

# **A40-D Auger Header**

Reel Drive Motor and Endshield Kit (MD #170642)  
Installation Instructions

170610 Revision C

Original Instruction

A40-D Auger Header



1012897

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# Introduction

The Reel Drive Motor and Endshield Kit (MD #170642) is used to install a new model reel motor with a case drain on an A40-D or A40-D Grass Seed Auger Header. The kit includes a new endshield needed to accommodate the motor. The kit is needed on the following headers:

- Model year 2014 and older A40-D and A40-D Grass Seed headers

This document explains how to install the kit. A list of parts included in the kit is provided in this document.

## Installation Time

It should take approximately 120 minutes to install the Reel Drive Motor and Endshield Kit.

## Conventions

The following conventions are followed in this document:

- Right-hand (RH) and left-hand (LH) are determined from the operator's position. The front of the header is the side that faces the crop; the back of the header is the side that connects to the windrower.
- Unless otherwise noted, use the standard torque values provided in the A-Series operator's manual and technical manual.

## NOTE:

Keep your MacDon publications up-to-date. The most current version of this instruction can be downloaded from our Dealer-only site (<https://portal.macdon.com>) (login required).

## NOTE:

This document is not currently available in any language except English.

## List of Revisions

At MacDon, we're continuously making improvements, and occasionally these improvements affect product documentation. The following list provides an account of major changes from the previous version of this document.

Summary of Change	Location
Replaced kit part numbers MD #170602 and 170619 with 170642. A new kit has been created to replace both of the old kits.	<ul style="list-style-type: none"><li>• Front cover</li><li>• <a href="#">Introduction, page i</a></li></ul>
Removed part number for part that cannot be purchased separately.	<a href="#">2 Parts List, page 5</a>
Deleted footnotes referring to the old kit part numbers (MD #170602 and 170619).	
Deleted Serial Number column.	

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# 1 Safety

## 1.1 Signal Words

Three signal words, *DANGER*, *WARNING*, and *CAUTION*, are used to alert you to hazardous situations. The appropriate signal word for each situation has been selected using the following guidelines:

### **DANGER**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

### **WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

### **CAUTION**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

## 1.2 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 the following:
  - Hard hat
  - Protective footwear with slip resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - Respirator or filter mask
- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as ear muffs or ear plugs to help protect against objectionable or loud noises.



Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure the fire extinguisher is properly maintained. Be familiar with its proper use.
- Keep young children away from the machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry. Take the time to consider the safest way. Never ignore the warning signs of fatigue.

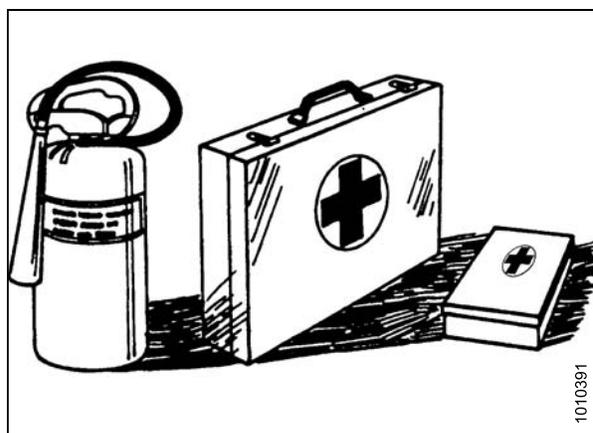


Figure 1.3: Safety Equipment

## SAFETY

- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- 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.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.



Figure 1.4: Safety around Equipment

- 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.
- Do **NOT** modify the machine. Non-authorized modifications may impair machine function and/or safety. It may also shorten the machine's life.
- To avoid bodily injury or death from unexpected startup of machine, always shut down the engine and remove the key from ignition before leaving operator's seat for any reason.

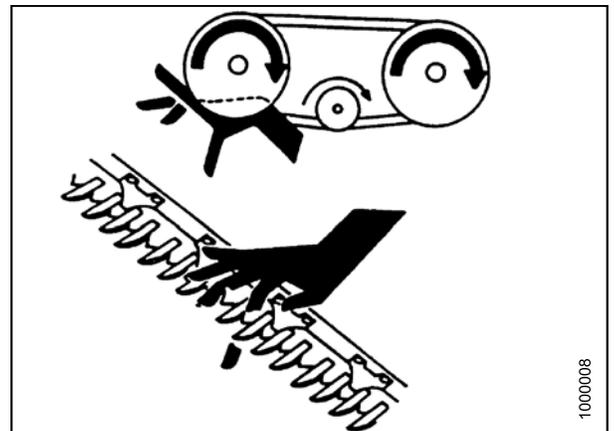


Figure 1.5: Safety around Equipment

- Keep the service area 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.
- Keep work area well lit.
- Keep machinery clean. Straw and chaff on a hot engine is a fire hazard. 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.



