
MANUAL TRANSAXLE (C153)

MANUAL TRANSAXLE UNIT MX-1

REFER TO FOLLOWING REPAIR MANUALS:

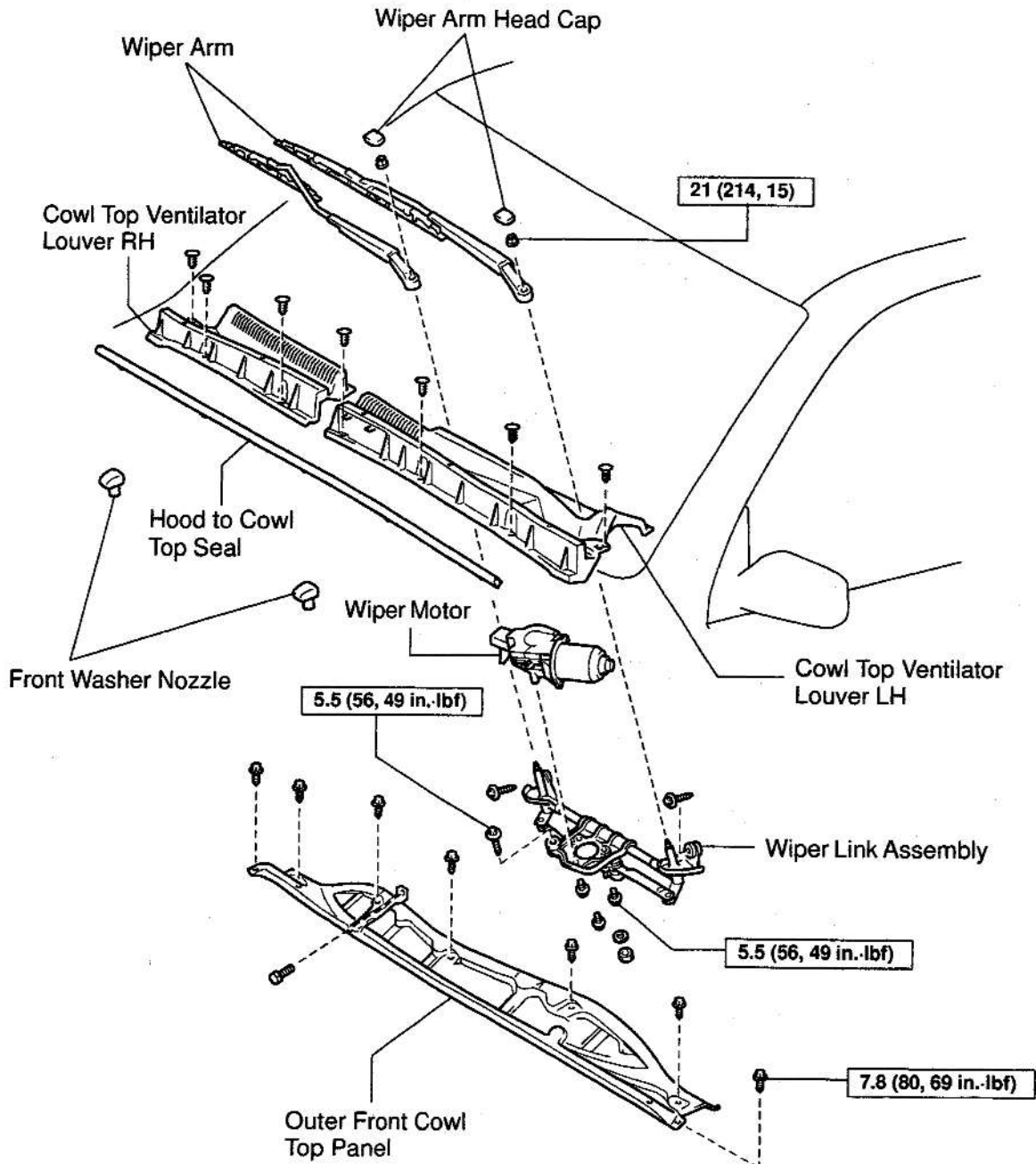
Manual Name	Pub. No.
YARIS / ECHO Chassis and Body Repair Manual	RM685E
YARIS / ECHO Chassis and Body Repair Manual Supplement (Aug., 1999)	RM737E

NOTE: The above pages contain only the points which differ from the above listed manuals.

