

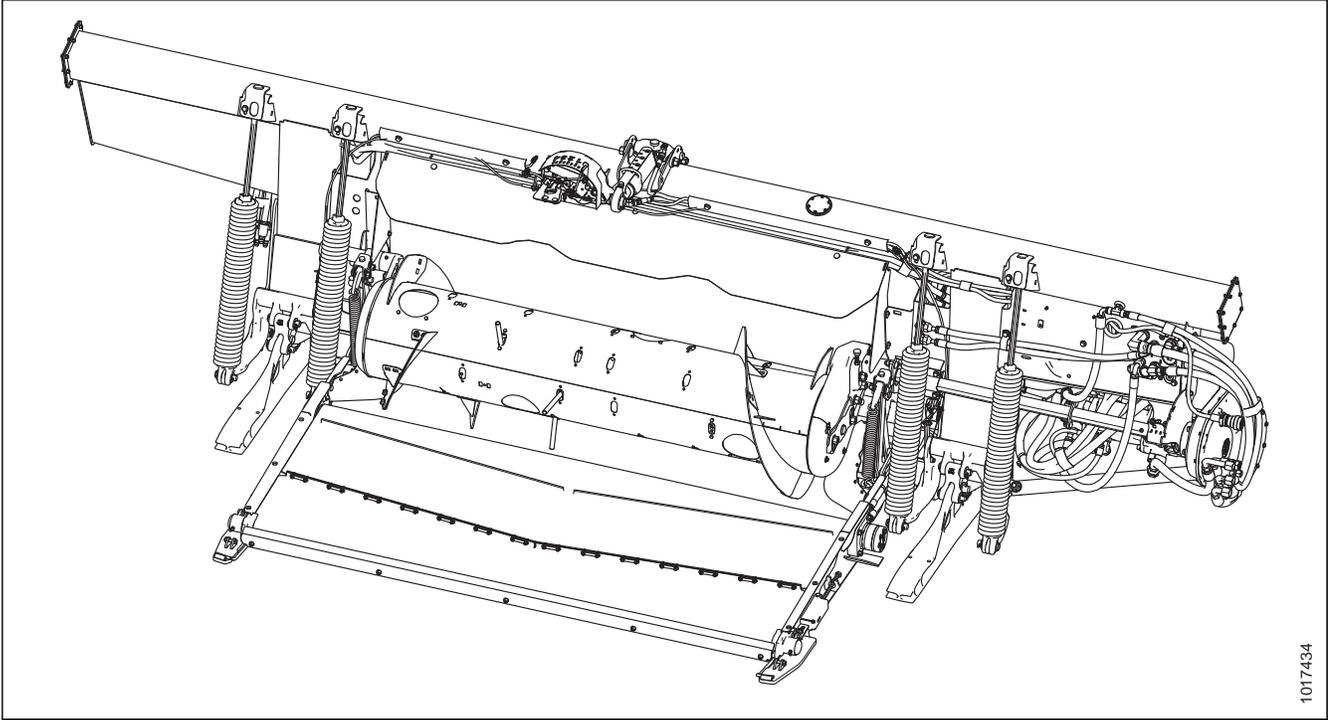
# **FM100 Float Module**

In-Cab Side Draper Speed Control Kit (B6208, B6385,  
B6387) Installation Instructions

147989 Revision C

Original Instruction

FM100 Float Module



1017434

Published in September, 2017

## Introduction

The In-Cab Side Draper Speed Control kit (B6387, B6385, or B6208) can be installed on the FM100 Float Module. Refer to the table below for the appropriate kit for your combine. Only one of the kits listed below is required for each combine.

Bundle	Description
B6385 – CNH	Control panel mounts to monitor support rail. Kit is for Case and New Holland combines only.
B6208 – John Deere	Control panel mounts to armrest. Kit is for John Deere combines only.
B6387 – Generic	Control panel mounts to suction cup assembly. Kit is for all other combine models that don't use B6385 or B6208.

### NOTE:

The control panel included in the CNH kit (MD #B6385) is installed on the monitor support rail. Early Case models that don't have this support rail will require the Generic kit (MD #B6387) instead.

This document explains how to install the flow control valve, control panel, and electrical connections. The Operator will be able to control side draper speed from the cab **ONLY IF** the supplied control panel is installed and power is provided by the combine.

A list of parts included in the kit is provided in Chapter *2 Parts List, page 5*.

### Installation Time

Installation time is approximately 1 hour.

### Conventions

The following conventions are used in this document:

- Right and left are determined from the operator's position. The front of the header is the side that faces the crop.
- Unless otherwise noted, use the standard torque values provided in the header 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
<ul style="list-style-type: none"> <li>• Added flow control valve MD #276631 to parts list.</li> <li>• Added note and footnotes that describe the two different flow control valves.</li> </ul>	<p><i>2 Parts List, page 5</i></p>
<ul style="list-style-type: none"> <li>• Added note: "Reduced flow control may result if the valve is torqued too tightly into the manifold."</li> <li>• Added separate steps for installing the two different flow control valves.</li> </ul>	<p><i>3.1 Installing Flow Control Valve, page 9</i></p>
<p>Added photo of CNH monitor support rail.</p>	<p><i>3.2.2 Installing Control Panel – Case New Holland, page 16</i></p>
<p>Removed control panel assembly part numbers MD #276964 and MD #287747. These are non-serviced assemblies.</p>	<ul style="list-style-type: none"> <li>• <i>2 Parts List, page 5</i></li> <li>• <i>3.2.1 Installing Control Panel – John Deere, page 15</i></li> <li>• <i>3.2.3 Installing Control Panel – Generic, page 17</i></li> <li>• <i>3.3.2 Case New Holland and CLAAS – Installing Cab Harness (MD #213667), page 21</i></li> </ul>



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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. 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.

