of support.

d. Install endshield (D) onto support tube, and re-install screw (C).

e. To close shield, lift latch (B), and swing the shield forward until the front engages the crop divider (E).
f. Push in shield where shown (opposite latch), and shield will self-latch.

NOTE

Plastic endshields are subject to expansion or contraction depending on large temperature variations. Latch pin can be adjusted to compensate for dimensional changes.

g. The endshield should fit snugly onto the endsheet. Check gap ‘X‘ between the front end of the shield and the header frame, and compare the measurement with the values in the chart (next page).

(continued next page)
h. If required, adjust as follows:

1. Open endshield by pressing against latch in opening at (F) on inboard side of endsheet.

2. Pull shield away from header, and swing it out and back behind the endsheet until the latch (B) engages the hook on the endsheet.

3. Loosen bolts (G) on support.

4. Loosen bolts (H) on latch assembly (J).

5. Adjust latch assembly (J) to achieve appropriate gap ‘X’ in chart (previous column).

6. Tighten bolts (G) and (H).

i. To achieve a snug fit between the aft end of the shield and header frame, loosen bolts (K), and adjust the latch assembly (L) to re-position the shield.

(continued next page)
UNLOADING AND ASSEMBLY

j. Loosen bolts (M) on endshield support, and adjust endshield to align with endsheet as shown above.
k. Tighten hinge bolts (K) and bolts (M).
l. Close endshield.

B. NON-HINGED ENDSHIELD

a. To install the non-hinged shield, locate forward end in crop divider (A), and position shield over endsheet. Pin (B) at top of endsheet must engage shield.

b. Push shield “in” where shown (opposite latch), and shield will self-latch.

c. The endshield should fit snugly onto the endsheet. Check gap 'X' between the front end of the shield and the header frame, and compare the measurement with the values in the following chart.

<table>
<thead>
<tr>
<th>TEMPERATURE</th>
<th>GAP 'X'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degrees °F (°C)</td>
<td>in. (mm)</td>
</tr>
<tr>
<td>25 (- 4)</td>
<td>1.1 (28)</td>
</tr>
<tr>
<td>45 (7)</td>
<td>1.0 (24)</td>
</tr>
<tr>
<td>65 (18)</td>
<td>0.79 (20)</td>
</tr>
<tr>
<td>85 (29)</td>
<td>0.64 (16)</td>
</tr>
<tr>
<td>105 (41)</td>
<td>0.5 (12)</td>
</tr>
<tr>
<td>125 (52)</td>
<td>0.32 (8)</td>
</tr>
<tr>
<td>145 (63)</td>
<td>0.16 (4)</td>
</tr>
<tr>
<td>165 (89)</td>
<td>0</td>
</tr>
</tbody>
</table>

(continued next page)
d. If required, adjust as follows:

1. Remove the endshield by pressing against latch in opening at (C) on inboard side of endsheet.

2. Lift up on shield, pull out and then back to remove it.

3. Loosen bolts (D).

4. Adjust the pin assembly (E) to achieve the gap ‘X’ between the front end of the shield and the header frame, in accordance with the chart (on previous page).

5. Tighten bolts (D).

e. To achieve a snug fit between the aft end of the shield and header frame, loosen bolts (F), and adjust the latch (G) to re-position the shield.

f. Tighten bolts (F).

STEP 16. POSITION TRANSPORT LIGHTS

Position light perpendicular to header.
Lights are located on each of the outboard reel arms.
STEP 17. PRE-DELIVERY INSPECTION

IMPORTANT
To avoid machine damage, check that no shipping dunnage has fallen into machine.

Perform the final checks as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction) to ensure the machine is field-ready.

Refer to the following pages for detailed instructions as indicated on the checklist.

IMPORTANT
The machine has been set at the factory and should require no further adjustments. However, perform the following checks to ensure your machine will provide maximum performance.

Adjustments should be made only if absolutely necessary, and in accordance with the instructions in this manual.

