

9. MT Gear Select Cable

A: REMOVAL

CAUTION:

Do not reuse the MT gear select cable which removed from select lever COMPL.

- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from battery.
- 3) Remove the air intake duct.

- Non-turbo model

<Ref. to IN(H4SO)-9, REMOVAL, Air Intake Duct.>

- Turbo model

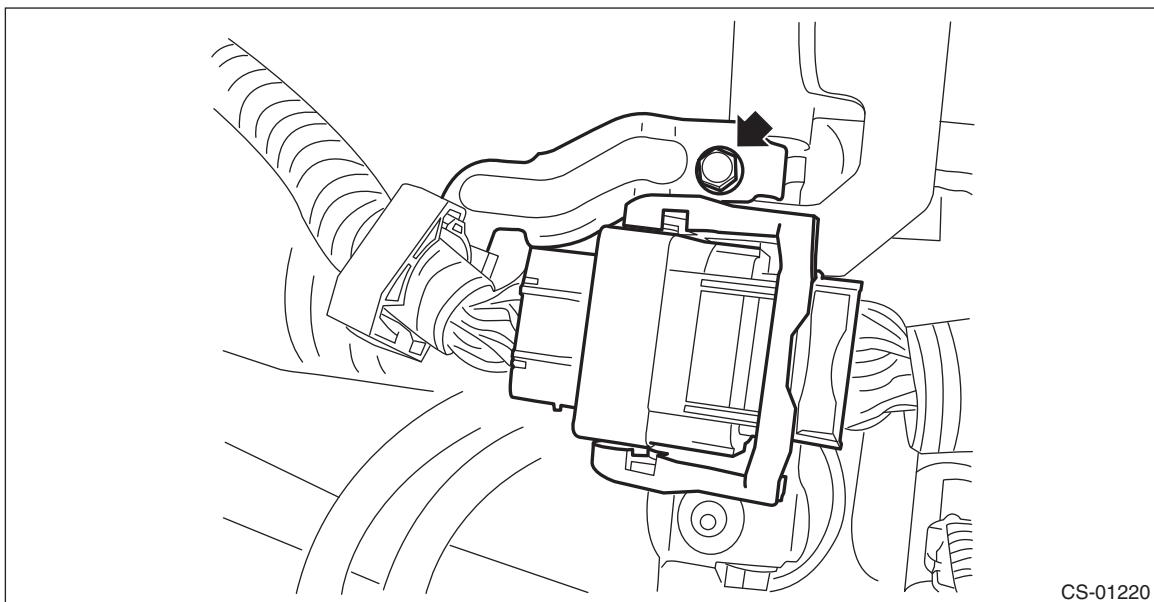
<Ref. to IN(H4DOTC)-12, REMOVAL, Air Intake Duct.>

- 4) Remove the intercooler and the intercooler stay. (turbo model) <Ref. to IN(H4DOTC)-17, REMOVAL, Intercooler.>

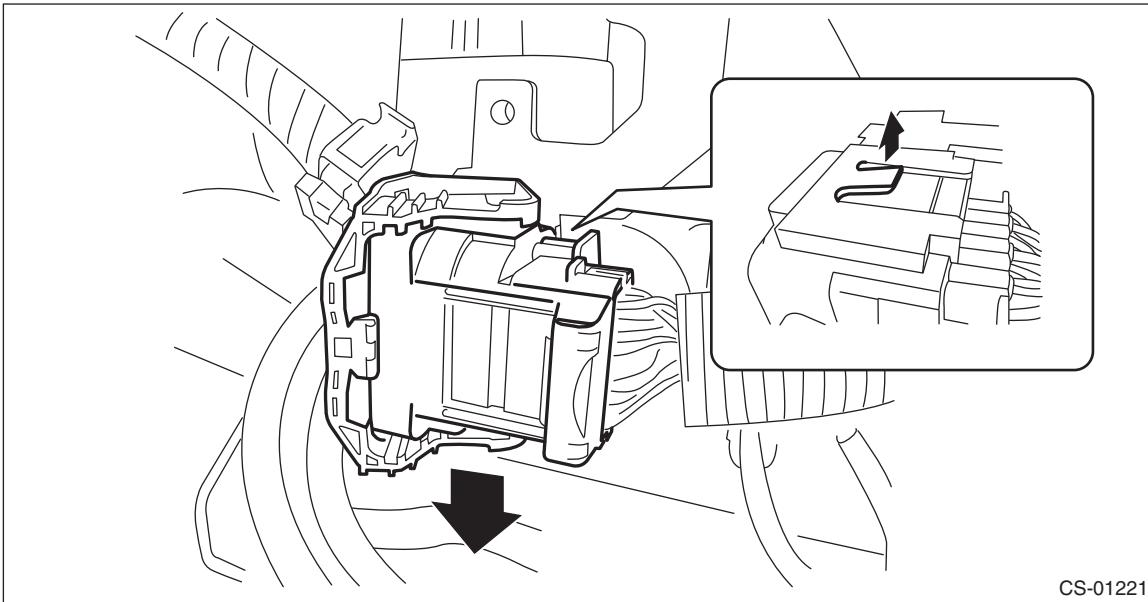
- 5) Remove the air intake boot assembly. (non-turbo model) <Ref. to IN(H4SO)-8, REMOVAL, Air Intake Boot.>

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

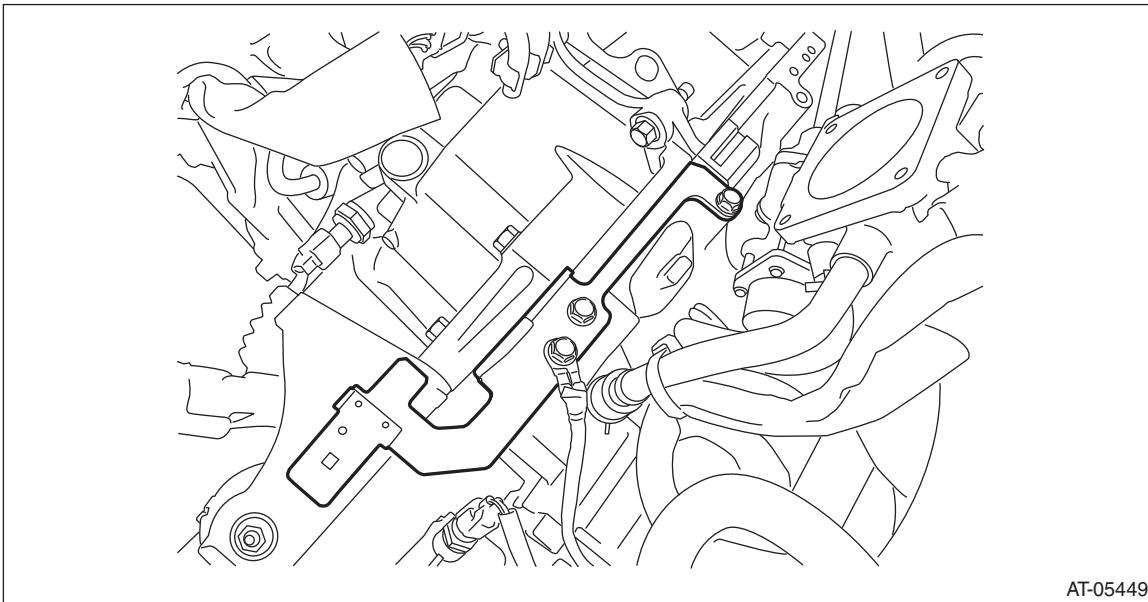
- 7) Remove the bolt and remove the engine harness connector. (non-turbo model)



8) Remove the engine harness connector from the engine hanger rear. (non-turbo model)



9) Remove the engine hanger rear. (non-turbo model)



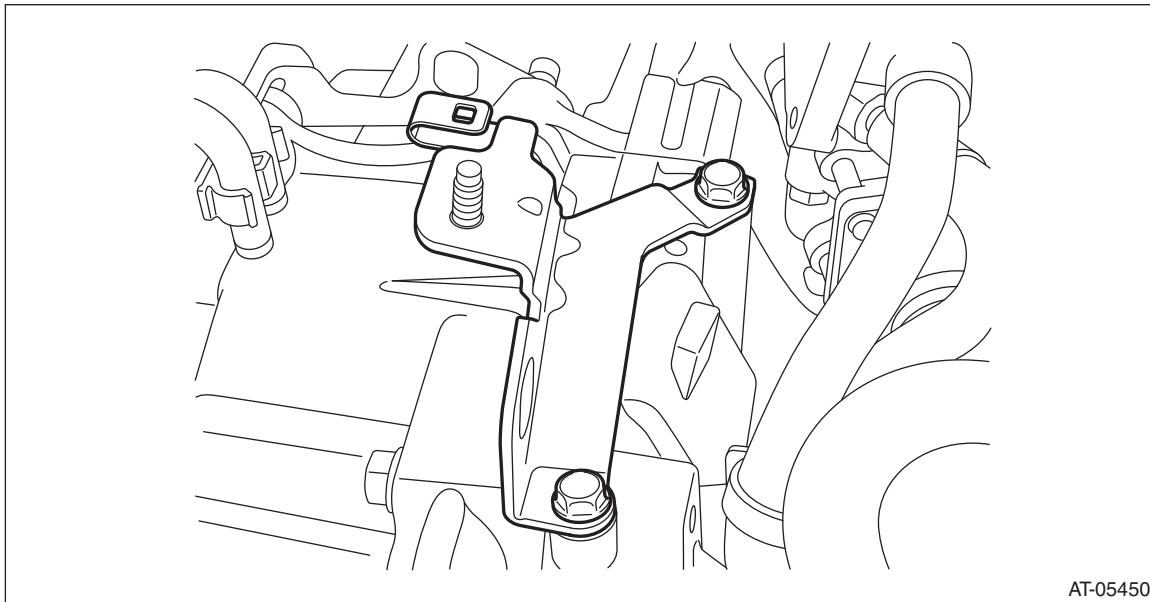
MT Gear Select Cable

CONTROL SYSTEMS

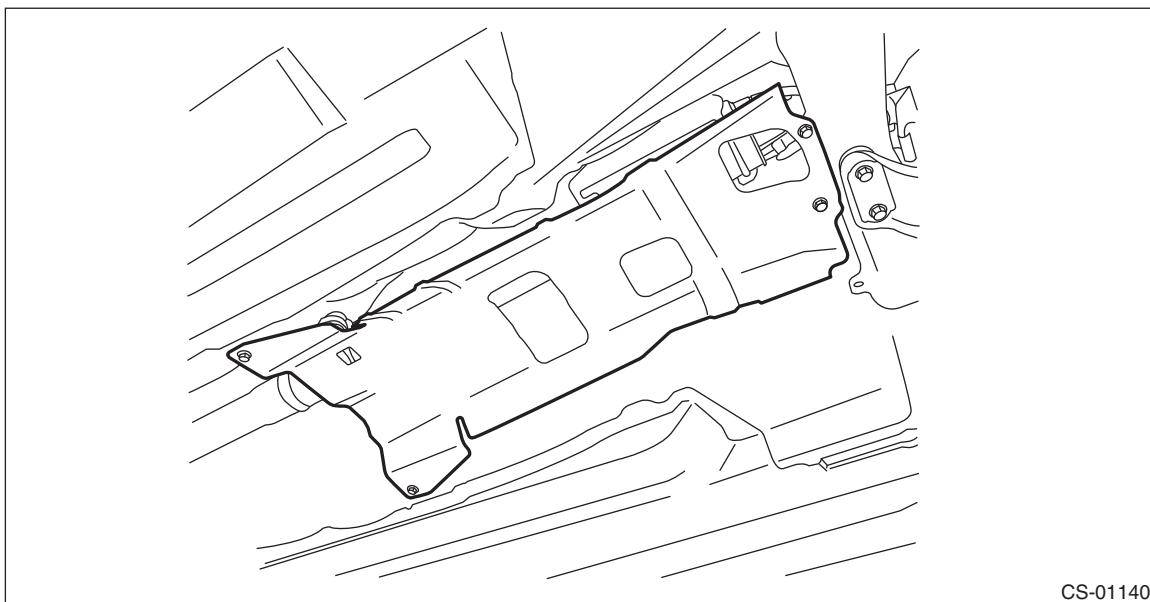
10) Install the engine hanger rear for turbo model. (non-turbo model)
Part No. 10004AA180 Engine hanger rear

Tightening torque:

16 N·m (1.6 kgf-m, 11.8 ft-lb)

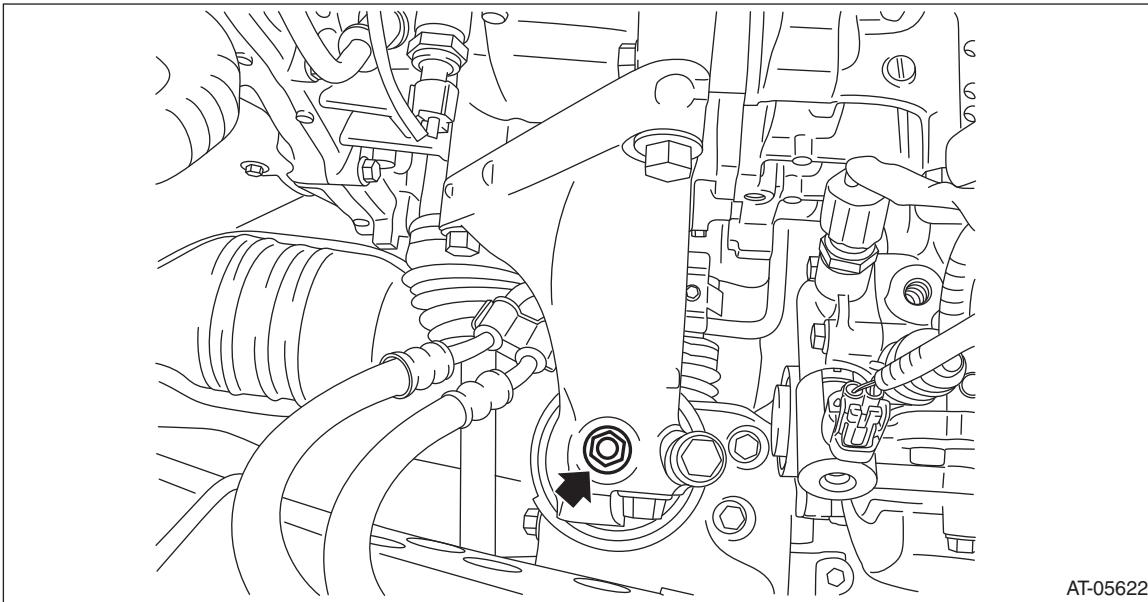


- 11) Lift up the vehicle.
- 12) Remove the center exhaust pipe and rear exhaust pipe. (non-turbo model) <Ref. to EX(H4SO)-7, REMOVAL, Center Exhaust Pipe.> <Ref. to EX(H4SO)-8, REMOVAL, Rear Exhaust Pipe.>
- 13) Remove the center exhaust pipe (rear) and rear exhaust pipe. (turbo model) <Ref. to EX(H4DOTC)-12, REMOVAL, Center Exhaust Pipe.> <Ref. to EX(H4DOTC)-15, REMOVAL, Rear Exhaust Pipe.>
- 14) Remove the heat shield cover.



