

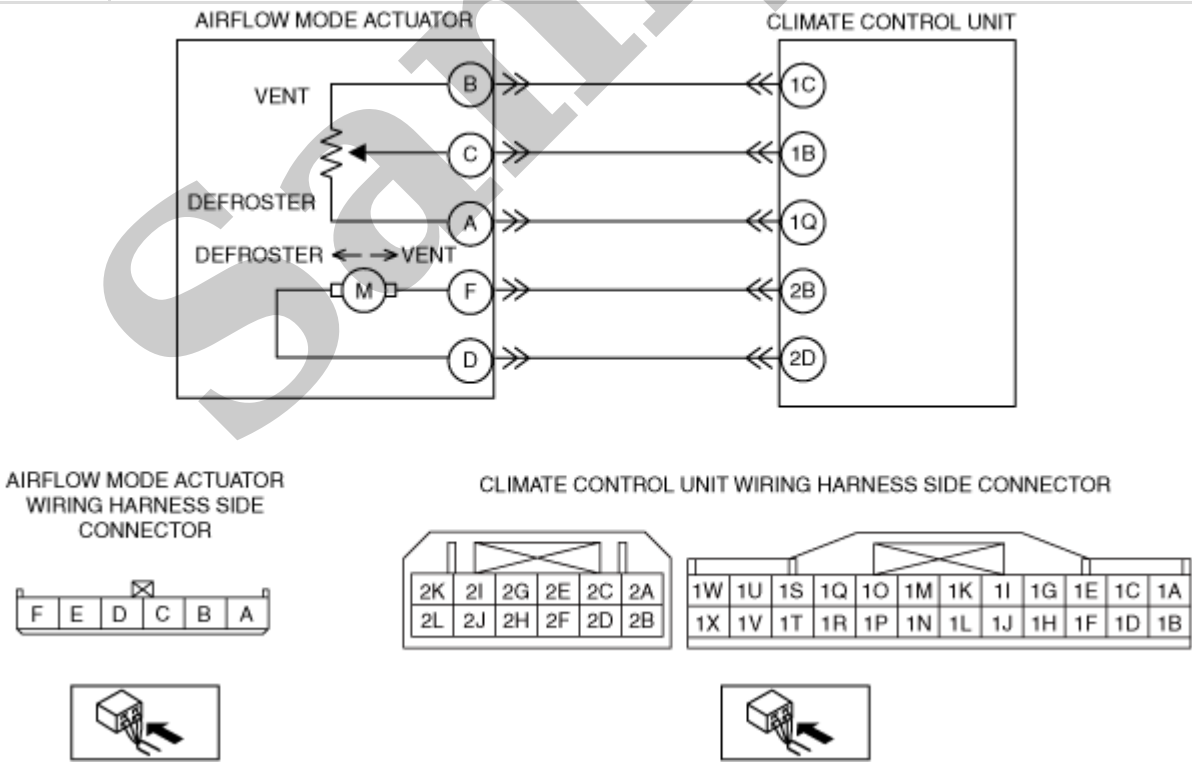
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2014 MAZDA 3 / Axela Hatchback OEM Service and Repair Workshop Manual

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System malfunction location	<ul style="list-style-type: none">• B1C1C:12: Airflow mode actuator (potentiometer) circuit short to power supply• B1C1C:13: Airflow mode actuator (potentiometer) circuit open
Detection condition	<ul style="list-style-type: none">• Malfunction in wiring harness between airflow mode actuator and climate control unit
Fail-safe function	<p>Malfunction determined when ignition switched ON</p> <ul style="list-style-type: none">• Airflow mode actuator drive signal is stopped right when the malfunction is determined. For manual operation, only vent or defroster mode is operable. <p>Malfunction already exists when ignition switched ON</p> <ul style="list-style-type: none">• Control based on ambient temperature. For manual operation, only vent or defroster mode is operable.
Possible cause	<ul style="list-style-type: none">• Connector or terminal malfunction• Airflow mode actuator malfunction• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none">— Climate control unit terminal 1C–airflow mode actuator terminal B— Climate control unit terminal 1B–airflow mode actuator terminal C— Climate control unit terminal 1Q–airflow mode actuator terminal A• Short to power supply in wiring harness between the following terminals:<ul style="list-style-type: none">— Climate control unit terminal 1C–airflow mode actuator terminal B— Climate control unit terminal 1B–airflow mode actuator terminal C— Climate control unit terminal 1Q–airflow mode actuator terminal A• Climate control unit malfunction



