

NABI: WMATA – Exhaust Support Bracket



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Property and TopBus Number:
WMATA 325000 & 325500 - Fleet Numbers: 8001 thru 8105.

Issue: Exhaust Support Bracket

Reason/ cause: Exhaust support bracket may have some cracks in weld.

Solution: Inspect each bus and correct conditions found as noted in this Work Instruction.

NABI: WMATA – Exhaust Support Bracket



Number of affected buses: 105

Estimate repair hours/bus: 6.00

Necessary parts:

Item	Description	PN	Qty
01	Clamp, Exhaust, V-Band Clamp	0111613	AR
02	Gasket SCR 2010	10C-1408-015	2
03	Undercoat, Tectyl, 3334, Gray	700-2603-003	AR
04	Plate .188" Thick	960-6075-089	AR
05	ER70-S6 Welding Wire	NPN	AR

Necessary Tools / Supplies:

Basic hand tools
Welding Blanket
Flash Shields
Fire Extinguisher
Water / Spray Bottle
Mig Welder
Inch lb Torque wrench

Work Instruction Number:
L3/FSV-321

Revision: Initial

Date: 05/9/2015

Form Number: L4/QUA-003

Form Revision: Initial

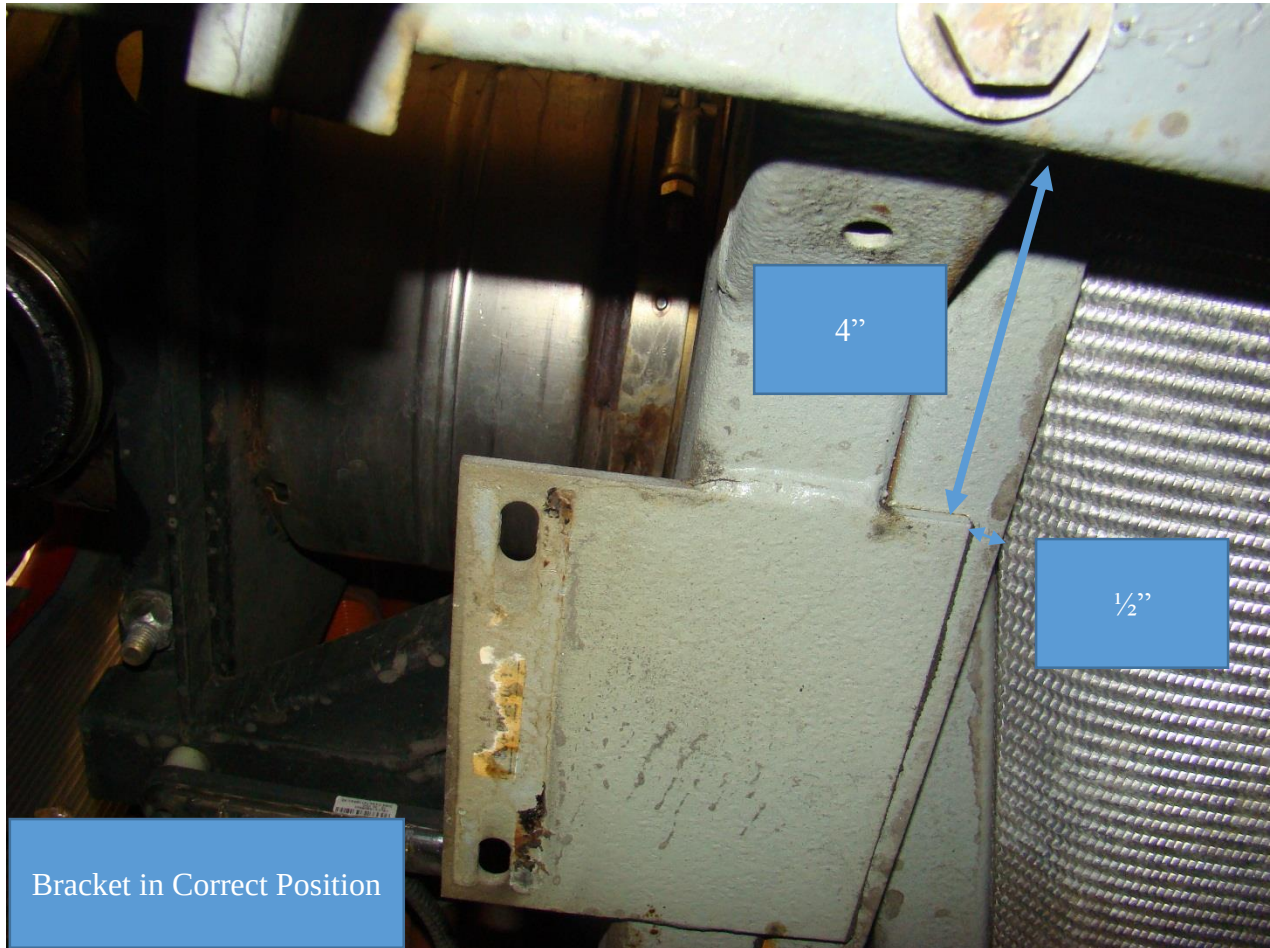
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SAFETY PRECAUTIONS MUST BE FOLLOWED ACCORDING TO ACCEPTED INDUSTRY STANDARDS AND LOCAL/PROPERTY REQUIREMENTS

