



# Speed Control Kit

## 2011 and After GrandStand® Mower

Model No. 119-7390

Form No. 3369-616 Rev A

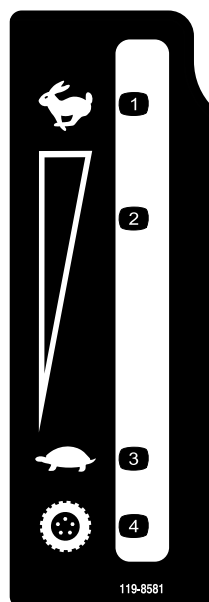
### Installation Instructions

## 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 lost.



119-8581

- |                                |                     |
|--------------------------------|---------------------|
| 1. Fast                        | 3. Slow             |
| 2. Continuous variable setting | 4. Traction control |

## Installation

### Loose Parts

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

Procedure	Description	Qty.	Use
<b>1</b>	No parts required	–	Prepare the machine.
<b>2</b>	No parts required	–	Remove the fuel tank.
<b>3</b>	No parts required	–	Remove the rear cross bracket and cables.

Procedure	Description	Qty.	Use
<b>4</b>	No parts required	–	Remove the motion control assembly.
<b>5</b>	Right hand motion control bracket	1	Assemble the right hand motion control lever and new bracket.
<b>6</b>	Flat washer (5/16 inch) (if needed) Left hand motion control lever	2 1	Install the motion control levers and pivot brackets.
<b>7</b>	Speed control assembly Carriage bolt (5/16 x 1 inch) Flange nut (5/16 inch) Rubber grip	1 2 2 1	Install the speed control assembly.
<b>8</b>	Pump arm Yoke Shoulder bolt Lock nut (1/4 inch)	2 2 1 2	Install the rear cross bracket and cables.
<b>9</b>	No parts required	–	Adjusting the right side motion control lever.
<b>10</b>	No parts required	–	Adjust the neutral position for the motion control levers.
<b>11</b>	Plastic cable tie	1	Install the fuel tank.
<b>12</b>	No parts required	–	Adjust the tracking.

# 1

## Preparing the Machine

### No Parts Required

#### Procedure

1. Disengage the PTO, move the right side motion control lever to the neutral position and set the parking brake.
2. Stop the engine, remove the key, and wait for all moving parts to stop before leaving the operating position.
3. Allow the machine to cool down before installing this kit.
4. Thoroughly clean the machine. All debris must be removed to ensure the kit will fit properly.
5. Repair all bent or damaged areas and replace any missing parts.
6. Disconnect the negative (black) battery cable.

# 2

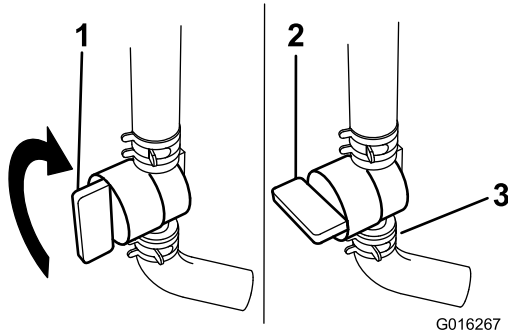
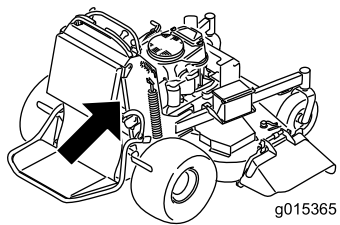
## Removing the Fuel Tank

### No Parts Required

#### Procedure

**Note:** Retain all hardware and parts for installation after the kit is installed.

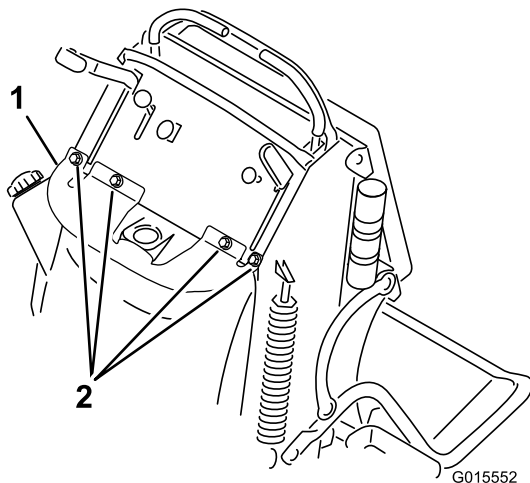
1. Release the cushion from the rear of the machine.
2. Close the fuel shut off valve (Figure 1).



**Figure 1**

- |        |                          |
|--------|--------------------------|
| 1. On  | 3. Remove clamp and hose |
| 2. Off |                          |

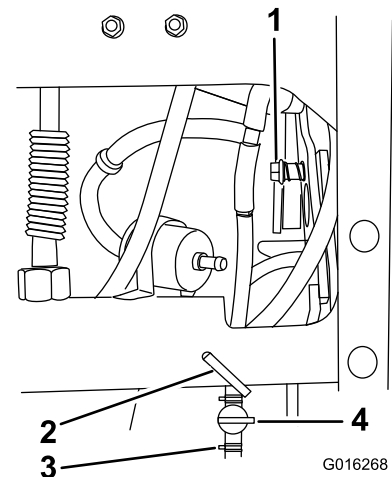
3. Lower the mower deck to the 1 inch (2.54cm) height-of-cut.
4. Remove the hose and clamp from the shut off valve on the engine side and cut the plastic cable tie (Figure 3).
5. Using the fuel shut off valve, drain the fuel into a clean fuel container.
6. Remove the 4 bolts holding the bracket on top of the fuel tank (Figure 2).



**Figure 2**

- |            |          |
|------------|----------|
| 1. Bracket | 2. Bolts |
|------------|----------|

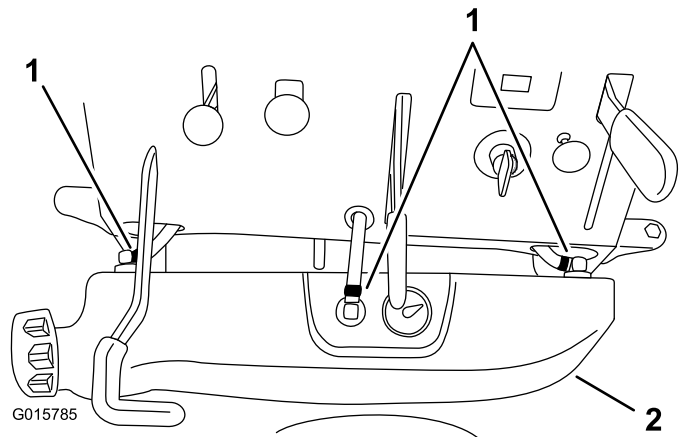
7. Remove the shoulder bolt and compression spring at the deck lift handle (Figure 3).



