

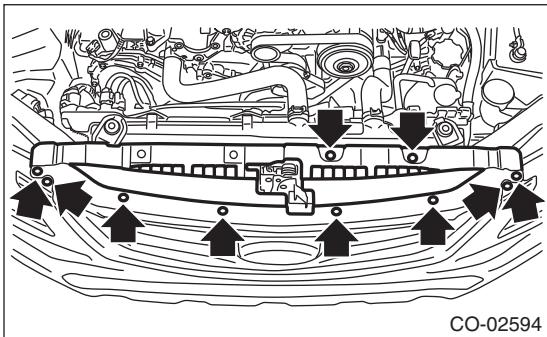
Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

3. Manual Transmission Assembly

A: REMOVAL

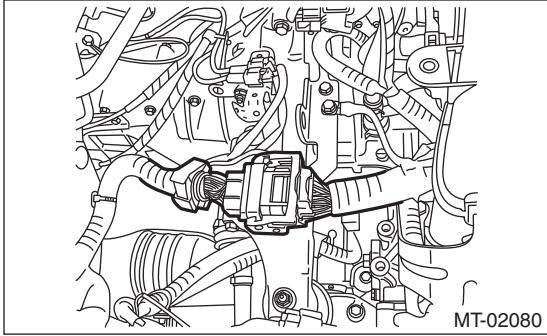
- 1) Set the vehicle on a lift.
- 2) Remove the front wheels.
- 3) Open the front hood completely.
- 4) Remove the collector cover.
- 5) Remove the air intake duct. <Ref. to IN(H4SO)-9, REMOVAL, Air Intake Duct.> <Ref. to IN(H4DOTC)-12, REMOVAL, Air Intake Duct.>
- 6) Remove the 10 clips and detach the grille bracket.



CO-02594

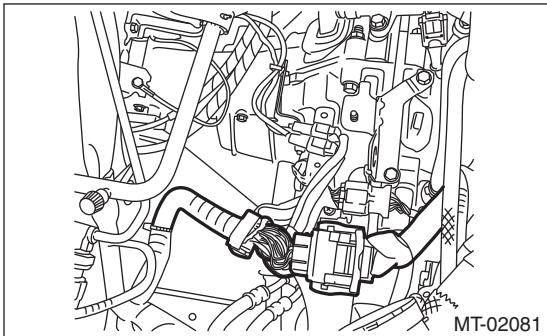
- 7) Disconnect the ground cable from battery.
- 8) Remove the air intake boot assembly. (non-turbo model) <Ref. to IN(H4SO)-8, REMOVAL, Air Intake Boot.>
- 9) Remove the intercooler and the intercooler stay. (turbo model) <Ref. to IN(H4DOTC)-17, REMOVAL, Intercooler.>
- 10) Disconnect the engine harness connector.

- Non-turbo model



MT-02080

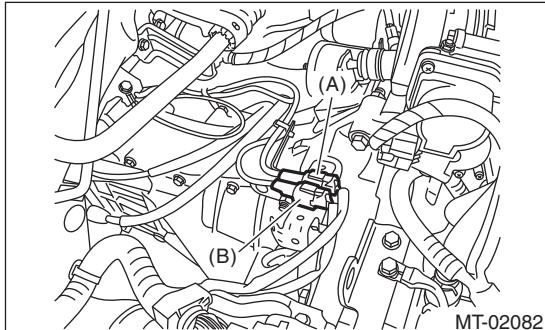
- Turbo model



MT-02081

- 11) Disconnect the connector of back-up light switch and neutral position switch.

- Non-turbo model

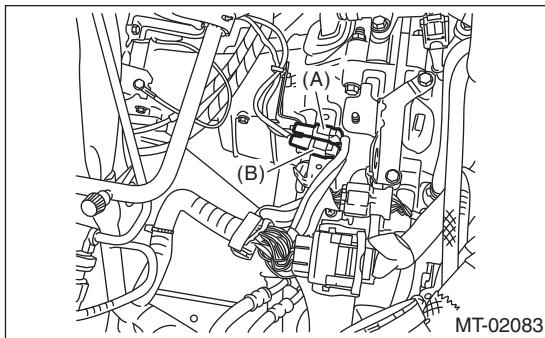


MT-02082

(A) Neutral position switch connector (Brown)

(B) Back-up light switch connector (gray)