The completed checklist should be retained either by the Operator or the Dealer.

A. TIRE PRESSURE (TRANSPORT AND STABILIZER WHEEL OPTIONS)

Check tire inflation pressure.
If necessary, inflate as per following table.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TIRE</th>
<th>SIZE</th>
<th>PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 and EARLIER</td>
<td>GOODYEAR WRANGLER RT/S</td>
<td>205-75 R15</td>
<td>40 psi (276 kPa)</td>
</tr>
<tr>
<td>2007 and LATER</td>
<td>CARLISLE and TITAN</td>
<td>ST205/75 R15</td>
<td>65 psi (448 kPa)</td>
</tr>
</tbody>
</table>

IMPORTANT
Do not exceed maximum pressure specified on tire sidewall.

B. WHEEL BOLT TORQUE (TRANSPORT AND STABILIZER WHEEL OPTIONS)

Check wheel bolt torque is 80 - 90 ft·lbf (110-120 N·m). Refer to bolt tightening sequence illustration.

C. WOBBLE BOX

a. Position of plug (A) and breather (B) at wobble box must be as shown.
b. Check oil level.
PRE-DELIVERY INSPECTION

**D. GEARBOX OIL**

a. Set cutterbar to working position.
b. Remove drain plug. Level should be to bottom of drain hole.

**E. HYDRAULIC RESERVOIR**

a. Set cutterbar on ground.
b. Check oil level at sights (A) and (B), with cutterbar just touching ground. Check when oil is cold, and with center-link retracted.

Nominal - Normal Terrain: Maintain level so lower sight (A) is full, and upper sight (B) is empty.

**NOTE**

When ambient temperatures are above 95°F (35°C), to prevent overflow at breather under operating temperatures, it may be necessary to lower oil level slightly.

**F. SICKLE DRIVE BELT TENSION**

**IMPORTANT**

To prolong belt and drive life, do not over-tighten belt.

**I. NON-TIMED DRIVE - SK and DK**

a. Open endshield.

b. A force of 20 lbf (80 N) should deflect belt (C) 3/4 in. (18 mm) at mid-span.

c. Only if necessary, adjust tension as follows:
   1. Loosen two bolts (D) on sickle drive mounting bracket, and jam-nut (E).
   2. Turn adjuster bolt (F) to move drive motor until tension is achieved.
   3. Tighten jam-nut (E) and bolts (D) on drive mounting bracket.

d. Close endshield.

(continued next page)
II. TIMED DRIVE - DK

Timing Belts

1. A force of 6 lbf (27 N) should deflect timing belt (G) 1/2 in. (13 mm) at mid-span.
2. Only if necessary, adjust tension as follows:
   i. Loosen two nuts (H) on sickle drive belt idler bracket.
   ii. Insert a long punch or equivalent into hole (J) in idler bracket, and pry “downward” until a force of 6 lbf (27 N) deflects timing belt 1/2 in. (13 mm) at mid-span (G).
   iii. Tighten nuts (F) on idler mounting bracket.

Double V-Belts - LH Side Only

1. A force of 12 lbf (53 N) should deflect V-belts (K) 1/8 in. (3 mm) at mid-span.
2. Only if necessary, adjust tension as follows:
   i. Loosen two bolts (L) on sickle drive mounting bracket.
   ii. Loosen two bolts (M) on endsheet.
   iii. Turn adjuster bolt (N) to move drive motor until a force of 12 lbf (53 N) deflects V-belts (K) 1/8 in. (3 mm) at mid-span.
   iv. Tighten bolts (L) and (M).
G. **REEL CENTERING**

***WARNING***

Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

a. Measure clearance between reels and both endsheets. The clearances should be the same if the reels are centered.

b. If required center the reels as follows:

1. Loosen bolt (A) on each brace (B) located at each end of the reel.
2. Move forward end of reel support arm (C) laterally as required to center reel.
3. Tighten bolts (A), and torque to 265 ft·lbf (359 N·m).
H. **SIDE DRAPER TENSION**

The drapers are tensioned after installation at the factory, so should not require adjustment.

