

## 10. Performance Test

### A: INSPECTION

#### 1. VEHICLE SET UP

In order to obtain meaningful test results, the vehicle must be set up to meet the following conditions:

- Vehicle in shade
- No wind
- All vehicle doors closed
- Front windows open
- Hood open
- Engine speed set at 1,500 rpm.
- A/C ON
- Temperature control switch — Maximum cold
- Air source — Recirculation
- Blower speed — 4th position (High)
- Operate A/C for 10 minutes (Minimum) before taking measurement.

#### 2. MEASUREMENTS

After 10 minutes (Minimum) of A/C operation and using accurate test equipment, take the following measurements (in order):

- 1) Evaporator intake air temperature at recirculation door.
- 2) Evaporator discharge air temperature at center grill.
- 3) Condenser (Ambient) intake air temperature measured 0.9 m (3 ft) in front and in line with the center of the condenser
- 4) Suction (Low) side pressure
- 5) Discharge (High) side pressure

#### NOTE:

If only one thermometer is available; 1) take the ambient measurement first; then 2) the intake air; and 3) discharge air temperature.

## 11. Compressor

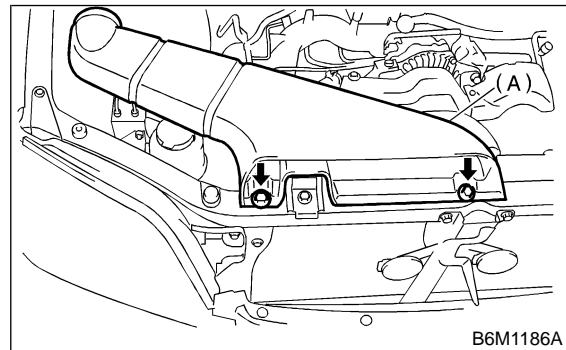
### A: INSPECTION

#### 1. COMPRESSOR CLUTCH

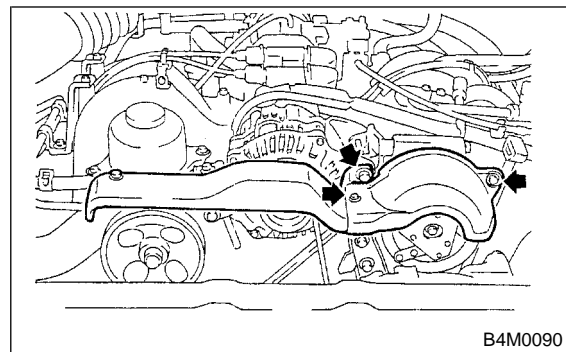
#### NOTE:

Compressor clutch trouble is often caused by clutch slippage and noise. Check and take corrective measures, as required.

- 1) Remove duct (A).



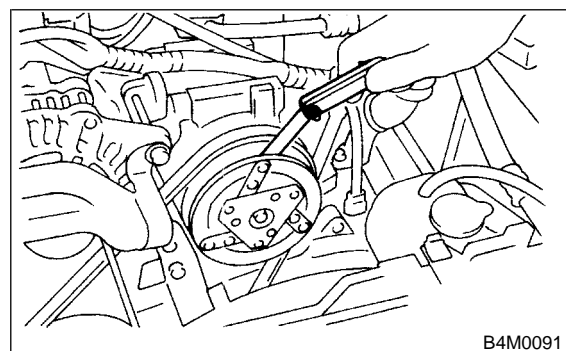
- 2) Remove belt cover.



- 3) Check that clearance between drive plate and pulley over the entire perimeter is within specifications.

#### Clearance:

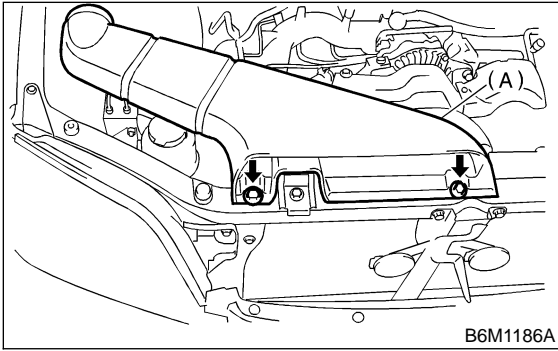
**$0.45 \pm 0.15$  mm ( $0.0177 \pm 0.0059$  in)**



- 4) Check that voltage applied to magnetic coil is at least 10.5 volts.
- 5) When noise is noted, check that it originates in either compressor or pulley bearing.