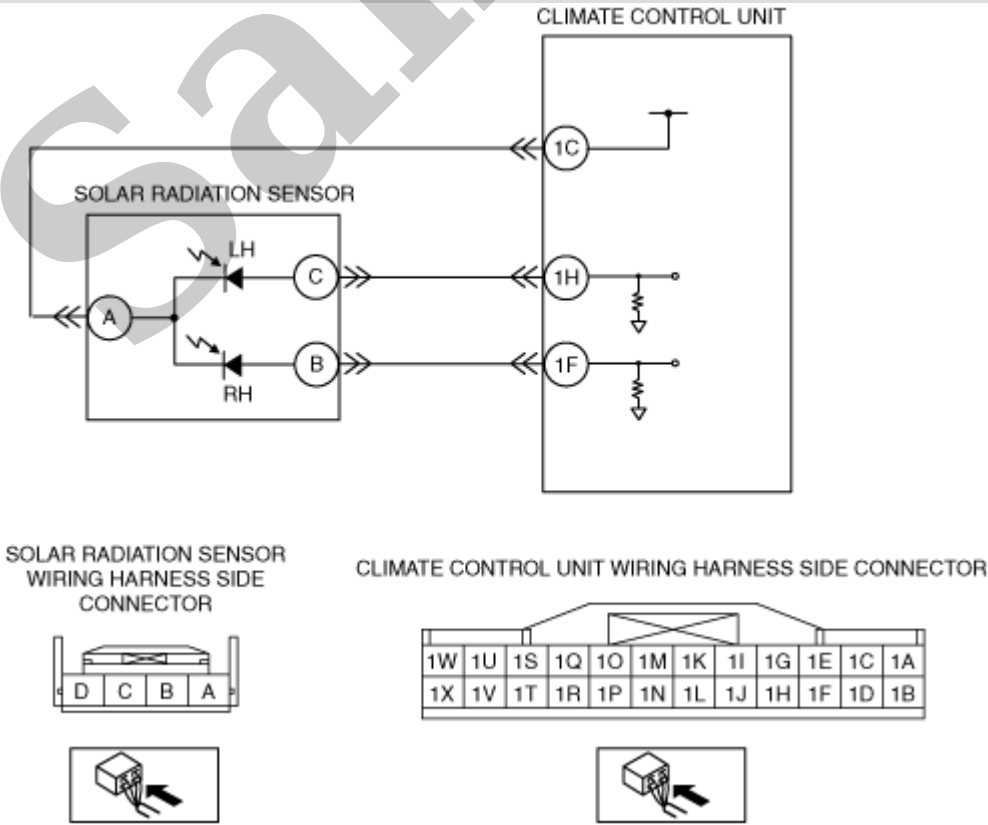
Diagnostic procedure

DTC B1A63:12, B1A63:13, B1A64:12, B1A64:13 [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)]

SM2898546

id0702k273000

System malfunction location	<ul style="list-style-type: none">• B1A63:12: Solar radiation sensor (RH) circuit short to power supply• B1A63:13: Solar radiation sensor (RH) circuit open• B1A64:12: Solar radiation sensor (LH) circuit short to power supply• B1A64:13: Solar radiation sensor (LH) circuit open
Detection condition	• Malfunction in wiring harness between solar radiation sensor and climate control unit
Fail-safe function	<p>Malfunction determined when ignition switched ON</p> <ul style="list-style-type: none">• The solar radiation sensor input value is fixed at the value directly before the malfunction only when the valve is 4.9 V or more. <p>Malfunction already exists when ignition switched ON</p> <ul style="list-style-type: none">• Solar radiation sensor value is fixed at 0 W/m².
Possible cause	<ul style="list-style-type: none">• Connector or terminal malfunction• Light amount shone on the solar radiation sensor is insufficient (Circuit is normal)• Solar radiation sensor malfunction• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none">— Climate control unit terminal 1C-solar radiation sensor terminal A— Climate control unit terminal 1H-solar radiation sensor terminal C— Climate control unit terminal 1F-solar radiation sensor terminal B• Short to power supply in wiring harness between the following terminals:<ul style="list-style-type: none">— Climate control unit terminal 1C-solar radiation sensor terminal A— Climate control unit terminal 1H-solar radiation sensor terminal C— Climate control unit terminal 1F-solar radiation sensor terminal B• Climate control unit malfunction