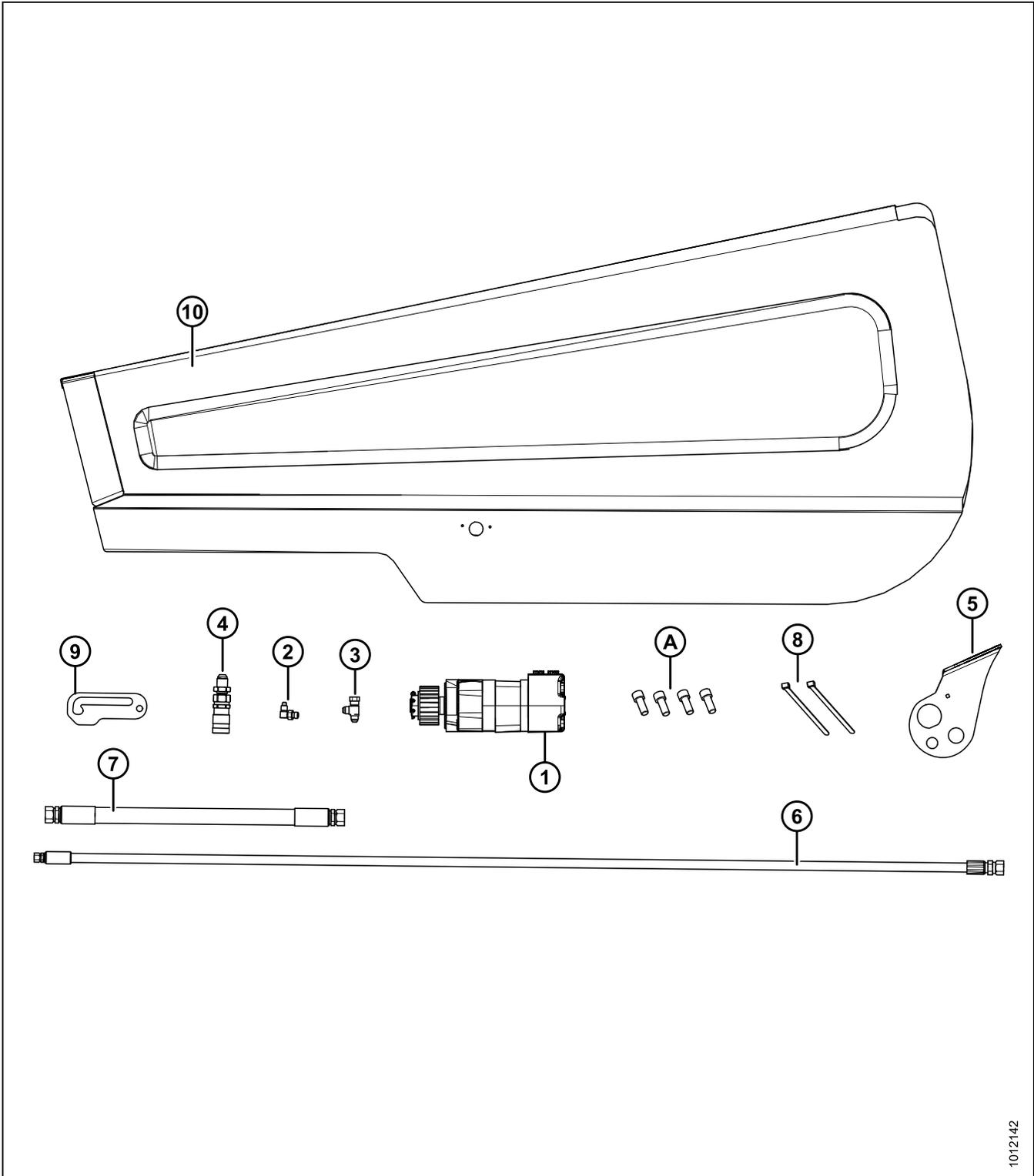
Figure 1.6: Safety around Equipment



## 2 Parts List

The following parts are included in this kit.

# PARTS LIST



1012142

**PARTS LIST**

<b>Ref</b>	<b>Part Number</b>	<b>Description</b>	<b>Quantity</b>
1	NSS <sup>1</sup>	ASSEMBLY – REEL MOTOR AND PINION	1
2	135647	FITTING – ELBOW 90° HYDRAULIC	1
3	108268	FITTING – HYDRAULIC TEE (NON GRASS SEED HEADERS ONLY)	1
4	135213	COUPLING – FEMALE HYD 3/8 FLAT FACE BULKHEAD (GRASS SEED HEADERS ONLY)	1
5	170616	SUPPORT (GRASS SEED HEADERS ONLY)	1
6	170599	HOSE – HYDRAULIC, 1/4 IN ID, 1750 MM LG	1
7	170603	HOSE – HYDRAULIC, 3/4 IN ID, 520 MM LG	1
8	30753	FASTENER – CABLE TIE	2
9	170600	SUPPORT – ENDSHIELD	1
10	170594	SHIELD – LH (MD RED)	1
A	170606	SCREW – HEX SOC HD 1/2-13 X 1.25 GR8 ZINC PLATED	4

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1. Not sold separately.



### 3 Installation Instructions

**IMPORTANT:**

If installing the Reel Drive Motor and Endshield kits in the field, make certain the hydraulic coupler tips and connectors are kept clean during installation to avoid hydraulic system damage.

To install the Reel Drive Motor and Endshield kit, follow each of these procedures in order for your specific model.

#### 3.1 Removing Existing Left-Hand Endshield

1. Open left-hand endshield (A).
2. Loosen the nuts attaching the endshield to the endshield support bracket (B).
3. Support the endshield while removing the pin (C) that supports the front of the endshield.
4. Remove the support bracket (B) at the back of the endshield and remove the endshield.
5. Remove door latch (D), put aside for reuse when installing new endshield.
6. Disengage the rubber latch (A) and open the driveline shield (B).