**Figure 3**  
Right hand side

- |   |                          |
|---|--------------------------|
| 1. Shoulder bolt and compression spring | 3. Remove clamp and hose |
| 2. Cut plastic cable tie                | 4. Fuel shut off valve   |

8. Move the deck lift handle to the transport position. This will allow for room to remove the fuel tank.
9. Lift the tank up and forward as far as possible (Figure 4).
10. Disconnect the 3 vent hoses from the fuel tank by loosening the hose clamps (Figure 4).
11. Remove the tank from the machine.



**Figure 4**

- |                         |              |
|-------------------------|--------------|
| 1. Vent hose and clamps | 2. Fuel tank |
|-------------------------|--------------|

# 3

## Removing the Rear Cross Bracket and Cables

### No Parts Required

### Procedure

**Note:** Retain all hardware and parts for installation after the kit is installed.

1. Remove the wire spring holding the adjustment nuts for tracking (Figure 5).
2. Remove the nut and bolt holding each cable end to the motion control levers.
3. Slide the cables out of the cross bracket (Figure 5 and Figure 12).

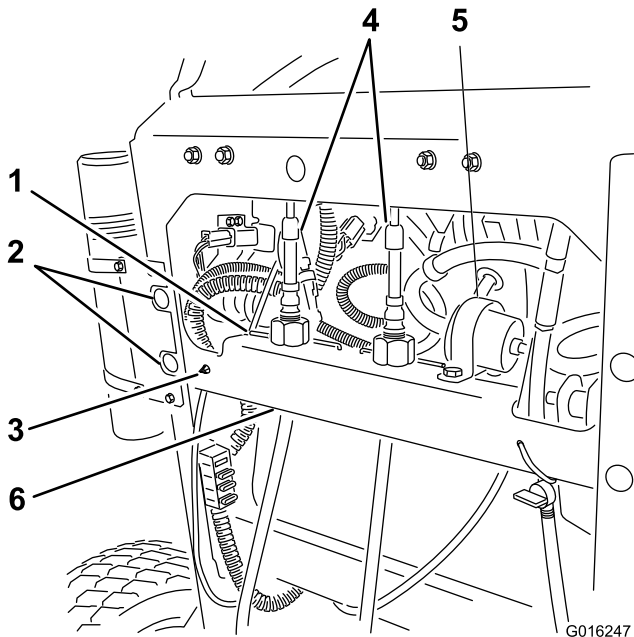


Figure 5

- |                 |                               |
|-----------------|-------------------------------|
| 1. Wire spring  | 4. Cables and cable ends      |
| 2. Bolts        | 5. Remove filter from R-clamp |
| 3. Conduit clip | 6. Rear cross bracket         |

4. Remove the nut and bolt holding each cable end to the pump arms (Figure 13).

**Note:** The right hand bolt may not come out because of interference with the hydraulic hose. The bolt will be removed when changing the pump arms in procedure 8 Installing the Rear Cross Bracket and Cables (page 7).

5. Remove the rod end bearing from each cable end that was connect to the control lever.
6. Loosen the large R-clamp and remove the filter from the R-clamp (Figure 5).
7. On the left hand side of the cross bracket, squeeze the conduit clip and push it through the cross bracket (Figure 5).
8. Remove the cross bracket from the machine by removing the four bolts. Do not discard this hardware and cross bracket (Figure 5).
9. Remove the right hand bracket with the proximity switch attached to it (Figure 6).

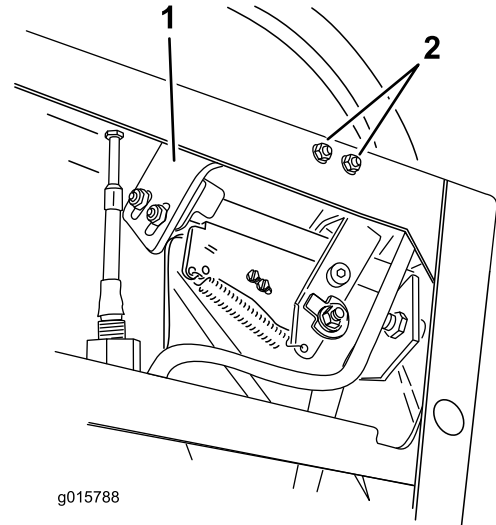


Figure 6

- |   |                                |
|---|--------------------------------|
| 1. Right hand bracket with proximity switch | 2. Remove these nuts and bolts |
|---|--------------------------------|

# 4

## Removing the Motion Control Assembly

### No Parts Required

### Procedure

**Note:** Retain all hardware and parts for installation after the kit is installed.

1. Remove the wire harness from the operator presence control (OPC) switch.
2. Remove both pivot brackets from the top of the control panel by removing the 4 nuts and bolts (Figure 8).

3. Slide the left hand motion control lever to the center, off of the pivot and remove it from the machine.
4. Slide the right hand motion control lever to the center, off of the pivot and remove it from the machine.
5. Disconnect the spring from the right hand motion control bracket (Figure 7).
6. Remove the switch from the right hand motion control bracket (Figure 7).
7. Remove the shoulder bolt and right hand motion control lever from the right hand motion control bracket (Figure 7).

## 5

### Assembling the Right Hand Motion Control Lever and New Bracket

#### Parts needed for this procedure:

1	Right hand motion control bracket
---	-----------------------------------

#### Procedure

1. Install the right hand motion control lever onto the new motion control bracket with the existing shoulder bolt and locknut (Figure 7).
2. Install the existing OPC switch with existing screws and switch nut to the new motion control bracket (Figure 7).
3. Connect the existing spring to the right hand motion control bracket and existing right hand motion control lever (Figure 7).

