MX0AD–01

REMOVAL

1. REMOVE HOOD

HINT:

At the time of installation, please refer to the following item.

Adjust the hood. (See page BO–9)

2. REMOVE NO. 2 CYLINDER HEAD COVER

(a) 1ZZ–FE engine:

Remove the 2 nut caps, clips and No. 2 cylinder head cover.

Torque: 7.0 N·m (71 kgf·cm, 62 in.·lbf)

(b) 2ZZ–GE engine:

Remove the 4 bolts and No. 2 cylinder head cover.

Torque: 7.0 N·m (71 kgf·cm, 62 in.·lbf)

3. DISCONNECT RADIATOR RESERVOIR

Remove the bolt and disconnect the radiator reservoir.

Torque: 4.9 N·m (50 kgf·cm, 43 in.·lbf)

4. REMOVE BATTERY

5. REMOVE AIR CLEANER CASE ASSEMBLY WITH AIR HOSE AND ECM BOX

(a) Remove the 2 bolts and ECM cover.

Torque: 6.9 N·m (70 kgf·cm, 61 in.·lbf)

(b) Disconnect the ECM connectors from the ECM.

(c) Remove the ECM outlet duct.

(d) Remove the air cleaner case assembly with the air hose.

(e) Remove the 3 bolts and ECM box.

Torque: 6.9 N·m (70 kgf·cm, 61 in.·lbf)

(f) Disconnect the wire harness, and remove the 2 nuts, bolt and battery carrier.

Torque:

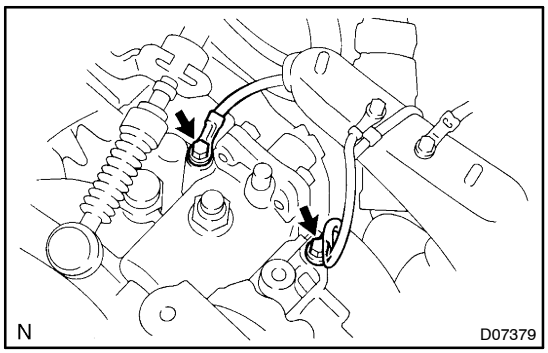
Bolt: 18 N·m (185 kgf·cm, 13 ft·lbf)

Nut: 12 N·m (120 kgf·cm, 9 ft·lbf)

6. DISCONNECT CONTROL CABLE

(a) Remove the 2 clips and washers.

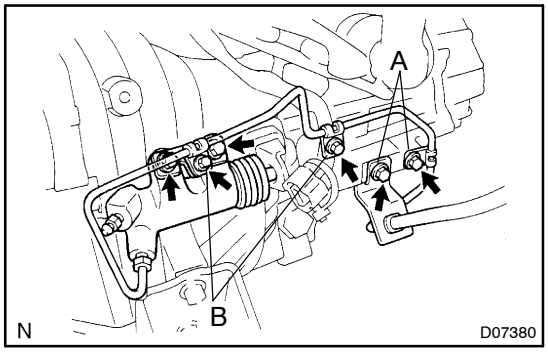
(b) Remove the 2 clips and disconnect the control cables from the transaxle.



7. DISCONNECT GROUND CABLE

Remove the 2 set bolts of the 2 ground cables from the transaxle.

