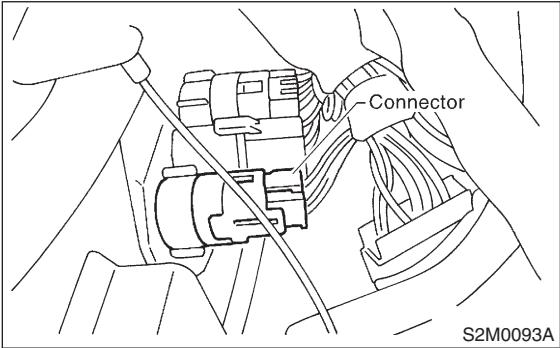


6. Engine Assembly S103079

A: REMOVAL S103079A18

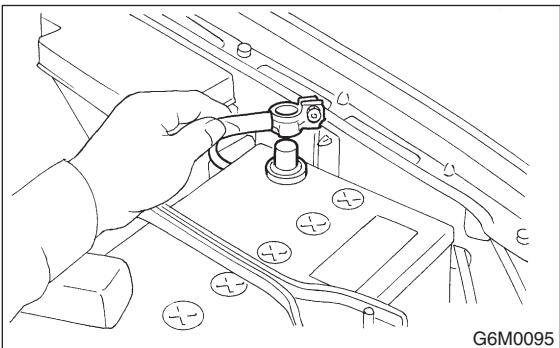
- 1) Set the vehicle on lift arms.
- 2) Open front hood fully and support with stay.
- 3) Release fuel pressure.

(1) Disconnect fuel pump connector.

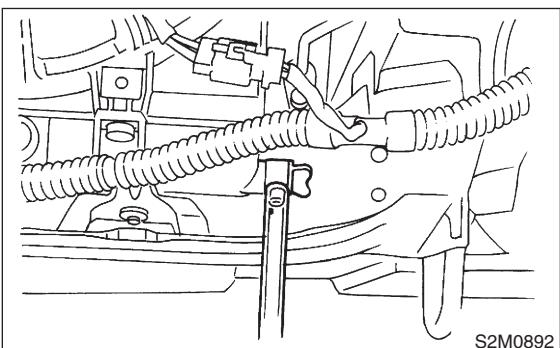


- (2) Start the engine, and run until it stalls.
- (3) After the engine stalls, crank it for five seconds more.
- (4) Turn ignition switch to "OFF".
- (5) Remove filler cap.

4) Disconnect battery ground terminal.

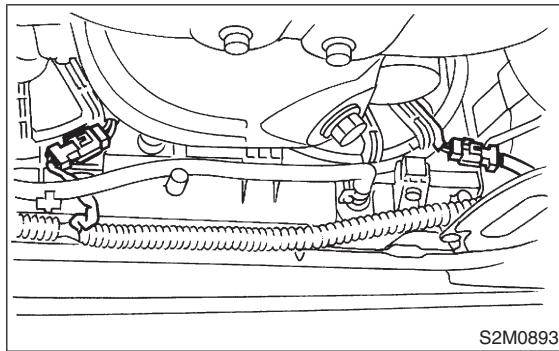


- 5) Drain coolant.
Set container under the vehicle, and remove drain cock from radiator.

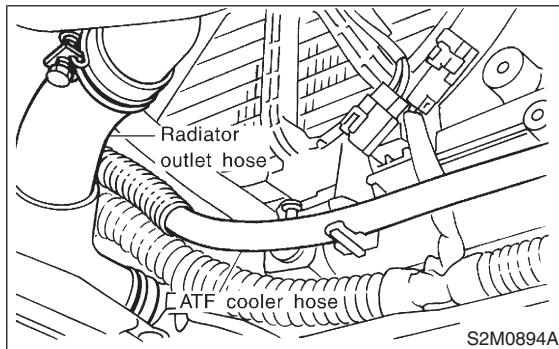


6) Remove cooling system.

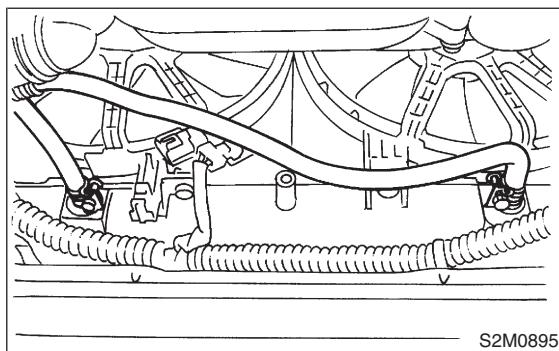
- (1) Disconnect connectors from radiator main fan and sub fan motors.



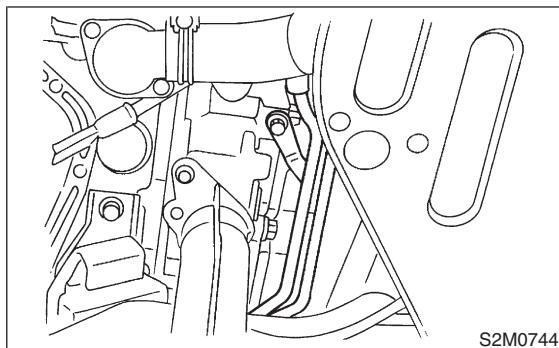
- (2) Disconnect radiator outlet hose from thermostat cover, and remove ATF cooler hose from clip of radiator.



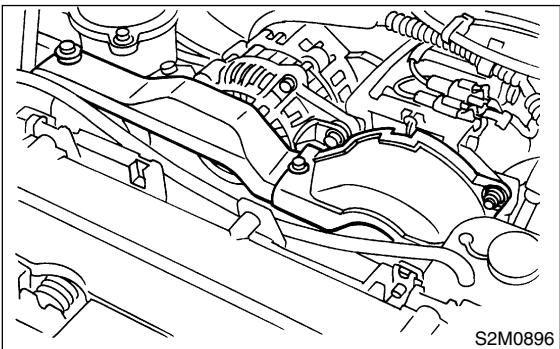
- (3) Disconnect ATF cooler hoses from radiator.



- (4) Remove ATF cooler pipe from cylinder head.

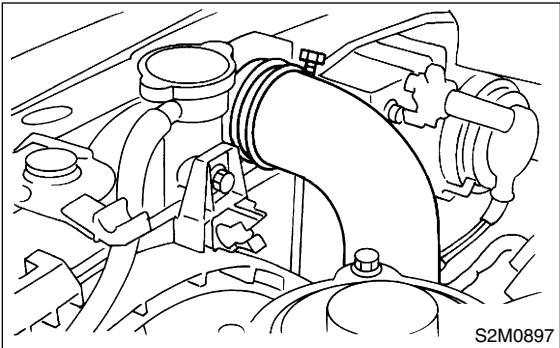


(5) Remove V-belt cover.