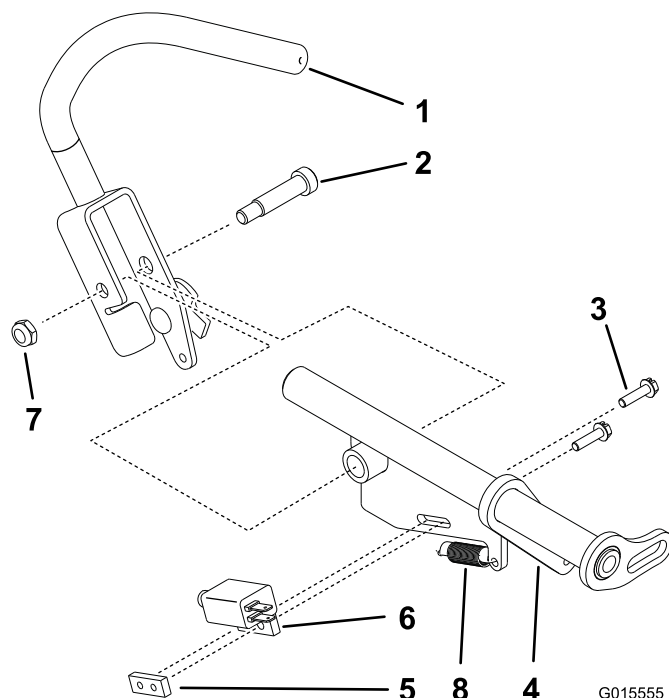


Figure 7

- |   |                        |
|---|------------------------|
| 1. Existing right hand motion control lever | 5. Existing switch nut |
| 2. Existing shoulder bolt                   | 6. Existing OPC switch |
| 3. Existing screws for OPC switch           | 7. Existing Locknut    |
| 4. New motion control bracket               | 8. Existing spring     |

## 6

### Installing the Motion Control Levers and Pivot Brackets

#### Parts needed for this procedure:

2	Flat washer (5/16 inch) (if needed)
1	Left hand motion control lever

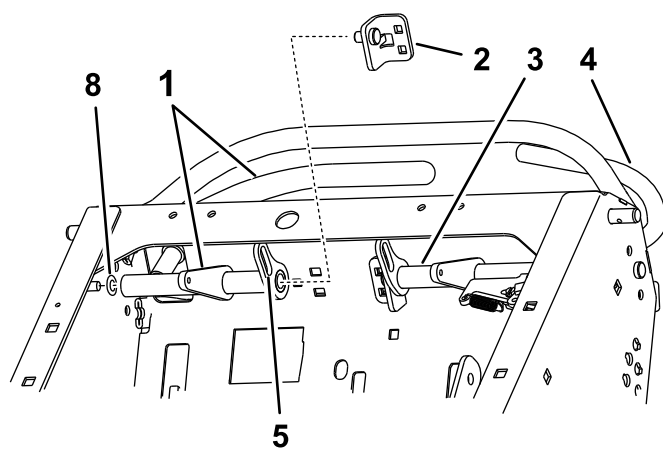
#### Procedure

**Note:** The motion control levers need to pivot freely without a lot of movement laterally (side-to-side). If needed, use the supplied flat washer between the tower and the handle (Figure 8).

1. Place the right hand motion control lever into the machine and slide it onto the pivot on the side of the machine.
2. Secure the other end with the previously removed pivot bracket and secure the pivot bracket to the

machine with the previously removed carriage bolts (Figure 8).

3. Place the new left hand motion control lever into the machine and slide it onto the pivot on the side of the machine.
4. Secure the other end with the previously removed pivot bracket and secure the pivot bracket to the machine with the previously removed carriage bolts (Figure 8).
5. Check the motion control levers. The motion control levers need to pivot freely. Ensure there is not more than .05 inch movement laterally (side-to-side) when the handles are installed (Figure 8).
6. If needed, remove the control levers and install the supplied flat washer between the tower and the handle to remove the movement laterally (side-to-side).



**Figure 8**

- |                                    |  |
|------------------------------------|--|
| 1. Left hand motion control lever  | 5. Slot to install yoke around lever   |
| 2. Pivot bracket                   | 6. Existing carriage bolts             |
| 3. New motion control bracket      | 7. Existing flangenuts                 |
| 4. Right hand motion control lever | 8. Flat washer (5/16 inch) (if needed) |

# 7

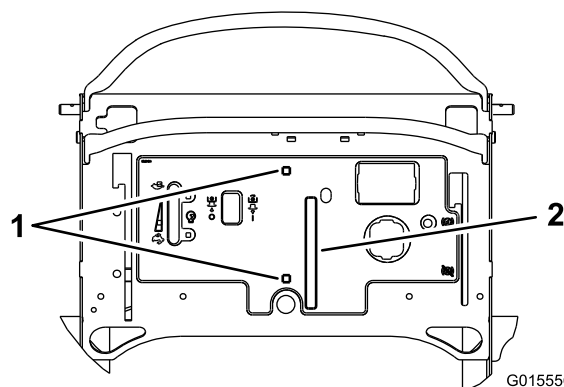
## Installing the Speed Control Assembly

### Parts needed for this procedure:

1	Speed control assembly
2	Carriage bolt (5/16 x 1 inch)
2	Flange nut (5/16 inch)
1	Rubber grip

### Procedure

1. Using the tower as a template, cut a slot in the decal for the speed control lever and the square holes for the carriage bolts (Figure 9).



**Figure 9**

1. Cut out square holes
2. Cut out slot

2. Install the decal, as shown, onto the machine (Figure 10).

# 8

## Installing the Rear Cross Bracket and Cables

### Parts needed for this procedure:

2	Pump arm
2	Yoke
1	Shoulder bolt
2	Lock nut (1/4 inch)

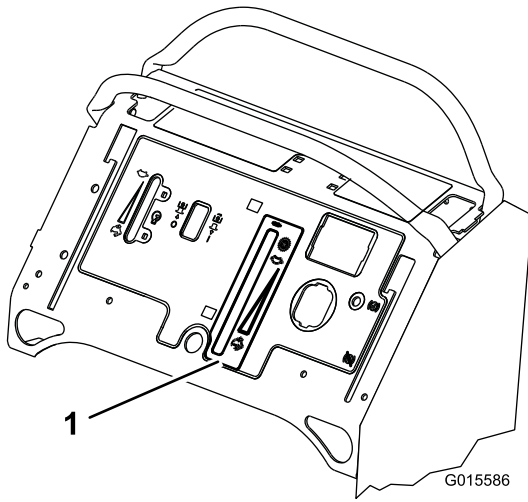


Figure 10

1. Decal

**Note:** Ensure the wire harness does not get pinched or trapped between the machine and the speed control assembly. The wire harness needs to be below the speed control assembly.

3. Place the speed control assembly into the tower and fasten it to the tower with 2 carriage bolts (5/16 x 1 inch) and 2 flange nut (5/16 inch) (Figure 11).
4. Install the rubber grip onto the speed control lever (Figure 11).