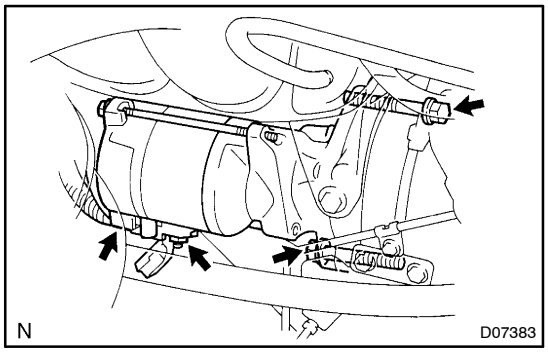
8. DISCONNECT SPEED SENSOR AND BACK–UP LIGHT SWITCH CONNECTORS



9. DISCONNECT CLUTCH RELEASE CYLINDER

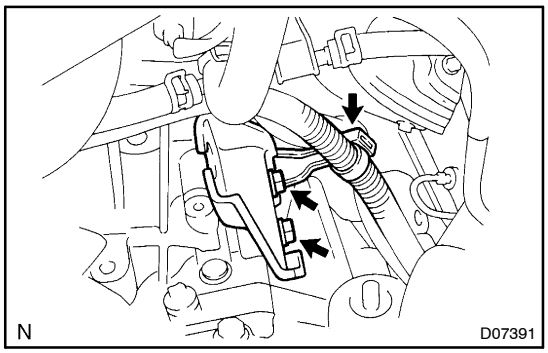
(a) Remove the 4 set bolts of the clutch line.
Torque:
Bolt A: 12 N·m (120 kgf·cm, 9 ft·lbf)
Bolt B: 4.9 N·m (50 kgf·cm, 43 in.·lbf)

(b) Remove the 2 set bolts of the clutch release cylinder and clutch line bracket.
Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)



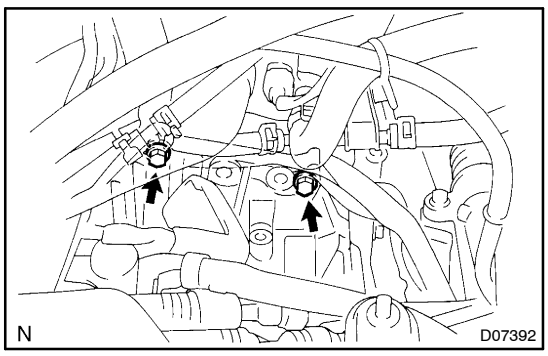
10. REMOVE STARTER

(a) Disconnect the starter connector.
(b) Remove the nut and disconnect the starter wire.
(c) Remove the 2 bolts and starter.
Torque: 37 N·m (378 kgf·cm, 28 ft·lbf)



11. REMOVE CONTROL CABLE BRACKET

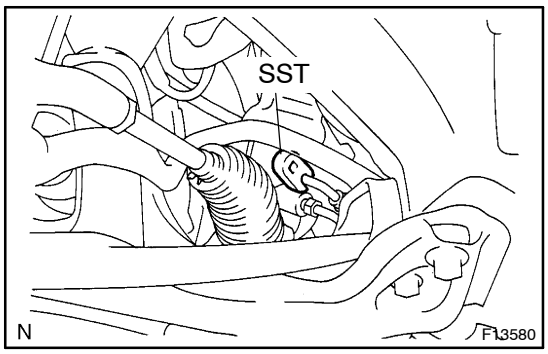
(a) Disconnect the wire harness from the clamp.
(b) Remove the 2 bolts, clamp and control cable bracket from the transaxle.
Torque: 25 N·m (250 kgf·cm, 18 ft·lbf)



12. REMOVE 2 TRANSAXLE UPPER SIDE MOUNTING BOLTS
Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)

13. DISCONNECT RH AND LH TIE ROD ENDS (See page SA–12)

14. DISCONNECT NO. 2 INTERMEDIATE SHAFT ASSEMBLY (See page SR–11)

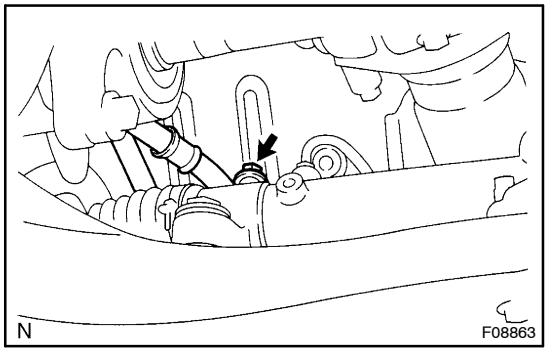


15. DISCONNECT PRESSURE FEED AND RETURN TUBES

Using SST, disconnect the pressure feed and return tubes.
SST 09023–38400
Torque: 40 N·m (410 kgf·cm, 30 ft·lbf)

HINT:

- Use torque wrench with a fulcrum length of 345 mm (13.58 in.).
- This torque value is effective in case that SST is parallel to a torque wrench.

