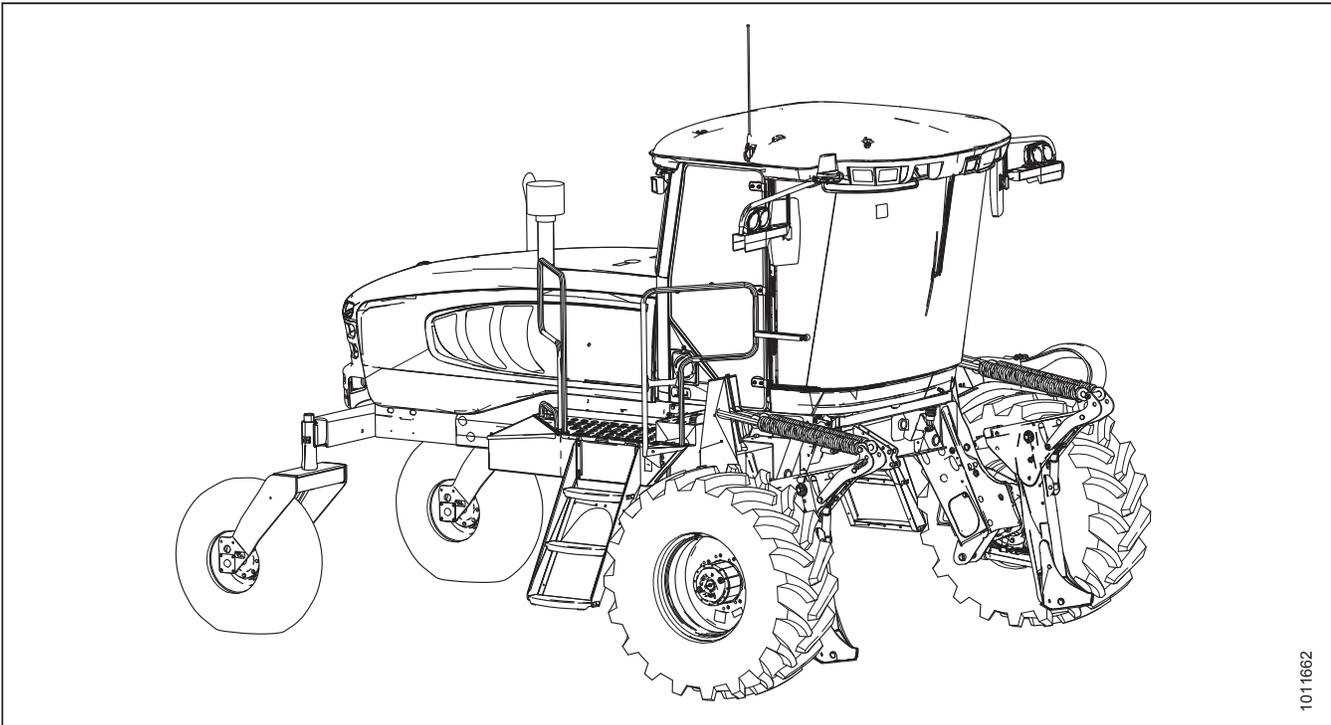


M Series Self-Propelled Windrower

Screen Cleaner Motor Kit (MD #167589)
Installation Instruction

147827 Revision E
Original Instruction

M155E4 Self-Propelled Windrower



1011662

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Introduction

The Screen Cleaner Motor kit (MD #167589) is needed to replace a damaged or malfunctioning cooler box screen cleaner motor on an M Series Self-Propelled Windrower. The kit includes a new wiring harness and a harness adapter that allows the operation of both an original and a replacement screen cleaner motor.

This document explains how to install the Screen Cleaner Motor kit onto the following M Series Self-Propelled Windrowers:

- All M100, M150, and M200 windrowers
- All 2017 Model Year and earlier M105, M155, M155E4, and M205 windrowers

A list of the parts included in this kit is provided in Chapter [2 Parts List, page 5](#).

Installation time

This kit will take approximately 1 hour to install.

