

M155, M155E4, and M205 Self-Propelled Windrowers

Auxiliary Lighting Harness Repair Kit (MD #167693)
Installation Instructions

147762 Revision C

Original Instruction

M155 Self-Propelled Windrower



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Introduction

Some M155, M155E4, and M205 Self-Propelled Windrowers from model year 2015 or earlier that are configured with the high intensity discharge (HID) auxiliary lighting option (A) experience flickering of lights and overheating of the fuse block. The Auxiliary Lighting Harness Repair kit (MD #167693) can be used to correct these issues.

This document explains how to install the kit. A list of parts included in the kit is provided in [2 Parts List, page 5](#).

Installation time

It will take approximately 1 hour to install this kit.



Figure 1: HID Auxiliary Lighting

Conventions

The following conventions are followed in this document:

- Right and left are determined from the operator's position, facing forward with the windrower in cab-forward position.
- Unless otherwise noted, use the standard torque values provided in the windrower 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 currently available in English only.

Summary of Changes

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.

Section	Summary of Change	Internal Use Only
Inside front cover	Added copyright and disclaimer statements.	Tech Pubs
<i>1.1 Signal Words, page 1</i>	Added explanations of IMPORTANT and NOTE.	Tech Pubs
<i>2 Parts List, page 5</i>	Replaced decal MD #167637 with decal MD #167969 in illustration and parts list.	ECN 58263
<i>3.3 Installing Fuse Box Decals and Breaker, page 20</i>	Replaced decal MD #167637 with decal MD #167969.	ECN 58263
<i>3.4 Checking Operation of Lights, page 22</i>	Added further detail to instruction to check voltage.	Current Products

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Chapter 1: Safety

1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information. Signal words are 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.

IMPORTANT:

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

NOTE:

Provides additional information or advice.

1.2 General Safety

CAUTION

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

Protect yourself.

- When assembling, operating, and servicing machinery, wear all protective clothing and personal safety devices that could be necessary for job at hand. Do **NOT** 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 earmuffs or earplugs to help protect against loud noises.



Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. 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. Take time to consider safest way. **NEVER** ignore warning signs of fatigue.

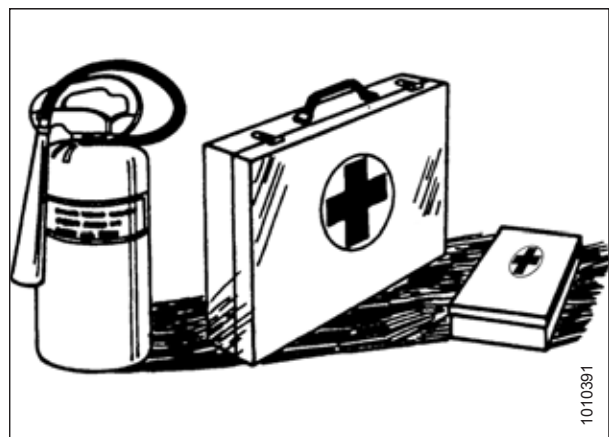


Figure 1.3: Safety Equipment

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 shaft and can telescope freely.
- Use only service and repair parts made or approved by 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 engine is running.
- Do **NOT** modify machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten machine's life.
- To avoid injury or death from unexpected startup of machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

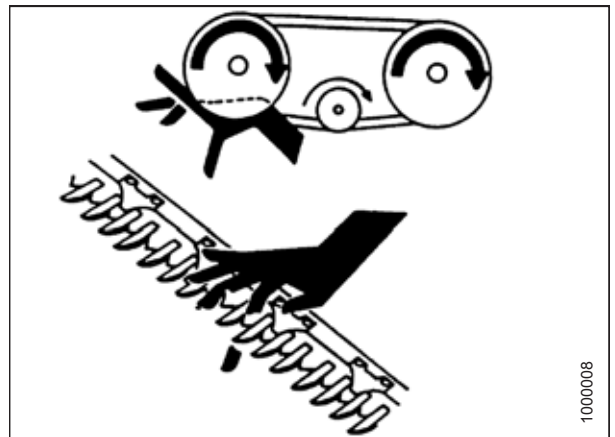


Figure 1.5: Safety around Equipment

- Keep 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.



