



Winter Attachment Joystick Kit

Groundsmaster® 360 Multi-Purpose Machine

Model No. 31219

Installation Instructions

⚠ WARNING

CALIFORNIA Proposition 65 Warning

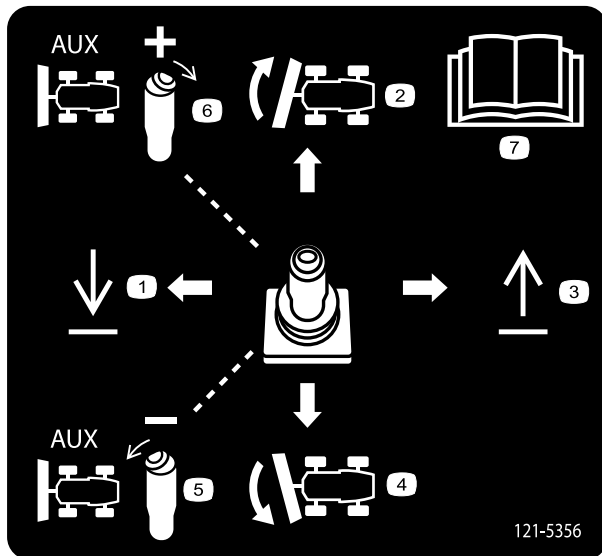
This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.

Safety

Safety and Instructional Decals



Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



121-5356

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|--|--|--|
| 1. Joystick forward—lower the attachment | 4. Joystick left—actuate the attachment in the first direction | 7. Read the <i>Operator's Manual</i> . |
| 2. Joystick right—actuate the attachment in the second direction | 5. Left toggle | |
| 3. Joystick rearward—raise the attachment | 6. Right toggle | |



Installation

Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
1	No parts required	–	Prepare the machine.
2	Joystick wire harness	1	Route the joystick wire harness.
3	Joystick pod mounting bracket Carriage bolt Clip	1 2 1	Install the joystick pod mounting bracket.
4	Joystick Clip Joystick pod cover Joystick pod Hex-head screw (1/4 x 5/8 inch) Knob Decal	1 2 1 1 2 1 1	Install the joystick.
5	No parts required	–	Connect the battery.
6	No parts required	–	Download the software.

Important: You must install the Quick-Attach Front Frame Kit (Toro Model No. 30509) to operate the Winter Attachment Joystick Kit.

Important: You must install the Electrical Accessory Kit (Toro Model No. 115-0019) to operate the Winter Attachment Joystick Kit.

1

Preparing the Machine

No Parts Required

Procedure

1. Park the machine on a level surface, and lower the mower deck and any attachments to the ground.
2. Shut off the engine, engage the parking brake, and remove the key from the ignition switch.
3. Disconnect the negative (–) battery cable from the battery.

⚠ WARNING

Wear safety goggles and rubber gloves when working with batteries. Since the gases are explosive, keep open flames and electrical sparks away from batteries. Do not smoke near the battery.

4. Tilt the steering tower forward.
5. Move the seat latch (located on the left side of the seat) rearward to unlatch the seat, then pull forward on the top of the seat until the seat tilts forward and contacts the steering wheel (Figure 1).

Note: Ensure that the seat prop locks the seat plate securely in place.

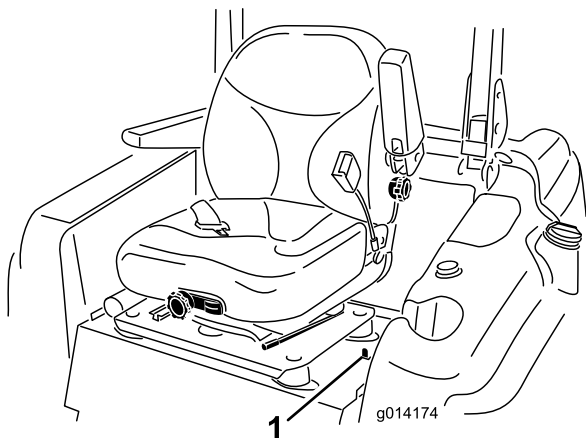


Figure 1

1. Seat latch

6. Remove the bolts that secure the console panel, and remove the panel.

2

Routing the Joystick Wire Harness

Parts needed for this procedure:

1	Joystick wire harness
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Procedure

1. Plug the joystick wire harness into the joystick expansion port connectors on the main kit wire harness, which are located near the controller.
2. Route the joystick wire harness along the existing seat wire harness under the seat plate and through the hole under the seat (Figure 2).

