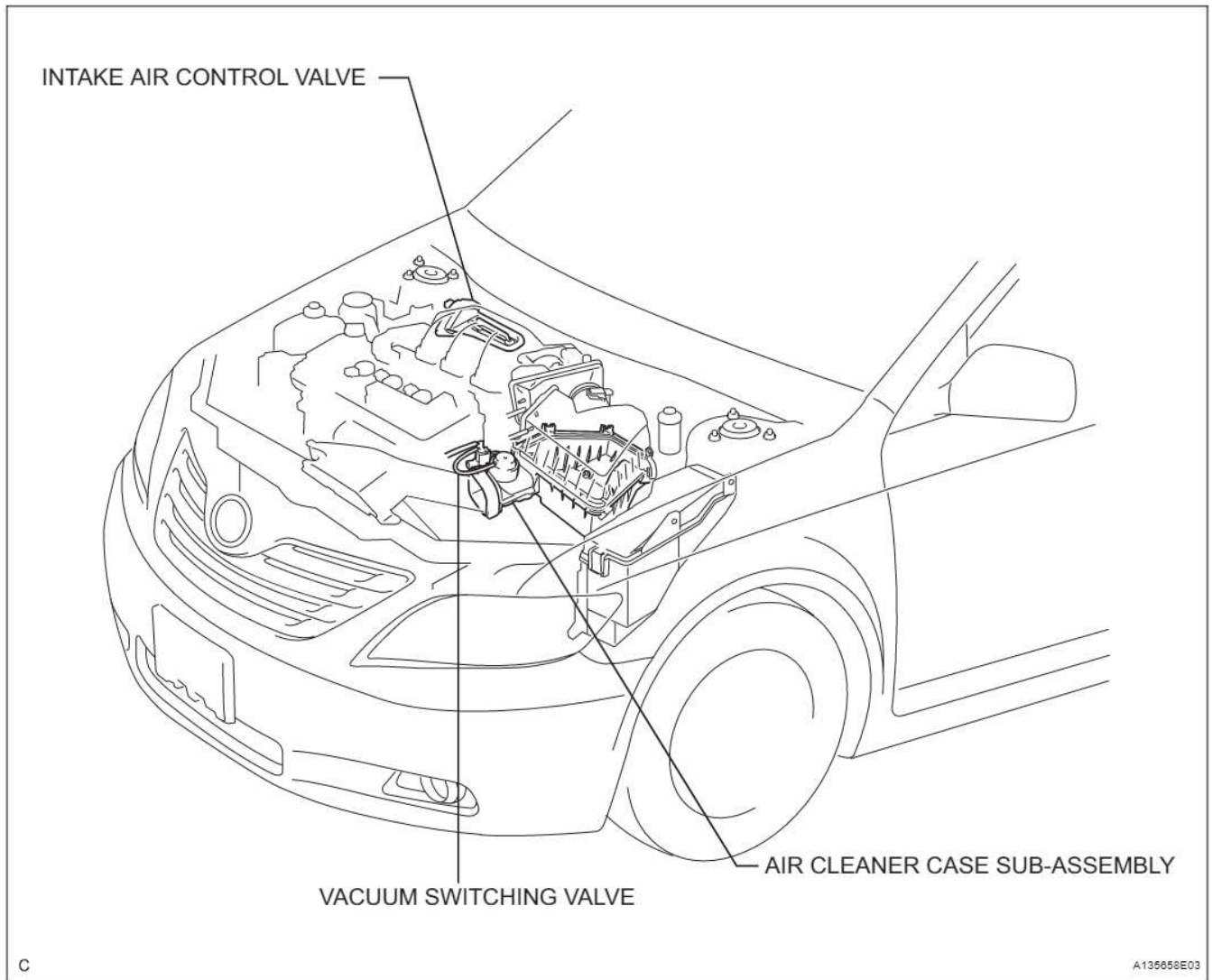