- 15) Lower the vehicle.

16) Remove the nuts from left and right transmission mounting brackets.



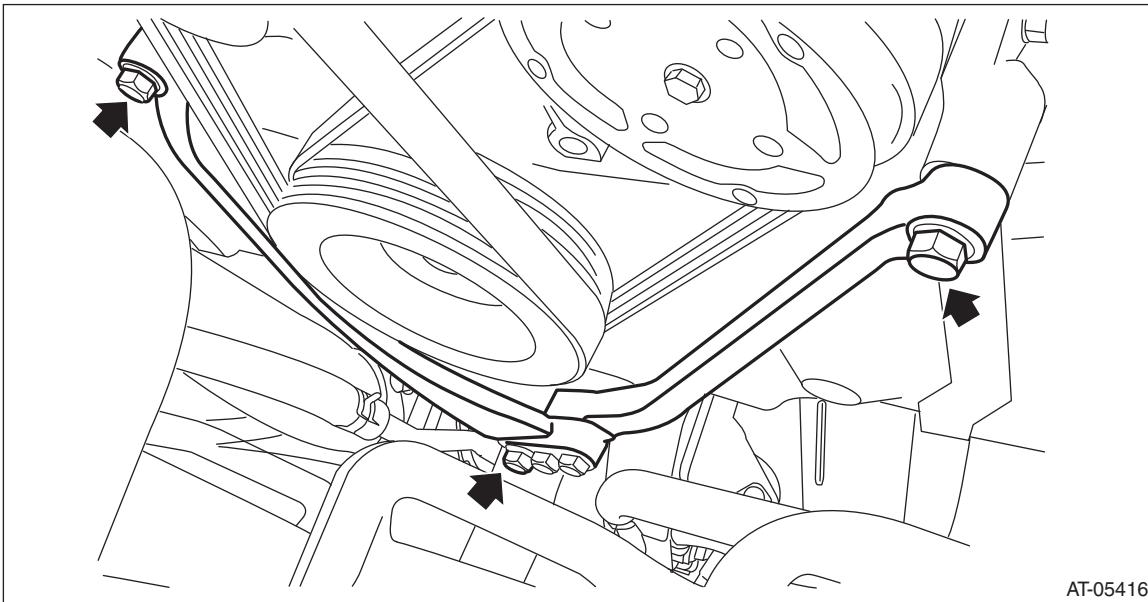
AT-05622

17) Set an engine crane to the vehicle.

CAUTION:

When lifting the engine, make sure that the lift chain does not contact sensors.

18) Remove the stopper rod.

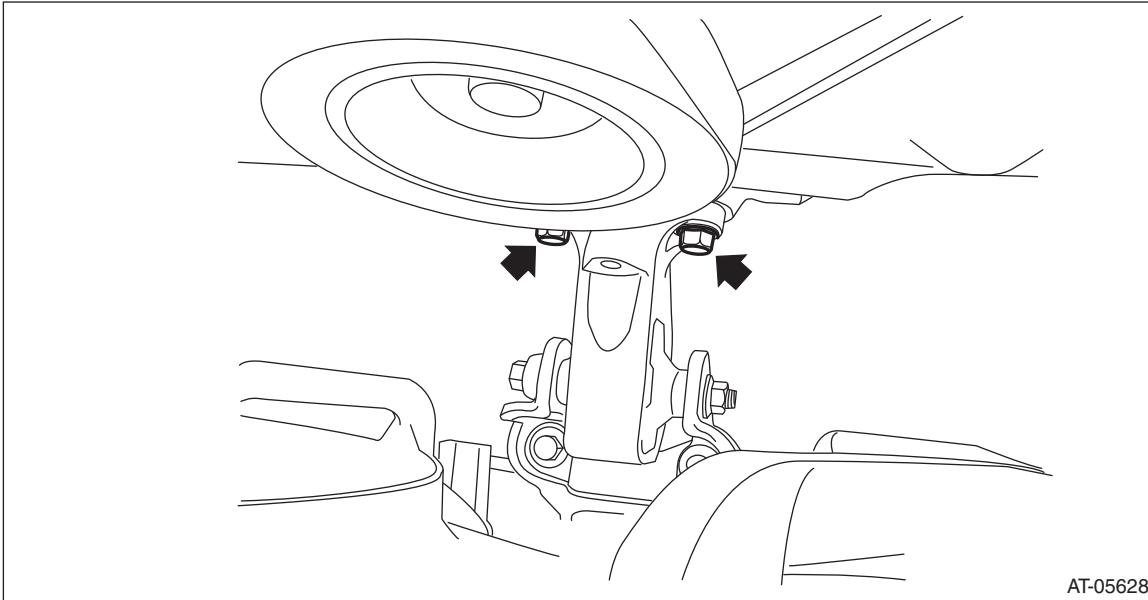


AT-05416

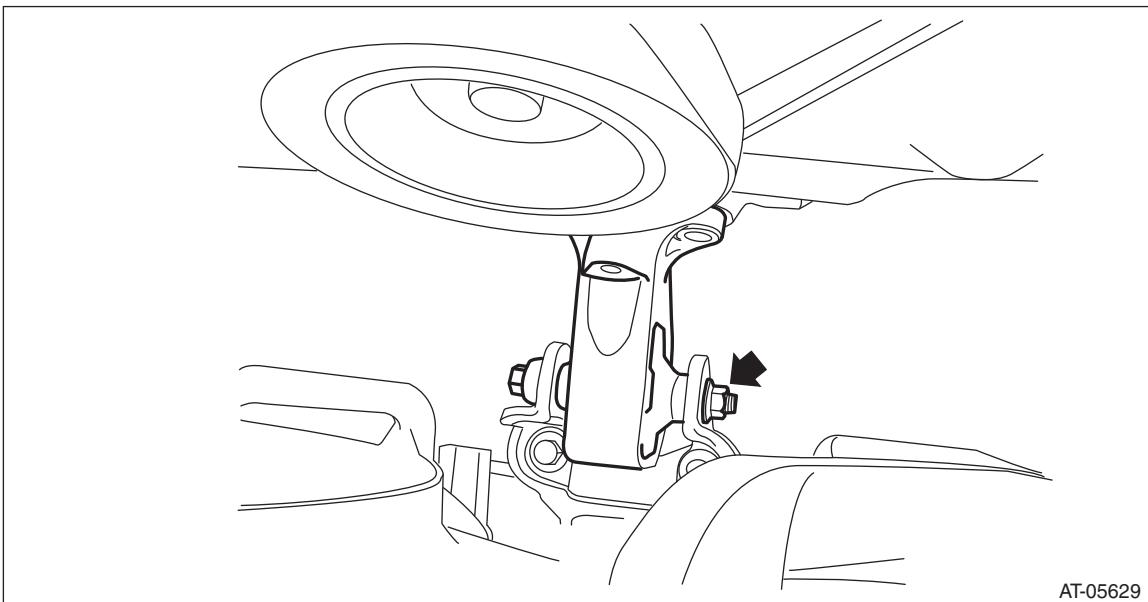
MT Gear Select Cable

CONTROL SYSTEMS

19) Lift the engine slightly and remove the bolts of engine front mounting.

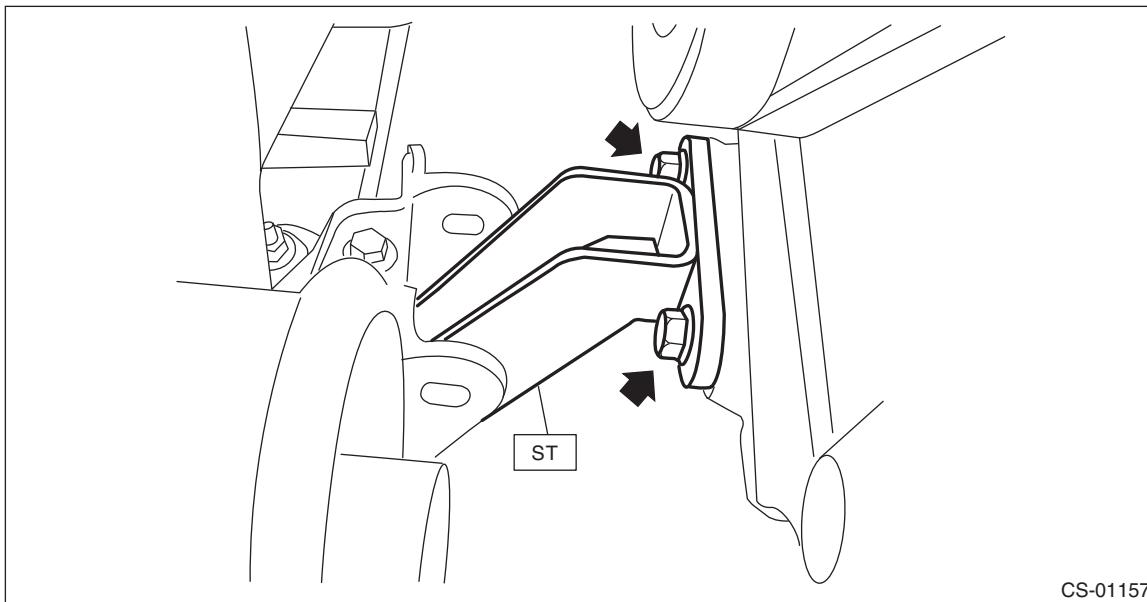


20) Remove the bolt and nuts of engine front mounting and remove the engine mounting.



21) Temporarily install the ST by using two bolts.

ST 41099AJ000 FRONT MOUNTING H4



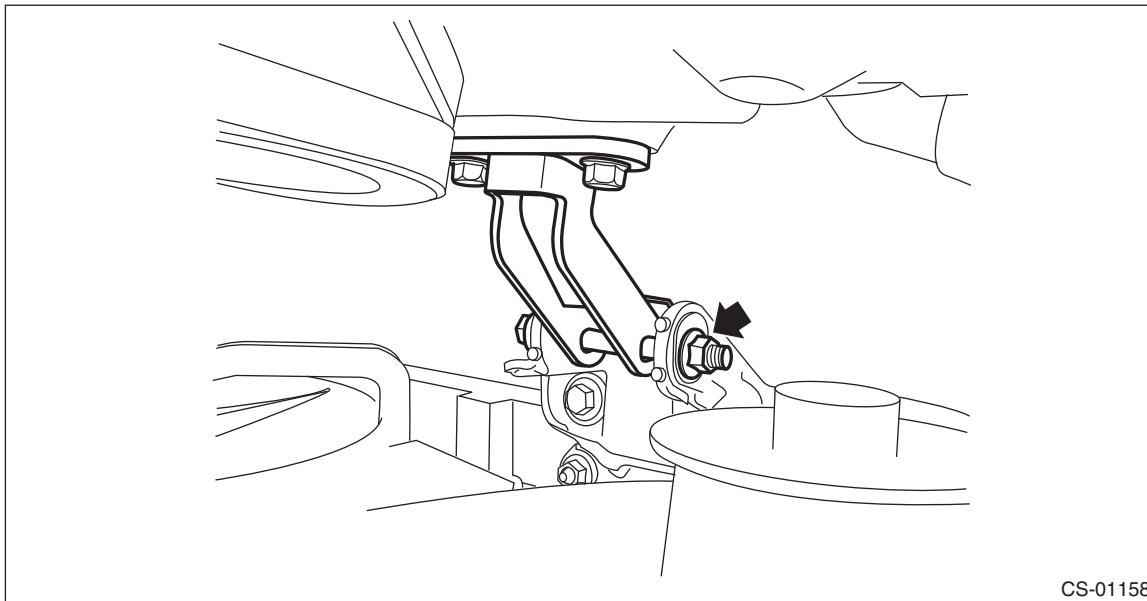
22) Lift the engine even higher, and attach the bolts and nuts to the vehicle.

CAUTION:

Do not lift up higher than enough level to install the ST to avoid damage to the hoses and pipes inside the engine room.

NOTE:

- If it is difficult to pull out the stud bolt from transmission mounting bracket, shake the engine unit slightly while lifting up.



