



ORIGINAL SPARTAN CHASSIS, INC.

CSB05-230-003A

October, 2005

Page 1 of 2

CAMPAIGN SERVICE BULLETIN

SUBJECT: Radiator - Hardware

Bulletin CSB05-230-003A supersedes bulletin CSB05-230-003 in consideration of a drawing change. Any work performed under the direction of CSB05-230-003 should not require any additional work.

APPLIES TO: Spartan Chassis Fire Truck Models Equipped with an AKG Radiator and a Vehicle Date of Manufacture (VDM) Between 11-11-02 and 02-01-05.

CONDITION: Radiator fasteners loose; possibly missing

CAUSE: Incorrect type of hardware / installation procedure

CORRECTION: Replace radiator hardware.

PART / SERVICE INFORMATION:

Labor Time: 2.0 Hrs.

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	S-1701-001A	Kit- AKG Radiator Hardware

Kit #S-1701-001A Contains:

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	3786.004.9000	AKG Hardware Kit
1	3786.004.9001A	Drawing- AKG Hardware Replacement
6	0624HSNZ	Nut- 3/8"-24 Hex Zinc
6	06FWSAEB	Washer- 3/8" Flat SAE Blk
1	CSB05-230-003A	Document Instructions

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

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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Page 2 of 2

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STEP-BY-STEP INSTRUCTIONS:

1. Observe all industry safety standards and secure vehicle to allow for replacement of the radiator hardware.
2. Refer to AKG drawing number 3786.004.9001A page 2. Remove fan assembly from fan drive. Properly dispose of washers and nuts.
3. Refer to the AKG drawing number 3786.004.9001A page 1. Remove and properly dispose of the existing radiator hardware. Install new hardware.
4. Refer to AKG drawing number 3786.004.9001A page 2. Reinstall fan using new nuts and washers provided. Torque 33 – 37 LBS. FT.

Note: Removable thread locker (81790 adhesive or equivalent) must be applied to the threads of the fan drive studs before installing nuts.

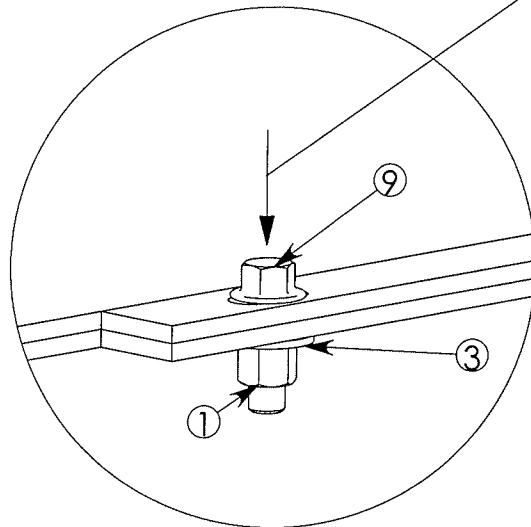
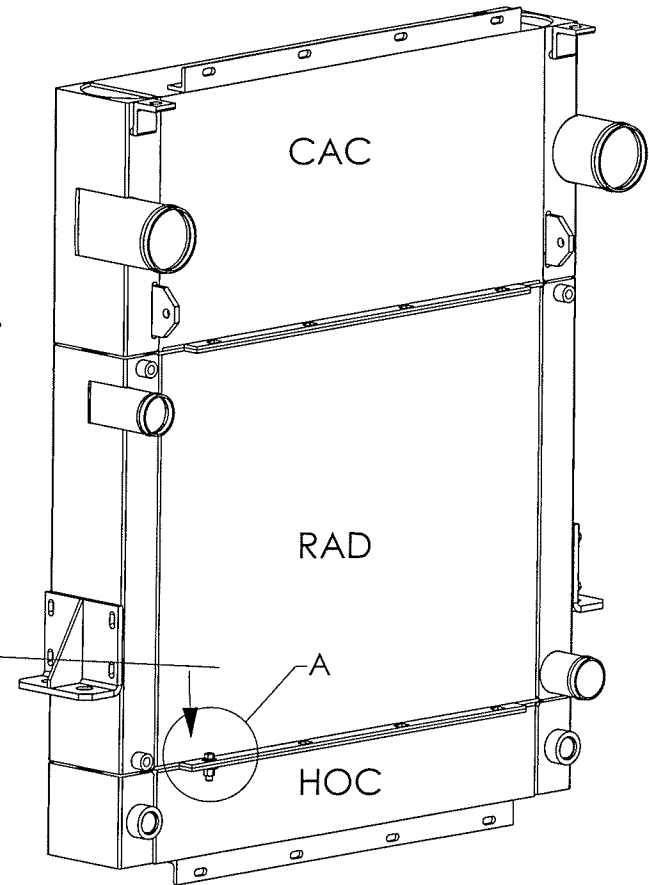
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FIELD REPLACEMENT HARDWARE KIT FOR 3678.004.0000 CAC/RAD/HOC (KIT CONTAINS HARDWARE FOR ONE COOLING PACKAGE)

