FMI No.: FMI-15-054NC - VBI ETO Controller Assembly Firmware Update   Date:12/17/15
Contract: (NFI, Los Angeles, SR1942, SR1744)   REV: B
Classification: NC-4   MRN:0812-8
No. of Bus Sets: (700)   Written by: Karen

A.   SUBJECT:

Update ETO Controller parameter configuration settings to change the door open and closed preload force.

B.   RELATED DOCUMENTS:

ETO Firmware Update Bulletin No. TB08-03-366

C.   MODIFIED ASSEMBLIES:

PN	Dwg. #	Description	Qty. Per Bus	Total Quantity
51220550-03	51220550	Controller Assembly - ETO	2	1400

D.   PARTS REQURIED:

PN	Dwg. #	Description	Total Quantity	Remarks
97521976-62	97521976	Label – Firmware Revision / FMI number	1400	

E.   DRAWINGS REQUIRED:

Dwg.#	Revision	Description
TB08-03-366	C	ETO Firmware Update

F.   MATERIAL DISPOSITION:

N/A

G.   SPECIAL TOOLING:

Windows Computer; USB Cable

H.   DETAILED MODIFICATION:

Update ETO Controller Assembly firmware for subject contract to version "3.20N. The detailed modification instructions are reference in VBI Bulletin TB08-03-366.

I.   TEST AND INSPECTION:

1. Cycle door open and closed 5 times and verify proper operation.
2. Record all required information on FMI Tracking Sheet on Page 2 upon successful completion of the firmware modification.

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FMI TRACKING SHEET

UPDATED TRACKING SHEET TO BE SUBMITTED TO THE FOLLOWING INDIVIDUALS DAILY:

VBI FMI Coordinator: Marcella Tietjen (vbifmi@wabtec.com) Pone: 847-777-6480

FMI-15-054NC   Customer: (NFI, Los Angeles)

Fleet No.	Coach Frame No. VIN	Controller Part No.	Controller Serial No.	Door Position F, M, R	Date Modified	Modified By: (Signature)
1200	542330	51220550-xx	15B0001	Front	May 25,2015	Your Name

QSM2-400 F2 Rev. C

ETO FMI FIRMWARE UPDATE
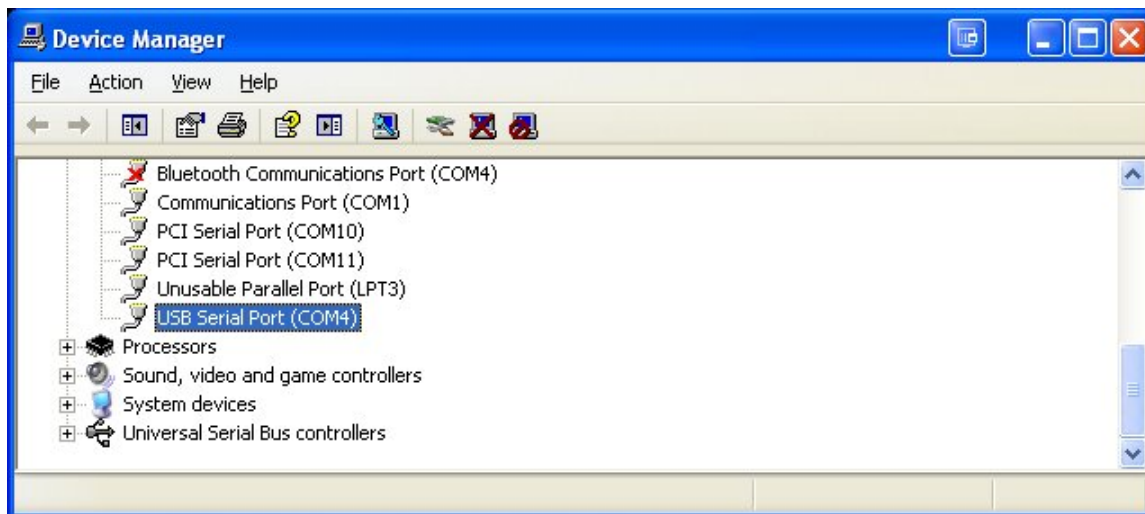
1 Install USB Serial Port Drivers

If this is the first time this computer is being used to communicate to the Vapor Electric Transit Controller you may need to install the FTDI USB drivers.