## 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 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.

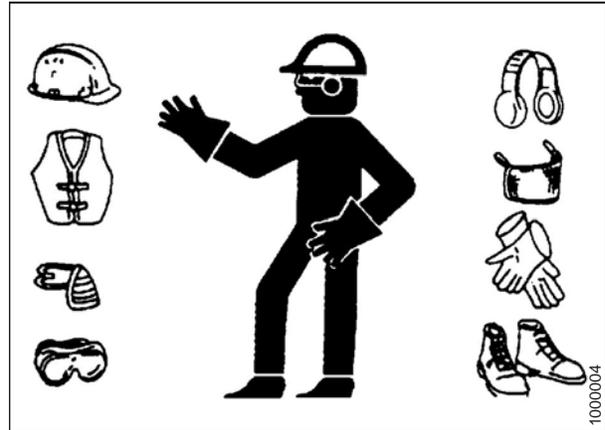


Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

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

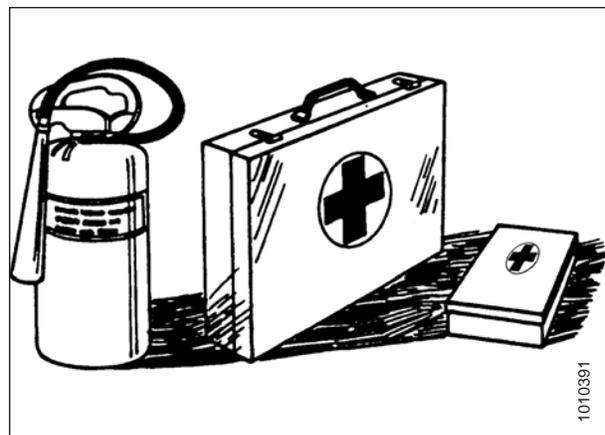


Figure 1.3: Safety Equipment

## 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 bodily 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.

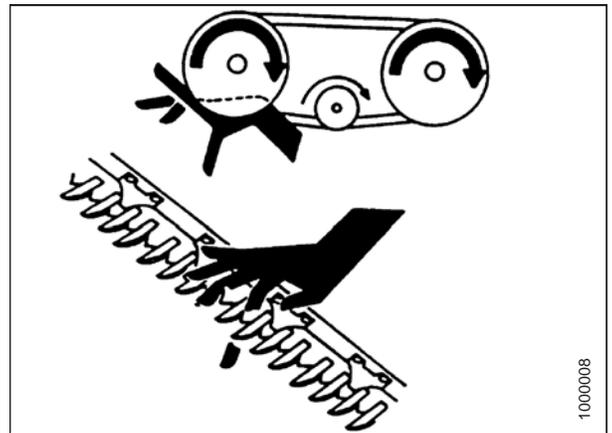


Figure 1.5: Safety around Equipment

- 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



## 2 Parts List

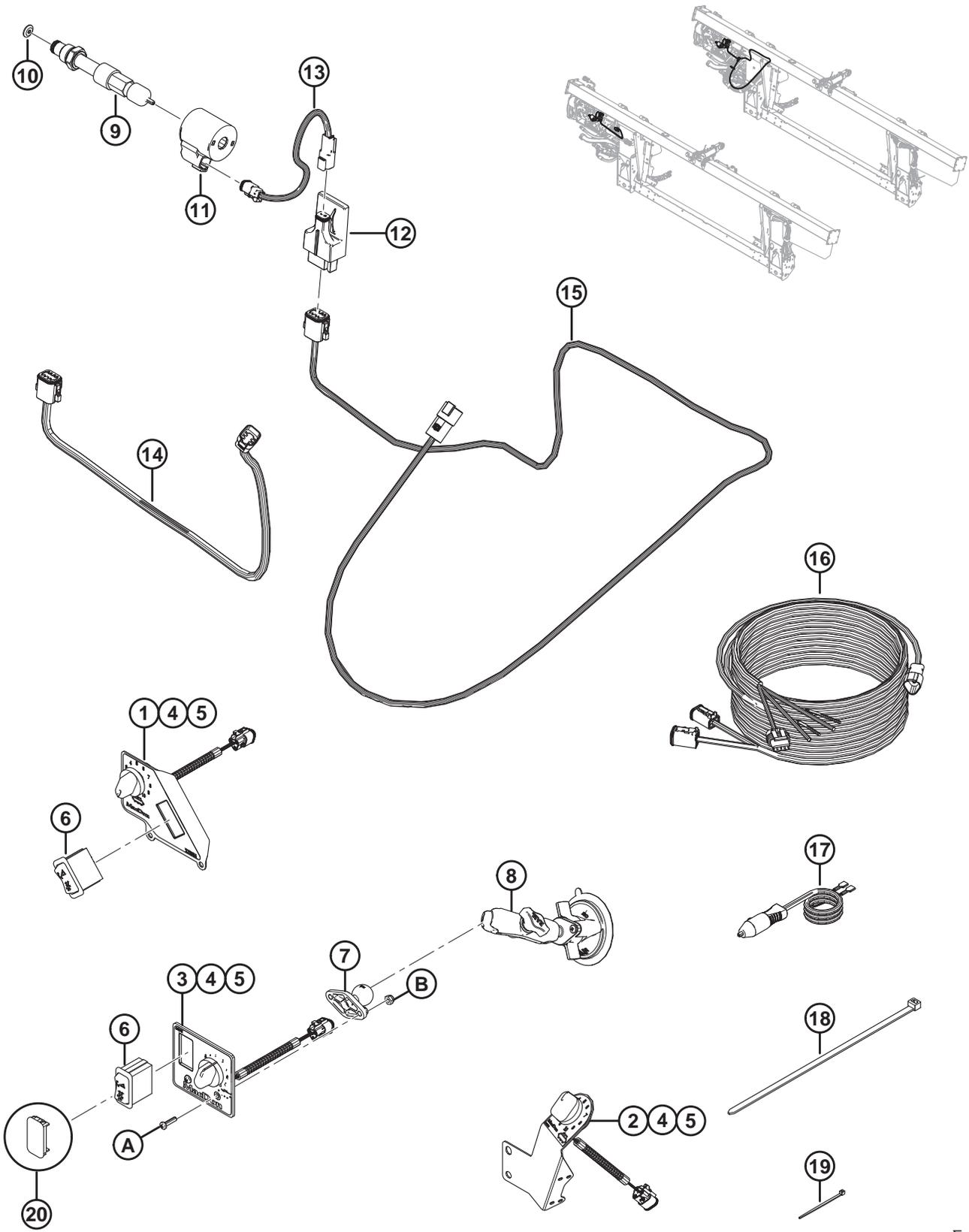
The following parts are included in this kit.

