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 dial — 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.

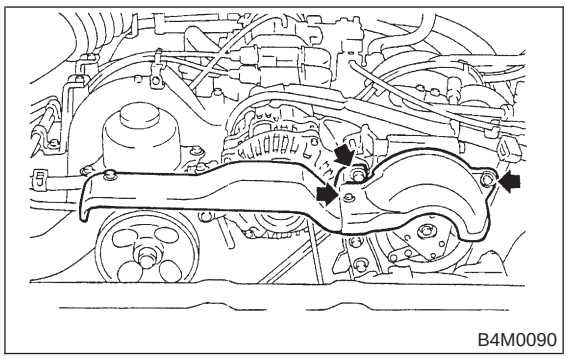
11. Compressor

A: INSPECTION

1. COMPRESSOR CLUTCH

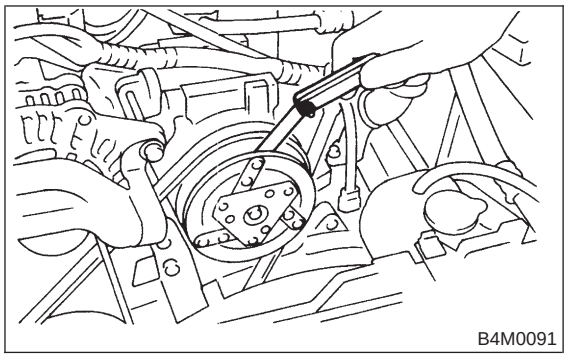
NOTE:
- Compressor is a 5-vane rotary type. When trouble occurs, replace compressor as a single unit.
- Compressor clutch trouble is often caused by clutch slippage and noise. Check and take corrective measures, as required.

1) Remove belt cover.


B4M0090

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)


B4M0091

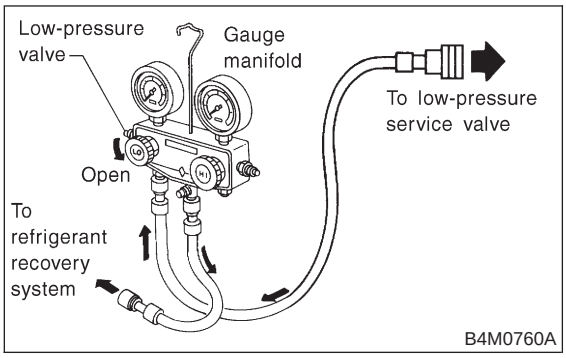
3) Check that voltage applied to magnetic coil is at least 10.5 volts.
4) When noise is noted, check that it originates in either compressor or pulley bearing.

B: REMOVAL

1) Disconnect ground cable from battery.

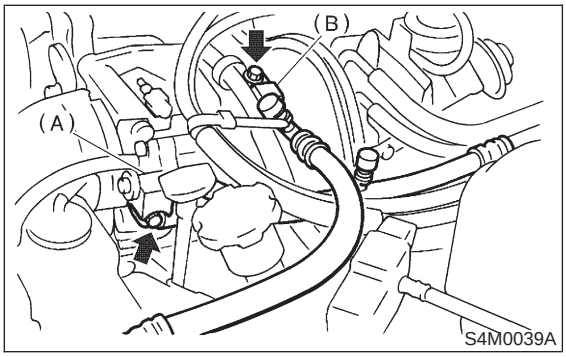
2) Discharge refrigerant using refrigerant recovery system. <Ref. to 4-7 [W600].>
(1) Fully close low-pressure valve of manifold gauge.
(2) Connect low-pressure charging hose of manifold gauge to low-pressure service valve.
(3) Open low-pressure manifold gauge valve slightly, and slowly discharge refrigerant from system.

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

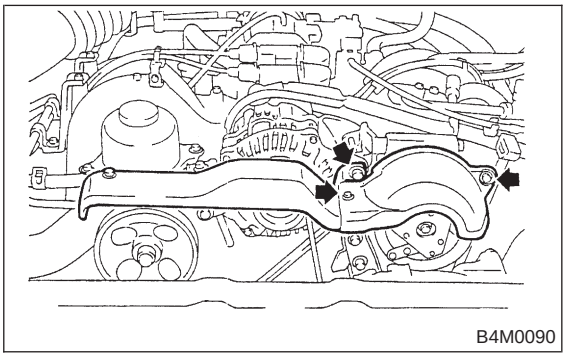


3) Remove low-pressure hose (A) (Flexible hose Ps) and high-pressure hose (B) (Flexible hose Pd).

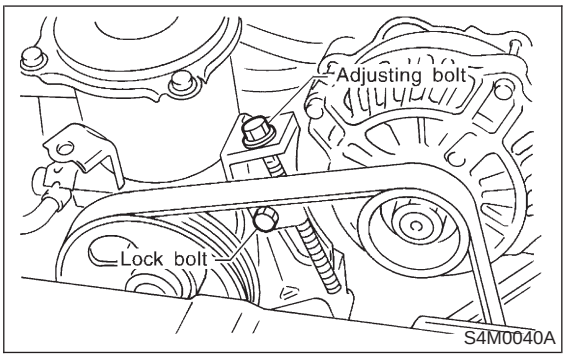
CAUTION:
● Be careful not to lose O-ring of low-pressure hose.
● Plug the opening to prevent foreign matter from entering.