Unplug the USB cable and run the following program.
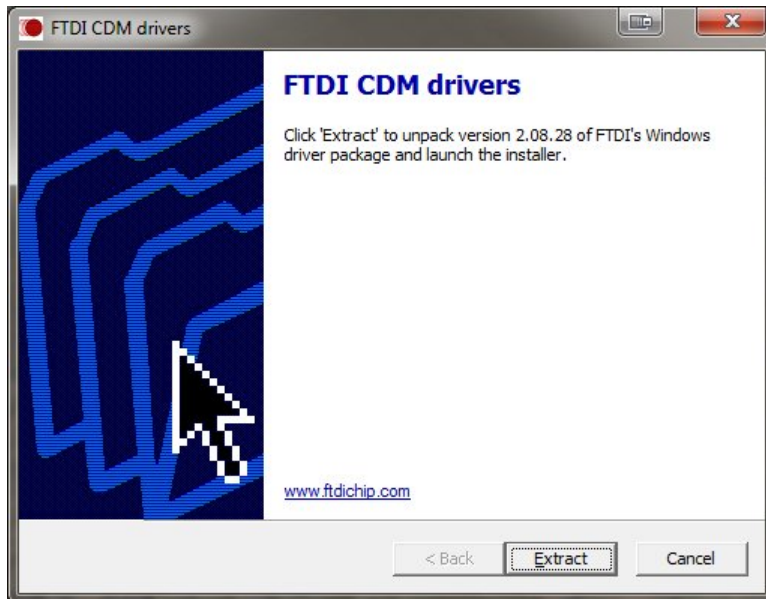
1.1 Configure USB Serial Port

Connect the USB cable between the computer and the Vapor control. Open windows Device Manager determine the COM port assigned to the USB serial port.

In this case the USB serial port is configured as COM4.

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ETO FMI FIRMWARE UPDATE

2 Firmware Update

Run the following batch file "FMI_UPDATE" from the "FMI Firmware update "folder.
The computer user must have **administrative rights** to run the .bat file.
If the user does not have **administrative rights**, run the VETC2_vxxx_Diag_Tool.exe program.
Enter the password 2509 using the "HELP" and then "PASSWORD" menu.
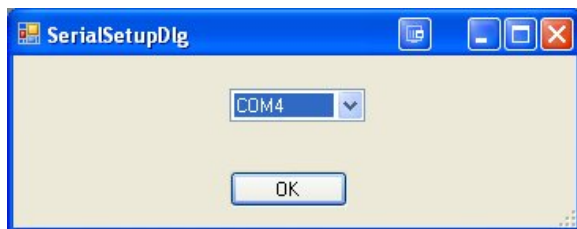Click on the "M" button to enter the manufacturing screen.
In the configuration window, enter the part number from the control, (example 51220550-03) and then press enter.
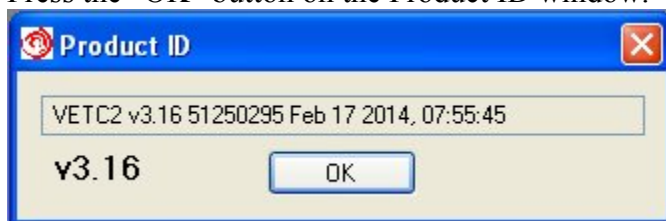The program will find the configuration file look like the image in section 3.

Select the COM port if needed.

Press the "OK" button on the Product ID window.