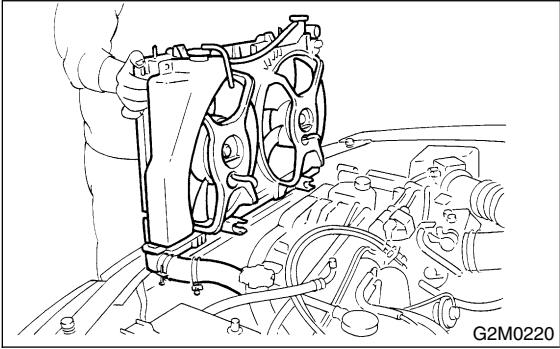
S2M0896

(6) Disconnect radiator inlet hose from radiator.



S2M0897

(7) Remove radiator upper bracket, and remove radiator assembly from vehicle.

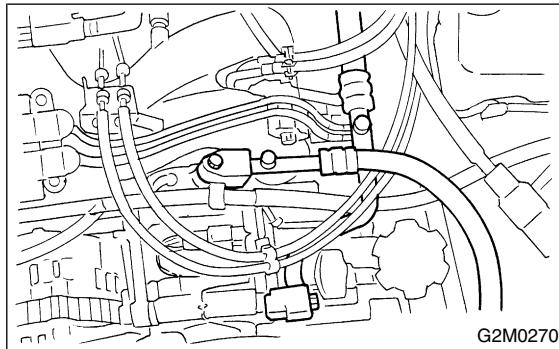


G2M0220

7) Collect refrigerant, and remove pressure hoses.
(With A/C)

- (1) Place and connect the attachment hose to the refrigerant recycle system.
- (2) Collect refrigerant from A/C system.

(3) Disconnect A/C flexible hoses from A/C compressor.



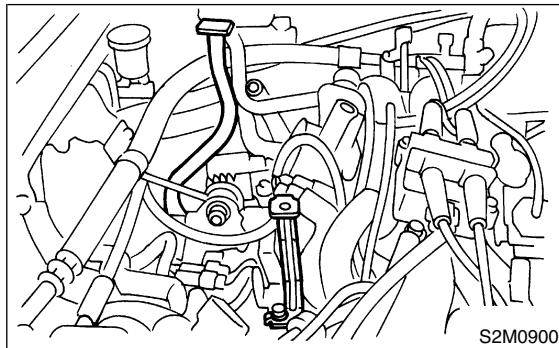
G2M0270

8) Remove air intake system.

Remove air intake duct <Ref. to IN-5 REMOVAL, Air Intake Duct.> and air cleaner case. <Ref. to IN-4 REMOVAL, Air Cleaner Case.>

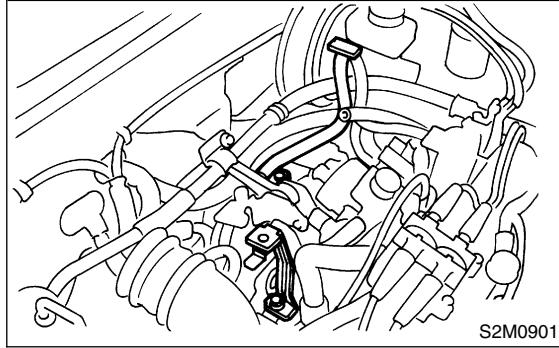
9) Remove air cleaner case stay.

● **MT vehicles**



S2M0900

● **AT vehicles**

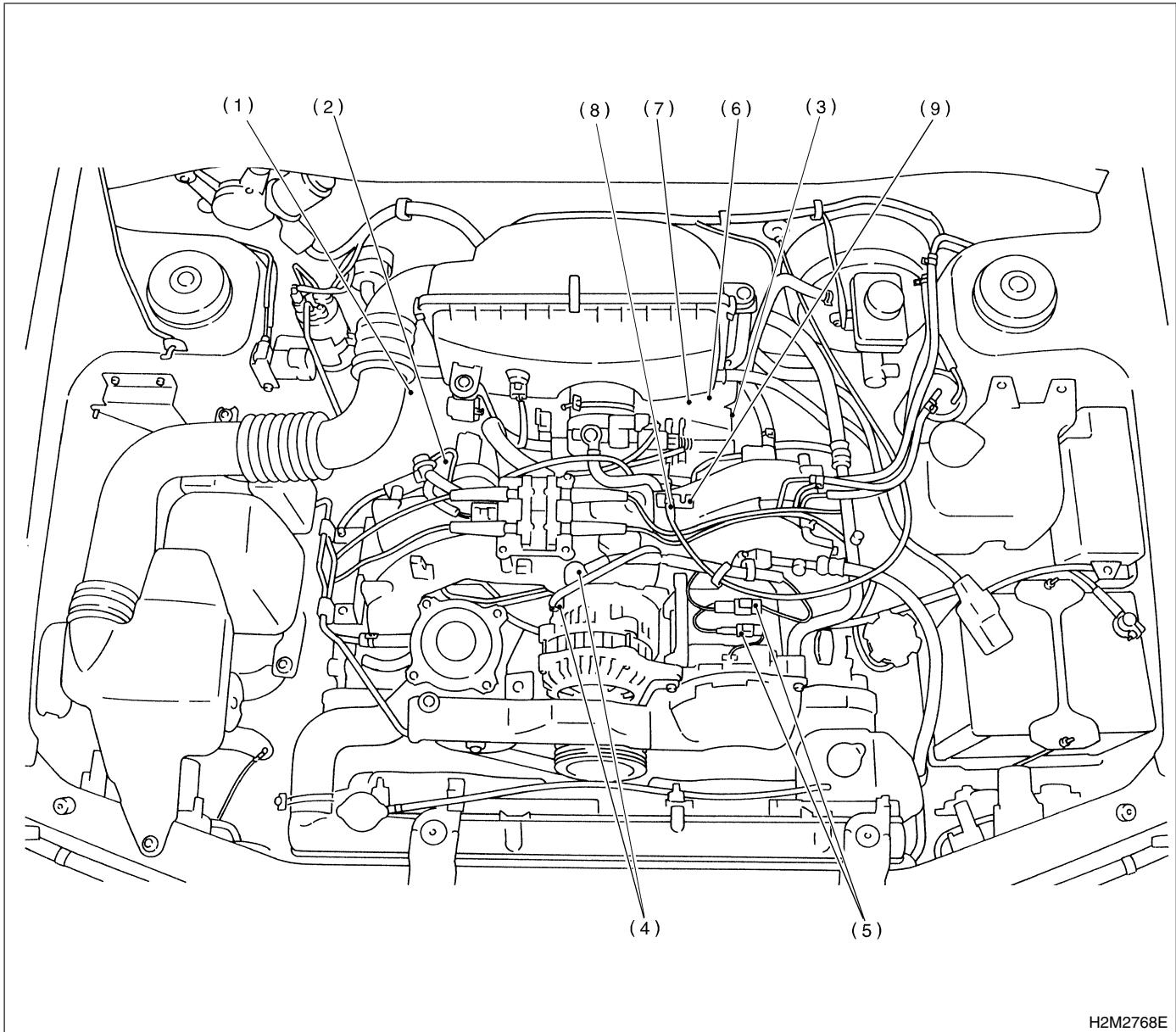


S2M0901

ENGINE ASSEMBLY

Mechanical

- 10) Disconnect connectors, cables and hoses.
 - (1) Disconnect the following connectors and cables.