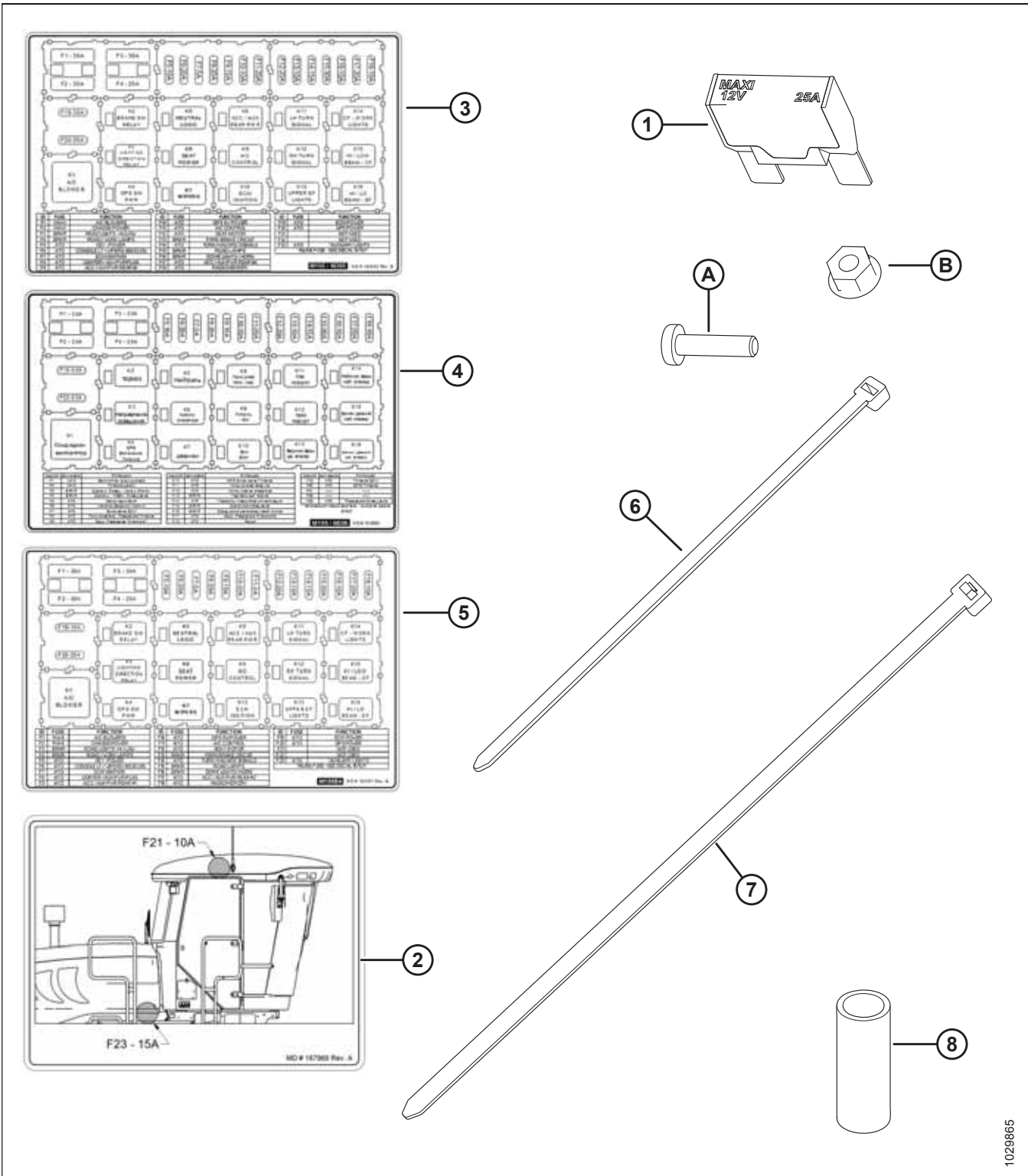
Figure 1.6: Safety around Equipment

Chapter 2: Parts List

The following parts are included in this kit:

PARTS LIST

Figure 2.1: Auxiliary Lighting Harness Repair Kit Parts



1029865

PARTS LIST

Ref	Part Number	Description	Quantity
1	134762	BREAKER – MAXI TYPE 1 25 AMPS	1
2	167969	DECAL – M INLINE FUSES	1
3	183562	DECAL – FUSE M155/M205 ENGLISH	1
4	183563	DECAL – FUSE M155/M205 RUSSIAN	1
5	183567	DECAL – FUSE BLK, M155E4, ENGLISH	1
6	21763	FASTENER – CABLE TIE BLACK, 160 MM LONG	4
7	30753	FASTENER – CABLE TIE BLACK, 305 MM LONG	2
8	167635	TUBE – HEAT SHRINK 3/8 X 1-1/4	1
9	183558	HARNESS – AUX LIGHTS CHASSIS (not illustrated)	1
10	183559	HARNESS – AUX LIGHTS ROOF (not illustrated)	1
A	18577	SCREW – MACH PHILIPS PAN HD #10 NC X 3/4	1
B	21492	NUT – FLG (SERR FACE) #10 NC GR 5 ZP	1

Chapter 3: Installation Instructions

To install the Auxiliary Lighting Harness Repair kit, follow these steps:

WARNING

To avoid bodily injury or death from the unexpected startup of the machine, always stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

1. Stop the engine and remove the key.
2. Open the right platform. For instructions, refer to the windrower operator's manual or technical manual.
3. Turn the battery main disconnect switch (A) to POWER OFF.

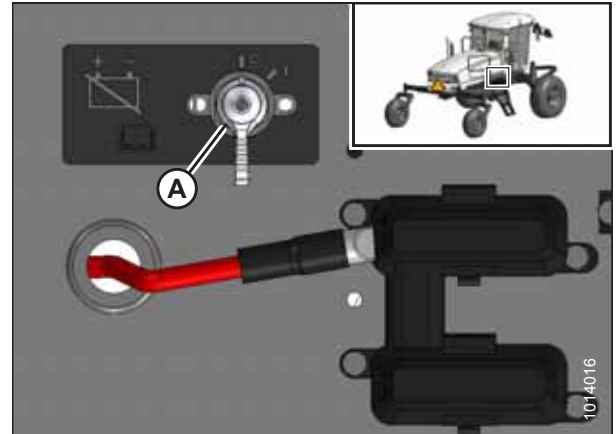


Figure 3.1: Battery Main Disconnect Switch

3.1 Installing Auxiliary Lighting Roof Harness

To install the auxiliary lighting roof harness (MD #183559) provided in the kit, follow these steps:

NOTE:

You may need to remove and replace some of the existing cable ties. New cable ties in two lengths have been provided in the kit for this purpose. Use them as needed.

