



Technical Service Bulletin

BULLETIN INFORMATION													
DATE ISSUED	MODEL YEAR(S) AFFECTED	MODEL(S) AFFECTED	TSB #										
1/27/06	2005 – Present	LADB, EXDP	258										
SYSTEMS AFFECTED													
<table><tbody><tr><td><input type="checkbox"/> Air Conditioning & Heating</td><td><input type="checkbox"/> Electrical Components</td></tr><tr><td><input type="checkbox"/> Appliances & Accessories</td><td><input type="checkbox"/> Exterior Components</td></tr><tr><td><input type="checkbox"/> Cabinets & Furniture</td><td><input type="checkbox"/> Interior Components</td></tr><tr><td><input checked="" type="checkbox"/> Chassis Components</td><td><input type="checkbox"/> Plumbing & Bath Components</td></tr><tr><td><input type="checkbox"/> Construction Components</td><td><input type="checkbox"/> Windows, Awnings, Vents, & Doors</td></tr></tbody></table>				<input type="checkbox"/> Air Conditioning & Heating	<input type="checkbox"/> Electrical Components	<input type="checkbox"/> Appliances & Accessories	<input type="checkbox"/> Exterior Components	<input type="checkbox"/> Cabinets & Furniture	<input type="checkbox"/> Interior Components	<input checked="" type="checkbox"/> Chassis Components	<input type="checkbox"/> Plumbing & Bath Components	<input type="checkbox"/> Construction Components	<input type="checkbox"/> Windows, Awnings, Vents, & Doors
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PROBLEM DESCRIPTION Misaligned pulleys on the engine can cause drive belts to come off.													
RECOMMENDED SOLUTION Follow attached directions from Spartan for pulley alignment repairs. Spartan TSB 06-170-001A contains detailed illustrations and information to repair this condition. If you have additional questions, contact Spartan Dealer Technical Support at 1-800-393-8861 (Dealers ONLY please).													



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SUBJECT: Engine Cooling- Mechanical Fan Drive V-Belt Alignment

Bulletin #TSB05-170-001 is superseded by bulletin #TSB05-170-001A due to the addition of enhanced illustration and assembly procedures. Any vehicle repaired under bulletin #TSB05-170-001 will not require any additional work.

APPLIES TO: Spartan K2 and K3 Chassis Models Equipped with a Mechanically Driven Engine Cooling Fan, Manufactured through September 22, 2005.

CONDITION: Misaligned pulleys may cause drive belts to come off.

**PLEASE READ THE ENTIRE BULLETIN BEFORE
PROCEEDING WITH ANY WORK.**

PART / SERVICE INFORMATION:

Labor Time: 4.5 Hrs.

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	S-1735-001 A*	Kit- V-Belt Rework, K2
1	S-1735-002 A*	Kit- V-Belt Rework, K2
1	S-1735-003 A*	Kit- V-Belt Rework, K3

* **KIT NUMBER** **APPLIES TO CHASSIS MANUFACTURED WITH
RADIATOR SUPPORT ARM PART NUMBER:**

S-1735-001A	1697-FF1-001, 0688-FF3-001
S-1735-002A	1730-FF1-001, 1791-FF1-001
S-1735-003A	1804-FF1-001

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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Kit #S-1735-001A Contains:

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	1851-FF1-001	Brkt- Rosta Susp-Rear
1	1852-FF1-001	Supt- Radiator Arm K2
1	10180300FH8Y	Bolt 5/8-18 x 3.00 Flg Hd
1	1018N8Y	Nut 5/8-18 Hex Hd (yellow)
1	TSB06-170-001A	Document Instructions

Kit #S-1735-002A Contains:

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	1851-FF1-001	Brkt- Rosta Susp-Rear
1	1871-FF1-001	Supt- Radiator Arm K2
1	10180300FH8Y	Bolt 5/8-18 x 3.00 Flg Hd
1	1018N8Y	Nut 5/8-18 Hex Hd (yellow)
1	TSB06-170-001A	Document Instructions

