BATTERY CONDITION INITIALIZATION SETTING (i-stop SETTING)

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Caution

• If the engine is started with the hood open, i-stop will not operate until the hood is closed and the engine is restarted (Not system malfunction). If the engine was started with the hood open, switch the ignition OFF, close the hood, and then restart the engine.

Without Mazda M Hybrid

• If the vehicle is brought in with i-stop not operating, the malfunction cannot be resolved by only performing the battery condition initial setting (i-stop setting). Verify the PCM PID [BATT_SOC] value and if the value is less than 75%, perform a battery inspection. (See BATTERY INSPECTION [(E)].)

• If the [BATT_SOC] value has not been verified before disconnecting the negative battery terminal, perform the battery condition initial setting (i-stop setting) after performing the battery inspection.

• Directly after connecting the negative battery terminal, a [BATT_SOC] value of 0% is displayed because the battery charge status is unstable. (It is necessary to leave vehicle for 6 to 48 hours until battery charge status stabilizes)

×: Applicable
—: Not applicable

Purpose	Operation	With Mazda M Hybrid	Without Mazda M Hybrid	
			SKYACTIV-D	SKYACTIV-G
1. Verify that the [BATT_SOC] value measured when the vehicle is brought in is 75% or more.	1. Using the M-MDS, verify that the PCM PID [BATT_SOC] value is 75% or more.	—	×	×
	2. In the following cases, perform a battery inspection. (See BATTERY INSPECTION [(E)].) • [BATT_SOC] value is less than 75% • [BATT_SOC] value cannot be verified	—	×	×
2. Have the [BATT_SOC] value determined by the PCM.	1. Disconnect the negative battery terminal and wait for 5 min or more. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION [(E)].) **Note** • It is necessary to leave the battery undisturbed for 5 min or more because the voltage may not be stabilized depending on the battery usage condition and it could cause the PCM to determine the [BATT_SOC] value incorrectly.	—	×	×
	2. Disconnect the current sensor connector.	—	×	×
3. Have the PCM learn the battery condition.	1. Connect the negative battery terminal and wait for 10 s or more. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION [(E)].)	×	×	×
	2. Connect the current sensor connector. **Note** • If the current sensor connector is connected first before connecting the negative battery terminal, the PCM may mistakenly recognize a signal from the current sensor and learn the battery condition incorrectly.	—	×	×
	3. Switch the ignition ON (engine off) and wait between 15 s to 60 s.	—	×	×
	4. Press and hold the i-stop OFF switch for approx. 10 s.	—	×	×
	5. Verify that the i-stop warning light (amber) illumination changes to the i-stop indicator light (green) flashing. • If the i-stop warning light (amber) does not turn off, it is possible that the procedure was performed incorrectly, therefore, perform the procedure again from the beginning. • If the i-stop warning light (amber) flashes, perform a battery inspection. (See BATTERY INSPECTION [(E)].)	—	×	×
	6. Switch the ignition OFF.	—	×	×
	7. Close the hood.	×	×	×
4. Perform idle air control learning.	1. Switch the ignition ON (engine on).	×	—	×
	2. Turn off the following systems to which electrical load is applied. • Lighting systems such as headlights. • Climate control system • Rear window defogger	×	—	×
	3. Warm up the engine completely.	×	—	×
	4. Switch the ignition OFF.	×	—	×

Purpose	Operation	With Mazda M Hybrid	Without Mazda M Hybrid	
			SKYACTIV-D	SKYACTIV-G
5. Verify the i-stop control settings.	Perform the following procedure from Step 1. to Step 5. within 25 s.	×	×	×
	1. Switch the ignition ON (engine off) and within 5 s, press and hold the i-stop OFF switch for 3 s or more.	×	×	×
	2. Verify that the i-stop warning light (amber) is on.	×	×	×
	3. Switch the ignition ON (engine on).	×	×	×
	4. Verify that the i-stop warning light (amber) illumination changes to the i-stop indicator light (green) flashing. • If the i-stop warning light (amber) illuminates or flashes, perform a battery inspection. (See BATTERY INSPECTION [(E)].)	×	×	×
	5. Press and hold the i-stop OFF switch for approx. 3 s.	×	×	×
	6. Wait for 30 s while idling (with no electrical load).	×	×	×
	7. Perform engine racing for a minimum 10 times and a maximum 20 times. Then, wait for 30 s while idling (with no electrical load). • After the flashing i-stop indicator light (green) turns off, switch the ignition OFF. • If the i-stop indicator light (green) does not turn off, it is possible that there is a problem with the Mazda M Hybrid system, therefore, perform an inspection of the Mazda M Hybrid system. (See DTC INSPECTION.) **Note** • Depending on the battery condition, the i-stop indicator light (green) may stop flashing and turn off early, and the i-stop control setting verification may be completed early.	×	—	—
	8. Maintain the idling condition (with no electrical load) until the i-stop indicator light (green) turns off.	—	×	×
	9. After the flashing i-stop indicator light (green) turns off, switch the ignition OFF.	×	×	×
6. Perform an i-stop control operation verification.	1. Switch the ignition ON (engine on).	×	×	×
	2. Accelerate to a vehicle speed of 15 km/h in approx. 5 s without operating the steering wheel.	×	×	×
	3. Stop the vehicle.	×	×	×
	4. Verify that the engine stops and restarts by the i-stop control.	×	×	×
	5. Switch the ignition OFF.	×	×	×