DTC U0423:68 [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)]

SM2898547

id0702k273060

System malfunction location	• Invalid data received from instrument cluster
Detection condition	• The climate control unit receives error signals from the Instrument cluster
Fail-safe function	• The value of the error signal is fixed at the specified value.
Possible cause	• Instrument cluster malfunction • Climate control unit malfunction
System wiring diagram	Not applicable

Diagnostic procedure

Step	Inspection	Action
1	PERFORM INSTRUMENT CLUSTER DTC INSPECTION • Perform the instrument cluster DTC inspection using the M-MDS. (See DTC INSPECTION [INSTRUMENT CLUSTER].) • Are any DTCs displayed?	Yes Go to the applicable DTC inspection. (See DTC TABLE [INSTRUMENT CLUSTER].)
		No Go to the next step.
2	PERFORM CLIMATE CONTROL UNIT DTC INSPECTION • Clear the DTC from the climate control unit memory using the M-MDS. (See CLEARING DTC [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Perform the climate control unit DTC inspection using the M-MDS. (See DTC DISPLAY [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Is the same DTC displayed?	Yes Replace the instrument cluster, then go to the next step. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No Go to the next step.
3	VERIFY TROUBLESHOOTING COMPLETED • Clear the DTC from the climate control unit memory using the M-MDS. (See CLEARING DTC [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Perform the climate control unit DTC inspection using the M-MDS. (See DTC DISPLAY [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Is the same DTC displayed?	Yes Repeat the inspection from Step 1. • If the malfunction recurs, replace the climate control unit. (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) Go to the next step.
		No Go to the next step.
4	VERIFY THAT NO OTHER DTCs ARE PRESENT • Verify other DTCs displayed. • Are any other DTCs displayed?	Yes Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].)
		No DTC troubleshooting completed.

Step	Inspection		Action
6	INSPECT CLIMATE CONTROL UNIT POWER SUPPLY VOLTAGE <ul style="list-style-type: none">• Climate control unit connector is disconnected.• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)• Switch the ignition ON (engine off or on).• Measure the voltage at the following terminals (wiring harness-side):<ul style="list-style-type: none">— Climate control unit terminal 1W• Is the voltage 10.1–17.2 V?	Yes	Go to the next step.

Step	Inspection	Action
7	INSPECT CLIMATE CONTROL UNIT POWER SUPPLY VOLTAGE <ul style="list-style-type: none">• Climate control unit connector is disconnected.• Measure the voltage at the following terminals (wiring harness-side):<ul style="list-style-type: none">— Climate control unit terminal 1U• Is the voltage 10.1–17.2 V?	Yes Go to the next step.

Sample

DTC U2300:54, U2300:55, U2300:56, U2300:64 [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)]

SM2898551

id0702k274550

System malfunction location	<ul style="list-style-type: none">• U2300:54: Configuration error (data not received)• U2300:55: Configuration error (not configured)• U2300:56: Configuration error (ineffective/non-interchangeable data read)• U2300:64: Configuration error (error value read)
Detection condition	<ul style="list-style-type: none">• Climate control unit detects configuration data not record or data error
Fail-safe function	<ul style="list-style-type: none">• Sets the configuration value to the following fixed value<ul style="list-style-type: none">— Destination: North_America— FSC_Types: FOW_and_LDW_and:C— PTC heater: Not_Equipped— Rear_vent: Equipped— ICA_Types: Normal_Type— Transmission_Types: MT
Possible cause	<p>Note</p> <ul style="list-style-type: none">• If power from the battery is interrupted, the climate control unit will go into a non-configured state because the memory for the configuration information is erased.• Normally, the configuration is re-performed within 6 s after the ignition is switched ON (engine off).• After performing the configuration, DTC U2300:55 will be cleared if the ignition is switched ON (engine off) after the ignition is switched off.• Module configuration procedure was not completed properly• Correct data cannot be received from instrument cluster• Climate control unit malfunction
System wiring diagram	Not applicable

