Form No. 3365-202 Rev A

Sonic Boom Kit

for Multi-Pro Turf Sprayers

Model No. 41217—Serial No. 310000001 and Up

Installation Instructions

This attachment maintains consistent distances from the boom nozzles to the ground when spraying over uneven surfaces and is intended to be used by professional, hired operators in commercial applications. It is primarily designed for spraying golf course applications, parks, sports fields, and on commercial grounds. It is designed to only be used in conjunction with machines designated by the manufacturer.

This product complies with all relevant European directives, for details please see the separate product specific Declaration of Conformity (DOC) sheet.

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.

93-8053

1. Read the *Operator's Manual.*

94-8576

94-8582

8111 Lyndale Avenue South
Bloomington, MN 55420

Register at www.Toro.com.

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	No parts required	–	Remove the Hardstops
3	Ultrasonic sensor U-bolts Washers (5/16 inch) Locknuts (1/4 inch) Rubber sensor cover Protection tube Wire clips Cable ties	2 8 8 8 2 2 4 10	Install the ultrasonic sensors.
4	Mount plate Relay Bolt (1/4 x 5/8 inch) Lock washer (1/4 inch) Nut (1/4 inch) Wire harness Screw (#10) Nut (#10) Electronic Control Unit (ECU) Bolt (1/4 x 2-1/2 inch) Bolt (5/16 x 3/4 inch) Lock washer (5/16 inch) U-bolt clamps Nut (5/16 inch)	1 6 4 8 8 1 2 2 1 4 2 2 2 4	Mount the electronic controls.
5	Decal, 94-8582 Light assembly	1 1	Install the indicator light.
6	Rocker switch Cable ties Indicator light (Workman 200 only) Grommet (Workman 200 only)	1 6 1 1	Install the controls
7	Conversion wires (Older boom lifts only)	2	Connect the wiring to the sensors and actuators.
8	No parts required	–	Calibrate the sonic booms.

Note: The Sonic Boom Kit requires electric boom lift actuators to automatically raise and lower the booms. Most machines have had electric boom actuators installed or are being installed in concert with this Sonic Boom Kit. The setup procedures that follow were developed for these situations. **If you do not have electronic boom lift actuators** installed or available to be installed, contact your Authorized Toro Dealer to obtain the correct parts to modify your sprayer to be compatible with the Sonic Boom Kit. The necessary parts are: Electronic Boom Lift Actuators (2), Fuses (2), and Switches (2).

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

1

Preparing the Machine

No Parts Required

Procedure

Position the machine on a level surface, stop the engine, remove the ignition key and engage parking brake.

⚠ CAUTION

If you leave the key in the ignition switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the ignition switch before you do any maintenance.

2

Removing the Hardstops

No Parts Required

Procedure

If your machine has hardstops installed, they must be removed before installing the Sonic Boom Kit. The hardstops are located in the center boom of the caged booms and can be seen when the booms are in the upright, transport position. If your machine does not have hardstops installed, or is the older, rail style booms skip the next procedure.

1. Raise the booms into the transport position and remove the ignition key.
2. Remove the 4 bolts (5/16 x 1 inch) and nuts (5/16 inch) securing the stops to the center boom frame as shown in (Figure 1). Remove the hardstop assemblies on both sides of the center boom. Retain all parts for later use.

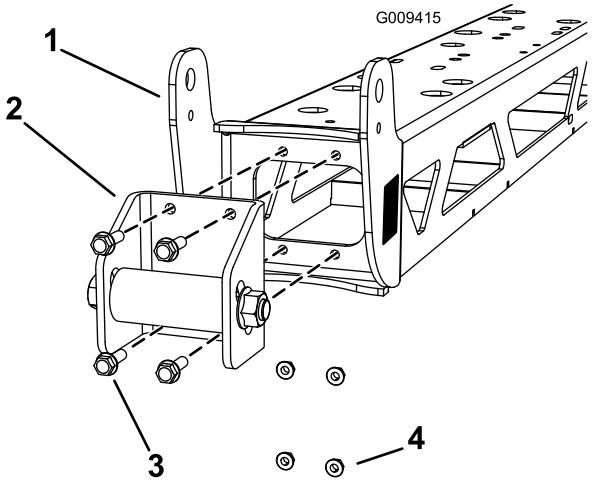

Figure 1

Right side shown

1. Center boom assembly
2. Assembled bracket and bumper
3. Bolt (5/16 x 1 inch)
4. Nuts (5/16 inch)

3

Installing the Ultrasonic Sensors

Parts needed for this procedure:

2	Ultrasonic sensor
8	U-bolts
8	Washers (5/16 inch)
8	Locknuts (1/4 inch)
2	Rubber sensor cover
2	Protection tube
4	Wire clips
10	Cable ties

Use the following procedure for boom systems with serial number 260000001 and up.

1. Lightly secure the right ultrasonic sensor to the right boom upper support pipe; halfway between the 3rd and 4th nozzle as shown in Figure 2, using 2 U-bolts, 4 washers (5/16 inch), and 4 locknuts (1/4 inch). Do not fully tighten at this time to allow for later adjustment.

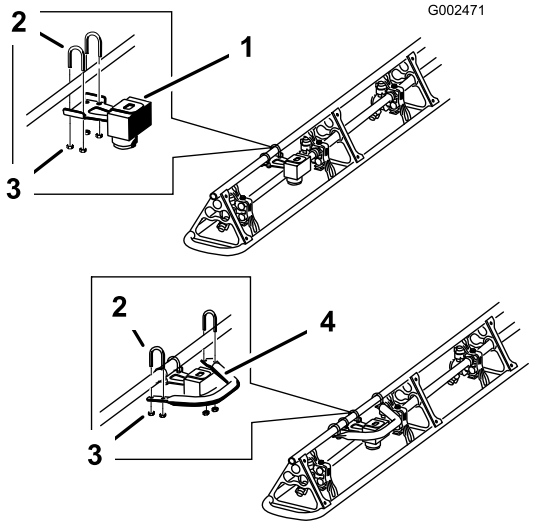

Figure 2

1. Sensor
2. U-bolts
3. Locknuts and washers
4. Protection tube

2. Install the rubber sensor cover to the threaded portion of the ultrasonic sensor.
3. Install the protection tube around the ultrasonic sensor with the angled side facing inward, toward the vehicle. Lightly secure the protection tube to the boom (Figure 2), using 2 U-bolts, 4 washers (5/16 inch), and 4 locknuts (1/4 inch). Do not fully tighten at this time to allow for later adjustment.
4. Rotate the sensor and protection tube up so that it is approximately 25 degrees above parallel with the ground, then tighten all the locknuts on the U-bolts to secure the sensor and projection tube (Figure 3). The protection tube should remain above the sensor when adjustment is complete.