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ETO FMI FIRMWARE UPDATE

3 Program Firmware

Press the "Program Firmware" to start the firmware update. When the firmware programming is complete, the programming of the configuration file will begin.
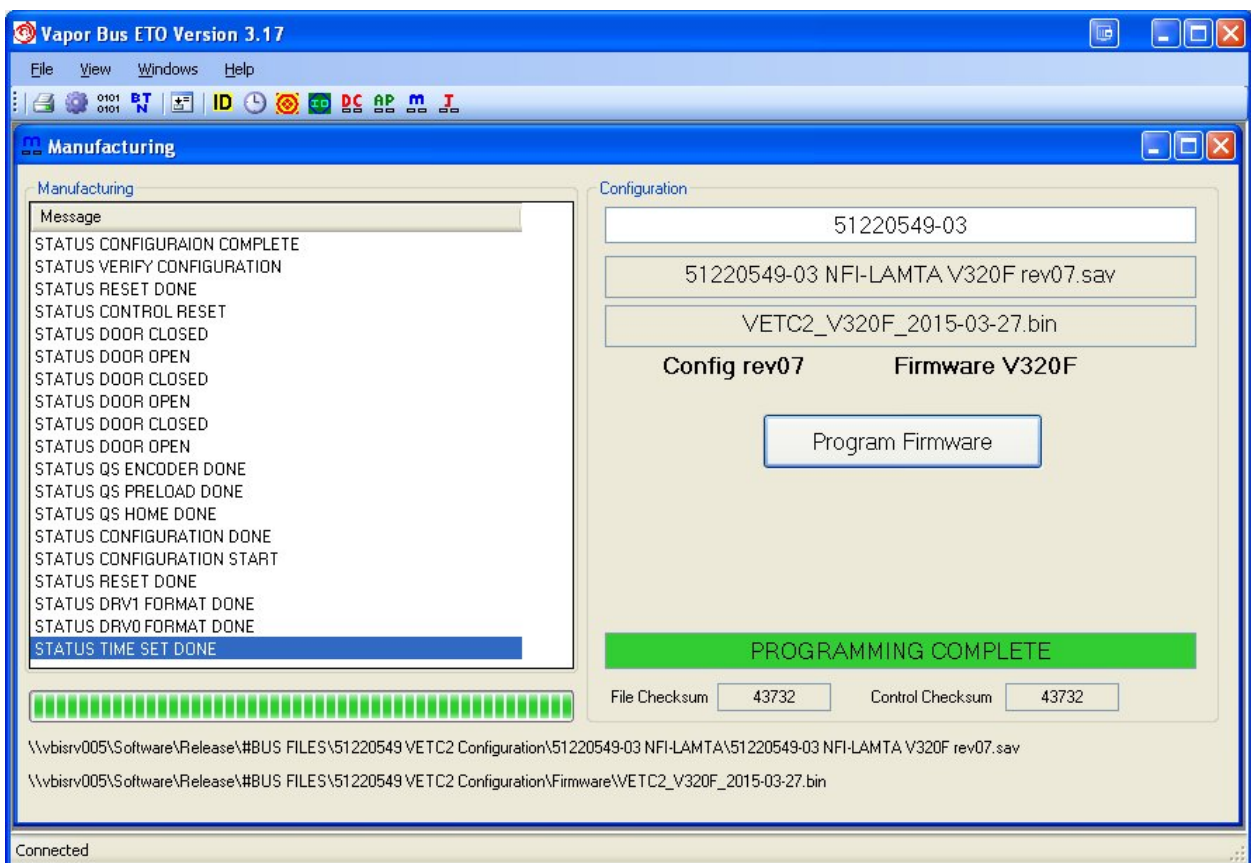
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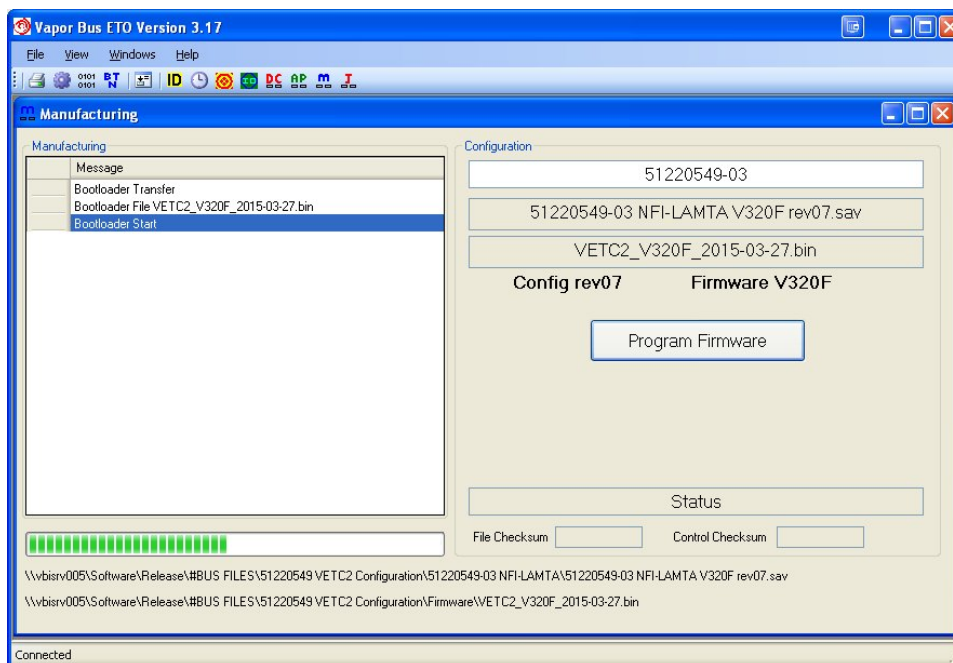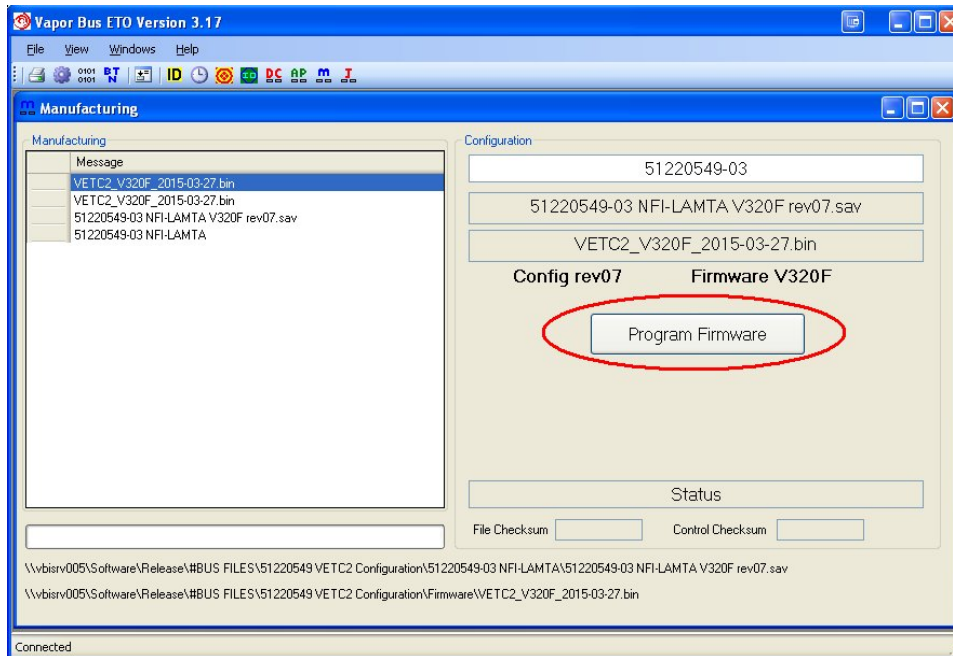
ETO FMI FIRMWARE UPDATE