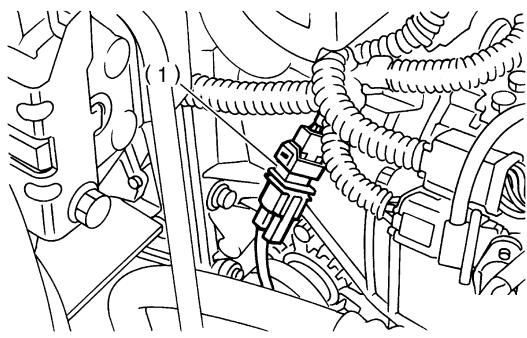


H2M2768E

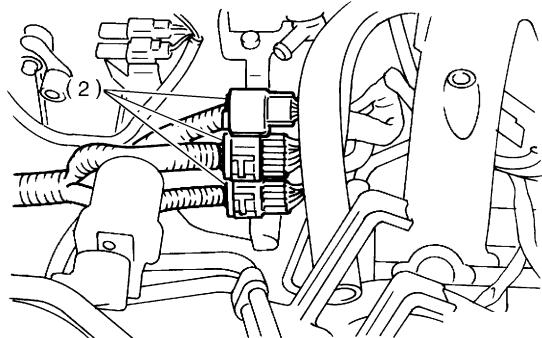
(1) Front oxygen sensor connector	(5) A/C compressor connectors (With A/C)	(7) Clutch cable (2200 cc MT vehicle)
(2) Engine harness connectors	(6) Clutch release spring (2200 cc MT vehicle)	(8) Accelerator cable
(3) Engine ground terminal stay		(9) Cruise control cable (With cruise control)
(4) Alternator connector and terminal		

