Vapor ADVANTAGE
SAFETY • SYSTEMS • SERVICES • SOLUTIONS
Bulletin No. 505 November 2005

Touch Bar Life Extension

The **VAPOR ADVANTAGE** is a periodic discussion of topics concerned with the maintenance of passenger door systems for buses and related vehicles. We invite your comments and suggestions. Please e-mail them to vaporbusinfo @wabtec.com.

The Vapor Touch Bar serves two functions:

- *It is an ADA-compliant passenger assist device*
- *It is a switching device that enables passengers to open a door after it has been authorized by the bus operator*

To assure proper function throughout their life, Vapor recommends that touch bars be inspected and function tested after every 10,000 operating cycles (approximately 45 days) and that they be overhauled after 250,000 cycles or 2 to 3 years of operation, whichever comes first.

OVERHAUL PROCEDURES for Vapor touch bars are described in Bulletin No. 0030. A copy of this bulletin is enclosed with this issue. Additional copies are available upon request or can be downloaded from Vapor's web site, www.vapordoors.com.

GENUINE VAPOR PARTS for overhauling Vapor Touch Bars are available as the Vapor 58714555 and 58714555-01 kits. Using a parts kit saves time during overhaul by assuring that all of the necessary parts are available before beginning the job. The kit saves time after the overhaul because Genuine Vapor Parts will deliver the reliability and service life designed into all Vapor products.

Vapor Parts can be ordered from your bus manufacturer's aftermarket organization, or directly from Vapor Bus International by contacting our Customer Service Department.

TECHNICAL ASSISTANCE Vapor Sales Engineers can help you achieve your objectives for door system performance throughout the life of your vehicles. They are your source for advice on door system specifications, maintenance, overhaul and upgrade, and Vapor's unit exchange and rebuild services. Ask them about other Vapor passenger actuation devices such as CLASS™.

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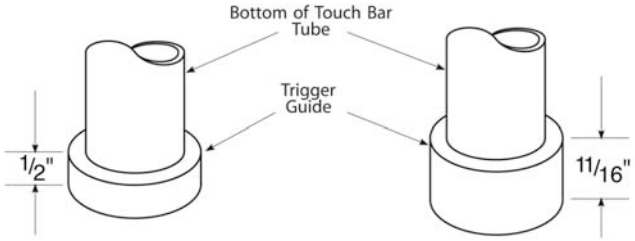
This bulletin provides a step-by-step overhaul procedure for Vapor Touch Bars using Vapor Parts Kit 58714555 or 58714555-01.

Refer to Figure 1 to determine which kit is required for your Touch Bar. Measure the height of the trigger guide which is located at the bottom of the Touch Bar tube.

- 1/2" h trigger guide height requires Kit part number 58714555
- 11/16" h trigger guide height requires Kit part number 58714555-01.

Item #	Part #	Description	58714555 Kit Qty	58714555-01 Kit Qty
1	56010202	Plunger	1	1
2	56010210	Brkt. Assy. Upper	1	1
3	56010201	Trigger	2	2
4	58714448	Trigger Guide	1	–
5	58714447	Trigger Guide	–	1
6	56010211-01	Brkt. Assy. Lower	1	–
7	58410815-01	Brkt. Assy. Lower	–	1
8	56010213	Rubber Ring	2	2
9	57410245	Locating Plate	1	1
10	67125001-45	Rivet	1	1

Figure 1



After the Touch Bar has been removed from the bus, we recommend that the overhaul procedure be completed on a bench-top work area.

CAUTION: Always use the complete overhaul kit. Due to minor design changes, any combination of old and new parts may create an unacceptable condition.

Recommended Tools and Materials

- Allen Hex Head Wrenches 1/4" and 3/16"
- Feeler Gauge Set – range .040" to .190"
- Wire Cutters
- Terminal Crimping Tool
- Small Ball Peen Hammer
- Drill Bit 1/8"
- Power Drill

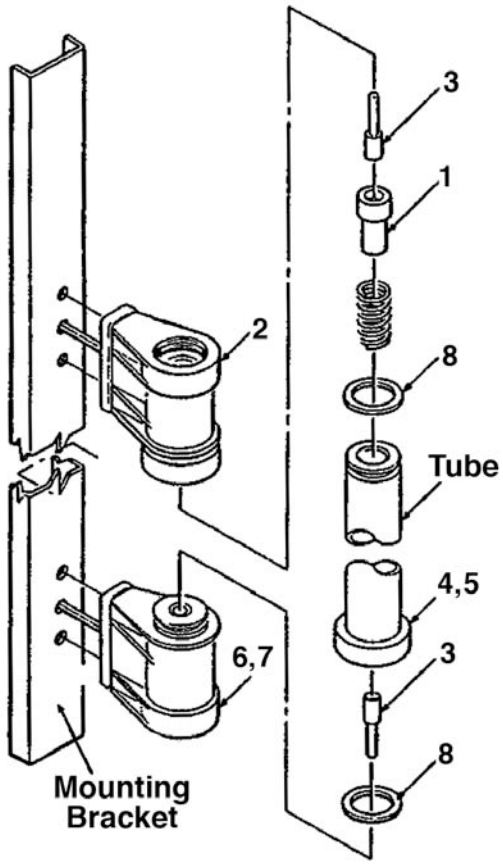


Figure 2

CAUTION: During disassembly, keep the Touch Bar tubes and mounting brackets together as sets. Always assemble the Touch Bar tubes with their respective mounting brackets.