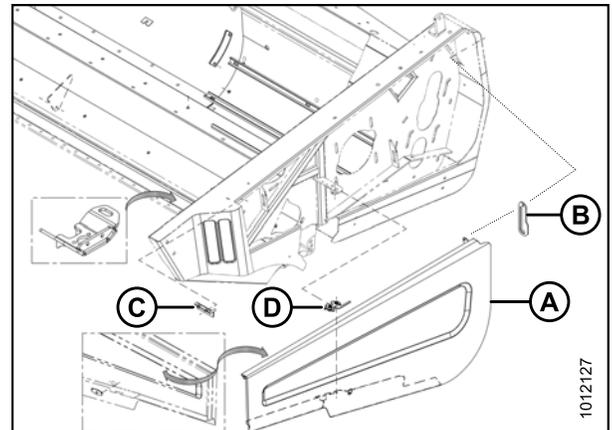


Figure 3.1: LH Endshield

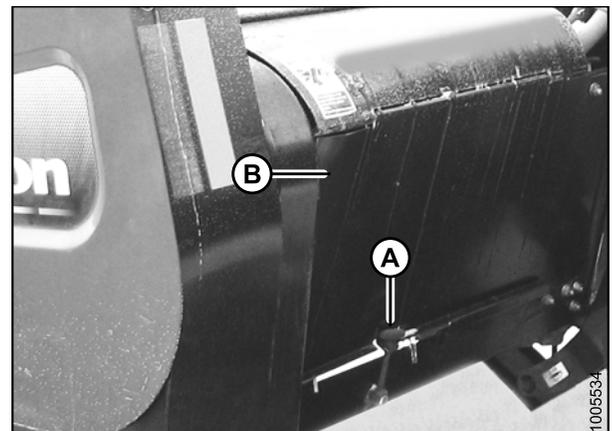


Figure 3.2: Driveline Shield

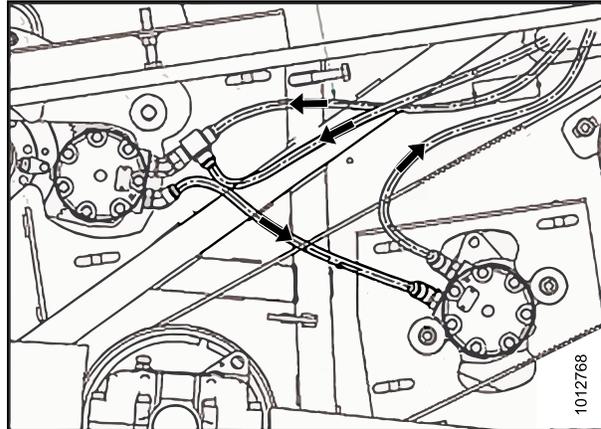
## INSTALLATION INSTRUCTIONS

### 3.2 Checking Port Configuration

The inlet and outlet ports for the new reel motor (MD #155148) have switched positions in relation to those on the previous reel motor (MD #124096). Plumbing configurations must reflect this change.

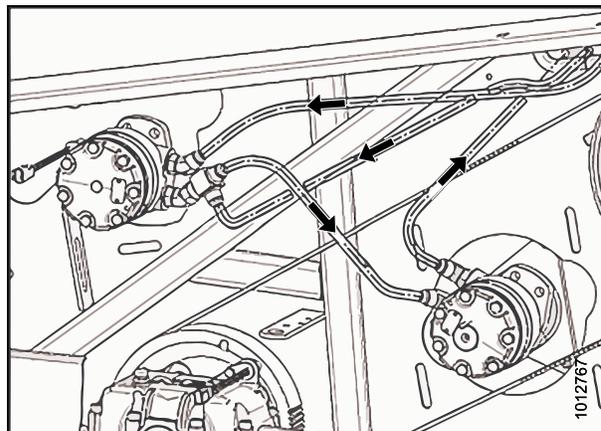
Images in this section show plumbing configurations for the previous reel motor based on windrower model. Note the location of the tee fitting in each diagram.

For headers configured for M100, M105 or M205 windrowers, proceed to [3.3 M100/M105/M205 Configuration, page 11](#).



**Figure 3.3: Hydraulic Line Configuration for Previous Reel Motor (MD #124096) for M100, M105 or M205**

For headers configured for M150, M155 or M200 windrowers, proceed to [3.4 M150/M155/M200 Configuration, page 13](#).



**Figure 3.4: Hydraulic Line Configuration for Previous Reel Motor (MD #124096) for M150, M155 or M200**

### 3.3 M100/M105/M205 Configuration

#### Disconnecting Hoses and Removing Existing Reel Motor

#### **⚠ WARNING**

Avoid high-pressure fluids. Escaping fluid can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.

#### **IMPORTANT:**

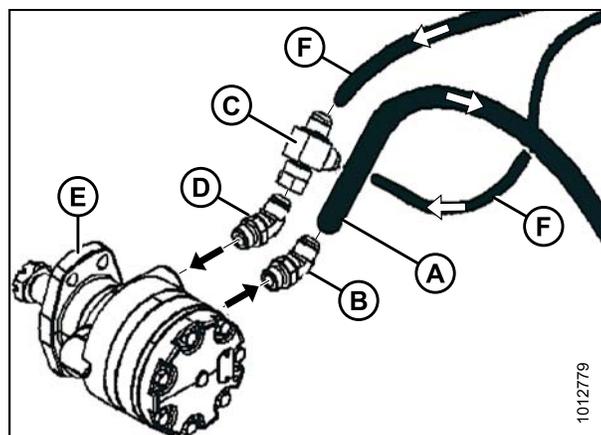
Keep hydraulic coupler tips and connectors clean. Dust, dirt, water, and foreign material are the major causes of hydraulic system damage.