Diagnostic procedure

Step	Inspection	Action	
1	RECORD CAR CONFIGURATION DATA <ul style="list-style-type: none">• Switch the ignition ON (engine off) and wait for 6 s or more.• Switch the ignition off.• Switch the ignition ON (engine off).	Go to the next step.	
2	VERIFY THAT SAME DTC IS NOT PRESENT <ul style="list-style-type: none">• Clear the DTC from the climate control unit memory using the M-MDS. (See CLEARING DTC [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].)• Perform the climate control unit DTC inspection using the M-MDS. (See DTC DISPLAY [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].)• Are the same DTCs present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, go to the next step.
		No	Go to Step 5.

Step	Inspection		Action
1	INSPECT IG1 RELAY FOR MALFUNCTION <ul style="list-style-type: none"> • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Remove the IG1 relay. (See RELAY LOCATION.) • Inspect the IG1 relay. (See RELAY INSPECTION.) • Is the IG1 relay normal? 	Yes	Go to the next step.
		No	Replace the IG1 relay, then go to Step 9. (See RELAY LOCATION.)
2	PERFORM FRONT BODY CONTROL MODULE (FBCM) DTC INSPECTION <ul style="list-style-type: none"> • Perform the front body control module (FBCM) DTC inspection using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)].)
		No	Go to the next step.
3	VERIFY CLIMATE CONTROL UNIT CONNECTOR CONDITION <ul style="list-style-type: none"> • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the climate control unit connector. (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Are the connector and terminals normal? 	Yes	Go to the next step.
		No	Repair/replace the connector or terminal. After repair procedure, go to Step 9.

Step	Inspection		Action
9	VERIFY THAT SAME DTC IS NOT OUTPUT AGAIN <ul style="list-style-type: none"> • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Reconnect the disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Clear the DTC from the climate control unit memory using the M-MDS. (See CLEARING DTC [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Perform the DTC inspection for the climate control unit using the M-MDS. (See DTC DISPLAY [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) • Is the same DTC displayed? 	Yes	Repeat the inspection from Step 1. <ul style="list-style-type: none"> • If the malfunction recurs, replace the climate control unit. (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) Go to the next step.
		No	Go to the next step.
10	VERIFY THAT NO OTHER DTCs ARE PRESENT <ul style="list-style-type: none"> • Verify other DTCs displayed. • Are any other DTCs displayed? 	Yes	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)] .)
		No	DTC troubleshooting completed.

Step	Inspection	Action
4	INSPECT EACH SENSOR/ACTUATOR CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> Inspect for continuity between the following terminal (wiring harness-side) and body ground: <ul style="list-style-type: none"> — Climate control unit terminal 1C Is there continuity? 	Refer to the wiring diagram and verify whether or not there is a common connector between climate control unit terminal and each sensor/actuator terminal. If there is a common connector: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Repair or replace the wiring harness which has a short to ground. Go to the next step.
		Go to the next step.
5	VERIFY THAT SAME DTC IS NOT OUTPUT AGAIN <ul style="list-style-type: none"> Reconnect the disconnected connectors. Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) Clear the DTC from the climate control unit memory using the M-MDS. (See CLEARING DTC [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) Perform the climate control unit DTC inspection using the M-MDS. (See DTC DISPLAY [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)].) Is the same DTC displayed? 	Repeat the inspection from Step 1. <ul style="list-style-type: none"> If the malfunction recurs, replace the climate control unit. (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) Go to the next step.
		Go to the next step.
6	VERIFY THAT NO OTHER DTCs ARE PRESENT <ul style="list-style-type: none"> Verify other DTCs displayed. Are any other DTCs displayed? 	Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [CLIMATE CONTROL UNIT (FULL-AUTO AIR CONDITIONER)] .)
		DTC troubleshooting completed.