**B: REMOVAL**

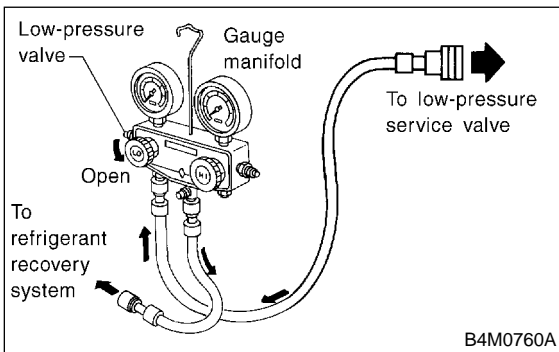
- 1) Disconnect ground cable from battery.
- 2) Remove duct (A).



3) Discharge refrigerant using refrigerant recovery system. <Ref. to 4-7 [W600].>

- (1) Fully close low-pressure valve of manifold gauge.
- (2) Connect low-pressure charging hose of manifold gauge to low-pressure service valve.
- (3) Open low-pressure manifold gauge valve slightly, and slowly discharge refrigerant from system.

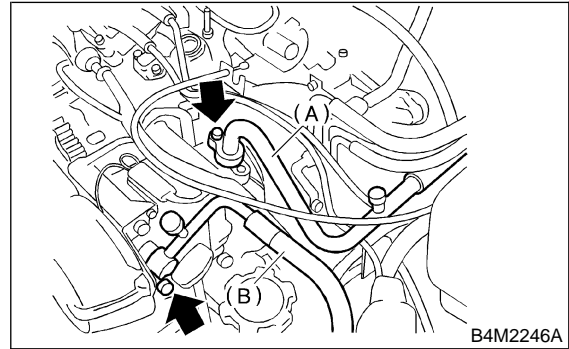
**CAUTION:**  
Do not allow refrigerant to rush out. Otherwise, compressor oil will be discharged along with refrigerant.



- 4) Remove low-pressure hose (A) (Flexible hose Ps) and high-pressure hose (B) (Flexible hose Pd).

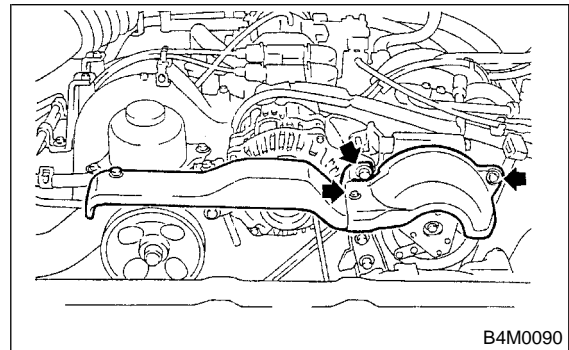
**CAUTION:**

- Be careful not to lose O-ring of low-pressure hose.
- Plug the opening to prevent foreign matter from entering.



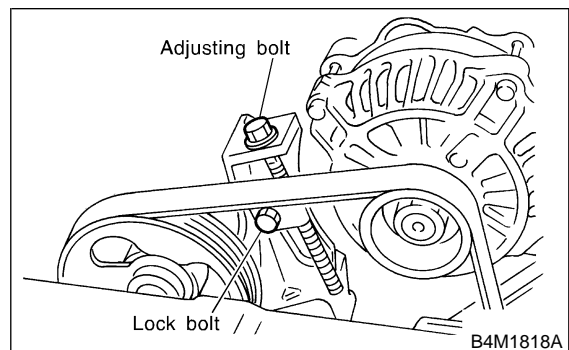
5) Compressor belt cover and alternator belt cover:

- (1) Remove bolts which secure belt covers.