**NOTE:**

This kit includes one of the following flow control valves:

- **MD #295267** – This valve requires orifice plate (MD #287227). The orifice plate must be installed properly; otherwise damage to the hydraulic manifold may result.
- **MD #276631** – This valve includes a built-in orifice plate, and does not require (MD #287227).

# PARTS LIST



1021121

**PARTS LIST**

Ref	Part Number	Description	Qty		
			B6208	B6385	B6387
	B6208	KIT – IN-CAB SIDE DRAPER SPEED CONTROL (JOHN DEERE) <sup>1</sup>	1		
	B6385	KIT – IN-CAB SIDE DRAPER SPEED CONTROL (CNH) <sup>1</sup>		1	
	B6387	KIT – IN-CAB SIDE DRAPER SPEED CONTROL (GENERIC) <sup>1</sup>			1
1	287945	CONTROL PANEL – ICSDSC, JD	1	—	—
2	276671	CONTROL PANEL – ICSDSC, CNH	—	1	—
3	287944	CONTROL PANEL – ICSDSC, GENERIC	—	—	1
4	213459	POTENTIOMETER – 5K	1	1	1
5	109773	KNOB – PLASTIC	1	1	1
6	287797	SWITCH – ROCKER, TILT	1	—	1
7	287749	BASE – BALL MOUNT	—	—	1
8	287859	BASE – SUCTION CUP WITH ARM	—	—	1
9	276631	VALVE – FLOW CONTROL <sup>2</sup>	1	1	1
	295267	VALVE – FLOW CONTROL <sup>3</sup>			
	252351	KIT – SEAL			
10	287227	ORIFICE PLATE – 0.18 IN. <sup>4</sup>	1	1	1
11	209045	COIL – SOLENOID	1	1	1
12	213275	VALVE DRIVER – PWM	1	1	1
13	213812	HARNESS – SOLENOID	1	1	1
14	213813	HARNESS – VALVE DRIVER (CNH)	—	1	—
15	287894	HARNESS – VALVE DRIVER	1	—	1
16	213667	HARNESS – CAB DRAPER CONTROL	—	1	1
17	220570	HARNESS – AUX PWR TO QUICK DISC	1	1	1
18	30753	FASTENER – CABLE TIE, BLACK, 305 MM LG	2	2	2
19	16661	FASTENER – CABLE TIE, BLACK, 69 MM LG	15	15	15
20	287784	PLUG – PANEL <sup>5</sup>	—	—	1
A	135161	SCREW – MACHINE, #10-32 UNF X 0.75 IN.	—	—	2
B	20012	NUT – NYLOC #10-32-GR5-AA3L	—	—	2

1. Kits available through Whole Goods only.
2. Includes an orifice plate built into the valve.
3. Requires orifice plate (MD #287227) to be installed with the valve.
4. Only included in kits that have valve (MD #295267).
5. Replaces switch (MD #287797) if combine has a built-in tilt toggle switch on the GSL.



## 3 Installation Instructions

To install the In-Cab Side Draper Speed Control kit, follow these steps:

### CAUTION

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key before making adjustments to machine.

1. Lower header to the ground, shut off engine, and remove key.
2. Shut off battery disconnect.

### 3.1 Installing Flow Control Valve

This kit includes one of the following flow control valves:

- **MD #295267 (A)** – This valve requires orifice plate (C) (MD #287227). The orifice plate must be installed properly; otherwise damage to the hydraulic manifold may result.
- **MD #276631 (B)** – This valve includes a built-in orifice plate (D), and does not require orifice plate (C) (MD #287227).

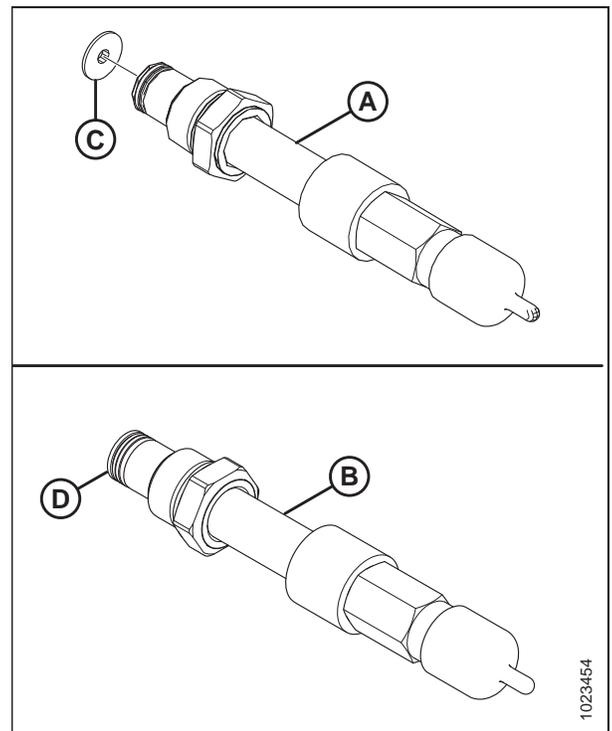


Figure 3.1: Flow Control Valves

## INSTALLATION INSTRUCTIONS

1. Lift cover (A) to access manifold (B) on float module.
2. Remove existing manual flow control valve (C) from manifold.

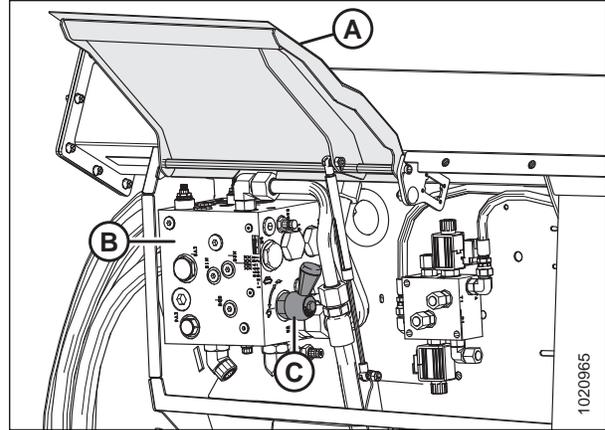


Figure 3.2: Manual Flow Control Valve

3. Loosen elbow fitting (A) at the top of manifold, and rotate steel line (B) outwards to allow room to install the new flow control.