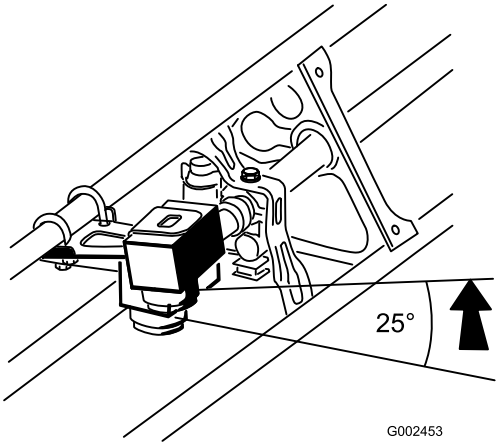

Figure 3

5. Thread the ultrasonic sensor wire through the strap of the rubber cover.
6. Route the sensor wire along the top of the boom support to the slide block (Figure 4). Secure it to the top of the boom using clips provided.

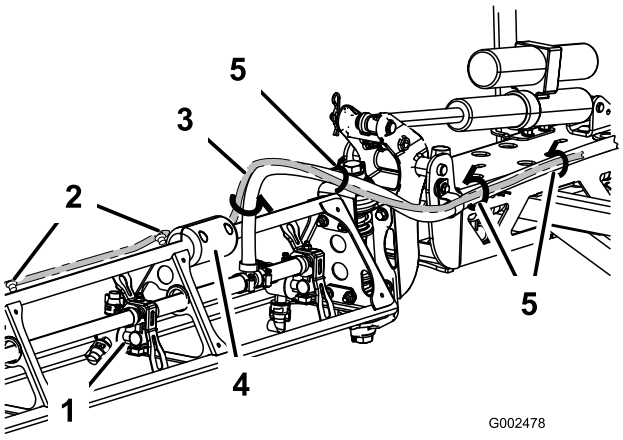

Figure 4

1. Extension boom
2. Wire clips
3. Boom supply hose
4. Wire from sensor
5. Slide block
6. Cable tie

7. Route the sensor wire below the slide block to the boom supply hose and on to the center boom

assembly. Secure the wire harness to the boom hose with the cable ties (Figure 4).

Important: Ensure that the wire is routed below the slide block to avoid being pinched when the booms are placed in the transport cradle.

8. Use 5 cable ties to secure the harness to the boom support.

Important: Ensure that you leave enough slack in the wire near the joint of the extension boom so that you can raise and lower the boom without pulling on the wire.

9. Repeat steps 1 through 8 for the left boom extension and left ultrasonic sensor.

Use the following procedure for boom systems with serial number 259999999 and below.

1. Park the sprayer on a flat surface, lower the booms, set the parking brake, stop the engine, and remove the key.
2. Lightly secure the right ultrasonic sensor to the right boom pipe halfway between the last nozzle and the vertical support (Figure 5), using 2 U-bolts, 4 washers (5/16 inch), and 4 locknuts (1/4 inch).

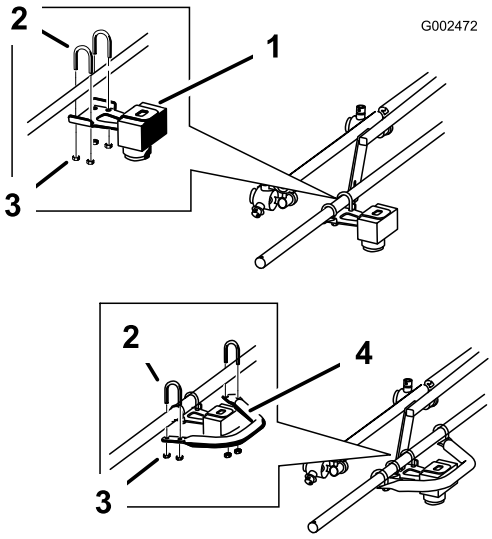

Figure 5

1. Sensor
2. U-bolts
3. Locknuts and washers
4. Protection bar

3. Install the rubber sensor cover to the threaded portion of the ultrasonic sensor.
4. Install the protection tube around the ultrasonic sensor with the angled side facing inward, toward the vehicle. Lightly secure the protection tube to the boom (Figure 5), using 2 U-bolts, 4 washers (5/16 inch), and 4 locknuts (1/4 inch). Do not fully tighten at this time to allow for later adjustment.
5. Rotate the sensor up so that it is approximately 10 degrees off parallel with the ground, then tighten the locknuts on the U-bolts to secure the sensor (Figure 6).

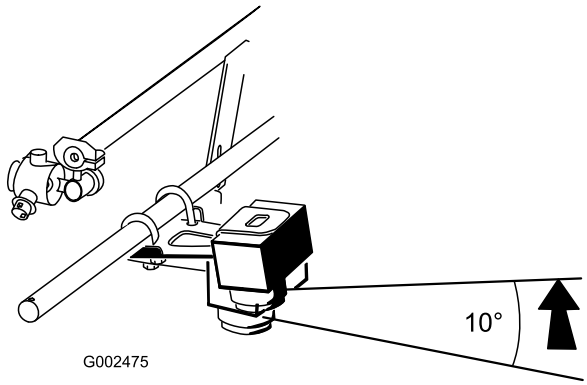

Figure 6

6. Route the sensor wire along the top of the boom support to the center of the center boom pipe.

Important: Ensure that you leave enough slack in the wire near the joint of the extension boom so that you can raise and lower the boom without pulling on the wire.

7. Use 5 cable ties to secure the tubing to the boom support.
8. Repeat steps 2 through 7 for the left boom extension and left ultrasonic sensor.

