



Spartan Fire, LLC

Technical Service Bulletin
TSB21-170-002

DATE: 7/12/2021

APPLIES TO: This service bulletin applies to Model Year 2017 through 2022 Gladiator and Metro Star emergency response chassis cabs built between March 30, 2016 and February 25, 2021.

CONDITION: DEF head sensor failure can occur resulting in engine fault codes.

CORRECTION: Replace DEF Head with Revision 7 DEF Head.

LABOR ALLOCATION: 2 hrs.

CLASSIFICATION: T3

PARTS NEEDED:

6 GALLON TANK:

<u>QTY</u>	<u>Part Number</u>	<u>Description</u>
1	908-2144-01	DEF Multifunction Head Unit, Gen 7

10 GALLON TANK:

<u>QTY</u>	<u>Part Number</u>	<u>Description</u>
1	DM701-1106F765	DEF Multifunction Head Unit, Gen 7

GENERAL INSTRUCTIONS:

Thoroughly review entire service bulletin before starting work. If there are questions or concerns with steps defined in this service bulletin, contact Spartan Fire, LLC. Customer & Product Support Group.

All applicable industry safety standards must be followed when performing work identified in this procedure.

Service Bulletins are intended for use by Professional Technicians only. They are written to guide Professional Technicians in performing service to vehicles of specific nature in conjunction with industry standards. Professional Technicians should be appropriately trained on industry standards and have the tools and equipment to perform procedures safely and properly.

STEP-BY-STEP INSTRUCTIONS: Removal

1. Remove driver side battery box cover to access DEF tank.
2. Move harnesses as needed to access the top of the Multifunction Head Unit (MFHU) on top of the DEF tank. Remove two bolts at top of electrical bracket and loosen lower 2 bolts. This will allow the bracket to be rotated outward to allow room to remove and replace the (MFHU).
Refer to Figure 2.1 and 2.2