Draper tension should be just enough to prevent slipping, and keep draper from sagging below cutterbar. The white indicator bar (A) (shown in the next column) should be about “halfway” in the window.


![WARNING]

**WARNING**

Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

![CAUTION]

**CAUTION**

Engage header lift cylinder stops before working under header.

b. Check that draper guide (rubber track on underside of draper) is properly engaged in groove of drive roller, and that idler roller is “between” the guides.

c. If required, set draper tension as follows:

1. Turn bolt (B) clockwise (tighten), and white indicator bar (A) will move inboard in direction of arrow to indicate that draper is tightening.

2. Turn bolt (B) counter clockwise (loosen), and white indicator bar (A) will move outboard in direction of arrow to indicate that draper is loosening.

3. Adjust until bar is about “halfway” in window.

![B A]

**IMPORTANT**

To avoid premature failure of draper, draper rollers and/or tightener components, do not operate with tension set so that white bar is not visible.

Also to prevent the draper from scooping dirt, ensure draper is tight enough that it does not sag below point where cutterbar contacts the ground.
PRE-DELIVERY INSPECTION

I. HEADER MAIN FLOAT

a. Ensure both header float lock levers are down (UNLOCK).

b. Set center-link to mid-range (B to C on float/angle indicator if installed). Adjust cutterbar to 6 - 10 in. (150 - 250 mm) above the ground.

c. If header is equipped with stabilizer wheels or slow speed transport wheels, raise them off the ground as follows so they are supported by the header:
   1. Ensure that wheels are not supporting header.
   2. Support wheel weight by lifting slightly with one hand at handle (A). Pull “up” on handle (B) to release lock.
   3. Lift wheels to desired height, and engage support channel into slot (C) in upper support.
   4. Push “down” on handle (B) to lock.

(continued next page)
d. Lift the header at the rear diagonal brace, or on the back-tube. The header should move “up” with approximately 75 lbf (334 N) force, and then return to its original position.

**NOTE**

*Check movement of bellcranks at base of adapter. They should move forward when the header is lifted, and then return to the original position.*

---

e. If excessive force is required, the float adjustment is too low. If the header does not return to its original position, the float adjustment is too high. Adjust as follows:

1. Ensure both header float lock levers are down (UNLOCK).

2. Tighten bolts at both sides of adapter to increase float (lightens the header).

3. Loosen bolts to decrease float (increases header weight).

**IMPORTANT**

*Turn each bolt pair equal amounts.*
J. **SKID SHOE SETTINGS**

**WARNING**

Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

**CAUTION**

Engage header lift cylinder stops before working under header.

a. Note the hole positions on the adjuster legs (A) on each skid shoe. They should be the same.

b. If necessary, adjust as follows:

1. Remove lynch pin (B).
2. Hold shoe, and remove pin (C) by disengaging frame, and then pulling away from shoe.
3. Raise or lower skid shoe to desired position using holes in support as a guide.
4. Re-insert pin (C), engage in frame, and secure with lynch pin (B).
5. Check that skid shoes are adjusted to the same position.
**PRE-DELIVERY INSPECTION**

**K. REEL TINE TO CUTTERBAR CLEARANCE**

a. Adjust fore-aft reel position so that back end of cam disc is approximately between 4 and 5 on the arm decal, and fully lowered.

b. Rotate reel manually to determine which finger is closest to cutterbar (within 12 in. (300 mm)) of endsheets.

c. Flex fingers back as shown to check clearance “X”. Refer to chart for allowable clearances.