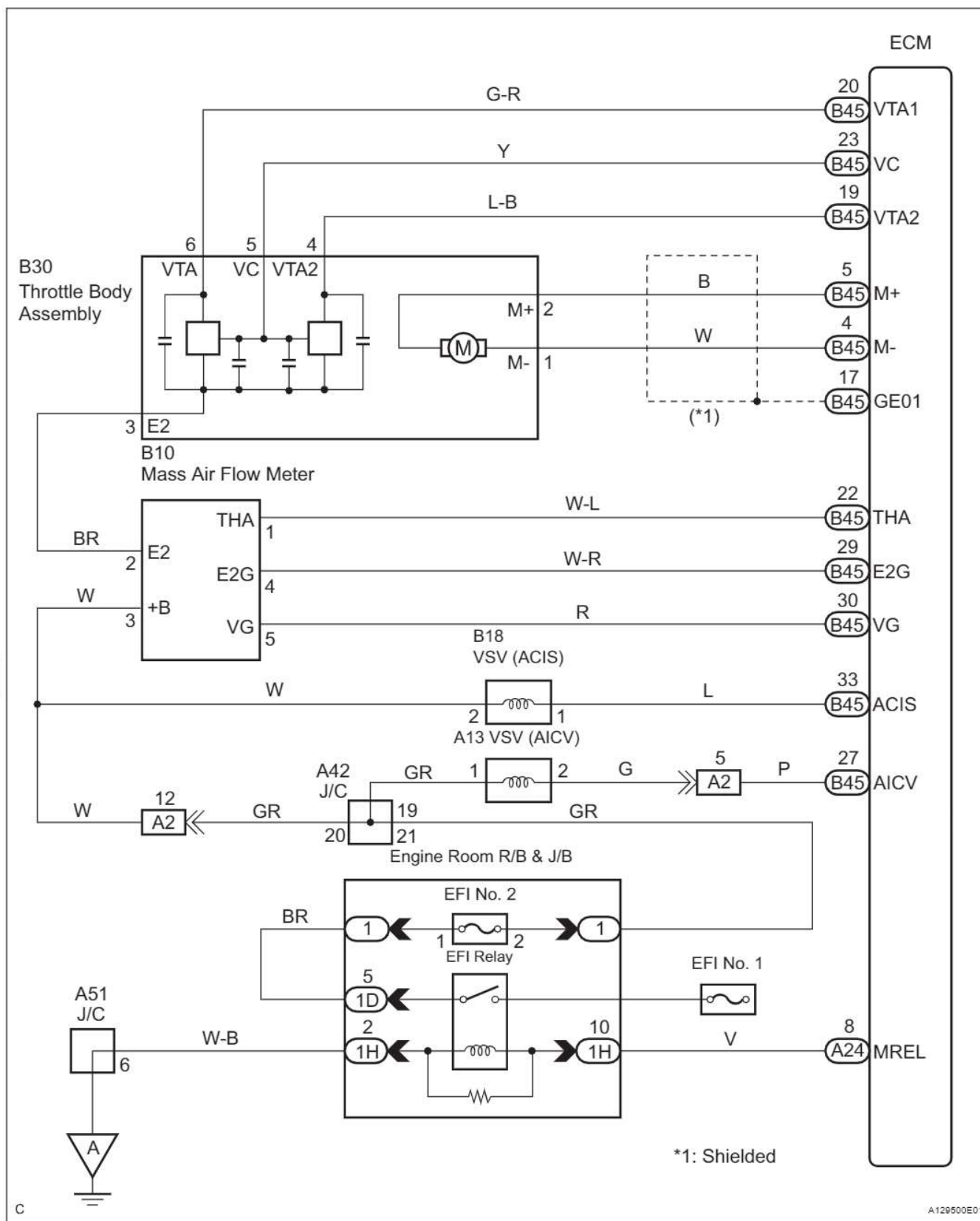


