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Installation Tool List

Installation of AutoDeploy® system will require the following tools:

- 25 ft wire snake
- Rivet gun for 1/4" rivets
- Power drill
- 1/4" drill bit
- 17/64" drill bit
- 5/8" drill bit
- Nylon rope, thin for wire pulling
- Wire strippers (18-22 ga.)
- Wire connection crimpers
- Tape measure
- Impact gun with 7/16" socket
- Vice-grip plier clamp
- 7/16" wrench
- 1/2" wrench
- 9/16" wrench
- 3/8" wrench

For retrofit installs, the following additional tools will be required:

- Hammer
- Chisel
- Tapered punch
- Jig saw
Pre-Installation

1. Install TrailerTail

STEMCO recommends installing the TrailerTail prior to installing the AutoDeploy® system.

2. Latch Installation

Attach Electronic Latches

- Insert (4x) Ornit rivets from the outside of the Lateral Panel.
- Rivet the electronic latch to the inside of the Lateral Panel.

3. Panel & Trailer Preparation

Lateral Panel Grommet Cutout

- Make a small 2” x 2” cutout where the latch cable will enter the trailer frame. The cutout should be approximately 41” from the bottom of the TrailerTail.
  
  *The cutout may be moved up or down at most 6” to avoid a door hinge.*

- Drill a hole 4” horizontally from the grommet cutout with a 1/4” drill bit. 
  
  *TrailerTails with custom cut lateral panels will have the grommet cutout and hole pre-drilled.*

Drill Holes in Trailer Frame

- Using a center punch, mark the trailer frame in the center of the 2” x 2” cutout and centered horizontally on the frame. This mark will help keep the drill bit from wandering.

- Drill a 5/8” hole in the frame. STEMCO recommends using a sheet metal hole saw.

- Use a grommet bracket as a template to drill the rivet mounting hole for the bracket.

  *Do not rivet grommet bracket until specified.*
Velocity Sensing Control Unit

1. Position VSC Unit
   - Use a tape measure to position the VSC unit. It should be centered on the width of the trailer and approximately 26 ft from the rear doors. STEMCO recommends using the I-beam located on or near the side marker lights.
   
   You may need to move the VSC forward or backward up to 2 ft to avoid obstructions.

2. Align and Affix Bracket
   Your bracket type will vary. The mounting method for each bracket type is outlined below.

   - Use the roll of the VSC bracket to attach one side of the bracket to an I-beam. Center the bracket on the width of the trailer. You may need to adjust the location to avoid possible radar obstructions.
   - Use vice-grip pliers to hold the VSC bracket flat against the I-beam.
   - Use a 1/4" drill bit to match drill one pair of holes best suited for your particular I-beam size. The holes should not hit the center of the I-beam nor be too close to the edge.
   - Use the provided 1/4" bolts, washers and lock nuts to secure the bracket to the I-beam.

   - Hold bracket in position and mark one hole. Center the bracket on the width of the trailer. You may need to adjust the location to avoid possible radar obstructions.
   - Use a 1/4" drill bit to drill marked hole.
   - Use the provided fasteners to hand tighten the bracket to the I-beam.
   - Level the bracket and match drill the second hole. IMPORTANT: Bracket needs to be level within 3°.
   - Secure the bracket with the remaining 1/4" bolts and washers. Tighten both lock nuts.
Warning Light Bracket

1. Position and Secure Warning Light Bracket
   - Position the light on the trailer’s front driver-side corner, 48” above the base of the trailer.
   - Match drill the 1/4” holes and rivet the bracket to the trailer using (4x) Ornit rivets.

2. Route Warning Light Wire to Junction Box
   - Route the warning light wire to the junction box using up to 3 wire clamps.
     *The wire should be taught and not be able to vibrate or rub against other components.*
   - Place the AutoDeploy Instruction Diagram decal on the front of the trailer in the bottom right corner.

Secure the Warning Light

Route the Warning Light Wire

Riveted Wire Clamps
Main Wire Harness Routing to Front of Trailer

1. Wire Routing
   - Plug in the 12-pin connector into the VSC unit.
   - Route both the power cable (3-wire cable with no connector) and the latch wires to the side of trailer and secure to I-beam.
   - Route only the power cable to the J560 trailer-tractor connection at the front of the trailer using an available underbody channel.
   - Use zip-ties along the underbody channel as needed to secure the wires.

2. Junction Box Connections
   - Route power cable and warning light wire into junction box.
   - Cut excess wire from both the warning light wire and the power cable.
     
