

<b>REFERENCE:</b>	Nova Bus Manuals
<b>SECTION:</b>	02: Front door
<b>RS N°:</b>	MQR 7621-2713
<b>EFFECTIVE IN PROD.:</b>	NA
<b>TC RECALL N°:</b>	2024-349
<b>NHTSA RECALL N°:</b>	24v449

**APPLICATION DEADLINES: N/A CLAIM  
REFERENCE NUMBER: SR5612**

<b>SUBJECT:</b>	Front doors operators
<b>JUSTIFICATION:</b>	The affected vehicles may have been manufactured with a door operator rotary plate that may disconnect from the door operator due to a welding failure. In the event of a rotary plate weld failure, the panels of the front door will no longer be linked to the door operator, which could lead to a door opening while the vehicle is in motion. A passenger door that opens unexpectedly may increase the risk of passenger injury or death.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Vapor will replace the 2 pneumatic operators of the front door.	Vapor	Vapor	5h
2	-	-	-	-

**MATERIAL REQUIRED PER VEHICLE**

QTY	PART N°	REV.	DESCRIPTION
<b>LEVEL 1</b>			
1	N8913063	-	Pneumatic operator (Vapor 509403503)
1	N8913067	-	Pneumatic operator (Vapor 509403502)
<b>LEVEL 2</b>			
-	-	-	-

**DISPOSAL OF PARTS**

<b>REMOVED PARTS ARE:</b>	<b>DISCARDED</b>	<b>RETAINED</b>	-
	-	-	

**REVISION HISTORY**

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2024AU12	Initial release	André Pelletier

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Ann Arbor Area Transportation Authority Michigan - AAATA	LD09	2001	2007			7

**NOTE**

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The following procedure is provided by Vapor. Nova Bus is not responsible for its content.  
Please contact Vapor who will supply the parts and perform the repair free of charge.

**ANNEX**



**FIELD MODIFICATION INSTRUCTIONS**

**FMI-24-016-E NOVA TEETER REPLACEMENT**  
 Classification: NC-4  
 No. of Buses: 7

Page: 1 of 6  
 Date: 7/11/2024 Rev A  
 MRN: 97023-080  
 Written By: E. Yacu

PROPERTY	CONTRACT NUMBER	QUANTITY
ANN ARBOR	LD09	7

**A. SUBJECT:**

- Replacing Pneumatic Operators, used on NOVA 2/3-1/3 Baseplates, due to single pin teeters failing. Baseplate originally used Teeter with Dual pin. In previous FMI replaced with single pins. Must be redone in this FMI.

**B. RELATED DOCUMENTS:**

- None

**C. MODIFIED ASSEMBLIES:**

Part No.	Dwg. #	Description	Total Quantity
51850381-03	51850381	BASE PLATE ASSY., 1/3-2/3 PNEU, SES	7

**D. PARTS REQUIRED:**

Part No.	Dwg. #	Description	Total Quantity
50940345-02	50940345	OPERATOR PNEUMATIC RH	7
50940345-03		OPERATOR PNEUMATIC LH	7

**E. DRAWINGS REQUIRED:**

Dwg. #	Revision	Description
50940345	Rev C	OPERATOR PNEUMATIC
51850381	Rev P	BASE PLATE ASSY., 1/3-2/3 PNEU, SES

**F. MATERIAL DISPOSITION:**

- Replaced Pneumatic Operators should be sent back to Vapor. At Vapor, Pneumatic Operators will be reworked with new Teeter Weldments.

**G. SPECIAL TOOLING:**

- Torque wrench set to 13 FT-LBS, 22 FT-LBS, 23 FT-LBS, & 84 IN-LBS
- Loctite thread sealant or equivalent
- Step Ladder
- Eye Protection
- Torque Stripe Marker

**H. DETAILED MODIFICATION:**

**Safety**

Observe all safety precautions in the facility where work is to be performed and wear all required proper PPE.

QSM2-400 F2 Rev. C



## FIELD MODIFICATION INSTRUCTIONS

- H.1. Turn OFF the bus engine & battery disconnect switch (if equipped). Exhaust all air from the system. Disconnect all harness connections.
- H.2. Locate LH & RH Pneumatic Operators, 50940345-02 & -03. Disconnect Connecting Rod connected to pin of Teeter Plate by removing nut and lock washers shown in Figure 1. Repeat for both operators. Save nuts and lock washers for reinstallation.