4

Mounting the Electronic Control

Parts needed for this procedure:

1	Mount plate
6	Relay
4	Bolt (1/4 x 5/8 inch)
8	Lock washer (1/4 inch)
8	Nut (1/4 inch)
1	Wire harness
2	Screw (#10)
2	Nut (#10)
1	Electronic Control Unit (ECU)
4	Bolt (1/4 x 2-1/2 inch)
2	Bolt (5/16 x 3/4 inch)
2	Lock washer (5/16 inch)
2	U-bolt clamps
4	Nut (5/16 inch)

Procedure

1. Secure 6 relays to the mount plate (Figure 7), using 4 bolts (1/4 x 5/8 inch), 4 lock washers (1/4 inch), and 4 nuts (1/4 inch). Four relays can be mounted to the front of the plate, while two relays have to mounted to the back of the plate. The two relays mounted to the back of the plate will share fasteners with the relay mounted to the front at the same hole location

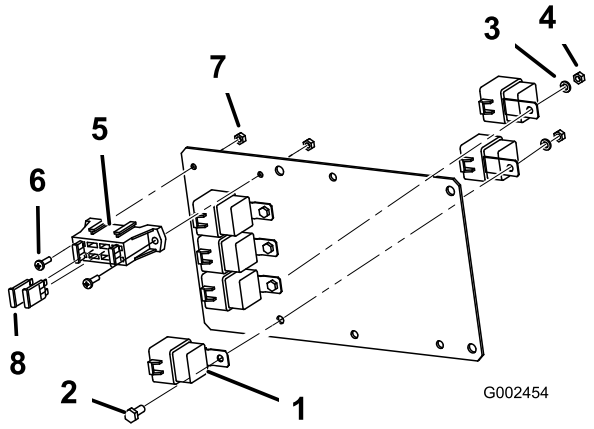

Figure 7

1. Relay
2. Bolt (1/4 x 5/8 inch)
3. Lock washer (1/4 inch)
4. Nut (1/4 inch)
5. Fuse block
6. Screw (#10)
7. Nut (#10)
8. Thermal breaker (30 Amp)

2. Secure the fuse block end of the wiring harness to the mounting plate (Figure 7), using 2 screws (#10) and 2 nuts (#10).
3. Locate the existing fuse block on the machine. (Below the seat for MP 1200, 1250 and 5000 series machines; under the dash for Workman machines.) Remove the two thermal breakers installed at the boom lift positions in the fuse block.
4. Install two thermal breakers (30 Amp) into the open, middle slots in the fuse block on the ECU mounting plate (Figure 7).
5. Secure the ECU to the mounting plate (Figure 8), using 4 bolts (1/4 x 2-1/2 inch), 4 lock washers (1/4 inch), and 4 nuts (1/4 inch).

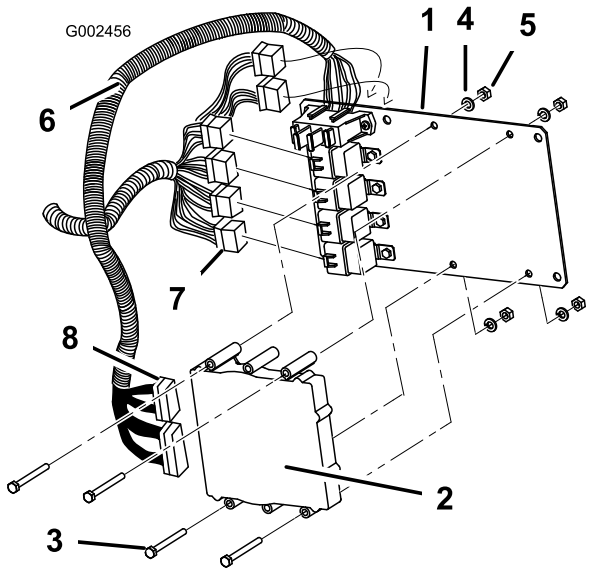

Figure 8

1. Mount plate
2. ECU
3. Bolt (1/4 x 2-1/2 inch)
4. Lock washer (1/4 inch)
5. Nut (1/4 inch)
6. Wiring harness
7. Relay leads
8. Controller leads

6. Connect the relay leads on the wiring harness to the 6 relays on the mounting plate (Figure 8).
7. Connect the 2 controller leads (one long and one short) on the wiring harness to the ECU (Figure 8).
8. Install the mount plate to the vehicle frame, under the dash.

   A. For the Multi-Pro 1200 and 1250, install the mount plate using 2 bolts (5/16 x 3/4 inch) and 2 lock washers (5/16 inch) as shown in Figure 9.

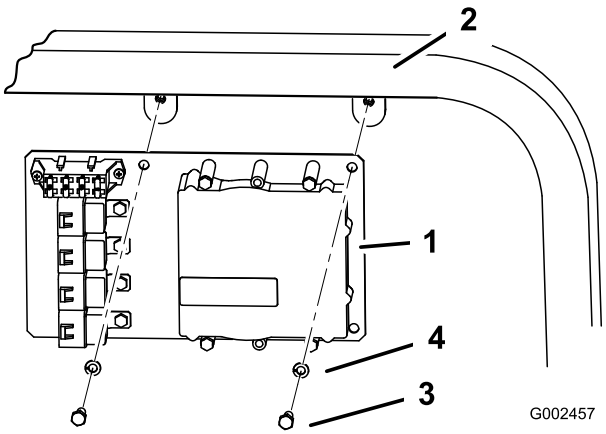

Figure 9

1. Mount plate
2. Vehicle frame
3. Bolt (5/16 x 3/4 inch)
4. Lock washer (5/16 inch)

   B. For the Multi Pro 5600 and 5700 install the mount plate using 2 bolts (5/16 x 3/4 inch) and 2 lock washers (5/16 inch) as shown in Figure 10.

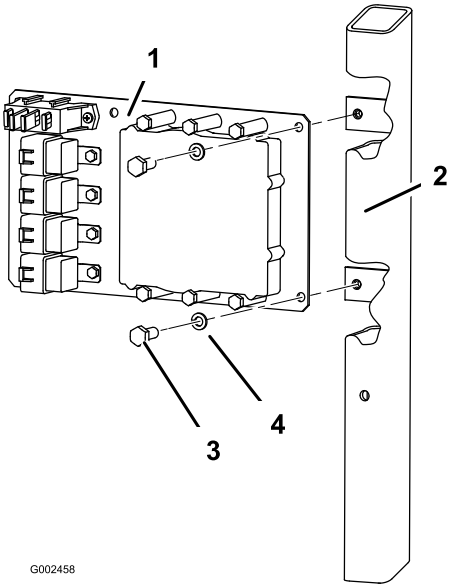

Figure 10

1. Mount plate
2. Vehicle frame
3. Bolt (5/16 x 3/4 inch)
4. Lock washer (5/16 inch)

   C. For the Workman 200 Spray System, install the mount plate using 2 U-bolt clamps (5/16 x 3/4 inch) 2 nuts (5/16 inch) and 2 lock washers (5/16 inch) as shown in Figure 11.