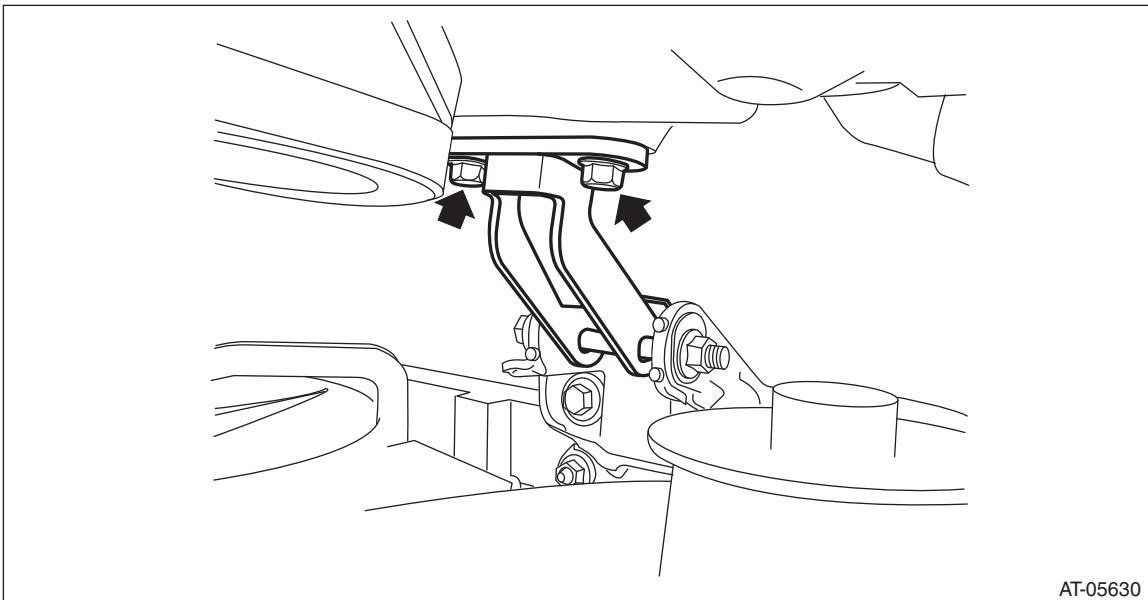
MT Gear Select Cable

CONTROL SYSTEMS

23) Tighten the mounting bolts on the engine side.

Tightening torque:

25 N·m (2.5 kgf·m, 18.4 ft-lb)

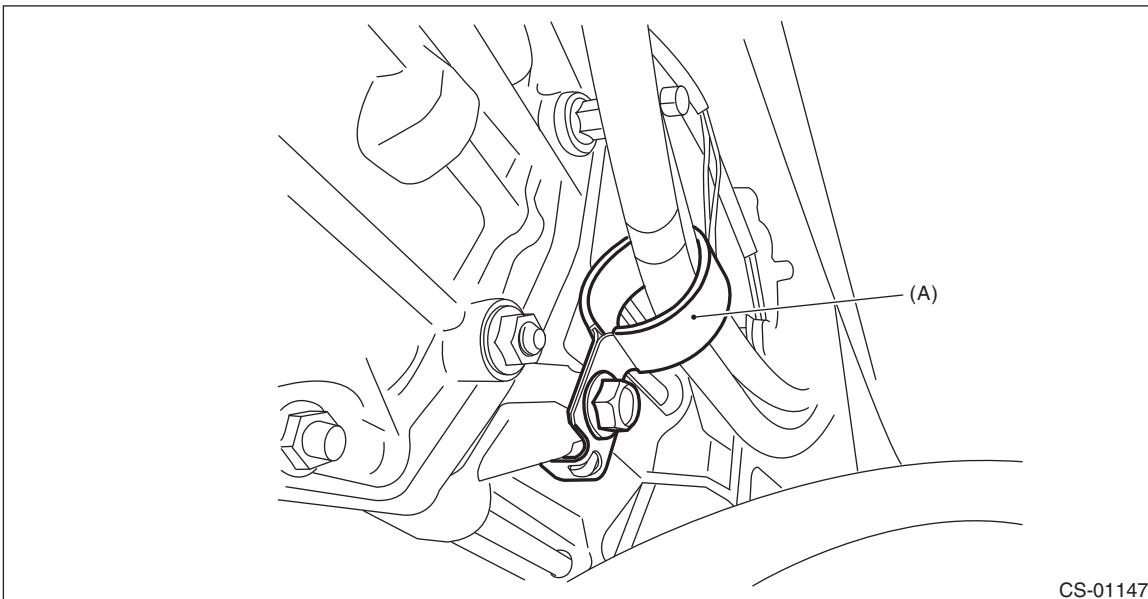


24) Put aside the engine crane.

25) Lift up the vehicle.

26) Set the transmission jack to the transmission.

27) Remove the clamp cable and take out the MT gear select cable from the clamp.

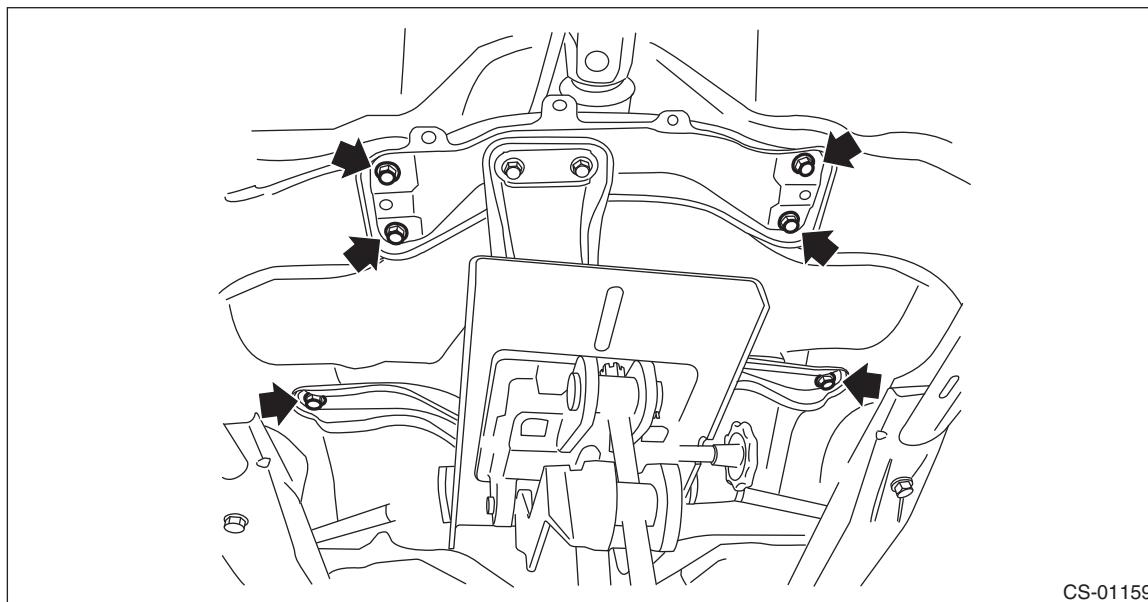


(A) Clamp cable

28) Remove the mounting bolts from the front crossmember and rear crossmember, and lower the transmission.

CAUTION:

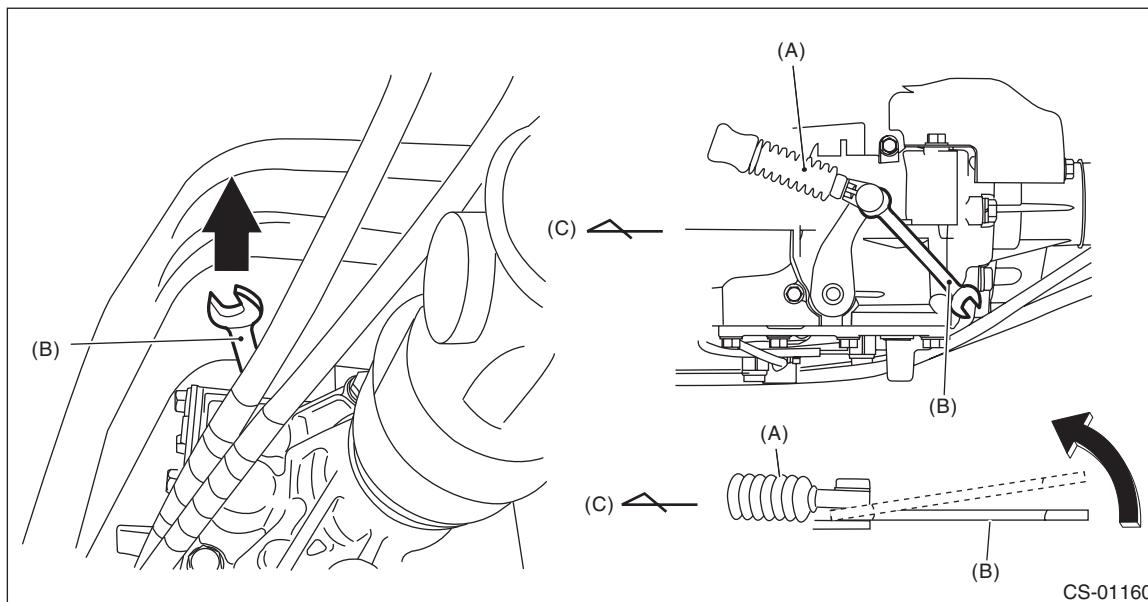
When lowering the transmission, make sure that the transmission jack does not come off from the transmission.



29) Insert a spanner between the selector lever COMPL and the MT gear select cable and remove the MT gear select cable by raising the handle.

NOTE:

- Use a spanner with 11 to 13 in size.
- The thickness of the spanner must not exceed 6 mm (0.2 in).



(A) MT gear select cable

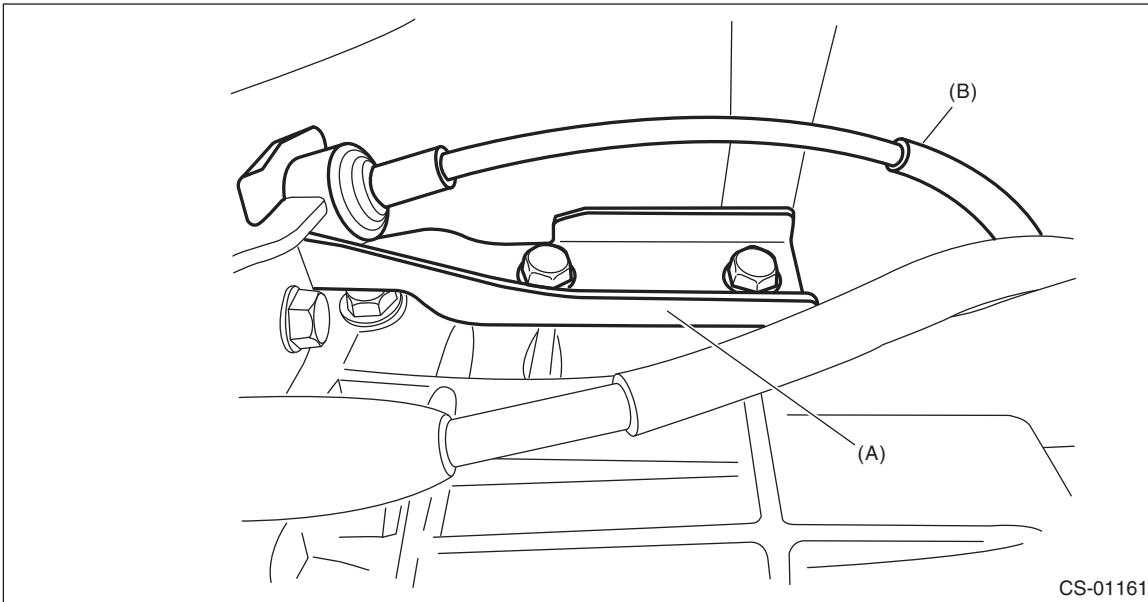
(B) Spanner

(C) Forward

MT Gear Select Cable

CONTROL SYSTEMS

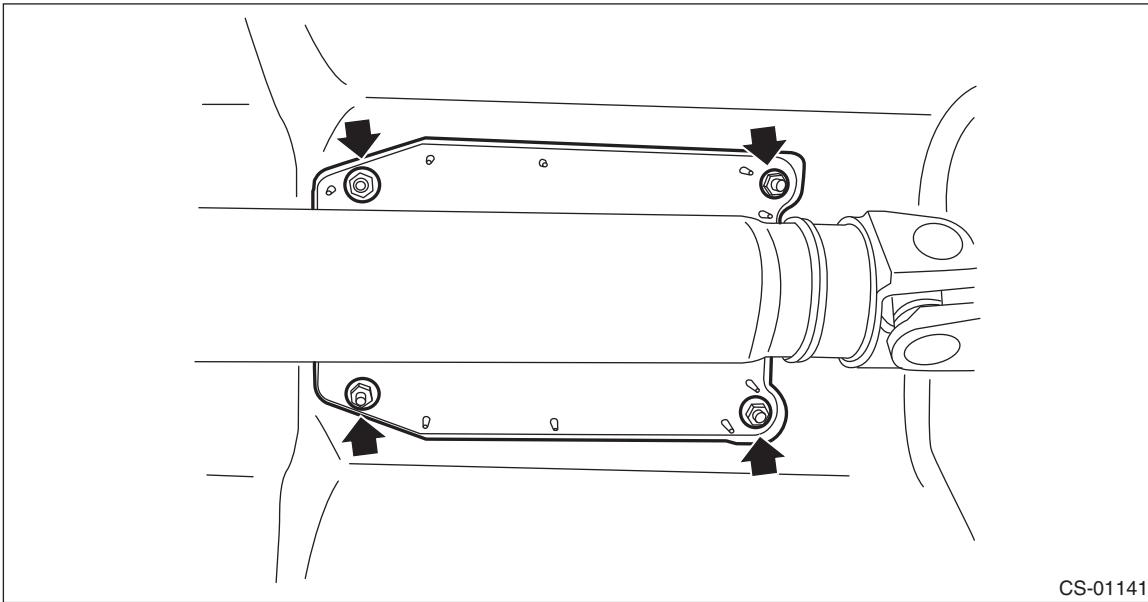
30) Remove the MT gear select cable and select bracket as an assembly from the transmission body.



