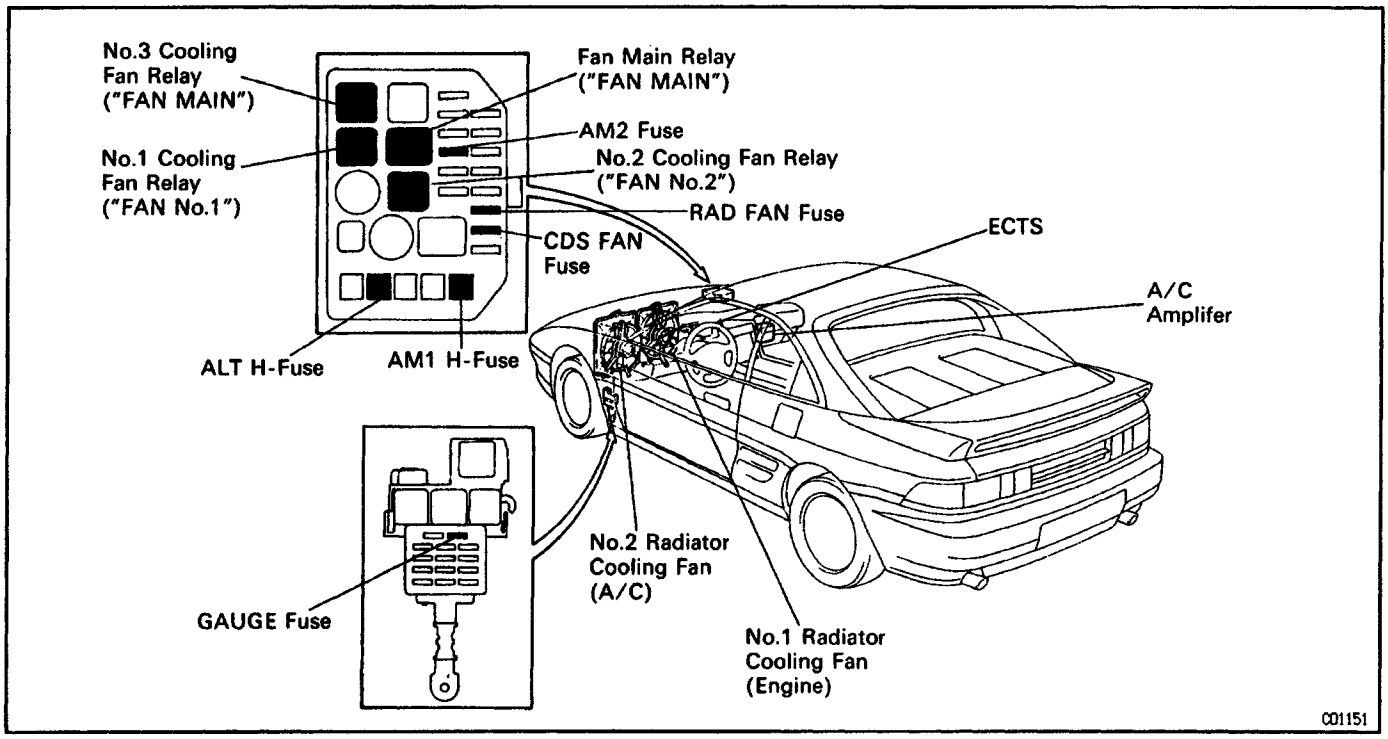
RADIATOR ELECTRIC COOLING FAN (WITH AC)

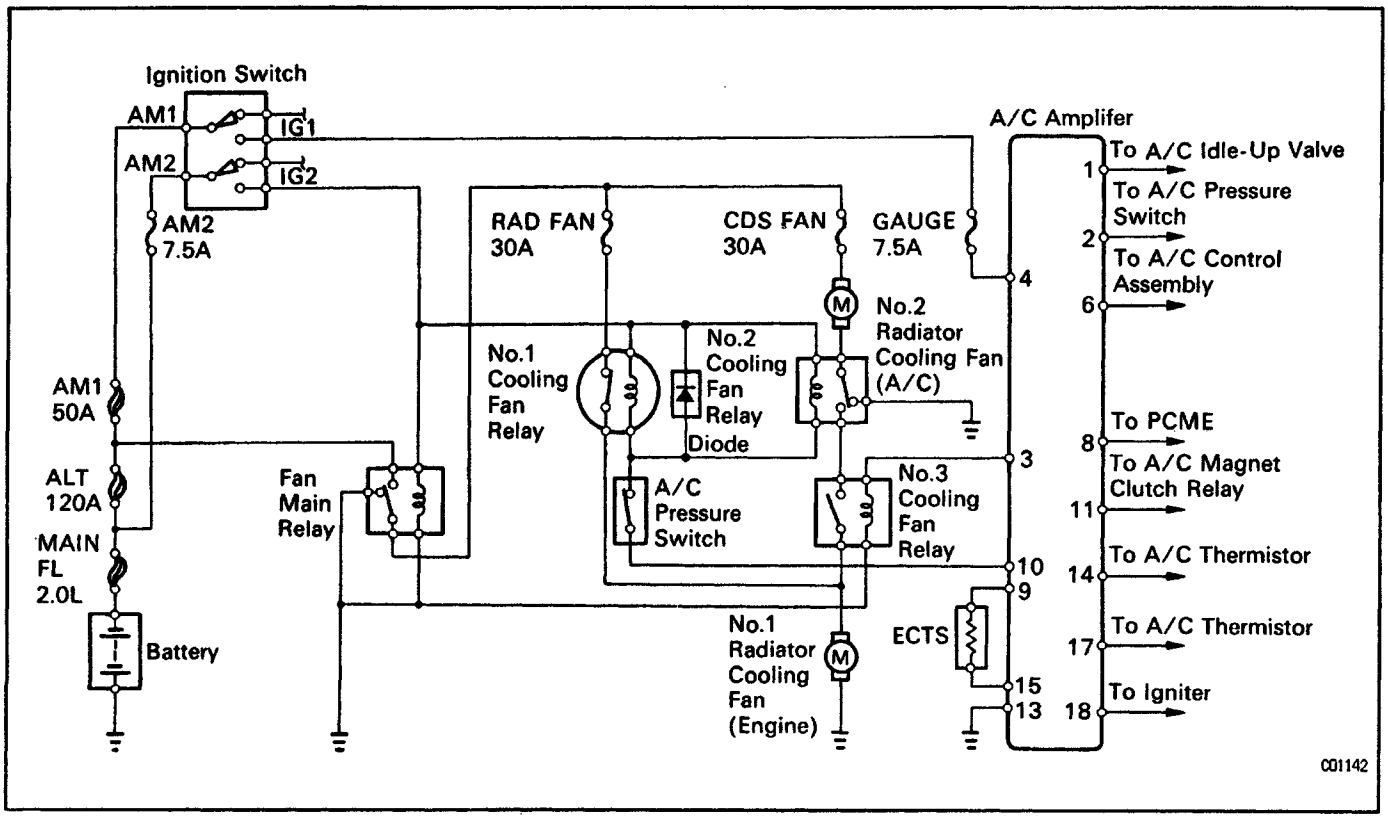
EG07B–02

Parts Location



EG07C–02

System Circuit

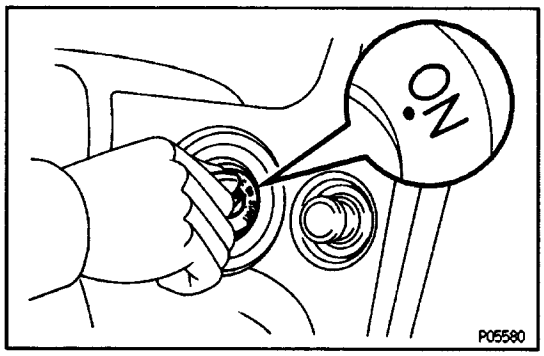


EG0ZN–01

On–Vehicle Inspection

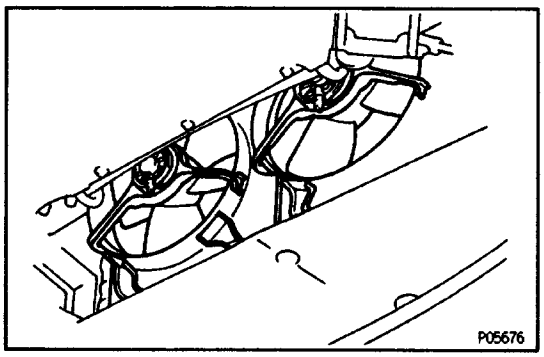
1. INSPECT COOLING FAN OPERATION AT LOW TEMPERATURE (Below 85˚C (185˚F))

(a) Turn the ignition switch ON.

