

60-USA-Dim alert of active roll system malfunction

1. 首次发生问题描述 | Description of the first occurrence of the problem

VIN: LJUEAEG24SK501115

VIN: LJUEAEG24SK501115

发生日期: 2025/8/26

Occurrence Date: 2025/8/26

行驶里程: 9689km

Mileage : 9689km

发生地点: Lotus Austin

Location : Lotus Austin

故障现象及如何发现的:

Failure phenomenon and how it was discovered:

DSA Faults recovered, erased and became present again. Following TIS Procedures, followed diagnostic inputs for MVCM. Found proper voltages, ground and CAN inbound, however no signal outbound from the module.

车辆如何恢复的:

How the vehicle was restored:

故障零件批次（硬件）:

Faulty part batch (hardware) :

供应商:

Active Roll Model Rear(ARMR)					2
CODE	Description	Hel p	Statu s	Statu s	With Snap shot desc ription
U30009A	Control Module Component Failures: Component or System Operating Conditions		▲	DTC: Current	
U300049	Control Module System Internal Failures: Internal electronic failure		▲	DTC: Current	

Active Roll Module Front(ARMF)					2
CODE	Description	Hel p	Statu s	Statu s	With Snap shot desc ription
U30009A	Control Module Component Failures: Component or System Operating Conditions are Incorrect		▲	DTC: Current	
U300049	Control Module System Internal Failures: Internal electronic failure		▲	DTC: Current	

Supplier:

备注：如涉及多台车辆，请使用以下表格形式汇总，超过 5 台车需要制作 4 点图；

Note: If multiple vehicles are involved, please use the following table format for summarization; for more than 5 vehicles, a 4-point graph needs to be prepared;

表格

☐	 序号	A≡ VIN	生产日期 Pro...	发生日期 Occ...	行驶
1	01	LJUEAEG24SK501115		2025/08/26	
+					

点击图片可查看完整表格

2. 问题解决计划 | Problem Solving Plan

☐	A≡ 事项 Item	👤 行动人员 Leader	📅 开始日期 Start Date	预计
1	问题发生			
2	信息确认			
3	现场调查（如需）			
4	车辆维修			
5	故障件到达			
6	问题到达1/4			
7	问题到达2/4			

点击图片可查看完整表格

3. 问题解析过程 | Problem analysis process

要求：所有的故障分析过程要有广度和深度：以查找问题的所有潜在因素，故障分析的原因要能复现故障；

Requirements: All fault analysis processes must have breadth and depth to identify all potential factors of the problem, and the causes of fault analysis must be able to reproduce the fault;

- ☐ 故障是否存在：Yes
- ☐ Is the fault present: Yes
- ☐ 生产一致性调查（如涉及）：
- ☐ Production consistency investigation (if applicable):
- ☐ 故障件检查结果（外观、功能等）：
- ☐ Inspection results of faulty parts (appearance, functionality, etc.):
- ☐ 故障分析过程（故障如果不复现，该步骤请列 FTA）：
- ☐ Fault Analysis Process (if the fault does not recur, please list FTA for this step):
- ☐ 故障产生机理：
- ☐ Mechanism of Fault Generation:
- ☐ 基于分析的原因故障能否再现：
- ☐ Can the cause of the failure be reproduced based on the analysis?

4. 直接原因和临时&遏制措施（完成后问题进入 1/4） | Root Cause and Temporary & Containment Measures (Problem enters 1/4 after completion)

要求：数据分析及现场调查信息，供应商变化点调查等，明确直接原因；

Requirements: Data Analysis, on-site investigation information, supplier change point investigation, etc., to identify the direct cause;

- ☐ 直接原因 Direct cause:
- ☐ Direct cause:
- ☐ 遏制措施及断点号 ERA:

- **Containment Measures and Breakpoint Number ERA:**
- 临时措施及断点号 ICA:
- **Interim Measures and Breakpoint Number ICA:**
- 横展对标:
- **Horizontal Expansion Benchmarking:**
- 下一步计划 :
- **Next Step Plan:**

5. 根本原因和永久措施（完成后问题进入 2/4） | Root Cause and Permanent Measures (After completion, the issue enters 2/4)

要求：故障分析结果，包含相关标准及故障件的解析结果，落实到人机料法环的根本上；复杂问题必须要有 FTA 分析，一般问题建议用 5WHY 分析法；

Requirements: Fault analysis results, including relevant standards and analysis results of faulty components, should be traced back to the root causes of man, machine, material, method, and environment; complex issues must have FTA analysis, and general issues are recommended to use the 5WHY analysis method;

- **根本原因 Root cause:**
- **Root cause:**

1. Cross change MVCM(DCDC), The defective car still had DTC. Which means MVCM is not the root cause for this issue

 Vehicle Control Unit(VCU)					2
CODE	Description	Help	Status	Status	With snapshot description
localhost:55557/screen/TriageToolComms.html					
8/9					
05/09/2025					
DTC Selection					
CODE	Description	Help	Status	Status	With snapshot description
U113802	Interrupted Communication with Medium Voltage Converter Module (MVCM) General signal failure		DTC: Current		
B167D87	SuperCapacitor Bus Signal / Message Failures Missing message		DTC: Current		
U113802	Interrupted Communication with Medium Voltage Converter Module (MVCM) General signal failure	MVCM node missing.		MVCM node missing.	