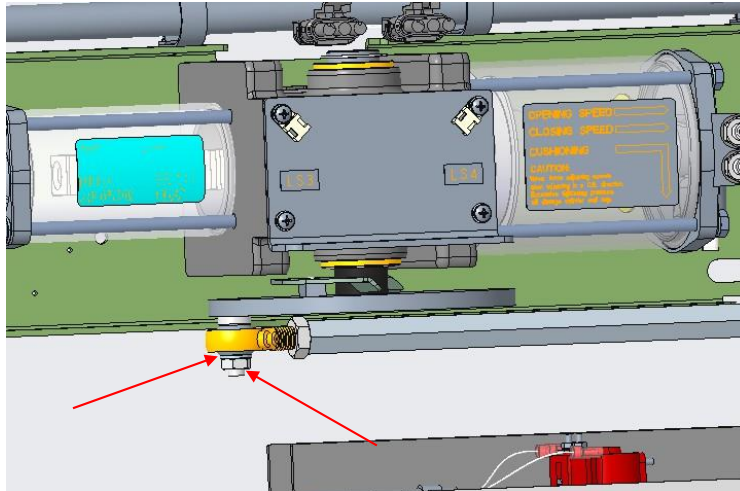


Figure 1: Drop Connecting Rod to remove Baseplate.

- H.3. Remove 8 mounting screws from slots shown in Figure 2 to remove backplate from the frame of the bus. (Harness & tubing not shown)

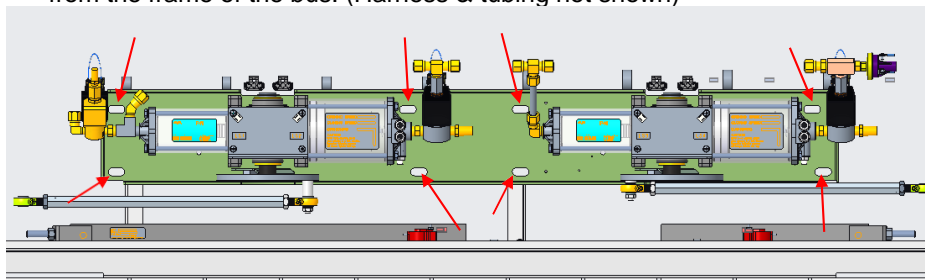


Figure 2: Remove Mounting Screws



## FIELD MODIFICATION INSTRUCTIONS

- H.4. Locate the 2 Hex Nuts that mount legs to the bottom plate at the backside of the baseplate. Carefully loosen Hex Nuts in 2 locations, shown in Figure 3. Backplate should fold forward for access to operator mounting screws. (If needed, entire backplate can be removed and remounted when complete)

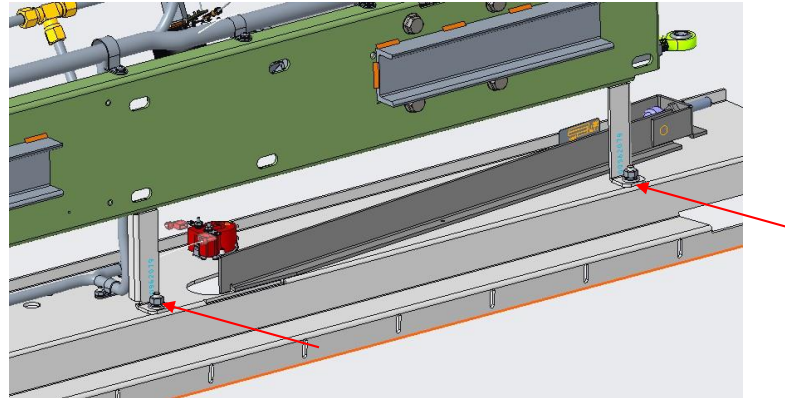


Figure 3: Loosen Nut to access backplate.

- H.5. LH and RH Pneumatic Operators will BOTH be replaced. Refer to Figure 4 below that indicates LH vs RH Operators orientation when looking at baseplate.

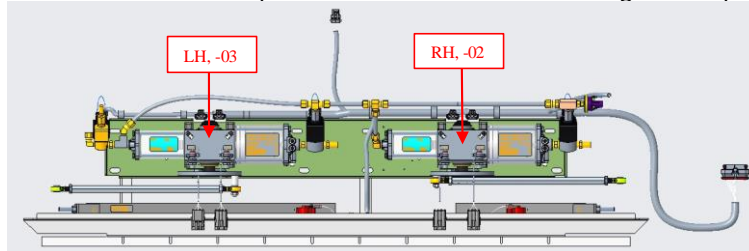


Figure 4: Front View Baseplate

- H.6. Locate RH Pneumatic Operator. Disconnect 3/8" brass elbow fitting and 3/8" brass connector, indicated in Figure 5, from both sides of the Operator.