ENGINE ASSEMBLY

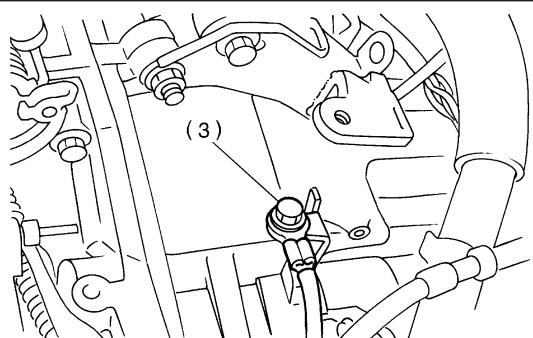
Mechanical



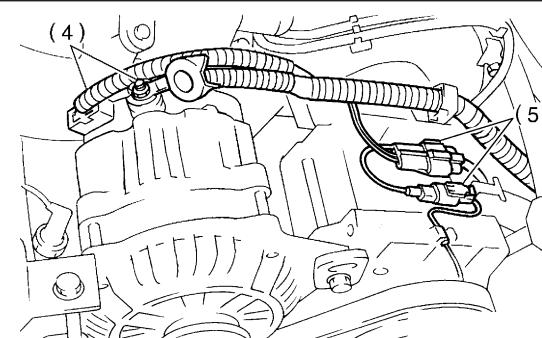
B2M3413A



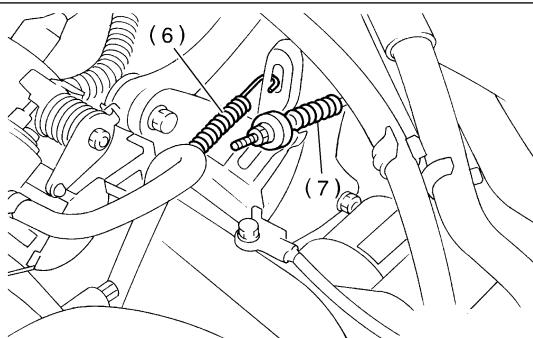
B2M0019F



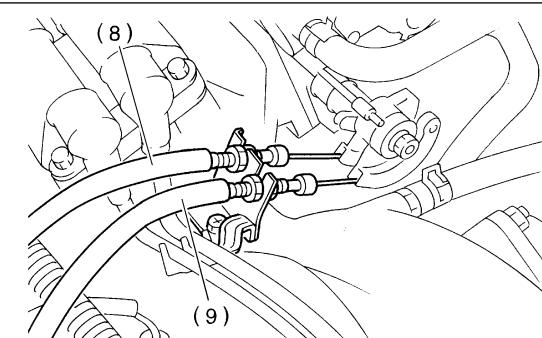
S2M0731D



B2M1291F



B2M1302E

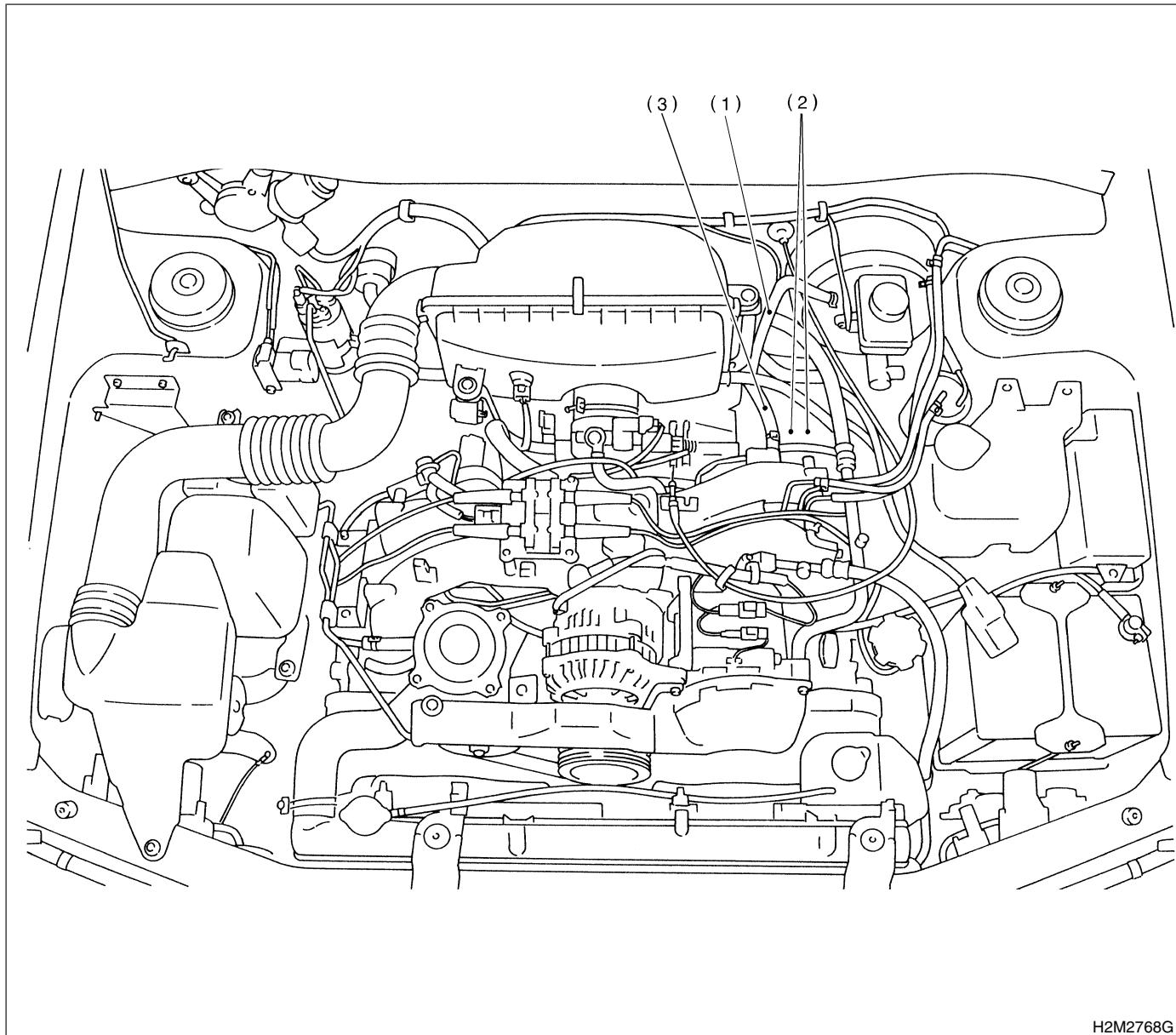


B2M1301F

ENGINE ASSEMBLY

Mechanical

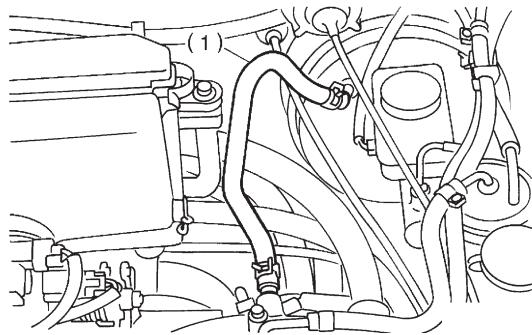
(2) Disconnect the following hoses.



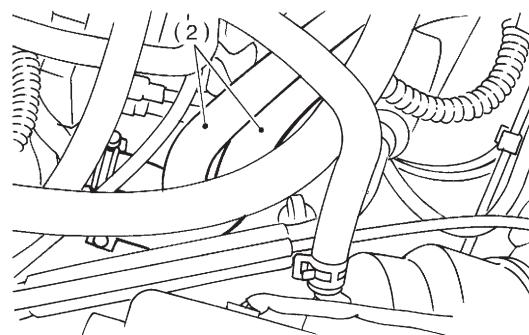
H2M2768G

(1) Brake booster vacuum hose
(2) Heater inlet and outlet hoses

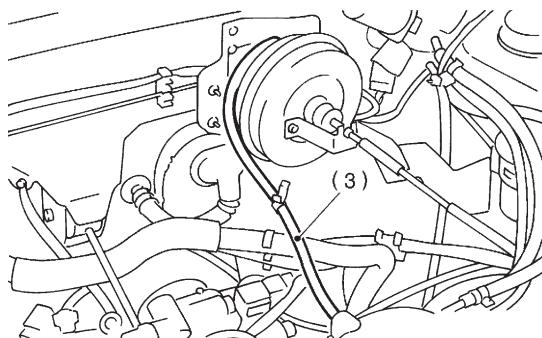
(3) Cruise control vacuum hose
(With cruise control)



B2M2776A



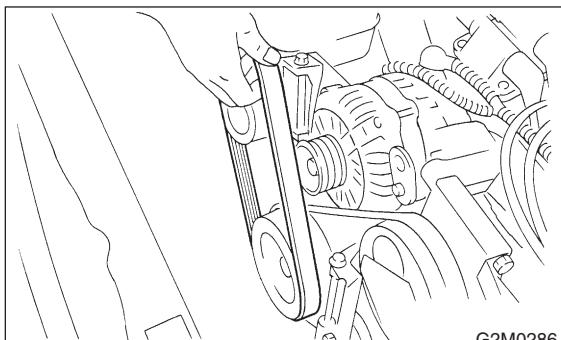
S2M0902A



S2M0493B

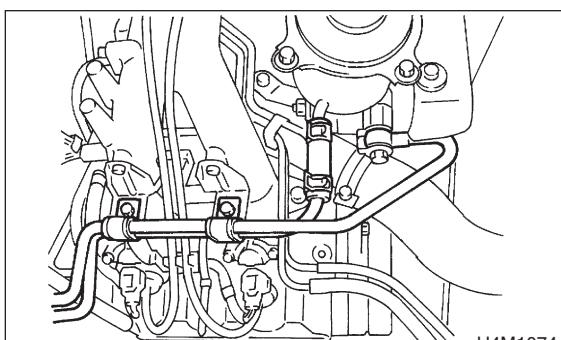
SUBARU.

11) Remove power steering pump from bracket.
 (1) Loosen lock bolt and slider bolt, and remove front side V-belt.



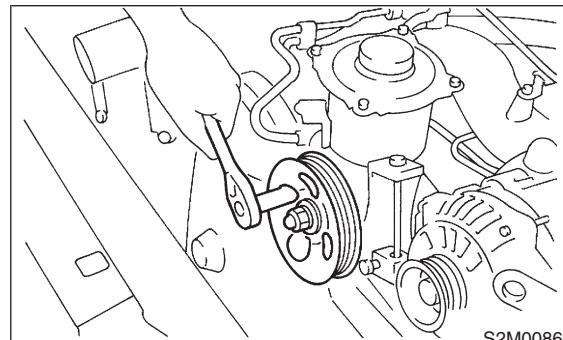
G2M0286

(2) Remove pipe with bracket from intake manifold.



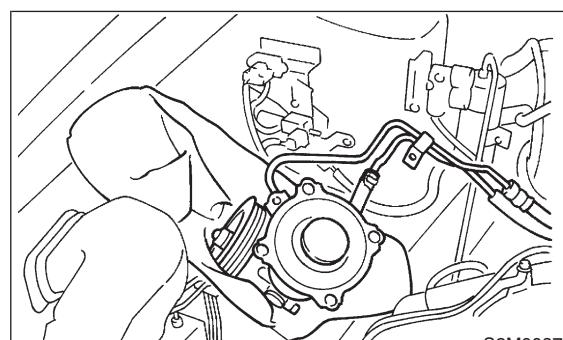
H4M1074

(3) Remove bolts which install power steering pump from bracket.



S2M0086

(4) Place power steering pump on the right side wheel apron.