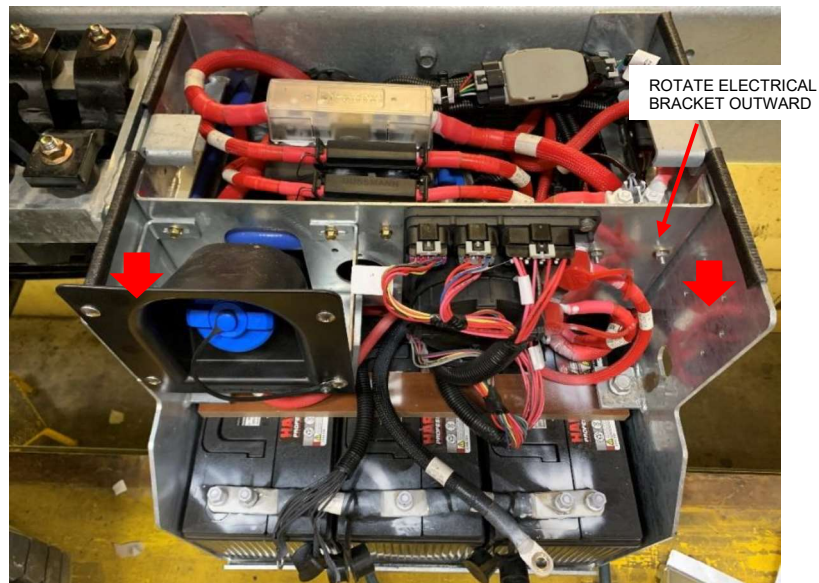


Figure 2.1

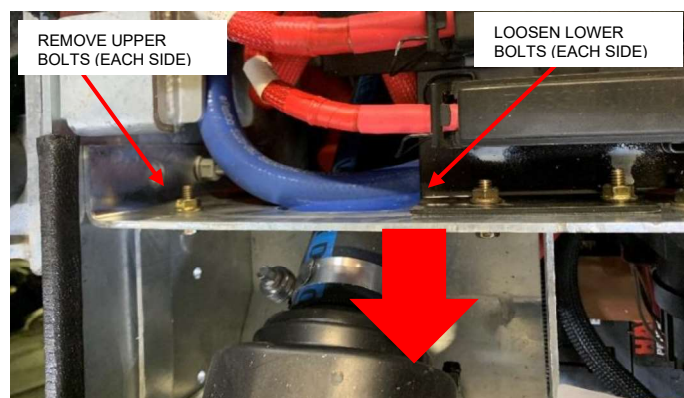


Figure 1.2

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3. Cover battery area with an absorbent mat to prevent any DEF fluid that might spill from removal of the DEF head from contacting components in the area.
4. Disconnect coolant hoses, DEF hoses and electrical connector from MFHU on top of surge tank. *Reference Figure 3.1*

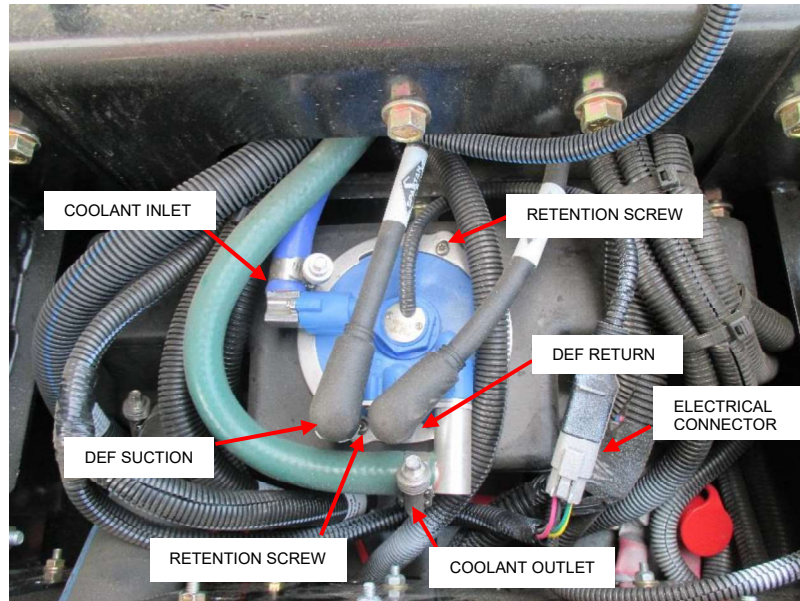


Figure 2.1

5. Use a T25 Torx driver, remove (2) screws around perimeter of the MFHU. Using a flathead screwdriver, gently pry around the head unit while simultaneously pull up on top of the unit. Continue until the MFHU mounting base is free from the tank and remove MFHU. Do not pull on any wires or fittings. *Reference Figure 3.2*



Figure 3.2

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STEP-BY-STEP INSTRUCTIONS: Installation

6. Apply a thin layer of DOW UCON LB-625 or equivalent O-ring lubricant to the bore seal O-ring on replacement MFHU. *Reference Figure 4.1*