Kit #S-1735-003A Contains:

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	1851-FF1-001	Brkt- Rosta Susp-Rear
1	1863-FF1-001	Supt- Radiator Arm K3
1	10180300FH8Y	Bolt 5/8-18 x 3.00 Flg Hd
1	1018N8Y	Nut 5/8-18 Hex Hd (yellow)
1	TSB06-170-001A	Document Instructions

STEP-BY-STEP INSTRUCTIONS:

1. Observe all industry safety standards and secure vehicle to allow for replacement of the lower radiator arm and rear support bracket.
2. Refer to FIG. 3-1. Loosen V-belt tensioning bolt to relax tension on belts.
3. Remove belts and retain for reinstallation. Belts may be replaced if it is time for service maintenance.
4. Disconnect fan clutch wire.

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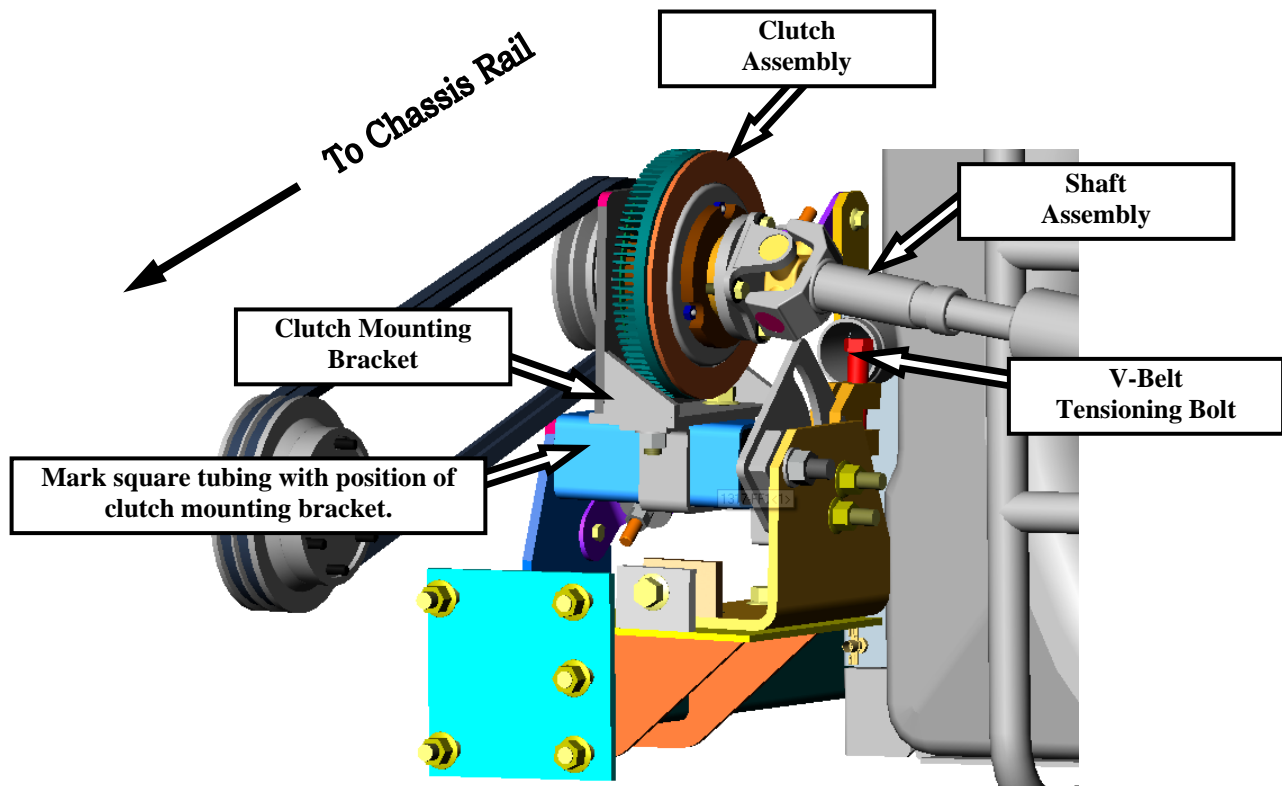
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5. Refer to FIG. 3-1. Disconnect the shaft assembly from the clutch assembly by removing the (4) 7/16-20 bolts. Retain fastener hardware for reinstallation.