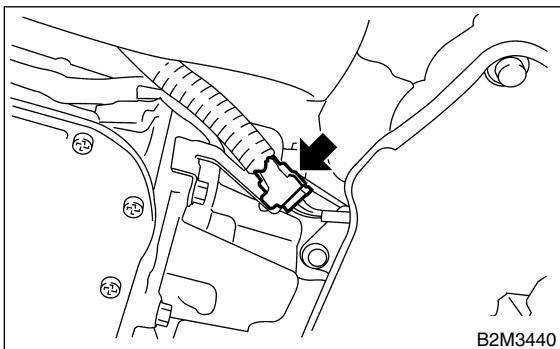
S2M0087

12) Remove front exhaust pipe and center exhaust pipe.
 (1) Lift-up the vehicle.

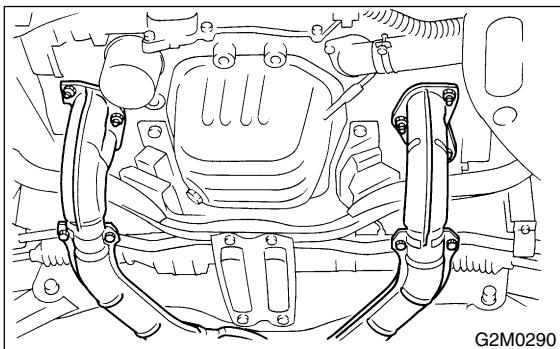
ENGINE ASSEMBLY

Mechanical

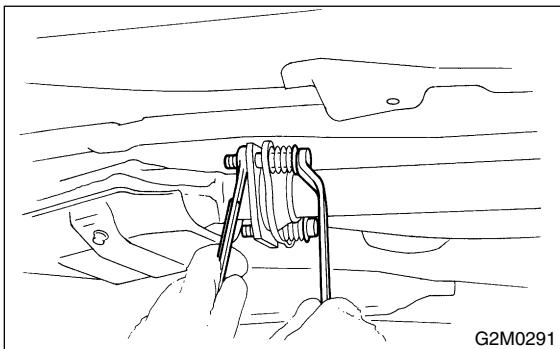
(2) Disconnect connector from rear oxygen sensor.



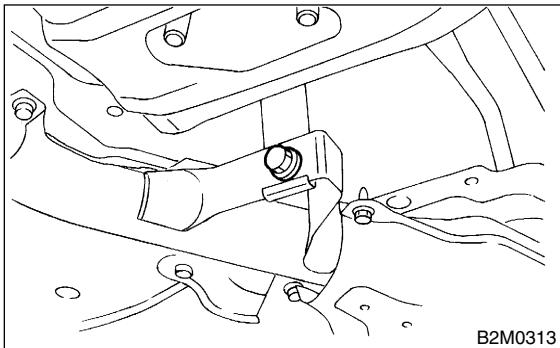
(3) Remove nuts which install front exhaust pipe onto engine.



(4) Separate center exhaust pipe from rear exhaust pipe.



(5) Remove bolt which installs center exhaust pipe on hunger bracket.

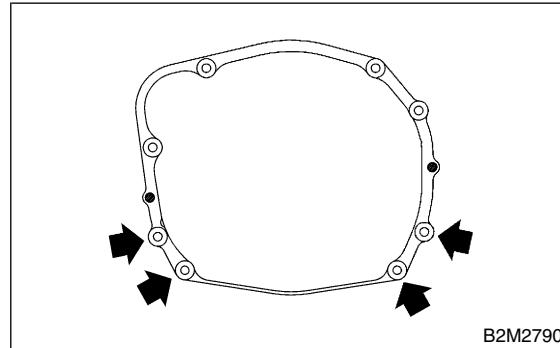


(6) Take off front and center exhaust pipes.

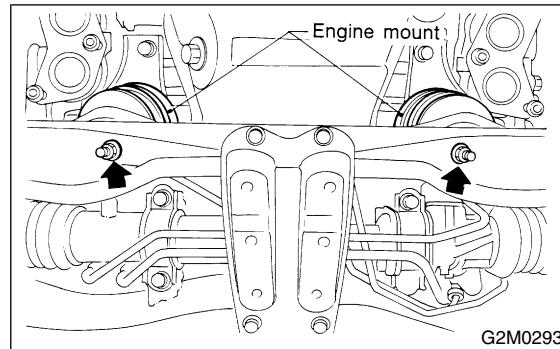
CAUTION:

Exhaust pipe will drop when all bolts are removed. So, hold it when removing the last bolt.

13) Remove nuts which hold lower side of transmission to engine.



14) Remove nuts which install front cushion rubber onto front crossmember.



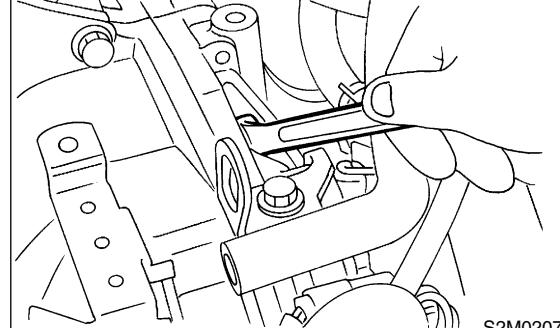
15) Separate torque converter from drive plate. (AT model)

- (1) Lower the vehicle.
- (2) Remove service hole plug.
- (3) Remove bolts which hold torque converter to drive plate.
- (4) Remove other bolts while rotating the engine using ST.

2200 cc vehicles:

ST 499977300 CRANK PULLEY WRENCH
2500 cc vehicles:

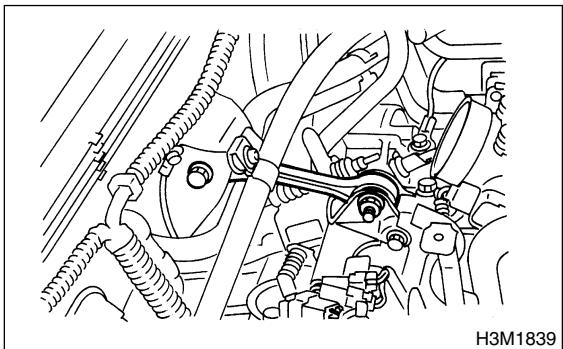
ST 499977100 CRANK PULLEY WRENCH



ENGINE ASSEMBLY

Mechanical

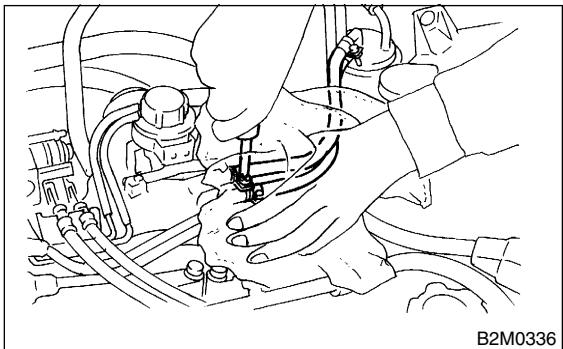
16) Remove pitching stopper.