Conventions

The following conventions are used 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's 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
<i>3.2 Installing Replacement Screen Cleaner Motor and Wiring Harness, page 11</i>	Added part number and installation note for adapter harness.	Product Support
<i>3.2 Installing Replacement Screen Cleaner Motor and Wiring Harness, page 11</i>	Removed "close hood" and "close cooler box" steps, removed reference to other procedures in this kit instruction.	Technical Publications

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Chapter 1: Safety

Understanding and following safety procedures consistently will help to ensure the safety of machine operators and bystanders.

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

Protect yourself when assembling, operating, and servicing machinery.

CAUTION

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

Wear all protective clothing and personal safety devices that could be necessary for the 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

In addition, take the following precautions:

- 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. Familiarize yourself with its use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when Operators are fatigued or in a hurry. Take time to consider the safest way to accomplish a task. **NEVER** ignore the signs of fatigue.

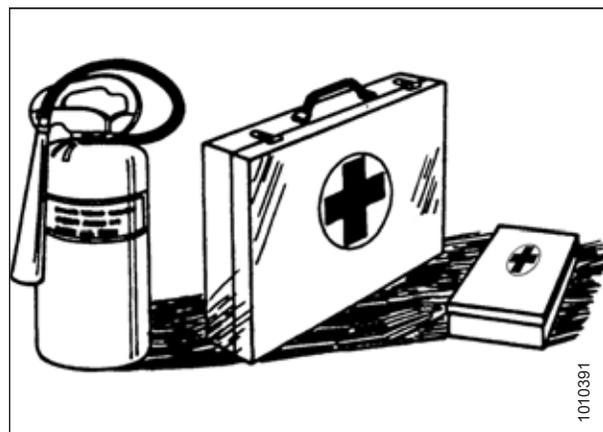


Figure 1.3: Safety Equipment

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. Ensure that the driveline guards can rotate independently of their shaft, and that they can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Parts from other manufacturers may not meet the correct 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. Unauthorized modifications may impair the functionality and/or safety of the machine. It may also shorten the machine's service life.
- To avoid 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.

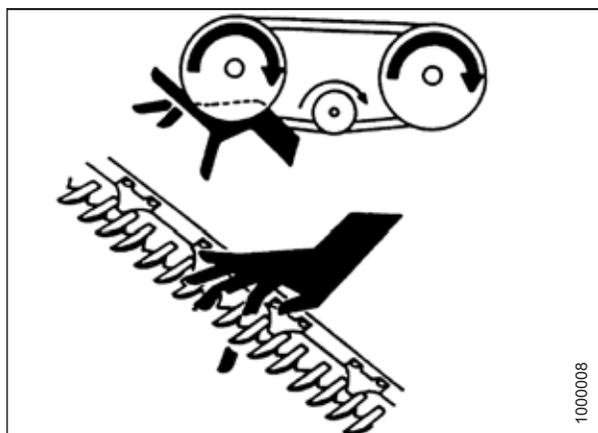


Figure 1.5: Safety around Equipment

- Keep the machine service area clean and dry. Wet and/or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Ensure that all electrical outlets and tools are properly grounded.
- Keep the work area well-lit.
- Keep machinery clean. Straw and chaff on a hot engine are fire hazards. Do **NOT** allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before they are stored.
- **NEVER** use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover any sharp or extending components to prevent injury from accidental contact.