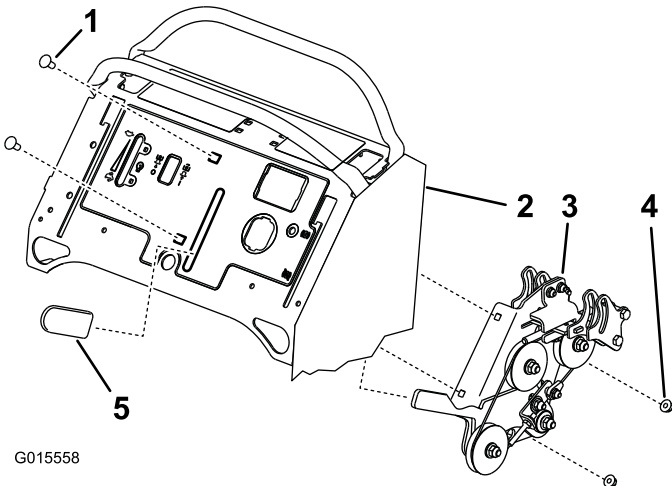


Figure 11

1. Carriage bolt (5/16 x 1 inch)
2. Machine
3. Speed control assembly
4. Flange nut (5/16 inch)
5. Rubber grip

### Procedure

1. Install the new yoke onto the upper cable end until there is a 1/4 inch (6 mm) showing between the jam nut and the end of the threads on the cable.
2. Hold the yoke and tighten the jam nut against the yoke to lock it in place. Repeat for the opposite side (Figure 12).

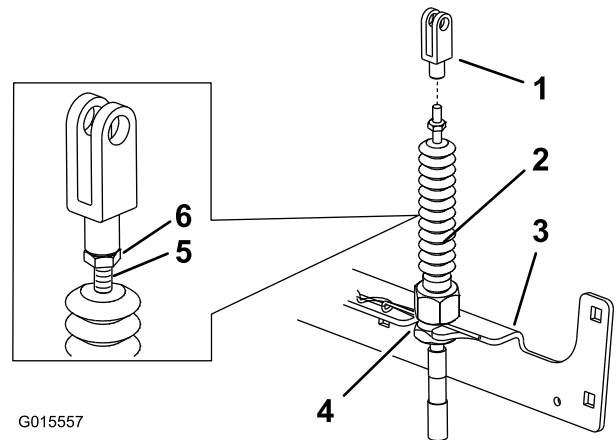
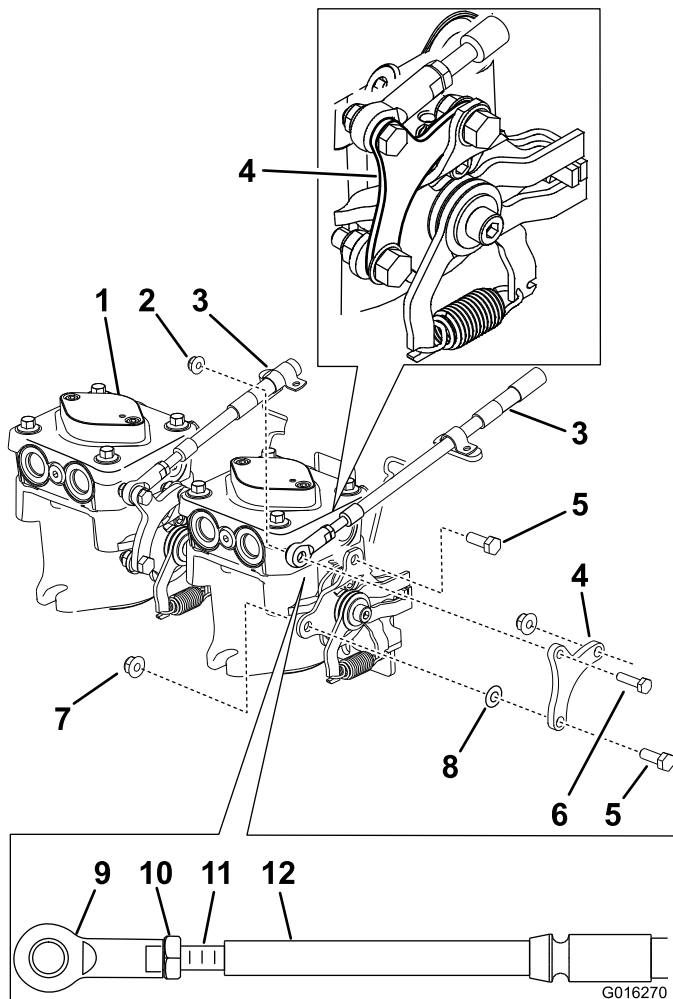


Figure 12

1. Yoke
2. Upper cable end
3. Rear cross bracket
4. Slot in rear cross bracket
5. Only 1/4 inch (6 mm) showing
6. Jam nut

3. Install the cross bracket to the machine with the four previously removed nuts and bolts (Figure 5)
4. Slide the cables into the cross bracket slots with the adjustment nuts on top (Figure 12).
5. Install the existing wire spring holding the adjustment nuts for tracking.
6. Remove the existing pump arms from each of the pumps (Figure 13). Save all hardware.
7. Loosen the rod end and jam nut. Turn the jam nut until there is 3/8 inch gap from the end of the threads to the jam nut.