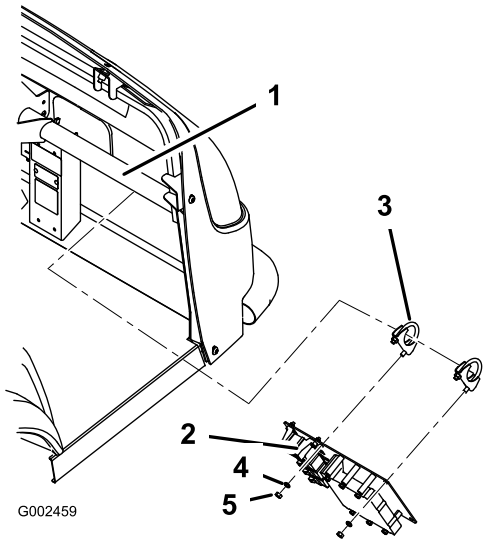

Figure 11

1. Vehicle frame
2. Mount plate
3. U-bolt assembly
4. Lock washer (5/16 inch)
5. Nut (5/16 inch)

5

Installing the Indicator Light

Parts needed for this procedure:

1	Decal, 94-8582
1	Light assembly

Procedure

Note: A smaller, red light is included in the kit for use with the Workman Spray System. This will be installed to the control box. Refer to Installing the Controls on a Workman Spray System.

1. Install decal 94-8582 over the light hole in the dash (Figure 12 for the Multi Pro 1200 and 1250 and Figure 13 for the Multi Pro 5600 and 5700).

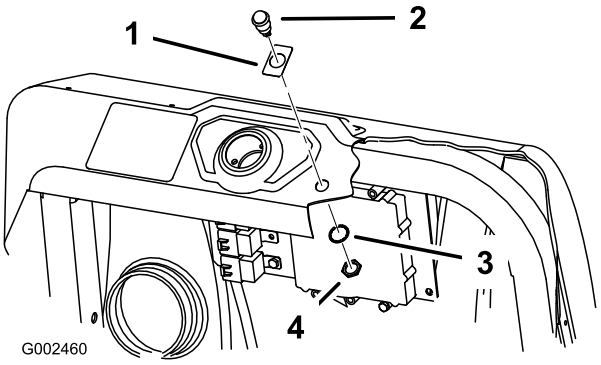

Figure 12

1. Decal 94-8582
2. Light
3. Washer
4. Nut

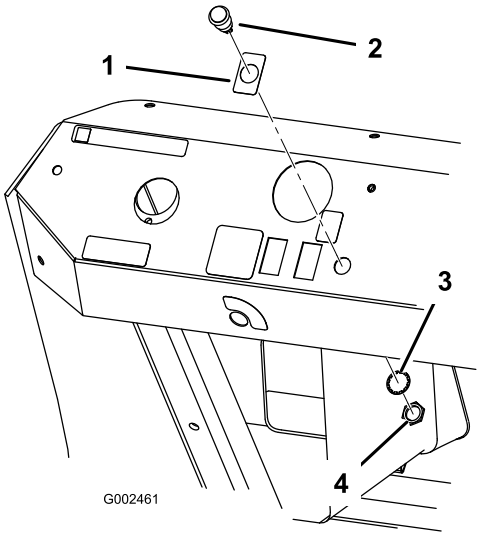

Figure 13

1. Decal 94-8582
2. Light
3. Washer
4. Nut

2. Remove the nut and washer from the bottom of the light.
3. Install the light in the dash and secure it using the washer and nut (Figure 12 or Figure 13).
4. Connect the 2 spade connectors on a separate branch of the wiring harness to the posts on the light.

6

Installing the Controls

Parts needed for this procedure:

1	Rocker switch
6	Cable ties
1	Indicator light (Workman 200 only)
1	Grommet (Workman 200 only)

Installing the Controls on a Multi Pro 1200 or 1250 Turf Sprayer

Installing the Switches

Note: The following procedure assumes boom lift switches are installed on the machine. For machines without boom lift switches or if you have not already installed the switches from the Electric Boom Lift Kit, install those switches now as described in the instructions with that kit. Do not install the wire harness than comes with the Electric Boom Lift Kit.

1. Remove the spray control panel to expose the bottom side (Figure 14 for the 1250 and Figure 15 for the 1200).

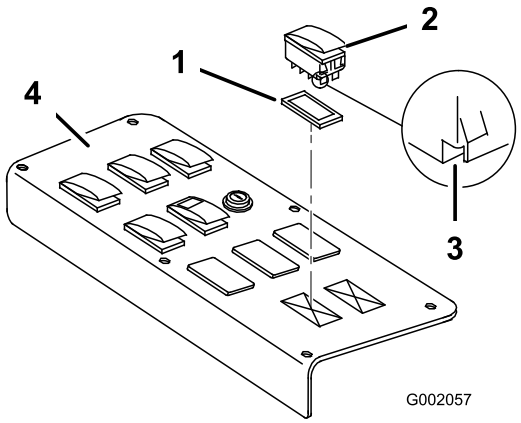

Figure 14

1. Plug
2. Switch
3. Notch (at back)
4. Spray control panel

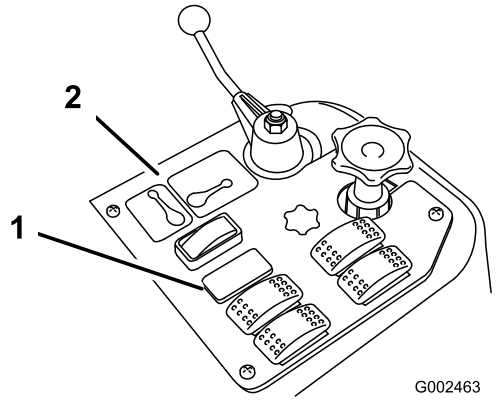

Figure 15

1. Sonic boom switch location
2. Spray control panel

2. Remove the plug in the sonic boom slot from the spray control panel on the vehicle and install the rocker switch provided in its place (Figure 14 for the 1250 and Figure 15 for the 1200).