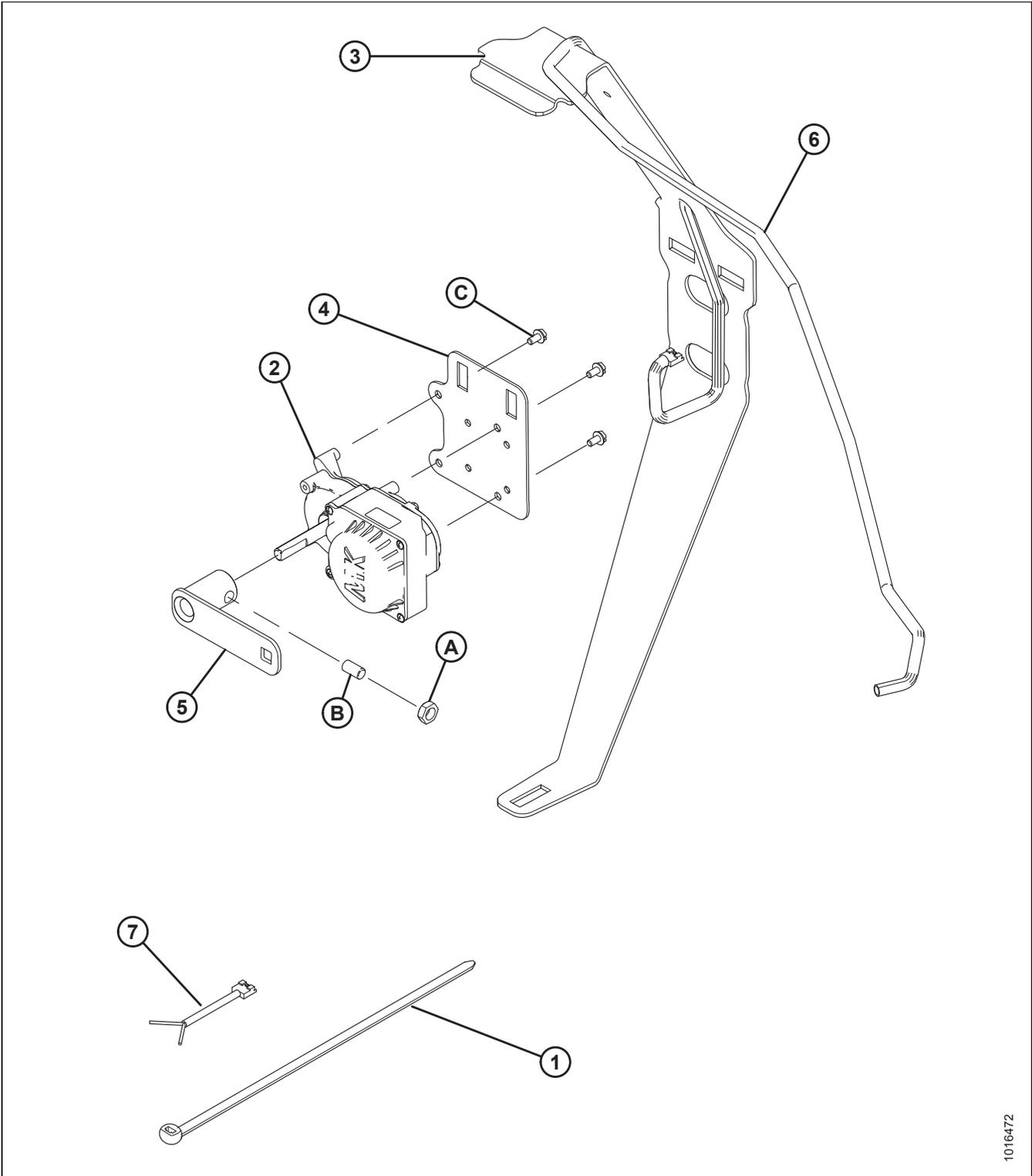


Figure 1.6: Safety around Equipment

Chapter 2: Parts List

A parts list is provided in this instruction so that you can confirm that you have received all required parts before you begin installation.

PARTS LIST



1016472

Figure 2.1: Screen Cleaner Motor Kit Parts

PARTS LIST

Ref	Part Number	Description	Quantity
	167589	ASSEMBLY – SCREEN CLEANER MOTOR KIT	
1	30753	FASTENER – CABLE TIE (BLACK)	1
2	167570	MOTOR – ELECTRIC	1
3	167584	STRAP – MOTOR SUPPORT	1
4	167585	SUPPORT – MOTOR	1
5	167586	SHAFT – DUCT DRIVE, WELDT	1
6	167713	HARNESS – SCREEN CLEANERS	1
7	167714	ADAPTER – SCREEN CLEANER WIRE	1
A	18664	NUT – HEX JAM 3/8–16 UNC GR 5 ZP	1
B	18709	SCREW – SET HEX SOC CUP PT 3/8 NC X 5/8 LG	1
C	252261	SCREW – HEX W HD MACH SLOT #10-24 UNC X 3 X 8–GR2–AA3L	4

Chapter 3: Installation Instructions

To install the kit, follow the procedures provided here.