(A) Select bracket

(B) MT gear select cable

31) Remove the plate cable assembly.



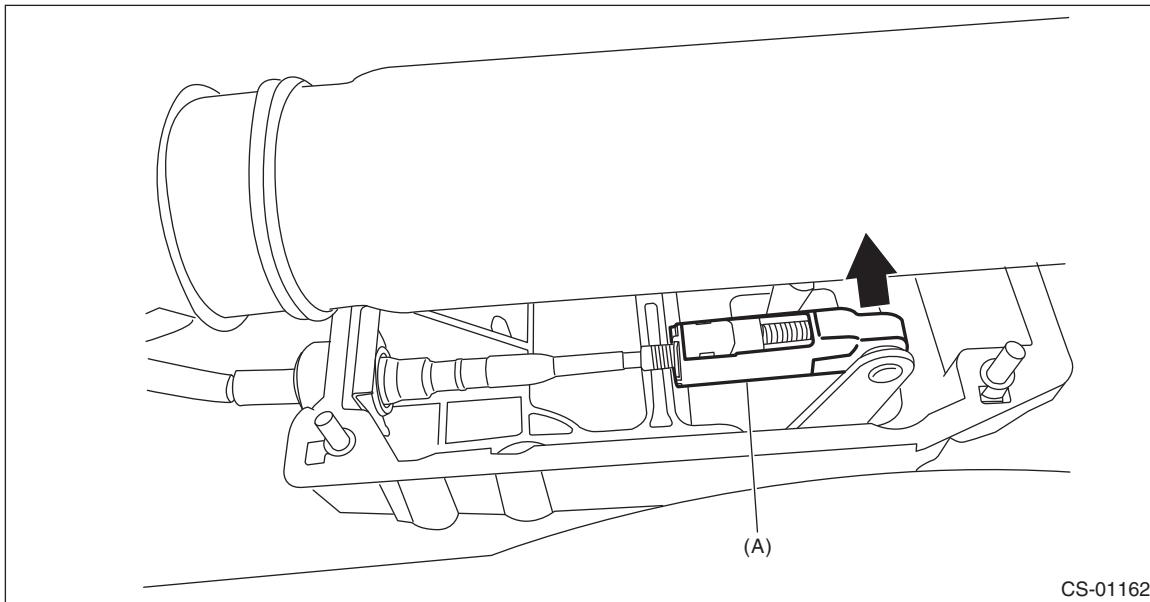
32) Disconnect the MT gear select cable.

CAUTION:

Be careful not to deform the cable inner.

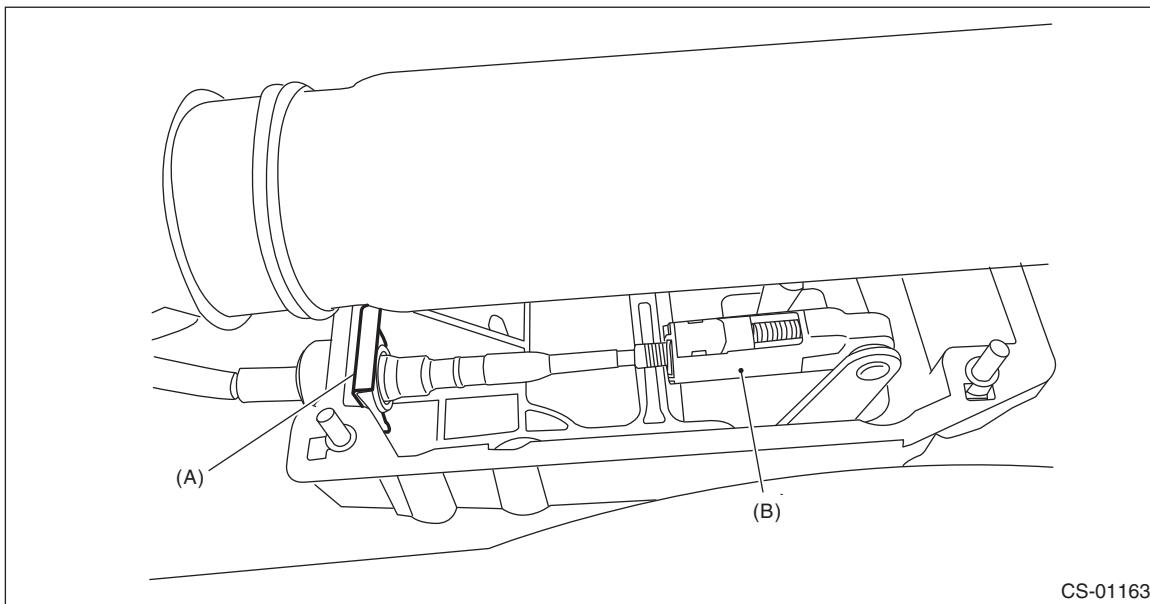
NOTE:

To remove the MT gear select cable, push it in the direction of arrow.



(A) MT gear select cable

33) Remove the clamp which holds the MT gear select cable.



(A) Clamp

(B) MT gear select cable

34) Pull out the MT gear select cable from the cover cable assembly.

CAUTION:

Do not bend the MT gear select cable sharply.

B: INSTALLATION

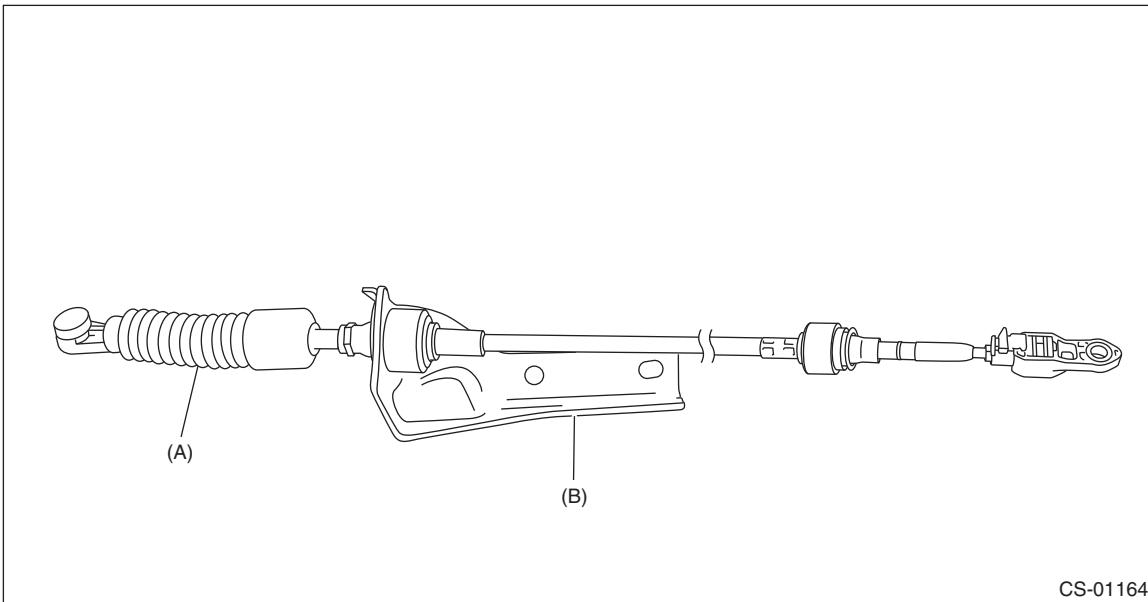
CAUTION:

- Do not reuse the MT gear select cable which removed from select lever COMPL.
- Do not bend the MT gear select cable sharply.
- Do not twist the inner cable excessively.

1) Remove the MT gear select cable from the select bracket.

CAUTION:

Check for assembling position before removing the MT gear select cable from the select bracket.



CS-01164

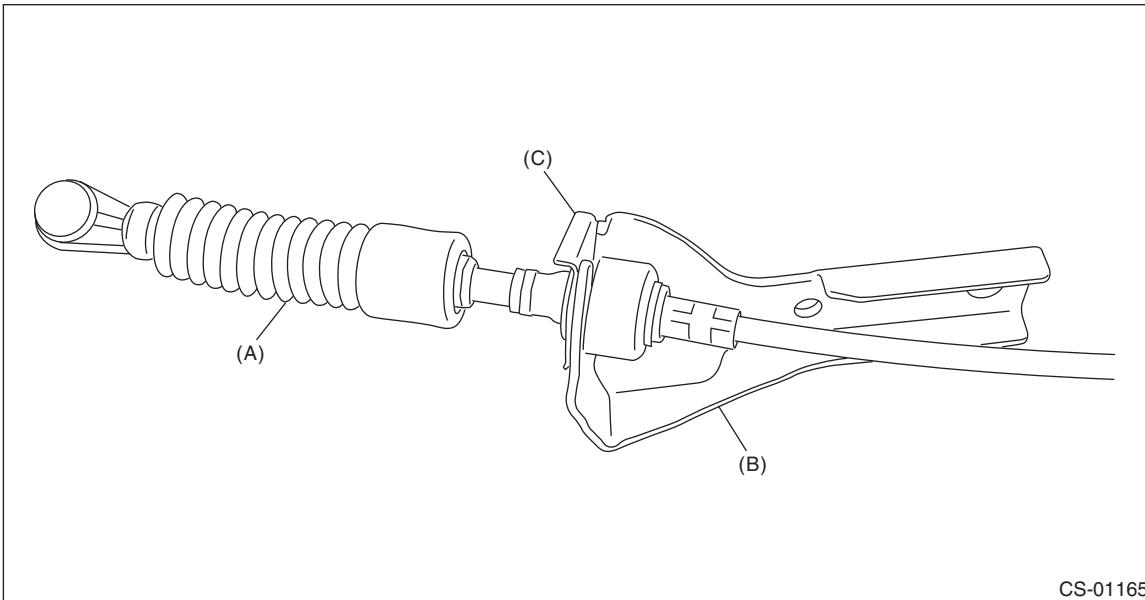
(A) MT gear select cable

(B) Select bracket

2) Set to the new MT gear select cable to the select bracket and secure it with the clamp.

CAUTION:

Be careful not to mistake the MT gear select cable installing direction.



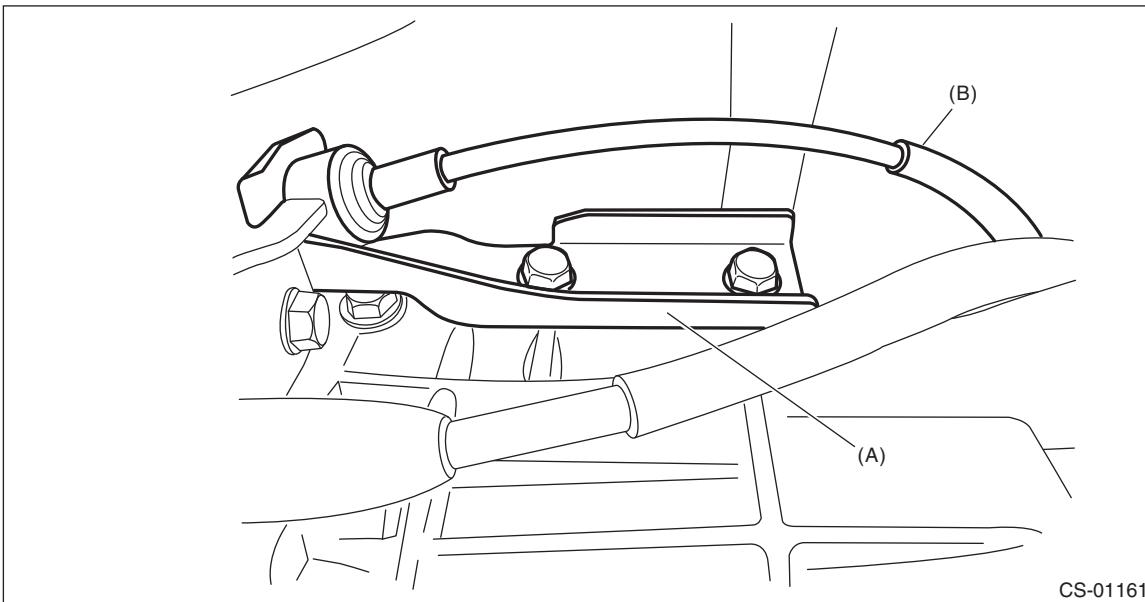
CS-01165

- (A) MT gear select cable
- (B) Select bracket
- (C) Clamp

3) Install the MT gear select cable and select bracket as a single unit to the transmission body.

