



PERSONAL SERVICE LAB

MASTERS OF CARE

# Grecale & GranTurismo 12 Volt Battery Best Practices

DATE: June 26, 2024

**MODELS:** Grecale M182 (MY23+), GranTurismo/Grancabrio M189 (All MY) (internal combustion engine and Folgore BEV vehicles)

**SECTION:** 08.20-1 Energy generation and accumulation

This Technical bulletin serves as a guide and provides additional diagnostic info of the 12V Battery.

## 1. Diagnostic checklist for a "Dead Battery" concern

To be performed ONLY after the vehicle has been sold and or AFTER PDI has been performed and the vehicle has been stored for a long time.

To speed up the investigation of the potential root cause and the authorization to replace the 12 Volt battery, we ask you to complete the attached **CUSTOMER USAGE AND ROAD ASSISTANCE INFORMATION QUESTIONNAIRE** and or the **DIAGNOSTIC CHECKLIST** (Attachments: PAGES 1 and 2) and attach it to the "Support Request" Blue Online (BOL).

**IMPORTANT:** the disconnection of the battery on connected (Active Maserati Connected Service) vehicles generates the activation of the "STOLEN" mode by the TBM with a parasitic draw of approximately 150 mA for 8 hours after the battery has been re-connected. It is important to prevent this from occurring when performing a parasitic draw test. Because of this, we suggest that you follow the below procedure when diagnosing a vehicle with a suspected excessive parasitic draw:

**NOTE:** Refer to the attached **PARASITIC DRAW TEST** (Attachments: **PAGE 3**) for detailed instructions and to record the results.

- 1) 12V Battery adequately charged (12.5V or above)
- 2) All doors closed, the exception of the rear trunk/Tailgate
- 3) Interior and exterior lights must be OFF
- 4) All Keys out of detection range (more than 16 FT)
- 5) The rear Trunk opened, and the latch manually closed
- 6) No electronic device connected to USB ports or OBD connector
- 7) Lock the car with the key fob and remove it from the detection range (more than 16 FT)
- 8) Wait at least 10 minutes (Vehicle Sleep Mode)
- 9) Use a digital multimeter and connect leads to the negative battery post and clean chassis ground.
- 10) Disconnect the quick connector of the negative battery cable while keeping both the multimeter leads connected to the negative battery post and chassis ground.

"Lab OP -0.20.001.5 --> BOL Supplementary diagnosis level 4: 2.0h can be claimed for performing diagnostic checklist"

# ATTACHMENTS – 12 VOLT BATTERY DIAGNOSTIC CHECKLISTS

<b>CUSTOMER USAGE AND ROAD ASSISTANCE INFORMATION QUESTIONNAIRE</b> (Checklist to be filled out by dealer if customer experienced a “Dead Battery” event)		
ROAD ASSISTANCE INFORMATION		
Was the vehicle Jump Started?	YES	NO
Battery cables attached to the battery posts loose?	YES	NO
QUESTIONNAIRE FOR THE CUSTOMER		
Where was the vehicle Parked at the time of battery discharge?		
Vehicle doors closed/locked?	YES	NO
Did the vehicle open using the Key FOB?	YES	NO
Has the customer noticed that the digital clock, comfort display, or backlighting of the instrument cluster comes on when the car is closed?	YES	NO
Did the customer notice any malfunctions when the battery was discharged? (e.g., Malfunction warning indicators lights or messages in the cluster)	YES	NO
If yes, which ones (Describe in detail)		
check with the customer whether the car may have erroneously been left with the ignition ON (Refer to MAS003511)	Customer Feedback:	
Vehicle recently been moved, or has been parked for an extended period of days?	If YES, how many Days/Hours	NO
How many miles per day does the customer travel on average?		Miles
Type of route used most frequently (insert flag)	City	
	City & Highway	
	Highway	
Does the customer usually use the radio at KEY OFF?	YES	NO
After KEY OFF, does the customer leave electrical devices connected (USB or 12V devices)?	YES	NO
If YES, which ones (Describe in detail)		
Were the key FOBs left in the vehicle?	YES	NO
How far away from the vehicle were the key FOBs outside the vehicle?		FT
GPS tracker or other aftermarket KIT installed on the car?	YES	NO
If yes, which ones (Describe in detail)		
Was the car left with the parking lights on?	YES	NO
Connected Services Subscription Activated?	YES	NO
Has the customer noticed the engine cooling fan turning ON with the engine OFF?	YES	NO
Was the vehicle washed or exposed to rain before the discharge event?	YES	NO
What features or APPs of the radio did the customer use before the discharge event?		