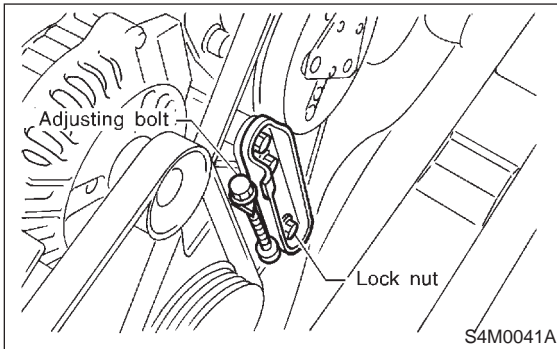


6) Remove alternator V-belt:

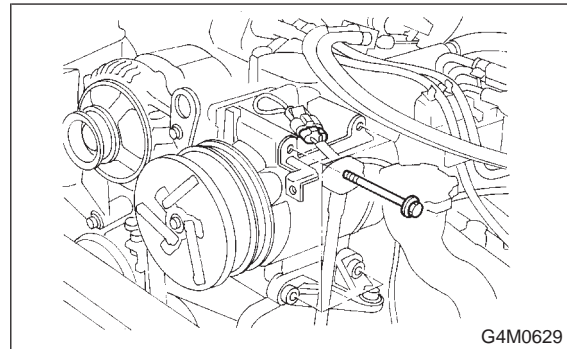
- (1) Loosen lock bolt on alternator bracket.
- (2) Turn adjusting bolt and remove V-belt.



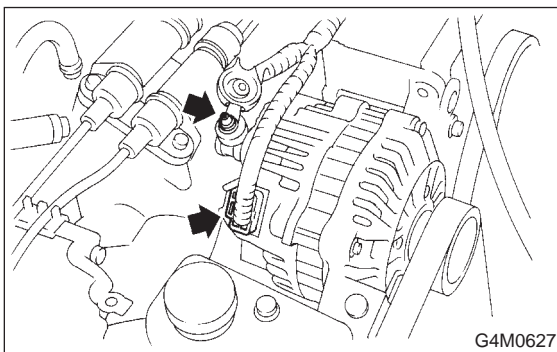
- 7) Remove compressor V-belt:  
 (1) Loosen lock bolt on idler pulley.  
 (2) Turn adjusting bolt and remove V-belt.



- 11) Remove compressor:  
 (1) Remove bolts which secure compressor.  
 (2) Remove compressor from bracket.

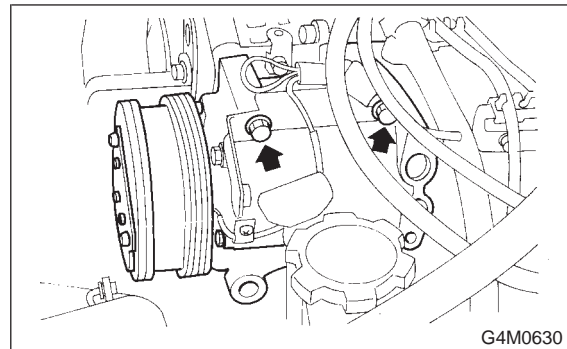


- 8) Disconnect alternator harness.



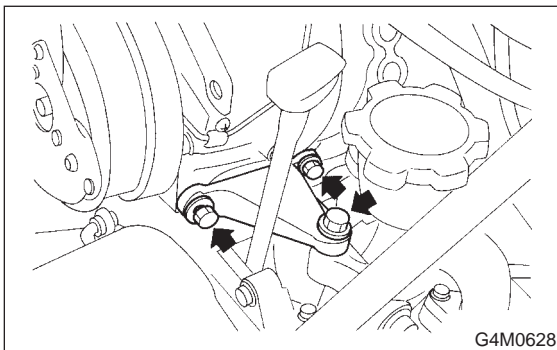
**C: INSTALLATION**

- 1) Install compressor:  
 (1) Install compressor on bracket.