1. Remove the corner post seal from the bottom of the right rear cab post. Retain for reinstallation.

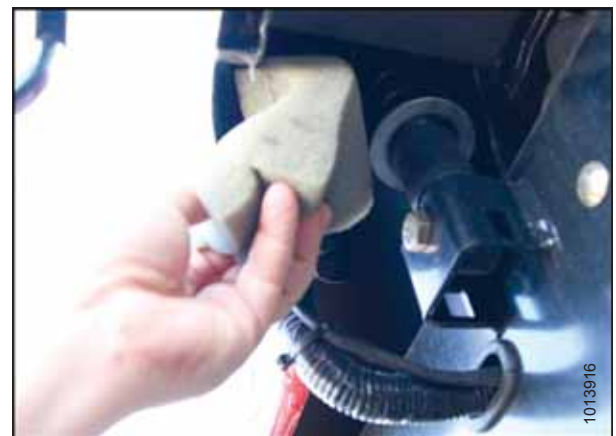


Figure 3.2: Bottom of Right Rear Cab Post

INSTALLATION INSTRUCTIONS

2. Remove the fresh air filter pan (A) and filter to reveal an opening to the cab post. Retain for reinstallation.



Figure 3.3: Air Filter Pan and Filter

3. Move wiring connections out of the way to make it easier to feed the new auxiliary lighting roof harness through the opening in the right cab post.



Figure 3.4: Opening in Right Cab Post

4. Remove the screws attaching the left and right headliner switch panels to the headliner. Plug connections can remain intact and the switch panels can be left hanging. Retain screws for reassembly.



Figure 3.5: Headliner Switch Panels

A - Left Switch Panel

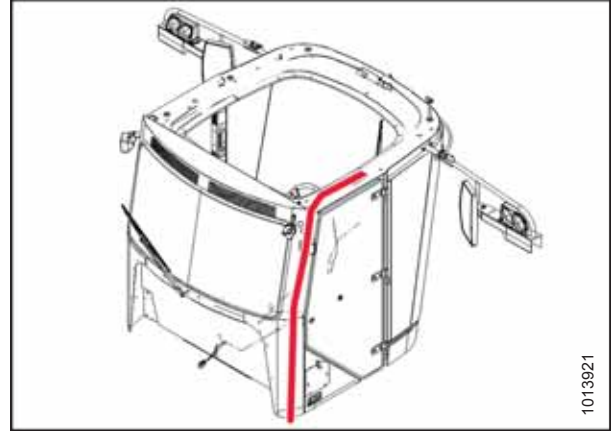
B - Right Switch Panel

INSTALLATION INSTRUCTIONS

5. Feed a fish tape/draw wire through the right headliner switch panel, alongside the looms that run down into the right rear corner post of the cab.

NOTE:

The fish tape should follow the path shown in the illustration at right, from the right switch panel opening to the base of the right rear cab post.



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Figure 3.6: Fish Tape Routing

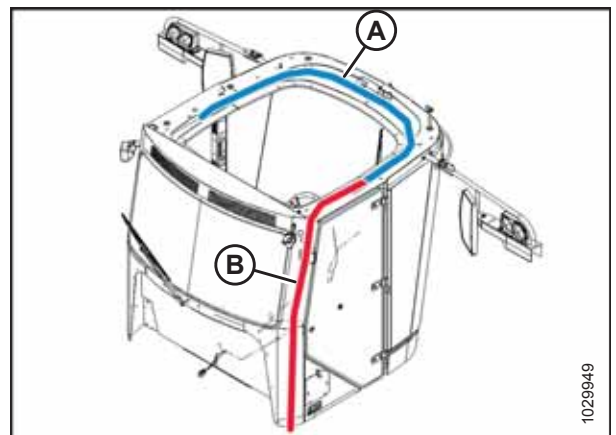
6. Below the right rear corner post, attach the female spade terminal (labelled AUX LTS TO AUXILIARY LTS RELAY - 30) from the new auxiliary lights roof harness to the fish tape using electrical tape.
7. Pull the fish tape and harness up through the cab post to the right headliner switch panel opening. Disconnect the harness from the fish tape.