   Note: Ensure that the orientation of the switch matches what is shown in Figure 14, with the notch pointing toward the rear of the vehicle.

Wiring the Switches

1. Route the branch of the sonic boom wire harness with the three large connectors into the control panel area.
2. If boom lift switches are installed remove any existing connectors plugged into the lift switches.
3. Connect the connector with green and white, green and black, and black wires to the bottom of the right boom lift switch.
4. Connect the connector with blue and white, blue and black, and black wires to the bottom of the left boom lift switch.
5. Connect the connector with purple, yellow, and black wires to the bottom of the sonic boom switch.
6. Route the free end of the wiring harness down through the floor and rearward, following the spray system wire harness to the center boom assembly at the back of the vehicle. Use cable ties to secure the wiring harness to the other wiring harnesses away from the engine and moving parts.
7. Install the spray control panel and secure it with the fasteners removed previously.

Connecting the Wiring to the Fuse Block

1. Route the branch of the sonic boom wiring harness with the small spade connector and a ring or fork terminal into the seat box and to the fuse area.
2. Lift the seat to access the fuse area. Locate the auxiliary solenoid and ground terminal block.
3. Connect the ring labeled ground on the black wire to the ground terminal block (Figure 16).

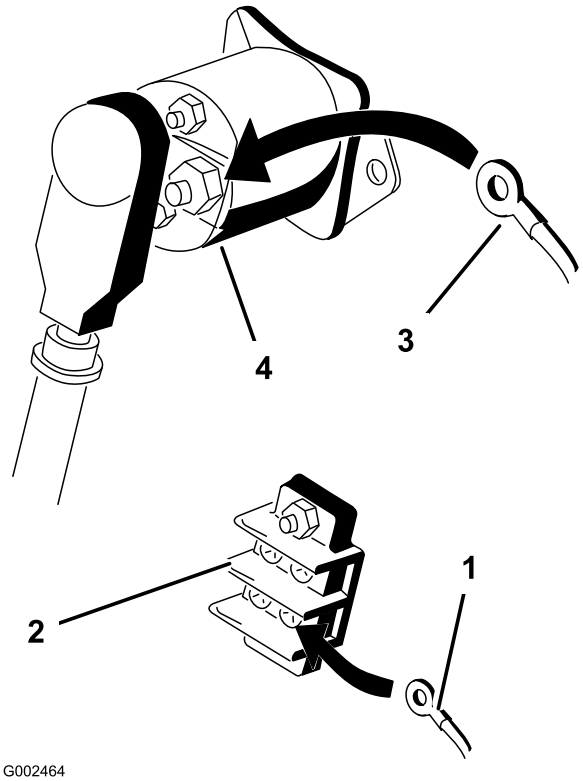

Figure 16

1. Black wire
2. Ground terminal block
3. Red wire
4. Auxiliary solenoid

4. Connect the red wire to the load side of the auxiliary solenoid.

Note: The load side can be determined by testing both solenoid posts when the ignition is turned off. The hot side will read approximately 12V , while the load side has no voltage. The load side can be confirmed by turning the ignition to the run or On position and testing the load side again. The load side will read approximately 12V with the ignition on. Turn the ignition to Off and remove the key before continuing with any of the installation or maintenance.

5. Lower the seat.

Installing the Controls on a Multi Pro 5600 or 5700-D Turf Sprayer

Installing the Switches

Note: The following procedure assumes boom lift switches are installed on the machine. For machines without boom lift switches or if you have not already installed the switches from the Electric Boom Lift Kit, install those switches now as described in the instructions with that kit. Do not install the wire harness than comes with the Electric Boom Lift Kit.

1. Remove the spray control panel to expose the bottom side (Figure 17).

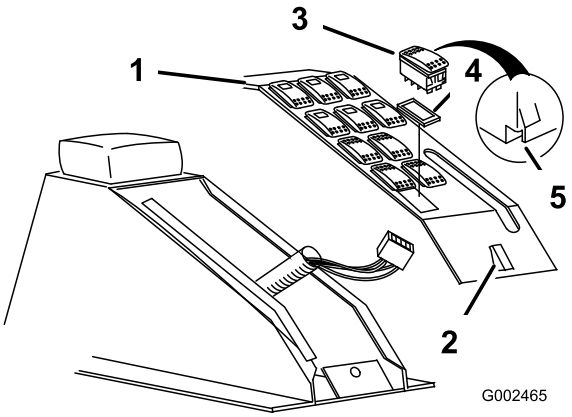

Figure 17

1. Spray control panel
2. Latch
3. Switch
4. Plug
5. Notch

2. Remove the plug in the sonic boom slot from the spray control panel on the vehicle and install the rocker switch provided in its place (Figure 17).

Note: Ensure that the orientation of the switch matches what is shown in Figure 17, with the notch pointing toward the front of the vehicle.

Wiring the Switches

1. Route the branch of the sonic boom wire harness with the three large connectors into the control panel area.
2. If boom lift switches are installed remove any existing connectors plugged into the lift switches.
3. Connect the connector with green and white, green and black, and black wires to the bottom of the right boom lift switch.
4. Connect the connector with blue and white, blue and black, and black wires to the bottom of the left boom lift switch.
5. Connect the connector with purple, yellow, and black wires to the bottom of the sonic boom switch.
6. Route the free end of the wiring harness down through the floor and rearward, through the wire loops to the center boom assembly at the back of the vehicle. Use cable ties to secure the wiring harness to the other wiring harnesses away from the engine and moving parts.
7. Install the spray control panel and secure it with the fasteners removed previously.

Connecting the Wiring to the Fuse Block

1. Route the branch of the sonic boom wiring harness with the three ring terminals into the seat box and to the fuse area.
2. Lift the seat to access the fuse area. Locate the auxiliary solenoid and ground terminal block.
3. Connect the ring labeled ground on the black wire to the ground terminal block (Figure 18).