Tightening torque:

18 N·m (1.8 kgf·m, 13.3 ft-lb)



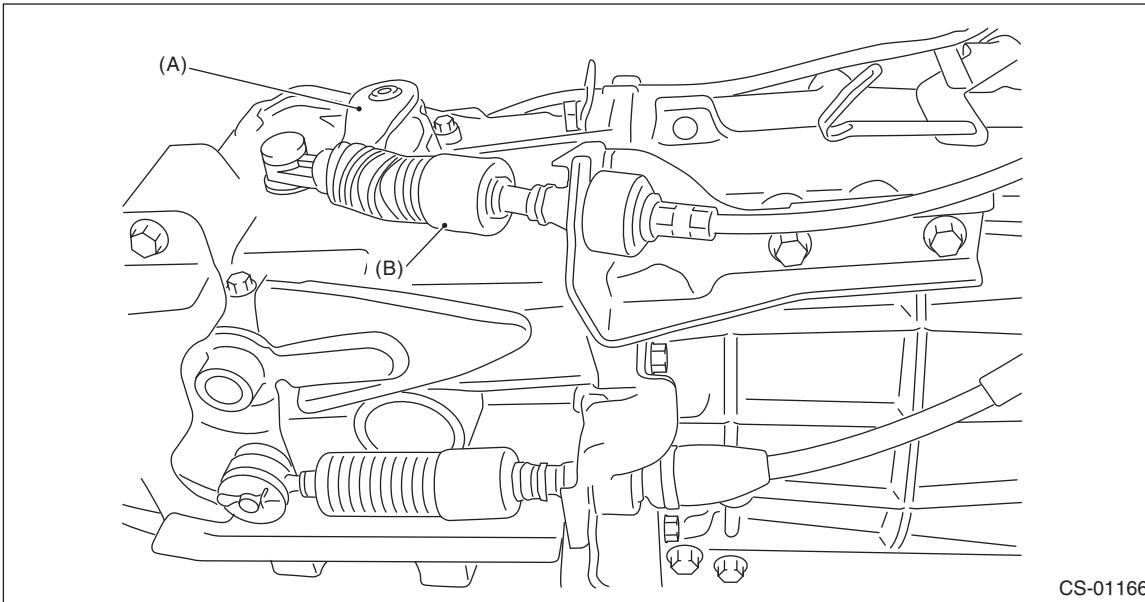
CS-01161

- (A) Select bracket
- (B) MT gear select cable

MT Gear Select Cable

CONTROL SYSTEMS

4) Install the MT gear select cable to the select lever COMPL.



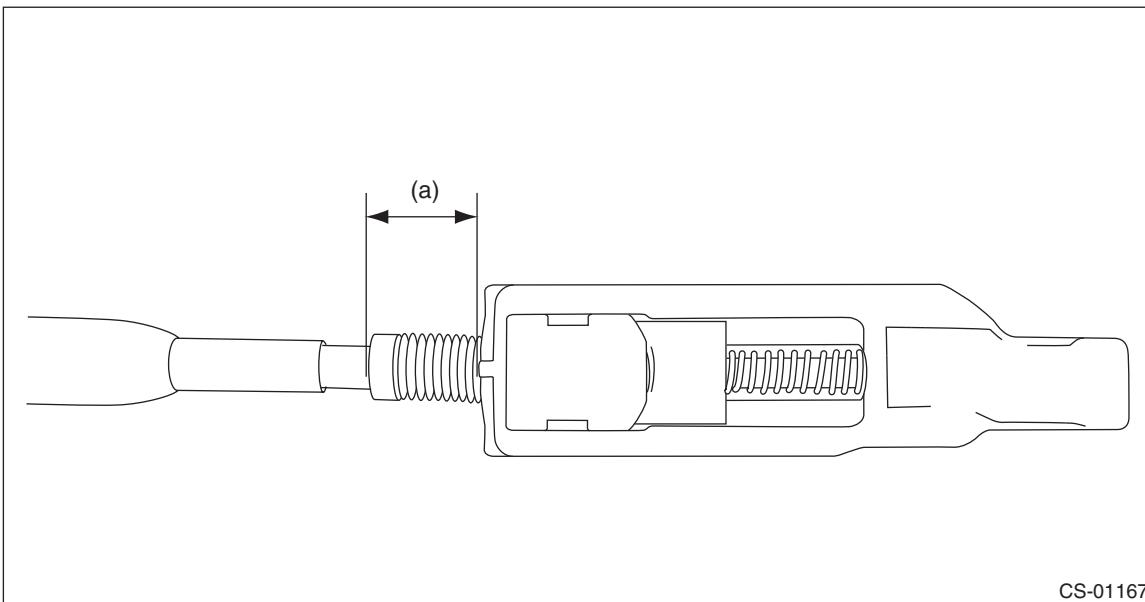
(A) Selector lever COMPL

(B) MT gear select cable

5) Measure the exposed length (a) of MT gear select cable. If out of specification, adjust the MT gear select cable. <Ref. to CS-92, ADJUSTMENT, MT Gear Select Cable.>

Exposed length (a) of MT gear select cable:

Specification: 11 mm (0.4 in)

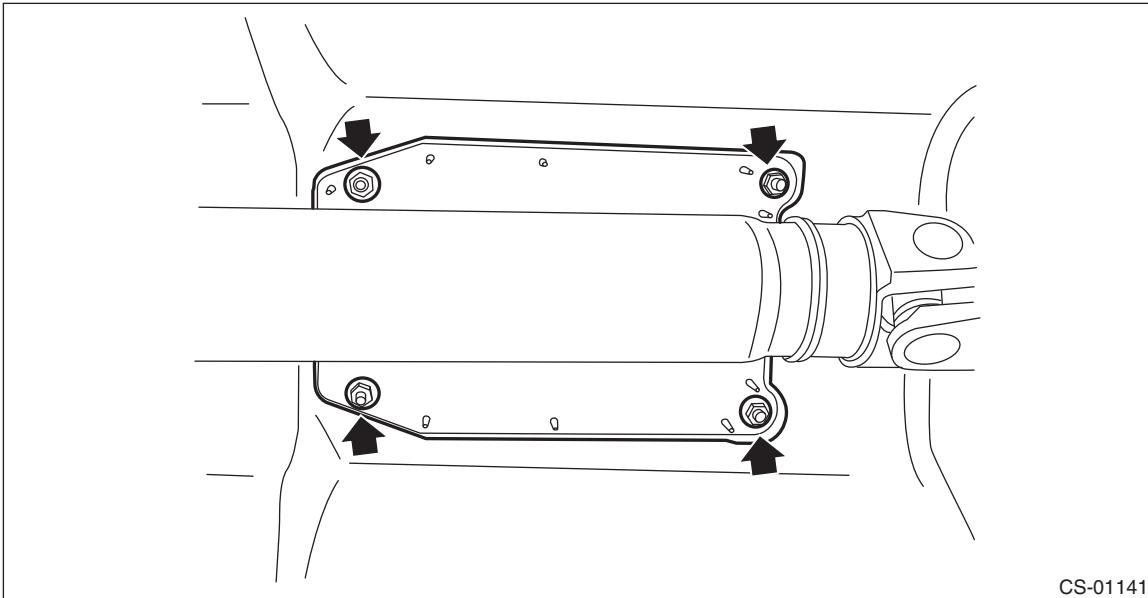


6) Connect the MT gear select cable.

7) Install the plate cable assembly.

Tightening torque:

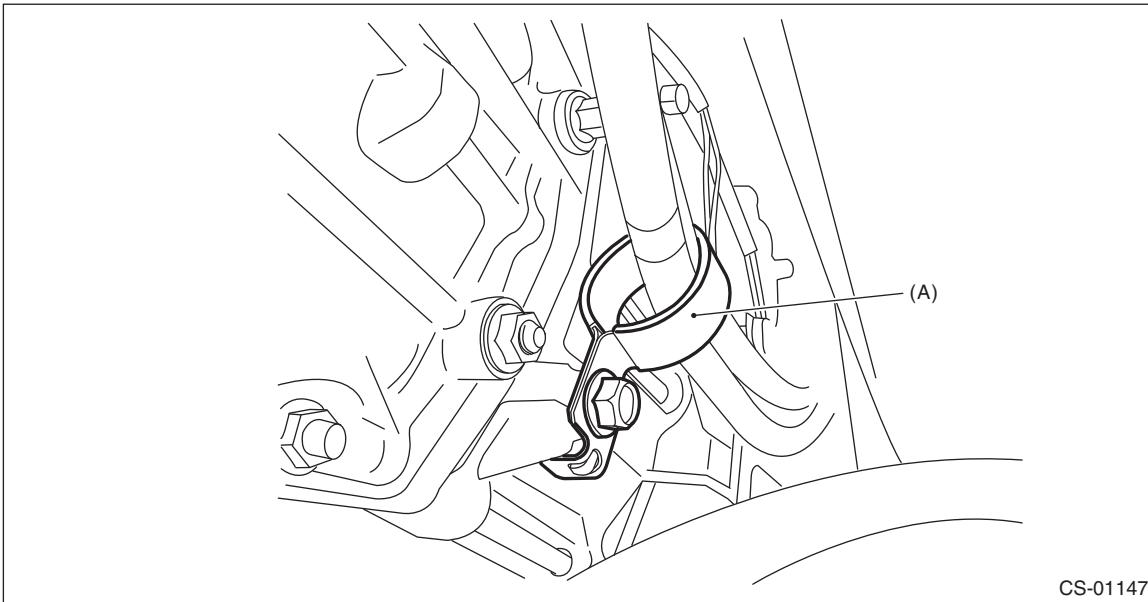
7.5 N·m (0.8 kgf·m, 5.5 ft-lb)



8) Insert the MT gear select cable into clamp cable, and install to the transmission.

Tightening torque:

18 N·m (1.8 kgf·m, 13.3 ft-lb)



(A) Clamp cable

MT Gear Select Cable

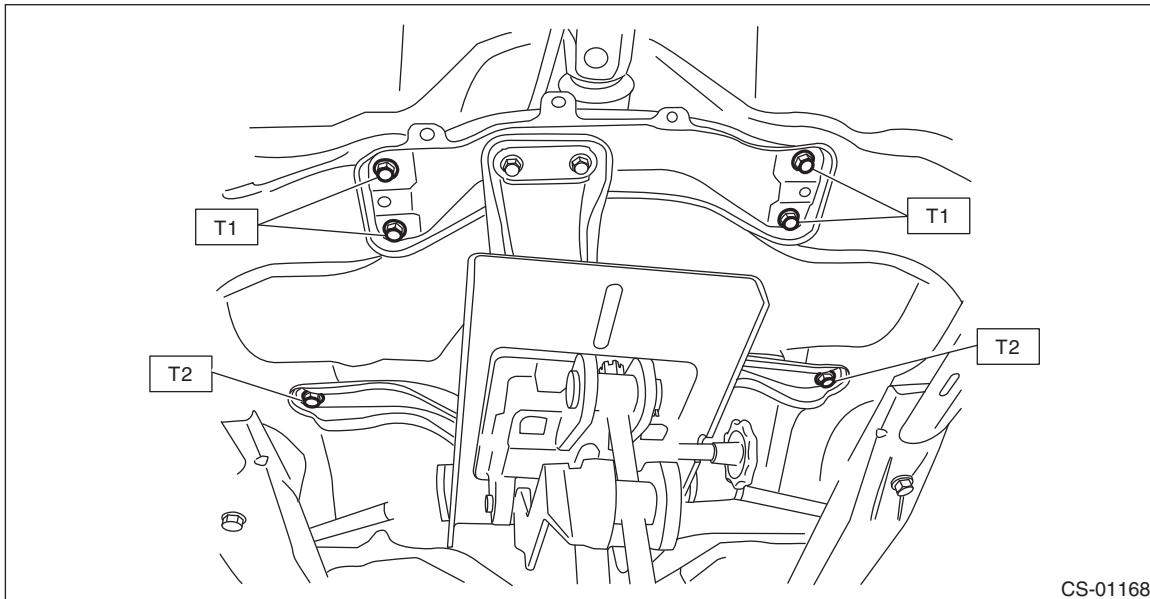
CONTROL SYSTEMS

- 9) Raise the transmission jack, 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)

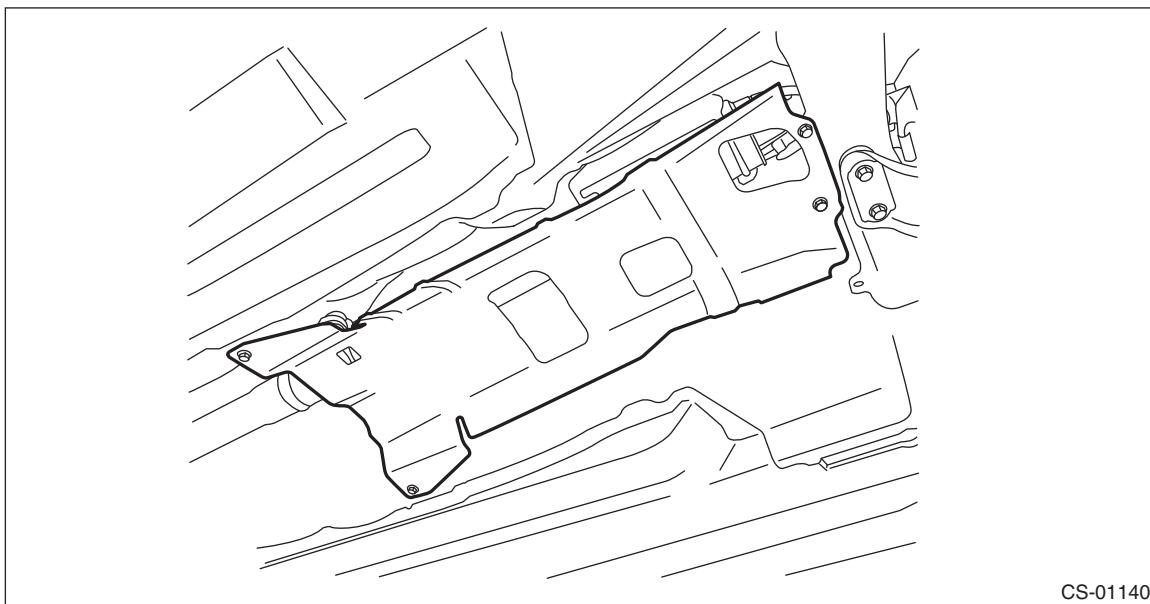


- 10) Take out the transmission jack.