- Turbo model



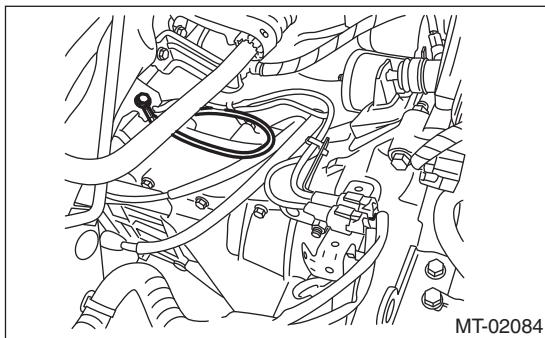
MT-02083

(A) Neutral position switch connector (Brown)

(B) Back-up light switch connector (gray)

- 12) Disconnect the ground cable.

- Non-turbo model

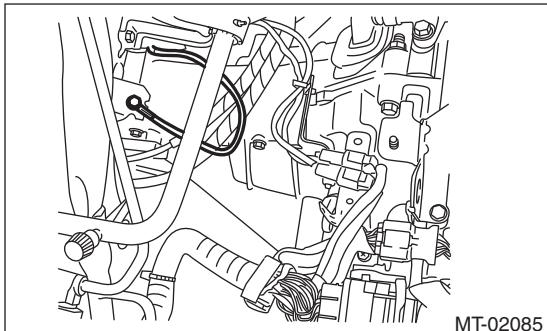


MT-02084

Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

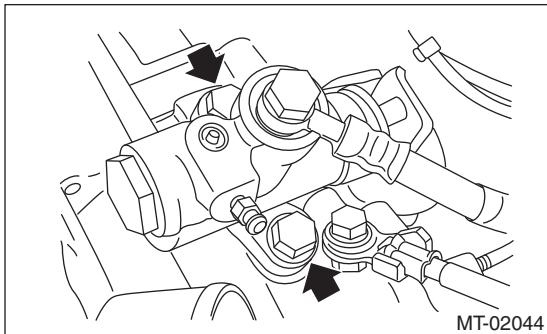
- Turbo model



13) Remove the throttle body. (non-turbo model)
<Ref. to FU(H4SO)-14, REMOVAL, Throttle Body.>

14) Remove the starter. <Ref. to SC(H4SO)-9, REMOVAL, Starter.>

15) Remove the operating cylinder from the transmission, and hang it with a wire or the like.



16) Lift up the vehicle.

17) Remove the front under cover. <Ref. to EI-35, REMOVAL, Front Under Cover.>

18) Drain transmission gear oil completely. <Ref. to 6MT-23, REPLACEMENT, Transmission Gear Oil.>

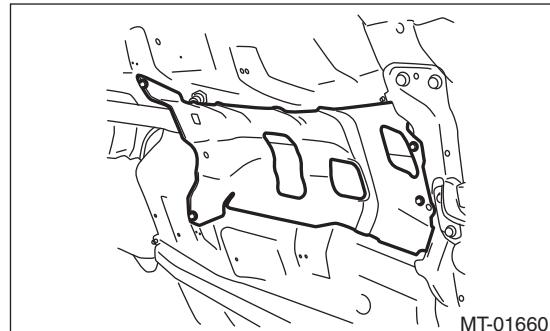
19) Remove the front, center and rear exhaust pipes. (non-turbo model) <Ref. to EX(H4SO)-4, REMOVAL, Front Exhaust Pipe.> <Ref. to EX(H4SO)-7, REMOVAL, Center Exhaust Pipe.> <Ref. to EX(H4SO)-8, REMOVAL, Rear Exhaust Pipe.>

20) Remove the center and rear exhaust pipes. (turbo model) <Ref. to EX(H4DOTC)-12, REMOVAL, Center Exhaust Pipe.> <Ref. to EX(H4DOTC)-15, REMOVAL, Rear Exhaust Pipe.>

CAUTION:

When removing the exhaust pipes, make sure that each exhaust pipe does not drop off.

21) Remove the heat shield cover.



22) Remove the steering shaft universal joint. <Ref. to PS-18, REMOVAL, Universal Joint.>

23) Remove the propeller shaft. <Ref. to DS-10, REMOVAL, Propeller Shaft.>

24) Remove the MT gear shift cable and MT gear select cable from MT gear shift lever. <Ref. to CS-56, REMOVAL, MT Gear Shift Lever.>

CAUTION:

- Do not bend MT gear shift cable and MT gear select cable at a sharp angle.
- Disconnect the MT gear shift cable and MT gear select cable at the MT gear shift lever side.
- Always use new MT gear select cable if the cable is removed from selector lever COMPL of transmission side.