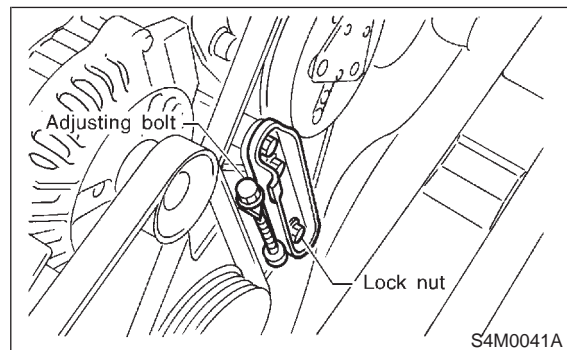


- 9) Disconnect compressor harness:  
 (1) Disconnect compressor harness from body harness.

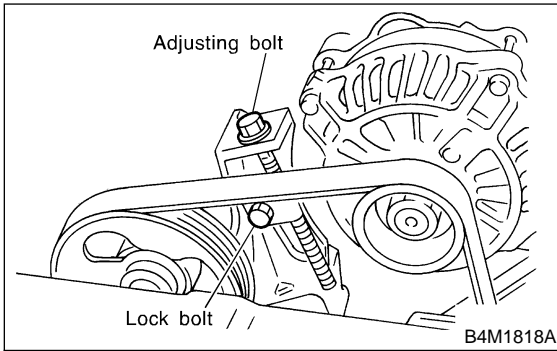
- 10) Remove lower bracket:  
 (1) Remove bolts which secure lower compressor bracket.



- 2) Connect compressor harness.  
 3) Connect alternator harness.  
 4) Install compressor V-belt (Rear):  
 (1) After adjusting belt tension, tighten tension pulley lock bolt securely.



- 5) Install alternator V-belt:  
(1) After adjusting V-belt tension, tighten alternator bracket lock bolt securely.



- 6) Check drive belt tension and adjust it if necessary by changing alternator position and/or idler pulley position.

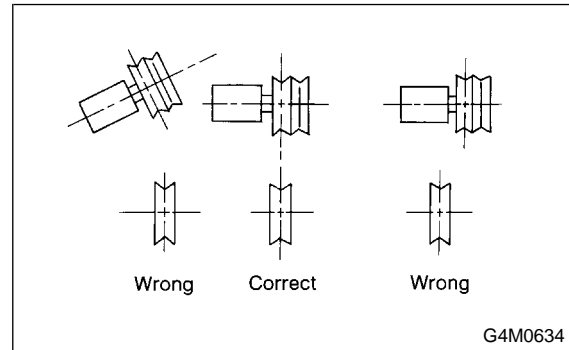
**CAUTION:**

● Ensure that the V-belt is aligned correctly. If it is not, check for loose bolts.

● The V-belt should not be too tight or too loose.

A belt which is too tight may break bearing or cause gas to leak from the shaft seal. A belt which is too loose slips, thereby causing the belt cut.

● After completing the compressor installation and testing the system operation, check and adjust the tension of both V-belts again.



Pulley arrangement	Tension mm (in)/98N (10 kg, 22 lb)	
	(A)	(B)
<p>Diagram showing the pulley arrangement for the drive belt. The pulleys are labeled P/S (Power steering oil pump pulley), ALT (Alternator pulley), A/C (Air conditioner compressor pulley), I/P (Idler pulley), and C/P (Crankshaft pulley). The diagram shows the belt path and the tension points (A) and (B).</p>	<p>*New belt: 7.0 – 9.0 (0.276 – 0.354) Existing belt: 9.0 – 11.0 (0.354 – 0.433)</p>	<p>*New belt: 7.5 – 8.5 (0.295 – 0.335) Existing belt: 9.0 – 10.0 (0.354 – 0.394)</p>
<p>Figures in table refer to the number of grooves in pulleys. C/P: Crankshaft pulley ALT: Alternator pulley P/S: Power steering oil pump pulley A/C: Air conditioner compressor pulley I/P: Idler pulley</p>	<p>*When replacing belts with new ones, adjust tensions to specification and then readjust to the same specification after running engine for 5 minutes.</p>	

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