     *Approximately 8" of wire should remain for completing connections.*

   - Using a butt connector, connect the red wire from the power cable to the red wire of the warning light wire.
   - Terminate the blue and both black wires with eye terminals.
   - Connect the blue wire to the appropriate constant power pin.
   - Connect both black wires to the ground terminal.
   - Close up access to the junction box.
Main Wire Harness Routing to Rear of Trailer

1. Route Latch Connectors to Rear of Trailer
   - Route the latch wires to the rear of the trailer.
   - Tape the shorter latch wire to the longer latch wire.
   - Route the two latch connectors to the rear of the trailer along an underbody channel.

STEMCO Advice

When using fish tape, secure the connector to the pulling cable.
Main Wire Harness Routing to Rear of Trailer

2. Separate and Route Wires to Near and Far Side
   - Route the shorter latch wire to the near side of the trailer and the longer latch wire to the far side.
   - Use zip-ties to secure the wires to the trailer frame.

3. Route Wire Up Through Frame Post
   - Send a nylon pulling rope from the 5/8" hole you drilled earlier to the bottom of the post.
   - Use the nylon pulling rope to pull the latch cable through the post. Make sure you do not tear the cable insulation on any sharp corners. You may need to feed from the bottom as you pull from the top.

   *Make sure wiring does not go through any sharp or bare metal holes. Use grommets or caulk to protect wire from bare metal.*

4. Assemble Grommet and Grommet Bracket on Wire
   - Slide JST connector through back of plastic grommet bracket.
   - Slide the grommet bracket so that approximately 3 ft of wire is exposed.
   - Press the wire into the slit grommet. Push the grommet into the grommet bracket until both lips of the grommet sit flush against the grommet bracket. *The fitment of the grommet is designed to be a tight seal.*
   - Rivet the grommet bracket to the post.
Main Wire Harness Routing on Lateral Panel

1. Connect Harness to Latches
   - Slide the heat shrink tubing over and past the connector.
   - Plug the wire harness into the latch.
   - Slide heat shrink back over connector.
   - Evenly apply heat over the length of the heat shrink tubing until it molds tightly to the connector.

   If connector is damaged, replace latch wire. Do not use damaged connector. See [ATD001905] Install Manual - AutoDeploy, Latch Wire Replacement.

2. Attach Latch Wires to Panel
   - Place the wire clamps around the wire and rivet to the pre-drilled lateral panel holes to secure the cable. Make sure the rivet enters from the wire clamp side.
   - If the holes are not pre-drilled, use a 1/4" drill bit to drill 3 holes approximately in the locations shown below.
   - The cable between the clamps should be taut and not have room to move and damage itself, except at the hinge joint between the panel and trailer frame.
Main Wire Harness Routing on Lateral Panel

3. **Open and Close TrailerTail to Test Wire Excess at Grommet**
   - Leave approximately 3” of excess cable near the grommet. Test the excess by fully opening the trailer door and checking for cable binding.

   *Feed excess wire into grommet, or pull extra wire out as needed.*

4. **Secure Wire Slack on Underside of Trailer**
   - Secure any cable slack on the underside of the trailer. Zip-tie the cables in a loop behind the tail lights inside the housing. Any movement can cause the wire jacket to wear and cause a short.
AutoDeploy® Post-Install Checklist

This section outlines the components to inspect immediately after every AutoDeploy installation.

1. Electrical System Test
   - Test system with the AutoDeploy Diagnostic Tool by following the Install Verification procedure on page 14.
   - If the AutoDeploy Diagnostic Tool is not available, perform the Speed Sensor Test on page 16.
   - If the system is not functional or if either test is unsuccessful, refer to [ATD001619] AutoDeploy, Field Service Manual to perform diagnostics.
   - The [ATD001561] AutoDeploy Diagnostic Tool is available from STEMCO.

2. Wiring - Lateral Panel
   - There is enough slack in the wire at the area where the wire enters the trailer frame to open the trailer door.
   - The wire should not be taut nor droop down by more than a couple of inches when the door is latched to the side of the trailer.

3. Wiring - Trailer
   - **Best Practices**
     - All wire is tightly secured to the trailer and not capable of sliding through clamps.
     - Wiring does not go through any sharp or bare metal holes.
     - Use grommets or caulk to protect wire from bare metal.
     - Wiring in J-Box is tight and not allowed to vibrate against sharp edges.

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Wire Protected by Grommet
Secured Wiring
Unsecured Wiring
Proper Wiring Slack
AutoDeploy Diagnostic Tool
AutoDeploy® Post-Install Checklist

4. Heat Shrink Connections
   - Latch connector has heat shrink uniformly applied.

5. Unobstructed Radar Unit
   - Line of sight of the radar unit to ground is unobstructed.
   - Radar unit must be centered on trailer. Do not mount near side of trailer.