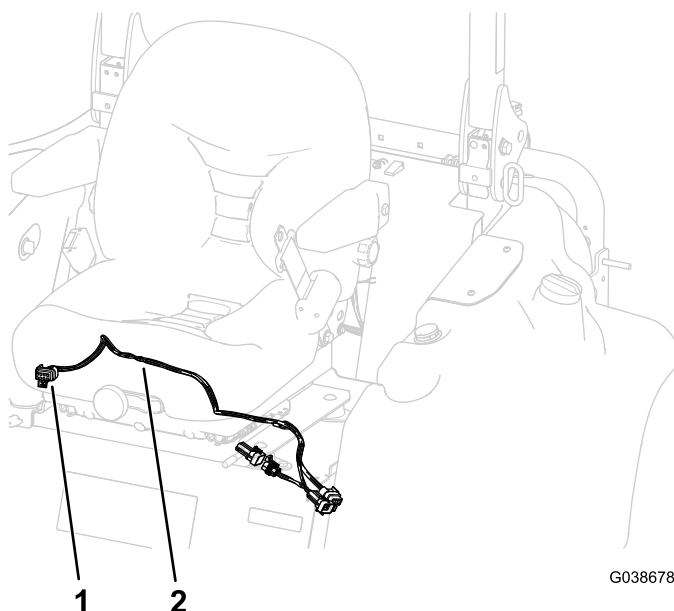


Figure 2

1. Wire-harness connector
2. Wire harness

3. Remove the 2 carriage bolts and 2 nuts that secure the right side of the seat mounting bracket to the seat plate.
4. Route the wire harness between the seat-mounting bracket, the seat plate, and behind the right, rear rubber isolator on the seat plate (Figure 2).

3

Installing the Joystick Pod Mounting Bracket

Parts needed for this procedure:

1	Joystick pod mounting bracket
2	Carriage bolt
1	Clip

Procedure

1. Attach the clip to the front hole in the joystick pod mounting bracket ([Figure 3](#)).
2. Install the joystick pod mounting bracket to the right side of the seat plate ([Figure 3](#)) using the longer carriage bolts and the nuts that you removed in step 3 of 2 [Routing the Joystick Wire Harness](#) (page 3).

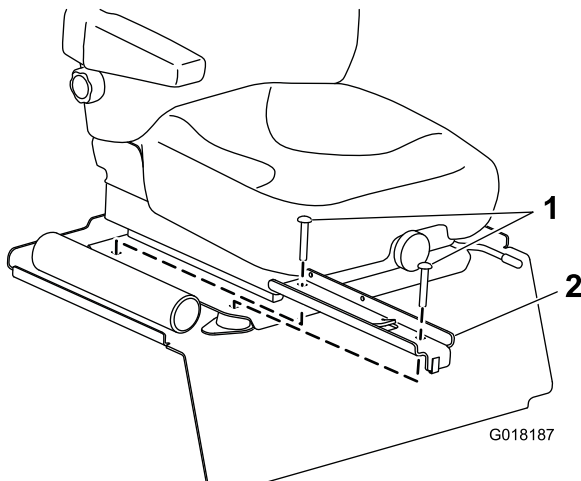


Figure 3

1. Carriage bolts
2. Joystick pod mounting bracket

3. Plug the plastic snap connector from the wire harness into the hole in the joystick pod mounting bracket.

4

Installing the Joystick

Parts needed for this procedure:

1	Joystick
2	Clip
1	Joystick pod cover
1	Joystick pod
2	Hex-head screw (1/4 x 5/8 inch)
1	Knob
1	Decal

Procedure

1. Assemble the joystick ([Figure 4](#)).

Note: Ensure that the heads of the 6 screws in the joystick handle are oriented toward the rear of the machine.

5

Connecting the Battery

No Parts Required

Procedure

Connect the negative (–) battery cable to the battery.

Note: When the kit is properly installed, the power point and fuse block should have power only when the ignition switch is in the ON position.

6

Downloading the Software

No Parts Required

Procedure

Important: This step must be performed by a Toro Commercial Products Distributor Service staff person.

Note: You will need a laptop PC (with the current version of Toro Diag software loaded onto it) and a communication cable for USB to CAN for Toro Diag.

Note: Verify that the software revision is at the current release level.

1. Download the current version of Toro Diag software available from the Toro Distributor Portal website.

Note: If the machine has not yet been converted to the Toro Diag, locate the loop-back connector on the main machine wire harness (located near the main machine controller), and remove it. Replace this plug with the cap without the loop wire as indicated in the Toro Diag service bulletin.

2. Plug the CAN communication cable into the CAN communications port located near the main controller on the main wire harness.
3. Follow the instructions on the screen for programming and/or re-programming the software on the accessory controller and the main machine.