Note: Secure shaft assembly to prevent separation and disengagement from the fan motor.

6. Refer to FIG. 3-1. Locate the square tube supporting the clutch mounting bracket. Mark the existing position of the clutch mounting bracket on the square tube using a permanent marking tool.

Note: It is essential to mark the position of the clutch mounting bracket for reinstallation purposes.



V-BELT / MECHANICAL FAN DRIVE SYSTEM INTERFACE

FIG. 3-1

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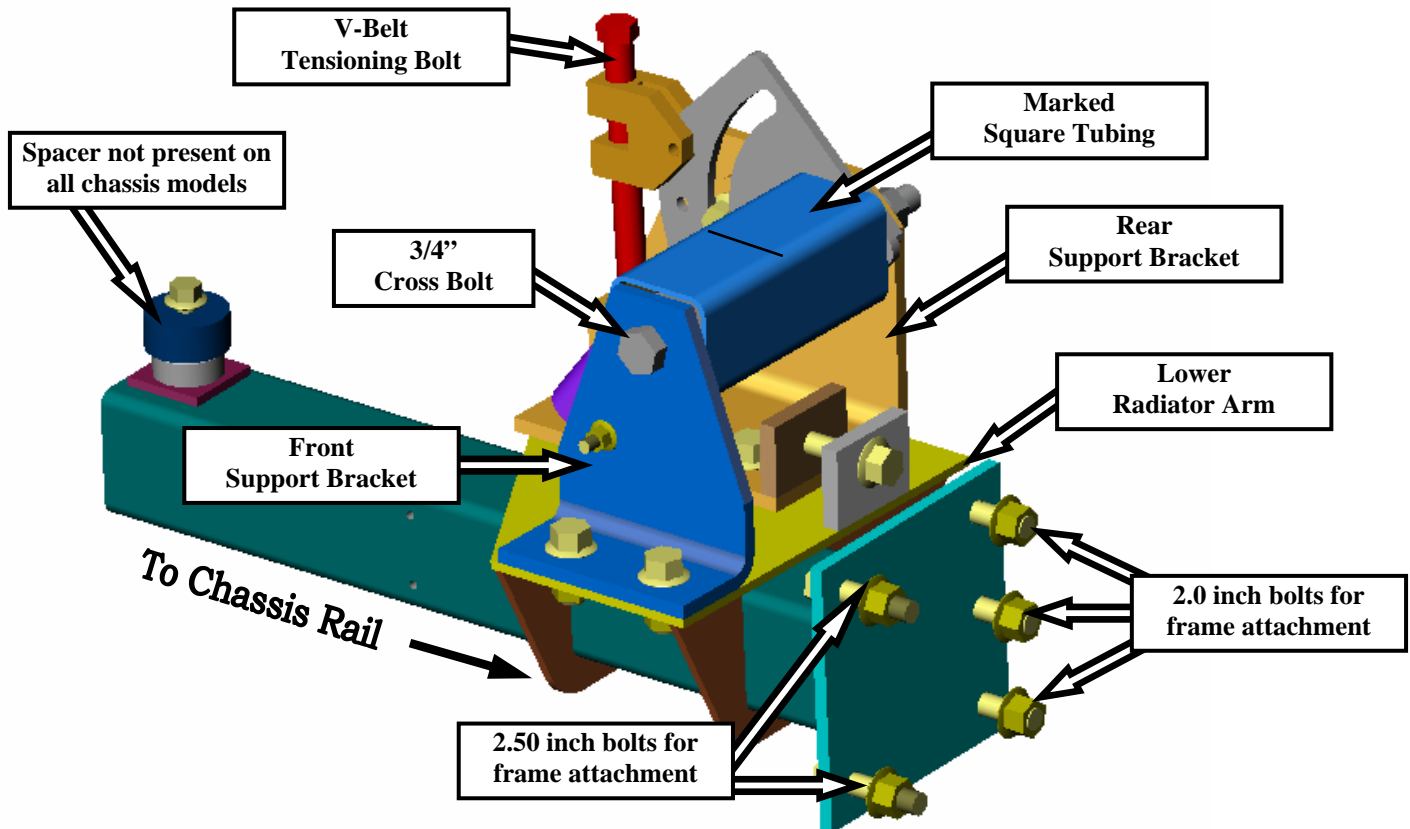
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7. Remove the (2) 5/8-11 bolts, washers, and nuts attaching the clutch mounting bracket and remove the clutch mounting bracket/clutch assembly.
8. Disassemble components from the front and rear support brackets. Retain all hardware for reinstallation. Properly dispose of the rear support bracket.
9. Disassemble front support bracket from radiator arm. Retain bracket and fastener hardware for reinstallation.