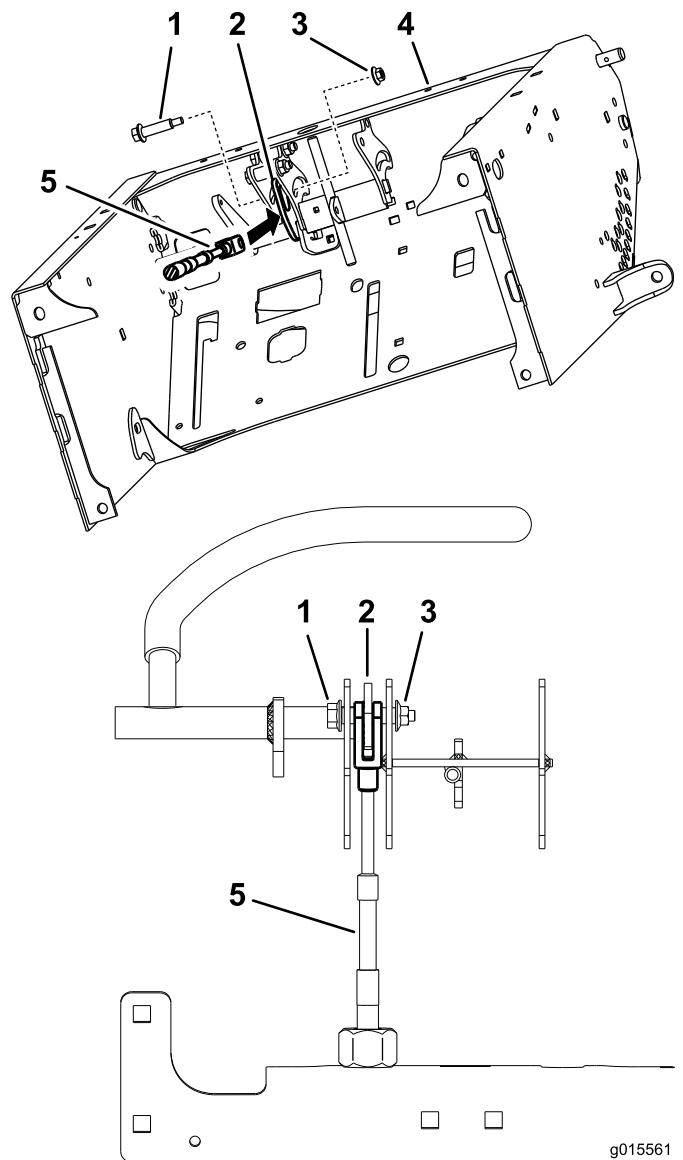
8. Rotate the rod end to the jam nut and tighten against the jam nut.
9. Install the new pump arm to each pump with 2 existing bolts (5/16 x 7/8 inches) and 2 existing flange nuts (5/16 inch) (Figure 13).
10. Connect the lower cable end to the new pump arm with a bolt (1/4 x 1 inch) and flange nut (1/4 inch). Repeat for the opposite side (Figure 13).



**Figure 13**

- |                                      |   |
|--------------------------------------|---|
| 1. Pump                              | 7. Existing flange nut (5/16 inch)                          |
| 2. Flange nut (1/4 inch)             | 8. Existing flat washer                                     |
| 3. Lower end of cables               | 9. Rod end bearing  |
| 4. New pump arm                      | 10. Jam nut   |
| 5. Existing bolt (5/16 x 7/8 inches) | 11. 3/8 inch gap from the end of the threads to the jam nut |
| 6. Existing bolt (1/4 x 1 inch)      | 12. Cable   |

11. Connect the yoke to the motion control bracket with the new shoulder bolt and locknut (1/4 inch). Repeat for the opposite side (Figure 14).



**Figure 14**

- |  |                                  |
|--|----------------------------------|
| 1. New shoulder bolt                     | 4. Machine                       |
| 2. Slot to install shoulder bolt through | 5. Cable end with yoke installed |
| 3. Locknut (1/4 inch)                    |                                  |

## 9

### Adjusting the Right Side Motion Control Lever

#### No Parts Required

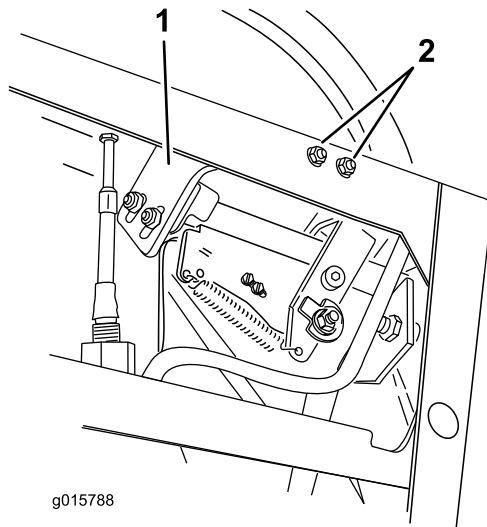
#### Procedure

If the motion control levers do not align horizontally, adjust the right side motion control lever.



**Note:** Adjust the horizontal alignment before the front to back alignment.

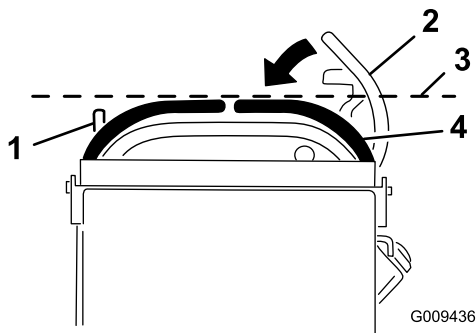
1. Install the bracket for the right hand bracket with the proximity switch attached to it.



**Figure 15**

- |   |                                |
|---|--------------------------------|
| 1. Right hand bracket with proximity switch | 2. Remove these nuts and bolts |
|---|--------------------------------|

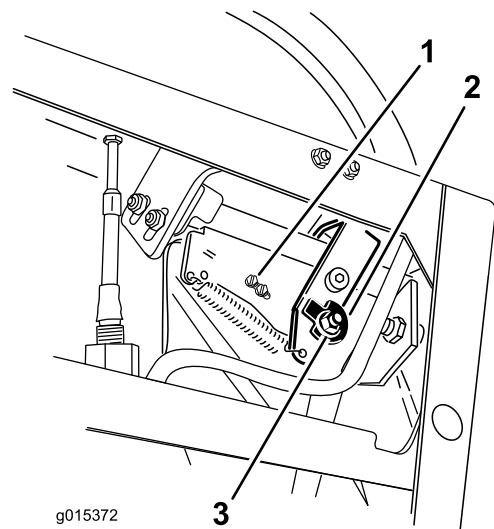
2. Connect the wire harness to the OPC switch.
3. Push the right motion control lever down out of locked neutral position (Figure 16).
4. Check if it aligns horizontally with the left motion control lever (Figure 16).