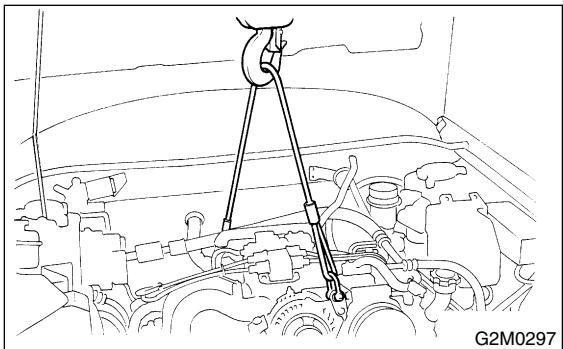
17) Disconnect fuel delivery hose, return hose and evaporation hose.

CAUTION:

- Disconnect hose with its end wrapped with cloth to prevent fuel from splashing.
- Catch fuel from hose into container.



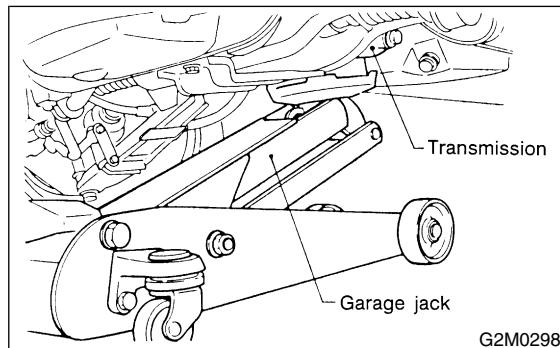
18) Support engine with a lifting device and wire ropes.



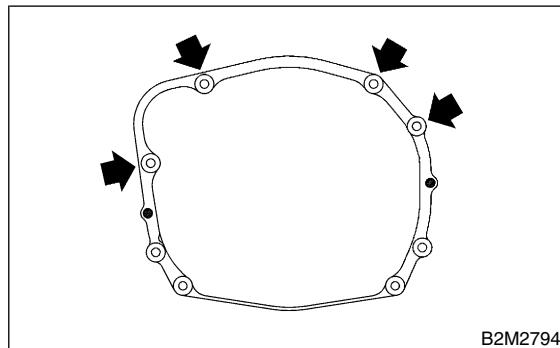
19) Support transmission with a garage jack.

CAUTION:

Before moving engine away from transmission, check to be sure no work has been overlooked. Doing this is very important in order to facilitate re-installation and because transmission lowers under its own weight.



20) Remove bolts which holds upper side of transmission to engine.

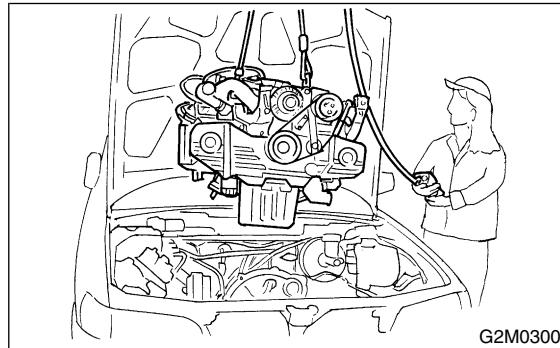


21) Remove engine from vehicle.

- (1) Slightly raise engine.
- (2) Raise transmission with garage jack.
- (3) Move engine horizontally until mainshaft is withdrawn from clutch cover.
- (4) Slowly move engine away from engine compartment.

CAUTION:

Be careful not to damage adjacent parts or body panels with crank pulley, oil pressure gauge, etc.



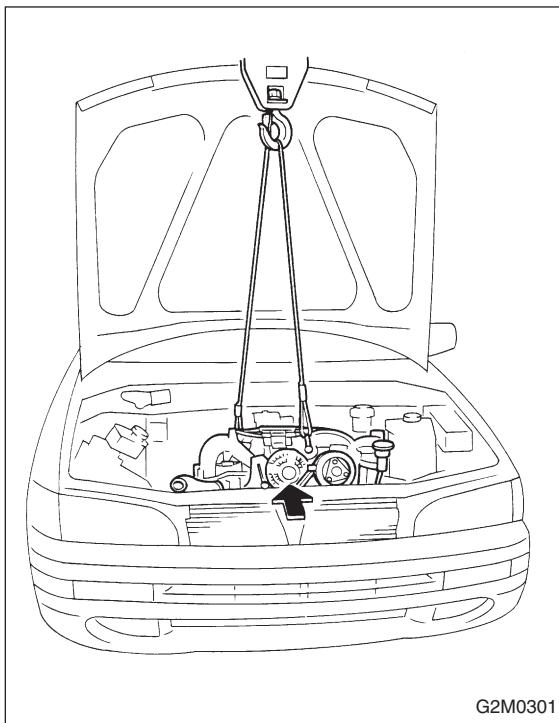
B: INSTALLATION

S103079A11

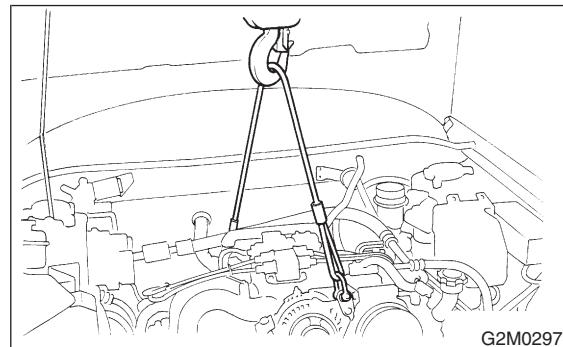
- 1) Install engine onto transmission.
 (1) Position engine in engine compartment and align it with transmission.

CAUTION:

Be careful not to damage adjacent parts or body panels with crank pulley, oil pressure gauge, etc.



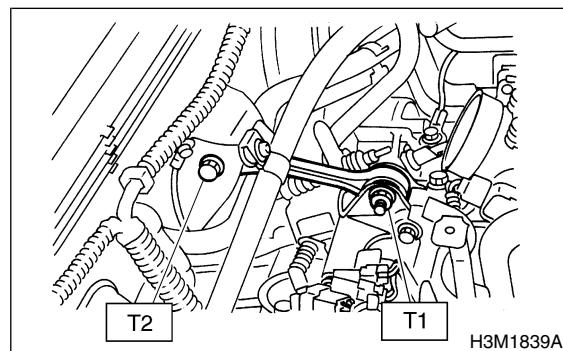
- 3) Remove lifting device and wire ropes.



- 4) Remove garage jack.
- 5) Install pitching stopper.