1. Park the bus on level surface and apply parking brake. Turn engine off.
2. Turn off the main battery disconnect switch.
3. Open the rear engine door.
4. Position the rear run switch to “off” so the vehicle cannot be started while performing this retrofit.
5. Locate & inspect the exhaust support bracket. Check for cracked or broken welds & verify that it is on the correct location (see below & next page). **Note: Exhaust pipe removed for clarity.**



Check for
cracked or
broken welds.

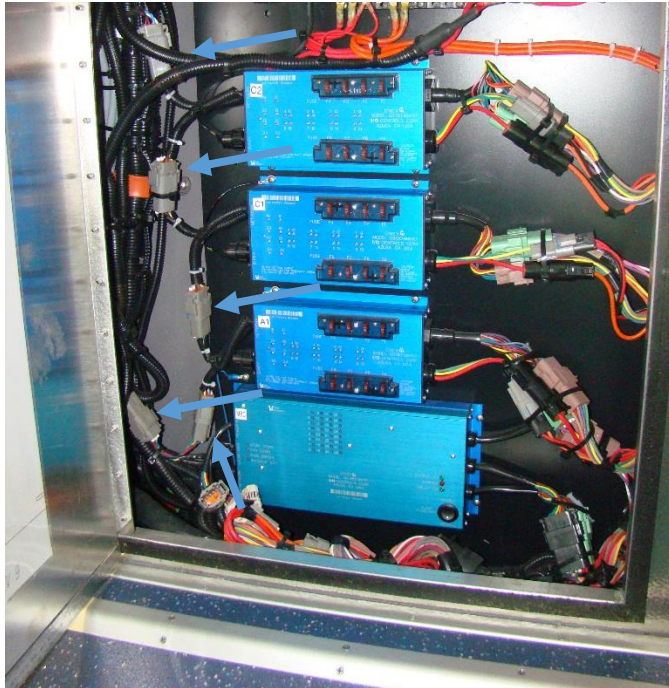




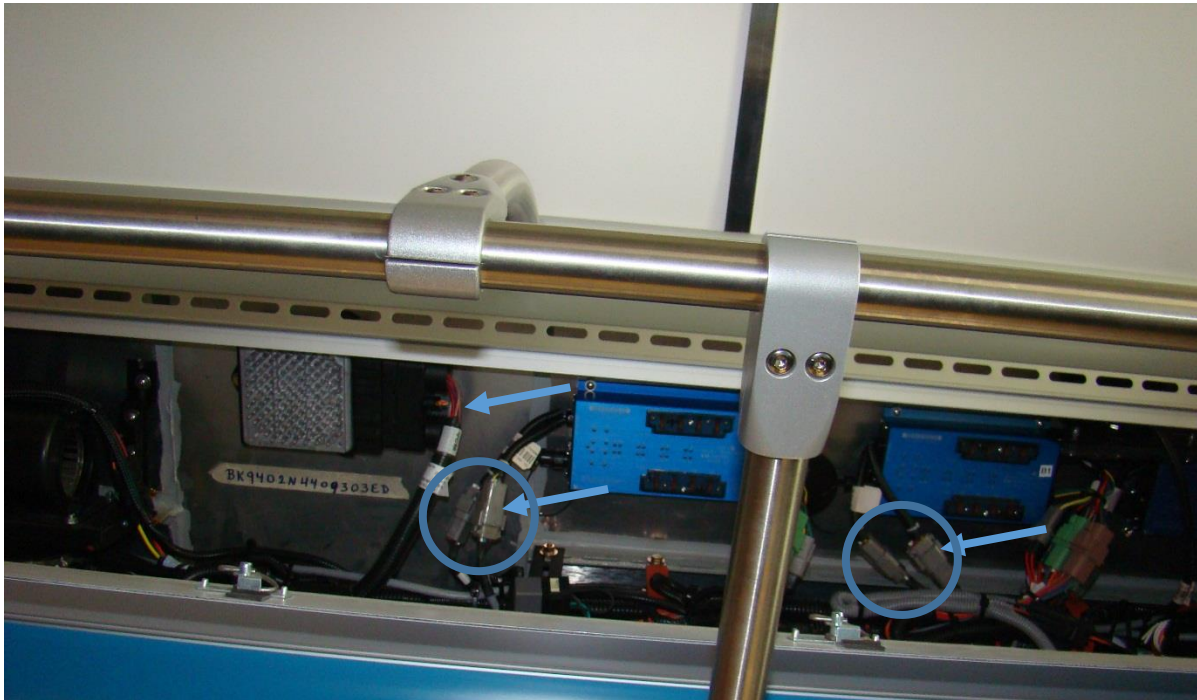
6. If the welds are not cracked, broken & the bracket is in the correct position then only one weld needs to be added (see figure 2, step 25).
7. Remove the ground from the batteries.
8. Disconnect the electrical connection from the engine ECM.
9. Disconnect the electrical connections from Clever device.
10. Disconnect the electrical connections from the destination signs.
11. Disconnect the electrical connections from the ABS module.
12. Disconnect the electrical connection for the fire suppression bottle located in the upper engine compartment (see below).



