Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2022 Mazda CX-30 Service and Repair Manual

Go to manual page

STEP	INSPECTION	RESULTS	ACTION
1	VERIFY ENGINE CRANKING OCCURRENCE • Start the engine. • Does the engine start?	Yes	Go to the next step.
		No	Perform the symptom troubleshooting "NO.3 WILL NOT CRANK" and "NO.6 CRANKS NORMALLY BUT WILL NOT START". (See NO.3 WILL NOT CRANK [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) (See NO.6 CRANKS NORMALLY BUT WILL NOT START [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
2	VERIFY DTCs • Perform the DTC inspection for the following modules. (See DTC INSPECTION.) — PCM — DSC HU/CM — Climate control unit — Start stop unit • Are any DTCs present?	Yes	Go to the applicable DTC inspection (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) (See DTC TABLE [DSC HU/CM].) (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)]) (See DTC TABLE [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)]) (See DTC TABLE [START STOP UNIT].)
		No	Go to the next step.
3	VERIFY i-stop (ENGINE RESTART CONTROL) PERMISSION CONDITION ITEM **Warning** **• To prevent an accident, work with two people when the vehicle is being driven (one person drives vehicle, other person operates M-MDS).** **• Observe legal speed limits when driving the vehicle and perform the procedure in a location where safety can be assured.** • Switch the ignition ON (engine off). • Display the PID items related to i-stop using the M-MDS. (See PID/DATA MONITOR INSPECTION.) (See i-stop (engine restart control) condition.) • Drive the vehicle and perform engine stopping by i-stop. • Verify if the i-stop (engine restart control) permit conditions of the items which can be verified by the PID are met. • Are the permit conditions of all the items met?	Yes	Go to the next step.
		No	For the applicable items, inspect the parts under Inspection Item(s).
4	VERIFY VEHICLE CONDITIONS RELATED TO i-stop (ENGINE RESTART CONTROL) PERMISSION CONDITIONS • Drive the vehicle and perform engine stopping by i-stop. • Verify that the engine restarts when any of the following conditions is met: — Gear position: 2nd gear fixed mode — A/C set temperature: MAX or MIN — Windshield defroster switch: ON • Does the engine restart?	Yes	Verify the i-stop (engine restart control) permission conditions, then go to Step 11.
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
1	**INSPECT EFFECT OF NON-GENUINE ELECTRICAL ACCESSORY FOR CAUSE OF MALFUNCTION** • Remove any non-genuine electrical accessory. • Verify the malfunction symptom. • Is the frequency of the engine restarting from the i-stop off condition the same as that of another vehicle of the same model?	Yes	The system is normal. • Explain to the customer that the frequency of the engine restarting increases due to the effect of the non-genuine electrical accessory installed.
		No	Go to the next step.
2	**VERIFY DTCs** • Perform the DTC inspection for the following modules. (See DTC INSPECTION.) — PCM — TCM — Rear body control module (RBCM) — DSC HU/CM — Instrument cluster — Climate control unit • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (FW6A-EL, FW6AX-EL)].) (See DTC TABLE [REAR BODY CONTROL MODULE (RBCM)].) (See DTC TABLE [DSC HU/CM].) (See DTC TABLE [INSTRUMENT CLUSTER].) (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) (See DTC TABLE [CLIMATE CONTROL UNIT (MANUAL AIR CONDITIONER)].)
		No	Go to the next step.
3	**VERIFY BATTERY CONDITION** • Inspect the battery. (See BATTERY INSPECTION.) • Is there any malfunction?	Yes	Go to the next step.
		No	Go to Step 5.
4	**DETERMINE IF MALFUNCTION CAUSE IS BATTERY OR GENERATOR** • Recharge the battery. (See BATTERY RECHARGING.) • Inspect the battery again. (See BATTERY INSPECTION.) • Is there any malfunction?	Yes	Replace the battery, then go to Step 15. (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
		No	Go to the next step.
5	**INSPECT GENERATOR** • Inspect the generator. (See GENERATOR INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results. Go to Step 15.
		No	Go to the next step.
6	**DETERMINE IF MALFUNCTION CAUSE IS STEERING ANGLE SENSOR SIGNAL OR OTHER** • Start the engine and let it idle. • Access the EPS control module PID STR_ANG using the M-MDS. (See PID/DATA MONITOR INSPECTION.) • Is the PID value normal? (See PID/DATA MONITOR TABLE [ELECTRIC POWER STEERING (EPS) CONTROL MODULE].)	Yes	Go to Step 10.
		No	Go to the next step.