1. Disconnect hydraulic hose (A) from the 45° elbow (B). Disconnect the tee (C) from the other 45° elbow (D) at the swivel fitting. Contain all lost fluid in the hoses by using caps and plugs to minimize oil loss and prevent contaminants from entering the hydraulic system.

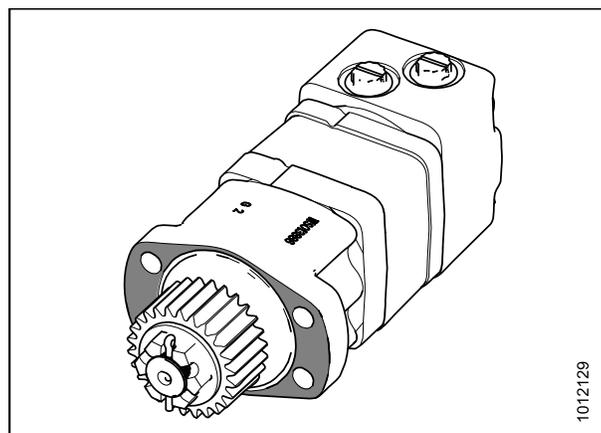
#### **NOTE:**

Mark or note the orientation of the hydraulic hoses.

2. Remove elbow (B) from the reel motor (E). Remove elbow (D) from the reel motor (E). Do not disconnect the hoses at (F) from the tee (C).
3. Remove the four bolts connecting the reel motor (E) to the reel gearbox, and remove the reel motor. Support the motor while removing the bolts to prevent the motor from falling. Discard bolts. Scrape off any silicone sealant where the motor flange meets the reel drive box.
4. Apply a thin layer of silicon to the flange of the new motor assembly (MD #124373) provided in kit.



**Figure 3.5: Previous Reel Motor MD #124096 with Hoses and Fittings (Shown as Configured for M100, M105 or M205)**



**Figure 3.6: New Motor Assembly (MD #124373)**

## INSTALLATION INSTRUCTIONS

5. Install new motor (A) in place of old one with four hex socket head screws (MD #170606) (B), also provided in kit. Torque screws to 65–70 ft·lbs (88–95 N·m).