1013924

Figure 3.7: Harness and Fish Tape

8. Run fish tape (A) from the left headliner switch panel opening over to the right opening.



1029949

Figure 3.8: Fish Tape Routing

A - Fish Tape

B - Auxiliary Lights roof Harness

INSTALLATION INSTRUCTIONS

9. Attach the harness to the fish tape and pull it around to the left switch panel opening.



Figure 3.9: Fish Tape and Harness on Left Switch Panel Opening

10. In the left headliner switch panel, remove the AUXILLARY LTS relay (A) from its socket (B).

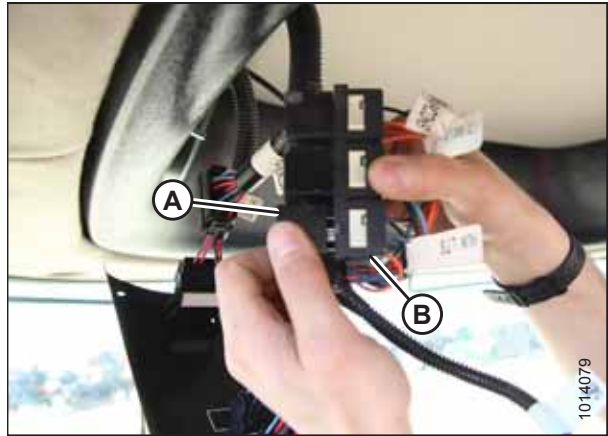


Figure 3.10: AUXILLARY LTS Relay and Socket

11. Remove terminal lock (A) from the relay socket.
12. Remove the existing AUX LTS wire (B) from terminal 30 of the relay socket with a small flat screwdriver.
13. Seal the AUX LTS wire (B) with heat shrink material (included with kit).

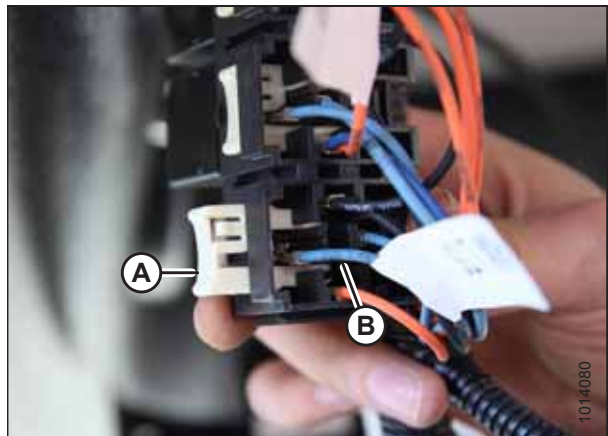


Figure 3.11: Relay Socket

INSTALLATION INSTRUCTIONS

14. Push the repair harness wire (A) into terminal 30 on the relay socket (B).

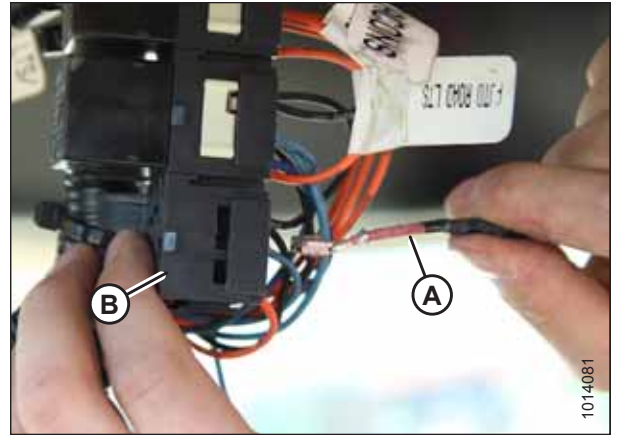


Figure 3.12: Relay Socket

15. Reinstall the terminal lock (A).

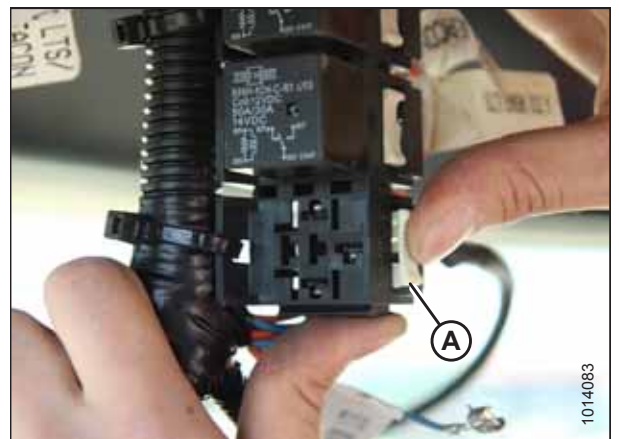


Figure 3.13: Relay and Socket

16. Press the relay (A) into place.

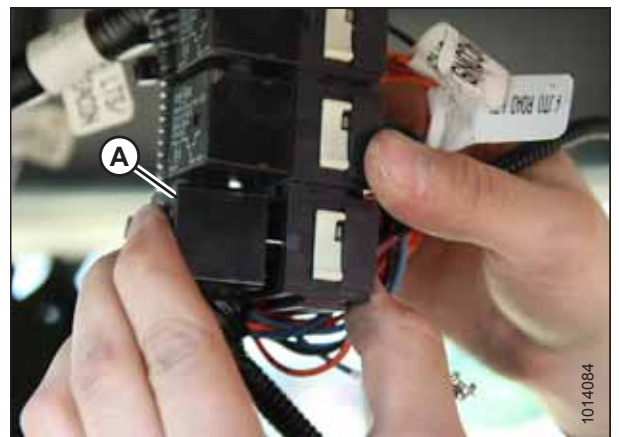


Figure 3.14: Relay and Socket

INSTALLATION INSTRUCTIONS

17. Reinstall the left and right headliner switch panels.



Figure 3.15: Headliner Switch Panels

A - Left Switch Panel

B - Right Switch Panel

18. Below the right rear cab post, feed the loose end of the new auxiliary lights roof harness through port (A) on the windrower frame.



