

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 lever — 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

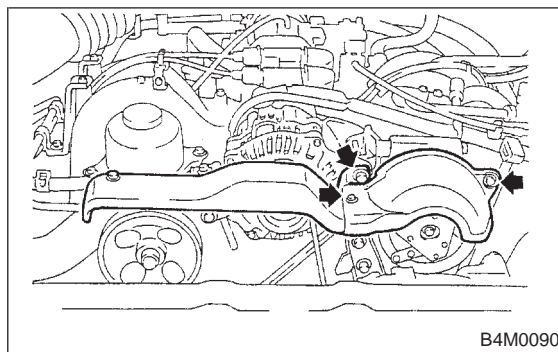
A: INSPECTION

1. COMPRESSOR CLUTCH

NOTE:

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

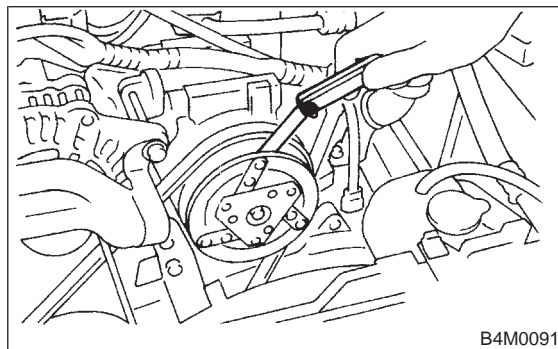
- 1) Remove belt cover.



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

Clearance:

0.45 ± 0.15 mm (0.0177 ± 0.0059 in)

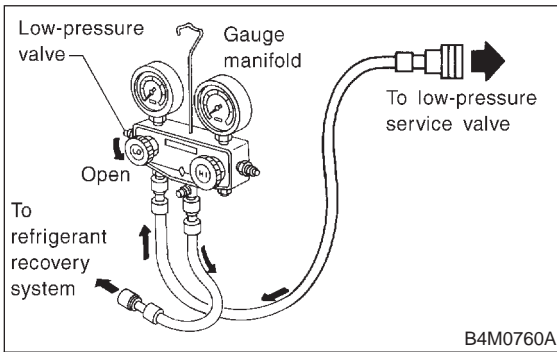


- 3) Check that voltage applied to magnetic coil is at least 10.5 volts.
- 4) When noise is noted, check that it originates in either compressor or pulley bearing.

B: REMOVAL

- 1) Disconnect ground cable from battery.
- 2) 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.

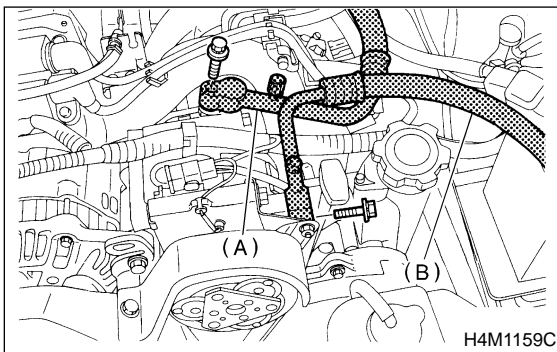
CAUTION:
Do not allow refrigerant to rush out. Otherwise, compressor oil will be discharged along with refrigerant.



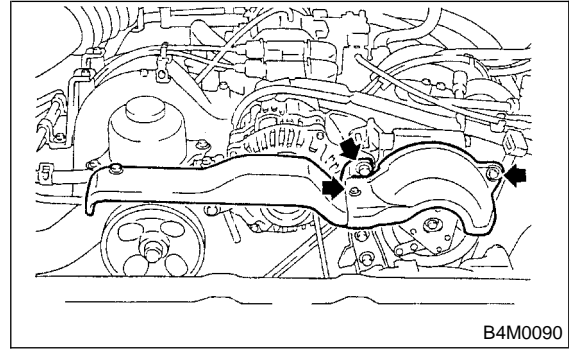
- 3) Remove low-pressure hose (A) and high-pressure hose (B).

CAUTION:

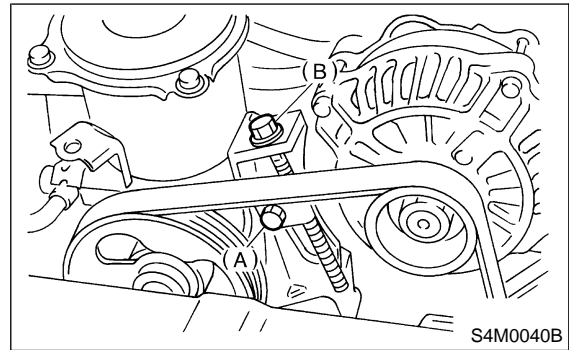
- Be careful not to lose O-ring of low-pressure hose.
- Plug the opening to prevent foreign matter from entering.