25) Remove the stabilizer link from the front arm. <Ref. to FS-19, REMOVAL, Front Stabilizer.>

26) Remove the bolts which secure front arm ball joint to the housing, and separate the front arm and housing. <Ref. to FS-20, REMOVAL, Front Ball Joint.>

27) Separate the front drive shafts on both sides from the transmission. <Ref. to DS-25, REMOVAL, Front Drive Shaft.>

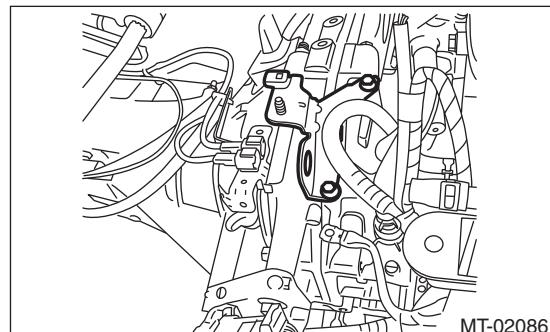
28) Lower the vehicle.

29) Remove the engine hanger rear, and install the engine hanger rear for turbo model. (non-turbo model)

Tightening torque:

16 N·m (1.6 kgf·m, 11.8 ft-lb)

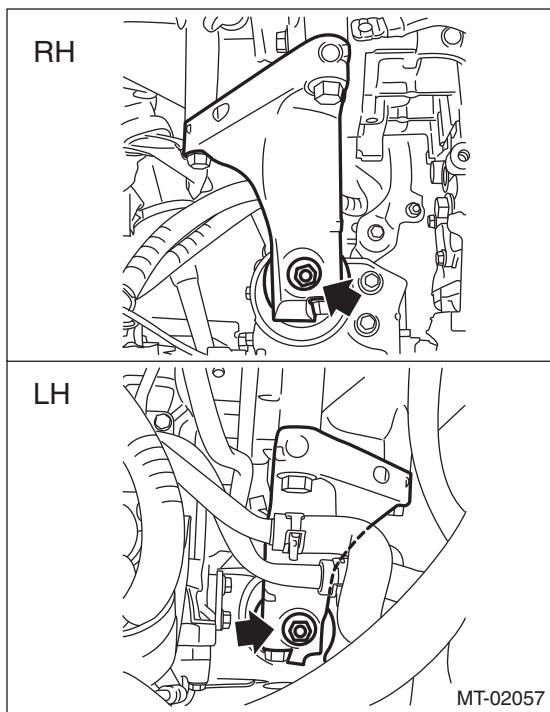
Part No. 10004AA180 Engine hanger rear



Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

30) Remove the nuts connecting the engine mounting and the transmission main mounting bracket.



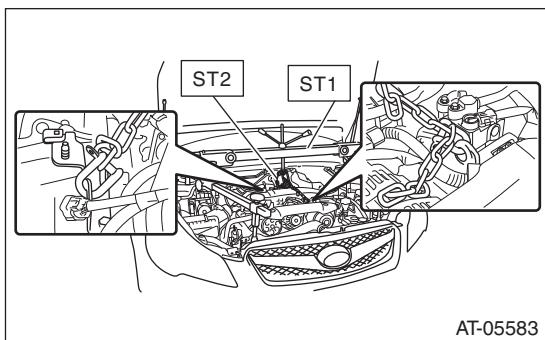
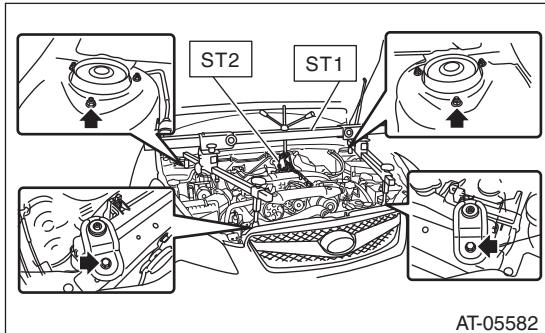
31) Set the ST on the vehicle and hang the engine.