4 Program Configuration file

Once the firmware is done, the configuration file will be programmed. The following steps are automatically performed.

- Time set
- Format file system
- Load configuration file
- QS home
- QS preload
- QS encoder calibrate
- Door open and closed 3 time
- Configuration file validation

The programming has completed, unplug USB cable.

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Vapor Bus International
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INSTALLATION BULLETIN
TB08-03-366
May 1, 2015 Rev D

ETO FMI FIRMWARE UPDATE

5   Firmware Label

Place the firmware version label above the Vapor part number label.

Label part number 97521976-31 (V3.20F)

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ETO FMI **FIRMWARE UPDATE**

INSTALLATION BULLETIN
TB08-03-366
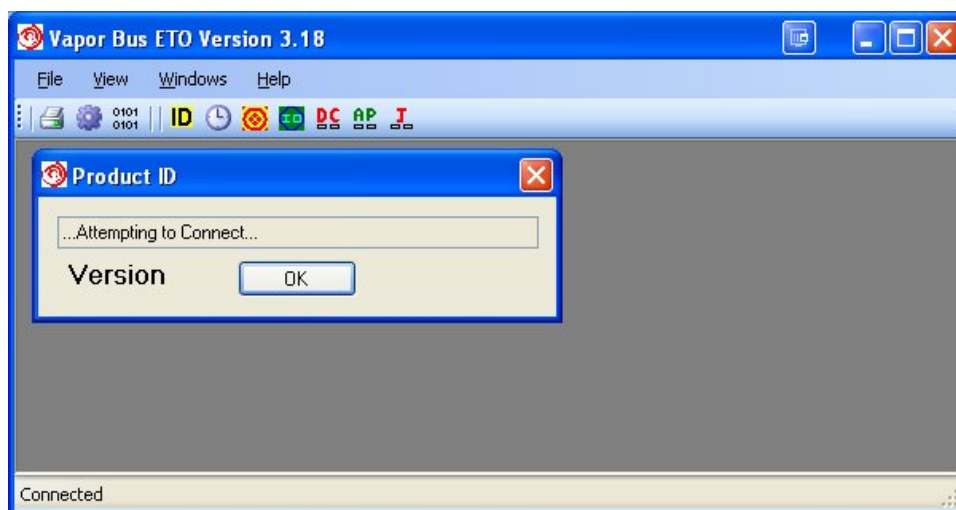May 1, 2015 Rev D

6   Firmware Failure Recovery

In the event that the firmware download failed and communications to the door control cannot be established you will need to manually force the control into the firmware update mode.

- With the bus power on and air on the door, unplug the J5 (Grey) connector for one second
- While pressing the yellow setup button, plug J5 back into the control.
- The door control will power up in the firmware update mode.

- Run the firmware update program again.
- While the diagnostic program is attempting to connect to the control press the OK button.

- The program will then display manufacturing screen, go back to step 3 in the document.

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FIELD MODIFICATION INSTRUCTIONS

FMI-16-002
Contract: NFI LAMTA
Classification: NC-4
No. Of Bus Sets: 756

A. SUBJECT:

Installation of new Exit Door Roller Plates and Hardware.

B. RELATED DOCUMENTS:

C. REPLACED ASSEMBLIES:

PN	Description	Total Quantity	Remarks
51126073-02	ROLLER, TOP MNT. RH (Aft Door)	756	
51126073-03	ROLLER, TOP MNT. LH (Fore Door)	756	

D. PARTS REQUIRED PER BUS:

PN	Description	Total Quantity	Remarks
51556014-00	PLATE, ROLLER RH	2	
67121038-37	SCR HX SKT BTN HD 5/16-18 x .75 STL ZN	4	
67122128-03	WSHR PL 1/2-1.375ODX.11THK BLK.	4	
67121251-83	SCR HX SKT HD CAP 9/16-18 STL ZN	1	
67110309-00	SEALANT	AR	

REFERENCE PARTS

PN	Description	Quantity per door	Remarks
5083615800	COVER, TOP MNT ROLLER	1	Figure 1, Item 12
6712103871	SCR HX SKT BTN HD 8.32x.25 BLK	2	Figure 1, Item 13
5741024729	SENSITIVE EDGE TUBING	1	

E. DRAWINGS REQUIRED:

Dwg.#	Revision	Description
51340113	C	DOOR, PANEL ASSY.
51556015	A	ROLLER, TOP MNT.

F. MATERIAL DISPOSITION:

Return all removed roller plates and associated mounting hardware to Vapor Bus International for further evaluation.