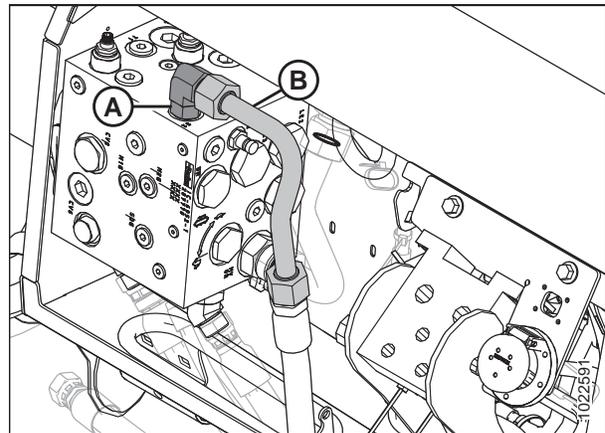


Figure 3.3: Manifold and Steel Line

4. Remove and retain spacer (A) and retaining nut (B) from flow control valve, and loosely install solenoid coil (C) (MD #209045) onto valve.

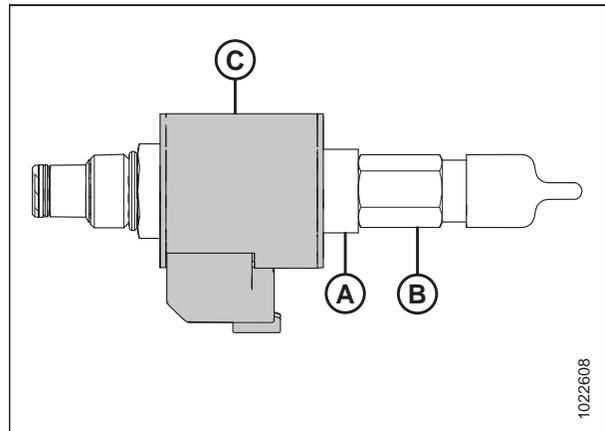


Figure 3.4: Flow Control Valve and Coil

## INSTALLATION INSTRUCTIONS

5. Install flow control valve (C), solenoid coil (D), and orifice plate (E) (MD #287227) (if included in kit) where existing manual flow control valve was removed.

**IMPORTANT:**

If installing valve (MD #295267), install orifice plate (E) as shown at right. Make sure the chamfer on the orifice plate is facing the manifold.

**IMPORTANT:**

Damage to machine may occur if orifice plate isn't installed with flow control valve, and flow control will not function properly if orifice plate is installed backwards.

6. Torque valve to 21 Nm (16 lbf·ft).

**NOTE:**

Reduced flow control may result if the valve is torqued too tightly into the manifold.

7. Reinstall spacer (A) and retaining nut (B) onto flow control valve. Make sure spacer is installed on outside of solenoid coil (D). Installing the spacer between coil and manifold will result in reduced flow control.
8. Torque solenoid coil to 7 Nm (5 lbf·ft).
9. Fasten valve driver (A) (MD #213275) to back of hydraulic compartment using cable tie (MD #30753) (not shown) in holes (B). The valve driver has a slot on the back for the cable tie to go through.

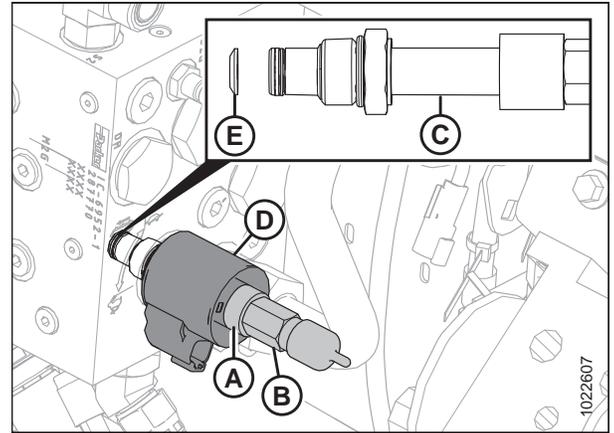


Figure 3.5: Installing Flow Control Valve

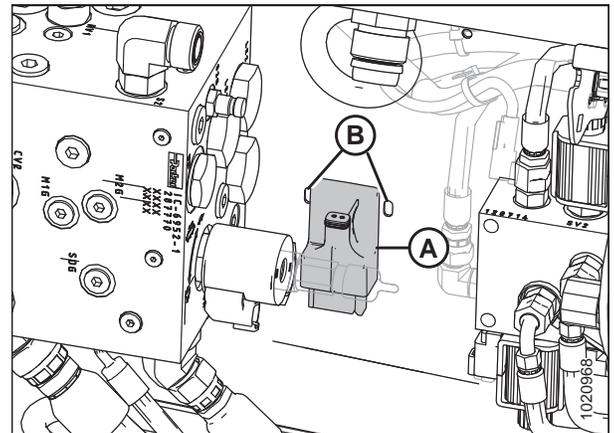


Figure 3.6: Installing Valve Driver

## INSTALLATION INSTRUCTIONS

10. Connect solenoid harness (MD #213812) to solenoid and valve driver; P410 (A) connects to solenoid, and C2 (B) connects to top of valve driver. Make sure connector C2 is locked in place on valve driver.

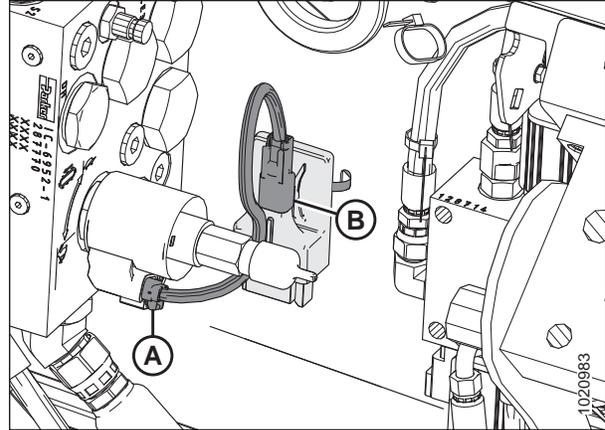


Figure 3.7: Installing Solenoid Harness

11. **Case New Holland kit (B6385):** Connect C1 (A) of short valve driver harness (MD #213813) to bottom of valve driver.