CAUTION:

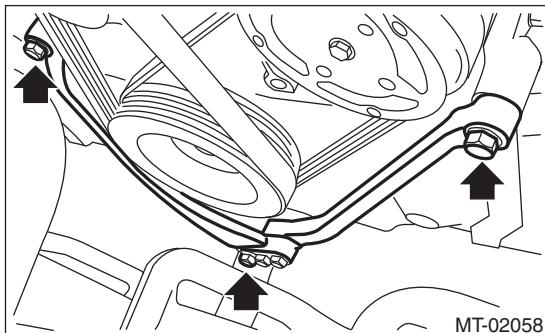
- Set the ST so that the chain does not contact the sensor and other parts while hanging the engine.

- Set the arms of ST (ENGINE HANGER) at the locations shown in the figure.

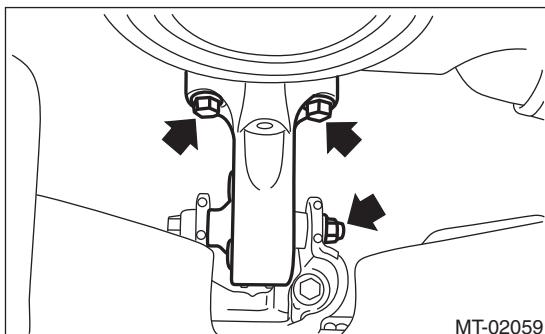
ST1 99099AJ000	SPECIAL TOOL	ENGINE HANGER
ST2 99099AJ010	SPECIAL TOOL	CHAIN BALANCER
GENERAL TOOL		Sling chain
GENERAL TOOL		Screw shackle



32) Remove the stopper rod.



33) Remove the front cushion rubbers.



34) Attach the ST with the front cushion rubber mounting bolts and nuts.

Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

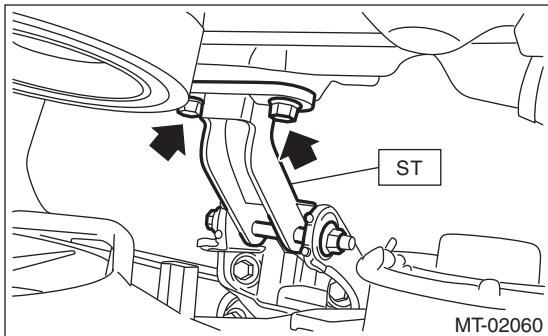
CAUTION:

Do not tighten the nuts on the engine mount excessively, or the engine mounting bracket may be deformed.

Tightening torque:

25 N·m (2.5 kgf·m, 18.4 ft-lb)

ST 41099AJ000 SPECIAL TOOL H4

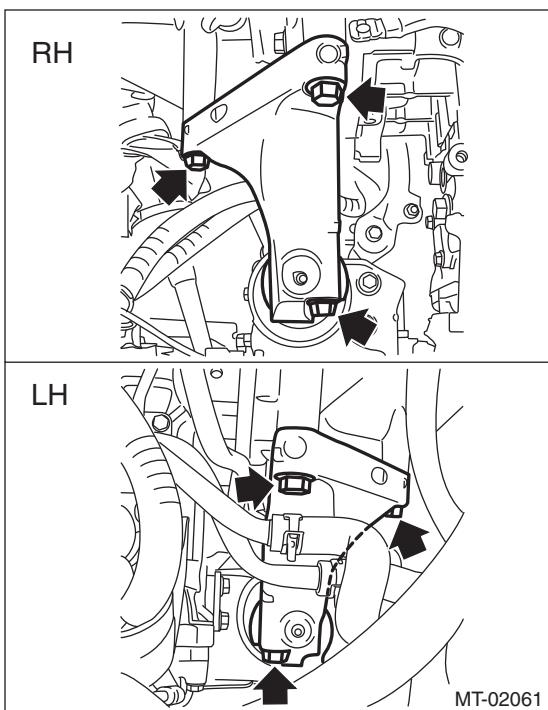


35) Remove the ST (ENGINE HANGER).

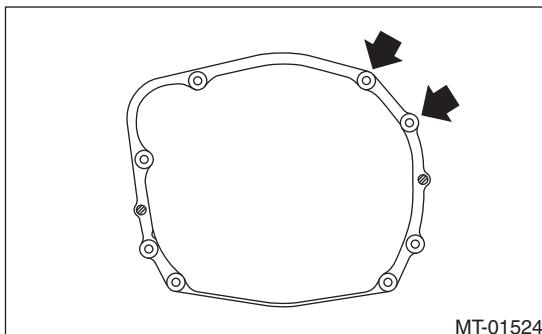
NOTE:

Operation is less efficient with the ST (ENGINE HANGER) attached. Remove it temporarily.