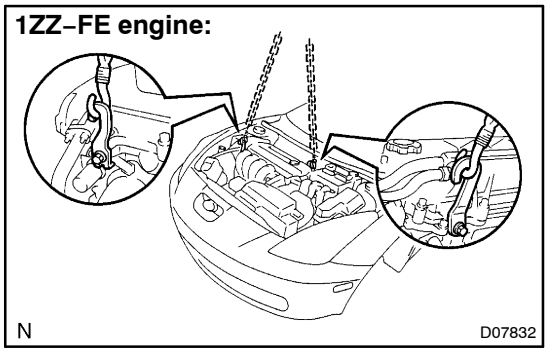


16. DISCONNECT TUBE CLAMP

Remove the bolt and disconnect the tube clamp.

Torque: 7.8 N·m (80 kgf·cm, 69 in.·lbf)

1ZZ–FE engine:



17. ATTACH ENGINE SLING DEVICE TO ENGINE HANGER

(a) Disconnect the 2 PCV hoses.

(b) 1ZZ–FE engine:

Install the No. 1 and No. 2 engine hangers in the correct direction.

Parts No.:

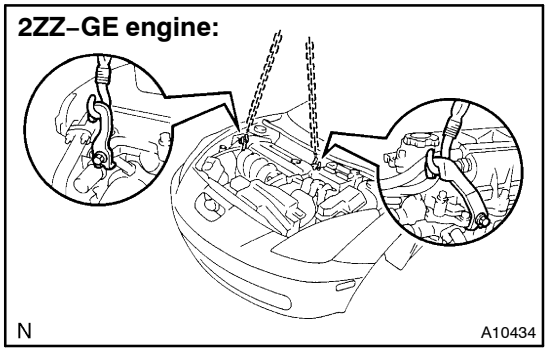
No. 1 engine hanger: 12281–22021

No. 2 engine hanger: 12281–15040 or 12281–15050

Bolt: 91512–B1016

Torque: 38 N·m (387 kgf·cm, 28 ft·lbf)

2ZZ–GE engine:



(c) 2ZZ–GE engine:

Install the No. 1 and No. 2 engine hangers in the correct direction.

Parts No.:

No. 1 engine hanger: 12281–88600

No. 2 engine hanger: 12282–88600

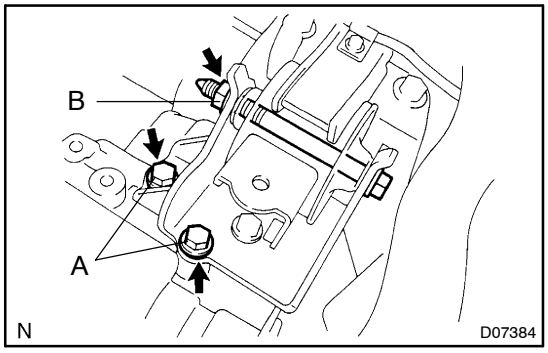
Bolt: 91512–61020

Torque: 38 N·m (387 kgf·cm, 28 ft·lbf)

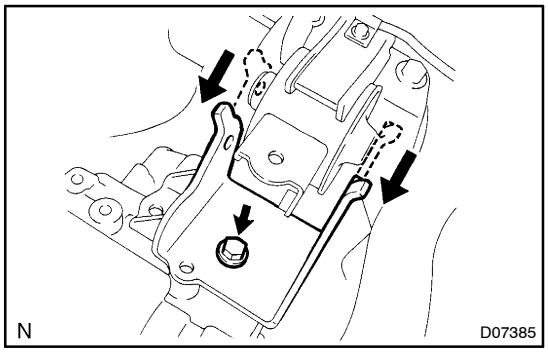
(d) Attach the engine chain hoist to the engine hangers.