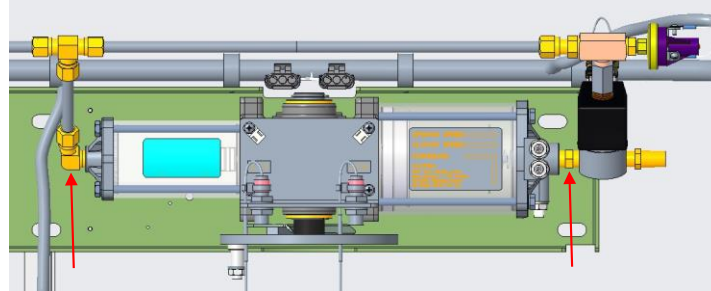


Figure 5: Remove Brass Fittings



## FIELD MODIFICATION INSTRUCTIONS

- H.7. Locate back side of baseplate and carefully remove 4 Hex Flange Bolts to remove operator from baseplate, shown in Figure 6. Save the 4 screws for reinstallation.

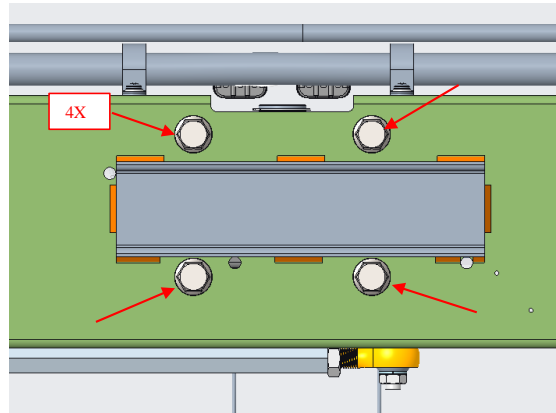


Figure 6: Operator Mounting Screws

- H.8. From the OLD operator, remove 4 screws, washers & harness clips that mount Bracket for Prox Sensors to Operator, as shown in Figures 7 & 8. Install the bracket with the sensor assemblies to the NEW operator and torque screws to 22 IN-LBS. Apply torque stripe.

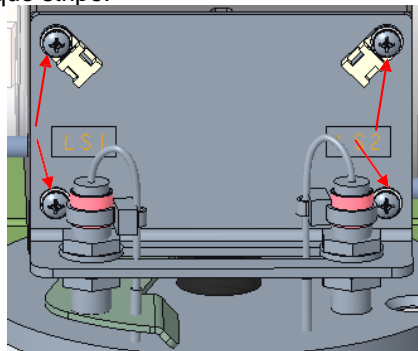


Figure 7: Screws to remove Bracket from Operator

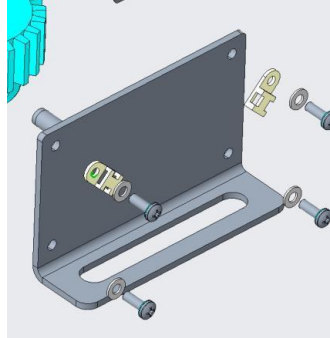


Figure 8: Screw, Washer, Harness Clip Configuration

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## FIELD MODIFICATION INSTRUCTIONS

- H.9. With new Operator installed with Sensor Bracket, mount back onto backplate using screws from Step H.7. Torque to 23 FT-LB, apply torque stripe. Refer to Figure 6.
  - H.10. Connect brass fittings from Step H.6 and apply Thread Sealant, refer to Figure 5.
  - H.11. Repeat steps H.6 – H.10 for the LH Pneumatic Operator.
  - H.12. With new operators installed, tighten Hex nuts on Baseplate mounting legs in 2 locations. Torque the Nuts to 84 IN-LBS, refer to H.4 & Figure 3. Screw in 8 Mounting screws back into the slots. Torque to 23 FT-LBS and apply torque stripe, refer to H.3 and Figure 2. Reinstall the nuts and lock washers to Connecting Rods. Torque to 13 FT-LBS and apply torque stripe, refer to H.2 and Figure 1.
  - H.13. Readjust Closing, Opening, and Cushioning Speed per the Customer/Property specification.
- I. TEST AND INSPECTION:**
- a. Restore power and air to door systems.
  - b. Check doors operation by cycling.
  - c. Fill out Log Sheet.