- 2. Checked the 48V SuperCapacitor connector, No loosen.Torque was OK.
- 3. DTC B167D87 refers to 48V SuperCapacitor signal missing.LIN Signal from 48V SuperCapacitor to VCU has malfunction.

Possible reason:

- 1. 48V SuperCapacitor have function issue, Voltage is too low.
- 2. MVCM cables or connectors have a problem

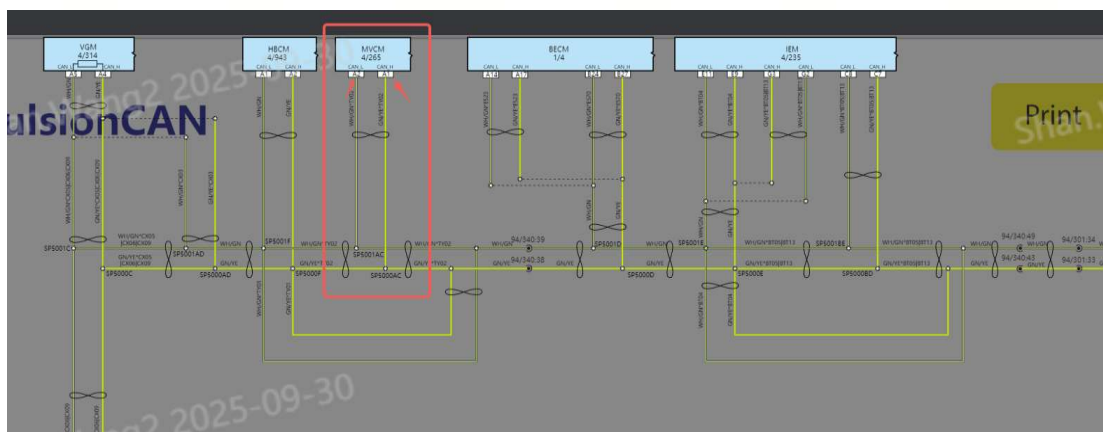
□ 永久措施 PCA:

□ Permanent Measure PCA:

□ 下一步计划 Next step:

□ Next step:

- 1. Invite the car come back to dealer site and diagnose root cause
- 2. Measure the resistance of PCAN, 4/265 A1&A2, which is connected with MVCM, to confirm if the CAN signal is OK or not. ST: 50Ω



3. Check the connector if there is any abnormal phenomenon. Whether the female terminal has enlarged hole, whether the male terminal deformed or tilted

6. 产线断点/软件 CRB（完成后问题进入 3/4） | Production line breakpoint/Software CRB (issues enter 3/4 after completion)

☐ 硬件 HW

☐ Hardware HW

产线断点时间: _____ 产线断点 VIN: _____

Production line breakpoint time: _____ Production line breakpoint VIN: _____

☐ 软件 SW

☐ Software SW

CRB/APP 发版时间: _____ NA

软件版本: _____ NA

CRB/APP Release Date: _____ NA

Software Version: _____ NA

7. 风险评估 | Threat and Risk Assessment

要求: 明确市场/库存车辆和零件/备件风险, 并确认处置方式;

Requirements: Identify risks associated with market/inventory vehicles and parts/spare parts, and confirm disposal methods;

□ 风险:

□ Risk :

□ 风险车辆数及处置方式

□ Number of risk vehicles and disposal methods

- 工厂:
- Factory:
- 门店:
- Store:
- 市场:
- Market:

□ 库存件处置方式

□ Inventory item disposal method

- 工厂:
- Factory:
- 供应商:
- Supplier:
- 备件:
- Spare parts:

引用文件:

Reference Documents:

1.售后备件处置流程

1.售后备件处置流程

2.风险评估矩阵

2. Threat and Risk Assessment Matrix

评估该问题对车辆的影响，按照如下表格对风险等级进行评估。
Assess the impact of the problem on the vehicle and assess the risk level in accordance with following table.
风险评估参考 Risk assessment reference:

	严重性因素		可能性等级				
严重性	可探测性	故障后果	1	2	3	4	5
SL-5	无/低的可探测性	严重或致命损伤	Y	R	R	R	R
SL-4		中度损伤	G	Y	R	R	R
SL-3	高/合理的可探测性	严重或致命损伤	G	G	Y	R	R
SL-2		中度损伤	G	G	G	Y	R
SL-1	不需要可探测	轻微损伤	G	G	G	G	Y

可探测性：是否存在警示灯、信息或通知；声音警告和异常噪音；车辆操纵和/或性能异常。这些提示可被普通驾驶员或乘客感知。

后果：严重伤害是指AIS 3级及以上伤害，包括死亡，通常需要大量的医疗和/或住院治疗，中度伤害是指AIS 2级伤害，轻度伤害是指AIS 1级或任何伤害指控，如轻微割伤或软组织。

事件：涉及常见故障情况和后果

常见故障条件：相同/相似零件、故障模式和条件导致的故障。

常见故障后果：相同/相似故障模式和故障导致的影响。

AIS 3级：严重损伤。可能涉及骨折、脱臼、破裂，需要专业医疗干预，可能对患者的生命带来一定威胁。

AIS 2级：中度损伤。包括严重的划伤、擦伤或者瘀伤，可能需要医学处理，但通常对患者的生命没有直接威胁。

AIS 1级：轻度损伤。一般是指较轻的划伤、擦伤或者瘀伤等，对患者的生命威胁较低。