**Figure 16**

- |  |  |
|--|--|
| 1. Left motion control lever                             | 3. Check the horizontal alignment here |
| 2. Right motion control lever in neutral locked position | 4. Right motion control lever          |

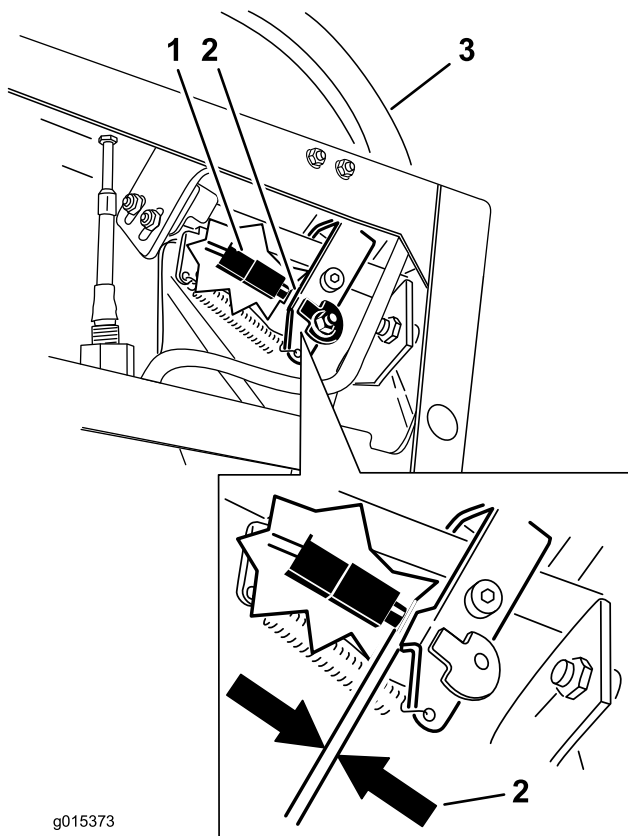
5. To adjust the right motion control lever horizontally, the cam needs to be adjusted.
6. Loosen the nut and bolt holding the cam (Figure 17).
7. Adjust the cam until it aligns with the left motion control lever and tighten the nut and bolt for the cam.



**Figure 17**

- |                  |                 |
|------------------|-----------------|
| 1. Switch screws | 3. Nut and bolt |
| 2. Cam           |                 |

8. After the cam is adjusted, the lever switch needs to be checked.
9. Check the gap between the control lever and switch as shown in Figure 18. The gap needs to be an 1/8 inch (3mm) with the right motion control lever in the neutral, unlocked position.
10. If needed, loosen the screws holding the switch and adjust the switch (Figure 17 and Figure 18).

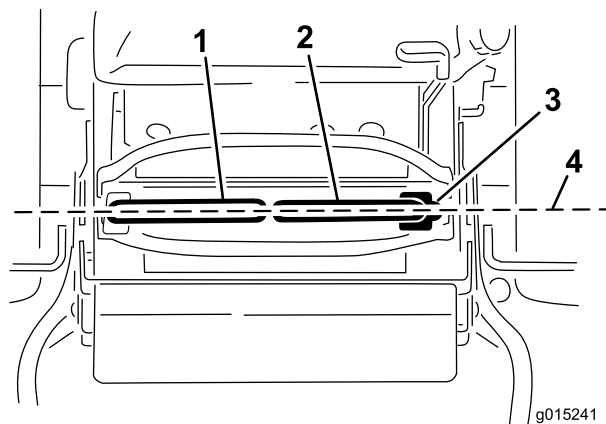


g015373

**Figure 18**

1. Switch
2. 1/8 inch (3mm)
3. Right motion control lever in the neutral unlocked position

1. After the horizontal alignment is finished, check the front to back alignment (Figure 19).



g015241

**Figure 19**

1. Left motion control lever
2. Right motion control lever
3. Neutral locked position
4. Align the control levers front to back

2. Rotate the right cable adjustment to place the right motion control lever in the center of the neutral lock slot in the control panel.
3. Rotate the left cable adjustment to place the left motion control lever alignment equal with the right motion control lever. This will provide an approximate equal tracking of the left wheel speed to the right wheel speed (Figure 20).

11. Tighten the switch screws.

# 10

## Adjusting the Neutral Position for the Motion Control Levers

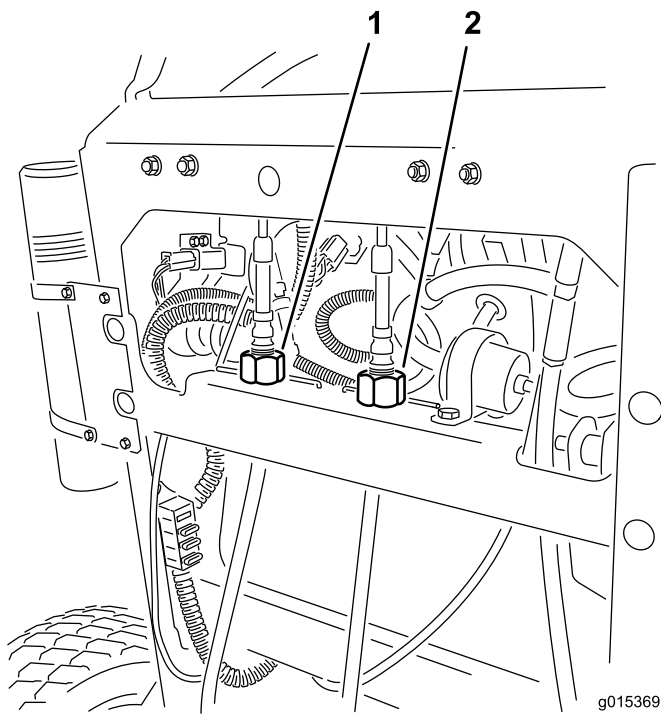
### No Parts Required

### Procedure

**Important:** Ensure the tracking of the mower is correct after adjusting the motion control levers. Adjusting the tracking and aligning the motion control levers front to back is the same procedure (Figure 19).

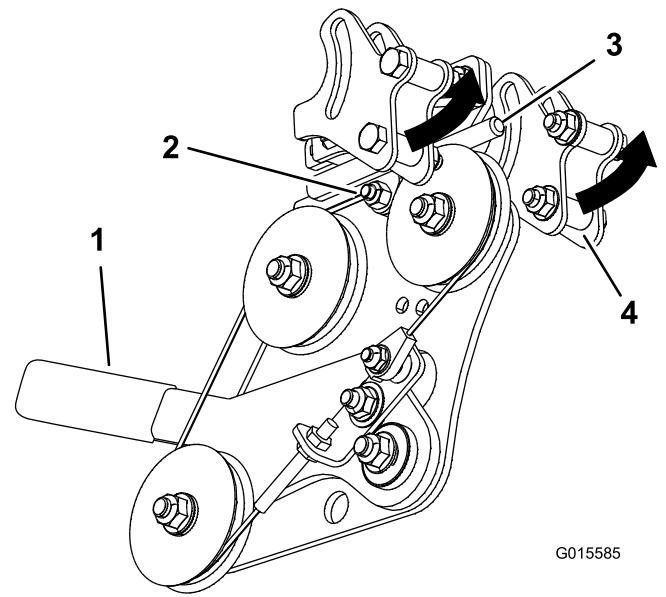
**Note:** Adjust the horizontal alignment before the front to back alignment.