PARTIAL ASSEMBLY- RADIATOR ARM / V-BELT SYSTEM

FIG. 4-1

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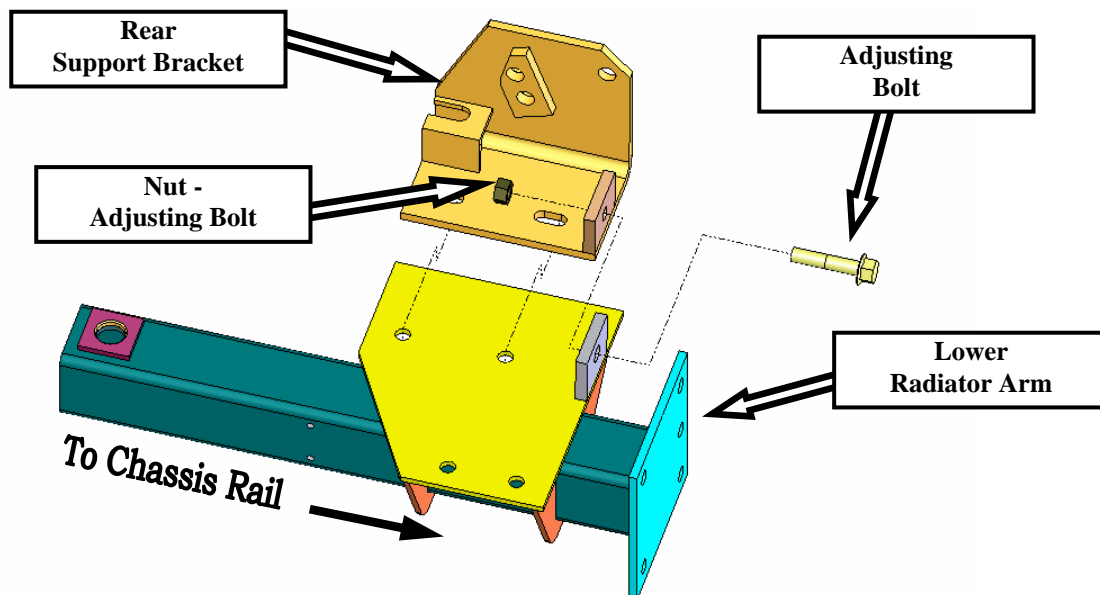
10. Disassemble the radiator attachments.

**THE RADIATOR MUST BE SUPPORTED BEFORE
DISASSEMBLING THE LOWER RADIATOR ARM FROM THE FRAME**

Note: Take notice of radiator mounting for reinstallation. Retain fastener hardware for reinstallation.

10a) Remove the 1/2" bolt from the radiator and the radiator mounting washers.

10b) Remove the bolts attaching the radiator arm to the frame. Properly dispose of the radiator arm.