NOTE:

Throughout these instructions, when parts included in the kit are initially referenced, the part name is followed by its MacDon part number (MD #xxxxxx). If the part is not sold separately, the part name is followed by (MD #NSS). For more information, cross reference the part number to the parts list description and illustration.

3.1 Removing Screen Cleaner Motor and Wiring Harness

The screen cleaner motor and its wiring harness will need to be removed before the new parts in the kit can be installed.

DANGER

To avoid bodily injury or death from 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 from the ignition.
2. Open the hood. Refer to the windrower operator's manual for instructions.
3. Open the cooler box screen. Refer to the windrower operator's manual for instructions.
4. Disconnect main wiring harness connection (A).
5. Remove and retain seven wiring harness clips (B).
6. Remove the cable tie, the black motor cover, and the O-rings from each motor (D). Retain the O-rings for reassembly.
7. Disconnect the two wires that go to each motor. Remove wiring harness (E).
8. Remove the mounting strap from the damaged motor by removing bottom bolt (C) before unhinging the strap at the top. Retain the hardware for reassembly.

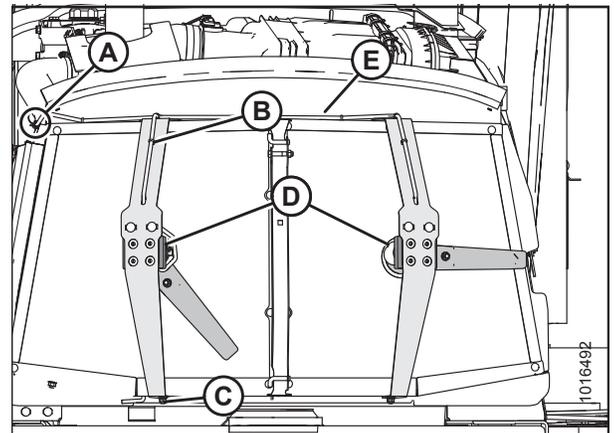


Figure 3.1: Screen Cleaners

9. Loosen jam nut (A), remove set screw (B), and remove screen cleaner duct assembly (C).
10. Loosen bolt (D) to remove the duct from motor shaft (E). Retain the duct and the hardware for reassembly.

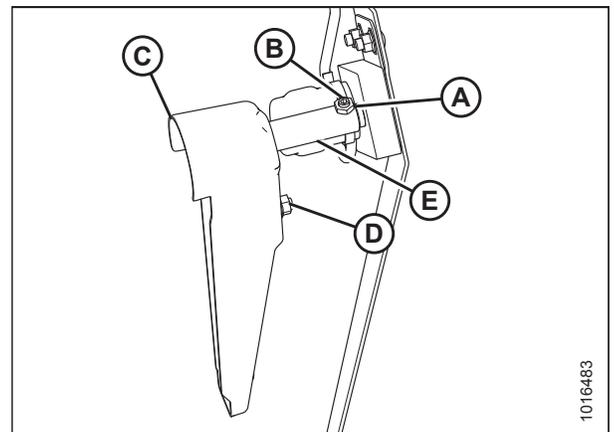
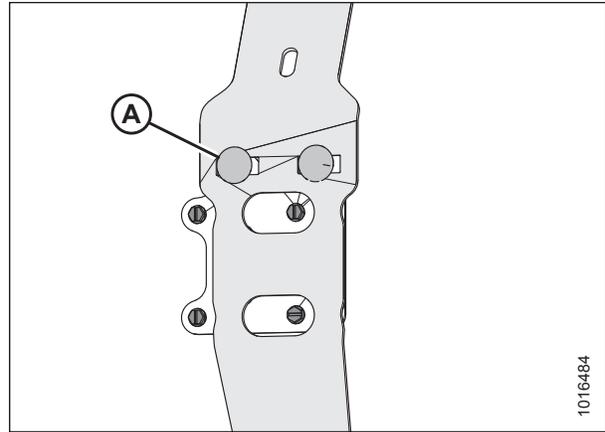