If the motion control levers do not align front to back, or the right side control lever does not move easily into the neutral lock position, adjustment is required.



**Figure 20**

1. Left cable adjustment      2. Right cable adjustment



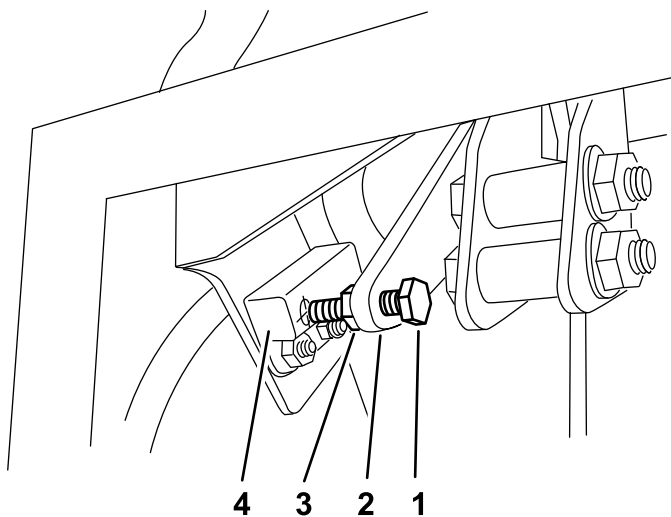
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**Figure 21**

- |                         |                                     |
|-------------------------|-------------------------------------|
| 1. Speed control lever  | 3. Slide bar                        |
| 2. Slide adjustment nut | 4. Pull the lower spacer bolts back |

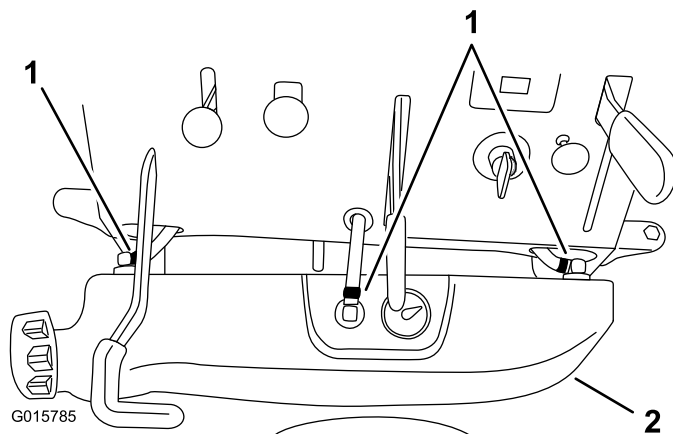
4. Check the movement of the speed control lever by moving it to slow and back to fast two times. The handle and installed shoulder bolts should move freely.
5. If it locks or binds, loosen the slide adjustment nut (Figure 21).
6. Move the speed control lever to slow and back to fast two times to ensure the slide bar does not move (Figure 21).
7. Push the speed control lever forward to full speed.
8. Pull both lower spacer bolts back and tighten the slide adjustment nut (Figure 21).

9. Push both motion control handles to the left laterally before setting the gap.
10. Adjust the bolt so there is a 0.02 inch gap between the proximity switch and bolt (Figure 22).



**Figure 22**

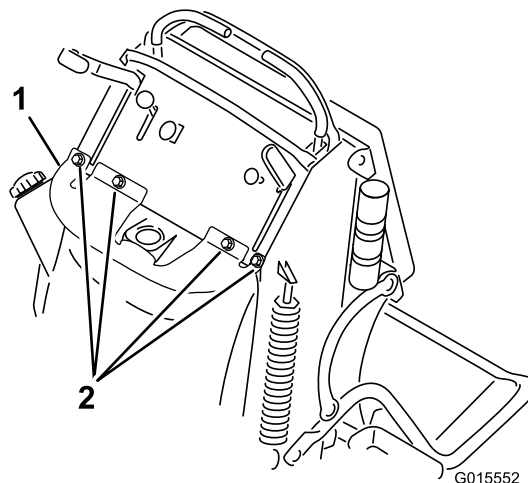
- |                                   |                     |
|-----------------------------------|---------------------|
| 1. Bolt                           | 4. Proximity switch |
| 2. Left hand motion control lever | 5. 0.02 inch gap    |
| 3. Nut                            |                     |



**Figure 23**

- |                         |              |
|-------------------------|--------------|
| 1. Vent hose and clamps | 2. Fuel tank |
|-------------------------|--------------|

3. Install the bracket on top of the fuel tank with the 4 previously removed bolts.



**Figure 24**

- |            |          |
|------------|----------|
| 1. Bracket | 2. Bolts |
|------------|----------|

4. Install the hose and clamp to the fuel shut off valve and secure the hose to the machine with a plastic cable tie (Figure 25).
5. Install the shoulder bolt and compression spring at the deck lift handle (Figure 25).

# 11

## Installing the Fuel Tank

### Parts needed for this procedure:

1	Plastic cable tie
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### Procedure

1. Install the tank in to the machine.
2. Install the 3 vent hoses to the top of the fuel tank (Figure 4).

# 12

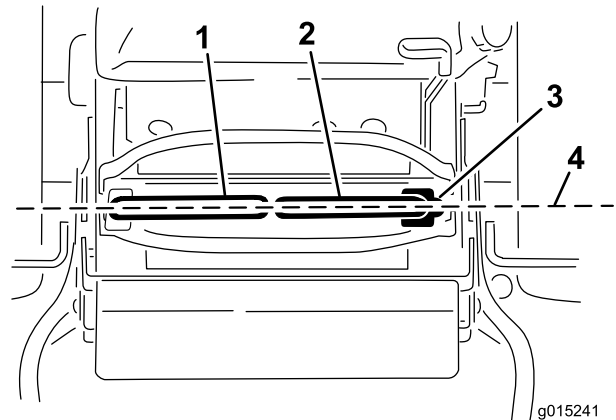
## Adjusting the Tracking

### No Parts Required

### Procedure

**Note:** Determine the left and right sides of the machine from the normal operating position.

1. Start the machine.
2. Push both control levers forward the same distance.
3. Check if the machine pulls to one side. If it does, stop the machine and set the parking brake.
4. Release the cushion from the rear of the machine.
5. Rotate the right cable adjustment to position the right motion control in the center of the control panel neutral lock slot (Figure 27).



