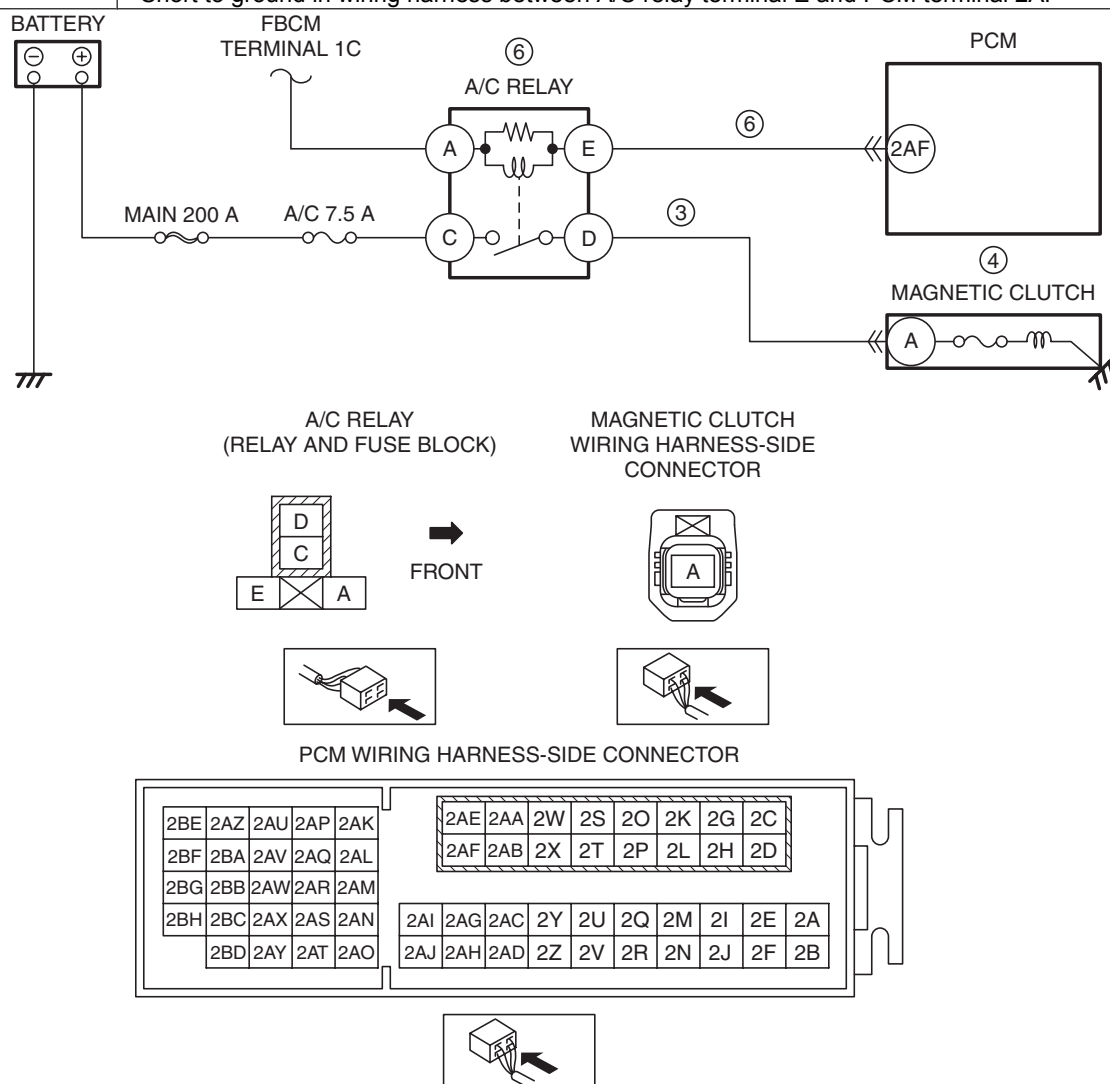


NO.24 A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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24	A/C IS ALWAYS ON OR A/C COMPRESSOR RUNS CONTINUOUSLY
DESCRIPTION	<ul style="list-style-type: none"> • A/C compressor magnetic clutch does not disengage.
POSSIBLE CAUSE	<ul style="list-style-type: none"> • PCM, instrument cluster or climate control unit DTC is stored • Short to power supply in wiring harness between A/C relay terminal D and magnetic clutch terminal A • Magnetic clutch engagement is stuck • Climate control unit malfunction (Climate control unit always transmits A/C request signal) • A/C relay is stuck closed • Short to ground in wiring harness between A/C relay terminal E and PCM terminal 2AF