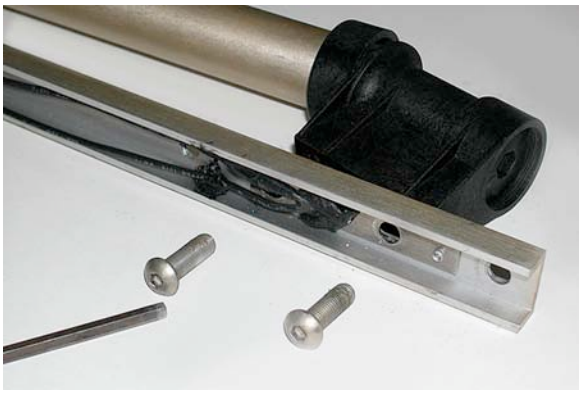
Disassembly

1. If the Touch Bar and Bracket Assembly includes a mounting saddle, remove the mounting saddle.

2. If the Touch Bar and Bracket Assembly has a rear wire cover, remove the cover by drilling out the four (4) or (6) pop rivets retaining it.

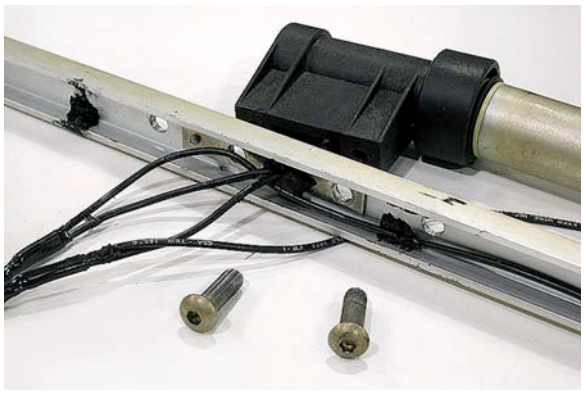
NOTE: When removing the Upper and Lower Bracket Assemblies, there is no need to remove the Locating Plate.

3. Detach the lower bracket assembly (and bracket spacer, if used) from the Touch Bar mounting bracket by removing two 5/16”-24 socket head screws. Pull the lower bracket slightly away from the mounting bracket.

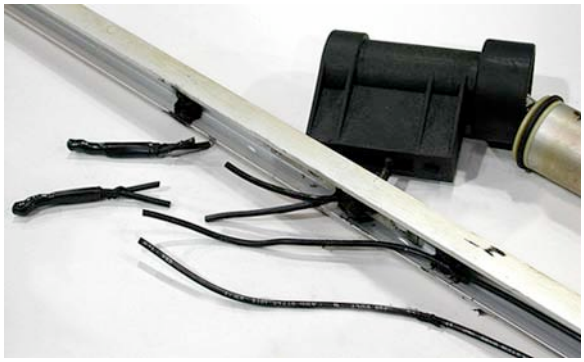


4. Remove the Tube Assembly from between the upper and lower bracket assemblies. Discard the plunger and upper and lower triggers. Retain the spring for later use.

5. Detach the upper bracket assembly from the Touch Bar mounting bracket by removing two 5/16”-24 socket head screws.



6. Cut the 2 wires from the upper and lower bracket assemblies approximately 1 ½” from the mounting bracket.



7. Discard the upper and lower bracket assemblies.

8. Remove the trigger guide from the bottom of the touch bar tube by lightly tapping the outer rim of the trigger guide with a small ball peen hammer. Rotate the tube while tapping. Discard the trigger guide.

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9. Remove and discard the rubber ring from the bushing at the top end of the touch bar tube.

The remaining parts should be: touch bar mounting bracket with wiring, tube with upper bushing intact, spring, and 4 socket head screws.

Re-Assembly

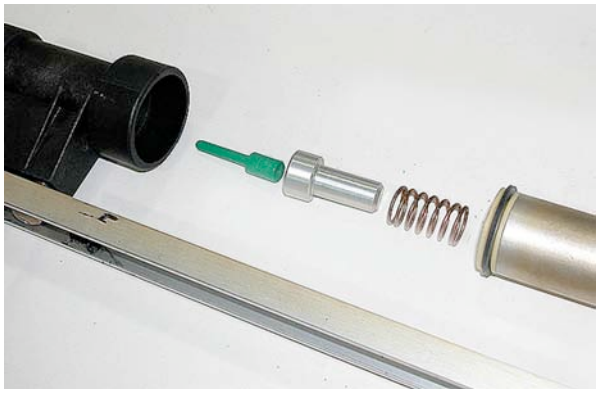
1. Install a new rubber ring to the bushing at the top of the Touch Bar tube.