<table>
<thead>
<tr>
<th>“X” +/- 0.12 in. (3 mm)</th>
<th>“X” +/- 0.12 in. (3 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Endsheets</td>
<td>At Sectors Next to Drive</td>
</tr>
<tr>
<td>0.78 in. (20 mm)</td>
<td>1.56 in. (40 mm)</td>
</tr>
</tbody>
</table>

d. If required, adjust outside reel arms as follows:

1. Loosen bolt (A).
2. Turn cylinder rod (B) counter clockwise to raise reel and increase clearance to cutterbar, or clockwise to decrease.
3. Tighten bolt (A).
4. Repeat at opposite side.

e. If applicable, adjust center arm as follows:

1. Loosen nut (C).
2. Turn nut (D) clockwise to raise reel and increase clearance to cutterbar, or counter clockwise to decrease.
3. Tighten bolt (C).
L. **DRAPER SEAL**

- a. Check deck height so that draper (A) runs just below cutterbar (B) with maximum 1/32 in. (1 mm) gap, or with draper deflected down slightly (up to 1/16 in. (1.5 mm)) to create a seal.

  **NOTE**  
  *Measurement is at supports with header in working position and decks slid fully ahead.*

- b. Loosen tension on drapers. Refer to sub-step H SIDE DRAPER TENSION.

- c. Lift draper up at front edge past cutterbar.

- d. Loosen two locknuts (C) a half-turn only on deck support (D). There are two to four supports per deck, depending on header size.

- e. Tap deck (E) to lower deck relative to supports to achieve setting recommended above. Tap support (D) using a punch to raise deck relative to support.

- f. Tighten deck support hardware (C).

- g. Tension drapers. Refer to sub-step H SIDE DRAPER TENSION.
M. LUBRICATE HEADER

Refer to the illustrations for lubrication points:

a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
c. Leave excess grease on fitting to keep out dirt.
d. Replace any loose or broken fittings immediately.
e. If fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
f. Use clean High Temperature Extreme Pressure grease as shown.
PRE-DELIVERY INSPECTION

NOTE
U-joint has an extended lubrication cross and bearing kit. Stop greasing when greasing becomes difficult, or if U-joint stops taking grease. **Overgreasing will damage U-joint.** 6 - 8 pumps are sufficient at first grease (factory). Decrease grease interval as U-joint wears and requires more than 6 pumps.

NOTE
To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over-grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.

(continued next page)
PRE-DELIVERY INSPECTION

High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base

NOTE
To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over-grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.
PRE-DELIVERY INSPECTION

High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base

CA20 ADAPTER

AUGER BEARING AND PIVOT

AUGER DRIVE (2 PLCS) AND PIVOT

DRIVE UNIVERSAL - (2 PLCS)

FLOAT PIVOT - BOTH SIDES

DRIVE ROLLER BEARING (1 PLC)
N. MANUALS

a. Open the left endshield, and remove plastic tie on manual case.

b. Check that case contains the following manuals:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>TYPE</th>
<th>FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>D50 and D60 Harvest Headers for Self-Propelled Windrows</td>
<td>Operator’s Manual</td>
<td>169441</td>
</tr>
<tr>
<td>D50 and D60 Harvest Header, FD70 FlexDraper Combine Header</td>
<td>Operator’s Manual</td>
<td>169006</td>
</tr>
<tr>
<td>D50/D60 Harvest Header, FD70 FlexDraper Combine Header</td>
<td>Parts Catalog</td>
<td>169008</td>
</tr>
<tr>
<td>CA20 Combine Adapter</td>
<td>Parts Catalog</td>
<td>169011</td>
</tr>
<tr>
<td>MacDon D50/D60/FD70</td>
<td>Quick Card</td>
<td>169234</td>
</tr>
<tr>
<td>MacDon D50/D60 SP Draper Header</td>
<td>Quick Card</td>
<td>169406</td>
</tr>
</tbody>
</table>

c. Close case and endshield.
STEP 18. RUN-UP THE HEADER

a. Start combine, raise header fully, and engage header lift cylinder locks. Shutdown combine, and remove key.