MX

MANUAL TRANSAXLE UNIT COMPONENTS

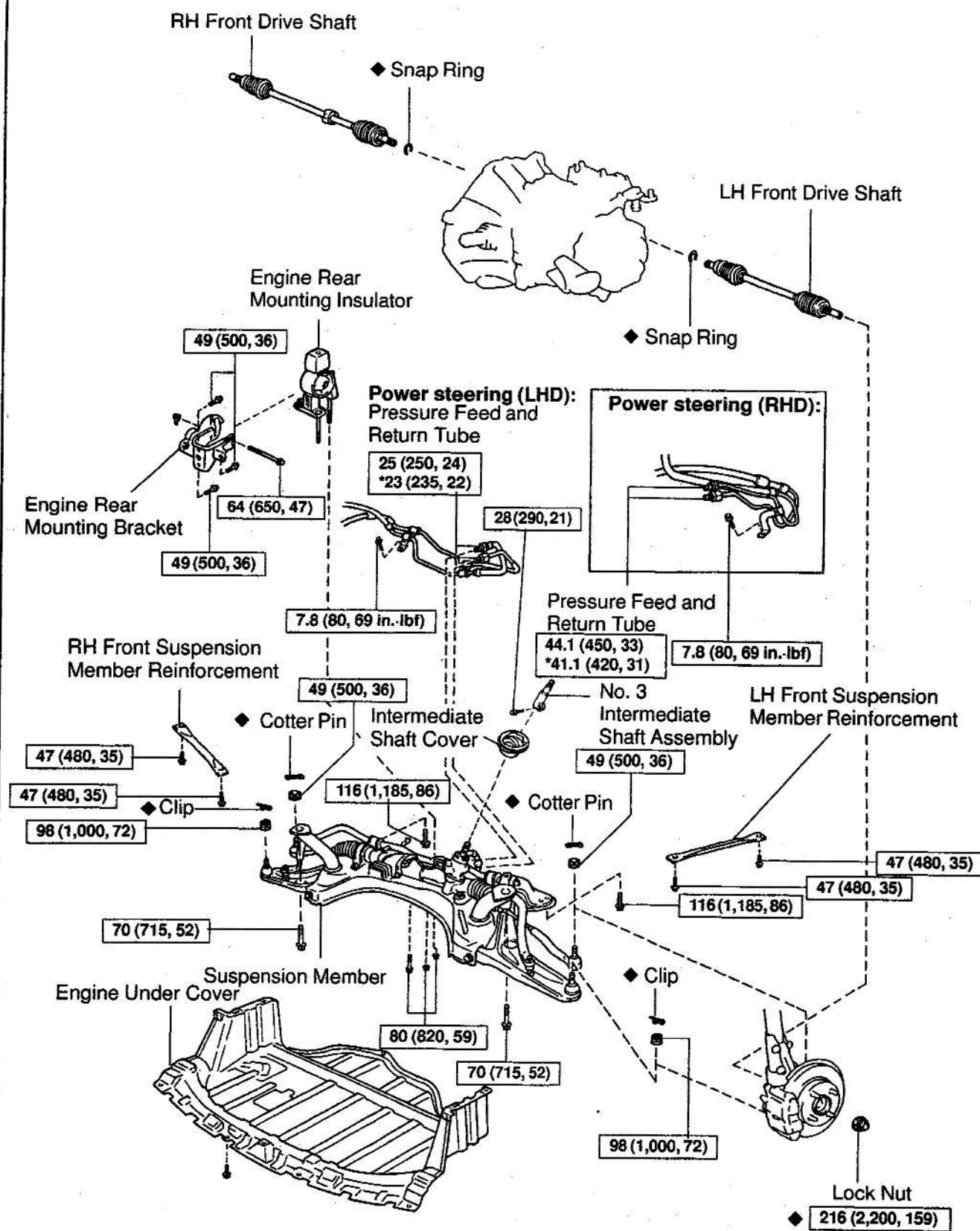
MX0E7-02



T

N·m (kgf·cm, ft·lbf) : Specified torque

H11717



REMOVAL

1. REMOVE HOOD

Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

HINT:

At the time of installation, please refer to the following item.
Adjust the hood (See Pub. No. RM685E on page BO-16).

2. REMOVE RH AND LH WIPER ARMS

(See Pub. No. RM685E on page BO-41)

HINT:

At the time of installation, please refer to the following item.
Adjust the installation position of the wiper arms (See Pub. No. RM685E on page BO-44).

3. REMOVE RH AND LH COWL TOP VENTILATOR LOUVERS AND OUTER FRONT COWL TOP PANEL

(See Pub. No. RM685E on page BO-41)