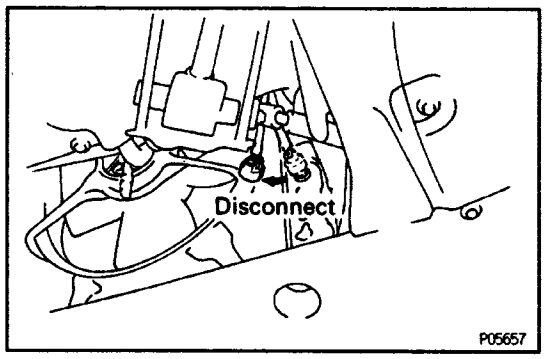


(b) Check that the cooling fans stops.

If not, check the cooling fan relays and ECTS, and check for a separated connector or severed wire between the cooling fan relay and ECTS.

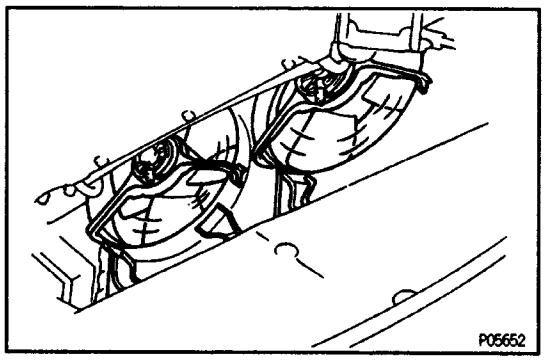


(c) Disconnect the ECTS connector.

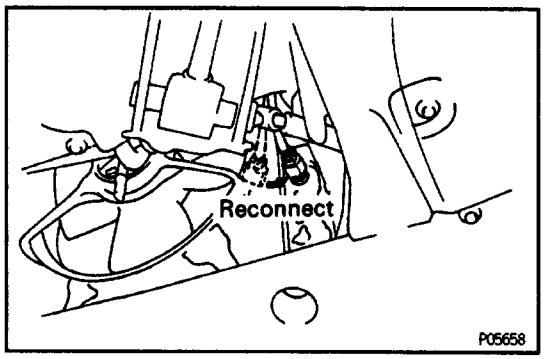


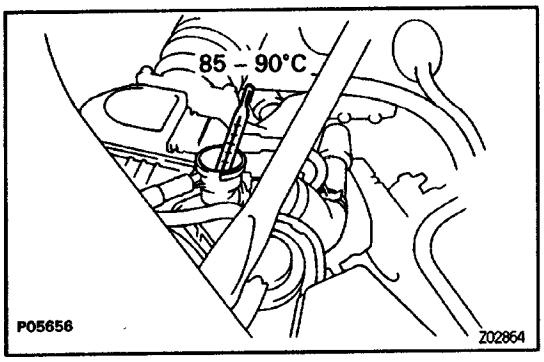
(d) Check that the cooling fans rotates.

If not, check the fuses, fan main relay, cooling fan relays, A/C amplifier, cooling fan, and check for a short circuit between the cooling fan relay and ECTS.



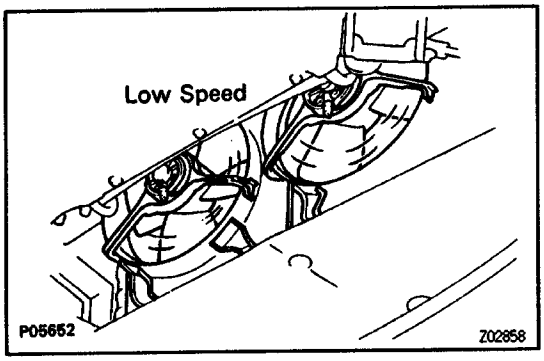
(e) Reconnect the ECTS connector.



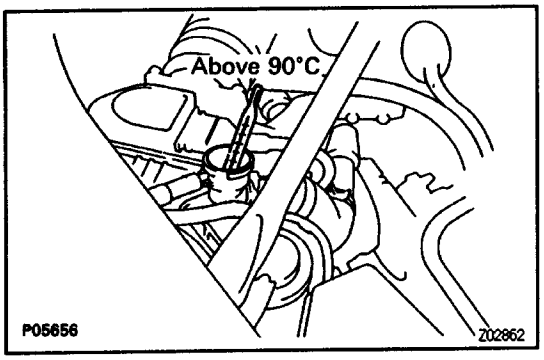


2. INSPECT COOLING FAN OPERATION AT HIGH TEMPERATURE (85 – 90˚C (185 – 194˚F))

(a) Start the engine, and raise coolant temperature to 85 – 90˚C (185 – 194˚ F).

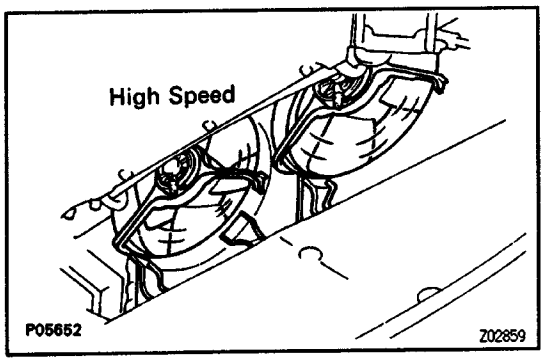


(b) Check that the cooling fans rotates at low speed. If not, replace the ECTS.



