

# SPARTAN MOTORS CHASSIS, INC.



CSB09-170-005

February, 2010

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## CAMPAIGN SERVICE BULLETIN

- SUBJECT:** Engine – FEAD Bracket/Fan Clutch
- APPLIES TO:** Certain Spartan Motors Chassis, Inc. Firetuck Cab/Chassis. Equipped with a CAT® C-9 engine and having a VDM (Vehicle Date of Manufacture) August 18, 2008 through June 11, 2009.
- CONDITION:** FEAD Bracket or Fan Clutch failure
- CORRECTION:** Replace FEAD Bracket and Fan Clutch

**PLEASE READ THE ENTIRE BULLETIN BEFORE PROCEEDING WITH ANY WORK. CONTACT SPARTAN CHASSIS IF THERE ARE ANY CONCERNS WITH THE PROCEDURES CONTAINED IN THIS DOCUMENT.**

### **PART / SERVICE INFORMATION:**

**Labor Time:** 4.0 Hrs.

<b><u>QTY.</u></b>	<b><u>Part Number</u></b>	<b><u>Description</u></b>
1	S-2207-001	Kit – FEAD Bracket/Fan Drive CAT C-9

**Kit # S-2207-001 Contains:**

<b><u>QTY.</u></b>	<b><u>Part Number</u></b>	<b><u>Description</u></b>
1	2329-FF1-001	Fan Drive-Horton Fan Clutch
1	313-7552	FEAD Bracket
1	6V-2317	BOLT-M8X1.25X30mm HEX GR10.9
1	9M-1974	WASHER-HARD 8.8X16X2mm Thk.
4	8T-4185	BOLT-M10X1.5X50mm HEX GR10.9
4	8T-4121	WASHER-HARD 11X21X2.5mm Thk.
4	M10150040H7B	BOLT-M10-1.50X40mm LG. HEX GR7 BLK
2	M10150035SCS12B	BOLT-M10-1.50X35mm SOCKET CAP GR12.9
6	0616HSNB	NUT-3/8-16 HEX HARDEN STD. BLK
10	06FWSAEB	WASHER-3/8 FLAT SAE BLK
1	CSB09-170-005	Document Instructions

### **STEP-BY-STEP INSTRUCTIONS:**

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

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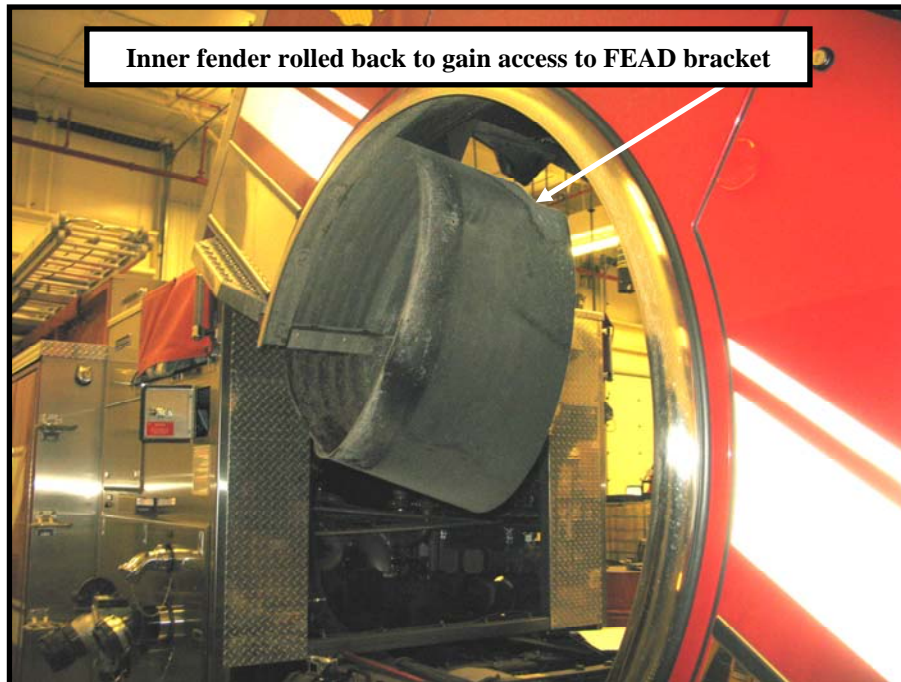
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1. Observe all industry safety standards, disconnect any necessary power source, and secure vehicle for replacing FEAD bracket and Fan Clutch.