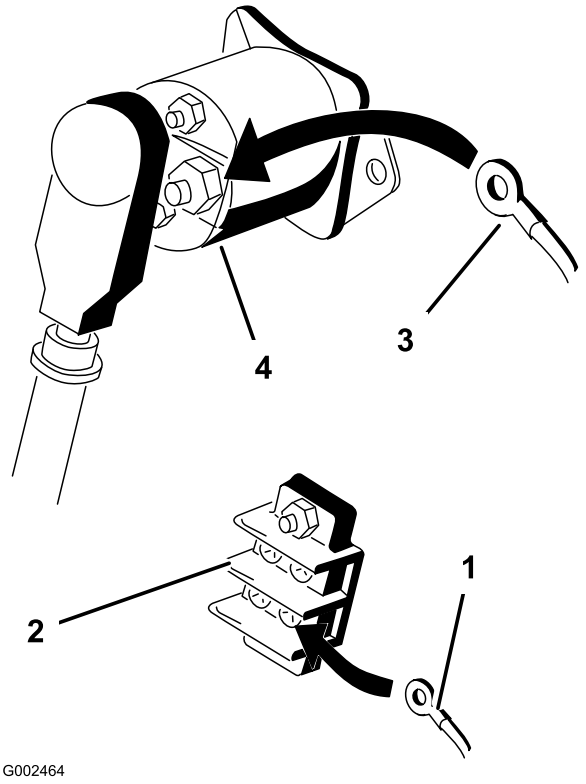

Figure 18

1. Black wire
2. Ground terminal block
3. Red wire
4. Auxiliary solenoid

4. Connect the red wire with ring connector to the load side of the auxiliary solenoid.

   Note: The load side can be determined by testing both solenoid posts when the ignition is turned off. The hot side will read approximately 12V , while the load side has no voltage. The load side can be confirmed by turning the ignition to the run or On position and testing the load side again. The load side will read approximately 12V with the ignition on. Turn the ignition to Off and remove the key before continuing with any of the installation or maintenance.

5. Lower the seat.

Installing the Controls on a Workman Spray System

Install the Switches

1. Remove the four screws in the front of the control panel cover to access the internal components. Retain all fasteners.
2. In the area just above the sonic boom switch plug, drill a 0.375 inch diameter hole to accommodate the indicator light (Figure 19).

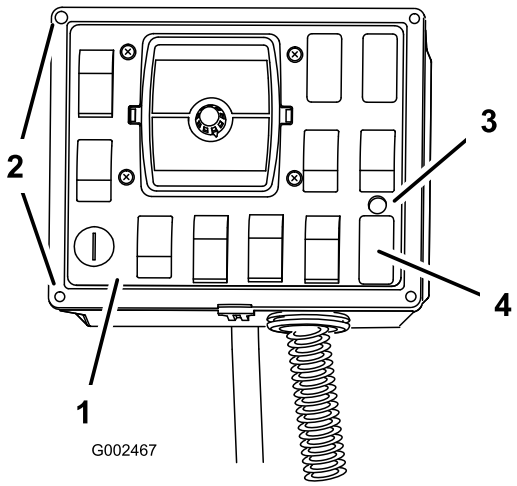

Figure 19

1. Spray control panel
2. Screws
3. Drilled hole, 0.375 inch diameter hole
4. Sonic boom plug

3. Install the indicator light through the back of the hole. Secure it to the front panel with the fasteners included (Figure 20).
4. Remove the sonic boom switch plug from the front panel and install the sonic boom rocker switch (Figure 20).

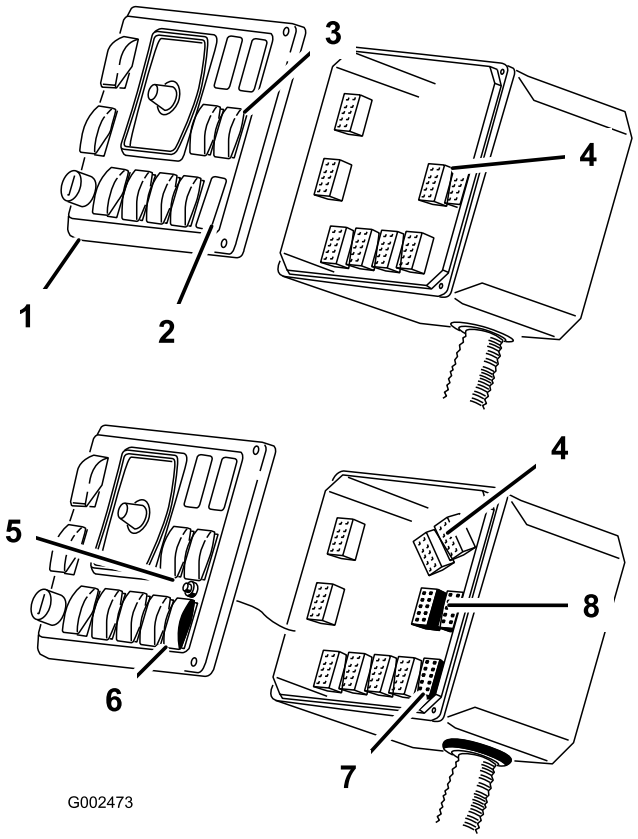

Figure 20

1. Spray control panel
2. Sonic boom plug
3. Existing boom lift switches
4. Existing boom lift connectors
5. Indicator light, install
6. Sonic boom switch
7. Sonic boom connector, from sonic boom wire harness
8. Boom lift connectors, from sonic boom wire harness

5. Locate and disconnect the plugs for the boom lift switches (Figure 20).

   Important: Do not cut or remove unused connectors. Store the unused connectors in the control box for future use in the event the sonic boom kit is removed.

6. Change the orientation of the boom lift switches:

   A. Locate the boom lift switches in the control panel. Remove both switches from the panel.

   B. Using a flat head screw driver or similar tool, gently pry the rocker switch covers from the switch bodies (Figure 21).