2. Install the new trigger guide to the bottom of the Touch Bar tube by lightly tapping around the rim with the ball peen hammer. Ensure that the trigger guide is completely seated in the Touch Bar tube.

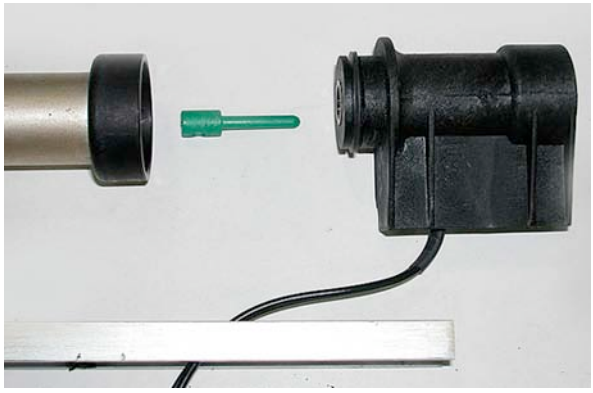
3. Pass the 2 wires of the new upper bracket assembly through the Touch Bar mounting bracket. Attach the upper bracket using two 5/16”-24 socket head screws.

4. Pass the 2 wires of the new lower bracket assembly through the Touch Bar mounting bracket. Do not attach to the mounting bracket at this time.

5. Position a new trigger, new plunger and spring between the upper bracket and the top of the Touch Bar tube. Ensure that the tip of the trigger is inside the spring portion in the upper bracket.



6. While holding the Touch Bar tube in position as described in Step 5, position the remaining new trigger between the Touch Bar tube and lower bracket. Ensure that the tip of the trigger is inside the spring portion in the lower bracket.

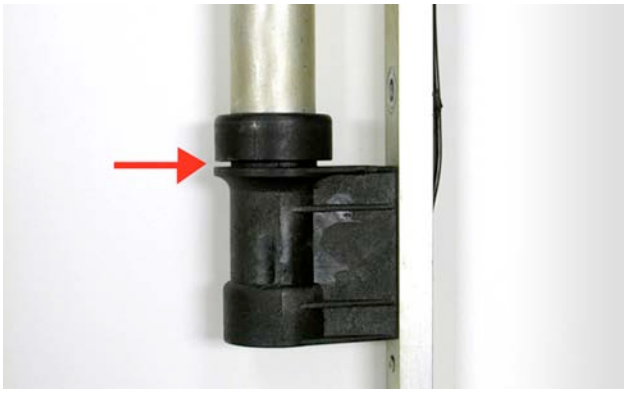


7. Attach the lower bracket using two 5/16”-24 socket head screws. Install the bracket spacer if originally used. Torque the socket head screws to 120 inch-pounds.

8. Cut and splice all switch wires to the existing Touch Bar wiring with 16 gauge butt connectors using an appropriate crimping tool.

End-Play Measurement

1. Position the fully assembled Touch Bar and Mounting Bracket in the vertical position. Using a feeler gauge, measure the gap between the trigger guide and the lower bracket assembly. Write this measurement.



2. Raise the Touch Bar tube so that it is firmly against the upper bracket assembly. Again, measure the gap between the trigger guide and the lower bracket assembly. Write this measurement. NOTE: Measurement must be taken at the same location as was taken in Step 1 above.

3. Subtract measurement from Step 1 from measurement in Step 2. If the DIFFERENCE between the 2 measurements is greater than 0.070, or less than 0.050, re-adjustment is necessary. Proceed to End-Play Adjustment below. If the DIFFERENCE is within these limits, the Touch Bar is ready to be mounted in the bus.

End-Play Adjustment

1. Remove (drill out) the pop rivet retaining the bottom locating plate. (The bottom locating plate retains the adjustment of the lower bracket assembly).

2. While holding the lower bracket assembly in place, remove the two (2) 5/16-24 socket head screws. Discard the locating plate. Place the new locating plate in position with the 2 rivet holes towards the end of the mounting bracket. Replace the mounting screws, tightening only enough so that the lower bracket assembly can be adjusted up or down.

3. Move the lower bracket assembly toward the upper bracket assembly until the components are held together firmly, so that the tube assembly has no vertical end-play.

4. Measure the gap between the trigger guide and the bottom bracket assembly with a feeler gauge. Write down this measurement.

5. Add 0.060 inch to the measurement obtained in the previous step and set the feeler gauge to this new value.

6. Place the feeler gauge with the new setting in the same location as previously measured and move the bottom bracket assembly, holding the feeler gauge in place, until the Touch Bar Assembly is firmly held together. Tighten the two (2) 5/16-24 socket head screws to 120 inch pounds torque.

7. Recheck the end-play measurement. See steps 1 – 3 in previous section.

8. Select the rivet hole in the locating plate that is NOT ALIGNED with the hole in the mounting bracket and use it as a guide to drill a 1/8 inch hole through the mounting bracket.

9. Lock the locating plate in place with the pop-rivet supplied in the kit. This will prevent the Touch Bar Assembly from moving out of adjustment.

For technical assistance:
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