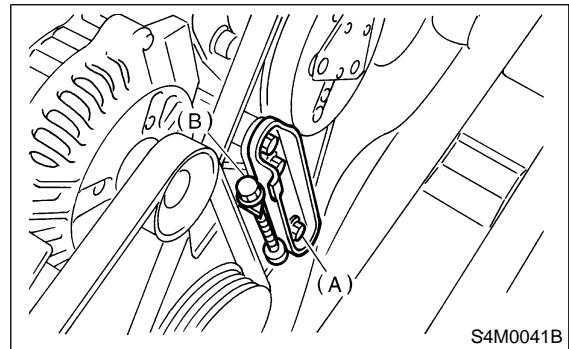
- 4) Compressor belt cover and generator belt cover:
Remove bolts which secure belt covers.



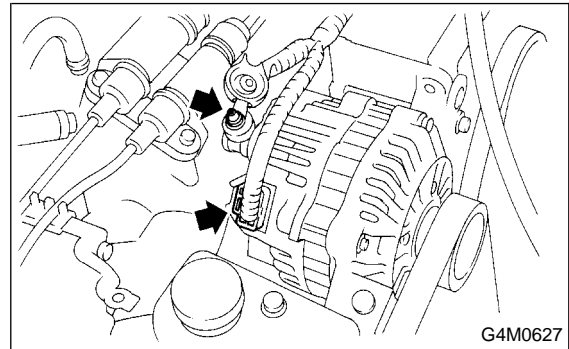
- 5) Remove generator V-belt:
 - (1) Loosen lock bolt (A) on generator bracket.
 - (2) Turn adjusting bolt (B) and remove V-belt.



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

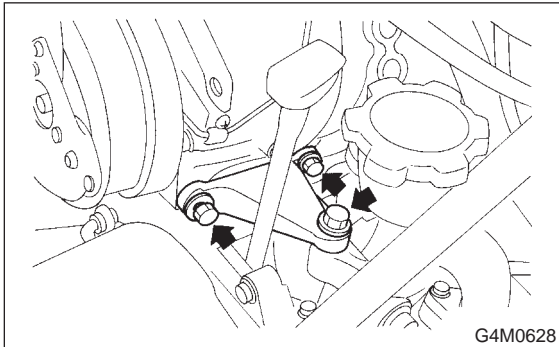


- 7) Disconnect generator harness.

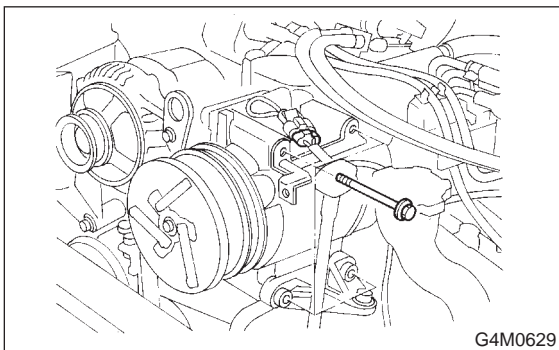


8) Disconnect compressor harness:
Disconnect compressor harness from body harness.

9) Remove lower bracket:
Remove bolts which secure lower compressor bracket.

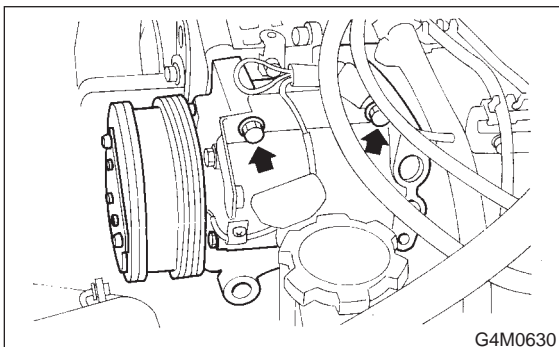


10) Remove compressor:
(1) Remove bolts which secure compressor.
(2) Remove compressor from bracket.

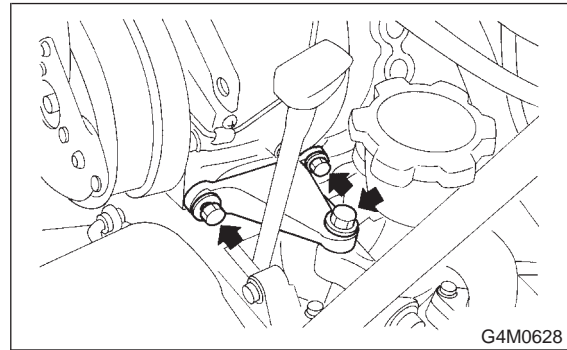


C: INSTALLATION

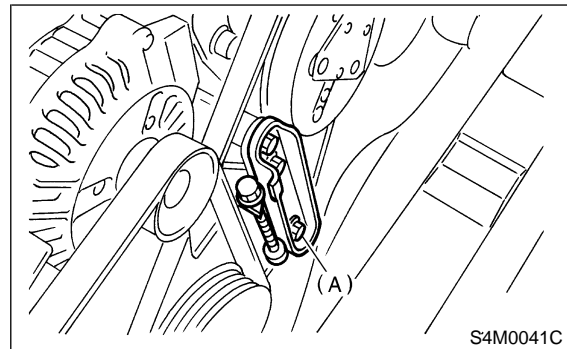
1) Install compressor:
Install compressor on bracket.