36) Remove the transmission main mounting bracket.



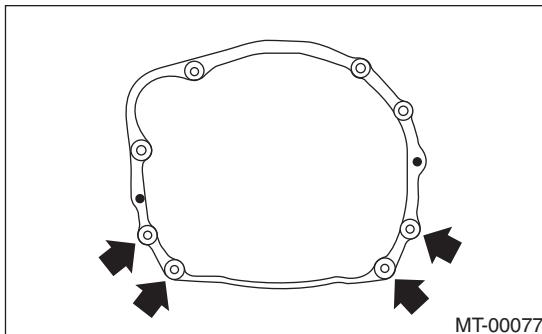
37) Remove the bolts which hold upper side of transmission to engine.



38) Attach the ST (ENGINE HANGER) again.

39) Lift up the vehicle.

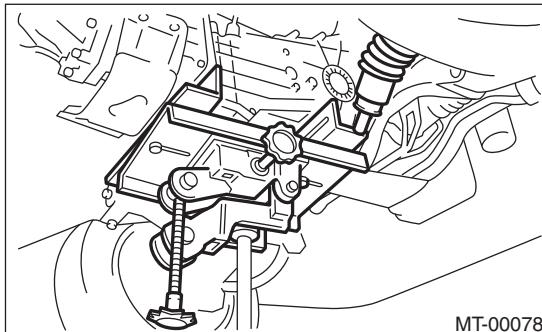
40) Remove the bolts and nuts which hold lower side of transmission to engine.



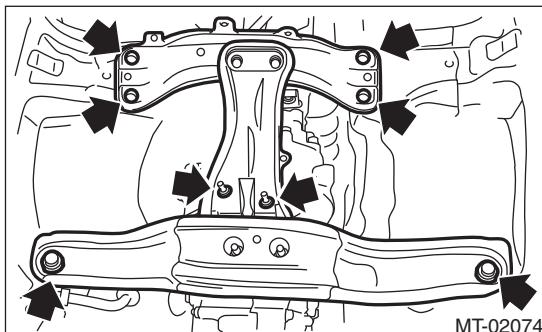
41) Place the transmission jack under the transmission.

CAUTION:

Always support the transmission case with a transmission jack.



42) Remove the front crossmember and rear crossmember from the vehicle.



Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

43) Remove the transmission while lowering the transmission jack.

NOTE:

Move the transmission jack towards the rear until the main shaft is withdrawn from the clutch disc.

44) Separate the transmission assembly from the transmission cushion rubber.

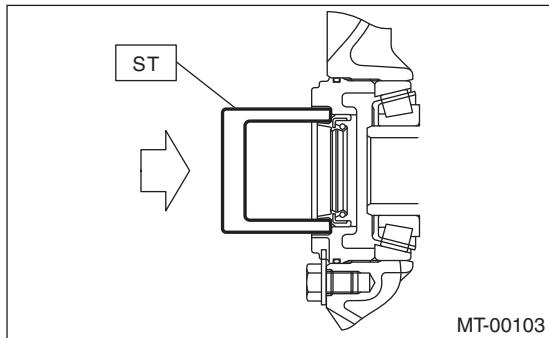
B: INSTALLATION

1) Replace the differential side retainer oil seal.
<Ref. to 6MT-35, REPLACEMENT, Differential Side Retainer Oil Seal.>

NOTE:

Be sure to replace the differential side retainer oil seal after removing the front drive shaft.

ST 18675AA000 DIFFERENTIAL SIDE OIL SEAL INSTALLER



2) Install the transmission cushion rubber to the transmission assembly, and tighten bolt (A).

3) Install the transmission cushion rubber to the center crossmember, and tighten nut (B).