REPLACEMENT COMPONENTS ONLY

FIG. 5-1

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11. Refer to FIG. 4-1. Install new radiator arm from kit by securing it to the frame with the (3) 5/8-11 x 2.00" bolts and the (2) 5/8-11 x 2.50" bolts. Torque to 180 lb. ft.
12. Refer to FIG. 6-1. Reassemble radiator mounting hardware. Torque to 85 lb. ft.
13. Refer to FIG. 5-1 and 8-1. Install new rear support bracket with (2) 5/8 -11 x 1.50" bolts locating the bolts in the bracket slots toward the chassis rail. **Do not torque at this time.**
14. Refer to FIG. 4-1. Install front support bracket and secure with (2) 5/8-11 x 1.50" bolts and nuts. Torque to 180 lb. ft.
15. Refer to FIG. 3-1 and 4-1. Reassemble components to the front and rear support brackets. **Do not torque at this time.**

15a) The tensioning bolt is positioned in the open slot on the rear bracket.

15b) Reassemble square tube with the 3/4" cross bolt, lock washer, and nut.

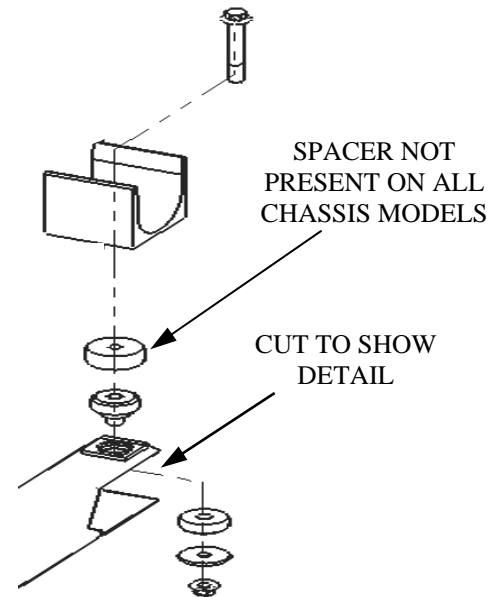
15c) Reassemble (2) 5/8-11 x 2.50" bolts through the adjuster bracket and rear support bracket.

16. Refer to FIG. 7-1. Reinstall clutch assembly/belts.

16a) Position clutch mounting bracket on square tube according to the mark applied in step 6. Secure in place with (2) 5/8-11 x 1.50" bolts, lock washers, and nuts. **Do not tighten at this time.**

16b) Refer to FIG. 7-1. Locate clutch pulley for initial tensioning procedure. Align outer corner of clutch pulley (A) with face of engine crankshaft pulley while leaving inside corner of clutch pulley (B) slightly inboard of (A).

Check alignment with a straight edge from the crank pulley face to the clutch pulley face.



RADIATOR MOUNTING
FIG. 6-1



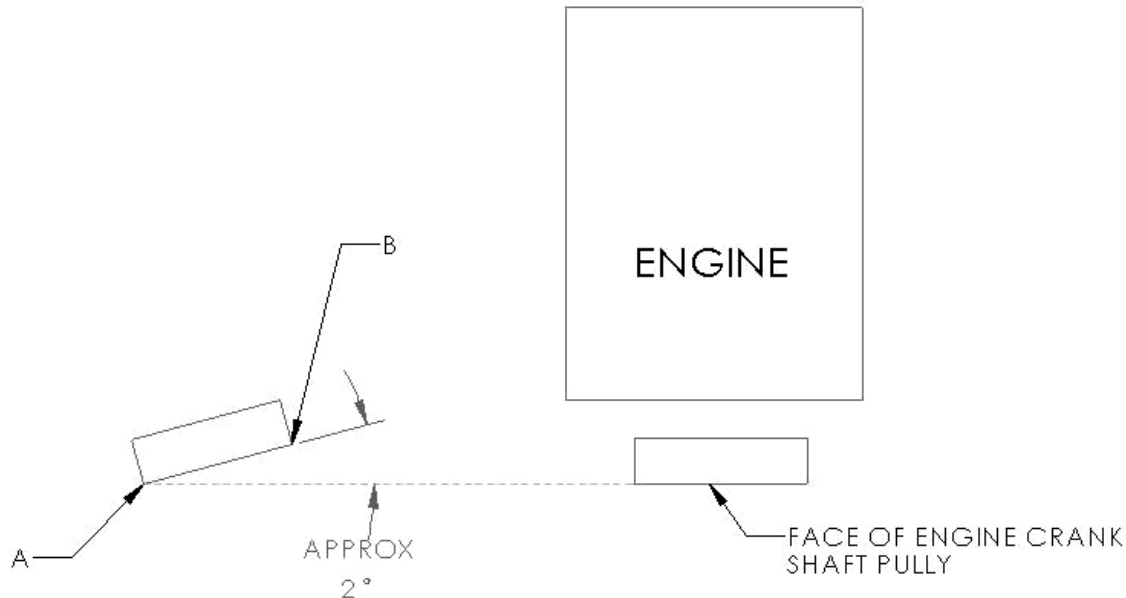
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PULLEY ALIGNMENT **INITIAL TENSIONING PROCEDURE** **FIG. 7-1**