Diagnostic Procedure

Diagnostic Procedure			
STEP	INSPECTION	RESULTS	ACTION
1	VERIFY PCM, INSTRUMENT CLUSTER AND CLIMATE CONTROL UNIT DTC <ul style="list-style-type: none"> Retrieve the PCM, instrument cluster and climate control unit DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See DTC INSPECTION [INSTRUMENT CLUSTER].) (See DTC DISPLAY [FULL-AUTO AIR CONDITIONER].) Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See DTC TABLE [INSTRUMENT CLUSTER].) (See DTC TABLE [FULL-AUTO AIR CONDITIONER].)
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
2	DETERMINE IF MALFUNCTION CAUSE IS MAGNETIC CLUTCH OR OTHER <ul style="list-style-type: none"> Start the engine and idle it. Turn the A/C switch on. Remove the A/C relay. Does the magnetic clutch disengage? 	Yes	Go to Step 5.
		No	Go to the next step.
3	INSPECT IF MALFUNCTION CAUSE IS MAGNETIC CLUTCH POWER SUPPLY CIRCUIT OR MAGNETIC CLUTCH <ul style="list-style-type: none"> A/C relay is removed. Switch the ignition off. Disconnect the magnetic clutch connector. Start the engine and idle it. Does the magnetic clutch disengage? 	Yes	Inspect for a short to power supply circuit between magnetic clutch terminal A and A/C relay terminal D. Repair or replace the wiring harness for a possible short to power supply if necessary.
		No	Go to the next step.
4	INSPECT MAGNETIC CLUTCH CLEARANCE <ul style="list-style-type: none"> Verify the magnetic clutch clearance. (See MAGNETIC CLUTCH ADJUSTMENT [MANUAL AIR CONDITIONER].) (See MAGNETIC CLUTCH ADJUSTMENT [FULL-AUTO AIR CONDITIONER].) Is the magnetic clutch clearance normal? 	Yes	Inspect the magnetic clutch to see if it is stuck. (See MAGNETIC CLUTCH INSPECTION [MANUAL AIR CONDITIONER].) (See MAGNETIC CLUTCH INSPECTION [FULL-AUTO AIR CONDITIONER].) Replace the magnetic clutch if necessary. (See MAGNETIC CLUTCH DISASSEMBLY/ ASSEMBLY [MANUAL AIR CONDITIONER].) (See MAGNETIC CLUTCH DISASSEMBLY/ ASSEMBLY [FULL-AUTO AIR CONDITIONER].)
		No	Adjust the magnetic clutch clearance. (See MAGNETIC CLUTCH ADJUSTMENT [MANUAL AIR CONDITIONER].) (See MAGNETIC CLUTCH ADJUSTMENT [FULL-AUTO AIR CONDITIONER].)
5	DETERMINE IF MALFUNCTION CAUSE IS A/C RELAY CONTROL SIGNAL OR A/C REQUEST SIGNAL <ul style="list-style-type: none"> Access the PCM PID ACCS using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) Monitor the PID ACCS while turning on and off the air conditioner using the switch on the control panel. Is the ACCS PID value always ON? 	Yes	Climate control unit always transmits A/C request signal. • Replace the climate control unit. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [MANUAL AIR CONDITIONER].) (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [FULL-AUTO AIR CONDITIONER].)
		No	Go to the next step.
6	INSPECT A/C RELAY <ul style="list-style-type: none"> Inspect the A/C relay. (See RELAY INSPECTION.) Is there any malfunction? 	Yes	Replace the A/C relay.
		No	Inspect for a short to ground circuit between A/C relay terminal E and PCM terminal 2AF. Repair or replace the wiring harness for a possible short to ground if necessary.
7	Verify the test results. <ul style="list-style-type: none"> If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) If a malfunction remains, inspect the related Service Information and perform the repair or diagnosis. <ul style="list-style-type: none"> 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 2.0, SKYACTIV-G 2.5].) 		