**NOTE:**

Early Case models that don't have a monitor support rail require the generic kit (B6387).

12. **John Deere kit (B6208) and Generic kit (B6387):** Connect C1 (A) of long valve driver harness (MD #287894) to bottom of valve driver.

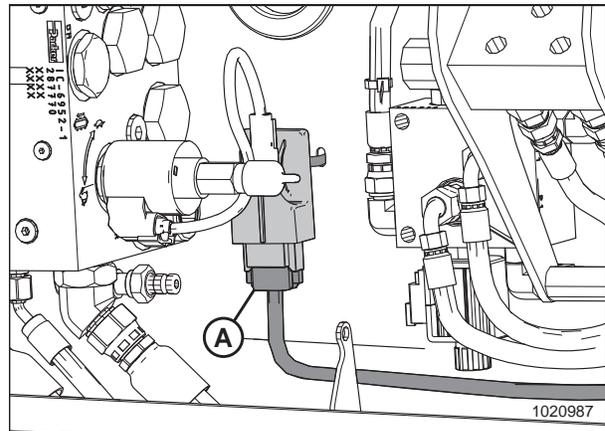


Figure 3.8: Installing Valve Driver Harness

13. Route valve driver harness (A) with completion harness to existing electrical connection (B).

**NOTE:**

John Deere completion shown. Routing will vary per combine manufacturer.

14. Bundle excess harness and secure with cable tie (MD #30753). Place the connector C3B (C) near the combine connector location.
15. Use cable ties (MD #16661) to secure harness in place.

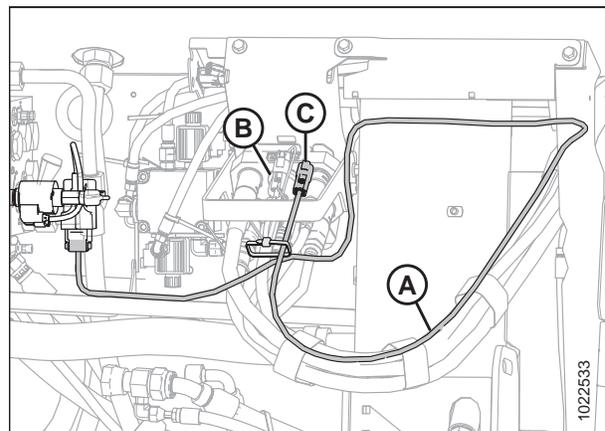
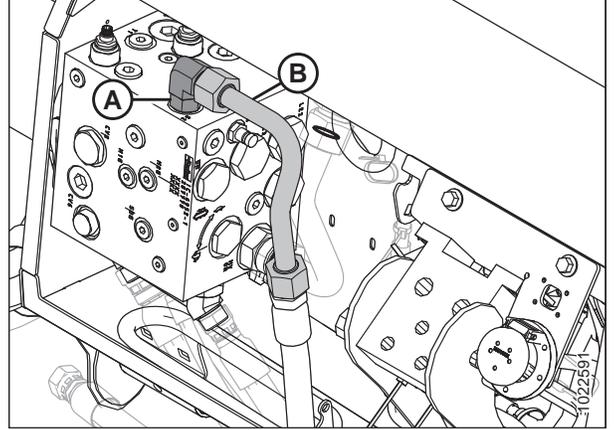


Figure 3.9: Routing Valve Driver Harness – John Deere Completion Shown

## INSTALLATION INSTRUCTIONS

16. Rotate steel line (B) back into place and tighten elbow fitting (A) on top of manifold.



**Figure 3.10: Manifold and Steel Line**

## INSTALLATION INSTRUCTIONS

### 3.2 Installing Control Panel

The Operator will be able to control side draper speed from the cab **ONLY IF** the supplied control panel is installed and power is provided by the combine. Refer to the instructions below for your kit.

- John Deere kit (MD #B6208): [3.2.1 Installing Control Panel – John Deere, page 15](#)
- Case New Holland kit (MD #B6385): [3.2.2 Installing Control Panel – Case New Holland, page 16](#)

**NOTE:**

Early Case models without the monitor support rail require **B6387**.

- Generic kit (MD #B6387): [3.2.3 Installing Control Panel – Generic, page 17](#)

## INSTALLATION INSTRUCTIONS

### 3.2.1 Installing Control Panel – John Deere

Control panel (MD #287945) is designed for John Deere combines only.

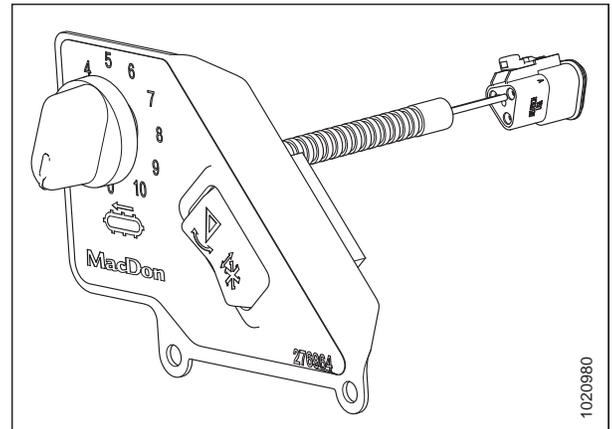


Figure 3.11: John Deere Control Panel (MD #287945)

1. Open armrest cover (B), and install control panel (A) to right side of armrest using existing hardware (C).



Figure 3.12: Installing Control Panel



Figure 3.13: Installing Control Panel

## INSTALLATION INSTRUCTIONS

### 3.2.2 Installing Control Panel – Case New Holland

Control panel (MD #276671) included in the CNH kit (MD #B6385) is installed at the end of the monitor support rail of Case and New Holland combines.