G. SPECIAL TOOLING:

7/16" Allen Wrench Socket
0 to 100 ft. lb. Torque Wrench
1" Combination Wrench
Standard Allen wrench set
1 inch diameter X 12" long solid bar

H.   ROLLER PLATE REPLACEMENT PROCEDURE

H.1.   Actuate the exit door emergency release to disengage the door operator clutch. This will allow manual operation of the doors.

H.2.   Refer to Figure 1 below. Remove the AFT exit door panel roller cover (Item 12) by removing 2 cover mounting screws (Item 13). Retain cover and mounting screws for reinstallation.

H.3.   Note the location of the roller pin relative to the bracket slot prior to pin removal. Rotate the doors into a partially open position.

H.4.   Remove sensitive edge tubing from the pressure wave switch on the Baseplate. Pull/guide the sensitive edge tubing through the roller pin, toward the door panel.

H.5.   Place a 1" combination wrench across the flats of the roller pin. Using a 7/16" Allen wrench, loosen the socket head screw that secures the roller pin to the bracket.

H.6.   Carefully remove the roller pin.

H.7.   Pivot the door panel into a position to allow ease of access to the two 5/16-18 x .75 flat socket head screws that secure the roller plate to the door panel (see Item 8 in Figure 1).

H.8.   Using a 3/16" Allen wrench remove the two 5/16-18 x .75 flat socket head screws that secure the roller plate to the door panel (see Item 8 in Figure 1).

H.9.   Return all removed roller plates and mounting fasteners to Vapor Bus International.

H.10.   Install new roller plate 51556014 onto door panel top cross member as shown in Figure 1 using new mounting screws 67121038-37 SCR HX SKT BTN HD 5/16-18 x .75 STL ZN.

H.11.   Torque roller plate mounting screws using a torque wrench to 15 foot pounds each.

H.12.   Reinstall roller pin as shown in Figure 3. Make sure to install the additional washer (PN 67122128-03) between the roller pin shoulder and top bracket surface as shown. Also install washer (PN 67122128-03) between the bottom bracket surface and the socket head screw as shown. New washers and large socket head screw are provided.

H.13.   Insert the roller pin into the track. Position the roller pin along the bracket slot as noted previously.

H.14.   Align the hole in the roller pin with the hole in the roller plate. See Figure below.

H.15.   Using a torque wrench, torque the socket head screw that secures the roller pin to the plate to 60 ft-lbs. See Figure 3. Hold the pin in position while tightening screw to maintain adjustment. See Figure 2.

H.16.   Carefully route the Sensitive Edge tubing back through the roller plate, through the roller pin, and connect tubing back onto the pressure wave switch, taking care to avoid any kinks or sharp bends along its full routing.

H.17.   Reinstall roller assembly cover and mounting screws removed in step H.2.

H.18.   Apply sealant to seam between roller plate and door panel horizontal frame member.

H.19.   Repeat Steps H.2 through H.15 for forward door panel roller assembly.

J. INSPECTION AND TEST

J.1.   Verify that all fasteners are properly torqued.

J.2.   Open and close the doors manually a few times and verify that the doors move freely without binding.

J.3.   While standing away from the doors, reset the manual release to the normal position. The door linkage will re-engage and the door will begin to move towards its commanded state.

J.4.   Cycle the doors open and closed several times to verify that the doors move smoothly. Observe the roller assemblies during door movement to verify that the roller pin and plate assembly are secure. The doors should open to a position that is approximately 90° to the plane of the door portal.

J.5.   Command the doors to the full door open position and verify door open preload. Push / pull on each of the passenger assist handles. The doors should provide a firm support and should exhibit minimal movement when force is applied.

J.6.   If preload and / or door open position is not satisfactory, adjust the roller pin along the slot of the roller plate to achieve the desired results. Moving the pin (small increments) towards the door hinge arms will generally increase the door preload and will increase the door panel angle of rotation as it opens and closes. If the roller pin must be adjusted, reference section H.12 for proper fastener torque values to secure adjustment.

J.7.   Command the doors to close. As the doors are closing, insert a 1 inch diameter solid bar between the rubber door leading edges. When the edges encounter the bar the door must stop closing and recycle open. Check the obstruction sensing function by inserting the 1 inch diameter solid bar between the edges 2 inches from the bottom, at mid height and two inches from the top as the doors are closing.