Figure 3.2: Screen Cleaner Assembly

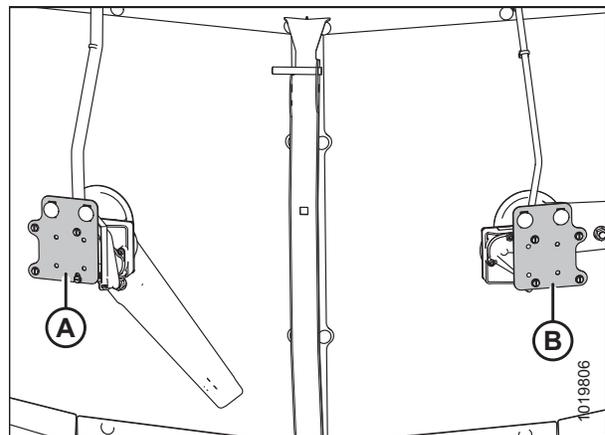
INSTALLATION INSTRUCTIONS

11. Remove two bolts and nuts (A). Separate the motor assembly from the motor strap. Retain the hardware for reassembly.



IMPORTANT:

The way that right motor (A) is attached to its plate differs from the way left motor mount (B) is attached. Take note of the difference. A photo of the original configuration may be useful.



3.2 Installing Replacement Screen Cleaner Motor and Wiring Harness

Be sure to install the screen cleaner motor in the correct orientation. The wiring harness adapter supplied with this kit may not be needed for this procedure.

Right motor mount (A)

Left motor mount (B)