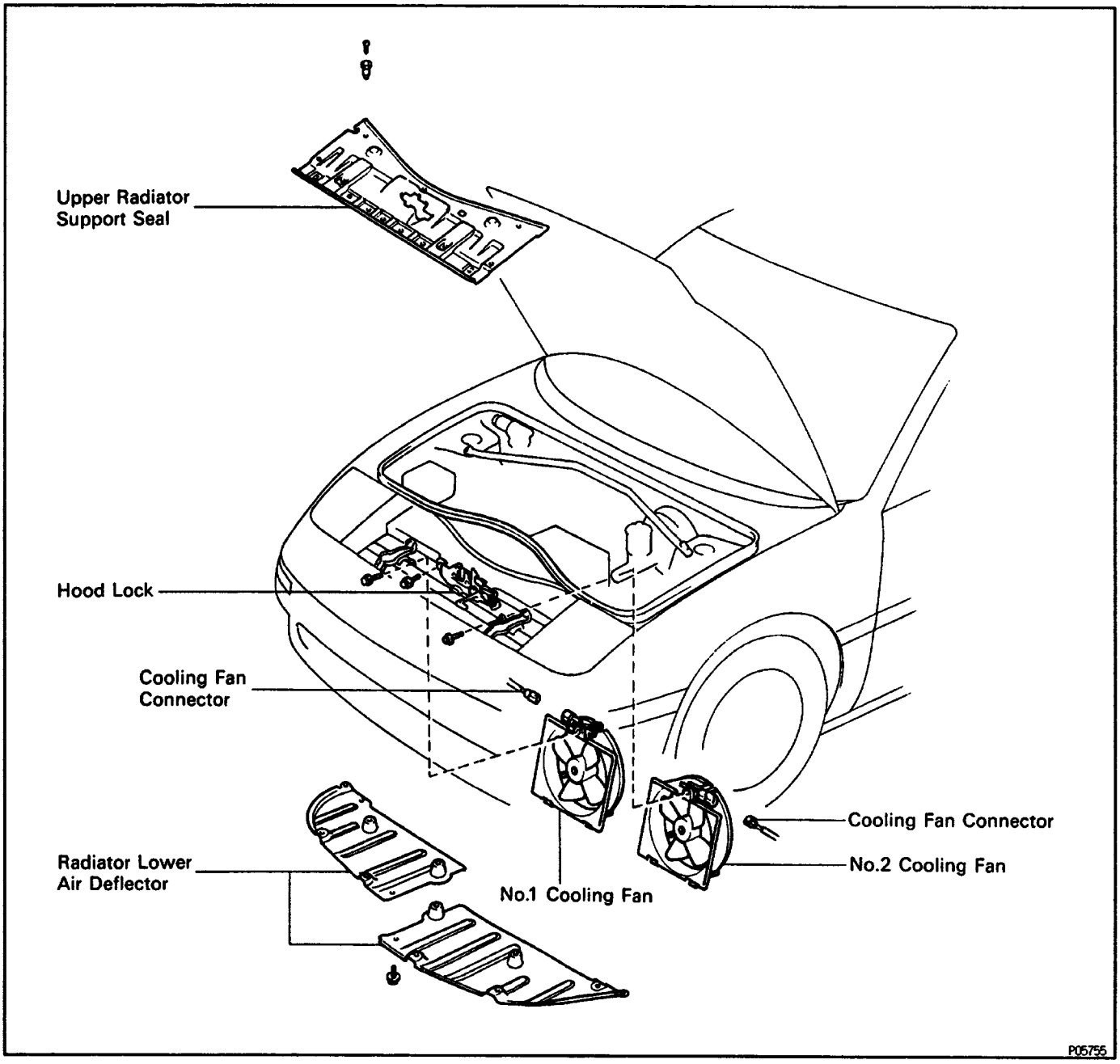
3. INSPECT COOLING FAN OPERATION AT HIGH TEMPERATURE (Above 90˚C (194˚F))

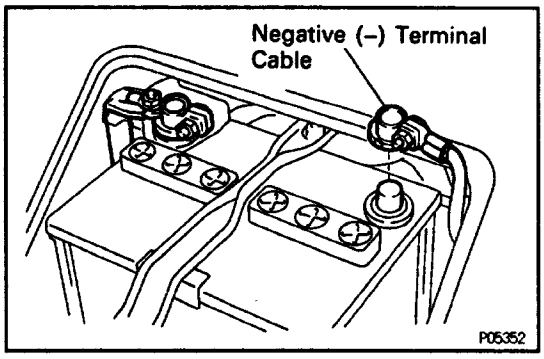
(a) Start the engine, and raise coolant temperature to above 90˚ C (194˚ F).



(b) Check that the cooling fans rotates at high speed. If not, replace the ECTS.

Cooling Fans
COMPONENTS FOR REMOVAL AND INSTALLATION



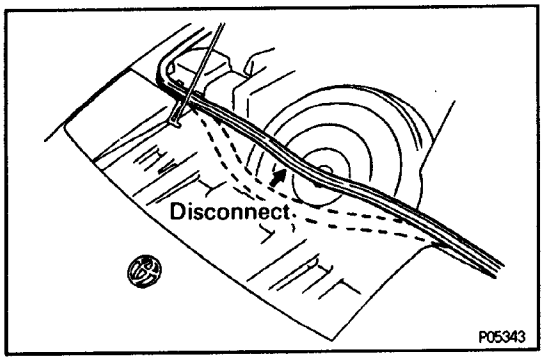


COOLING FANS INSPECTION

(See Components for Removal and Installation)

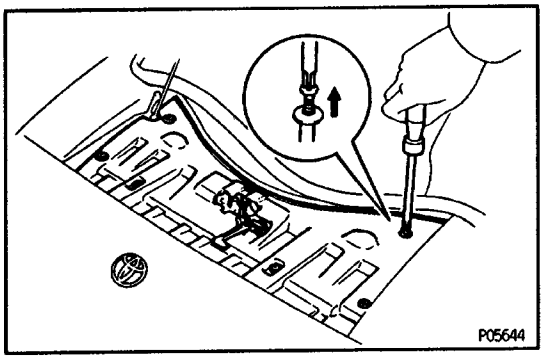
1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

CAUTION: Turn the ignition switch to 'LOCK'. Disconnect the negative terminal from the battery. Wait at least 20 seconds before proceeding with work.



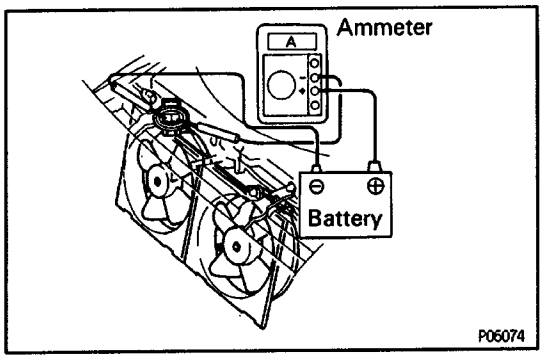
2. REMOVE UPPER RADIATOR SUPPORT SEAL

(a) Disconnect the hood weatherstrip.



(b) Remove the seven clips.

(c) Remove the two hood lock mounting bolts, and remove the support seal.



3. INSPECT COOLING FANS

(a) Disconnect the two cooling fan connectors.

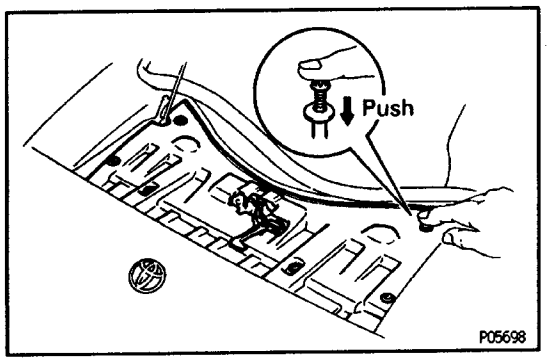
(b) Connect battery and ammeter to the cooling fan connector.

(c) Check that the cooling fan rotates smoothly, and check the reading on the ammeter.

Standard amperage:

5.8 – 7.4 A

(d) Reconnect the two cooling fan connectors.



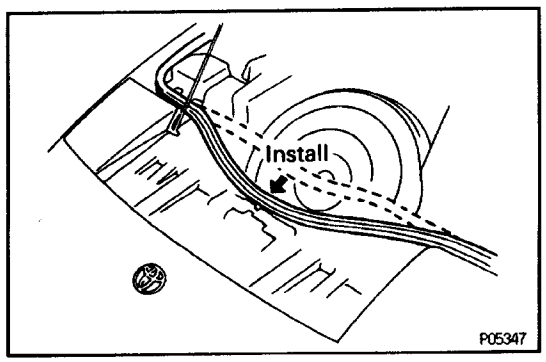
4. REINSTALL UPPER RADIATOR SUPPORT SEAL

(a) Temporarily install the hood lock with the RH side bolt.

(b) Place the support seal in position.

(c) Install the hood lock with the two bolts.

(d) Install the seven clips.



(e) Install the hood weatherstrip.

5. RECONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

EG02G–01

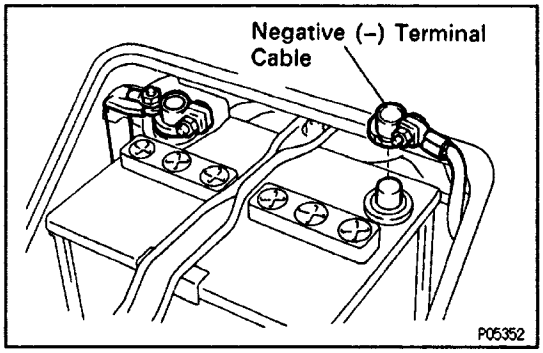
COOLING FANS REMOVAL

(See Components for Removal and Installation)

1. DISCONNECT CAGE FROM NEGATIVE TERMINAL OF BATTERY

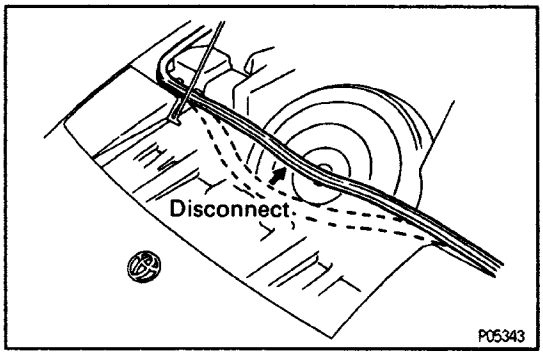
CAUTION: Turn the ignition switch to "LOCK". Disconnect the negative terminal from the battery. Wait at least 20 seconds before proceeding with work.

2. REMOVE RADIATOR LOWER AIR DEFLECTOR



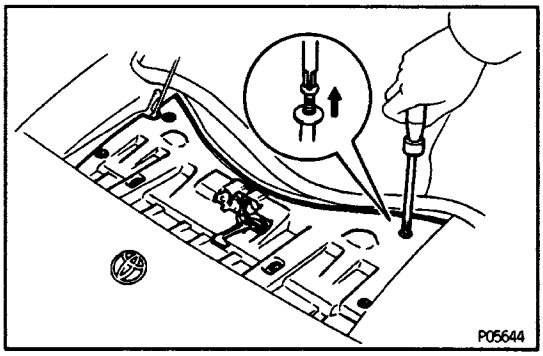
3. REMOVE UPPER RADIATOR SUPPORT SEAL

(a) Disconnect the hood weatherstrip.



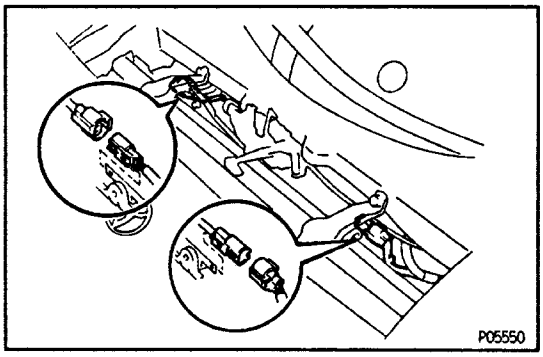
(b) Remove the seven clips.

(c) Remove the two hood lock mounting bolts, and remove the support seal.

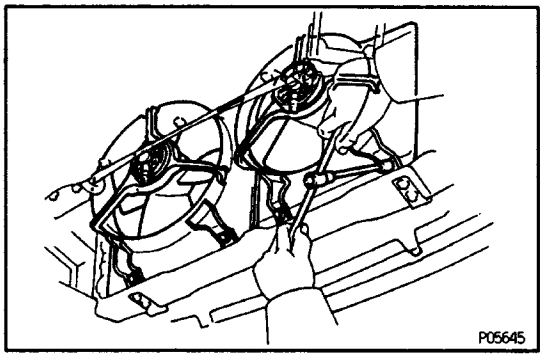


4. REMOVE COOLING FANS

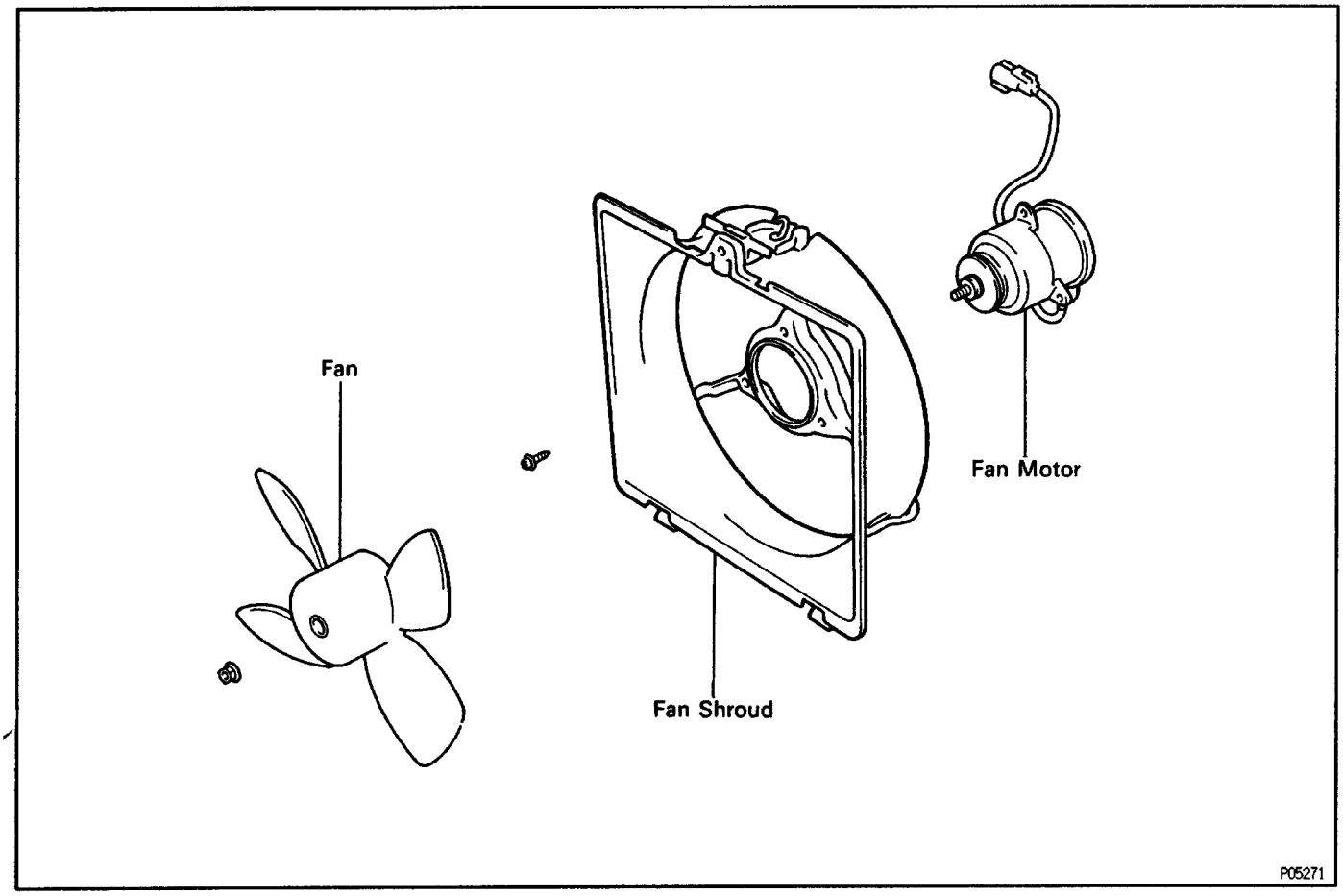
(a) Disconnect the two cooling fan connectors.



(b) Remove the three bolts and cooling fan. Remove the two cooling fans.