**INNER FENDER SHOWN**

**FIG. 2-1**

2. Remove new FEAD bracket from kit. If bracket is not painted you should paint entire bracket to protect from corrosion.
3. Tilt cab up following instructions on placard.
4. Disconnect power source from battery.
5. Refer to FIG. 2-1. Remove inner fender liner from passenger side only. Retain hardware for reuse.
6. Remove fan blade, retain fan for reuse. Properly discard washers and nuts.
7. Refer to FIG. 3-1. Slide fan blade forward into shroud out of way.
8. Relieve tension and remove serpentine belt. Inspect belt and replace if needed, otherwise retain belt for reuse. Belt part number is 10PK2680.

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9. Disconnect battery cables from alternator.
10. Remove alternator, retaining alternator and all mounting hardware for reuse.



**FAN SHOWN IN SHROUD**

**FIG. 3-1**

**NOTE: DO NOT evacuate A/C system.**

11. Remove A/C compressor from mounting bracket. Do not disconnect A/C hoses. Retain A/C compressor and all mounting hardware for reuse.
12. Remove 2 loop clamps at top of bracket securing cables. Retain loop clamps and hardware for reuse.
13. Remove fan clutch consisting of four bolts and a spacer. Properly discard hardware, fan clutch, and spacer.

**NOTE: The location of these bolts for reference.**

14. Remove FEAD bracket consisting of five bolts four located in front and one located on side of bracket. Properly discard hardware and bracket.
15. Refer to FIG. 4-1. Inspect idler pulleys and belt tensioner for any damage.

**NOTE: Apply Loctite® 242® Threadlocker on the first five threads from the end of bolt before installation.**

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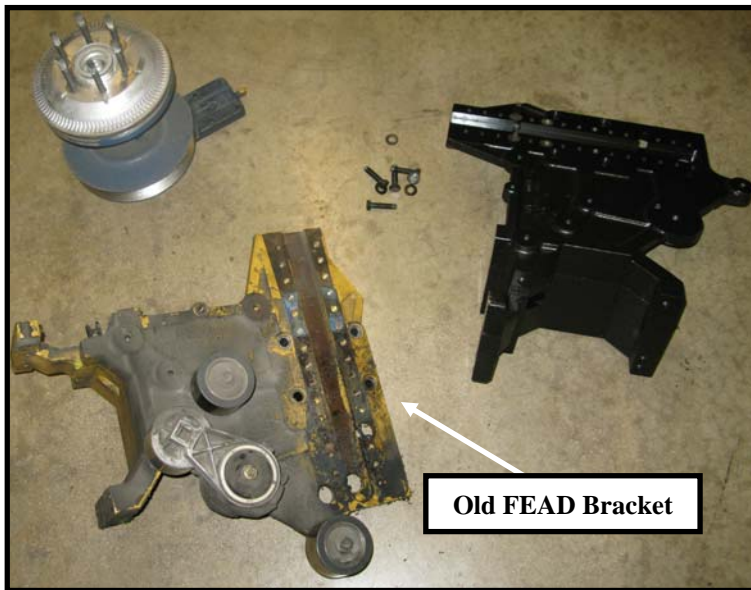
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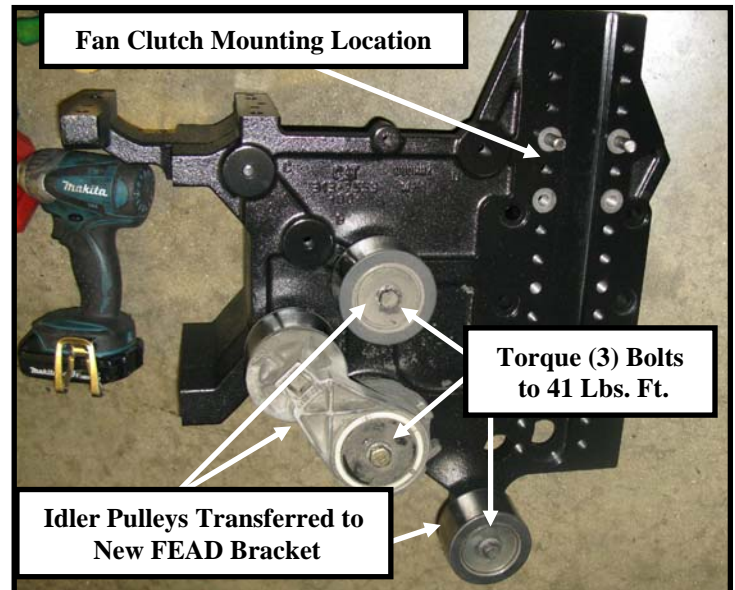
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16. Refer to FIG. 4-1, 4-2. Transfer the idler pulleys, belt tensioner, and hardware onto new bracket. Ensure the rubber O-ring is on the bolts for the pulleys before reinstalling to new bracket. Torque three bolts to 41 lbs. ft. Properly discard FEAD bracket.



