



Recall Service Bulletin



Recall Service Bulletin RSB23-180-001

- DATE:** 4/17/2023
- APPLIES TO:** This service bulletin applies to certain 2022 through 2024 model year, Gladiator, Metro Star, FC-94, and KME Panther model emergency response chassis cabs built between August 2022 and February 2023.
- NHTSA/TC Id:** 23V-156 / TC2023-126
- CONDITION:** Certain Allison transmissions with split pto operation, C224 and earlier 6th generation controls software levels could fail to perform 4th gear transmission lockup in pump mode after exiting reverse gear.
- CORRECTION:** Test 4th gear lock-up after coming out of reverse gear and going into pump mode. If transmission fails to shift to 4th gear lock up in pump mode, local Allison distributor will need to be contacted for software update.
- CLASSIFICATION:** V3

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.



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STEP BY STEP INSTRUCTIONS:

1) Perform test of pump shift sequence to determine if unit is affected.

1. With park brake off, put the transmission in reverse and back up several feet.
2. Shift transmission in neutral.
3. Set park brake.
4. Go through pump shift procedure.
 - a. Shift pump shifter from road to pump mode.
 - b. Look for Pump Engaged light.
 - c. Once pump engaged light comes on, shift transmission to drive (D).

At this point, the shifter should be displaying 4- 4, indicating 4th gear lock up is achieved.

- 2) If it operates as noted above, the truck is operating correctly and requires no further action. Please contact Spartan Fire LLC at 1-800-867-6478 to notify us that the truck is operating correctly.
- 3) If it is displaying 5,1 or range inhibit on the dash, then 4th gear lock up was not achieved and the Allison TCM will need to have the software updated by the local Allison distributor.
- 4) Use the webpage below to locate your local authorized Allison distributor to schedule the software update. <https://allisontransmission.com/sales-service-locator>

Reference Allison Field Action Letter 2023FA02 on pages 3-7

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SUBJECT: 3000 and 4000 Emergency Vehicle Series™ (EVS) 6th Generation TCM Recalibration

MODELS AFFECTED: 3000 and 4000 EVS Series Transmissions with 6th Generation Controls

Introduction:


Allison Transmission has identified a concern limited to C224 and earlier 6th Generation Controls software levels that affects split shaft PTO configurations only:

- If the transmission is in Reverse, then the shift to Pump Mode (4th Lockup) may be inhibited unless the transmission is first shifted to Drive.

Field Action Transmission Identification:

Prior to the repair of an eligible transmission, a Field Action Authorization Number must be obtained by logging on to <https://hub.allisontransmission.com/field-actions>. Enter the transmission serial number, VIN, vehicle vocation code, etc. and request an authorization. If you receive an authorization number, this is confirmation that the field action has NOT been performed. If the field action has NOT been performed, proceed with the repair as defined. Include the authorization number in the 4WARD™ Work Performed Comments field prior to submitting the warranty claim. If you are unable to obtain an authorization number, and you believe the transmission qualifies for the field action based on the transmission serial number/vehicle model/configuration, contact the Allison Technical Assistance Center (TAC) at 1-800-252-5283 or 317-242-0700 or email: TAC@allisontransmission.com.

Once a Field Action Authorization Number has been obtained, confirm that the TCM has C221, C222, C223 or C224 software. This can be found by connecting the TCM with Allison DOC®. The DTC and General Info tab will show the Cal ID in the TCM Information section. The first four digits of the Cal ID give the current software level. The software level must be updated if the first four digits of the Cal ID are any of the following: C221, C222, C223 or C224.

 **NOTE:** Only 3000 and 4000 EVS transmissions with 6th Generation Controls integrated with split shaft PTOs are covered.

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The screenshot shows the Allison DOC software interface. At the top, it displays 'Allison DOC - Trouble Code' and 'Allison Transmission'. The vehicle ID is 'Gen6 3K/4K - C2220061G68M / C22BCH'. The status is 'CONNECTED' and 'SHIFT INHIBIT'. The interface includes a menu bar with options like 'File', 'Reprogram', 'Action Request', 'Snapshot', 'Reports', and 'Software Configuration'. Below the menu, there are icons for 'F4 - Disconnect', 'F5 - Diagnose', 'F3 - DTC Lookup', 'F1 - Help', 'F2 - TRANSHEALTH™', 'Playback', and 'F5 - TCM'. A central text box instructs: 'Double-click on a DTC or Description to access the TroubleShooting Manual. Double-click on the Failure Record field to access its details.' Below this is a table with columns: 'DTC-Symptom', 'Active', 'Historic', and 'Check Trans'. At the bottom, there are buttons for 'Clear DTC Information', 'Performance Complaints', and 'Failure Records'. A 'TCM Information' table is visible at the bottom of the interface:

TCM Information	Value
Cal ID	C2220061G68M
TCM Assembly Number	73CR0V4P
Software Level	C22BCH_PC_4H2DA
Serial Number	BK2548A603420072
Part Number	29562548

Figure 1. Current Software Level Example in Allison DOC

Corrective Action Required

If the vehicle is in the affected population, then update software level from C221, C222, C223, or C224 to C232 or later by programming based on the TCM serial number in TCM Reflash™. To receive the latest software level, it is necessary to check the box labeled "Download Latest Calibration" on the Add screen in TCM Reflash (refer to Figure 2). After programming is complete, use Allison DOC to verify that the second through fourth digits of the Cal ID are 232 or later (refer to Figure 3).

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Add Calibration to Download Information

Calibration Information

TCM Serial Number

VIN

Quantity

Download Latest Calibration

Calibration for Dyno Usage or Stock TCM/ECU

Vocational Model Base Cal Only

TCM Assembly Number

Transmission Serial Number

View Summary Report

View Shift Point Report

Add Cancel

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Figure 2. Updating to Latest Software Level in TCM Reflash



NOTE: The "Download Latest Calibration" option in TCM Reflash should only be used when there is a specific need to update the software.

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The screenshot shows the Allison DOC software interface for a Gen6 3K/4K transmission. The 'TCM Information' table is visible at the bottom of the screen, with the 'Value' column containing the following data:

TCM Information	Value
Cal ID	C2320087H77X
TCM Assembly Number	
Software Level	C23BCN_PC1N2DA88
Serial Number	BK2547A520470423
Part Number	29562547
TCM Date	16-02-2022

Figure 3. Updated Software Level Example in Allison DOC

Claim Submittal Information:

Allison Authorized Service Network must submit work performed per this Field Action as outlined in [Table 1](#) and [Table 2](#).

Include the Field Action Authorization Number in the 4WARD Work Performed Comments field.

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When filing each claim, enter the recalibrated TCM serial number into the Failed Component Serial Number field of the 4WARD claim.

Table 1. Claim Information

CLAIM TYPE	Campaign
FIELD ACTION	2023FA02
PRIMARY FAILED PART	400
COMPLAINT CODE	AT02
FAILURE CODE	CC03

Table 2. Labor Codes/Hours

LABOR OPERATION CODE	LABOR HOURS	LABOR OPERATIONS
00096501	1.0	RECALIBRATE TCM
00096400	0.5	TEST DRIVE

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