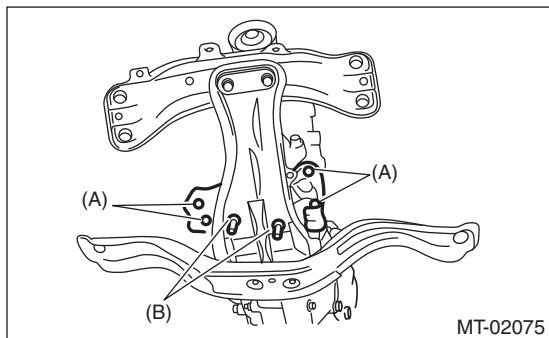
Tightening torque:

Bolt (A)

35 N·m (3.6 kgf-m, 25.8 ft-lb)

Nut (B)

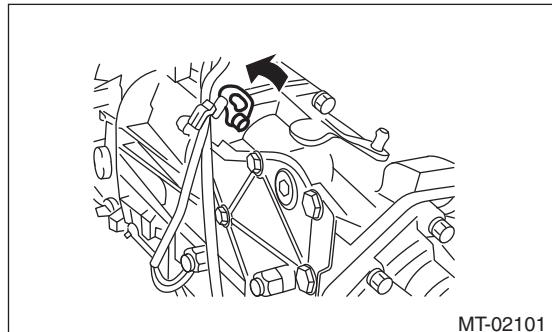
35 N·m (3.6 kgf-m, 25.8 ft-lb)



4) Tap the transmission hanger in the rear side of transmission with a rubber hammer to bend it until it is in close contact with the transmission case.

CAUTION:

Do not apply excessive load or impact to the transmission case.



5) Install the transmission onto the engine.

(1) Lift up the transmission gradually using a transmission jack.

(2) Engage at the spline section.

NOTE:

Be careful not to hit the main shaft against the clutch housing cover.

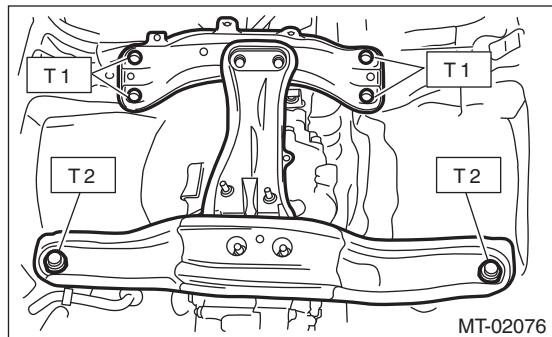
6) Temporarily tighten the bolts and nuts which hold lower side of transmission to engine.

7) Install the front crossmember and rear crossmember.

Tightening torque:

T1: 75 N·m (7.6 kgf-m, 55.3 ft-lb)

T2: 140 N·m (14.3 kgf-m, 103.3 ft-lb)

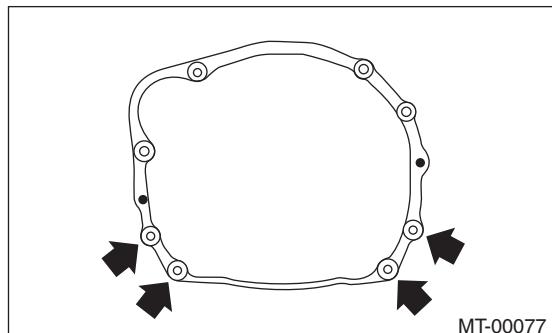


8) Take out the transmission jack.

9) Tighten the bolts and nuts which hold the lower side of transmission to the engine.

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



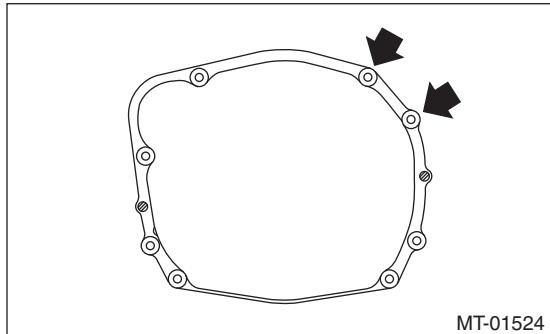
Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

- 10) Lower the vehicle.
- 11) Tighten the bolts which hold the upper side of the transmission to the engine.

Tightening torque:

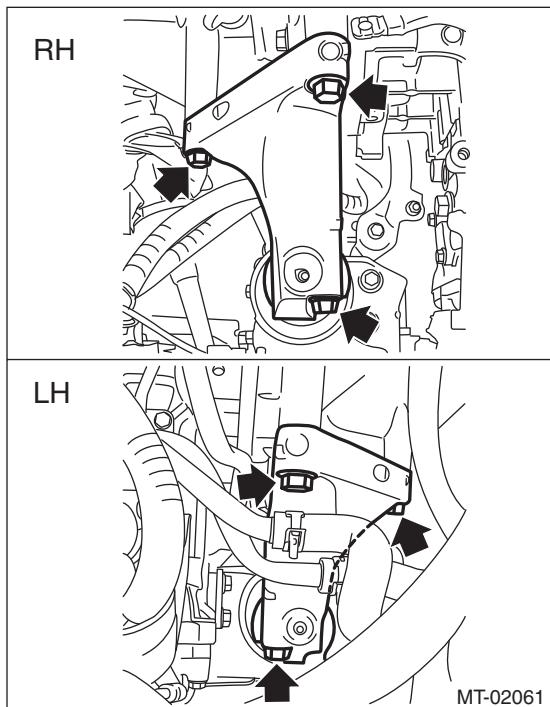
50 N·m (5.1 kgf-m, 36.9 ft-lb)