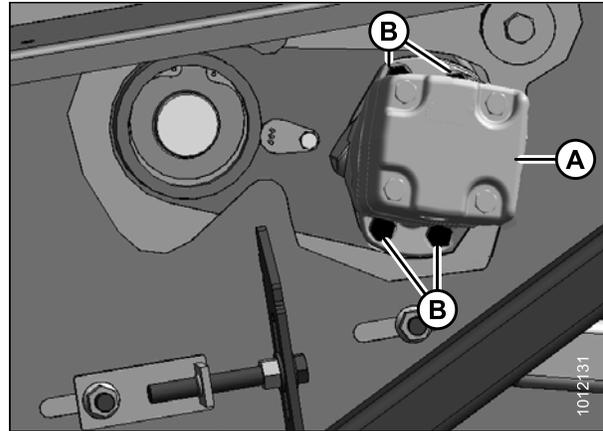


Figure 3.7: New Motor Assembly Installed

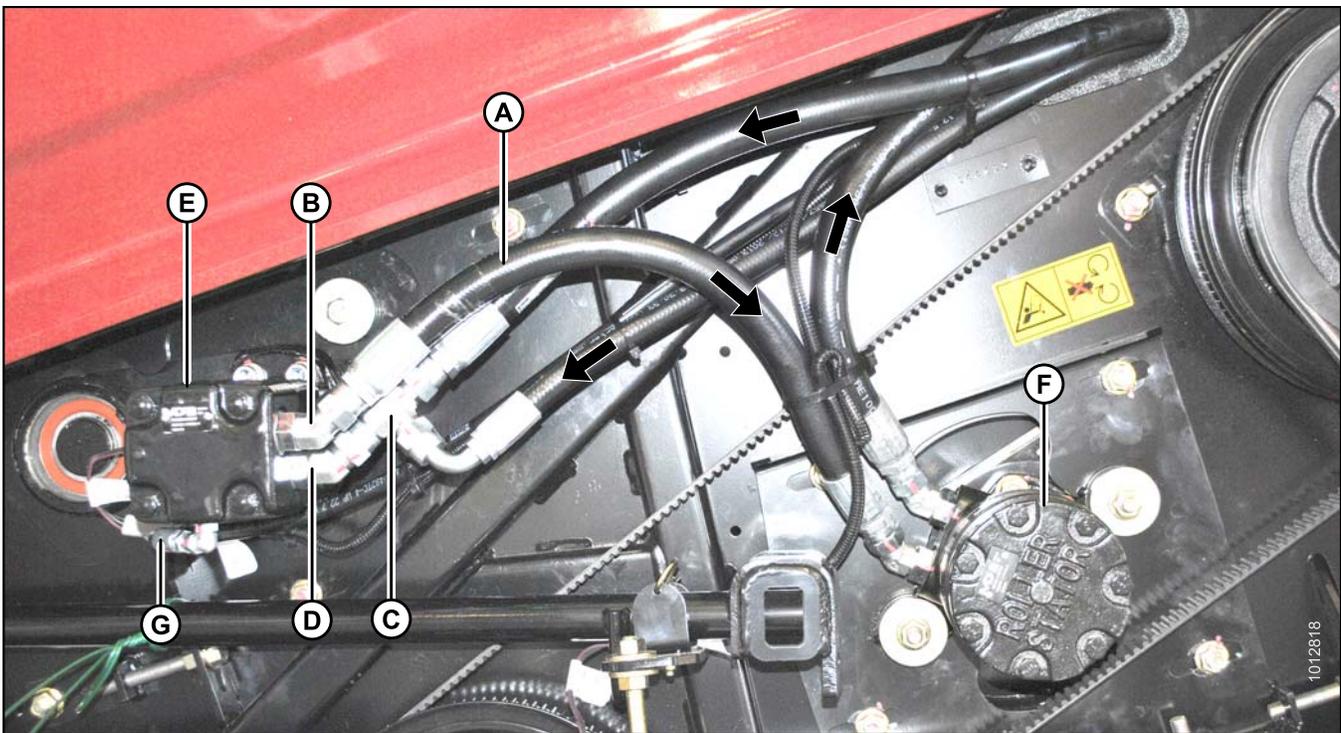


Figure 3.8: New Reel Motor, Auger Motor, Hoses, and Fittings (M100, M105, M205 Configuration)

6. Connect the 45° elbow (B) to the new motor (E) on the upper port.
7. Replace hose (A) that connected the reel motor to the auger motor (F) with the hose (MD #170603) provided in the kit. Connect new hose (A) to the auger motor (F).
8. Connect hydraulic hose (A) to the elbow fitting (B).
9. Connect the 45° elbow (D) to the new motor (E) on the lower port.
10. Connect the tee fitting (C) to the elbow (D). Make sure the tee is oriented as shown in image.
11. Run the longer hose (MD #170599) (G) provided in the kit through the header along other hoses as shown. This will be the reel drive case drain hose. Do not connect to reel motor yet.
12. Proceed directly to [3.5 Hydraulic Connections \(All Models\)](#), page 15.

### 3.4 M150/M155/M200 Configuration

#### Disconnecting Hoses and Removing Existing Reel Motor

#### **⚠ WARNING**

Avoid high-pressure fluids. Escaping fluid can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.

#### **IMPORTANT:**

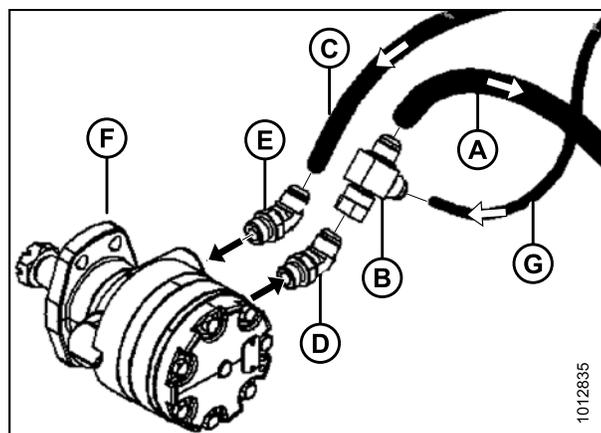
Keep hydraulic coupler tips and connectors clean. Dust, dirt, water, and foreign material are the major causes of hydraulic system damage.

1. Disconnect hydraulic hose (A) from the tee fitting (B). Disconnect hose (C) from 45° elbow fitting (E). Contain all lost fluid in the hoses by using caps and plugs to minimize oil loss and prevent contaminants from entering the hydraulic system.

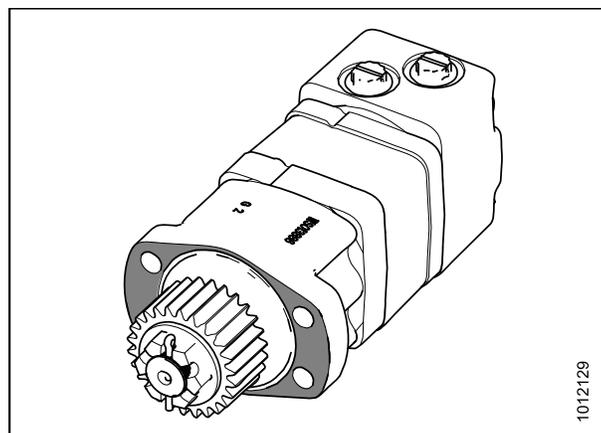
#### **NOTE:**

Mark or note the orientation of the hydraulic hoses.

2. Disconnect tee (B) from the 45° elbow (D) at the swivel fitting. Do not disconnect hose (G) from the tee (B).
3. Remove elbow (D) and elbow (E) from the reel motor (F).
4. Remove the four bolts connecting the reel motor (F) to the reel gearbox, and remove the reel motor. Support the motor while removing the bolts to prevent the motor from falling. Discard bolts. Scrape off any silicone sealant where the motor flange meets the reel drive box.
5. Apply a thin layer of silicon to the flange of the new motor assembly (MD #124373) provided in kit.



**Figure 3.9: Previous Reel Motor MD #124096 with Hoses and Fittings (Shown in Factory Configuration for M150, M155 or M200)**



**Figure 3.10: New Motor Assembly (MD #124373)**

## INSTALLATION INSTRUCTIONS

6. Install new motor (A) in place of old one with four hex socket head screws (MD #170606) (B), also provided in kit. Torque screws to 65–70 ft·lbs (88–95 N·m).