CAUTION:

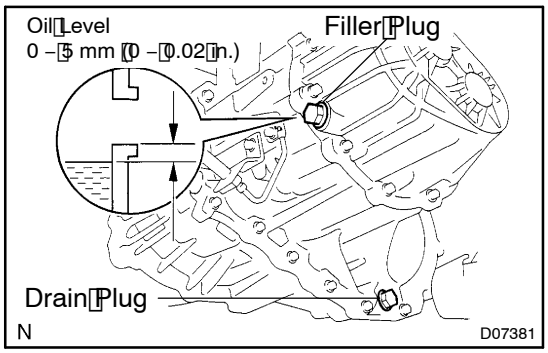
Do not attempt to hang the engine by hooking the chain to any other part.



18. REMOVE ENGINE LEFT MOUNTING BRACKET 3 SET BOLTS AND NUT
Torque:
Bolt A: 60 N·m (610 kgf·cm, 44 ft·lbf)
Nut B: 80 N·m (820 kgf·cm, 59 ft·lbf)



19. REMOVE ENGINE LEFT MOUNTING BRACKET
Lower the transaxle side, and remove the bolt and engine left mounting bracket.
Torque: 60 N·m (610 kgf·cm, 44 ft·lbf)
20. RAISE VEHICLE
CAUTION:
Make sure that the vehicle is securely supported.
21. REMOVE CENTER, LH AND RH ENGINE UNDER COVERS



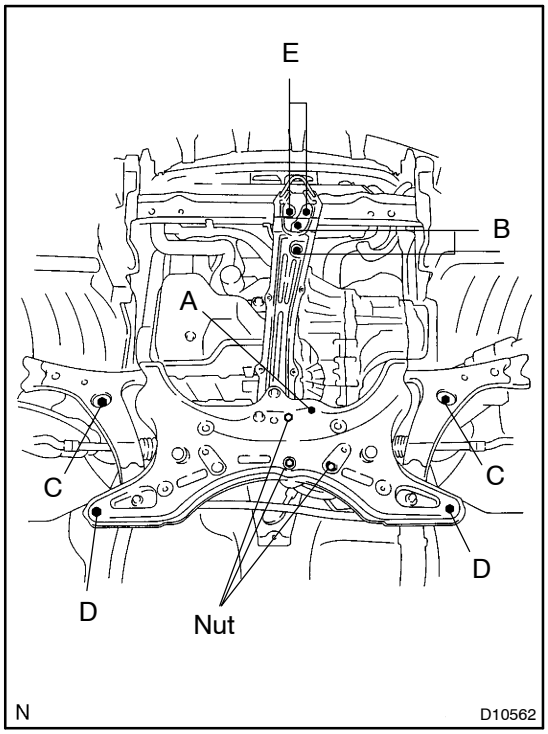
22. DRAIN TRANSAXLE OIL
Oil grade: API GL–4 or GL–5
Viscosity: SAE 75W–90
Capacity: 2.3 liters (2.4 US qts, 2.0 Imp. qts)
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)
23. REMOVE LH AND RH FRONT DRIVE SHAFTS (See page SA–18)
24. REMOVE FRONT EXHAUST PIPE
(a) Europe:
Disconnect the 2 heated oxygen sensors.
Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)
(b) Australia:
Disconnect the heated oxygen sensor.
Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)
HINT:
At the time of installation, please refer to the following items.
- Before installing the heated oxygen sensor, twist the sensor wire counterclockwise 3 and 1/2 turns.
- After installing the heated oxygen sensor, check that the sensor wire is not twisted. If it is twisted, remove the heated oxygen sensor and reinstall it.