- 12) Remove the ST (ENGINE HANGER).
- 13) Install the transmission main mounting bracket.

Tightening torque:

75 N·m (7.6 kgf-m, 55.3 ft-lb)

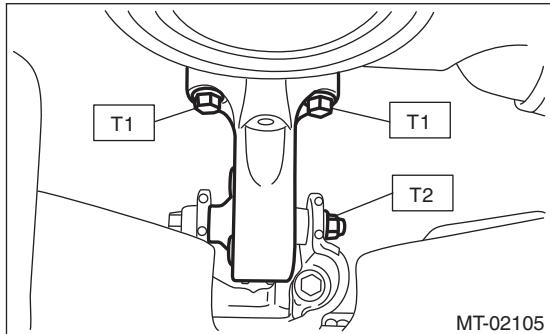


- 14) Attach the ST (ENGINE HANGER) again.
- 15) Remove the ST and install the front cushion rubber.

Tightening torque:

T1: 25 N·m (2.5 kgf-m, 18.4 ft-lb)

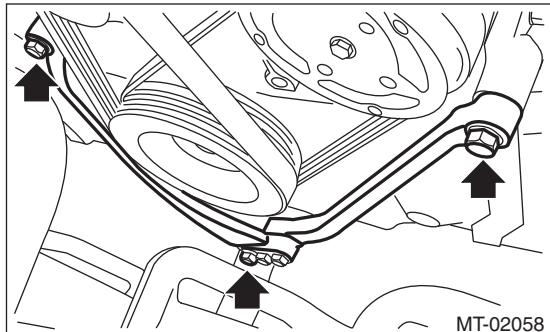
T2: 45 N·m (4.6 kgf-m, 33.2 ft-lb)



- 16) Install the stopper rod.

Tightening torque:

36 N·m (3.7 kgf-m, 26.6 ft-lb)

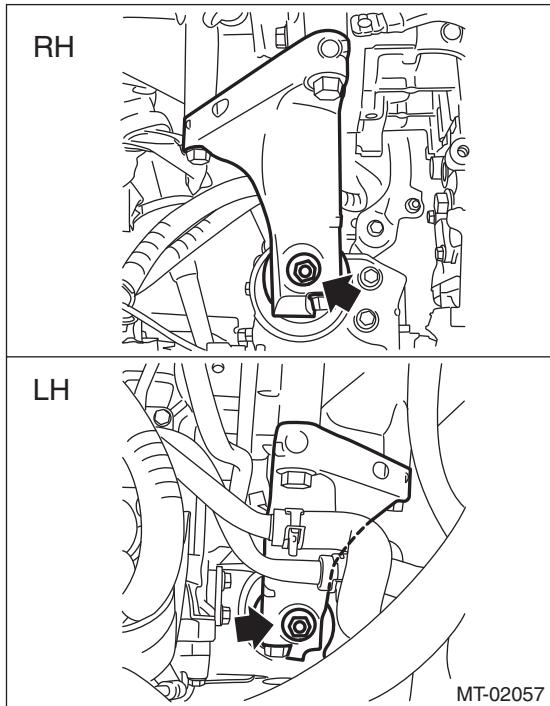


- 17) Remove the ST from the vehicle.

- 18) Tighten the nuts connecting the engine mount and the transmission main mounting bracket.

