SI M12 09 18
Engine Electrical Systems

April 2018
Technical Service

# DIAGNOSING NON-FUNCTIONING EDRIVE

## MODEL

60 PHEV (Cooper SE Countryman ALL4)

## SITUATION

- Vehicle will not go into “eDrive”
- No pertinent electric drivetrain fault codes to assist with diagnosis
- “eDrive” may be greyed-out in the Central Information Display (CID) and is not selectable

## CAUSE

- MSA deactivation
- 12 volt battery failure
- Intelligent Battery Sensor (IBS) failure.

## CORRECTION

MSA Activation (brand new vehicles or vehicles with extremely low mileage)

In other cases, “eDrive” does not function because of a faulty 12 volt battery or IBS, but the battery sensor does not set any faults to indicate the problem. The procedure steps below (starting at Step 2) provide a general diagnostic plan for these situations:

## PROCEDURE

**Only properly trained personnel, who have passed all applicable technical training courses, should perform any maintenance or repairs on any Hybrid or Electric Vehicle. Work performed by unqualified persons may result in severe injury or damage to the vehicle. Additional information may be found in REP 61 00… Observe safety instructions when handling electric vehicles.**

**Note:** In extreme temperatures (both hot and cold) Max eDrive may not be available and range may be displayed as “---“. In these situations, bringing the battery to a more nominal temperature will resolve the symptoms. This can be accomplished by pre-conditioning the battery or simply running the vehicle to allow it to regulate the battery temperature itself. This is normal operating strategy.

1. Check MSA activation.

   **Is MSA activated on the vehicle?**

   **YES -** go to Step 2.

   **NO** - follow one of the two methods below to activate MSA, depending on which is more appropriate.

   **MSA Activation - Service Module:**

A. Select the service functions in ISTA NEXT.

**Path:**

-Drive

-Engine electrical system

-Automatic engine start-stop function

-Deactivating the MSA installation mode

B. Run the following test module:

ABL-DIT-AS1365_MSAMOM: Deactivate installation mode.

**MSA Activation – Test Module:**

A. Access the test module via the function structure and call up the perceived symptom in ISTA NEXT.

**Path:**

-Drive

-Hybrid vehicle

-Current fault patterns

-Electric driving not possible

B. Run the following test module:

ABL-DIT-AW1365_EDRV_MSA_DEAK – MSA or electric driving not possible.

2. Perform a Midtronic test on both 12 volt batteries. Replace battery if indicated.
3. Recheck eDrive.

   **Is "eDrive" functioning correctly?**

   **YES-** release the vehicle.

   **NO-** go to next step.

4. Check the wiring, connections, pins etc. of the IBS on the main and auxiliary 12 volt batteries.

   **Were any wiring problems found?**

   **YES-** repair any wiring issues found. Go to next step.

   **NO -** replace the IBS on the auxiliary battery. Go to next step.

5. Recheck eDrive.

   **Is "eDrive" functioning correctly?**

   **YES-** release the vehicle

**NO -** go to next step.

6. Replace the IBS on the main 12 volt battery.
7. Recheck eDrive.

**Is “eDrive” functioning correctly?**

**YES-** release the vehicle.

**NO-** submit a PuMA case for further assistance.

## WARRANTY INFORMATION

This service information bulletin provides technical, diagnostic and/or repair-related information.

**Eligible and Covered Work/Repairs**

To submit a claim for the repair of a verified defect in materials or workmanship, including diagnosis, please follow the established and applicable warranty policy and procedures, together with using the corresponding defect code and labor operations provided in the KSD2/AIR.