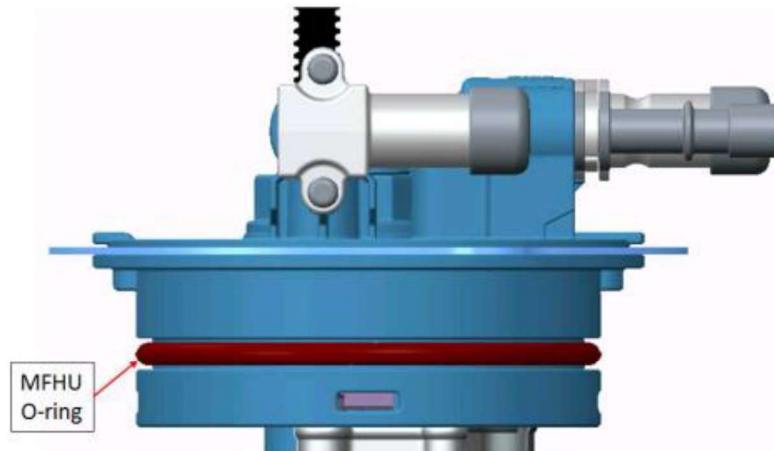


Figure 4.1

7. Tilt the header to an approximate 45° angle, with respect to the top of the tank. With the heel of the MFHU Sensor foot angled upward, place the toe of the coolant heater coil into the tank bore. Gradually work the bottom portion of the DEF head into the bore opening until completely inserted in the tank. *Reference Figure 5.1*

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Figure 5.1

8. Position the DEF head unit in the desired orientation (lugs on the MFHU should align with the cut out/recess on the tank bore) and orient the Coolant and DEF Fittings. *Reference Figure 5.2 and 6.1.* Press on the top of the MFHU mounting base until it is completely seated in the tank bore.

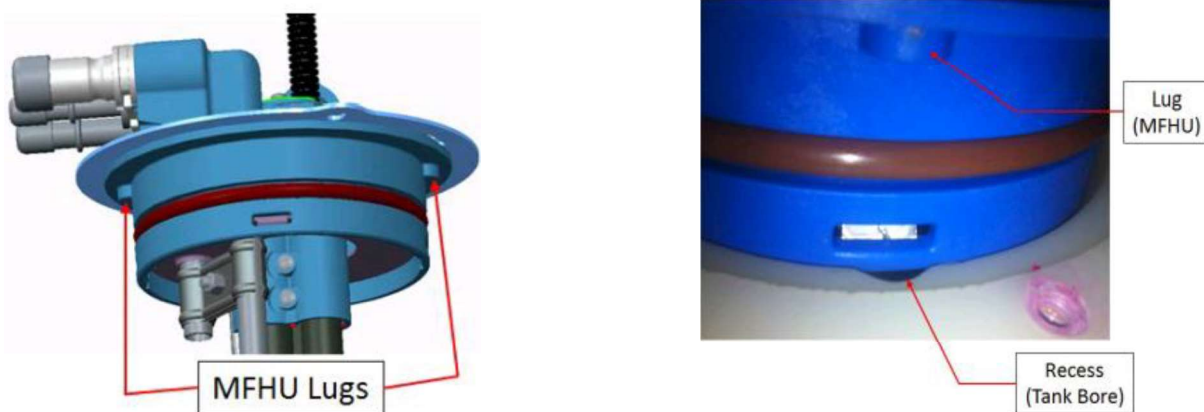


Figure 5.2

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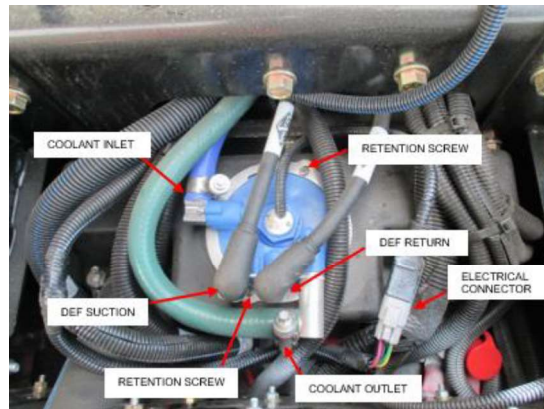


Figure 6.1

9. Position the retaining ring on MFHU to align with the tank mounting holes and install the retention screws using the T25 Torx driver. Tighten screws to 20-30 in-lbs (2.26–3.38 Nm).
10. Reinstall coolant hoses, DEF hoses, and electrical connector as shown in Figure 6.1. Tighten coolant hose clamps to 50-60 in-lbs (5.65 to 6.78 Nm).
11. Start engine and verify no leaks are present.

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