REVISION				
REV.	ECN	DESCRIPTION	DATE	DESIGNER
A	243-05	UPDATE SHEET 2 PER CUSTOMER PRINT	10/14/2005	HANSEN

INSTRUCTIONS FOR FIELD REPLACEMENT OF RADIATOR HARDWARE USING KIT # 3786.004.9000

1. FAN SHOULD BE REMOVED FROM FAN DRIVE BEFORE REMOVAL OR REPLACEMENT OF RADIATOR BOLTS ON FAN/FAN SHROUD SIDE.
2. INSTALL NEW FLANGE BOLTS (3/8"-16 X 1 1/4" LONG), 3/8" WASHER AND NYLOC NUT AS SHOWN IN DETAIL "A"
3. TORQUE NUTS PER GRADE 5 SPECIFICATION 22 FT-LBS OR 264 IN-LBS
4. RE-INSTALL FAN ON FAN DRIVE PER INSTRUCTIONS ON PAGE 2 OF THIS KIT



DETAIL A
SCALE 1 : 1

INSTALL BOLT
FROM THIS DIRECTION

KIT INCLUDES THE FOLLOWING ITEMS FOR ONE COMPLETE ASSEMBLY

10	1	8054.036.0000	3/8" Flat Washer
9	1	8050.059.0000	3/8"-16 X 1.25" FLANGE BOLT
8	2	3786.040.2014	STEEL MOUNTING BRACKET-SLOTTED
4	1		INSTRUCTION SHEET
3	16	8054.036.0000	3/8" FLAT WASHER
2	16	8050.059.0000	3/8"-16 X 1-1/4" FLANGE BOLT
1	16	8049.091.0000	3/8" -16 NYLOC NUT
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

UNLESS OTHERWISE SPECIFIED
THE FOLLOWING METRIC
DEVIATIONS ARE ACCEPTABLE

SIZE	0	50	300	1000	3000
mm	±1	±2	±3	±4	
TOL.	±1	±2	±3	±4	



PO BOX 370
Mebane, NC 27302
Phone (919) 563-4286
Fax (919) 304-1335

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DRWN BY: HANSEN
DATE: 6/24/05
ENGR: SALTER

TITLE
RADIATOR
HARDWARE REPLACEMENT
KIT /INSTRUCTION

DWG. NO.
3786.004.9001
PAGE: 1 of 2

REV.
A

1710-FF1 (2)