Tightening torque:

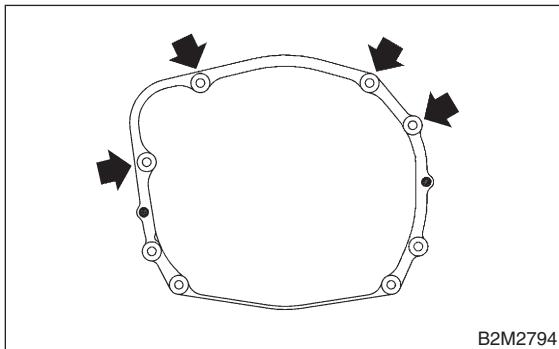
T1: 49 N·m (5.0 kgf-m, 36.2 ft-lb)
 T2: 57 N·m (5.8 kgf-m, 42 ft-lb)



- (2) Apply a small amount of grease to splines of mainshaft.
- 2) Tighten bolts which hold upper side of transmission to engine.

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



6) Install torque converter onto drive plate. (AT model)

(1) Tighten bolts which hold torque converter to drive plate.

(2) Tighten other bolts while rotating the engine by using ST.

2200 cc vehicles:

ST 499977300 CRANK PULLEY WRENCH

2500 cc vehicles:

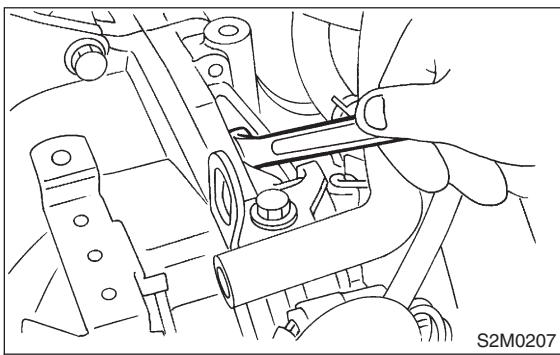
ST 499977100 CRANK PULLEY WRENCH

CAUTION:

Be careful not to drop bolts into torque converter housing.

Tightening torque:

25 N·m (2.5 kgf-m, 18.1 ft-lb)



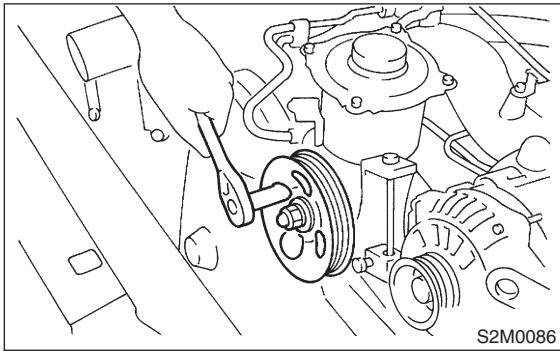
(3) Clog plug onto service hole.

7) Install power steering pump on bracket.

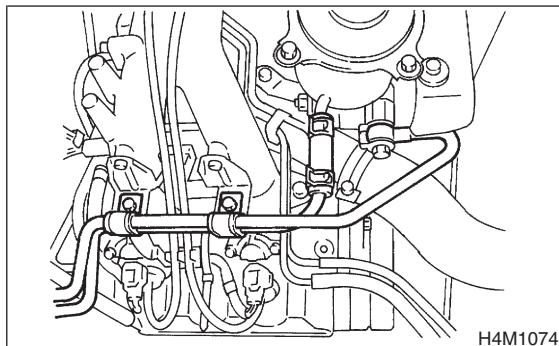
(1) Install power steering pump on bracket, and tighten bolts.

Tightening torque:

39 N·m (4.0 kgf-m, 29 ft-lb)

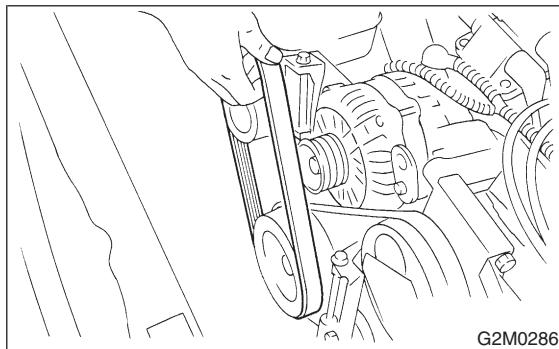


(2) Install power steering pipe bracket on right side intake manifold, and install spark plug codes.



(3) Install front side V-belt, and adjust it.

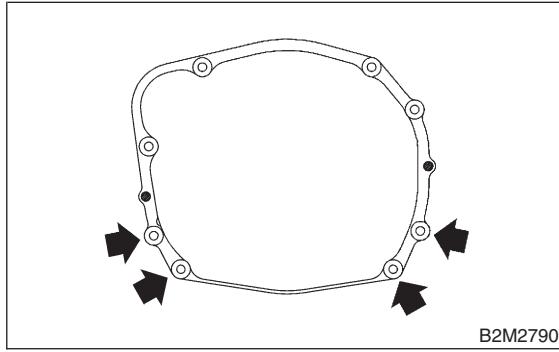
<Ref. to ME-48 INSTALLATION, V-belt. >



8) Tighten nuts which hold lower side of transmission to engine.

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



ENGINE ASSEMBLY

Mechanical

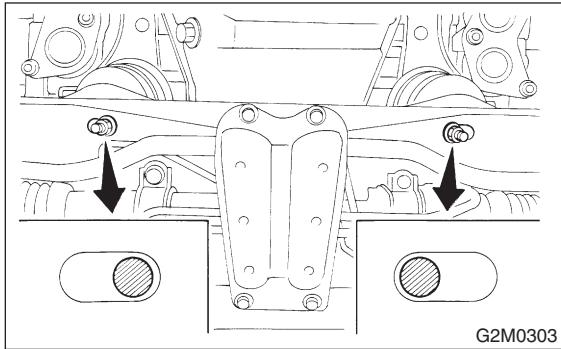
9) Tighten nuts which install front cushion rubber onto crossmember.

Tightening torque:

69 N·m (7.0 kgf·m, 51 ft-lb)

CAUTION:

Be sure to tighten front cushion rubber mounting bolts in the innermost elliptical hole in the front crossmember.



10) Install front exhaust pipe <Ref. to EX-7 INSTALLATION, Front Exhaust Pipe.> and center exhaust pipe. <Ref. to EX-9 INSTALLATION, Center Exhaust Pipe.>

11) Connect rear oxygen sensor connector.

12) Connect the following hoses.

- (1) Fuel delivery hose, return hose and evaporation hose
- (2) Heater inlet and outlet hoses
- (3) Brake booster vacuum hose
- (4) Cruise control vacuum hose (With cruise control)

13) Connect the following connectors.

- (1) Engine ground terminal
- (2) Engine harness connectors
- (3) Front oxygen sensor connector
- (4) Alternator connector and terminal
- (5) A/C compressor connectors (With A/C)

14) Connect the following cables.

- (1) Accelerator cable
- (2) Cruise control cable (With cruise control)
- (3) Clutch cable (2200 cc MT vehicle)
- (4) Clutch release spring (2200 cc MT vehicle)

CAUTION:

After connecting each cable, adjust them.

15) Install air intake system.