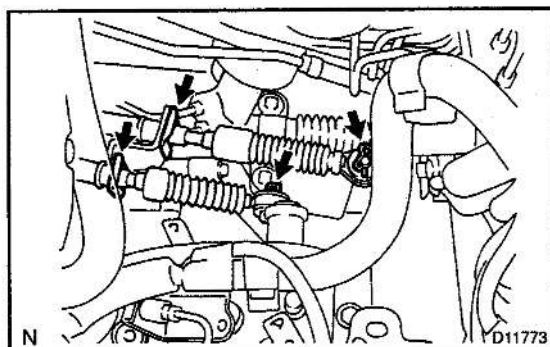
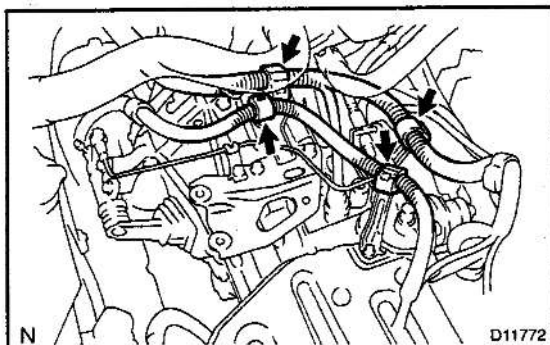
4. REMOVE BATTERY AND AIR CLEANER CASE ASSEMBLY WITH AIR HOSE

Torque: 7.5 N·m (76 kgf·cm, 66 in·lbf)

5. REMOVE ENGINE UNDER COVER

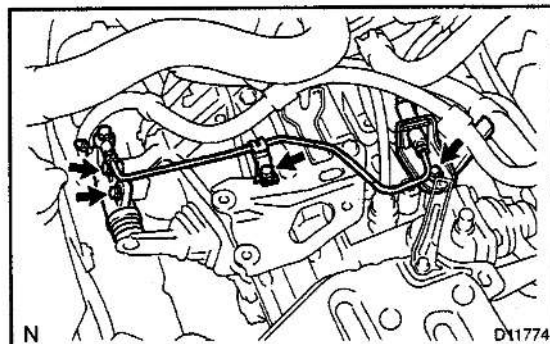
6. DISCONNECT WIRE HARNESS FROM TRANSAXLE

Disconnect the 4 wire harness clamps.



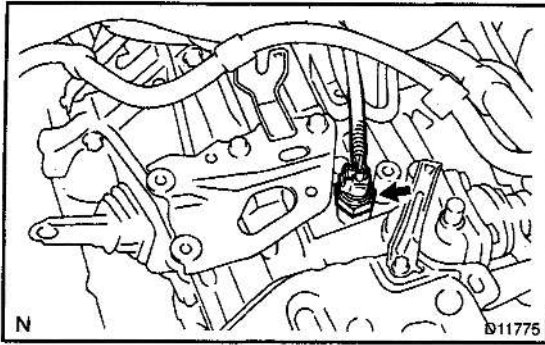
7. DISCONNECT CONTROL CABLE

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



8. DISCONNECT CLUTCH RELEASE CYLINDER

- (a) Remove the 2 set bolts and disconnect the clutch line.
Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)
- (b) Remove the 2 set bolts and disconnect the clutch release cylinder.
Torque: 11.8 N·m (120 kgf·cm, 9 ft·lbf)



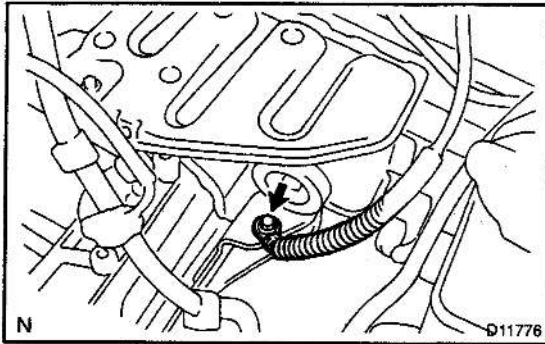
9. **DISCONNECT BACK-UP LIGHT SWITCH CONNECTOR**

10. **DISCONNECT SPEED SENSOR CONNECTOR**

11. **REMOVE AIR CLEANER BRACKET**

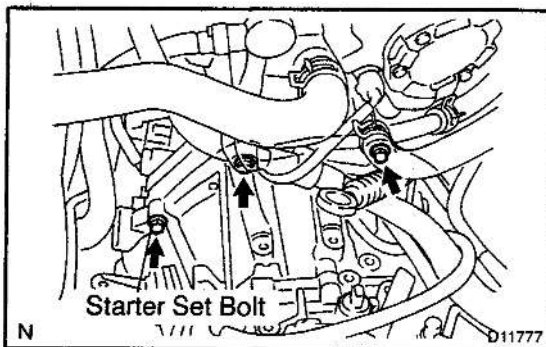
Remove the 2 bolts and remove the air cleaner bracket.

Torque: 19 N·m (195 kgf·cm, 14 ft·lbf)



12. **DISCONNECT GROUND CABLE**

Remove the set bolt and disconnect the ground cable from the engine LH mounting bracket.