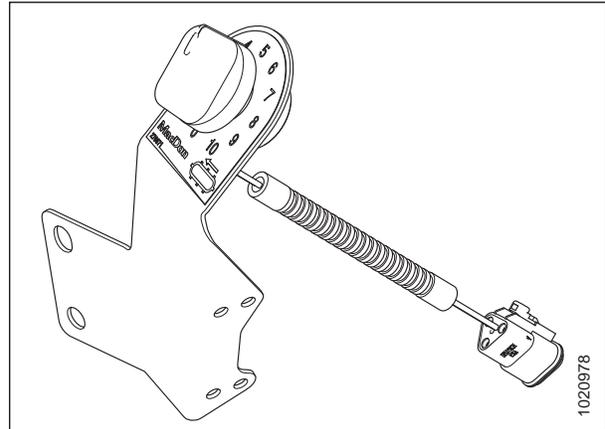


Figure 3.14: Control Panel (MD #276671)

#### NOTE:

Early Case models that don't have the monitor support rail (A) require the Generic kit (MD #B6387) instead. Refer to [3.2.3 Installing Control Panel – Generic, page 17](#).



Figure 3.15: Monitor Support Rail

1. Remove and retain hardware (A) from end of monitor support rail (B).

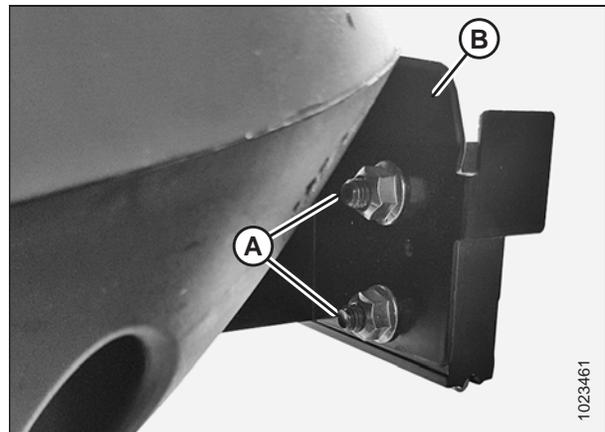


Figure 3.16: Monitor Support Rail

## INSTALLATION INSTRUCTIONS

2. Mount control panel (A) to the back of the monitor support rail (B) using existing hardware (C). Installing the panel on the back of the rail will prevent interference with the monitor.

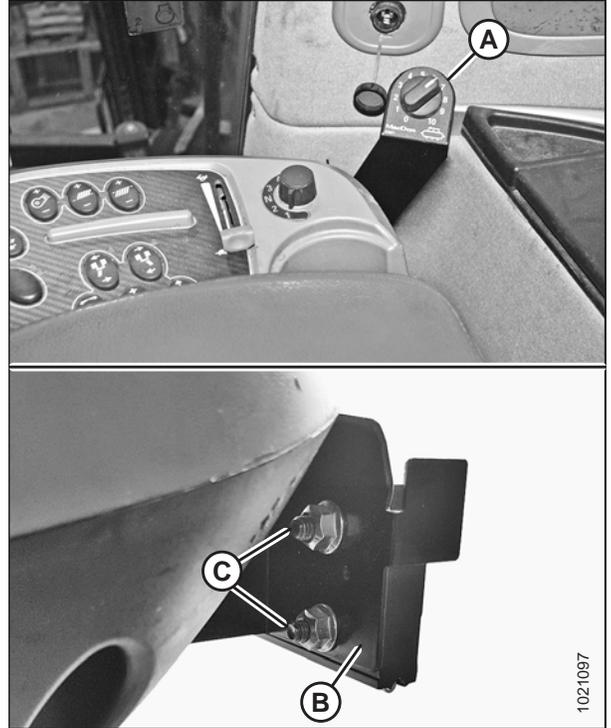


Figure 3.17: Installing Control Panel

### 3.2.3 Installing Control Panel – Generic

Control panel (MD #287944) is included in the Generic kit (MD #B6387) and can be installed on all combine models.

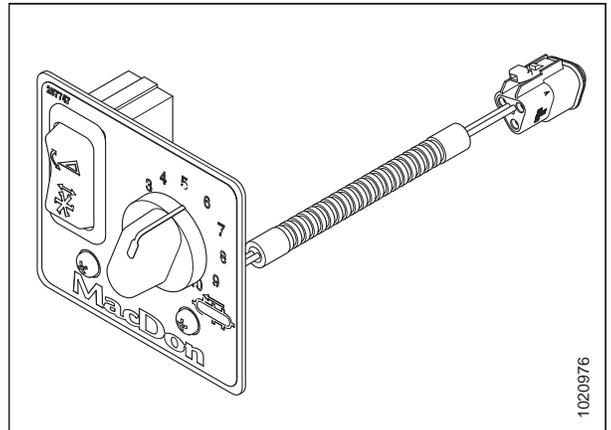
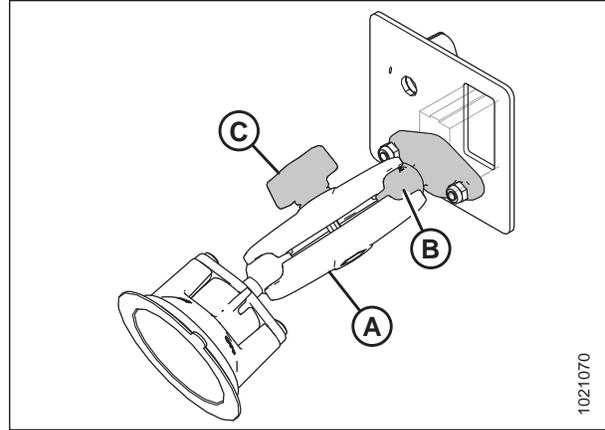


Figure 3.18: Generic Control Panel (MD #287944)

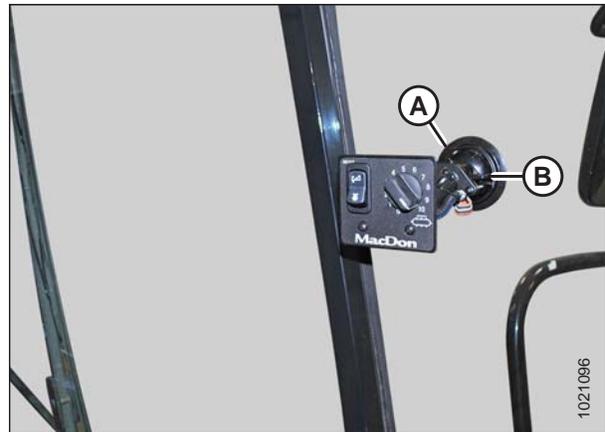
## INSTALLATION INSTRUCTIONS

1. Attach panel base (A) (MD #287859) to ball mount (B) on back of control panel. Tighten using knob (C).



**Figure 3.19: Control Panel (MD #287747) and Suction Cup Base**

2. Install the control panel inside the cab by attaching the suction cup (A) to window glass or smooth surface on console. Secure in place by locking tab (B) on panel base.