Figure 3.16: Windrower Frame Directly below the Right Rear Cab Post

19. Locate connector P2C (A) on the inside of the frame at the bottom of the right rear cab post. Disconnect this connector.



Figure 3.17: Connectors P2C and C3B

INSTALLATION INSTRUCTIONS

20. Using a small screwdriver, remove terminal lock (A) from the connector.



Figure 3.18: P2C Connector

21. Remove plug (A) from position 4 on the connector.



Figure 3.19: P2C Connector

22. In place of the plug, insert Deutsch pin (A) of the auxiliary lights roof repair harness.
23. Reinstall the terminal lock.



Figure 3.20: Deutsch Pin and P2C Connector

3.2 Installing Auxiliary Lighting Chassis Harness

To install the auxiliary lighting chassis harness (MD #183558) provided in the kit, follow these steps:

NOTE:

You may need to remove and replace some of the existing cable ties. New cable ties in two lengths have been provided in the kit for this purpose. Use them as needed.

1. Using a #10 machine screw (MD #18577) and a flange nut (B) (MD #21492), mount the fuse holder (A) of the auxiliary lighting chassis harness (MD #183558) in an existing hole inside the right frame rail, in between the hole leading to the battery and the battery main disconnect switch. The harness, screw, and nut are all provided in the kit.

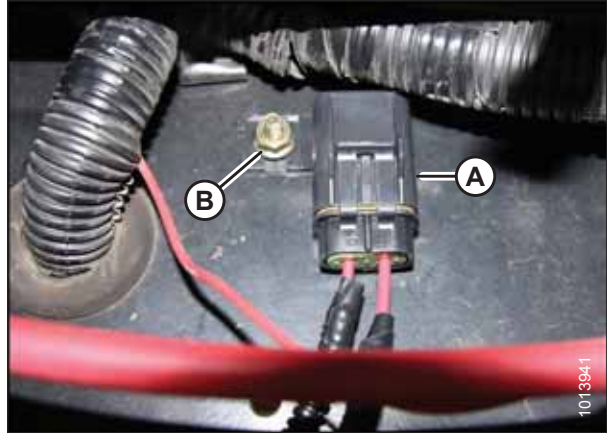


Figure 3.21: Fuse Holder Mounted inside Frame Rail

2. Open fuse cover (B).
3. Route the short wire (A) from the fuse holder through a hole in the frame and connect to main fuse F-M1 at (B).
4. Close fuse cover (B).

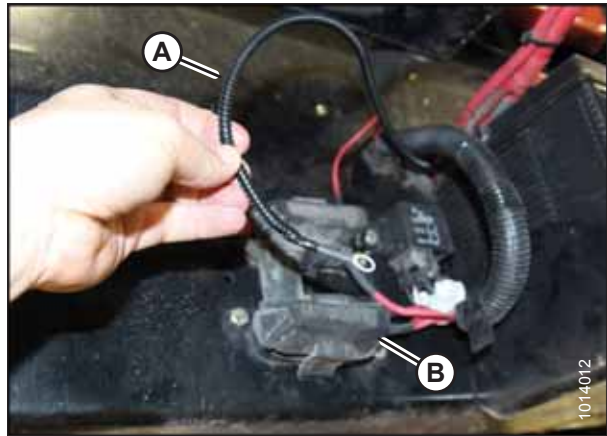


Figure 3.22: Main Fuse F-M1

5. Route the long wire from the fuse holder (A) along the path of the chassis harness to the roof connections near the receiver drier.