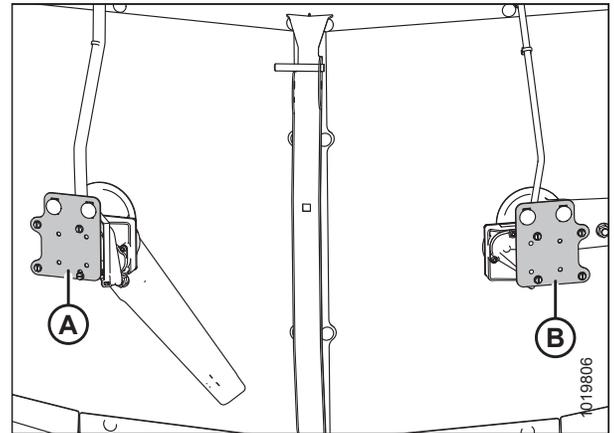


Figure 3.5: Motor Mount Orientation

1. Attach motor (A) (MD #167570) to motor support (B) (MD #167585) using four screws (C) (MD #252261).

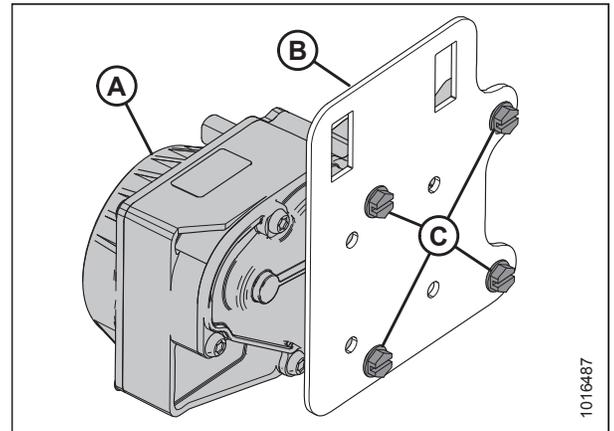


Figure 3.6: Motor Mount for the Right Side

2. Attach the motor assembly to motor support strap (A) (MD #167584) using bolts (B) retained in Step 11, page 10.

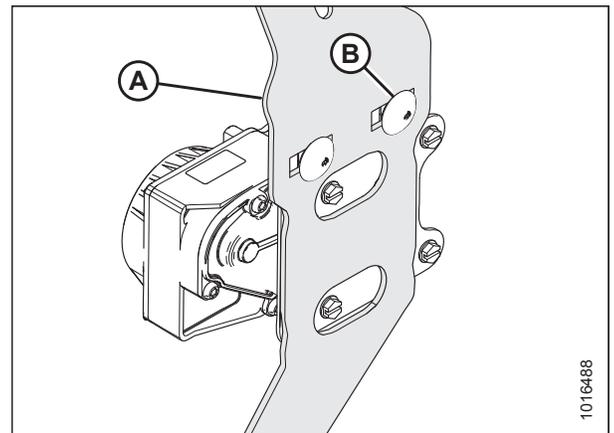


Figure 3.7: Motor Attached to Support Strap

INSTALLATION INSTRUCTIONS

3. Apply corrosion inhibitor inside shaft (A).
4. Attach shaft (A) to the duct using the hardware retained in Step 10, page 9.

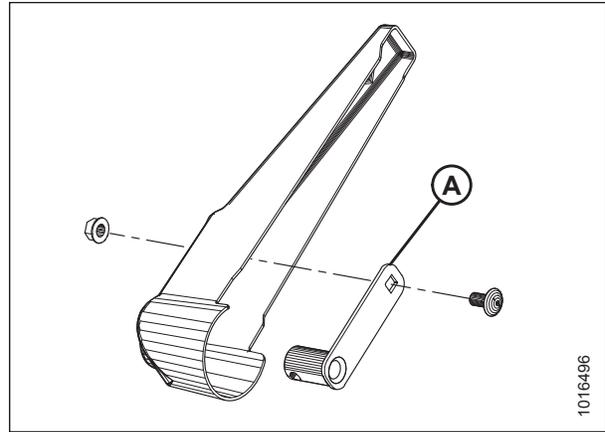


Figure 3.8: Screen Duct and Motor Shaft

5. Apply corrosion inhibitor to set screw (A) before installing it.
6. Attach the duct assembly to the new motor using set screw (A) (MD #18709) and jam nut (B) (MD #18664). Ensure that set screw (A) is seated on the flat side of the motor shaft. Tighten jam nut (B).
7. Clearance (C) from the motor housing to the end of the screen cleaner duct shaft should be set to 14–19 mm (9/16–3/4 in.).

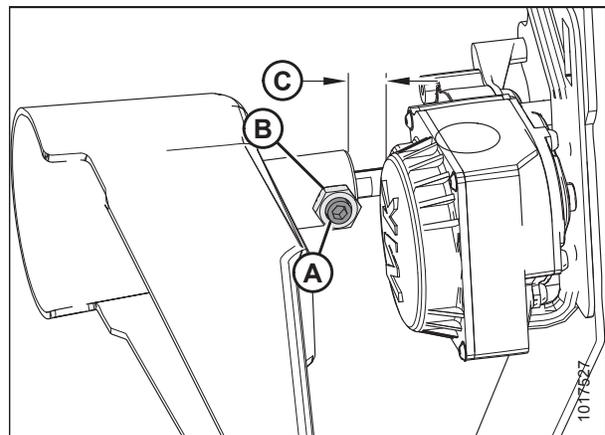


Figure 3.9: Screen Cleaner Assembly

8. Apply silicone to the hinged area at the top of the plastic screen cleaner duct weldment. Hinge bracket (A) at the top and install bottom bolt (B) using the hardware retained in Step 8, page 9.