- 11) Install the heat shield cover.

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)

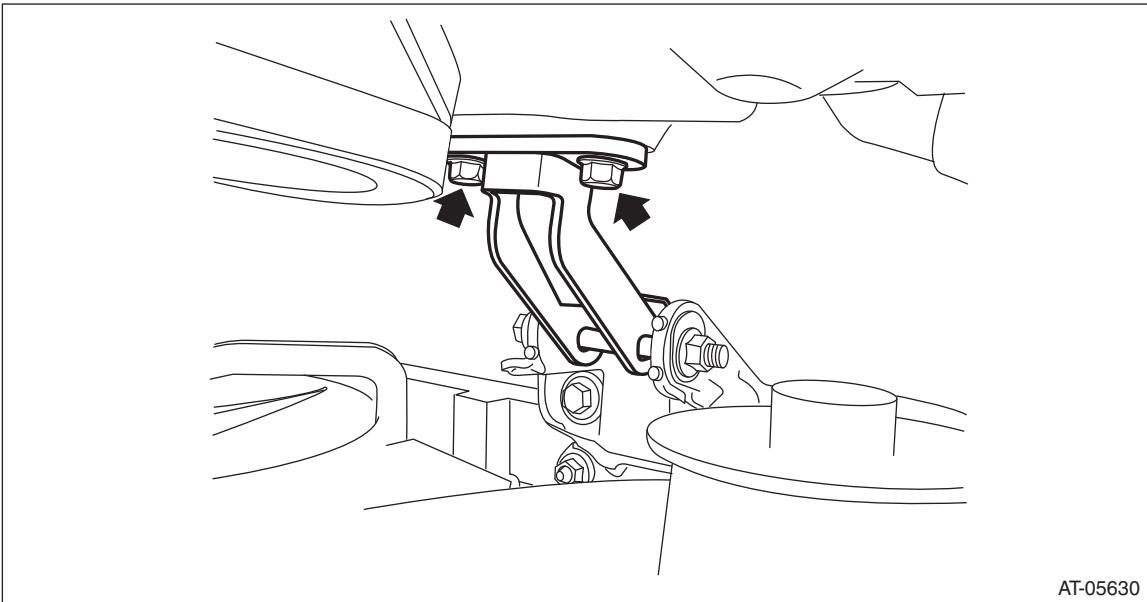


- 12) Install the center exhaust pipe and rear exhaust pipe. (non-turbo model) <Ref. to EX(H4SO)-7, INSTALLATION, Center Exhaust Pipe.> <Ref. to EX(H4SO)-8, INSTALLATION, Rear Exhaust Pipe.>

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

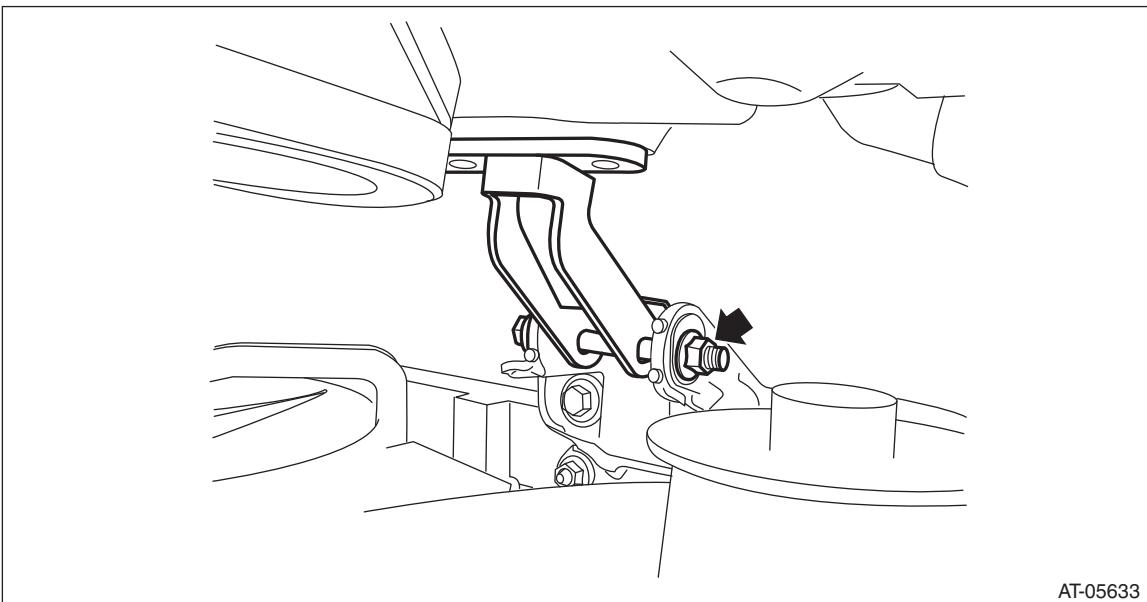
- 14) Lower the vehicle.

15) Lift the engine slightly and remove the bolts from the ST (FRONT MOUNTING H4).



AT-05630

16) Remove the bolts and nuts, and remove the ST (FRONT MOUNTING H4).

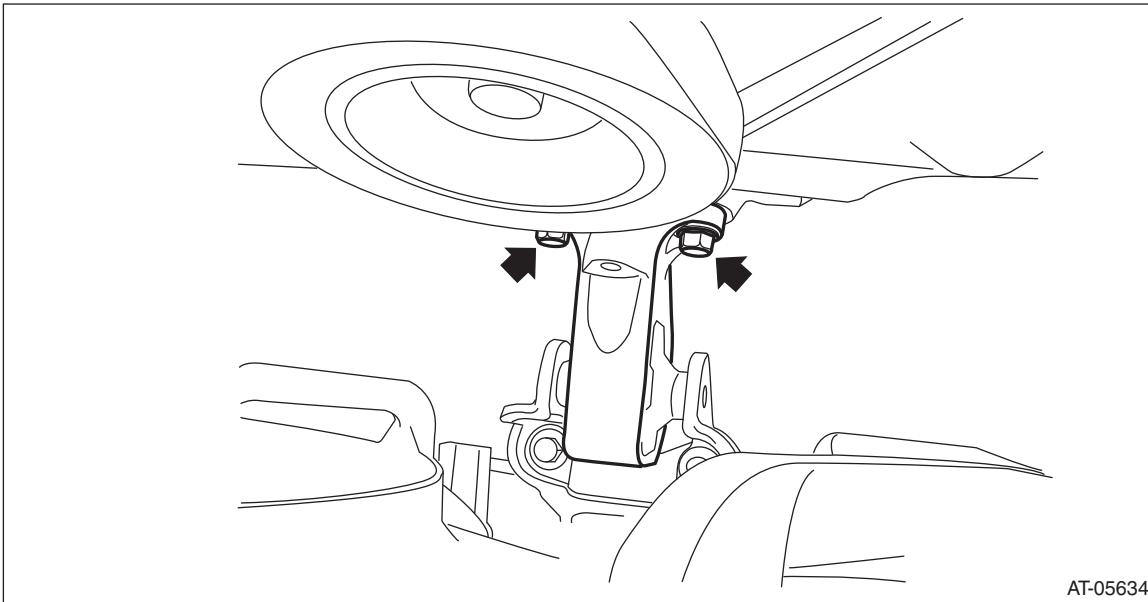


AT-05633

MT Gear Select Cable

CONTROL SYSTEMS

17) Place and temporarily attach the front engine mounting with bolts.



18) Tighten the bolts and nuts of front engine mounting.

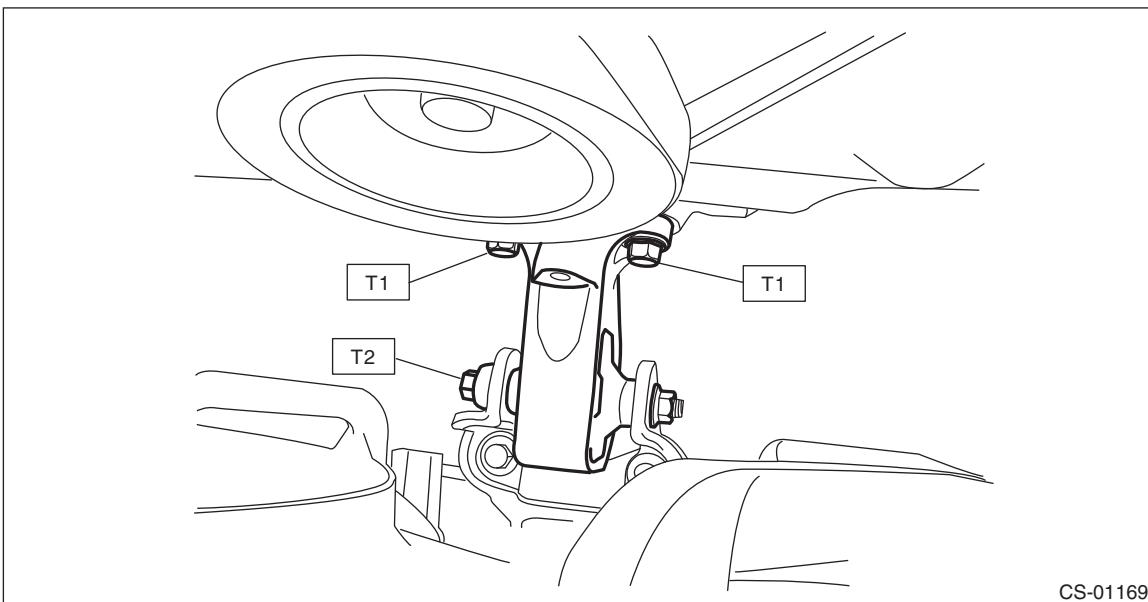
NOTE:

Always start tightening from the bolts on the engine side.

Tightening torque:

T1: 25 N·m (2.5 kgf-m, 18.4 ft-lb)

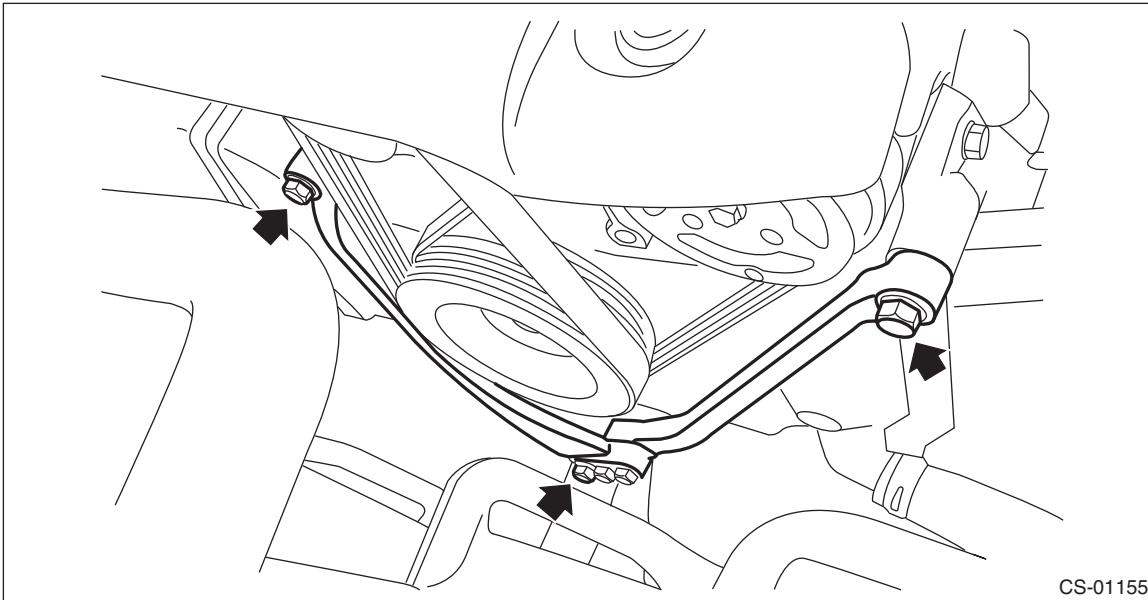
T2: 45 N·m (4.6 kgf-m, 33.2 ft-lb)



19) Install the stopper rod.