⚠️ **WARNING**

Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

⚠️ **CAUTION**

Engage header lift cylinder stops before working under header.

b. Lower poly pan under adapter, and check for shipping materials/debris that may have fallen under adapter draper as follows:

1. Rotate latches (A) to unlock handle (B).
2. Hold pan (C), and rotate handle (B) to release pan. Lower pan to expose draper.
3. Check and remove debris from pan and draper.
4. Raise pan, and rotate handle (B) so that rod engages clips (D) on pan.
5. Push handle into slot, and secure with latches (A).

(continued next page)
RUN-UP ADJUSTMENTS AND CHECKS

CAUTION
Never start or move the machine until you are sure all bystanders have cleared the area.

CAUTION
Clear the area of other persons, pets etc. Keep children away from machinery. Walk around the machine to be sure no one is under, on or close to it.

CAUTION
Before investigating an unusual sound or attempting to correct a problem, shut off engine, engage parking brake, and remove key.

A. KNIFE SPEED

The header knife drive is driven by the adapter mounted hydraulic pump. The knife drive speed is factory set for a feeder house speed of 575 rpm for CNH and John Deere adapters, and 780 rpm for AGCO and Lexion adapters.

IMPORTANT
For variable speed feeder houses, this will be the minimum speed setting. To operate variable speed feeder house at greater than minimum speed, flow to the knife drive motor must be reduced to prevent excessive speeds which could result in premature knife failure.

<table>
<thead>
<tr>
<th>Header Size</th>
<th>Recommended Knife Drive Speed Range (RPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Knife</td>
</tr>
<tr>
<td>25 FOOT</td>
<td>550 - 675</td>
</tr>
<tr>
<td>30 FOOT</td>
<td>550 - 650</td>
</tr>
<tr>
<td>35 FOOT</td>
<td>550 - 600</td>
</tr>
<tr>
<td>40 FOOT</td>
<td>525 - 600</td>
</tr>
<tr>
<td>45 FOOT</td>
<td>N/A</td>
</tr>
</tbody>
</table>

d. If adjustment to the wobble box pulley rpm is necessary, contact your MacDon Dealer or refer to the D60/FD70/CA20 Technical Manual.

e. Perform the run-up check as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction) to ensure the machine is field-ready.

c. Open side draper flow control 2 turns.
d. Ensure feeder house variable speed is set to minimum.
e. Open the LH endshield.

NOTE
Reel and side drapers will not operate until oil flow fills the lines.

f. Start combine, and run the machine at operating speed for 15 minutes. Run the header slowly for the first 5 minutes, watching and listening FROM THE OPERATOR’S SEAT for binding or interfering parts.

a. Have someone check the rpm of the wobble box pulley using a hand held tachometer.
b. Shutdown the combine.
c. Compare actual pulley rpm with the values in the following chart:

<table>
<thead>
<tr>
<th>Header Size</th>
<th>Recommended Knife Drive Speed Range (RPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Knife</td>
</tr>
<tr>
<td>25 FOOT</td>
<td>550 - 675</td>
</tr>
<tr>
<td>30 FOOT</td>
<td>550 - 650</td>
</tr>
<tr>
<td>35 FOOT</td>
<td>550 - 600</td>
</tr>
<tr>
<td>40 FOOT</td>
<td>525 - 600</td>
</tr>
<tr>
<td>45 FOOT</td>
<td>N/A</td>
</tr>
</tbody>
</table>
STEP 19. POST RUN-UP ADJUSTMENTS

The following adjustments may be necessary after the run-up.

**WARNING**

Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

A. KNIFE

a. Check guards for signs of heating during run-up due to insufficient clearance between guard and sickle.

b. If heating is evident, proceed as follows:

1. Check gap between knife head and pitman arm. A business card should slide easily through the gap. If not, then adjust gap by loosening bolt, and tapping knife head with a hammer. Re-tighten bolt.

2. Adjust guard alignment as follows: The guard straightening tool (MacDon #140135) is available from your MacDon Dealer:

   i. To adjust guard tips upwards, position tool as shown, and pull “up”.

   ii. To adjust tips downward, position tool as shown, and push “down”.

   UPWARD ADJUSTMENT

   DOWNWARD ADJUSTMENT