2GR-FE INTAKE – INTAKE AIR CONTROL SYSTEM**IT-1****INTAKE AIR CONTROL SYSTEM****PARTS LOCATION****IT**

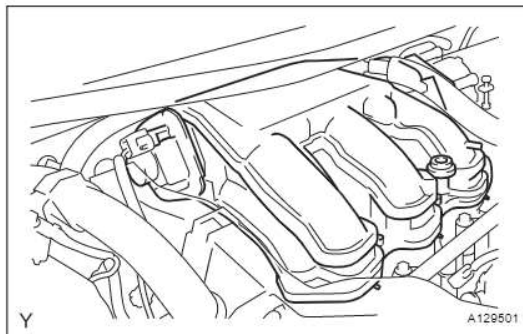
IT-2

2GR-FE INTAKE – INTAKE AIR CONTROL SYSTEM

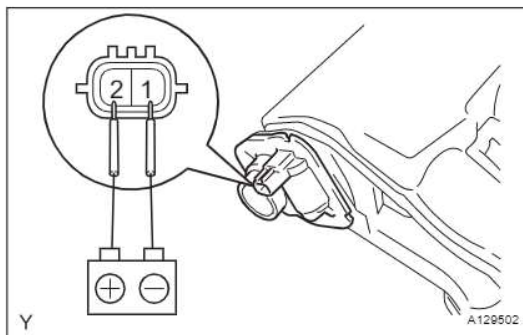
SYSTEM DIAGRAM



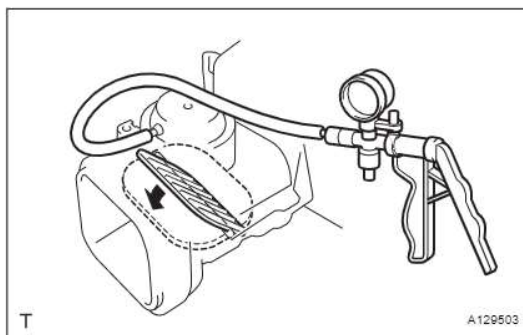
A129500E01

2GR-FE INTAKE – INTAKE AIR CONTROL SYSTEM**IT-3****ON-VEHICLE INSPECTION****1. INSPECT INTAKE AIR CONTROL VALVE ASSEMBLY**

- (a) Inspection procedure when using the intelligent tester:
- (1) Warm up the engine.
 - (2) Stop the engine.
 - (3) Connect the intelligent tester to the DLC3.
 - (4) Turn the ignition switch on (IG).
 - (5) Turn the tester on.
 - (6) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST / INTAKE CTL VSV1. Press the right or left button.
 - (7) Make sure that a clicking sound is heard from the intake air control valve when current flows. If the result is not as specified, replace the intake air surge tank.

**INSPECTION****1. INSPECT INTAKE AIR CONTROL VALVE**

- (a) Inspection procedure when applying voltage between the terminals:
- (1) Disconnect the connector from the intake air control valve.
 - (2) Apply battery voltage between terminals 1 (-) and 2 (+) of the intake air control valve. Check that a clicking sound is heard from the intake air control valve. If the result is not as specified, replace the intake air surge tank.