Tightening torque:

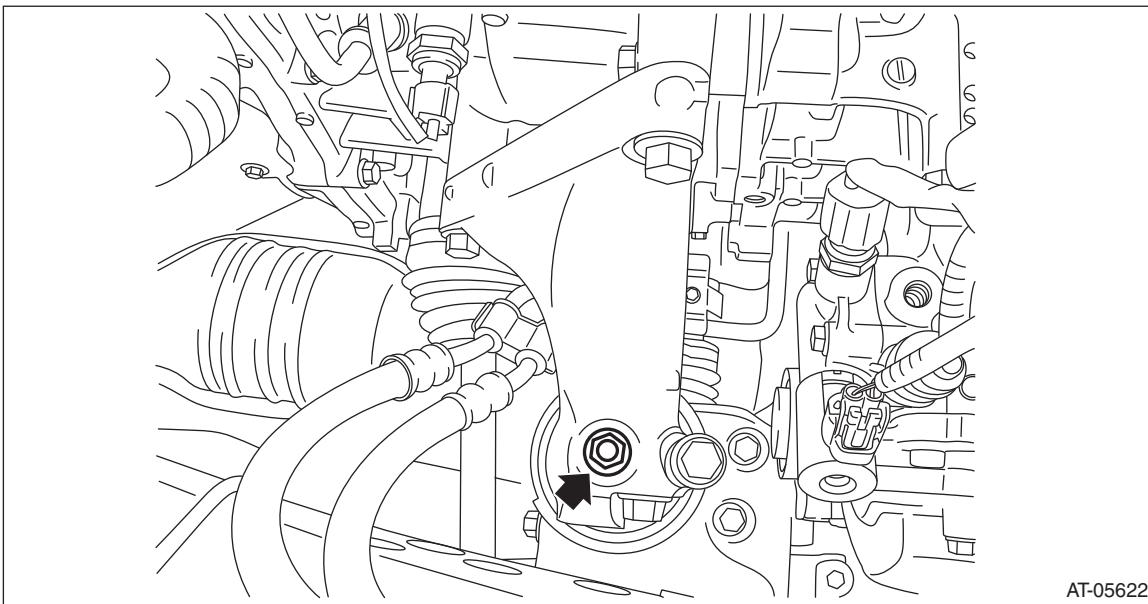
36 N·m (3.7 kgf·m, 26.6 ft-lb)



20) Attach the nuts to the left and right transmission mounting brackets.

Tightening torque:

45 N·m (4.6 kgf·m, 33.2 ft-lb)



MT Gear Select Cable

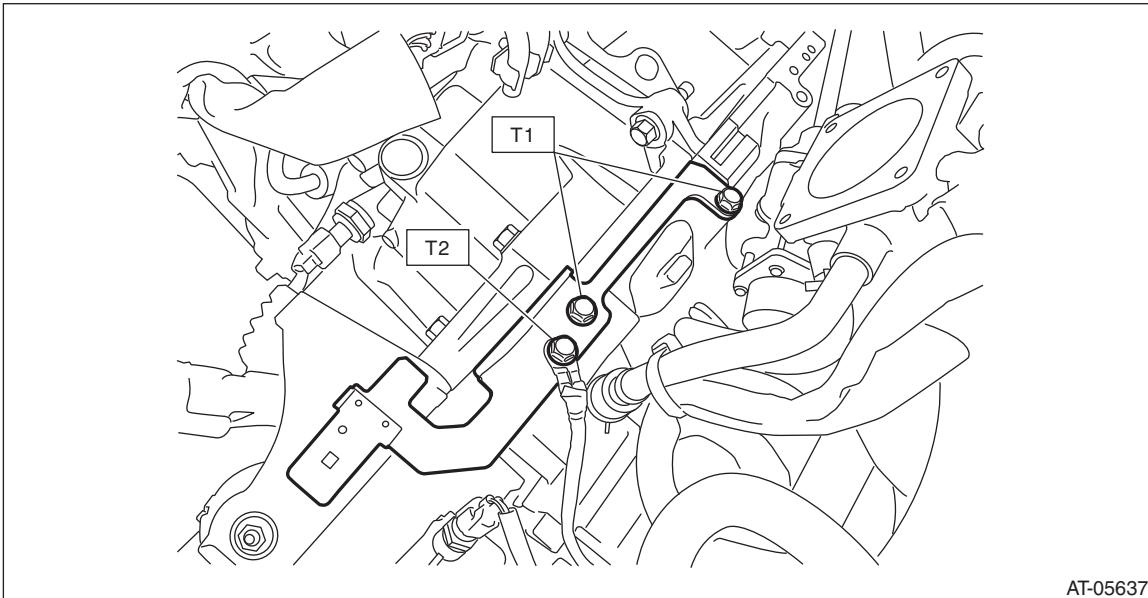
CONTROL SYSTEMS

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

Tightening torque:

T1: 16 N·m (1.6 kgf-m, 11.8 ft-lb)

T2: 19 N·m (1.9 kgf-m, 14.0 ft-lb)



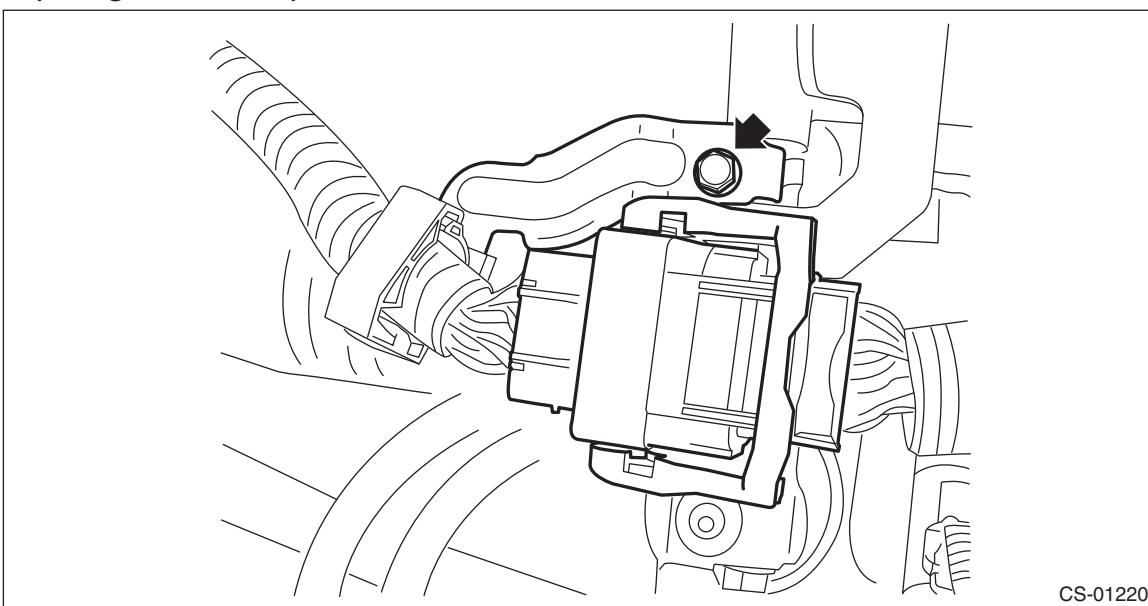
22) Install the throttle body. (non-turbo model) <Ref. to FU(H4SO)-14, INSTALLATION, Throttle Body.>

23) Install the engine harness connectors to the engine hanger rear. (non-turbo model)

24) Connect the engine harness connectors, and install harness bracket to the engine hanger rear. (non-turbo model)

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



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

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

27) Install the air intake duct.

- Non-turbo model

<Ref. to IN(H4SO)-9, INSTALLATION, Air Intake Duct.>

- Turbo model

<Ref. to IN(H4DOTC)-12, INSTALLATION, Air Intake Duct.>

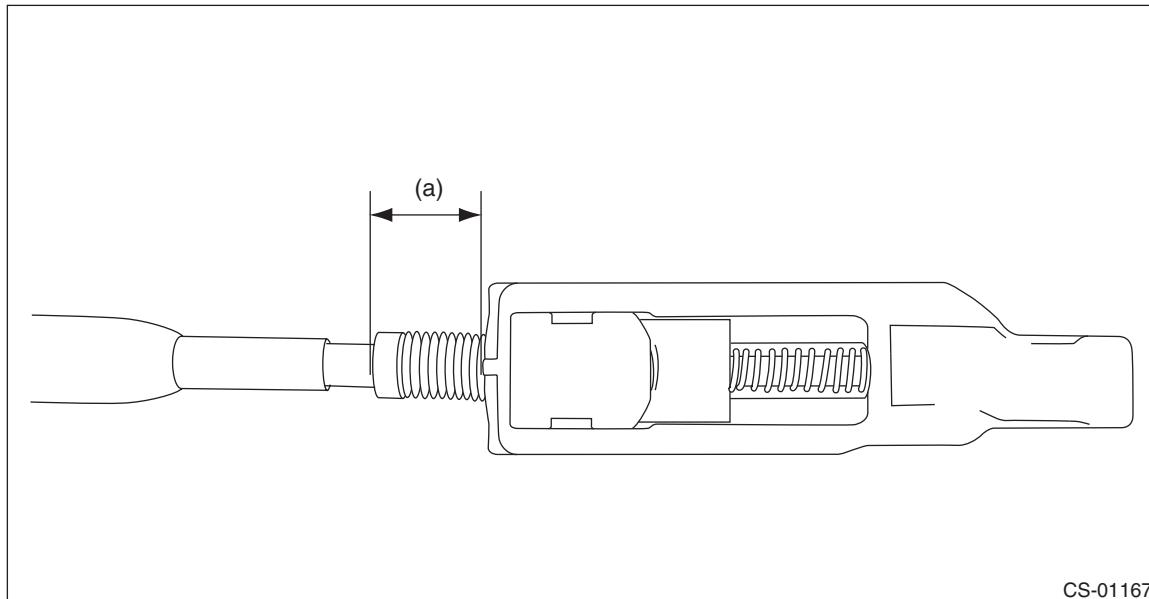
28) Make sure the gears can be shifted accurately into each gear.

C: INSPECTION

1) Check that exposed length (a) of MT gear select cable is within specification.

Exposed length (a) of MT gear select cable:

Specification: 11 mm (0.4 in)



2) If it is not within the specification, perform the adjustment. <Ref. to CS-92, ADJUSTMENT, MT Gear Select Cable.>

MT Gear Select Cable

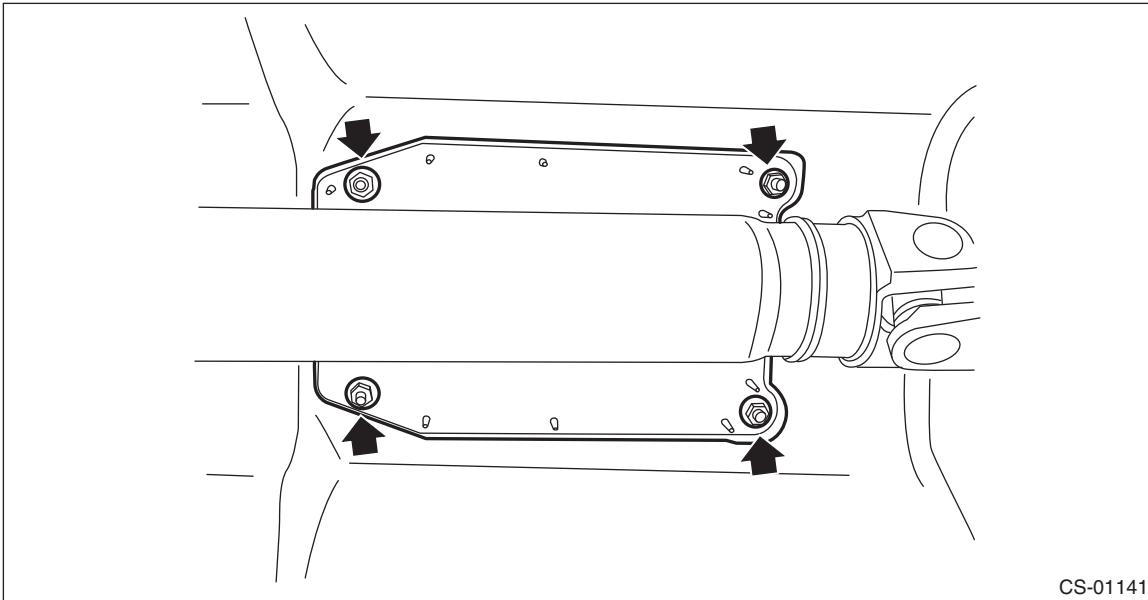
CONTROL SYSTEMS

D: ADJUSTMENT

NOTE:

To adjust the MT gear select cable, two workers are required. (Only the step 7) requires two workers.)

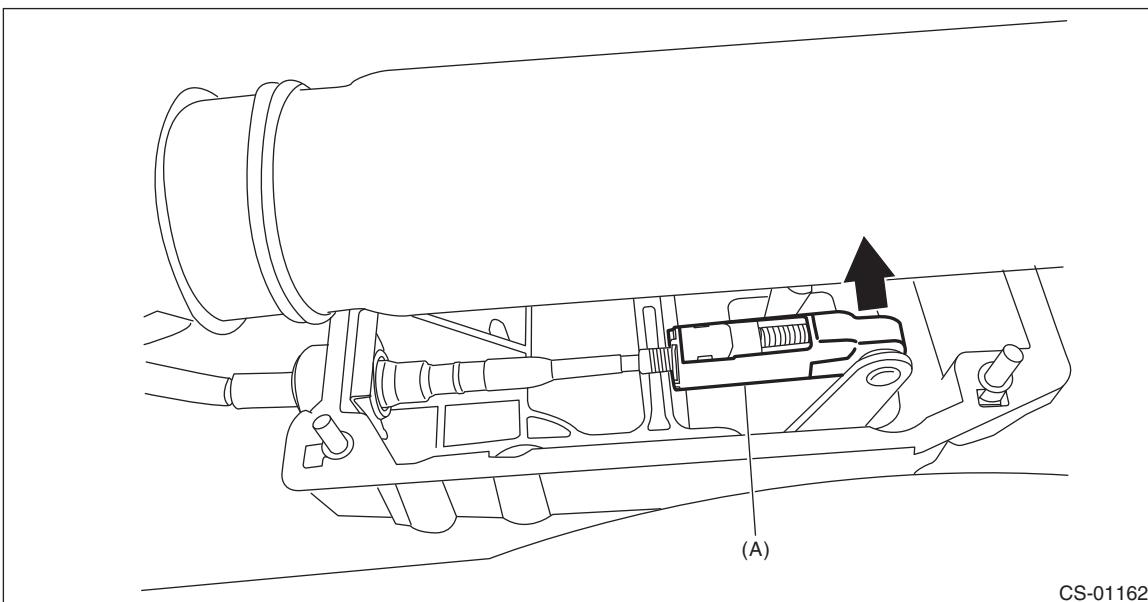
- 1) Shift the select lever to 6th.
- 2) Remove the plate cable assembly.