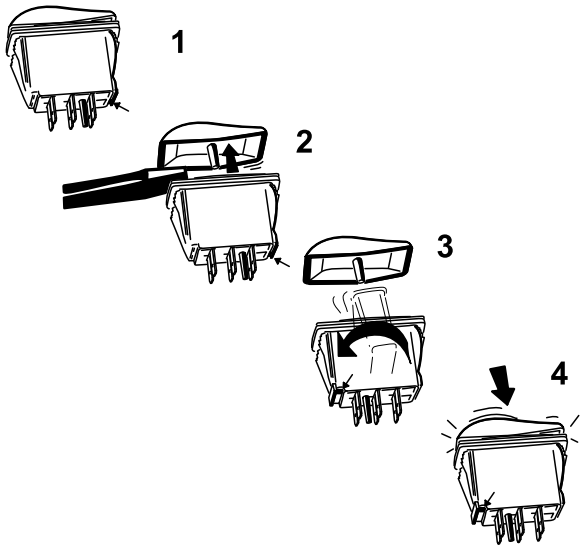

Figure 21

1. Switch, with notch in the rear
2. Remove the cover
3. Switch body, rotated 180°
4. Install cover, notch in the front

   C. Holding the switch cover in position, flip the switch body 180 degrees so that the connector notch is front left corner (Figure 21).

   D. Press the rocker switch covers onto the switch bodies in this new orientation until the cover snaps into place (Figure 21).

   E. Install the switches to there original position in the control panel.

   Note: Ensure that the orientation of the switch is with the notch pointing toward the top left of the control box.

Wiring the Switches and Indicator Light

1. Cut and remove the existing grommet in the base of the control panel. Discard the grommet.

   Important: Take precautions not to cut the existing wires and harness when cutting out the existing grommet.

2. Route the free end of the wiring harness up through the opening in the control panel keeping the branch with the ring terminal outside the control panel.

3. Split the new grommet included in the kit and wrap the around the wiring harness at the base of the control panel. Install the grommets to the base of control panel in place of the grommet removed previously.

4. Connect the connector with green/white, green/black, and black wires to the bottom of the right boom lift switch.

5. Connect the connector with blue/white, blue/black, and black wires to the bottom of the left boom lift switch.
6. Connect the connector with purple, white, yellow, and black wires to the bottom of the sonic boom switch.
7. Connect the light indicator to the wiring harness with two spade connectors.
8. Install the front control panel cover to the control box using the fasteners removed previously (Figure 19).
9. Route the remainder of the harness rearward, along the existing sprayer harness to rear of the machine. Use cable ties to secure the harnesses.

Connecting the Wiring to the Fuse Block

1. Locate the branch of the wiring harness with the ring terminals and route it under the dash to the fuse block area.
2. Connect the ring on the black wire to the ground bolt (Figure 22).

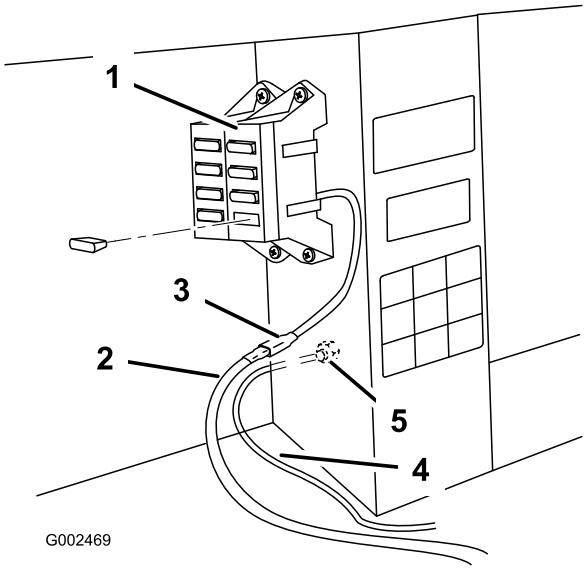

Figure 22

1. Fuse block
2. Red wire, from harness
3. Corresponding wire, from fuse block
4. Black wire
5. Ground bolt

3. Remove the short extension wire from the red wire and connect the black connector to the mating connector in the fuse block.

7

Connecting the Wiring to the Sensors and Actuators

Parts needed for this procedure:

2	Conversion wires (Older boom lifts only)

Procedure

1. Ensure that the wire harness is routed to the back of the vehicle along the path of the other wires and hoses.
2. Use cable ties to secure the wiring harness to the other wiring harnesses away from the engine and moving parts.
3. Remove the caps on the left and right actuator connectors of the sonic boom harness. Retain the caps for later use.
4. Running the T end of the wiring harness along the center boom frame, connect the wires as follows:

   Note: Older actuators may have a square connector plug that is different from the labeled actuator connector on the sonic boom wire harness. In this case, use the conversion cables provide in loose parts to make the connection as instructed.

   A. Connect the connector with the red/white and black/white wires to the connector on the right boom lift actuator.

   B. Connect the connector with the red and black wires to the connector on the left boom lift actuator.

   C. Connect the connector with the white, black/blue, and black wires to the right sensor wire.

   D. Connect the connector with the white, black/orange, and black wires to the left sensor wire.

5. Use the caps removed previously to cover and protect the left and right actuator connectors on the machine harness.
6. Secure the wiring harness to the boom frame using cable ties as needed.

8

Calibrating the Sonic Booms

No Parts Required

Procedure

1. Park the sprayer in an open, level turf area that is free of trees, buildings, vehicles, debris, and underground utilities and plumbing.
2. Set the Sonic Boom switch to the manual position.
3. Use the left and right boom switches to move the booms so that they are parallel with the ground.
4. Set the Sonic Boom switch to the Off position.
5. Then:

   A. Press and hold the left boom switch in the Lower position and the right boom switch in the Raise position.

   B. While holding the switches, set the Sonic Boom switch to the Automatic position.

   Note: The Sonic Boom light flashes rapidly, indicating calibration mode.
6. Release the boom switches.
7. Use the boom switches to adjust the booms to parallel or the desire running position.

   You will have 20 seconds to adjust the booms. At the end of 20 seconds the light stops flashing and the Sonic Boom calibration is complete.

   Note: The calibration will not be saved if the booms are not moved during the 20 second period allotted for calibration.

Operation

Using the Controls

Sonic Boom switch—this switch has 3 settings: Automatic, Off, and Manual (Figure 23), as follows:

- Automatic—enables the automatic movement of the booms. When in automatic mode the booms adjust so that the tips of the booms remain the same distance from the ground.

  You can temporarily override the automatic operation of the booms using the boom switches to raise or lower one or both booms. If you raise a boom it will remain raised until you lower it halfway with the boom switch; at which point the automatic operation of the boom continues. If you adjust only one boom, the other continues to function automatically.