13. Disconnect the I/O control modules located in the main electrical compartment (see below).



14. Disconnect the I/O modules & transmission VCM located in the first street side light panel (see below).



15. Disconnect the I/O modules & the transmission TCM located in the rear electrical compartment (see below).



16. Disconnect the I/O module located in the light panel above the rear doors (see below).

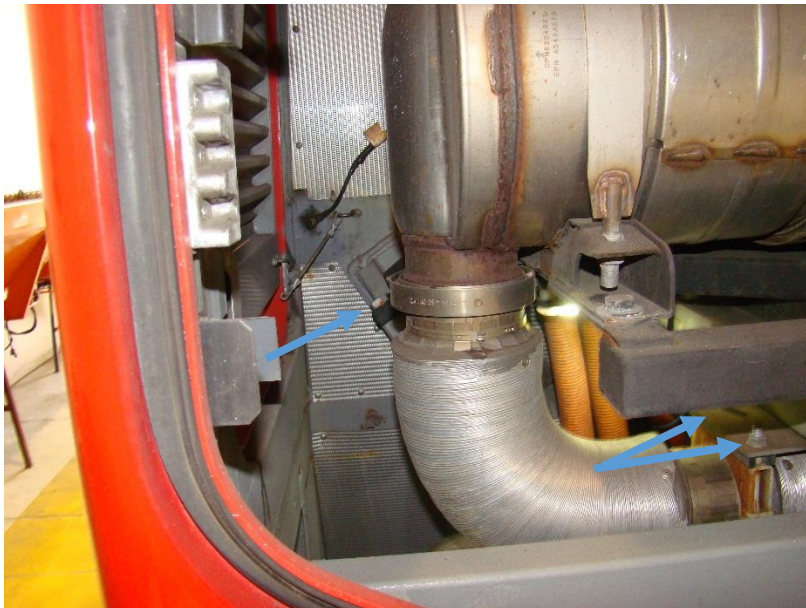
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17. Remove the clamp for the exhaust elbow & the u-clamp (see below). Save the clamp, u-clamps, spacer & associated hardware for reinstallation.



18. Remove the clamp from the opposite end of the exhaust elbow (see below), remove the exhaust elbow & set aside. Save clamp for reinstallation & discard exhaust gaskets.



19. Prepare to weld the exhaust support bracket using the guidelines below (see below).

- Remove coating material and primer from surfaces subject to be welded by using grinding tools and wire wheels. Primary condition of good quality weld is a perfectly clean metal surface.
- Remove dust and degrease cleaned areas with acetone.
- Weld only a completely clean surface! Grind surfaces with grinding disk suitable for carbon steel material.
- To prevent gas defects of the weld joints welding should be performed only in closed production area protected from currents of air. Ensure adequate ventilation.
- Weld joints should be 100% visually inspected.
- Protect repaired area from damage during welding.

20. Grind broken welds until surface is smooth. If bracket needs to be relocated per step 5, grind the existing welds to remove existing bracket taking care not to damage the structural tubing. If bracket is damaged & cannot be reinstalled, install a new provided bracket using the measurements in step 5.

21. Clean area with acetone before welding.
22. Place welding blanket on engine to protect while welding.
23. Place flash shields around the back of the unit to protect others from the welding flash while welding.
24. Ensure a second technician is available while welding equipped with a fire extinguisher and spray bottle in case of fire while welding.
25. Weld the exhaust support bracket according to the drawing below (see below) ensuring it is positioned as indicated in step 5.

