

Subject: PROTECTIVE FUNCTION FOR LEAD-ACID BATTERY	Service Alert No.: SA-069/22
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BULLETIN NOTES

APPLICABLE MODEL(S)/VINS:

2022 MX-30

DESCRIPTION

This Service Information provides information on the AUXILIARY CHARGING SYSTEM for lead-acid battery and the POWER SAVING MODE for e-SKYACTIV.

When the battery consumption exceeds a certain level while the main power is switched OFF, the lead-acid battery is charged using the high voltage battery to prevent the lead-acid battery from discharging. The auxiliary charging is activated when the accumulated time reaches 25 minutes. If the auxiliary charging is not finished, the system accumulates the time count until 30 minutes, then activates the power saving mode. When the vehicle system is going into the power saving mode, a warning message is indicated in the instrument cluster with a warning sound. An accumulation of 5 minutes of driving or READY ON status deactivates the POWER SAVING MODE. For 2022 MX-30 with VINS higher than JM1DR**B***100474 (produced after October 19, 2021), there is a NEW POWER SAVING MODE that needs 90 minutes of accumulated time to activate the mode

SYSTEM OUTLINE:

1. Auxiliary Charging System

When the accumulated time of the following situations exceeds 25 minutes, the lead-acid battery is charged using the high voltage battery to prevent it from discharging. The time duration of the following situations will be added to the accumulated time. A NEW POWER SAVING MODE function has been implemented as running change [for 2022 MX-30 with VINS higher than JM1DR**B***100474 (produced after October 19, 2021)] instead of the POWER SAVING MODE shown below.

- After the power switch is switched OFF, until the vehicle electrical system goes into sleep mode.
- While the vehicle electrical system is awake by a customer's operation while the power switch is OFF.
 - When the auxiliary charging is finished (10 minutes), the accumulated time is reset but the accumulated time is not counted during the auxiliary charging.

NOTE:

- The accumulated time is reset when the lead-acid battery is charged by other functions or operations for 45 minutes.
 - Normal charging

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- Quick charging of high voltage battery
- Climate control timer
- Operation of the battery heater
- When the state of charge (SOC) of the high voltage battery is 24% or lower, the auxiliary charging system is not activated. When the SOC of the high voltage battery drops to 24% or lower during the auxiliary charging, the charging will stop at that point.
- Examples of customer operations that awake the vehicle electrical system while the power is switched OFF:
 - opening the doors
 - opening the liftgate
 - depressing the brake pedal
 - pressing the power switch
- The transition time is also added to the accumulated time when the power switch is turned to ON (READY OFF) or ACC by pressing the power switch from the OFF status.
- The accumulated time is reset when the system goes into the power saving mode, then accumulated time continues to be counted.
 - The battery terminal is disconnected.
 - The room fuse is removed.
 - The auxiliary charging is finished.
 - 5 minutes passed after the power switch is switched on (READY ON).
 - The following is a table of peculiar notations for BEV.

e-SKYACTIV	SKYACTIV-G
Main power switched ON (READY ON)	Engine running
Main power switched ON (READY OFF)	Ignition switch ON
Main power switched OFF	Ignition switch OFF

2. Activation of POWER SAVING MODE

When the accumulated time exceeds 30 minutes, the vehicle electrical system goes into the power saving mode to reduce the battery consumption. The time duration of the following situations will be added to the accumulated time:

- After the power switch is switched off, until the vehicle electrical system goes into sleep mode.
- While the vehicle electrical system is awake by a customer's operation during the power switch is off.
- NEW POWER SAVING MODE needs 90 minutes of accumulated time to activate the mode.

NOTE:

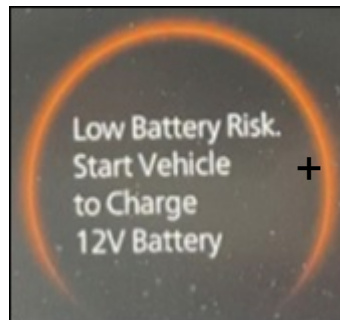
- The auxiliary charging is activated when the accumulated time reaches 25 minutes. If the auxiliary charging is not finished, the system accumulates the time count until 30 minutes, then activates the power saving mode.
- When the power switch is switched ON or ACC by pressing the power switch, the system transition time is also accumulated.
- The accumulated time will be added before the system transitions to the power saving mode unless the accumulated time is reset.
- The accumulated time is reset when the battery terminal is disconnected or the room fuse is removed.

3. Warning message

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Under the following conditions, the warning message is indicated in the instrument cluster with the warning sound when the vehicle system is going into the power saving mode or after the system went into power saving mode and is waking up by owner operation.

- Accumulated time reaches 30 min (POWER SAVING MODE) or 90 min (NEW POWER SAVING MODE).
- The following operations are performed during the power saving mode
 - Opening the liftgate
 - Depressing the brake pedal
 - Pressing the power switch
 - Operations that wake-up the network



NOTE:

- The images above are examples of the warning message, actual message may vary.
- During in the power saving mode, opening the door will not result in the warning message because it will not wake up the system.
- When the power switch is switched on (READY ON) while the warning message is displayed, the message will be cleared.

4. Deactivation of POWER SAVING MODES

Deactivation of POWER SAVING MODE

Continuous 5 minutes of driving or READY ON status deactivates the power saving mode. If READY ON status proceeds for shorter than 5 minutes, the power saving mode remains until continuous 5 minutes of READY ON status is achieved in following drive cycles.

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Activation and deactivation of the power saving mode depends only on the accumulated time described in "2 Activation of POWER SAVING MODE" and 5 minutes of continuous READY ON status. The lead-acid battery recharging does not deactivate the power saving mode. To force the deactivation, disconnect the battery terminal or remove the room fuse.

Deactivation of NEW POWER SAVING MODE

Continuous 3 seconds of driving or READY ON status deactivates the new power saving mode. If READY ON status proceeds for shorter than 3 seconds, the new power saving mode remains until continuous 3 seconds of READY ON status is achieved in following drive cycles.

Activation and deactivation of the new power saving mode depends only on the accumulated time (Activation of POWER SAVING MODE) and 3 seconds of continuous READY ON status. The lead-acid battery recharging does not deactivate the new power saving mode. To force the deactivation, disconnect the battery terminal or remove the room fuse.

5. Affected functions by POWER SAVING MODE

The power saving mode restricts the following functions while the power switch is OFF:

- Welcome display in the multi-information display when opening the doors.
- Door-ajar, liftgate-ajar and trunk lid-ajar warning indication lights in the multi-information display.
- Keyless Walk Away Auto-Lock.
- Following features of the Connect Service if equipped.
- Vehicle status alert
- Remote engine start, remote door lock/unlock, remote hazard light on/off
- Vehicle finder (vehicle location mapping function is available.)

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