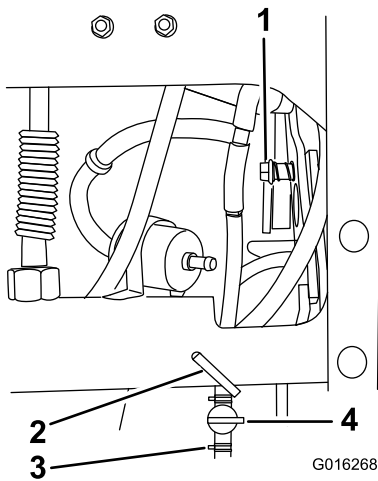
**Figure 27**

1. Left motion control lever
2. Right motion control lever
3. Neutral locked position
4. Align the control levers front to back

6. Rotate the left cable adjustment to match the left wheel speed to the previously set right wheel speed. Adjust in quarter-turn increments until the machine tracks straight (Figure 28).

**Note:** Only adjust the left cable to match the left wheel speed to the right wheel speed. Do not adjust the right wheel speed as this will position the right motion control lever out of the center for the control panel neutral lock slot.

7. Check for proper tracking.

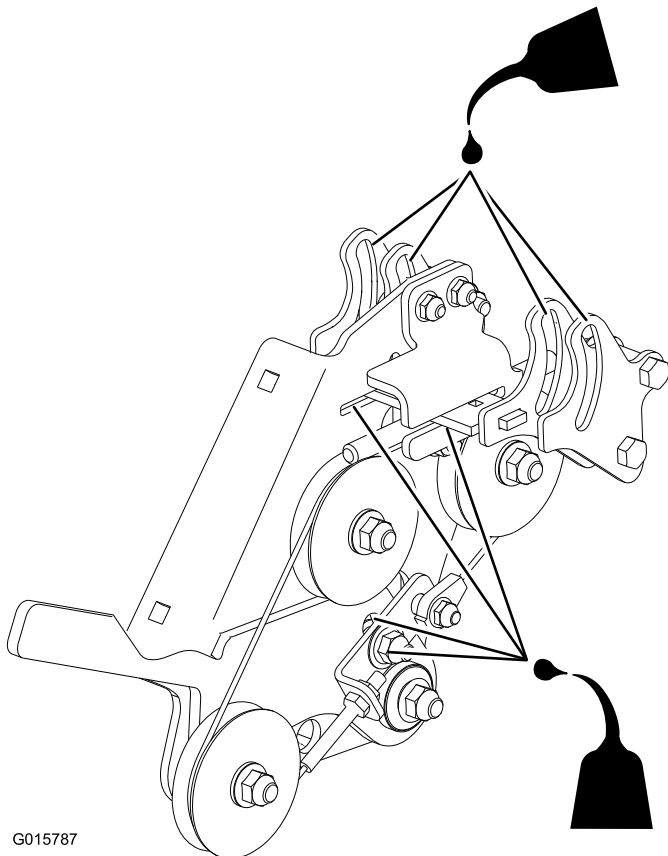


**Figure 25**

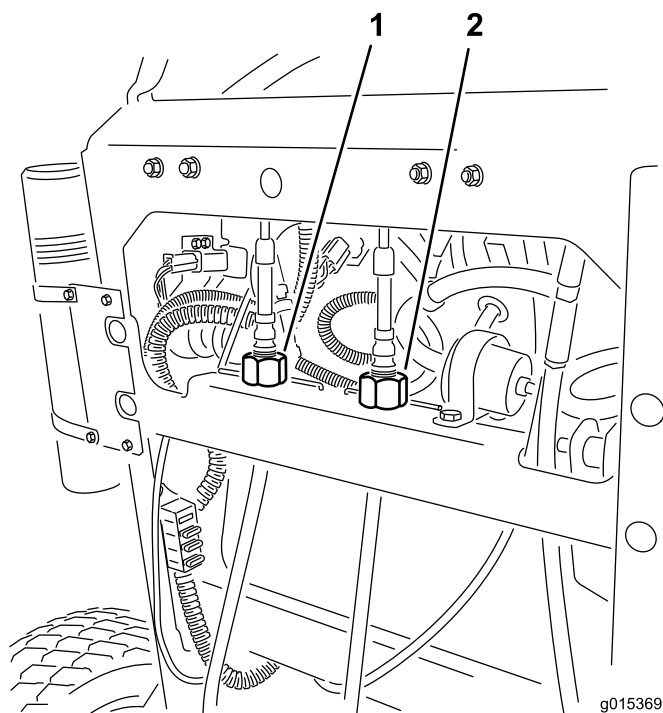
Right hand side

1. Shoulder bolt and compression spring
2. Install plastic cable tie
3. Install clamp and hose
4. Fuel shut off valve

6. Install the filter and tighten the large R-clamp (Figure 5).
7. Lubricate the speed control with 3-IN-ONE® oil or equivalent. See Figure 26 for the correct locations.



**Figure 26**



**Figure 28**

1. Left cable adjustment      2. Right cable adjustment

8. Repeat adjustment until the tracking is correct.
9. Check that the machine does not creep from neutral with the park brakes disengaged.

**Important:** Do Not rotate the linkage too far, as this may cause the machine to creep in neutral.

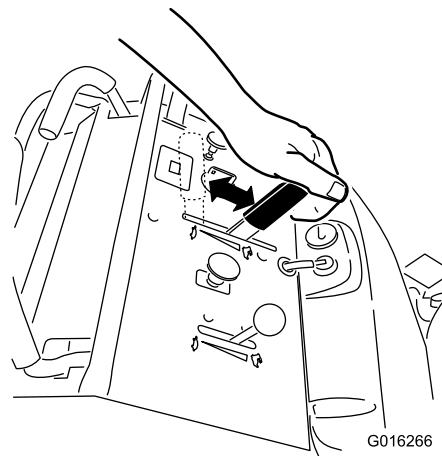
# Operation

## Using the Speed Control Lever

This machine has a speed control lever that sets the maximum ground speed of the machine. This can be adjusted to the operator's desired speed. It is recommended to use the slowest speed for new operator's.

**Note:** The numbers next to the speed control are an approximate miles per hour (mph) the machine will travel.

1. Move the speed control lever to set the desired speed.
  - Full forward has quick response and maximum speed.
  - Full rearward has smooth response and slower speed.
2. Move the control levers to drive the machine. The control levers may be pushed forward to the front reference bar while the maximum speed of the machine is set by the speed control lever.



**Figure 29**

**Notes:**



**Count on it.**