- (1) Install air cleaner element.
- (2) Install air intake duct <Ref. to IN-5 INSTALLATION, Air Intake Duct.> and air cleaner case. <Ref. to IN-4 INSTALLATION, Air Cleaner Case.>

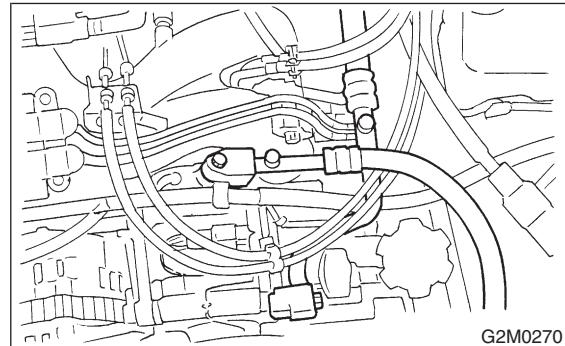
16) Install A/C flexible hoses. (With A/C)
<Ref. to AC-35 INSTALLATION, Flexible Hose.>

CAUTION:

Use new O-rings.

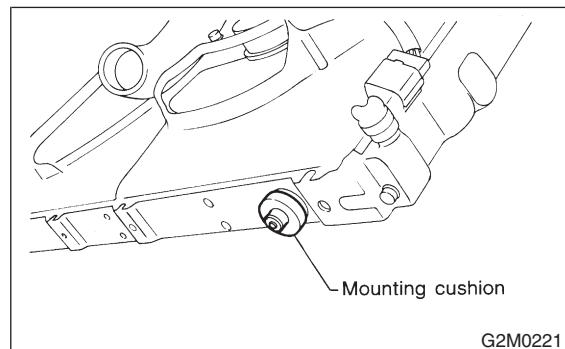
Tightening torque:

25 N·m (2.5 kgf·m, 18.1 ft-lb)

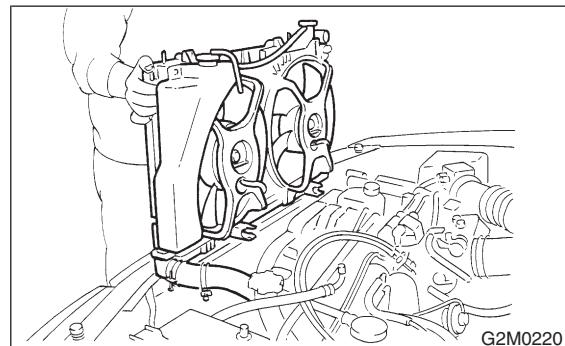


17) Install cooling system.

(1) Attach radiator mounting cushions to pins on lower side of radiator.



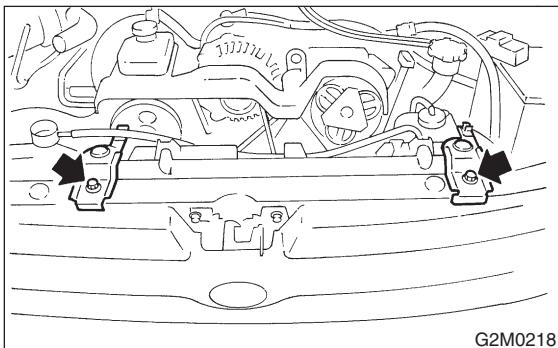
(2) Fit cushions on lower side of radiator, into holes on body side and install radiator.



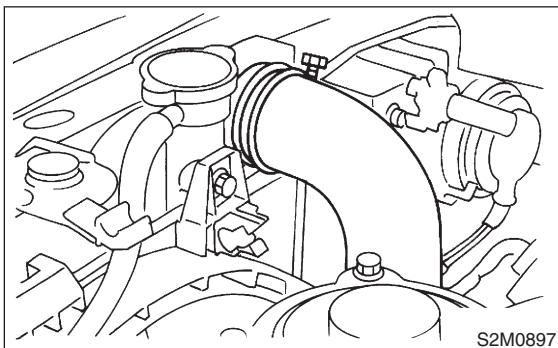
(3) Install radiator brackets and tighten bolts.

Tightening torque:

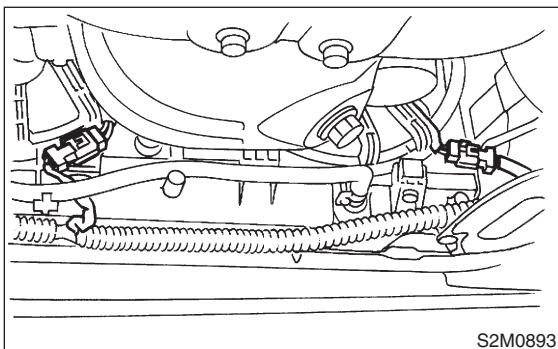
13.7 N·m (1.4 kgf-m, 10.1 ft-lb)



(4) Connect radiator inlet hose.

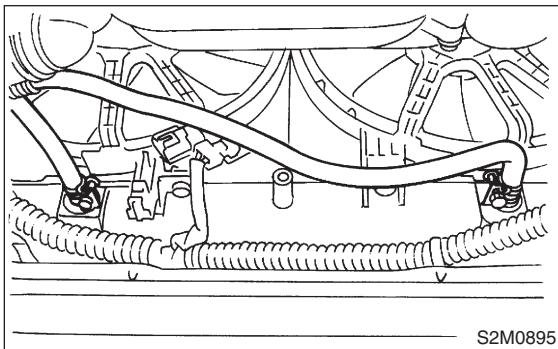


(5) Connect radiator fan motor connector.



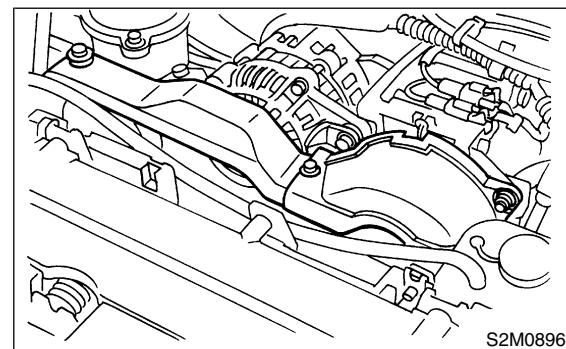
(6) Connect radiator outlet hose.

(7) Connect ATF cooler hoses. (AT vehicles)



(8) Install ATF cooler pipe to cylinder head.
(2200 cc AT vehicle)

(9) Install V-belt cover.



18) Install battery in the vehicle, and connect cables.

19) Fill coolant.

<Ref. to CO-6 REPLACEMENT, Engine Coolant. >

20) Check ATF level and correct if necessary. (AT model)

<Ref. to AT-9 REPLACEMENT, Automatic Transmission Fluid. >

21) Charge A/C system with refrigerant.

<Ref. to AC-17 OPERATION, Refrigerant Charging Procedure. >

22) Remove front hood stay, and close front hood.

23) Remove the vehicle from lift arms.

C: INSPECTION

S103079A10

1) Make sure pipes and hoses are installed correctly.

2) Make sure the engine coolant and ATF are at specified levels.