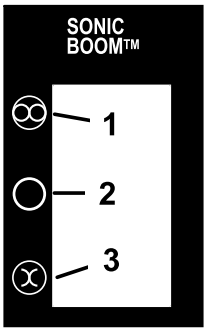

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Figure 23

1. Automatic
2. Off
3. Manual

- Off—turns off the automatic adjustment of the booms and disables the boom switches.
- Manual—turns off the automatic adjustment of the booms and enables the boom switches.

Sonic Boom light—displays the status of the Sonic Boom system, as follows:

- On—the sonic boom system is on and operating normally
- Flashing quickly—calibration mode
- Flashing slowly—system error; refer to the Troubleshooting section.

Rubber sensor cover—protects the sensor when not in use:

- Remove and rotate the cover 180 degrees. Affix it to the top side of the sensor when sonic boom is in use.
- Install the cover to protect the ultrasonic senor when not in use, booms are placed in the transport position, and/or in storage.

Maintenance

Cleaning

Clean the sensors periodically with a damp cloth. When you clean the sensors, inspect the foam sensor filter. If it is damaged or excessively dirty, replace it.

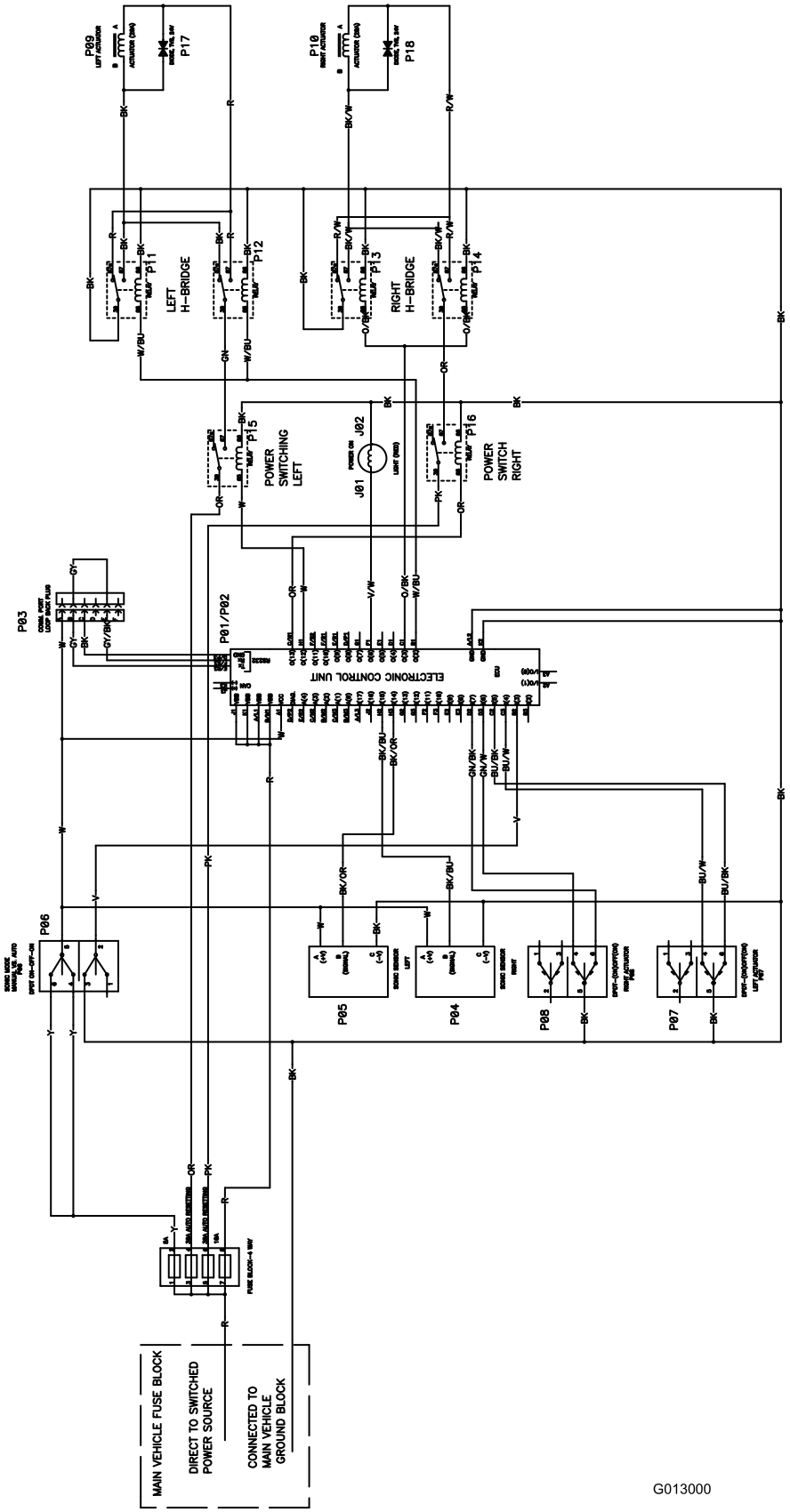
Important: Do not spray water at or on the sensors. Water sprayed under even household pressure can damage the sensor. Always cover the sensors completely before washing the sprayer.

Remove covers to remove any trapped moisture. Wipe the insides of the covers clean and dry before installing the over the sensors.

Troubleshooting

Problem	Possible Cause	Corrective Action
One or both booms malfunction; the Sonic Boom light is Off.	1. A fuse is blown. 2. The light is burned out. 3. The electronic controller or wiring is damaged.	1. Replace the fuse. 2. Replace the light. 3. Contact your Authorized Toro Distributor.
One or both booms malfunction; the Sonic Boom light flashes slowly.	1. There is a minor system error. 2. There is a system error that repeats after clearing the error.	1. Lower the affected boom(s) using the boom switch(es) to clear the error. 2. Clean or replace the sensor filters. If the error repeats, contact your Authorized Toro Distributor.
One or both booms are malfunctioning; the sonic boom light is on.	1. Rubber sensor covers are blocking or swinging into the sensor path	1. Install cover to the top side of the sensor.

Schematics



Electrical (Rev. A)

Notes:

Notes:

Count on it.