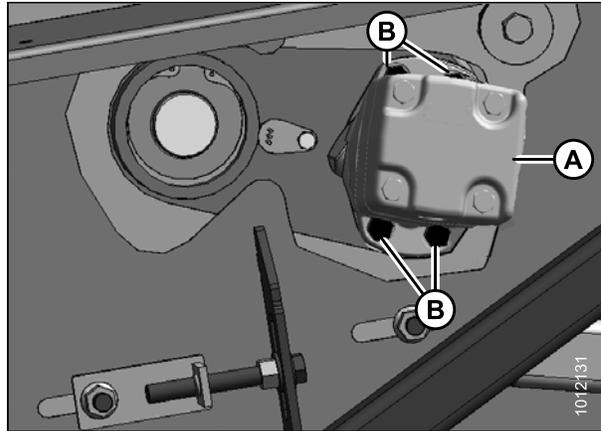


Figure 3.11: New Motor Assembly Installed

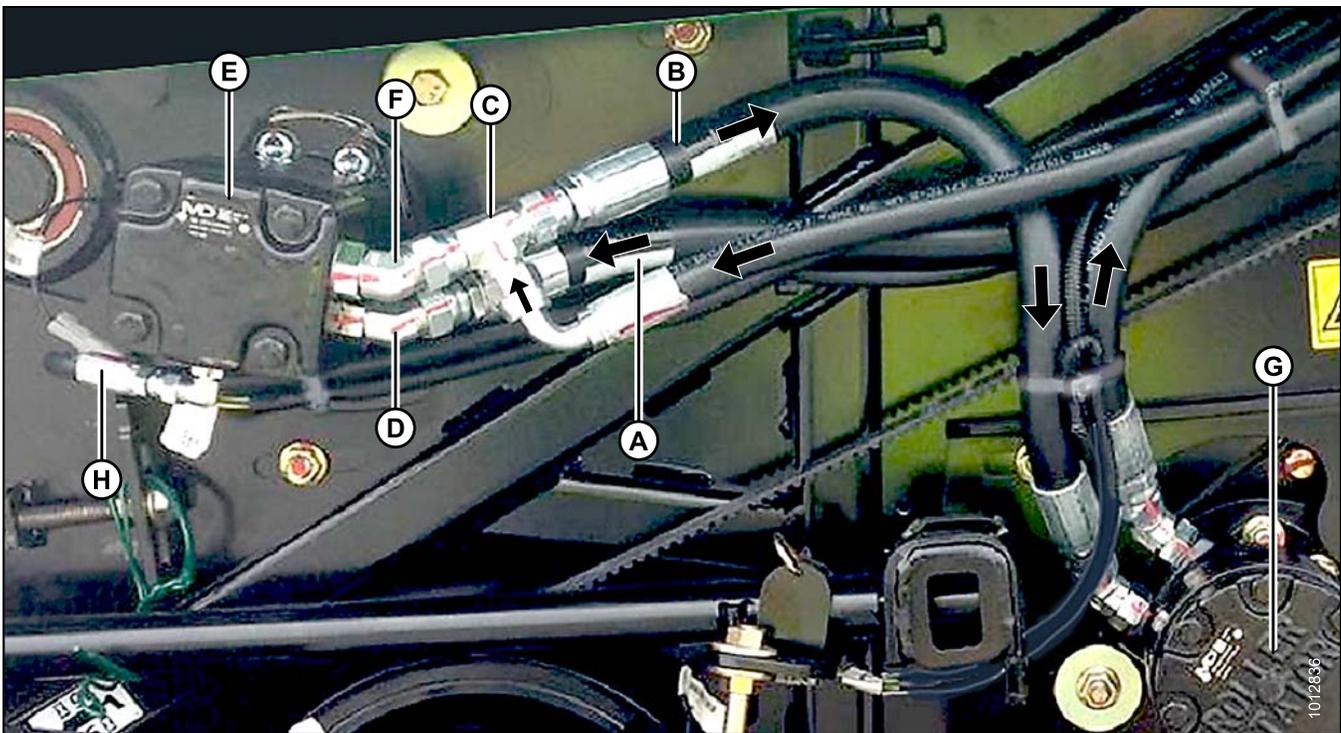


Figure 3.12: New Reel Motor, Auger Motor, Hoses, and Fittings (M150, M155, M200 Configuration)

7. Connect the 45° elbow (F) to the new motor (E) on the upper port.
8. Connect the tee fitting (C) to the 45° elbow (F). Make sure the tee is oriented as shown in image.
9. Replace hose (B) that connected the reel motor to the auger motor (G) with the hose (MD #170603) provided in the kit. Connect hose (B) to the auger motor (G).
10. Connect hydraulic hose (B) to the tee fitting (C) as shown in image.
11. Connect the 45° elbow (D) to the new motor (E).
12. Connect hydraulic hose (A) to elbow fitting (D).
13. Run the longer hose (MD #170599) (H) provided in the kit through the header along other hoses as shown. This will be the reel drive case drain hose. Do not connect to reel motor yet.
14. Proceed directly to [3.5 Hydraulic Connections \(All Models\)](#), page 15.