6. Radar Unit Orientation
   - Verify the control unit is mounted in the proper direction.
   - If mounted incorrectly, the unit will not function properly.

7. Electromagnetic Interference
   - No coiled wire within 18" of radar unit.
AutoDeploy® Electrical System Verification

This section outlines a procedure to verify functionality of the Warning Light and AutoDeploy components.

1. **Plug-in Power**
   - Plug power into the J-Box. AUX/blue line power is needed.

2. **Open Roadside of TrailerTail**
   - Open the roadside of the TrailerTail and close the curbside. Verify that the driver notification light is off.

3. **Reverse State of TrailerTail**
   - Open the curbside of the TrailerTail and close the roadside. Verify the driver notification light is off.

4. **Close Both Sides of TrailerTail**
   - Close both sides of the TrailerTail. Verify the driver notification light turns on.
AutoDeploy® Installation Verification

5. Connecting the AutoDeploy Diagnostic Tool
   - Disconnect the VSC and connect the AutoDeploy Diagnostic Tool to the main wire harness. All lights on the test should be illuminated.

![Diagram showing connection between AutoDeploy Diagnostic Tool and main wire harness]

6. Test the System
   - Hold the "OPEN" button on the AutoDeploy Diagnostic Tool for 2 seconds. The TrailerTail will open.
   - The "LATCH LONG" and "LATCH SHORT" indicators will turn off as the TrailerTail opens.
     Latch indicators may remain dimly lit when the TrailerTail is open.
   - The "LIGHT" indicator will turn off while the "OPEN" button is pressed.

![Diagram of diagnostic tool and TrailerTail]

7. Release the OPEN Button
   - Release the "OPEN" button. The "LIGHT" indicator will turn on.

8. Complete the Test
   - If the "LIGHT", "POWER" & "MAIN" indicators remain lit and the TrailerTail opens, the harness and latches are functional. The test is complete.
   - If any of the lights do not behave as expected, or the TrailerTail does not open after pressing the "OPEN" button, refer to [ATD001619] AutoDeploy, Field Service Manual to perform diagnostics.
AutoDeploy® Speed Sensor Test

This section outlines a test procedure to simulate a trailer traveling at speed and validate the AutoDeploy installation and components.

1. Personnel Requirement
   - This test requires 2 people. One person will power the J-Box and observe the driver notification light and the other person will cycle the latch.

2. Identify Short Leg of Wire Harness
   - Only the latch connected to the short leg of the wire harness will activate the Speed Sensor Test. The images in this manual assume the short leg is wired to the roadside.
   - If the short leg of the wire harness cannot be identified, perform steps 4-6 several times on both roadside and curbside latches.

3. Open One Side of TrailerTail
   - Open the side of the TrailerTail with the latch you want to cycle. Close the other side.

4. Plug in Power
   - Plug power into the J-Box. AUX/blue line power is needed.

5. Driver Notification Light On
   - The driver notification light will turn on and stay lit for 3 seconds after plugging in power.
   - Step 6 must be completed during these 3 seconds for the test to function.
AutoDeploy® Speed Sensor Test

6. Cycle the Latch 3 Times
   - Open and close the latch connected to the short leg of the wire harness 3 times.
   - Depending on the latch style, this can be done in different ways.

   **Latch Type 1**
   Hold the trigger with one hand and fully cycle the cam 3 times with the other hand.

   **Latch Type 2**
   Hold the cam closed with one hand and pull the red knob down 3 times with the other hand.

   *Tip: The latch must be cycled at least 3 times. You may cycle the latch continuously until Step 7 is observed.*

7. Completion of Latch Firing
   - Both latches will automatically fire and the closed side of the TrailerTail will open.
   - If both latches don’t fire, unplug power from the J-Box and repeat steps 4–6 several times on both latches.

8. Close Roadside of TrailerTail
   - Close the roadside of the TrailerTail and open the curbside. Verify the driver notification light is off.

9. Reverse State of TrailerTail
   - Open the roadside of the TrailerTail and close the curbside. Verify the driver notification light is off.

10. Close Both Sides of TrailerTail
    - Close both sides of the TrailerTail. Verify the driver notification light turns on.

11. Completion of Speed Sensor Test
    - If all steps were completed successfully, the system is functional and the test is complete.
Spare Parts List

Refer to the AutoDeploy & ZeroTouch Components section of the [ATD002975] TrailerTail Spare Parts Catalog for a list of spare parts.