Tightening torque:

45 N·m (4.6 kgf-m, 33.2 ft-lb)



Manual Transmission Assembly

MANUAL TRANSMISSION AND DIFFERENTIAL

19) Remove the engine hanger rear for turbo model and install the engine hanger rear for non-turbo model. (non-turbo model)

Tightening torque:

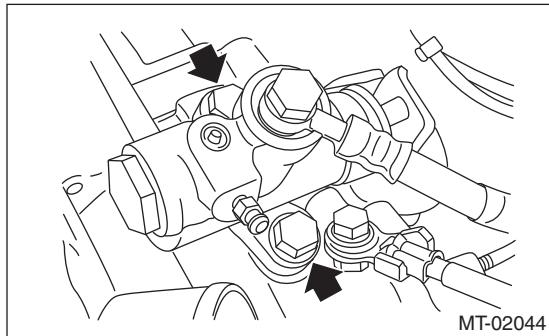
16 N·m (1.6 kgf·m, 11.8 ft-lb)

20) Install the starter. <Ref. to SC(H4SO)-9, INSTALLATION, Starter.>

21) Install the operating cylinder.

Tightening torque:

37 N·m (3.8 kgf·m, 27.3 ft-lb)



22) Lift up the vehicle.

23) Install the front drive shaft into the transmission. <Ref. to DS-25, INSTALLATION, Front Drive Shaft.>

ST 28399SA010 OIL SEAL PROTECTOR

24) Insert the front arm ball joint into the housing lower part. <Ref. to FS-20, INSTALLATION, Front Ball Joint.>

25) Attach the stabilizer link to the front arm. <Ref. to FS-19, INSTALLATION, Front Stabilizer.>

26) Install the MT gear shift cable and MT gear select cable to MT gear shift lever. <Ref. to CS-59, INSTALLATION, MT Gear Shift Lever.>

CAUTION:

- Do not bend MT gear shift cable and MT gear select cable at a sharp angle.
- Always use new MT gear select cable if the cable is removed from selector lever COMPL of transmission side.

27) Install the propeller shaft. <Ref. to DS-10, INSTALLATION, Propeller Shaft.>

28) Install the steering shaft universal joint. <Ref. to PS-18, INSTALLATION, Universal Joint.>

29) Install the heat shield cover. <Ref. to EI-165, INSTALLATION, Heat Shield Cover.>

30) Install the front, center and rear exhaust pipe. (non-turbo model) <Ref. to EX(H4SO)-5, INSTALLATION, Front Exhaust Pipe.> <Ref. to EX(H4SO)-7, INSTALLATION, Center Exhaust Pipe.> <Ref. to EX(H4SO)-8, INSTALLATION, Rear Exhaust Pipe.>

31) Install the center and rear exhaust pipe. (turbo model) <Ref. to EX(H4DOTC)-13, INSTALLATION, Center Exhaust Pipe.> <Ref. to EX(H4DOTC)-15, INSTALLATION, Rear Exhaust Pipe.>

32) Install the front under cover. <Ref. to EI-35, INSTALLATION, Front Under Cover.>

33) Lower the vehicle.

34) Install the throttle body. (non-turbo model) <Ref. to SC(H4SO)-9, INSTALLATION, Starter.>

35) Connect the following connectors.

- (1) Transmission ground cable

Tightening torque:

13 N·m (1.3 kgf·m, 9.6 ft-lb)

(2) Neutral position switch connector (Brown)

(3) Back-up light switch connector (gray)

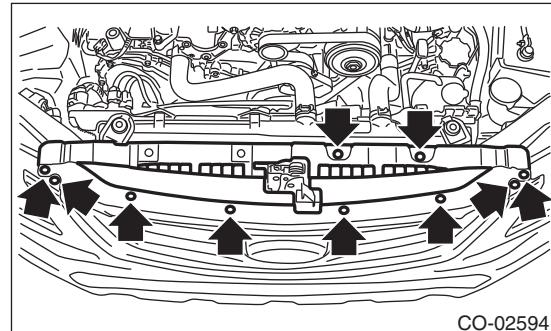
(4) Engine harness connectors

36) Fill transmission gear oil through the transmission oil level gauge hole. <Ref. to 6MT-23, Transmission Gear Oil.>

37) Install the air intake boot assembly. (non-turbo model) <Ref. to IN(H4SO)-8, INSTALLATION, Air Intake Boot.>

38) Install the intercooler and the intercooler stay. (turbo model) <Ref. to IN(H4DOTC)-18, INSTALLATION, Intercooler.>

39) Attach the grille bracket.



40) Install the air intake duct. <Ref. to IN(H4SO)-9, INSTALLATION, Air Intake Duct.> <Ref. to IN(H4DOTC)-12, INSTALLATION, Air Intake Duct.>

41) Install the collector cover.

42) Install the front wheels.

43) Connect the ground cable to battery.