**Figure 3.20: Installing Control Panel**

## INSTALLATION INSTRUCTIONS

### 3.3 Installing Cab Harness (MD #213667)

The cab harness is routed from the float module multicoupler, underneath the cab, and up to the combine console. Specific harness routing will vary per combine manufacturer.

John Deere and AGCO combines will already have cab harness (MD #213667) installed because the harness is included with the John Deere and AGCO completion packages.

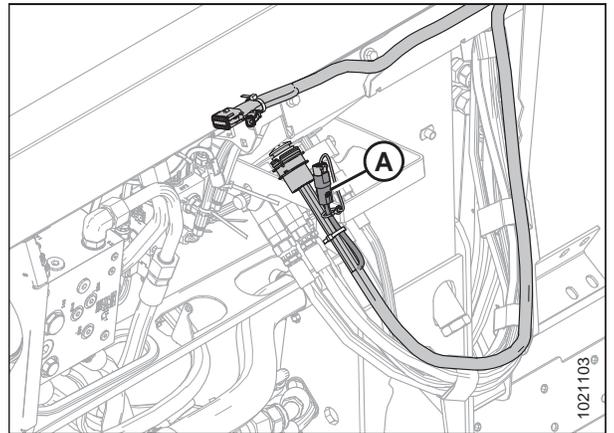
Refer to the following instructions for your combine model:

- 3.3.1 John Deere and AGCO – Installing Cab Harness (MD #213667), page 19
- 3.3.2 Case New Holland and CLAAS – Installing Cab Harness (MD #213667), page 21

#### 3.3.1 John Deere and AGCO – Installing Cab Harness (MD #213667)

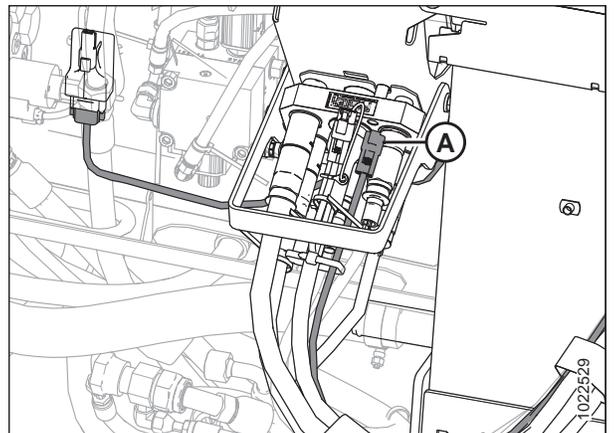
Cab harness MD #213667 was included in the FM100 completion packages for John Deere and AGCO combines.

1. Connect C5B of cab harness to selector valve connector C5A (A) of completion harness.



**Figure 3.21: Completion Harness – John Deere Shown**

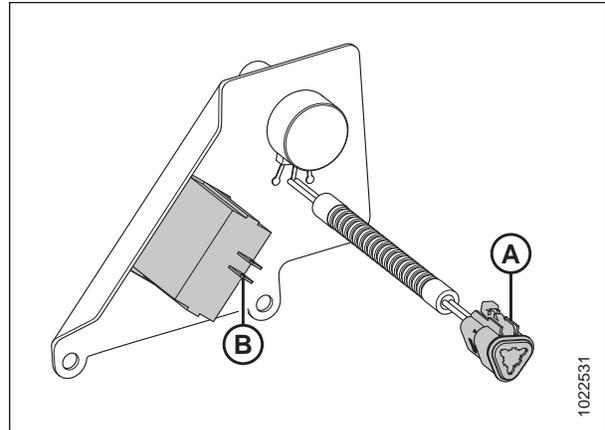
2. Connect C3A of cab harness to connector C3B (A) of valve driver harness, near the combine connector location.



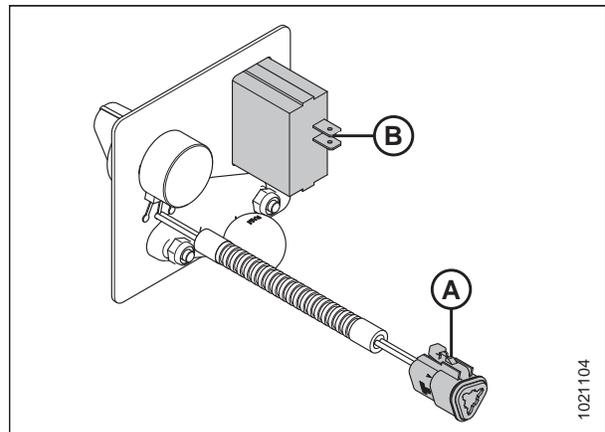
**Figure 3.22: Valve Driver Harness Connection – John Deere Shown**

## INSTALLATION INSTRUCTIONS

3. Connect P551 of cab harness to the control panel potentiometer (A).
4. Connect terminals T242 and T243 of cab harness to terminals on the back of the toggle switch (B).