**2. INSPECT AIR CLEANER ASSEMBLY**

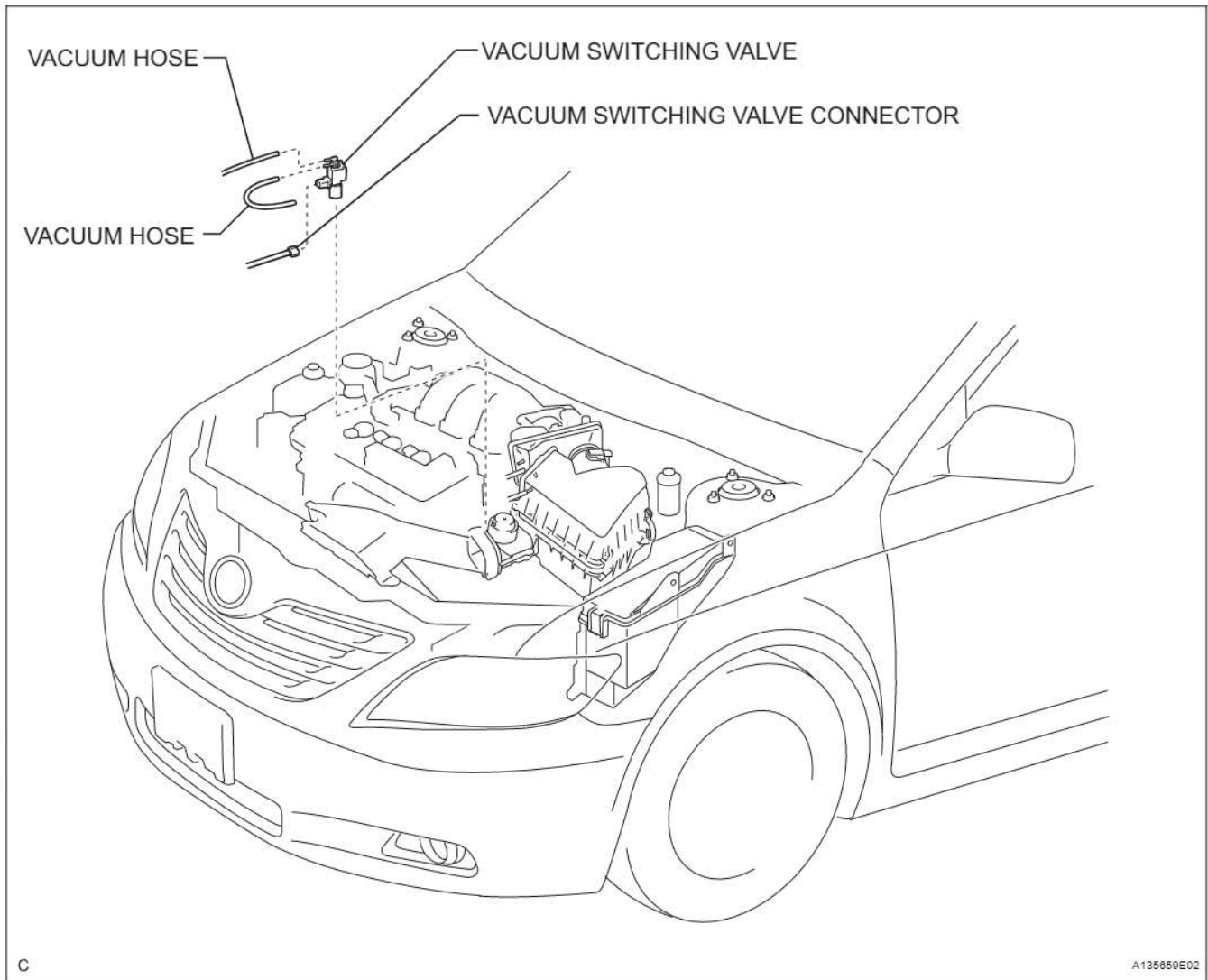
- (a) Apply 26.6 kPa (200 mmHg, 7.9 in. Hg) of vacuum to the actuator. Check if the valve rotates open, as shown in the illustration.
- (b) Apply vacuum for 1 minute. The actuator should continue to keep the valve open. If the result is not as specified, replace the air cleaner assembly.

IT

IT-4

2GR-FE INTAKE – VACUUM SWITCHING VALVE

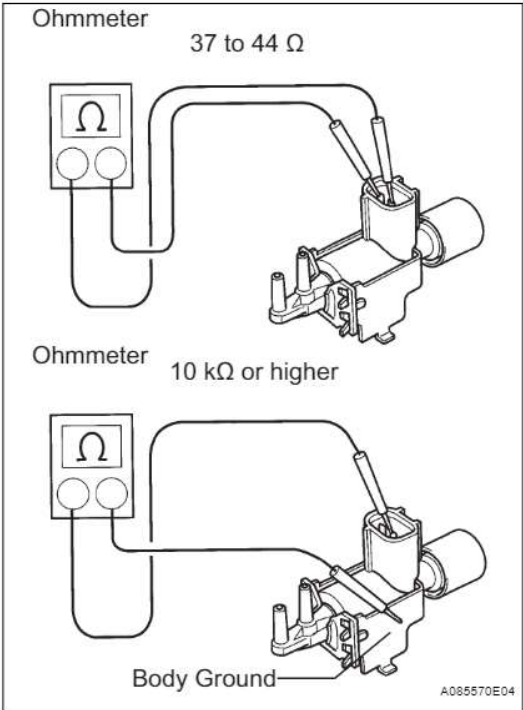
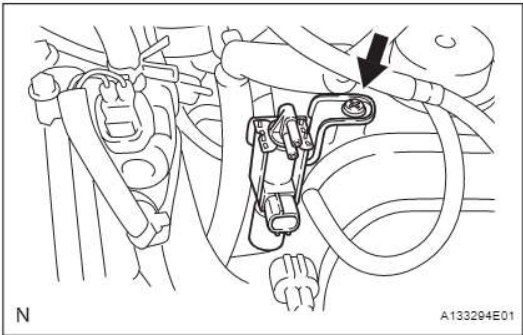
VACUUM SWITCHING VALVE COMPONENTS



REMOVAL

1. REMOVE VACUUM SWITCHING VALVE
- (a) Remove the 2 vacuum hoses and vacuum switching valve connector.

(b) Remove the screw and vacuum switching valve.