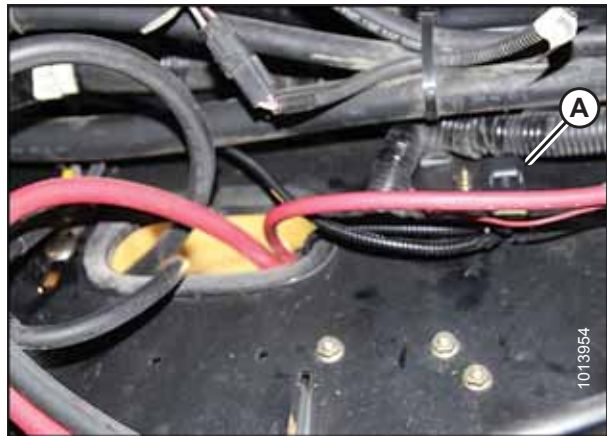


Figure 3.23: Long Wire Routed from Fuse Holder

INSTALLATION INSTRUCTIONS

6. On the other end of the connector that was disconnected in Step 19, page 14, C3B, remove terminal lock (A).

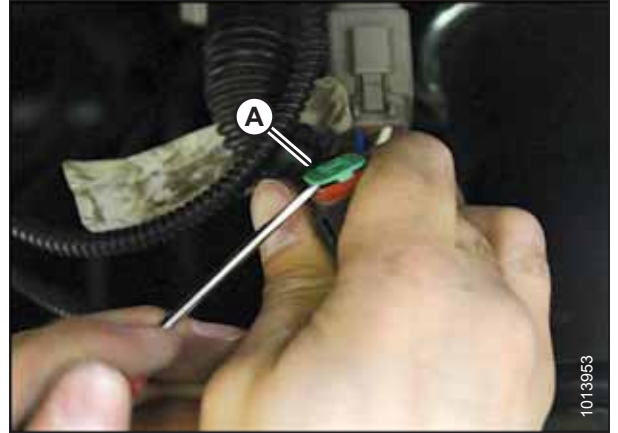


Figure 3.24: C3B Connector

7. Remove the plug from position 4 (A) on the connector.

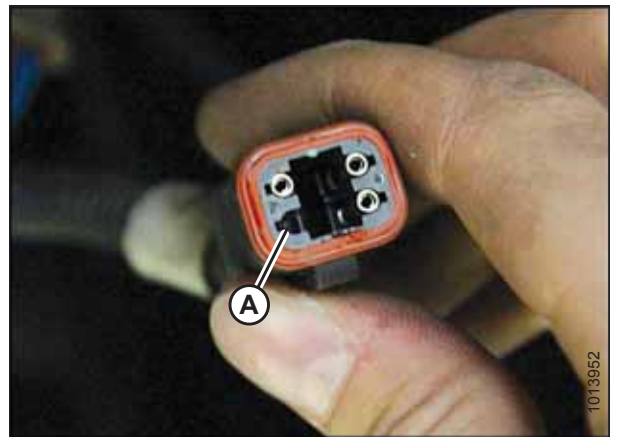


Figure 3.25: C3B Connector

8. In place of the plug, insert the Deutsch socket from the auxiliary lighting chassis harness into position 4 on connector C3B.

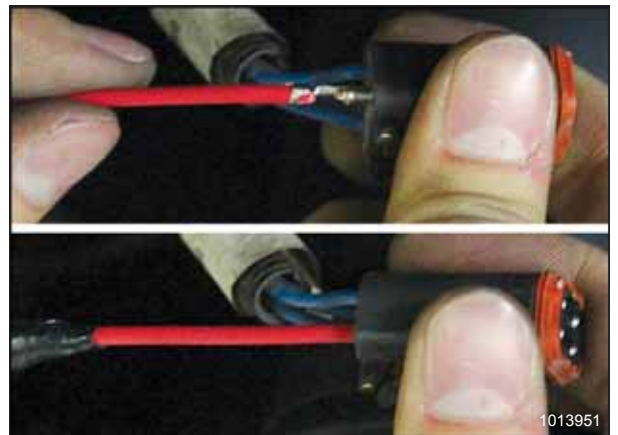


Figure 3.26: Deutsch Socket and C3B Connector

INSTALLATION INSTRUCTIONS

9. Reinstall the terminal lock (A).

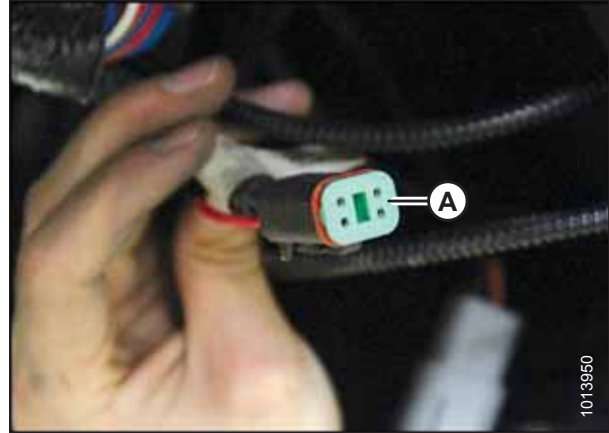


Figure 3.27: C3B Connector with Terminal Lock in Place

10. Couple the connector.



Figure 3.28: Harness Connected to C3B

11. Replace the fresh air filter pan (A) and filter.



Figure 3.29: Air Filter Pan and Filter

INSTALLATION INSTRUCTIONS

12. Reinsert the corner post seal into the bottom of the right rear cab post.



Figure 3.30: Bottom of Right Rear Cab Post

INSTALLATION INSTRUCTIONS

3.3 Installing Fuse Box Decals and Breaker

The kit contains four decals and one breaker. To install, follow these steps:

1. Locate the fuse box on the right side of the windrower frame.
2. Loosen wing nut (A), and remove fuse box cover (B).

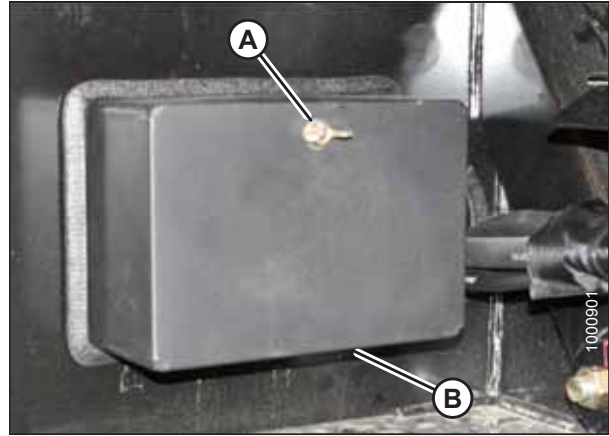


Figure 3.31: Fuse Box

3. Remove the breaker from slot F4 (A) in the fuse box.
4. Install new 25 amp breaker (MD #134762) in slot F4.

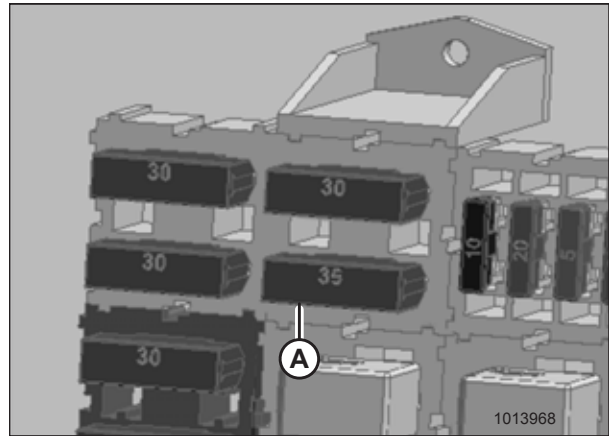


Figure 3.32: Inside Fuse Box

5. The kit includes three fuse box decals. Select the one that is appropriate for this machine (decals have a model number in the lower right corner as shown at right), and install as follows:
 - a. If the existing decal on the inside of the fuse box cover is damaged, remove it.
 - b. Clean and dry the installation area on the inside of the fuse box cover.
 - c. Place the new decal in position. Slowly peel off the backing paper, smoothing the decal as it is applied.
 - d. Prick small air pockets with a pin, and smooth out.

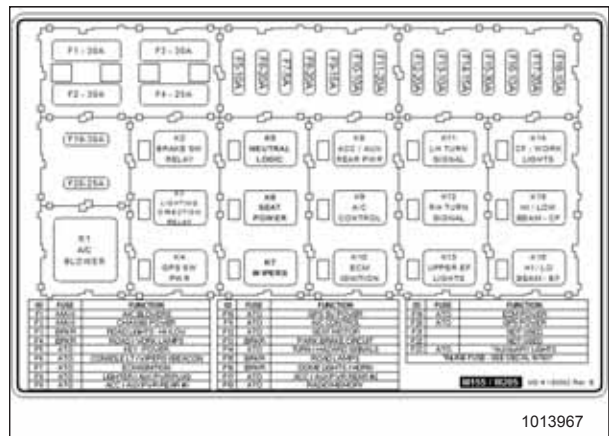


Figure 3.33: M155/M205 English Fuse Box Decal (MD #183562)

INSTALLATION INSTRUCTIONS

6. Install inline fuse decal (MD #167969) in the bottom of the fuse box cover as follows:
 - a. Clean and dry the installation area on the inside of the fuse box cover.
 - b. Place the new decal in position. Slowly peel off the backing paper, smoothing the decal as it is applied.
 - c. Prick small air pockets with a pin, and smooth out.
7. Reinstall the fuse box cover.

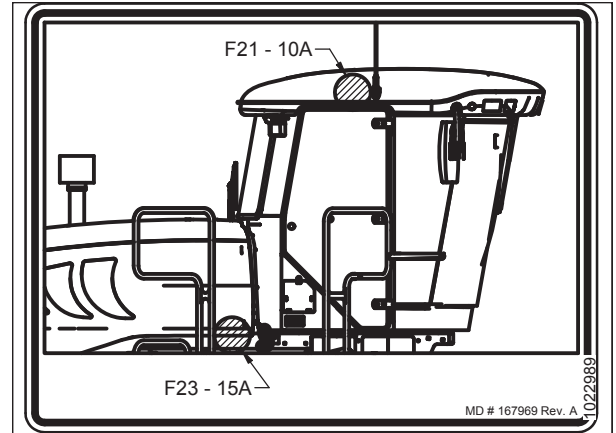


Figure 3.34: Inline Fuse Decal (MD #167969)

8. Turn the BATTERY MAIN DISCONNECT switch (A) to POWER ON position.

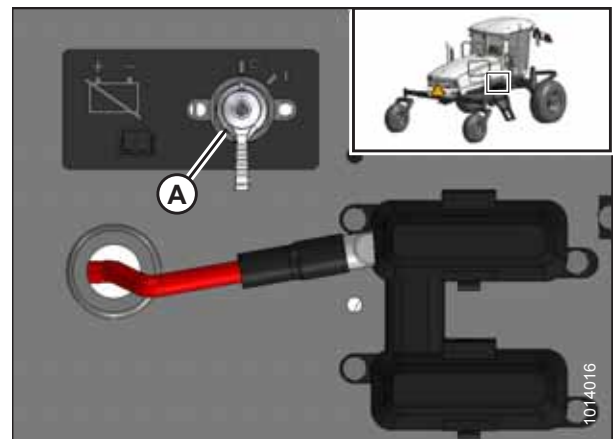


Figure 3.35: Battery Main Disconnect Switch

9. Close the right platform. For instructions, refer to the windrower operator's manual or technical manual.

3.4 Checking Operation of Lights

Once all parts have been installed, check to make sure the high intensity discharge (HID) auxiliary lights are operating properly. Follow these steps:

1. If the windrower is in engine-forward mode (operator's seat faces the engine), follow these steps to put the windrower in cab-forward mode:
 - a. Place ground speed lever (GSL) (A) in N-DETENT. Engine can be running.