REV A

□ FIN SYMBOL

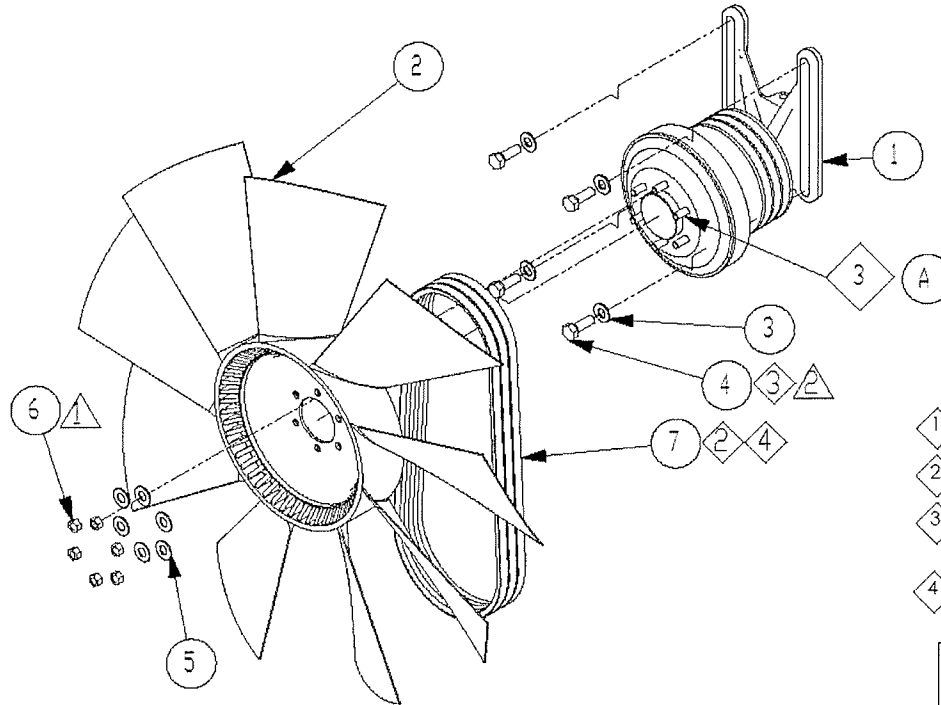
○ ITEM SYMBOL

◇ NOTE SYMBOL

△ TORQUE SYMBOL

▽ CRITICAL SAFETY TORQUE

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1544-FF1-001	FAN DRV - HORTON	1
2	1535-FF1-002	FAN ASM - 441XX SERIES ACS	1
3	08FWSAEB	WASHER - 1/2 FLAT SAE BLK	4
4	M12175035H7B	BOLT - M12-1.75 X 35MM LG HEX GR7 BLK	4
5	06FWSAEB	WASHER - 3/8 FLAT SAE BLK	6
6	0624HSNZ	NUT - 3/8-24 HEX ZINC	6
7	17470	BELT - DAYCO 17470	3



- ◇ 1 USE ON 2002 SERIES 60 ENGINES
- ◇ 2 BELTS TO BE A MATCHED SET
- ◇ 3 APPLY 81790 ADHESIVE - REMOVEABLE THREAD LOCKER (BLUE) OR EQUIVALET.
- ◇ 4 60-80 LBS (NEW/USED)

△ 1 TORQUE 33-37 LBS FT

△ 2 TORQUE 72-78 LBS FT

SPARTAN
Spartan Chassis, Inc.
1165 Reynolds Rd., Charlotte, NC 48813

**INSTALL - FAN DRV
SERIES 60 ENGINE**

DESIGNER S.McCUNE	DETAILER S.McCUNE	DATE 9/29/2003	APPROVED SAM	CHECKED TKD
SHEET 1 OF 1		DRAWING NUMBER 1710-FF1 (2)		REV. A

RELEASE AUTHORITY: F4412-A

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REV.	DESCRIPTION	AUTH	DATE	DR	CHK	APVD
A	ADDED THREAD ADHESIVE NOTE	F4412-B	10/05/05	AMS	SAM	MPB

UNLESS OTHERWISE SPECIFIED THE FOLLOWING METRIC DEVIATIONS ARE ACCEPTABLE

SIZE	0	50	300	1000	3000
mm					
TOL.	±1	±2	±3	±4	

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DRWN BY:	HANSEN
DATE:	6/24/05
ENGR:	SALTER

TITLE
HARDWARE REPLACEMENT

DWG. NO.	3786.004.9001	REV.	A
PAGE:	2 of 2		