**OLD FEAD BRACKET**  
**FIG. 4-1**



**NEW FEAD BRACKET**  
**FIG. 4-2**

17. Refer to FIG. 6-1. Install new FEAD bracket using new hardware. The small bolt & washer on side behind alternator mount torque to 24 lbs. ft. the other four bolts & washers torque to 41 lbs. ft.
18. Refer to FIG. 5-1. Install new fan clutch using two socket cap bolts and four bolts/washers from kit. Torque to 41 lbs. ft.
19. Re-install A/C compressor and bracket using retain hardware. Torque to 21 lbs. ft.
20. Re-install alternator with retained hardware. Torque to 41 lbs. ft.
21. Re-connect power and ground cables to alternator.
22. Re-install 2 loop clamps around battery cables using retained hardware. Secure as needed.
23. Refer to FIG. 5-2. Re-install serpentine belt. Align in grooves of all pulleys.

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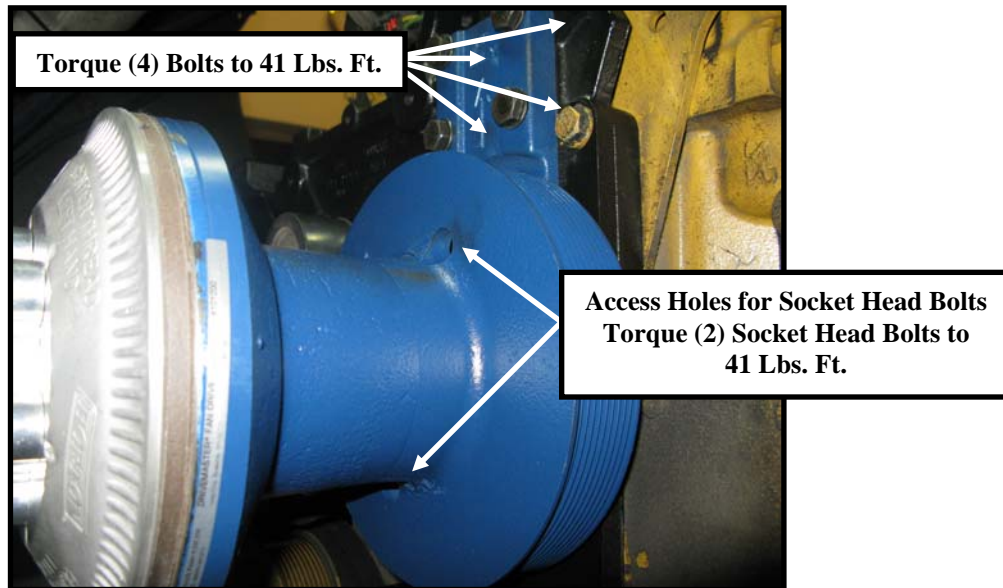
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**NOTE: Apply Loctite® 242® Threadlocker on the first five threads from the end of bolt before installation.**