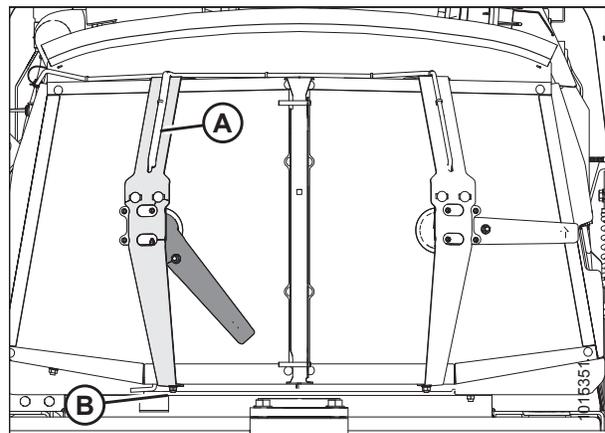


Figure 3.10: Screen Cleaners

INSTALLATION INSTRUCTIONS

9. Install new harness (B) (MD #167713) using clips (A) retained in Step 5, page 9.

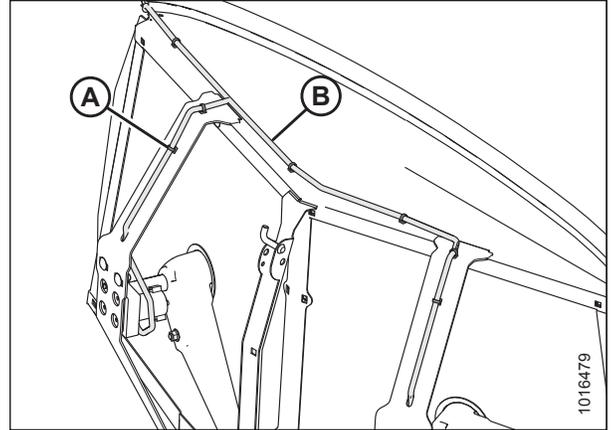


Figure 3.11: Screen Cleaner Motor Harness

10. Apply dielectric grease to motor electrical terminal (A).
11. Connect the new harness to the motor.

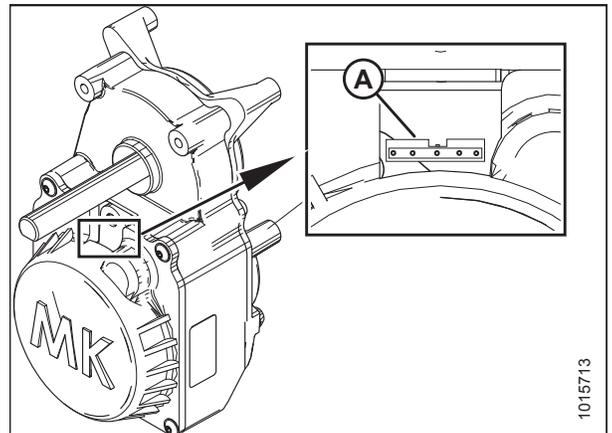


Figure 3.12: Screen Cleaner Motor

12. Route harness adapter (A) (MD #167714) between bolts (B) on the mounting strap.

NOTE:

Harness adapter (MD #167714) is required when connecting a new electrical harness (MD #167713) to an old screen cleaner motor. If new motors are installed, installing the harness adapter may not be required.

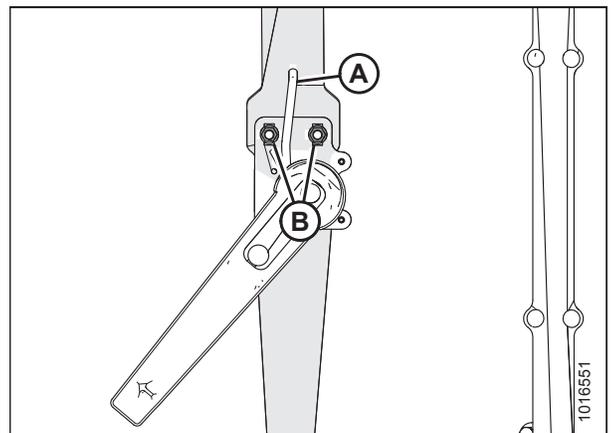


Figure 3.13: Wiring Harness Adapter

13. Reconnect the main harness connection.

3.3 Adjusting Screen Cleaner Rotor to Screen Clearance

Check the clearance between the trailing edge of the screen cleaner rotor and the screen. It should be 1–8 mm (1/64–1/8 in.) at all locations when the rotor is in motion.

⚠ DANGER

To avoid bodily injury or death from 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.

NOTE:

Screen cleaner rotor (A) rotates counterclockwise and may touch the screen when it is in motion.