J.8.   Upon completion of this Field Modification Procedure, log the Bus number and corresponding information in the Vehicle Completion Log (Section K).
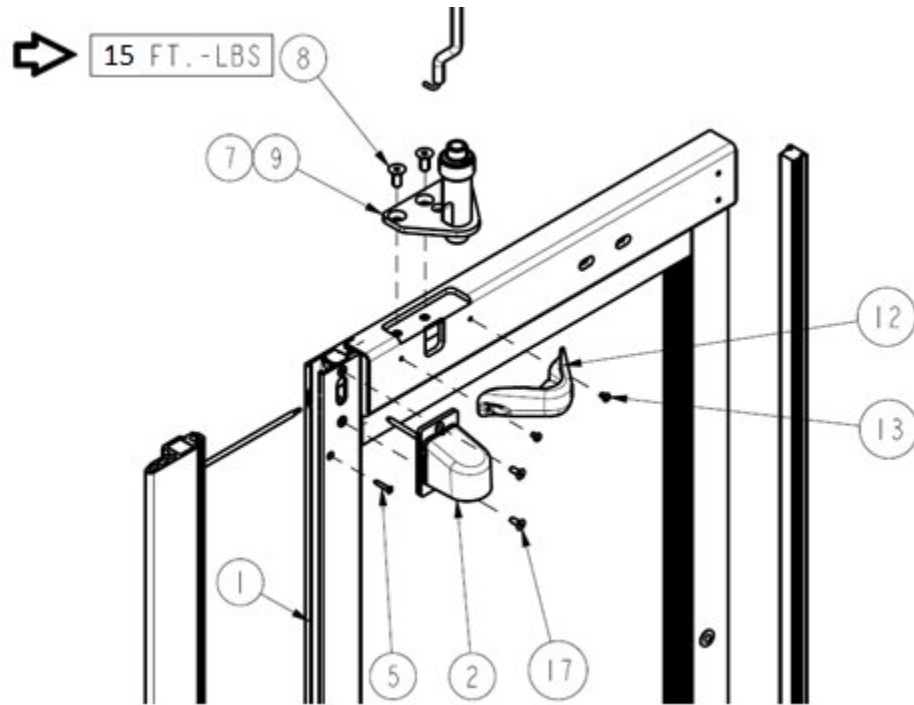
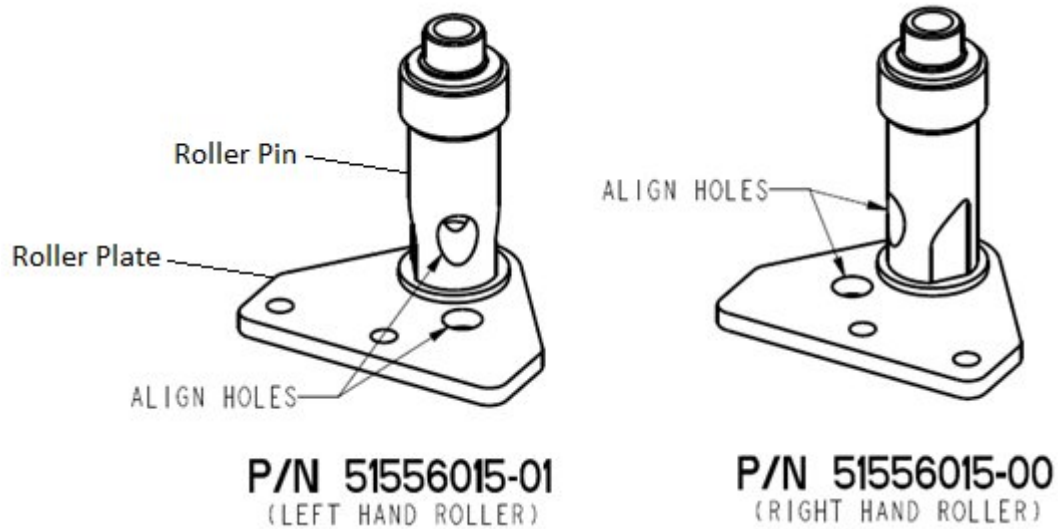*Figure 1 – Door Panel and Roller Assembly*