COMPONENTS FOR DISASSEMBLY AND ASSEMBLY



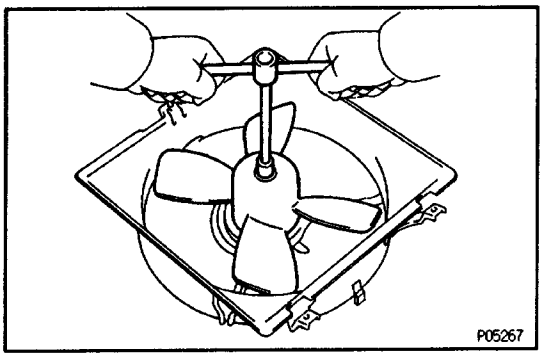
EG02R–01

COOLING FAN DISASSEMBLY

(See Components for Disassembly and Assembly)

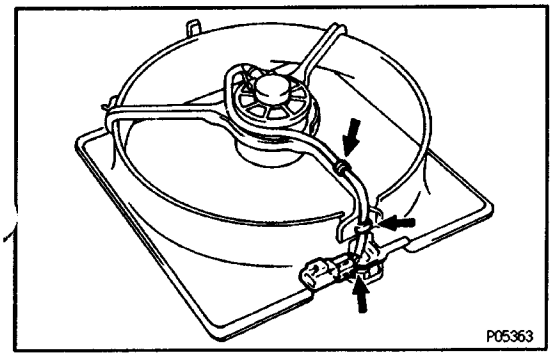
1. REMOVE FAN

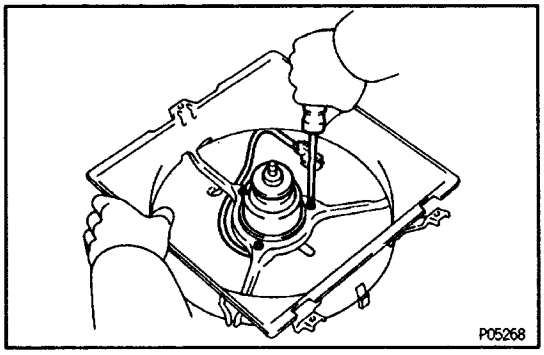
Remove the nut and fan.



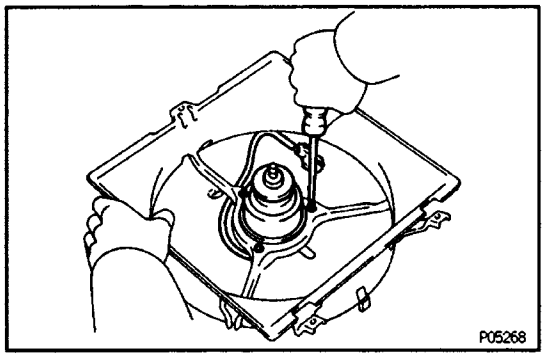
2. REMOVE FAN MOTOR

(a) Disconnect the wire and connector from the fan shroud.





(b) Remove the three screws and fan motor.



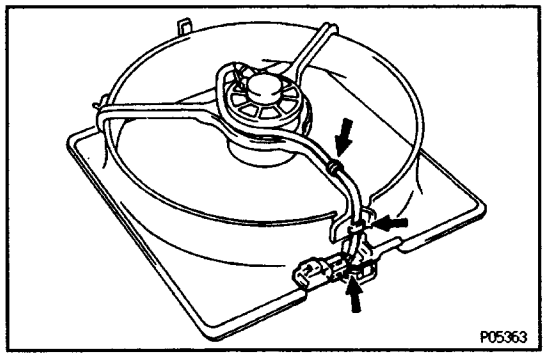
E0GZS–01

COOLING FAN ASSEMBLY

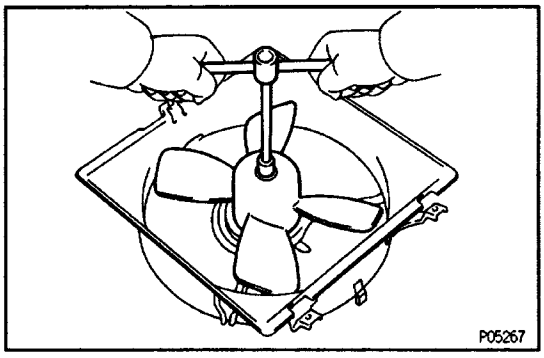
(See Components for Disassembly and Assembly)

1. INSTALL FAN MOTOR

(a) Install the fan motor with the nut.

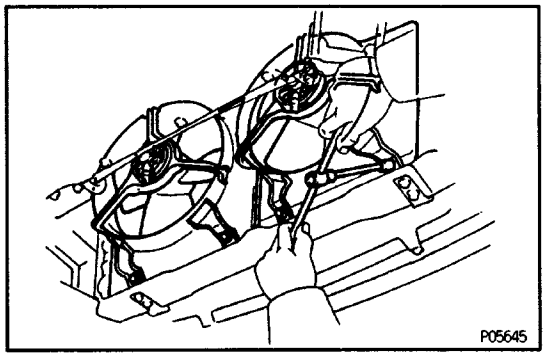


(b) Install the wire and connector to the fan shroud.



2. INSTALL FAN

Install the fan with the nut.



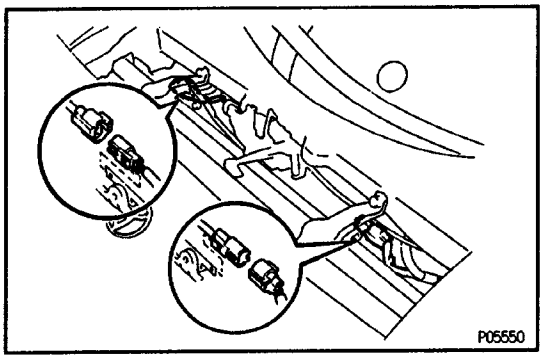
E0GZT–01

COOLING FANS INSTALLATION

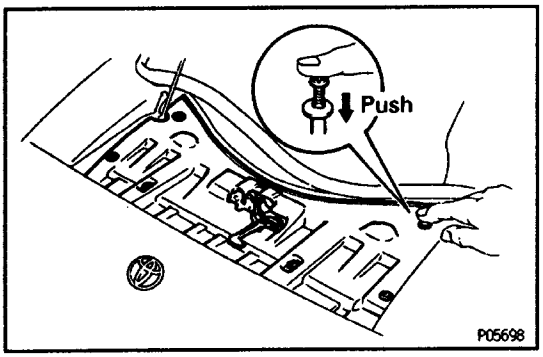
(See Components for Disassembly and Assembly)

1. INSTALL COOLING FANS

(a) Install the cooling fan with the three bolts. Install the two cooling fans.

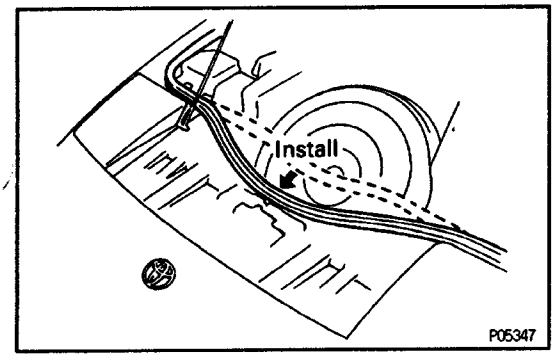


(b) Connect the two cooling fan connectors.



2. INSTALL UPPER RADIATOR SUPPORT SEAL

(a) Temporarily install the hood lock with the RH side bolt.
(b) Place the support seal in position.
(c) Install the hood lock with the two bolts.
(d) Install the seven clips.