1. Loosen nut (B) on motor support (C).
2. Move the support in or out until the duct is 2–6 mm (1/16–1/4 in.) from the screen near the center.
3. Retighten nut (B).
4. Loosen two motor mount nuts (D).
5. Move motor/duct assembly (E) to obtain a 1–8 mm (1/64–1/8 in.) gap between the rotor when it is at full rotation and the screen.
6. Retighten nuts (D) on the motor mount.

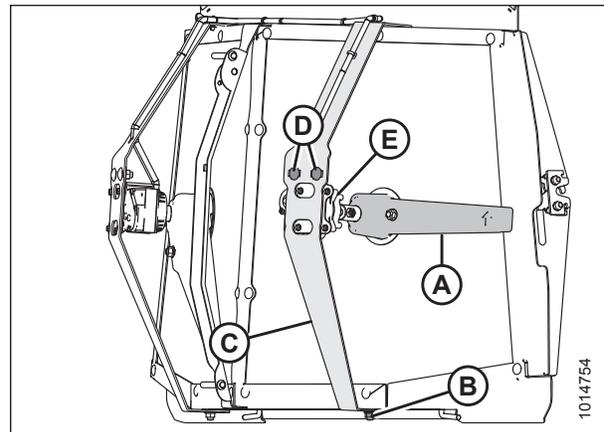


Figure 3.14: Screen Cleaner

3.4 Adjusting Screen Sweeps

If the motors overheat due to screen fouling, the screen sweeps will need to be adjusted.

1. Loosen bolt (A). Adjust screen sweep (B) so that the clearance to screen mesh (C) is the same in all positions. Tighten bolt (A).

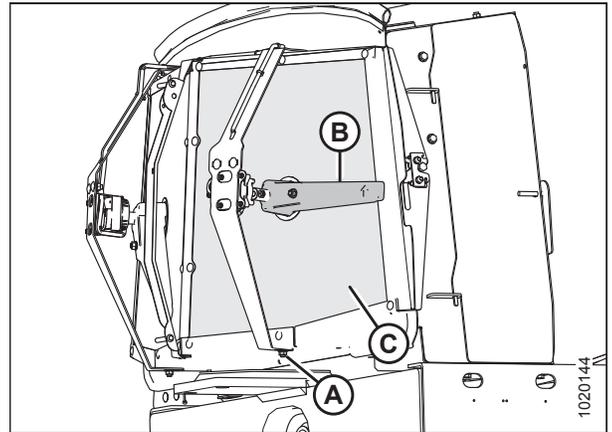


Figure 3.15: Cooling System

2. Loosen jam nut and set screw (A).
3. Adjust screen sweep (B) so that it contacts screen mesh (C) in all positions. Tighten jam nut and set screw (A).

NOTE:

The screen may interfere with the sweep so long as the sweep moves freely during operation. The amperage per motor must not exceed 180 mA.

For 2017 model year and older windrowers: If uneven screen surfaces prevent the screen from being cleaned properly, order replacement screens MD #167983 and MD #167984.

4. Close the hood. Refer to your windrower operator's manual for instructions.
5. Close the cooler box screen. Refer to the windrower operator's manual for instructions.

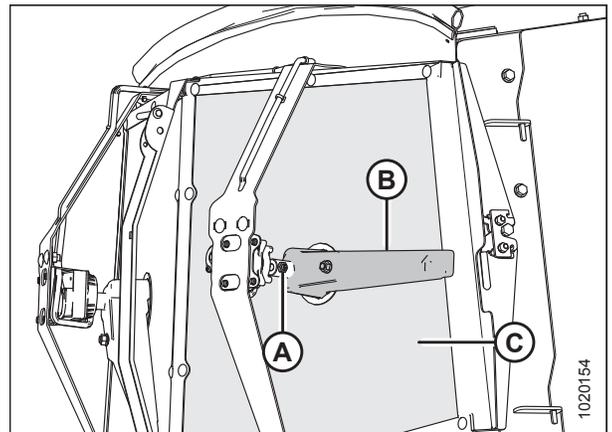


Figure 3.16: Cooling System

⚠ WARNING

Check to be sure all bystanders have cleared the area.

6. Have an assistant start the engine. Ensure that the sweepers operate correctly and rotate without contacting the screens.

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