**Figure 3.23: Control Panel Connections – John Deere**



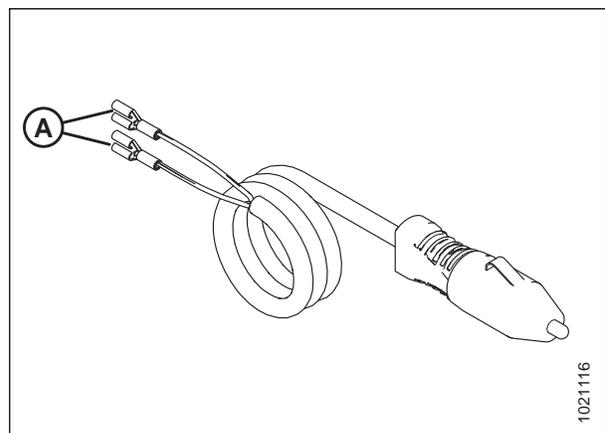
**Figure 3.24: Control Panel Connections – AGCO**

5. Connect terminals T241 and T251 of cab harness to power adapter (A) (MD #220570), and plug adapter into the cigarette lighter.

**NOTE:**

The cab harness can also be connected at the back of the cigarette lighter using terminals T240-T241 and T250-T251, which will require some disassembly of the cab interior for access.

6. Use cable ties (MD #16661) to secure cab harness in place. Ensure a cable tie is used near the potentiometer to prevent disconnection.



**Figure 3.25: Power Adapter (MD #220570)**

## INSTALLATION INSTRUCTIONS

### 3.3.2 Case New Holland and CLAAS – Installing Cab Harness (MD #213667)

To install cab harness (MD #213667), follow these steps:

1. Connect C3A of cab harness (MD #213667) to connector C3B (B) of valve driver harness, near the combine connector location (A).
2. Route the cab harness from the float module multicoupler, underneath the cab, and over to the right side of cab.
3. Pull up the floor mat on right side of cab, and route the harness up through the floor toward the combine console.

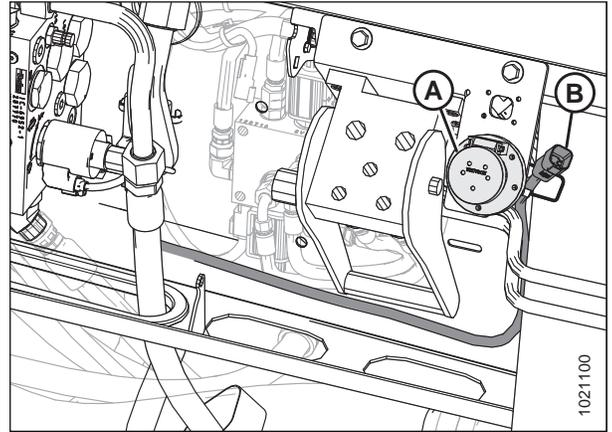


Figure 3.26: Valve Driver Harness Connection – Case New Holland Shown

4. **B6387 only:** If combine has a built-in tilt toggle switch on the GSL, the toggle switch on the control panel is not required. Remove toggle switch (A) from control panel (MD #287944), and replace with plug (B) (MD #287784).

**NOTE:**

Control panel (MD #276671), installed on the monitor support rail of Case and New Holland combines, does not include a tilt toggle switch.

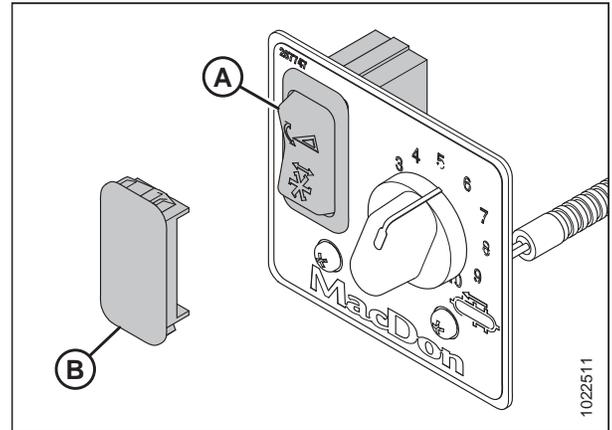


Figure 3.27: Control Panel (MD #287944)

5. Connect P551 of cab harness to the control panel potentiometer (A).

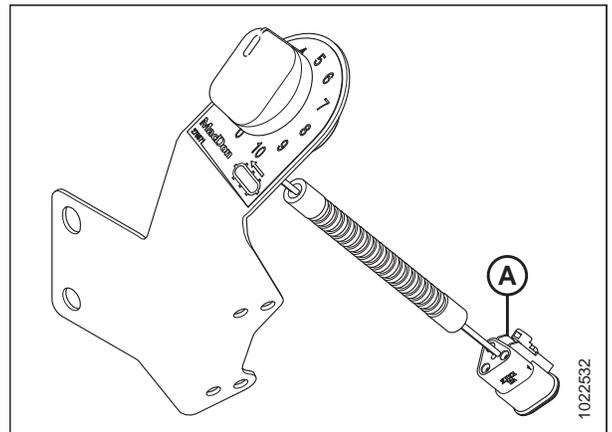


Figure 3.28: Control Panel Potentiometer – Case New Holland Shown

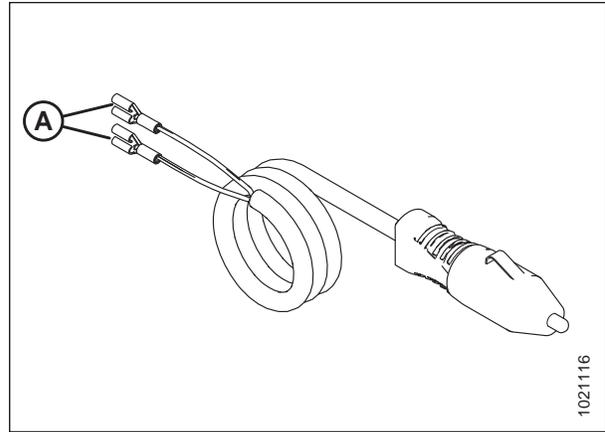
## INSTALLATION INSTRUCTIONS

6. Connect terminals T241 and T251 of cab harness to power adapter (A) (MD #220570), and plug adapter into the cigarette lighter.

**NOTE:**

The cab harness can also be connected at the back of the cigarette lighter using terminals T240-T241 and T250-T251, which will require some disassembly of the cab interior for access.

7. Use cable ties (MD #16661) to secure cab harness in place. Ensure a cable tie is used near the potentiometer to prevent disconnection.



**Figure 3.29: Power Adapter (MD #220570)**



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