NO.8 INEFFECTIVE OPERATION OF A/C DURING ENGINE STOP (i-stop system) [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

SM3344973

id1103b300130

8	INEFFECTIVE OPERATION OF A/C DURING ENGINE STOP (i-stop SYSTEM)
DESCRIPTION	• The A/C airflow temperature is too high or low compared with the set temperature while the i-stop function is operating.
POSSIBLE CAUSE	A/C system malfunction • Climate control unit falsely recognizes MAX COLD of air mix door on driver-side — Driver-side air mix actuator malfunction — Driver-side air mix actuator position sensor malfunction — Driver-side air mix door link stuck • Cabin temperature of target vehicle cannot be calculated. — Cabin temperature sensor malfunction — Solar radiation sensor malfunction — Ambient temperature sensor malfunction

Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	DETERMINE IF MALFUNCTION CAUSE IS i-stop SYSTEM OR A/C SYSTEM • Verify the malfunction symptom. • Does the malfunction occur only while the i-stop function is operating (engine stopped)?	Yes	Go to the next step.
		No	Go to the applicable A/C malfunction diagnostic procedure. (See TROUBLESHOOTING INDEX [FULL-AUTO AIR CONDITIONER].)
2	VERIFY DTC • Perform the DTC inspection for the following modules. (See DTC INSPECTION.) — PCM — Instrument cluster — Climate control unit • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) (See DTC TABLE [INSTRUMENT CLUSTER].) (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].)
		No	Go to the next step.
3	DETERMINE IF MALFUNCTION CAUSE IS AMBIENT TEMPERATURE SENSOR SIGNAL OR OTHER • Switch the ignition ON (engine off). • Compare the ambient temperature sensor on the LCD with the actual ambient temperature. • Does the ambient temperature on the LCD correspond to the actual ambient temperature?	Yes	Vehicles with full-auto air conditioner system: • Go to Step 5. Vehicles with manual air conditioner system: • Go to Step 11.
		No	Go to the next step.

NO.9 ACCELERATION MALFUNCTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

SM3344974

id1103b300140

9	ACCELERATION MALFUNCTION
DESCRIPTION	• Acceleration from i-stop is not smooth. • Suppresses (shock) when accelerating vehicle from i-stop. • Engine vibration increases when engine is restarted.

STEP	INSPECTION	RESULTS	ACTION
5	**INSPECT ELECTRIC AT OIL PUMP RELAY POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Electric AT oil pump relay is removed. • Measure the voltage at the following terminals (wiring harness-side): — Electric AT oil pump relay terminal A — Electric AT oil pump relay terminal D • Is the voltage B+?	Yes	Go to step 9.
		No	**If the electric AT oil pump relay terminal D voltage is not normal:** • Inspect the MAIN 200 A fuse and AT PUMP 15 A fuse. **If the fuse is blown:** — Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • MAIN 200 A fuse–electric AT oil pump relay terminal D **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. • Replace the fuse. **If the fuse is damaged:** — Replace the fuse. **If all fuses are normal:** — Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Battery positive terminal–electric AT oil pump relay terminal D **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. **If the electric AT oil pump relay terminal A voltage is not normal:** • Go to the next step.
6	**INSPECT SUB RELAY** • Switch the ignition off. • Remove the main relay. (See RELAY LOCATION.) • Inspect the sub relay. (See RELAY INSPECTION.) • Is there any malfunction?	Yes	Replace the sub relay, then go to Step 16.
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
16	Verify the test results. • If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) • If a malfunction remains, inspect the related Service Information and perform the repair or diagnosis. — If the vehicle is repaired, troubleshooting is completed. — If the vehicle is not repaired or additional diagnostic information is not available, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)		