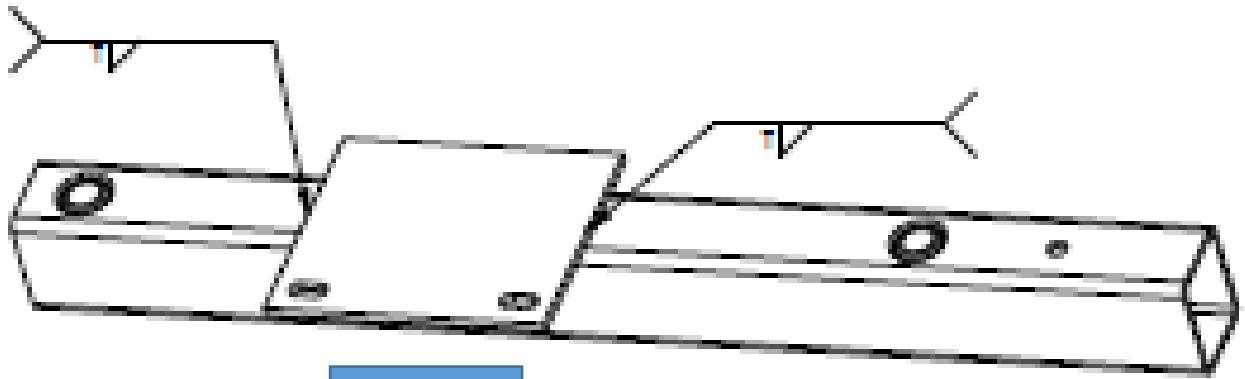


Figure 1

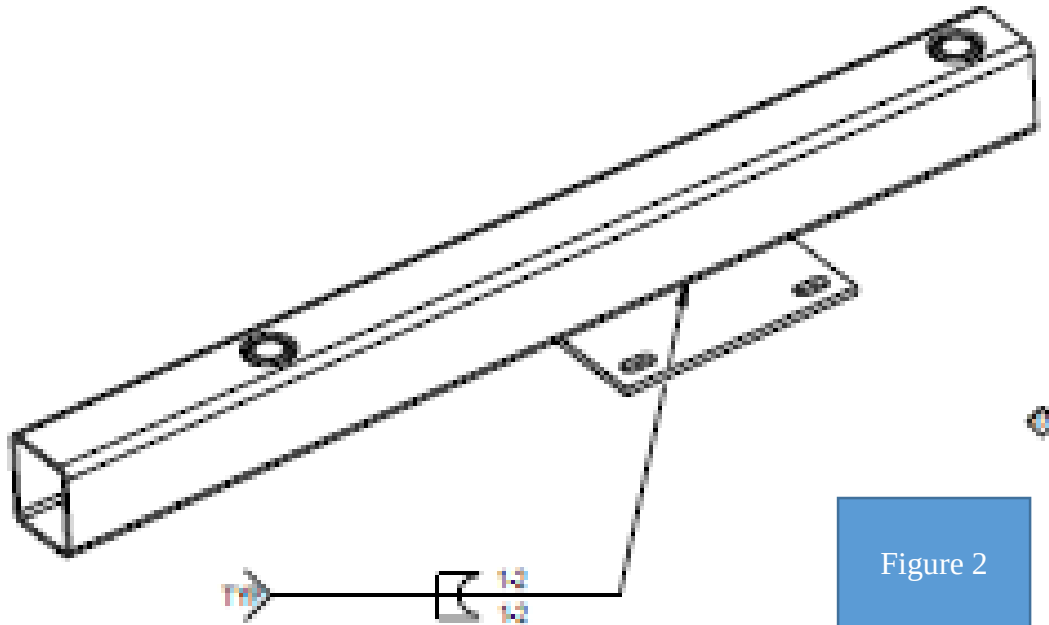


Figure 2

26. Undercoat the area welded in step 25.
27. Reinstall the exhaust elbow removed in step 17 & 18 using new gaskets & using the existing clamps if they are not damaged. Torque clamps to 100 inch lbs.
28. Reinstall the u-clamp & spacer removed in step 17 using the existing hardware & tighten hardware securely.
29. Reconnect the engine ECM.
30. Reconnect the ABS module.
31. Reconnect all I/O modules.
32. Reconnect the transmission VCM & TCM.
33. Reconnect Clever device.
34. Reconnect the fire suppression bottle.
35. Reconnect the destination signs.
36. Reconnect the batteries.
37. Turn the main battery switch to on.

38. Start the vehicle.
39. Verify that all systems that were disconnected are operational & that no fault indicator lights are present on the dash.
40. Close all light panels & radio box door.
41. Close the rear engine doors.
42. Record bus number, mileage and date of completion; return form to Field Service Manager