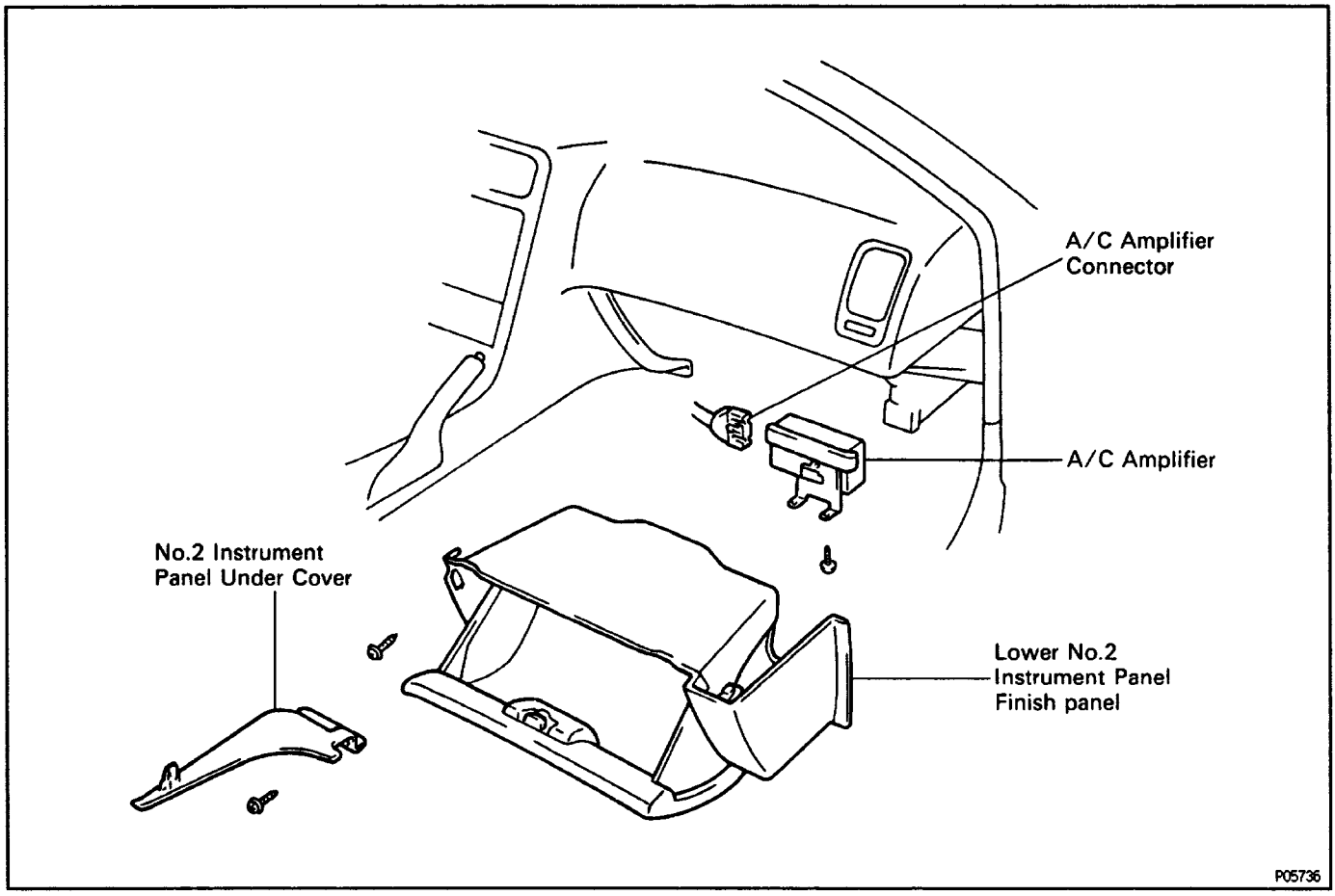
(e) Install the hood weatherstrip.

3. INSTALL RADIATOR LOWER AIR DEFLECTOR

4. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

E0470–04

A/C Amplifier
COMPONENTS FOR REMOVAL AND INSTALLATION



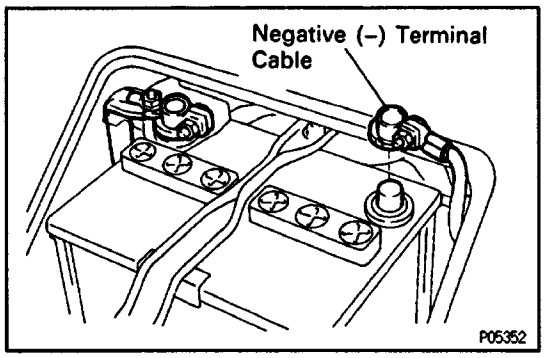
E0470–01

A/C AMPLIFIER INSPECTION

(See Components for Removal and Installation)

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

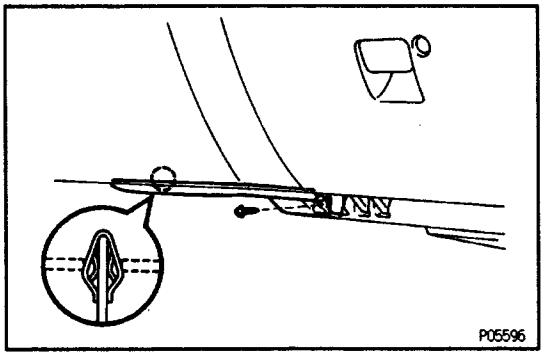
CAUTION: Turn the ignition switch to 'LOCK'. Disconnect the negative terminal from the battery. Wait at least 20 seconds before proceeding with work.

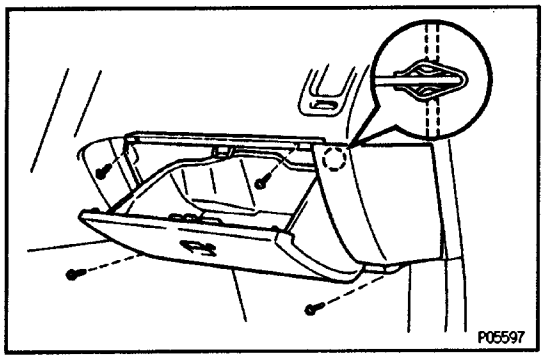


2. REMOVE NO.2 INSTRUMENT PANEL UNDER COVER

(a) Remove the screw.

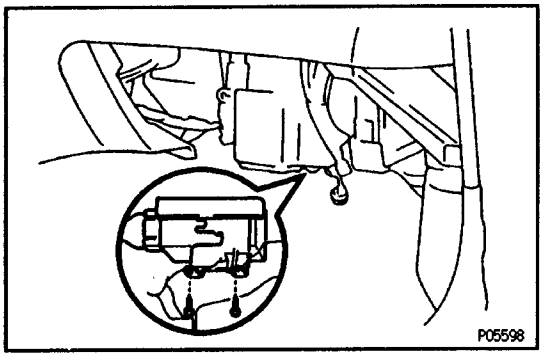
(b) Remove the under cover by pulling it.





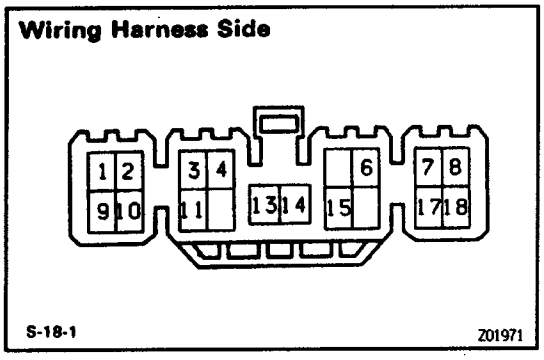
3. REMOVE LOWER NO.2 INSTRUMENT FINISH PANEL

(a) Remove the four screws.
(b) Remove the finish panel by pulling it.