### 3.5 Hydraulic Connections (All Models)

1. **Non-Grass Seed headers only:** Connect the tee fitting (MD #108268) (A) provided in kit to the end of the new case drain hose (B) furthest from the reel motor. Hand tighten. Insert tee fitting (A) between the existing knife drive motor case drain connection (C) and coupling (D) as shown. Tighten all three tee fitting hose connections.

**NOTE:**

On the 14- and 16-foot headers, the existing knife drive motor case drain connection (C) is an adapter fitting. On the 18-foot headers, it is an extension hose.

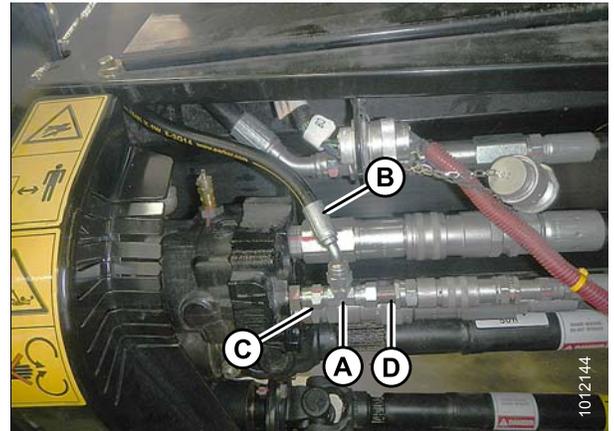


Figure 3.13: Knife Drive Motor Connections on 14- or 16-Foot Non Grass Seed Header

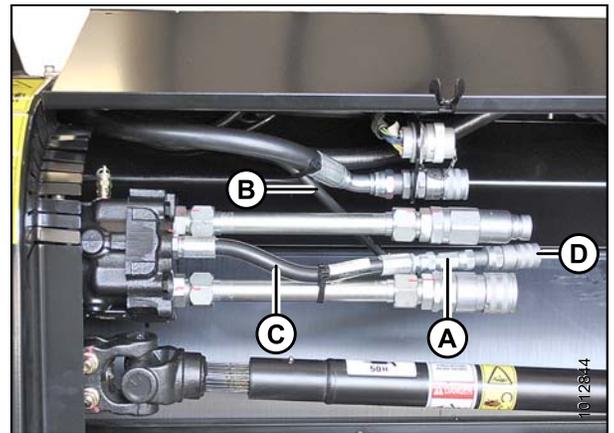


Figure 3.14: Knife Drive Motor Connections on 18-Foot Non Grass Seed Header (Other Hoses Not Shown)

2. **14-foot Grass Seed headers only:** Remove existing coupler bracket (A) and replace with support (MD #170616). Place coupling (MD #135213) (B) into the available hole on the support. Connect the coupling to the end of the new reel case drain hose (C) furthest from the reel motor. Hand tighten. Connect the case drain from the windrower to the other end of the coupling and hand tighten. The support (MD #170616) and coupling (MD #135213) are provided in the kit.

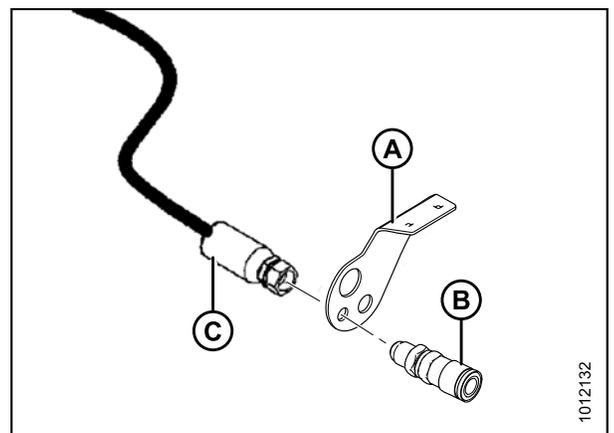
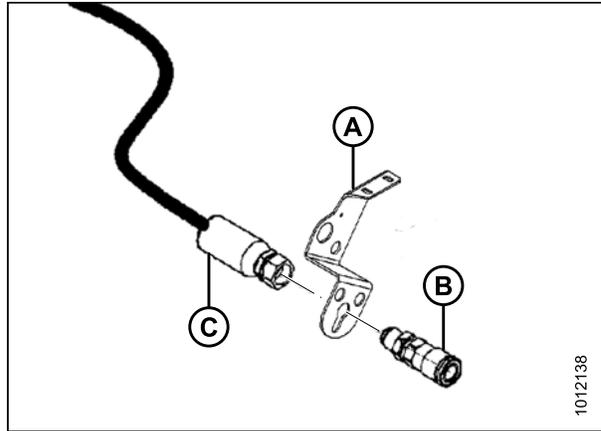


Figure 3.15: 14-Foot Grass Seed Header – End of Reel Drive Case Drain Hose (Windrower Case Drain Hose Not Shown)

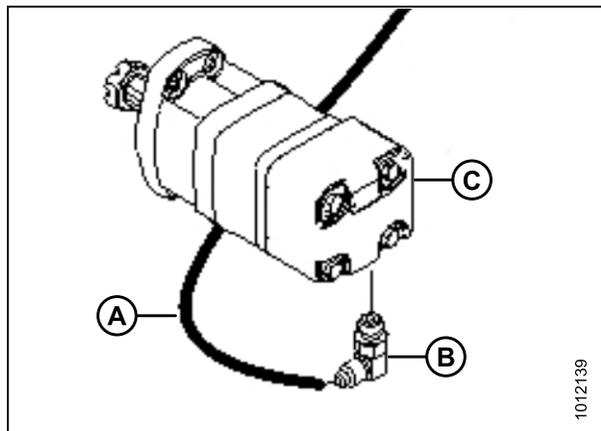
## INSTALLATION INSTRUCTIONS

3. **16-foot Grass Seed headers only:** Place coupling (MD #135213) (B) provided in kit into the slotted hole in existing support bracket (A). Connect coupling to the end of the new reel case drain hose (C) and hand tighten. Connect the case drain from the windrower to the other end of coupling (B) and hand tighten.