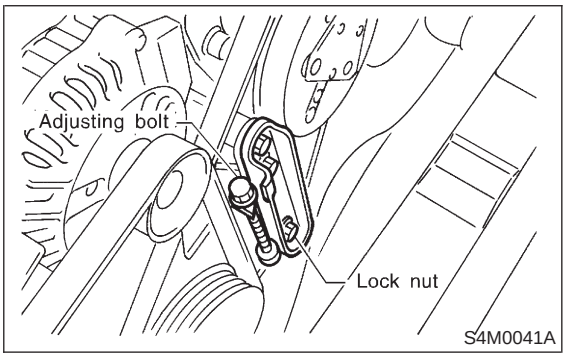
4) Compressor belt cover and generator belt cover:
Remove bolts which secure belt covers.



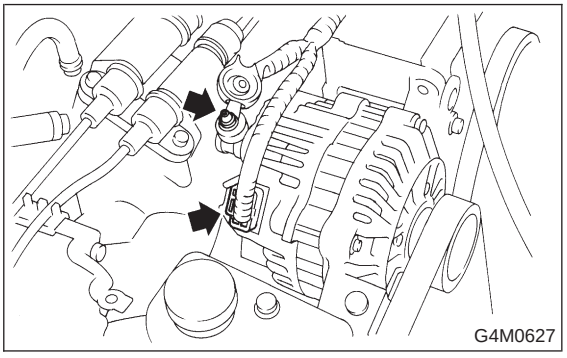
5) Remove alternator V-belt:
(1) Loosen lock bolt on generator bracket.
(2) Turn adjusting bolt and remove V-belt.



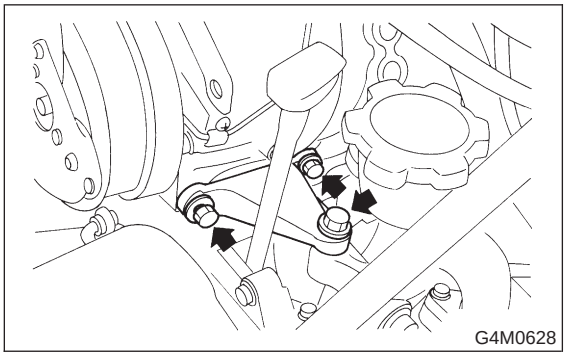
6) Remove compressor V-belt:
(1) Loosen lock bolt on idler pulley.
(2) Turn adjusting bolt and remove V-belt.



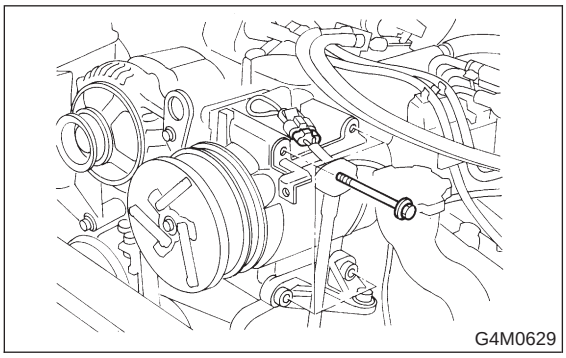
7) Disconnect alternator harness.



8) Disconnect compressor harness:
Disconnect compressor harness from body harness.
9) Remove lower bracket:
Remove bolts which secure lower compressor bracket.

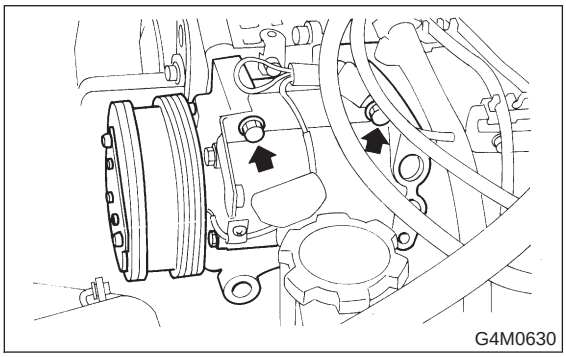

G4M0628

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


G4M0629

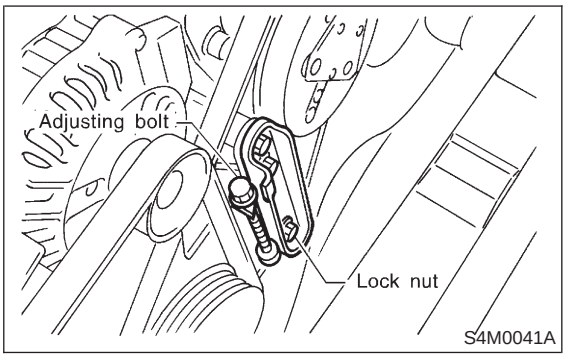
C: INSTALLATION

1) Install compressor:
Install compressor on bracket.