4. INSPECT A/C AMPLIFIER

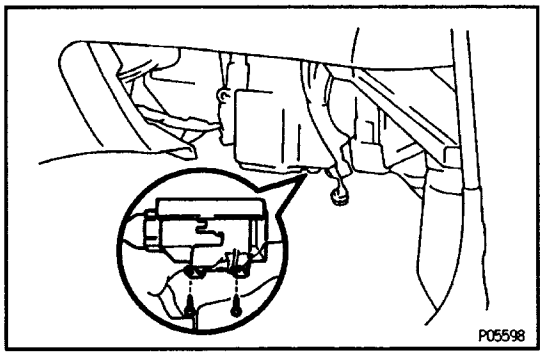
(a) Remove the two screw, and disconnect the A/C amplifier from the cooler unit.
(b) Disconnect the A/C amplifier connector.



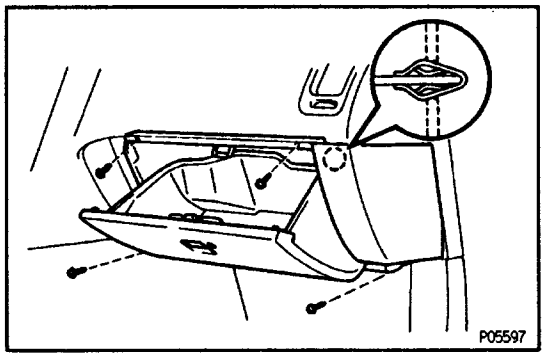
(c) Check the connector on the wiring harness side as shown in the chart.

Check for	Tester connection	Condition		Specified valve
Continuity	3 – Ground	–		Continuity
Voltage	4 – Ground	Ignition switch ON		Battery voltage
Resistance	9–15	Coolant temp.	85°C (I85°F)	Approx. 1.35 kΩ
			90°C (I94°F)	Approx. 1.19 kΩ
			95°C (203°F)	Approx. 1.05 kΩ
Voltage	10 – Ground	Ignition switch ON		Battery voltage
Continuity	13 – Ground	–		Continuity

V00873

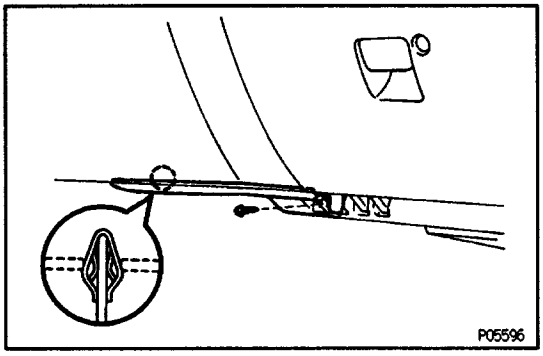


(d) Reconnect the A/C amplifier connector.
(e) Reinstall the A/C amplifier with the two screws.



5. REINSTALL LOWER NO.2 INSTRUMENT FINISH PANEL

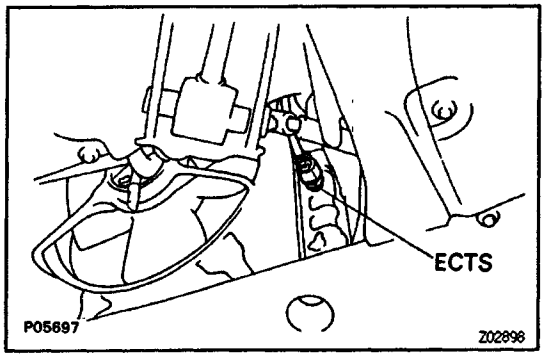
(a) Attach the finish panel to the instrument panel with the clips.
(b) Install the four screws.



6. REINSTALL NO.2 INSTRUMENT PANEL UNDER COVER

(a) Attach the finish panel to the instrument panel with the clips.
(b) Install the screw.

7. RECONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY



Engine Coolant Temperature Sensor (ECTS)

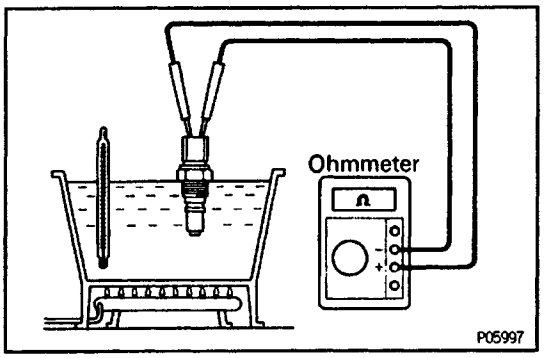
ECTS INSPECTION

1. DRAIN ENGINE COOLANT FROM RADIATOR

2. REMOVE ECTS

(a) Disconnect the sensor connector.

(b) Remove the ECTS.



3. INSPECT ECTS

Using an ohmmeter, measure the resistance between the terminals.

Resistance:

Approx. 1.35 kΩ at 85˚ C (185˚ F)

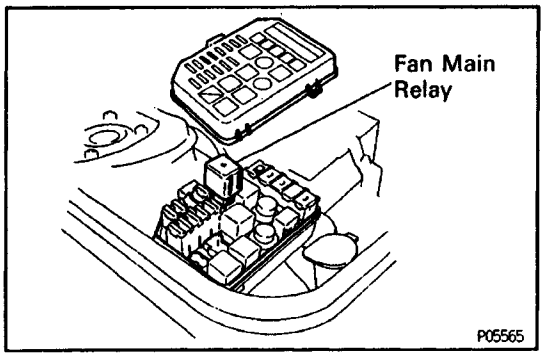
Approx. 1.19 kΩ at 90˚ C (194˚ F)

Approx. 1.05 kΩ at 95˚C (203˚F)

If resistance is not as specified, replace the ECTS.

4. REINSTALL ECTS

5. REFILL WITH ENGINE COOLANT

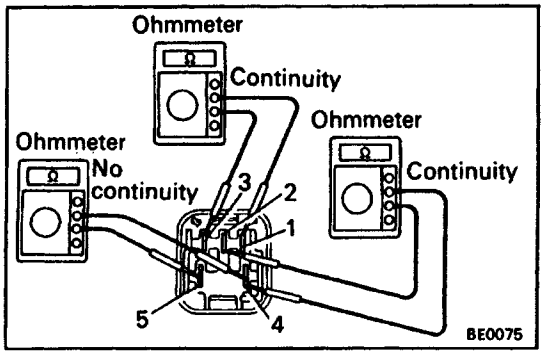


B90ZW–01

Fan Main Relay (”FAN MAIN’)

FAN MAIN RELAY INSPECTION

1. REMOVE FAN MAIN RELAY



2. INSPECT FAN MAIN RELAY

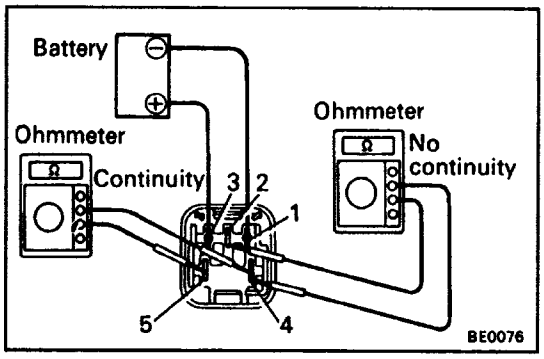
A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 3.

(b) Check that there is continuity between terminals 2 and 4.

(c) Check that there is no continuity between terminals 4 and 5.

If continuity is not as specified, replace the relay.



B. Inspect relay operation

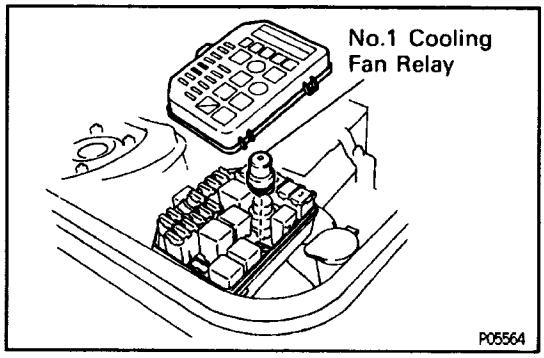
(a) Apply battery voltage across terminals 1 and 3.