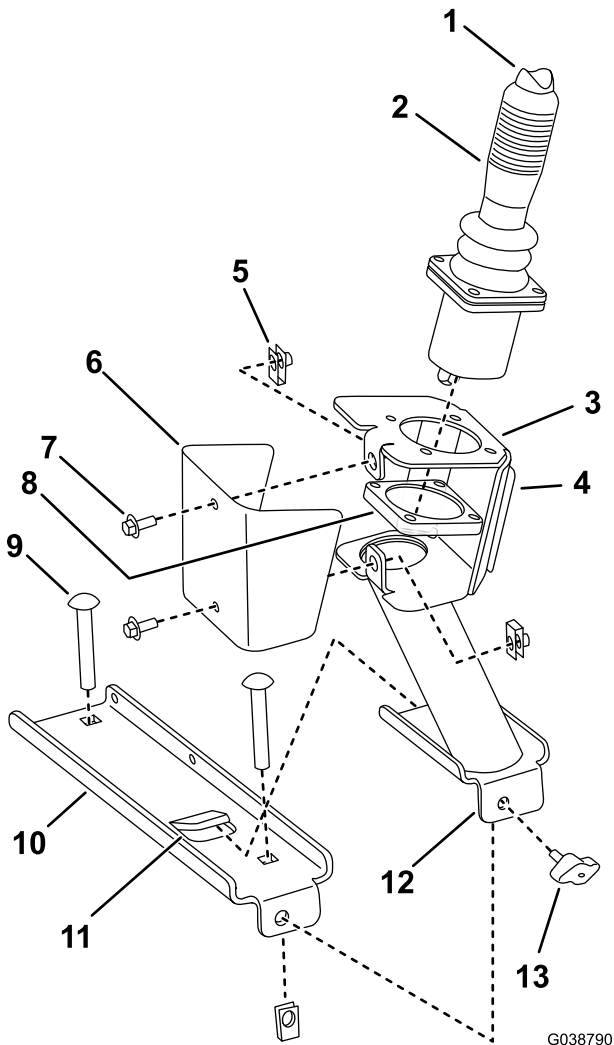


Figure 4

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|---|-----------------------------------|
| 1. Toggle switch | 8. Joystick-mounting plate |
| 2. Joystick | 9. Carriage bolts |
| 3. Joystick pod | 10. Joystick pod mounting bracket |
| 4. Decal here (apply on the side of the joystick pod) | 11. Tab |
| 5. Clip (2) | 12. Joystick pod base |
| 6. Joystick pod cover | 13. Knob |
| 7. Hex-head screws (1/4 x 5/8 inch) | |

2. Slide the bottom bracket of the joystick assembly along the bracket until it stops under the tab on the joystick pod mounting bracket.
3. Insert the thumbscrew through the hole in the front of the bottom bracket of the joystick and tighten it firmly by hand.
4. Connect the wire end on the joystick to the appropriate connector on the wire harness.
5. Apply the decal to the joystick pod (Figure 4).

Operation

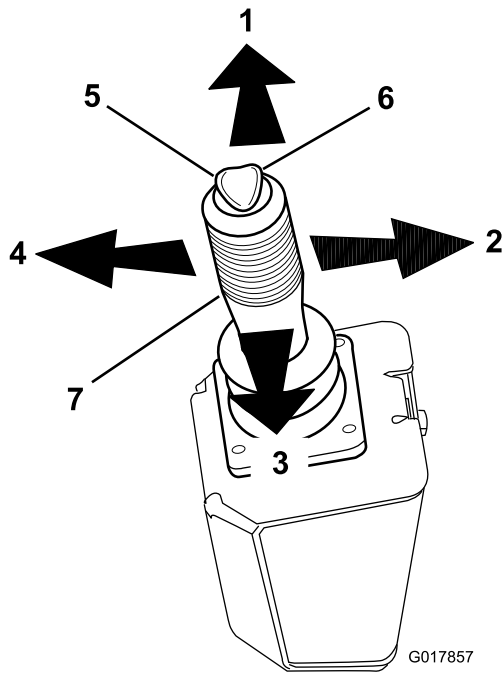


Figure 5

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|---------------------|-----------------|
| 1. Joystick forward | 5. Toggle left |
| 2. Joystick right | 6. Toggle right |
| 3. Joystick back | 7. Joystick |
| 4. Joystick left | |
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Operating the V-Plow

Refer to [Figure 5](#) while reading the table below.

Note: To toggle off, remove your thumb from the toggle switch.

Joystick Action	Toggle (Left or Right side) On
Forward	Lowers the V-plow
Back	Raises the V-plow
Left without toggle	Actuates the first side of the plow
Right without toggle	Actuates the first side of the plow
Left with toggle	Actuates the second side of the plow
Right with toggle	Actuates the second side of the plow

Note: The specific action of the plow may vary depending on the brand of the plow.

Operating the Snowthrower

Refer to [Figure 5](#) while reading the table below.

Note: To toggle off, remove your thumb from the toggle switch.

Joystick Action	Function
Forward	Lowers the snowthrower
Back	Raises the snowthrower
Left	Rotates the chute to the left
Right	Rotates the chute to the right
Left toggle	Actuates the deflector in the first direction
Right toggle	Actuate the deflector in the second direction

Note: You can switch the direction of actuation controlled by the toggle switch by swapping the terminals on the back of the power point box.



Count on it.