G4M0630

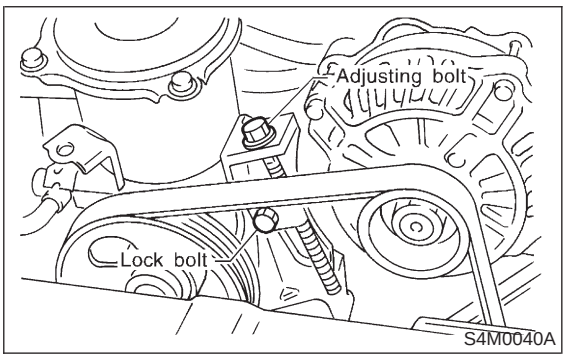
2) Connect compressor harness.
3) Connect alternator harness.

4) Install compressor V-belt (Rear):
After adjusting belt tension, tighten tension pulley lock bolt securely.



S4M0041A

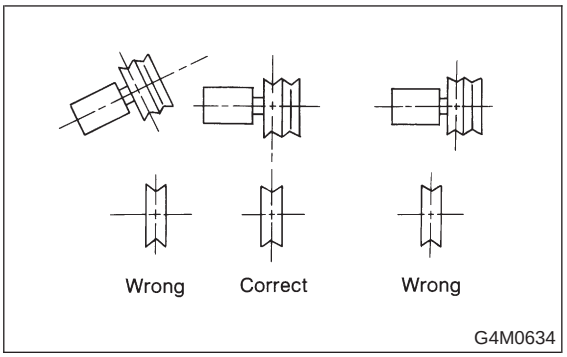
5) Install alternator V-belt:
After adjusting V-belt tension, tighten alternator bracket lock bolt securely.



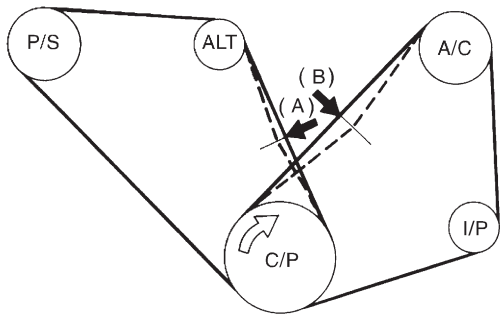
S4M0040A

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.**



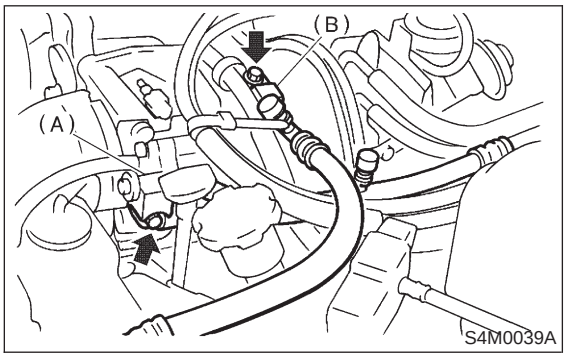
G4M0634

Pulley arrangement	Tension mm (in)/98N (10 kg, 22 lb)	
	(A)	(B)
	*New belt: 7.0 – 9.0 (0.276 – 0.354) Existing belt: 9.0 – 11.0 (0.354 – 0.433)	*New belt: 7.5 – 8.5 (0.295 – 0.335) Existing belt: 9.0 – 10.0 (0.354 – 0.394)
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	*When replacing belts with new ones, adjust tensions to specification and then readjust to the same specification after running engine for 5 minutes.	

B4M1098A

7) Install high-pressure hose (B) (Flexible hose Pd) and low-pressure hose (A) (Flexible hose Ps): Connect high-pressure hose (B) and low-pressure hose (A) with compressor.

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



8) Install belt cover.

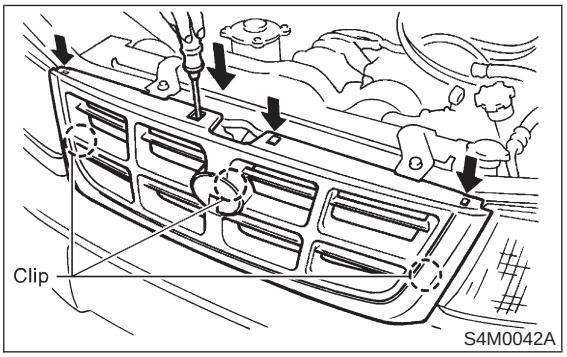
CAUTION:
- **After installing belt cover, make sure it is not misaligned or twisted.**
- **After installing belt cover, check the clearance between pulley and belt cover.**

9) Connect ground cable to negative terminal of battery.
10) 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.



4) Remove the radiator bracket.
5) Disconnect high-pressure hose (A) and high-pressure pipe (B) from condenser.