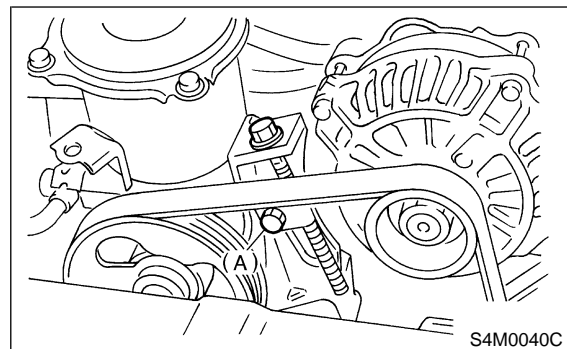
2) Install lower bracket.



3) Connect compressor harness.
4) Connect generator harness.
5) Install compressor V-belt (Rear):
After adjusting belt tension, tighten tension pulley lock nut (A) securely.



6) Install generator V-belt:
After adjusting V-belt tension, tighten generator bracket lock bolt (A) securely.



7) Check drive belt tension and adjust it if necessary by changing generator position and/or idler pulley position.

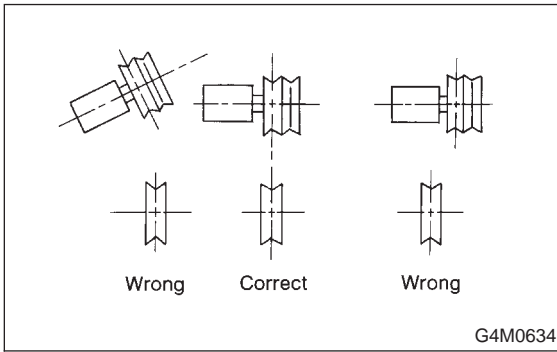
CAUTION:

- 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.



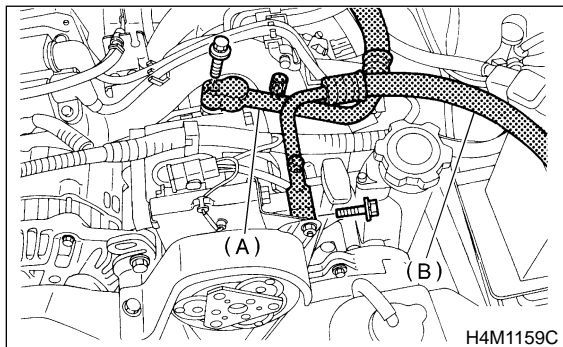
| Pulley arrangement | Tension mm (in)/98 N (10 kg, 22 lb) | |
|---|---|---|
| | (A) | (B) |
| <p>Figures in table refer to the number of grooves in pulleys. C/P: Crankshaft pulley GEN: Generator pulley P/S: Power steering oil pump pulley A/C: Air conditioning compressor pulley I/P: Idler pulley</p> | <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>*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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8) Install high-pressure hose (B) and low-pressure hose (A).

CAUTION:

Be sure to apply compressor oil to the periphery of O-ring.



9) Install belt cover.

CAUTION:

- After installing belt cover, make sure it is not misaligned or twisted.
- After installing belt cover, check the clearance between pulley and belt cover.

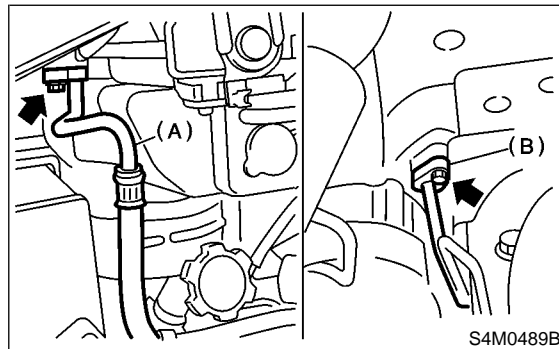
10) Connect ground cable to negative terminal of battery.

11) Charging refrigerant. <Ref. to 4-7 [W700].>

12. Condenser

A: REMOVAL AND INSTALLATION

- 1) Disconnect battery negative terminal.
- 2) Discharge refrigerant using refrigerant recovery system. <Ref. to 4-7 [W600].>
- 3) Remove front grille. <Ref. to 5-1 [W12A0].>
- 4) Disconnect high-pressure hose (A) and high-pressure pipe (B) from condenser.



- 5) Remove the radiator bracket (A) and then remove the two bolts which secure condenser. While lifting condenser, remove it through space between radiator and radiator panel.