INSPECTION

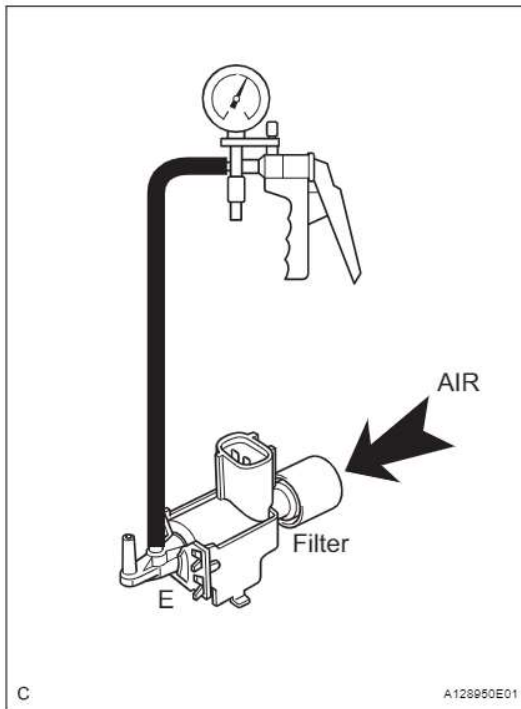
1. INSPECT VACUUM SWITCHING VALVE
- (a) Measure the VSV resistance.
- Standard resistance

Tester Connection	Specified Condition
1-2	37 to 44 Ω at 20 °C (68°F)
1 - Body ground 2 - Body ground	10 kΩ or higher

If the result is not as specified, replace the VSV.

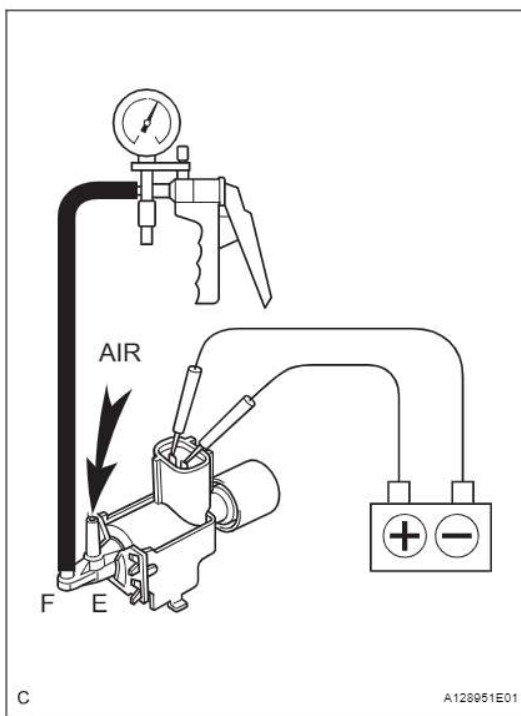
IT-6

2GR-FE INTAKE – VACUUM SWITCHING VALVE

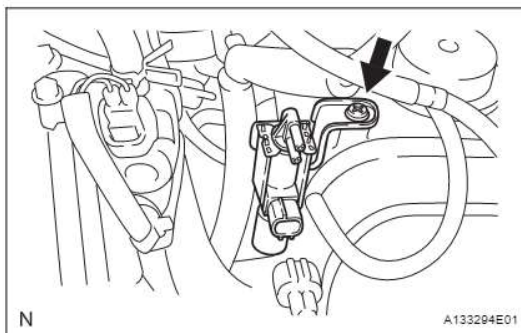


(b) Check VSV operation.

- (1) When vacuum is applied to the E port, check that air is sucked into the filter.
If the result is not as specified, replace the VSV.



- (2) Apply battery voltage across the terminals. When vacuum is applied to the F port, check that air is sucked into the E port.
If the result is not as specified, replace the VSV.



INSTALLATION

1. REMOVE VACUUM SWITCHING VALVE

- (a) Install the vacuum switching valve with the screw.
- (b) Install the 2 vacuum hoses and vacuum switching valve.