**Figure 3.16: 16-Foot Grass Seed Header – End of Reel Drive Case Drain Hose (Windrower Case Drain Hose Not Shown)**

4. Remove plug on the bottom of the reel motor (C) and insert elbow fitting (MD #135647) (B). Hand tighten. Back off nut on elbow as far back as possible to ensure that the elbow fitting has as many threads in the reel motor as possible.
5. Connect the other end of the new reel case drain hose (A) to the new elbow fitting (B) on the bottom of the reel motor (C). Orient elbow fitting (B) to take up most of the slack in the hose, then tighten the nut on the elbow to lock orientation. Ensure hose is not twisted when tightened.



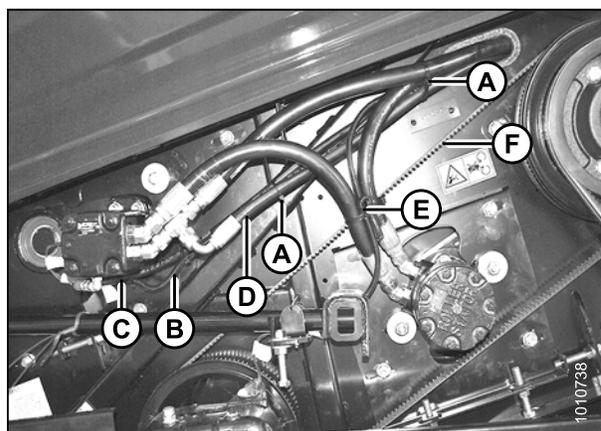
**Figure 3.17: Case Drain Connection on Reel Drive Motor (Other Hoses Not Shown)**

6. Use cable ties (A) to secure the hoses as shown in image. Ensure that the electrical harness (B) and reel motor case drain hose (C) are secured to hose (D) and that there is at least 1 in. (25 mm) clearance between hose bundle (E) and knife drive timing belt (F). Ensure all hydraulic connections are tight. **Wipe excess oil off of all connections.**

### **IMPORTANT:**

Close the driveline shield and engage the rubber latch before engaging the header.

7. Run up the header and verify functions.
8. Use a piece of cardboard or paper to check for leaks.



**Figure 3.18: Cable Tie Locations (M205 Configuration Shown – M155 Uses Same Locations)**

### 3.6 Installing New Left-Hand Endshield

1. Reorient hazard light to prevent the new endshield from contacting the bracket. Amber reflector (A) must face the rear of the header. Remove bolts (B), flip reflector assembly, and reinstall bolts.

**NOTE:**

On some 2015 headers, the hazard light may already have been reoriented as shown in image.

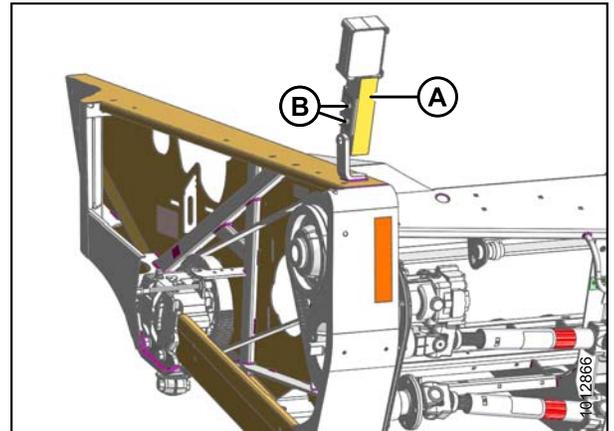


Figure 3.19: Hazard Light Reoriented

2. Replace the existing endshield support bracket with the new one (MD #170600) (A) provided in the kit.
3. Reuse door latch (B) from the old endshield onto the new endshield (MD #170594) (C) provided in the kit.
4. Attach new endshield to header.

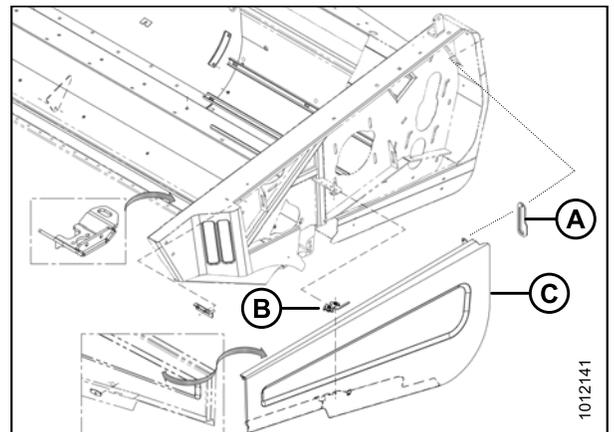


Figure 3.20: LH Endshield



Figure 3.21: Support Bracket: Before and After





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