(CUSTOMER QUESTIONNAIRE CONTINUED) FOLGORE (BEV) ONLY RELATED QUESTIONS

What was the High Voltage Battery charge status	%	
Has the HV battery been recharged recently or just before the 12V Battery discharge event?	YES	NO
How was the high voltage battery charged?	AC	DC
The front hood was closed during the High Voltage recharge?	YES	NO



## DIAGNOSTIC CHECKLIST

**To be performed ONLY after the vehicle has been sold and or AFTER PDI has been performed and vehicle stored for a long time.**

**ATTENTION! DO NOT DISCONNECT BATTERY CABLES OR IBS (until completion of the checklist)**  
*the disconnection of the battery on connected (Active Maserati Connected Service) vehicles generates the activation of the "STOLEN" mode by the TBM with a parasitic draw of approximately 150 mA for 8 hours after the battery has been re-connected*

Provide the 12V battery value recorded during PDI (attach the PDI checklist)			Volts
Provide an E-XTEQ Battery test printout performed at vehicle entry.			
Check the status of the following Rapid update actions upon entry of the vehicle: (Circle "N/A" if the RU does not apply to the VIN)			
Rapid Update 597	N/A	Done	Not Done
Rapid Update 599	N/A	Done	Not Done
Rapid Update 605	N/A	Done	Not Done
Rapid Update 622	N/A	Done	Not Done
Rapid Update 623	N/A	Done	Not Done
Check for the presence/ installation of any aftermarket devices (GPS tracker, alarm). If present, indicate brand/model and attaches pictures of the device and related installation	Brand/model:	YES	NO
Check the Battery production date attaching a picture of the hot printed code on the upper cover	Code:		
Check battery PN and attach a picture of the label on the upper cover	PN:		
Did the Flat battery event occur while in Logistic Mode or Customer Mode?	Logistic Mode	YES	NO
	Customer Mode		
Battery post terminals free of corrosion or mechanical anomalies?		YES	NO
Are the battery post terminal secure and not loose?		YES	NO
Are SW updates available?		YES	NO
Check the position of the external lights selector (auto, manual) and if the lights stay ON.		YES	NO
Check the radio power off delay, indicating in minutes (3,6, or 12min selectable in the MIA			min
<b>MANDATORY: Attach a complete vehicle scan (DTC and Parameter) report of ALL modules</b>			
If the outcome of the battery test indicates that the battery needs to be re-charged, carry out a complete charging cycle. Attach a picture of the battery charger display at the beginning and end of charging, including the final printout.			
If the car is in PDI, indicate how many days it has been in stock and how often the battery check and recharge procedure has been performed. Attach CHECKLIST FOR LONG-TERM OPERATIONS			

## PARASITIC DRAW TEST

**ATTENTION!** The disconnection of the battery on connected (Active Maserati Connected Service) vehicles Activates the "STOLEN" mode by the TBM with a parasitic draw of approximately 150 mA for 8 hours after the battery has been re-connected. To prevent this, follow the procedure below.

### 12V Battery Preconditions:

If the outcome of the battery test indicates that the battery needs to be re-charged, carry out a complete charging cycle. Attach a picture of the battery charger display at the beginning and end of charging. (If possible, also add a picture after 3 hours of charging)  
(In case of usage of no smart charger, the re-charging will have to last at least 8 hours)

### Parasitic Draw Preconditions:

- 1) 12V Battery adequately charged (12.5V or above)
- 2) All doors closed the exception of the rear trunk/Tailgate
- 3) Interior and exterior lights must be OFF
- 4) All Keys out of detection range (more than 16 FT)
- 5) The rear Trunk opened, and the latch manually closed
- 6) No electronic device connected to USB ports or OBD connector
- 7) Lock the car by the key fob and remove it from the detection range (more than 16 FT)
- 8) Wait at least 10 minutes (Vehicle Sleep Mode)
- 9) Use a digital multimeter and connect leads to the negative battery post and a clean chassis ground
- 10) Disconnect the quick connector of the negative battery cable while keeping both the multimeter leads connected to the negative battery post and chassis ground

Record the results every 30 min up to 90 minutes below:

- 1) 30 min \_\_\_\_\_ mA
- 2) 60 min \_\_\_\_\_ mA
- 3) 90 min \_\_\_\_\_ mA

