

"DOCUMENT UNCONTROLLED IF PRINTED"

DOC #	PROCESS NAME	PAGE	REVISION	STATION	BY	DATE
AR864	ARBOC SPIRIT OF EQUUS CAC HARNESS MODIFICATION	1 OF 3	-	SER-E	J. SPRY	6/5/2019

Read process before beginning. If you do not understand any part please contact: Jeff Spry, Technical Advisor at 1-866-953-5555 or by E-mail @ jspry@ARBOCSV.com.

Good Mechanics safety practice must be followed on any repairs.

Safety practices should include but not be limited to properly supporting the chassis, axles, blocking tires, and a work area free of clutter.

Complaint: Efan system on Diesel bus found to have improper 12V power to Radiator and CAC fans, causing unnecessary running at low temperatures that drain batteries.

Cause: Improper supply of 12v analog signal to fans in Grayson Fan Harness

Correction: Field fix is to cut and insulate analog signal wire.

Vehicles Affected: 3121, 3423, 3424, 3427, 3429, 3434, 3435

Labor Operation Code: 0119801

Pre-authorization Required

Labor Time Allowance: 1 Hour

Parts Returned: No

Tools Required

Socket set or nut driver set

Wire clippers

Shrink tube

Needle Nose Pliers

Parts Required

Installation Procedure:

WARNING: SPINNING FANS CAN HURT OR KILL. DO NOT WORK ON MOVING FANS.

Step 1: Turn off bus and turn off master switch to prevent fan activation.

Step 2: Remove the 4 – 7/16” nuts holding on the first fan. Pull fan out and away from housing. Note any wire ties or securement of the harnesses on the inside of the CAC and remove as necessary.



Step 3: Fan power connector is clipped to inside of housing plate. Locate connector, and depress tab on CAC side harness connector to remove harness connector from fan connector. Leave fan connector clipped to inside of plate.



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AR864	ARBOC SPIRIT OF LIBERTY SHIFT INHIBIT ADD FOR SERVICE BRAKE	2 of 3	-	SER-E	J. SPRY	10/26/2018

Step 4: Locate the Analog wire leading to pin 3 of the Yazaki connector. This wire will provide a constant 12V when ignition is switched on. In Grayson systems this wire has been seen to be either grey or white, depending upon the model. The wire is the one immediately adjacent to the latch tab on the harness connector.

The corresponding connector on the FAN is shown below. We are trying to remove power from pin 3, referenced as A. Note that its color code will not match the Grayson harness color.

Connector:YAZAKI HYBRID (USCAR-2 compliant) - Part number: 7282-8497-90					
4. WHITE SECT. 0.5 mm² 1. RED SECT. 10.0 mm² 2. BLACK SECT. 10.0 mm² 3. YELLOW SECT. 0.5 mm²	Identification	+	-	A	PWM* / E*
	Pin number	1	2	3	4
	Wire Color	RED	BLACK	YELLOW	WHITE
	Sealing p/n	7158-3036-70	7158-3036-70	7158-3030-50	7158-3030-50
	Pin p/n	7114-3273-02	7114-3273-02	7114-4102-02	7114-4102-02
	Section [mm ²]	10.0	10.0	0.5	0.5

Step 5: Cut the CAC harness wire about 1" back from the connector. Use heat shrink to seal both ends from moisture and pinch the end of the heat shrink while hot to seal.



Step 6: Reinstall the harness connector and re-secure any restraints or ties on the wire harness. Reinstall fan. Repeat on other fan as necessary.

Step 7: Road test bus to confirm correct temperature corrected operation of the CAC fans.