- 3) Disconnect the MT gear select cable.

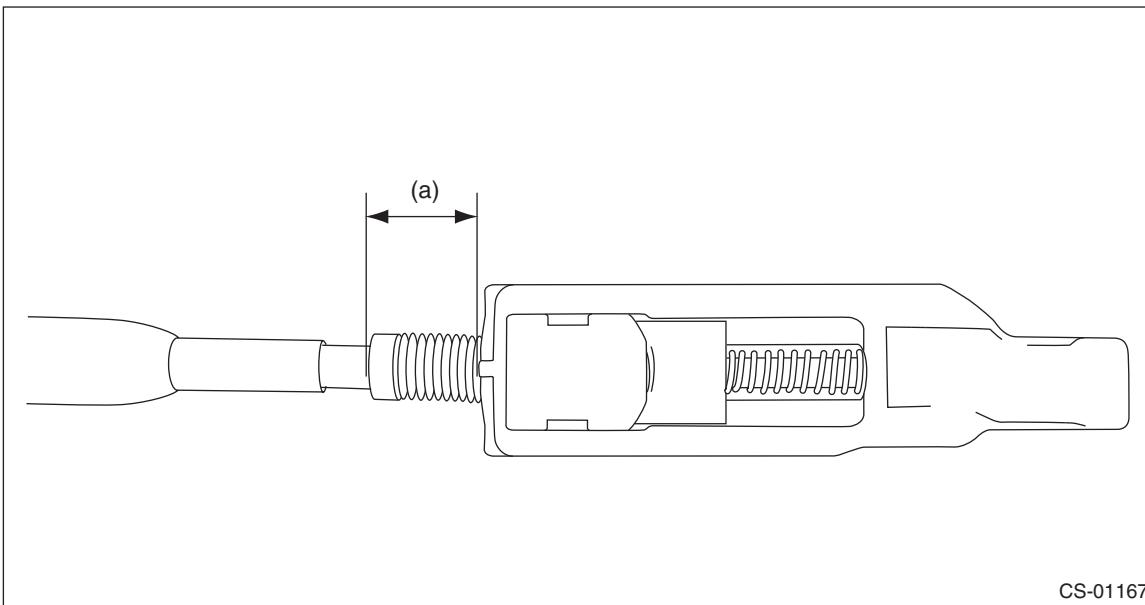
NOTE:

To remove the MT gear select cable, push it in the direction of arrow.



(A) MT gear select cable

4) Measure the exposed length (a) of MT gear select cable.



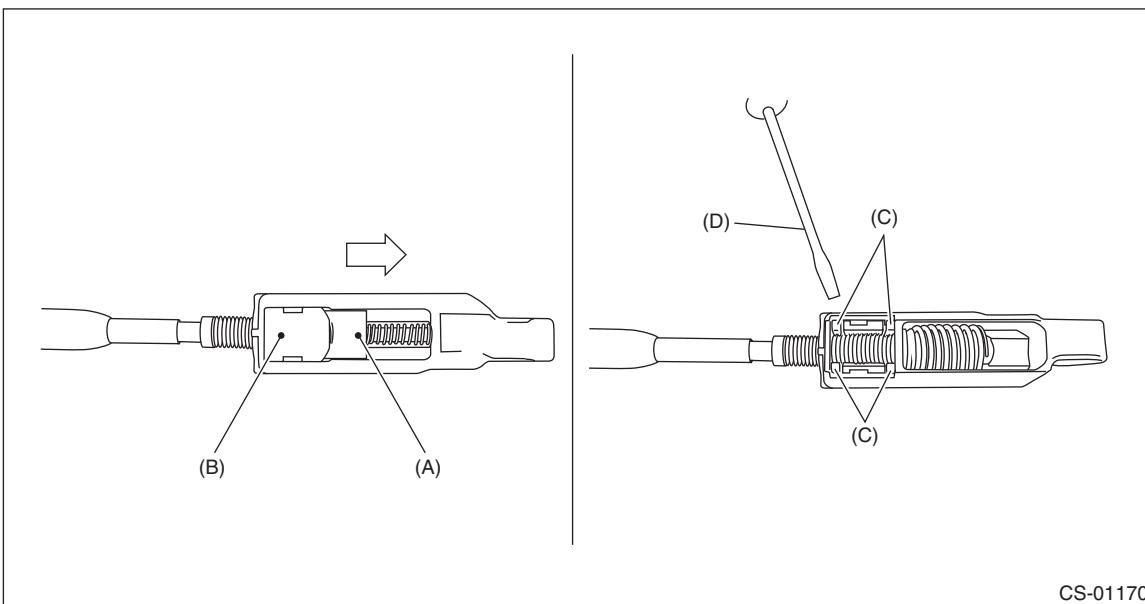
5) With the slider (green) moved in the direction of arrow, release the lock piece (pink) using a flat tip screwdriver or equivalent tool.

CAUTION:

The lock piece is made of plastic and fragile. If the lock piece is damaged, replace the MT gear select cable with a new one.

NOTE:

Turn the MT gear select cable to 180 degrees and push and raise the claw of the lock piece by sliding the slider in the direction of arrow.

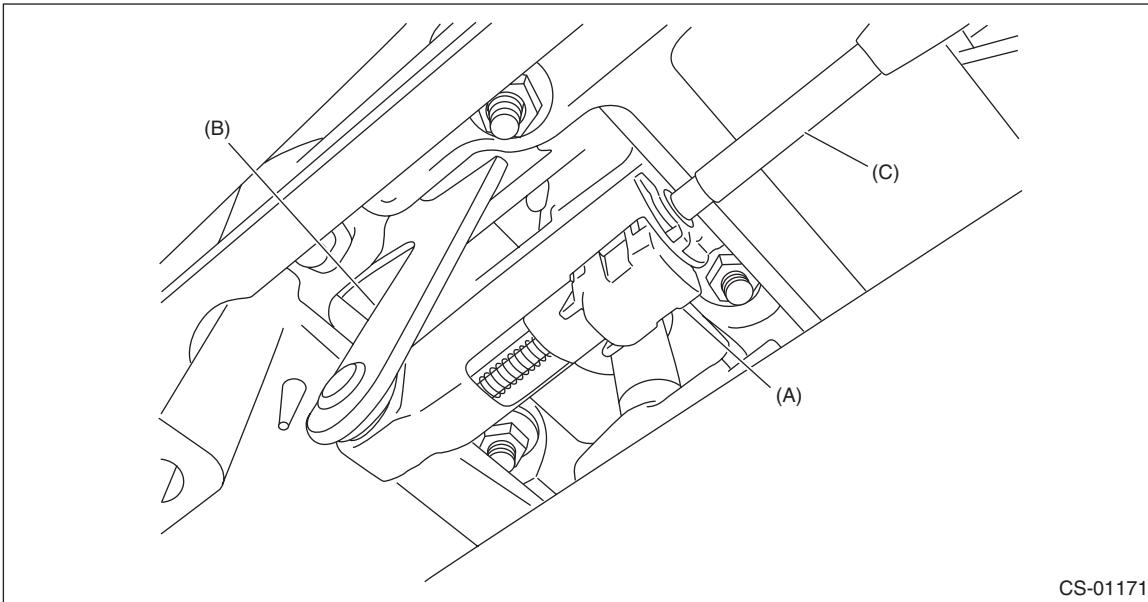


- (A) Slider
- (B) Lock piece
- (C) Claw
- (D) Flat tip screwdriver

MT Gear Select Cable

CONTROL SYSTEMS

6) With the lock piece released, connect the MT gear select cable to the select lever.

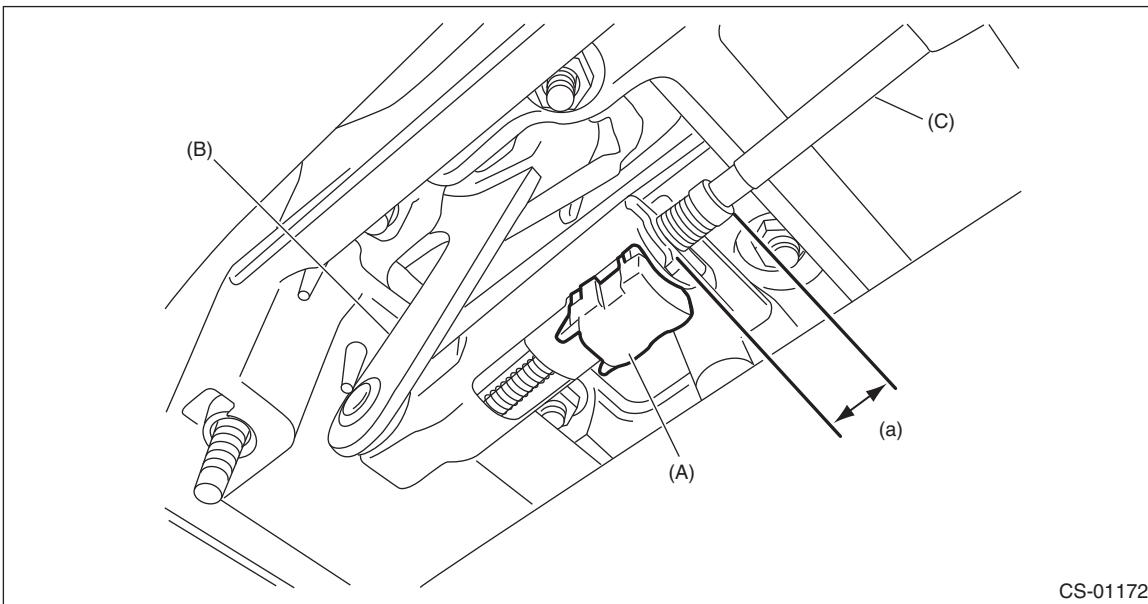


- (A) Lock piece
- (B) Select lever
- (C) MT gear select cable

7) Operate the select lever to the Rev side, hold the lever so that the exposed length (a) of the MT gear select cable is 11 mm (0.4 in), and push in the lock piece.

NOTE:

While pulling up the gear shift lever assembly slider, operate the lever to the Rev side.

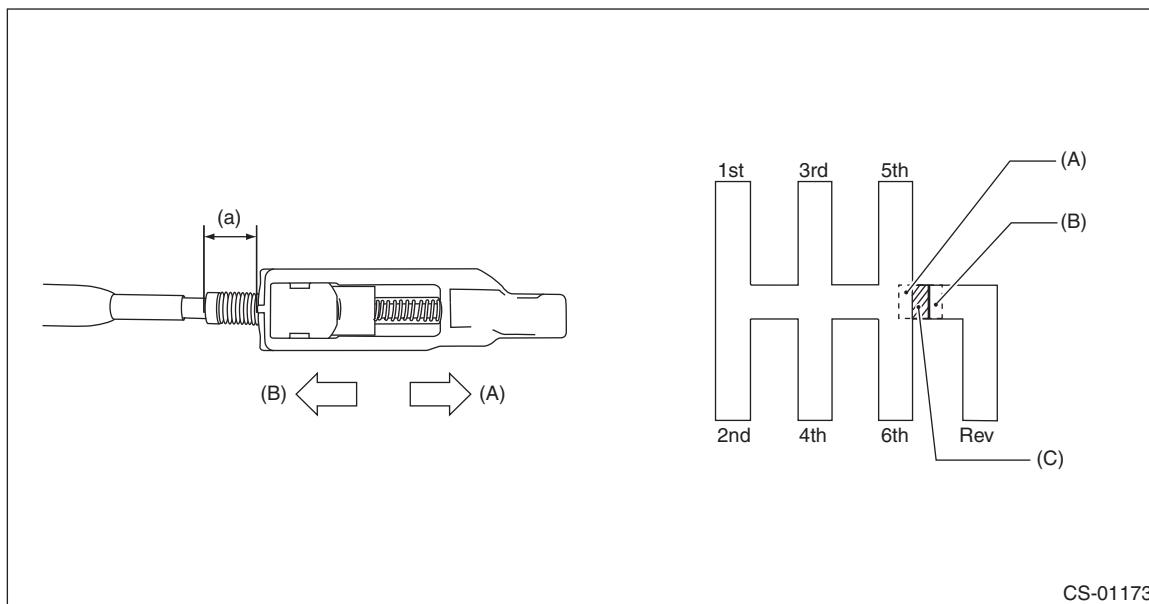


- (a) Exposed length 11 mm (0.4 in)
- (A) Lock piece
- (B) Select lever
- (C) MT gear select cable

8) Shifting to 5th $\leftarrow \rightarrow$ 6th, and then to Rev, check for any drag.

9) If no abnormal condition is found for the shift and select operations, restore the vehicle.

10) If the shift operation is not smooth, readjust the exposed length (a) of the MT gear select cable referring to the figure below.



CS-01173

- (a) Exposed length of MT gear select cable
- (A) Extending exposed length of gear select cable
- (B) Shrinking exposed length of gear select cable
- (C) Reference for exposed length (a)

- If 5th or 6th gear cannot be selected when cable is pressed to reverse lock bracket:
⇒ Extend the exposed length (a) of MT gear select cable.
- If select lever does not move along the cranking line when it is operated from 4th to 5th gear:
⇒ Shorten the exposed length (a) of MT gear select cable.

NOTE:

If only the cable adjustment cannot rectify the condition, replace the MT gear select cable.