No.： SI-TB20240101
Date： 12-01-2024
Version： 1.0

From: Technical Team, MG Motor Europe
To: MG authorized repair and MG Subsidiaries

Subject: Specification or After-Sales Testing of High Voltage Battery Packs
Vehicle Model: All

Description of Situation

Operation

Specification for After-Sales Testing of High-Voltage Battery Packs

I. Inspection for vehicle.

1. Confirm the brand, VIN code, mileage and other basic information of the vehicle.

2. Use Vehicle Diagnostic System (VDS) and visual inspection to confirm the fault condition of the vehicle and ask the customer if the vehicle has any known fault history and/or accident records.

3. Safe the VDS data file for later use and confirmation.

4. Create clear pictures of the damage of the vehicle and the visible damage of the battery pack housing and wiring harness underneath the vehicle.

II. Inspection of the high-voltage battery pack.

1. According to the operation requirements and specifications of high-voltage battery pack disassembly in the Refit and Remove Manual, dismantle the high-voltage battery pack from the vehicle and place it in the safe working area. The safe working area is defined as follows:
    - The safe working area must be located indoors and protected from rain, snow, sand and other substances.
    - The safe working area needs to be separated from other areas to avoid bringing in contaminants such as metal powder, oil or other substances. If desired close off the safe working area with a plastic curtain or other object.
    - The size of the safe working area should be at least the size of the vehicle to ensure enough free space to work safely.
    - The floor of the safe working area must be kept dry and ventilated and protected from rain, snow, sand and other substances.
    - Warning signs must be set up around the safe working area, if the responsible qualified HV technician is not present in the safe working area the high voltage parts should be covered and clear warning signs should be on the high voltage parts.
    - Nobody without permission from the responsible qualified HV technician is allowed to enter the safe working areas.

2. Confirm if the high-voltage battery pack has collision damage like deep scratches, dents etc. If such a situation occurs, the high-voltage battery pack should be opened and repaired (refer to the requirements in Chapter III for details).

3. If there is no relevant situation as described in item 2, check if the high and low voltage connectors connected to the high-voltage battery pack of the vehicle are damaged, squeezed, soaked with water and withdrawn PIN, etc. and check the upper cover, tray, balance valve, explosion-proof valve and other parts of the high-voltage battery pack and their nearby areas for damage, extrusion, water ingress, etc. If such a situation occurs, the high-voltage battery pack should be opened and repaired (refer to the requirements in Chapter III for details).

4. If there is no relevant situation as described in item 3, the high-voltage battery pack should be tested for airtightness. If the airtightness test result is normal it means that the high-voltage battery pack has no visible seal and/or physical damage and no further action is required. If the test result is not normal it is necessary to open the high-voltage battery pack for inspection (refer to the requirements in Chapter III for details).

III. High-voltage battery pack opening inspection and maintenance.

1. Refer to the operation specifications and requirements in the Refit and Remove Manual and open the upper cover of the high-voltage battery pack. See Chapter VI and VII for details on vehicles and required tools.

2. Check if there are squeezed, damaged or water-stained parts in the high-voltage battery pack. If there is, it is necessary to replace the corresponding parts (if the customer requires that the maintenance is not carried out, a disclaimer agreement must be signed).

3. Make sure that the components inside the high-voltage battery pack are installed in place as required. If the fasteners are loose, they should be retightened.

4. Check if there are foreign objects in the high-voltage battery pack. If there are foreign objects, judge the source of the foreign objects and take corresponding measures.

5. In all of the above situations make sure you take clear pictures of the area and the concern for later reference.

6. After the inspection, install the upper cover of the high-voltage battery pack according to the requirements in the Refit and Remove Manual.

7. After opening the cover for inspection and maintenance, the high-voltage battery pack needs to be tested for airtightness again. See the specific model Refit and Remove Manual for details.

8. Refit the high-voltage battery back to the vehicle according to the requirements in the Refit and Remove Manual and use the after-sales diagnostic tool to confirm if there is a fault code present and if the relays can be operated normally.

IV. Common high-voltage battery pack failure forms.

1. Water cooling plate depression (visible on outside of the battery tray)

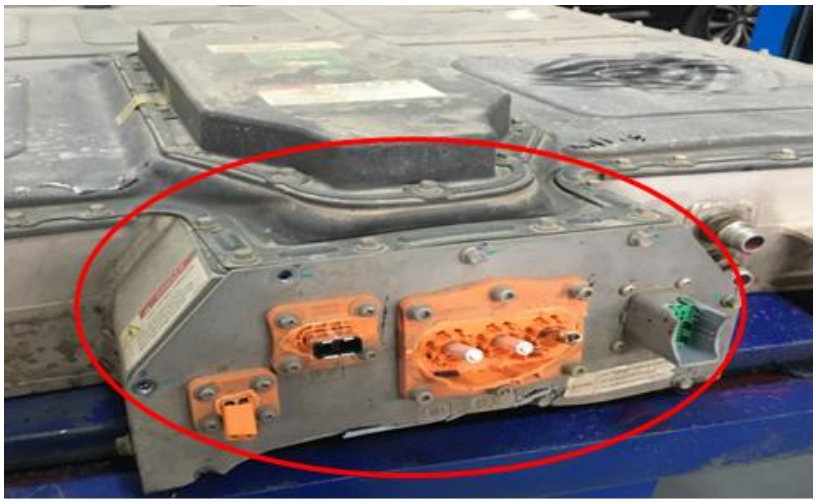
2. The bottom of the tray bulges upwards after being hit. (visible from the inside of the battery tray after removal of all parts)