P/N 51556015-01
(LEFT HAND ROLLER)

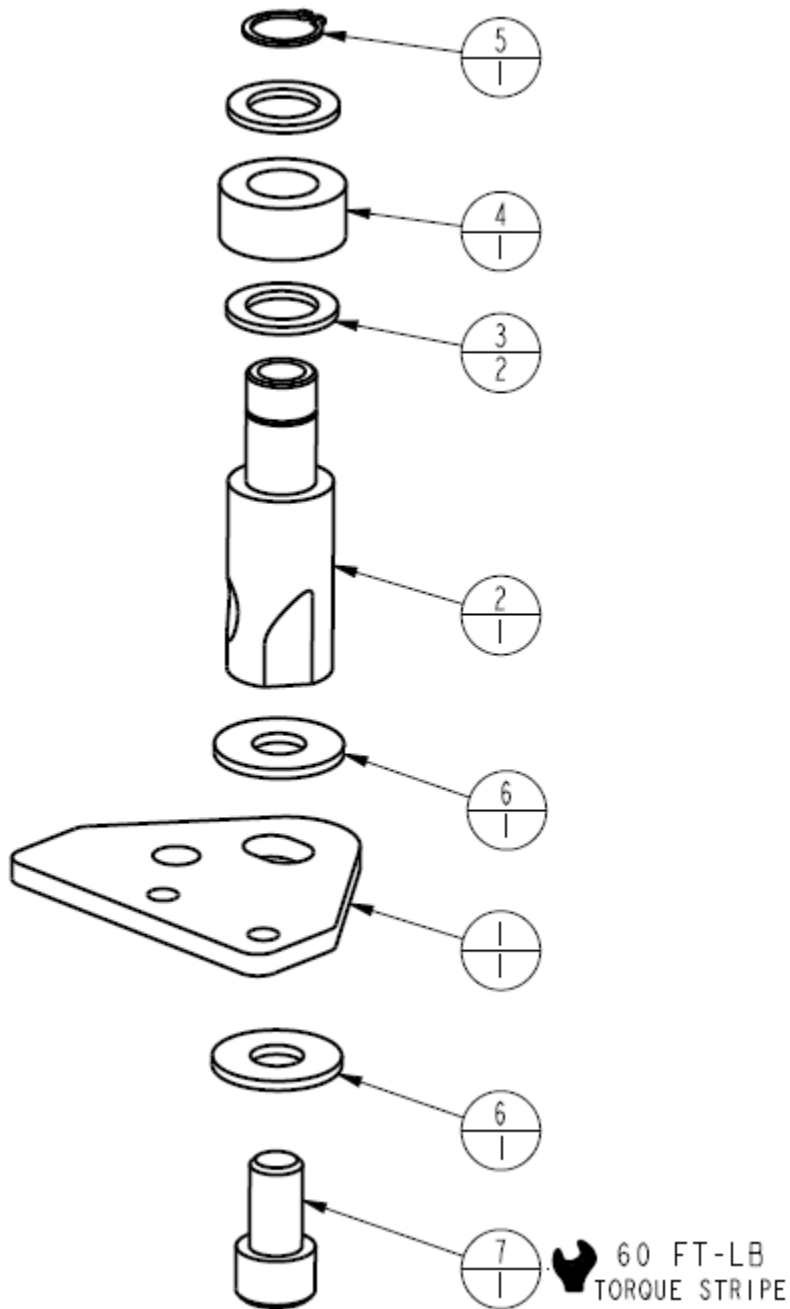P/N 51556015-00
(RIGHT HAND ROLLER)

Figure 2 – Roller Pin Orientation on New Roller Plate

Figure 3 – New Roller Bracket Assembly

K. VEHICLE COMPLETION LOG

Unit#	Vehicle Number	Labor Hrs.	Date Modified	Installer Signature