- 16c) Torque (2) 5/8-11 x 1.50" bolts to 180 lb. ft..
- 16d) Install belts.
- 16e) Tighten the tensioning bolt to approximately the correct belt tension by pushing downward in the middle of one belt. The belt should move only the distance of one belt thickness.
- 17. Reinstall shaft to clutch with (4) 7/16-20 x 1.25" bolts and flat washers. Torque bolts to 60 lb. ft.
- 18. Refer to FIG. 8-1 for final pulley alignment.

Note: Ensure bolts are positioned in the bracket slots toward the chassis rail.



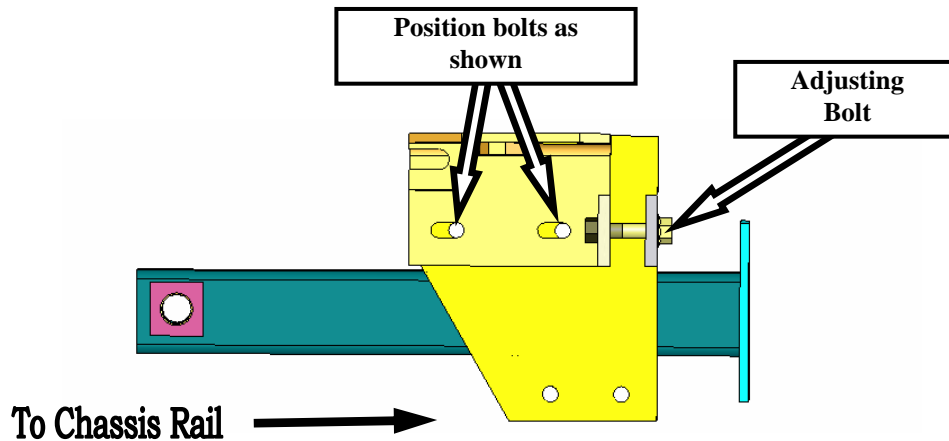
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BOLT POSITION IN SLOTS BEFORE ADJUSTMENT

FIG. 8-1

- 18a) Fine tune pulley alignment by laying a straight edge across both pulley faces and ensuring the faces are aligned with another.
- 18b) Align clutch pulley by moving the rear support bracket within the slots using the 5/8-18 adjusting bolt.

Note: If alignment cannot be achieved, the clutch bracket system may have to be moved along the axis of the square tube to assure pulleys can be aligned using the proper method.

- 18c) Torque the rear support bracket attachment bolts to 180 lb. ft.
 - 18d) After final adjustment using the 5/8-18 adjusting bolt, secure bolt in place with nut.
 - 18e) Torque the 3/4" cross bolt and the remaining (2) 5/8-11 bolts on the rear support bracket to 180 lb. ft.
- 19. Reconnect electrical wire for fan clutch.
 - 20. If new belts are installed, be sure to properly break-in by running engine for approximately 20-30 minutes, recheck tension, and adjust accordingly.