



Technical Tip

Topic	57-18-02TT – Key Battery Diagnosis
Market area	United States 444 Volkswagen of America, Inc. (6444)
Brand	Volkswagen
Date	August 3, 2018

Condition

ATTENTION:
THIS IS A TECH TIP, NOT A TECHNICAL BULLETIN.
TECH TIPS ARE NOT ASSOCIATED WITH WARRANTY CLAIMING.

Key Battery Diagnosis

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
All (except Routan)	2011-2019	All	All	All	All

Technical Background

There is no specification for testing the open circuit voltage of key batteries. Remote keys are designed to function normally with voltage less than that of a new battery.

Service

The following methods are recommended to make a correct diagnosis of the key battery:

1. Check LED Indicator on the Key

- Watch the LED indicator on the key while pressing a button.
- As long as the LED illuminates, the key will operate within the normal range.
- If the LED does not illuminate when pressing a button the battery should be replaced.

2. Check for MFI Message

- With the ignition on, push any button on the key and watch for a message in the MFI.
- The battery condition is transmitted from the key to the BCM.
- If a MFI message indicates the key battery is low, it should be replaced.

3. Measure Battery Voltage – Using 330 Ω of Load

- It is necessary to measure the voltage with a load to simulate operating conditions.
- Resistor decade box VAS 6345 may be used to dial-in 330 Ω.
- Connect the resistance of 330 Ω in parallel with a digital voltmeter.
- Measure the voltage across the coin battery after 1 second.
- If under 2.6 Volts the battery should be replaced.



4. Check DTCs and Measuring Values for Remote Key (MQB Vehicles Only)

- MQB vehicles will store a DTC in the BCM if a key detects a low battery condition.
- The DTC will indicate which remote number reported the low battery condition.
- Use measuring values to determine the current remote number and battery condition.
- AW 09 > Guided Functions > Measuring Values > “Vehicle key with remote control”
- As a button is pressed, check if the current remote number matches with the DTC.
- As a button is pressed, if the battery condition is “low” or “Not OK” it should be replaced.

5. Test Battery using a ZTS MBT-1 “Multi-Battery Tester”

- This tester is commercially available in the United States.
- The result of the pulse-test is displayed as a remaining percentage of battery charge.
- If the indication is 60% or less on the ZTS tester, the battery should be replaced.

Additional Information

Revision History		
Revision Number	Released Date	Reason For Update
2052080/1	8/3/18	Original publication.

© 2018 Volkswagen Group of America, Inc. All rights reserved. Information contained in this document is based on the latest information available at the time of printing and is subject to the copyright and other intellectual property rights of Volkswagen Group of America, Inc., its affiliated companies and its licensors. All rights are reserved to make changes at any time without notice. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, nor may these materials be modified or reposted to other sites, without the prior expressed written permission of the publisher.