3. Tray breakage

4. Water droplets on top of the module

5. Water droplets and rust on the module

6. EDM module, tray and upper cover are damaged and/or deformed



7. Water stains inside the tray

V. Emergency treatment of battery pack.

1. If the battery pack is on fire, or the shell is hot or smoking, the accident scene must be isolated immediately, everybody within 25 meters around the accident area must be evacuated and the fire brigade must be notified to put out the fire (if conditions permit, a large amount of continuous water can be used to put out the fire and or cool the high voltage battery pack.).

2. When thoroughly checking the fire root cause, do not get in direct contact with any high-voltage components and always use insulated tools and personal safety equipment for inspection. Cut off the 12V (low voltage) power supply and manual maintenance switch immediately when conditions permit.

3. There are a lot of chemicals inside the battery pack which may cause the risk of fire. During the dismantling of a fire hazardous battery pack the thermal imager, thermometer and other equipment must be used to monitor the battery temperature in real time. Once the internal temperature of the battery rises sharply or smoke is released, all work on the battery pack must be stopped immediately, and the water gun spray must be used to extinguish the fire and reduce the temperature until it's safe to dismantle the battery pack any further.

4. After the fire is completely extinguished, the battery pack must be transferred to a specific area immediately, and explosion-proof safety isolation must be carried out.

5. In all cases personal safety must come first. If you don't feel confident and/or safe stop all work on the battery pack and inform proper authority to transfer the battery pack to specific area.

VI. Vehicle & Battery Pack Information

1. Except for the MG4 where the battery case and modules are not separately replaceable on all other models the battery pack is fully serviceable. See model specific Refit and Remove Manual.

2. For the MG4 if damage is discovered as described in Chapter IV the complete battery pack has to be replaced.

VII. Special tools for performing Battery Diagnosis

Always check the model specific model Refit and Remove Manual for updates and/or other operation specific tools and requirements. Listed below is at publishing a minimum list of required tools per model.

		MG4	MG5	EHS	EHS MY23	Marvel R	ZS EV	ZS EV MY22
T14001	Cooling System Pressure Test Kit	V	V	V	V	V	V	V
TEL00022	Cover, MSD Connector			V	V			
TEL00034	Cooling Leak Test Tool	V	V	V	V	V	V	V
TEL00036	Manual Service Device Plug		V	V	V	V	V	V
TEL00038	Slow Charge and Air Conditioning High Voltage Connector Plug						V	
TEL00050	Trolly ESS	V	V	V	V	V	V	V
TEL00052	Cover MSD Connector	V	V			V	V	V
TEL00059	Wire Harness 1			V	V			
TEL00063	MSD Plug -Low Voltage		V			V	V	V
TEL00064	Low Voltage Connector Plug 2		V	V	V	V	V	V
TEL00065	Main High Voltage Connector Plug 3 Pin						V	
TEL00066	Pressure Relief Valve Tool			V	V		V	
TEL00067	Pressure Relief Valve Plug-1						V	
TEL00070	Battery Module Extraction Tool-2			V	V		V	
TEL00079	Main High Voltage Connector 2-2 pin			V	V			
TEL00080	Slow Charger High Voltage Connector 2-2 pin			V	V			
TEL00081	ACP/DCDC High Voltage Connector 4 pin			V	V			
TEL00085	Pressure Relief Valve Plug 4			V	V			
TEL00091	Main High Voltage Connector 4-3 pin		V			V		V
TEL00092	Pressure Relief Valve Plug 6		V			V		V
TEL00093	Battery Module Extraction Tool-3		V			V		V
TEL00097	HV Battery Pack Lift tool	V						
TEL00102	High Voltage Connector	V						
TEL00103	Low Voltage Connector	V						
TEL00104	EDM cover Connector	V						
TEL00105	Wiring Harness	V						
	Insulated Gloves grade higher then 1000V	V	V	V	V	V	V	V
	Insulated Shoes grade higher then 1000V	V	V	V	V	V	V	V
	Face Mask or Goggles	V	V	V	V	V	V	V
	Insulation Meter	V	V	V	V	V	V	V
	Duspol	V	V	V	V	V	V	V
	Insulated service tools grade higher then 1000V	V	V	V	V	V	V	V

Service Information-TB

Recharge yourself

Warranty

Related parts

For support and assistance email to TechSupport@mgmotor.eu

18/11/2022
MG Aftersales Service department
SAIC Motor Europe