Personalization features	Setting contents	Setting procedure
The advanced keyless entry system and push button start system functions can be disabled.	Enable/Disable	M-MDS is used. (See SECURITY AND LOCKS PERSONALIZATION FEATURES SETTING PROCEDURE.)
The out-of-area (reception area) type auto lock function can be set.	Off / On	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The operation start time of the auto re-lock function can be changed.	30 seconds / 60 seconds / 90 seconds	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The keyless beeper volume can be adjusted.	Off / Low / Medium / High	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
Returns the setting content of the door lock system to the initial setting.	YES / NO	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

Keyless entry system

Note

- **There are two types of personalization procedures; one using the M-MDS and the other using the center display.**

Personalization features	Setting contents	Setting procedure
The keyless entry system and push button start system functions can be disabled.	Enable/Disable	M-MDS is used. (See SECURITY AND LOCKS PERSONALIZATION FEATURES SETTING PROCEDURE.)
The operation start time of the auto re-lock function can be changed.	30 seconds / 60 seconds / 90 seconds	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
Returns the setting content of the door lock system to the initial setting.	YES / NO	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

Power door lock system

Note

- **There are two types of personalization procedures; one using the M-MDS and the other using the center display.**

Personalization features	Setting contents	Setting procedure
Auto door lock function can be changed.	Off / Lock: When Driving / Lock: When Driving, Unlock: IGN Off / Lock: Shifting from Park / Lock: Shifting from Park, Unlock: In Park	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

Fuel economy monitor

Personalization features	Setting contents	Setting procedure
The ending screen of the fuel monitor can be switched between display/non-display.	On / Off	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The function which synchronizes the reset of the fuel reset and trip meters can be switched between on/off.	On / Off	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

Instrumentation/Driver Info.

Temperature

Note

• There are two types of personalization procedures; one using the instrument cluster (without center display) and the other using the center display.

Personalization features	Setting contents	Setting procedure
The temperature unit can be changed. *1	°F / °C *2	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

*1:When the ambient temperature display is switched, the set A/C cabin temperature display is also changed.

*2:The initial value differs depending on the market.

Distance

Personalization features	Setting contents	Setting procedure
The distance unit can be changed.	mi / Km	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)

Turn and hazard indicator alarm

Personalization features		Setting contents	Setting procedure
The distance between the warning-trigger lines for the Lane Departure Warning System (LDWS) and vehicle lanes can be changed.		Adaptive *1 / Early / Medium / Late	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The warning operation sensitivity of the lane departure warning system (LDWS) can be changed.		Often / Medium / Rare	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The operation of lane departure warning system (LDWS) can be turned off.		OFF / ON	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The operation timing of lane-keep assist system warning can be changed.		AUTO/Near/Med/Far	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The warning operation sensitivity of lane-keep assist system warning can be changed.		High/Low	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The type of the lane departure warning sound can be changed.		Beep / Rumble	M-MDS is used. (See i-ACTIVSENSE PERSONALIZATION FEATURES SETTING PROCEDURE.)
The operation of steering wheel operation assist can be turned off.		On / Off	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
Intervention is ON	The operation timing of steering wheel operation assist can be changed.	Early / Late	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
	The operation sensitivity of steering wheel operation assist can be changed.	High/Low	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
Intervention is OFF	The operation timing of lane-keep assist system warning can be changed.	At/Before	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
	The warning operation sensitivity of lane-keep assist system warning can be changed.	Often/Rare	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
	The type of the lane-keep assist system warning (type of sound or vibration) can be changed.	Vibration/Beep/Rumble	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The volume of the lane departure warning alarm can be changed.		Volume1 / Volume2 / Volume3	M-MDS is used. (See i-ACTIVSENSE PERSONALIZATION FEATURES SETTING PROCEDURE.)
The volume of the lane departure warning sound (beep) can be changed.		High / Low	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)
The volume of the lane departure warning sound (rumble strip) can be changed.		High / Mid / Low	Center display is used for the setting. (See CENTER DISPLAY PERSONALIZATION FEATURES SETTING PROCEDURE.)