24. Refer to FIG. 6-1. Re-install fan blade using (6) nuts and washers. Torque nuts to 35 lbs. ft.

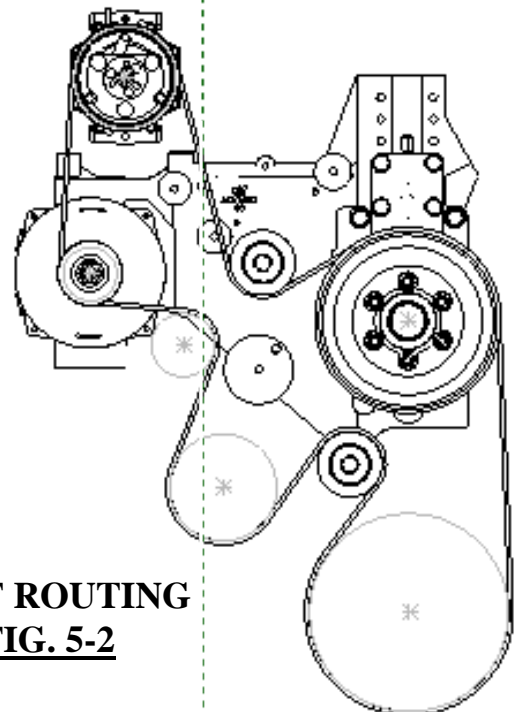


**FAN CLUTCH**  
**FIG. 5-1**

25. Refer to FIG. 2-1. Re-install inner fender liner to passenger side using retained hardware. Secure as needed.

26. Reconnect power source to battery.

27. Tilt cab down following instructions on placard.



**BELT ROUTING**  
**FIG. 5-2**

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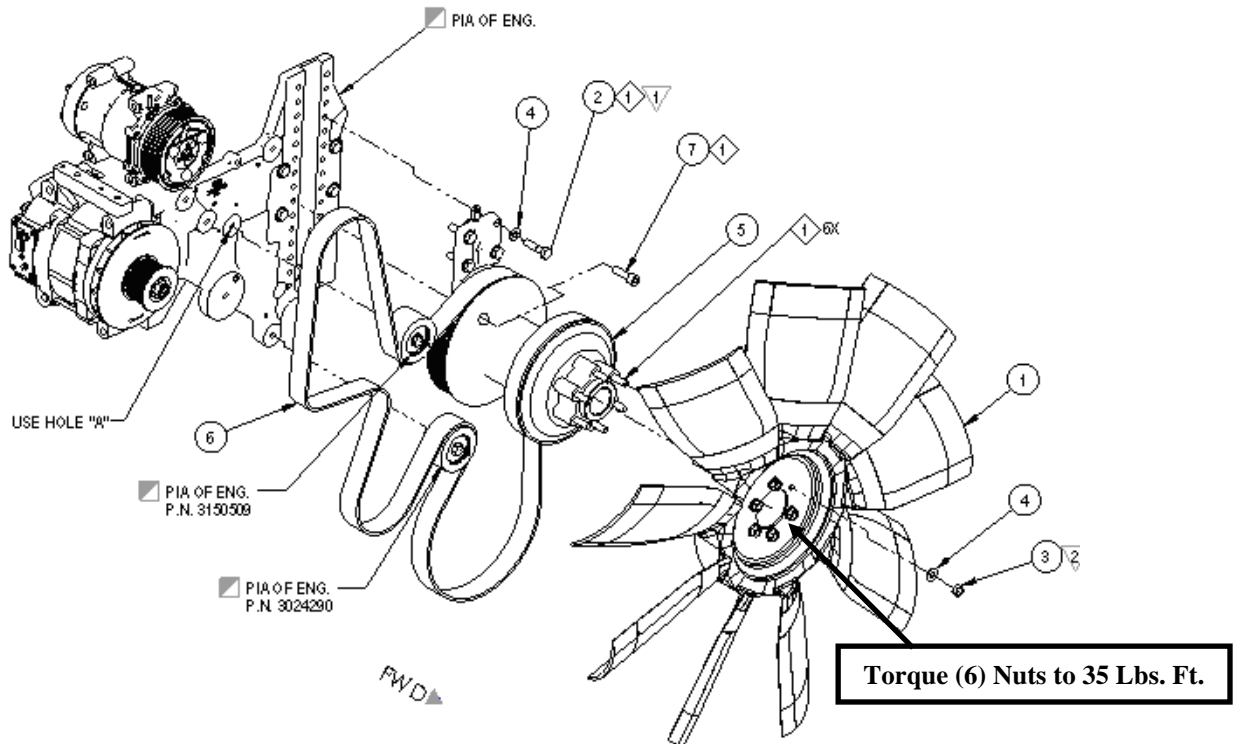


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**FAN CLUTCH & FAN MOUNTING**  
**FIG. 6-1**

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