(b) Using an ohmmeter, check that there is no continuity between terminals 2 and 4.

(c) Check that there is continuity between terminals 4 and 5.

If operation is not as specified, replace the relay.

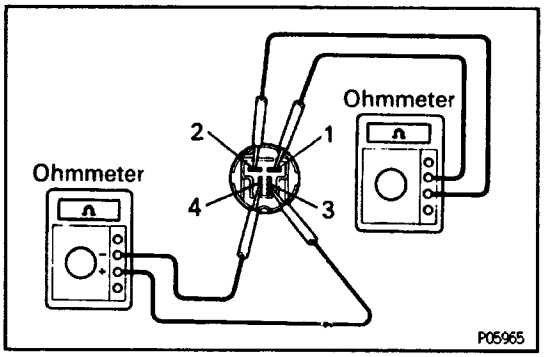
3. REINSTALL FAN MAIN RELAY



No.1 Cooling Fan Relay (”FAN NO.1”) E002X-01

NO.1 COOLING FAN RELAY INSPECTION

7. REMOVE N0.7 COOLING FAN RELAY



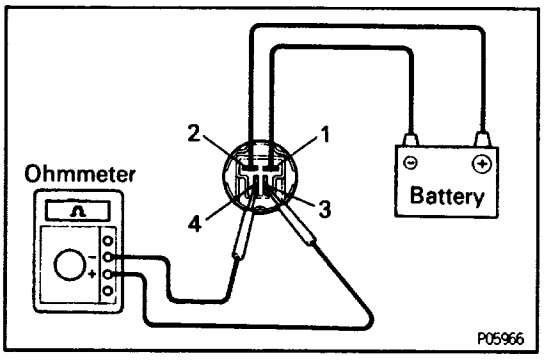
2. INSPECT NO.1 COOLING FAN RELAY

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

(b) Check that there is continuity between terminals 3 and 4.

If continuity is not as specified, replace the relay.



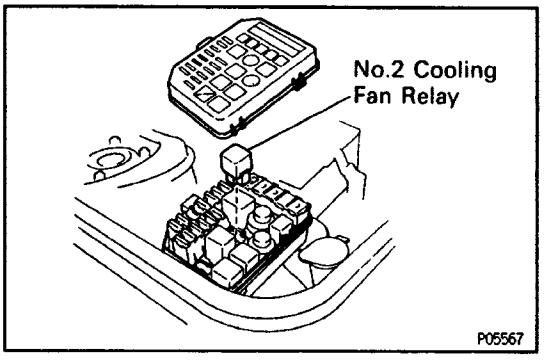
B. Inspect relay operation

(a) Apply battery voltage across terminals 1 and 2.

(b) Using an ohmmeter, check that there is no continuity between terminals 3 and 4.

If operation is not as specified, replace the relay.

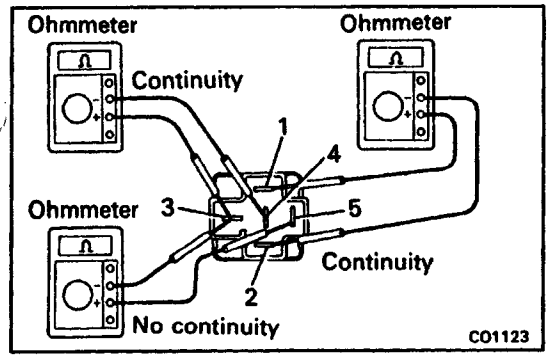
3. REINSTALL NO.1 COOLING FAN RELAY



No.2 Cooling Fan Relay (’FAN NO.2’) E002Y-01

NO.2 COOLING FAN RELAY INSPECTION

1. REMOVE NO.2 COOLING FAN RELAY



2. INSPECT NO.2 COOLING FAN RELAY

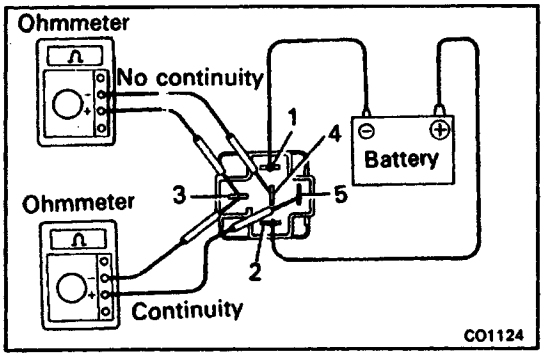
A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

(b) Check that there is continuity between terminals 3 and 4.

(c) Check that there is no continuity between terminals 3 and 5.

If continuity is not as specified, replace the relay.



B. Inspect relay operation

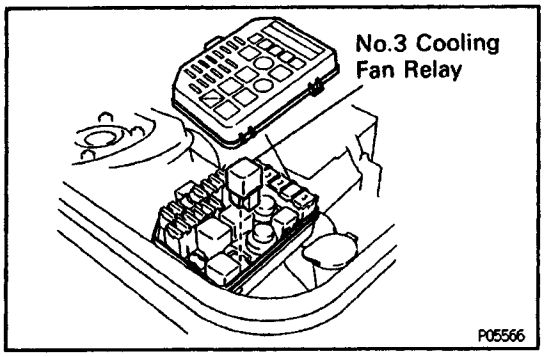
(a) Apply battery voltage across terminals 1 and 2.

(b) Using an ohmmeter, check that there is no continuity between terminals 3 and 4.

(c) Using an ohmmeter, check that there is continuity between terminals 3 and 5.

If operation is not as specified, replace the relay.

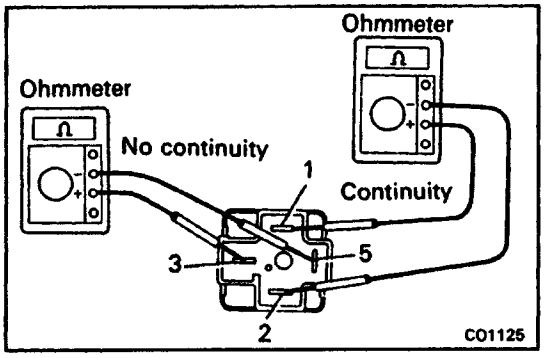
3. REINSTALL NO.2 COOLING FAN RELAY



No.3 Cooling Fan Relay ("FAN NO.3") E04ZZ–01

NO.3 COOLING FAN RELAY INSPECTION

1. REMOVE NO.3 COOLING FAN RELAY



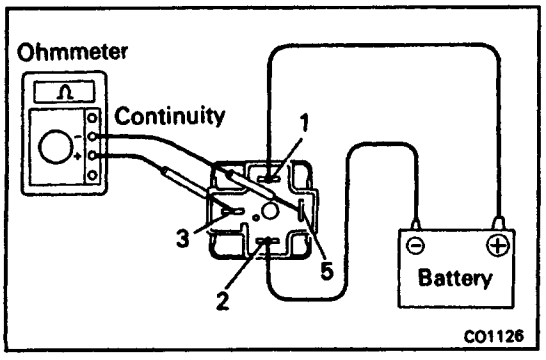
2. INSPECT NO–3 COOLING FAN RELAY

A. Inspect relay continuity

(a) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

(b) Check that there is no continuity between terminals 3 and 5.

If continuity is not as specified, replace the relay.



B. Inspect relay operation

(a) Apply battery voltage across terminals 1 and 2.

(b) Using an ohmmeter, check that there is continuity between terminals 3 and 5.

If operation is not as specified, replace the relay.

3. REINSTALL NO.3 COOLING FAN RELAY