(c) Remove the 4 bolts, compression springs and 2 gaskets.
Torque: 43 N·m (440 kgf·cm, 32 ft·lbf)
(d) Disconnect the front exhaust pipe from the pipe supports and remove it.
25. DISCONNECT LOWER BALL JOINT FROM LOWER SUSPENSION ARM (See page SA–42)

26. DISCONNECT STABILIZER BAR LINK

(a) Remove the nut and disconnect the stabilizer bar link.
Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)

(b) Employ the same manner described above to the other side.



27. DISCONNECT ENGINE REAR MOUNT INSULATOR AND FRONT SUSPENSION MEMBER

Remove the bolt (bolt A) and 3 nuts, and disconnect the engine rear mount insulator and front suspension member.
Torque: 52 N·m (530 kgf·cm, 38 ft·lbf)

28. DISCONNECT ENGINE FRONT MOUNT INSULATOR AND FRONT SUSPENSION MEMBER

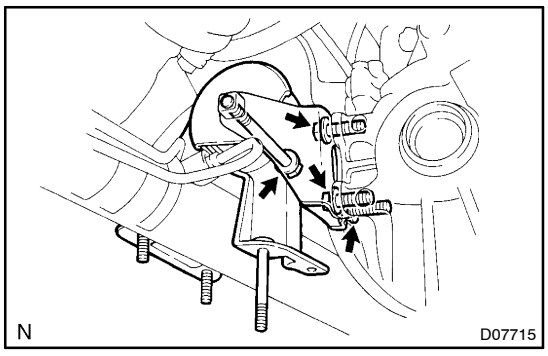
Remove the 2 bolts (bolt B) and disconnect the engine front mount insulator and front suspension member.
Torque: 52 N·m (530 kgf·cm, 38 ft·lbf)

29. SUPPORT FRONT SUSPENSION MEMBER WITH LOWER SUSPENSION ARM

Using a transmission jack, support the front suspension member with lower suspension arm.

30. REMOVE FRONT SUSPENSION MEMBER WITH LOWER SUSPENSION ARM AND PS GEAR ASSEMBLY

Remove the 6 bolts (bolt C, D and E) and front suspension member with lower suspension arm and PS gear assembly.
Torque:
Bolt C: 157 N·m (1,600 kgf·cm, 116 ft·lbf)
Bolt D: 157 N·m (1,600 kgf·cm, 116 ft·lbf)
Bolt E: 39 N·m (400 kgf·cm, 29 ft·lbf)



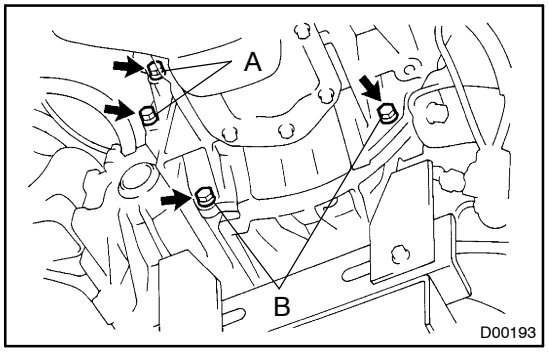
31. REMOVE ENGINE REAR MOUNTING INSULATOR AND BRACKET

(a) Remove the bolt and engine rear mounting insulator.
Torque: 87 N·m (890 kgf·cm, 64 ft·lbf)

(b) Remove the 3 bolts and engine rear mounting bracket.
Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)

32. JACK UP TRANSAXLE SLIGHTLY

Using a transmission jack, support the transaxle.



33. REMOVE 4 TRANSAXLE LOWER SIDE MOUNTING BOLTS

Torque:

Bolt A: 47 N·m (480 kgf·cm, 35 ft·lbf)

Bolt B: 23 N·m (230 kgf·cm, 17 ft·lbf)

34. REMOVE TRANSAXLE

Lower the engine left side and remove the transaxle from the engine.

HINT:

At the time of installation, please refer to the following items.

- Align the input shaft with the clutch disc and install the transaxle to the engine.
- Temporarily tighten the transaxle mounting bolts.