IMPORTANT:

If GSL is NOT in N-DETENT, damage to the GSL cable may result when swiveling operator's station.

- b. Pull up on knob (B) and hold to release latch (C) at base of steering column.
 - c. Turn steering wheel counterclockwise to pivot operator's station clockwise 180° until pin engages latch to secure operator's station in new position.
2. **If HID auxiliary lighting has been installed**, turn on the field lights and confirm that the HID lights on the mirror supports also turn on.

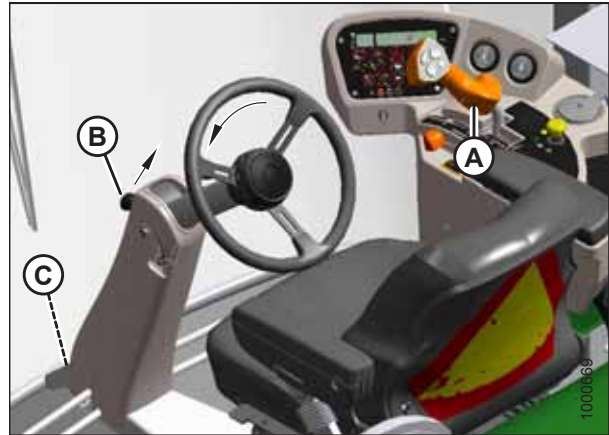


Figure 3.36: Operator Console

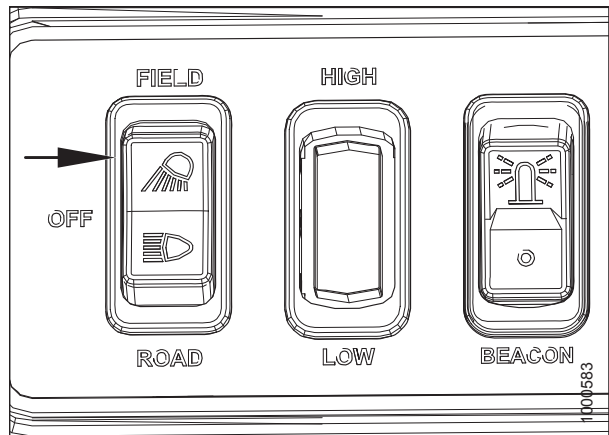


Figure 3.37: Field Light Switch in Cab Headliner

3. **If HID auxiliary lighting has NOT been installed**, disconnect the HID light harness (A) below each light/mirror mounting bracket from the main harness connector (AUX LT1 or AUX LT2) (B). Measure the voltage across pins 1 and 2 on connector (B)—it should be 12V. This confirms that the existing wiring is still functioning and that the auxiliary lights should work when connected.

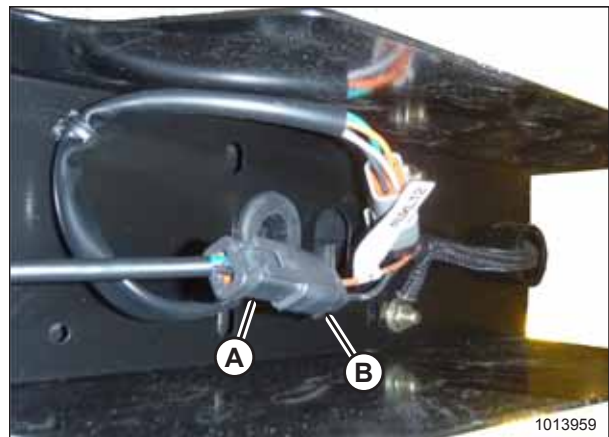


Figure 3.38: Underside of Right Light/Mirror Mounting Bracket

INSTALLATION INSTRUCTIONS

4. Follow these steps to put the windrower in engine-forward mode:
 - a. Place ground speed lever (GSL) (A) in N-DETENT. Engine can be running.

IMPORTANT:

If GSL is NOT in N-DETENT, damage to the GSL cable may result when swiveling operator's station.

- b. Pull up on knob (B) and hold to release latch (C) at base of steering column.
 - c. Turn steering wheel clockwise to pivot operator's station counterclockwise 180° until pin engages latch to secure operator's station in new position.
5. **If HID auxiliary lighting has been installed**, confirm that the HID lights turned off when the operator's station was turned.



Figure 3.39: Operator Console

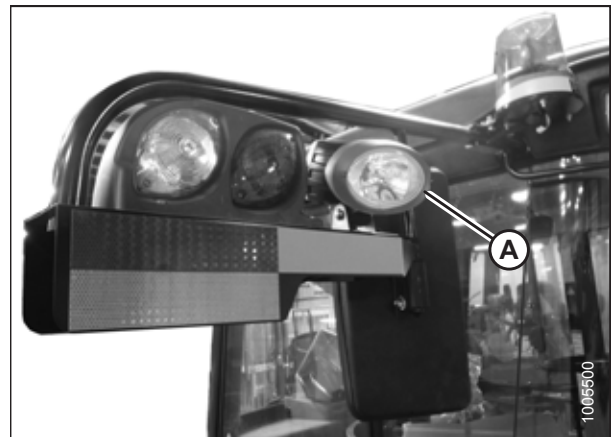


Figure 3.40: HID Auxiliary Light

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