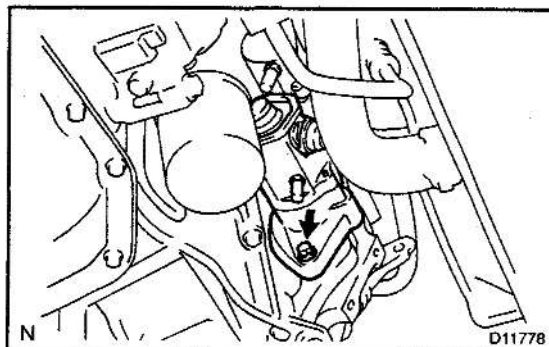


13. **REMOVE 2 TRANSAXLE UPPER SIDE MOUNTING BOLTS**

Torque: 33 N·m (340 kgf·cm, 25 ft·lbf)

14. **REMOVE STARTER SET BOLT**

Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



15. **REMOVE STARTER**

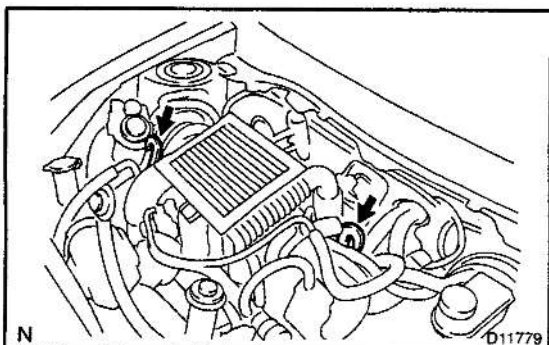
(a) Disconnect the starter connector.

(b) Remove the nut and starter wire.

Torque: 9.8 N·m (100 kgf·cm, 87 in·lbf)

(c) Remove the bolt, starter cover and starter.

Torque: 37 N·m (370 kgf·cm, 27 ft·lbf)



16. **ATTACH ENGINE SLING DEVICE TO ENGINE HANGER**

(a) Install the 2 No. 1 engine hangers with the bolts in the correct direction.

Parts No.:

No. 1 engine hanger: 12281-21010

Bolt: 91642-81025

Torque: 40 N·m (408 kgf·cm, 29 ft·lbf)

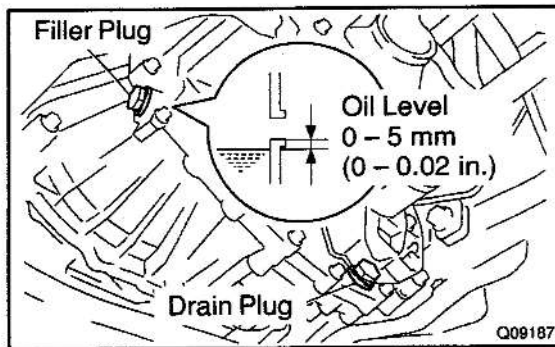
- (b) Attach the engine chain hoist to the engine hangers.

CAUTION:

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

17. RAISE VEHICLE**CAUTION:**

Make sure that the vehicle is securely supported.

**18. DRAIN TRANSAXLE OIL**

Oil grade: API GL-4 or GL-5

Viscosity: SAE 75 W-90

Capacity: 1.9 liters (2.0 US qts, 1.7 Imp. qts)

Torque: 39.2 N·m (400 kgf·cm, 29 ft·lbf)

19. REMOVE RH AND LH FRONT DRIVE SHAFTS

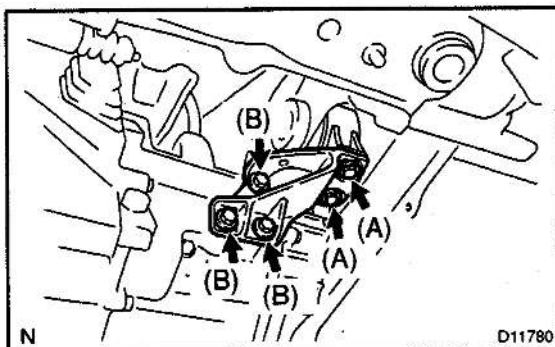
(See Pub. No. RM737E on page SA-8)

20. REMOVE SUSPENSION MEMBER

- (a) Remove the 2 set nuts and bolt of the engine rear mounting insulator from the suspension member (See Pub. No. RM737E on page SA-17).
- (b) Disconnect the sliding yoke (See Pub. No. RM737E on page SR-7).
- (c) Power steering:
Disconnect the pressure feed and return tubes (See Pub. No. RM737E on page SR-31).
- (d) Power steering:
Disconnect the tube clamp (See Pub. No. RM737E on page SR-31).
- (e) Remove the 4 bolts, RH and LH front suspension member reinforcements.
Torque: 47 N·m (480 kgf·cm, 35 ft·lbf)
- (f) Remove the suspension member (See Pub. No. RM737E on page SR-31).

21. JACK UP TRANSAXLE SLIGHTLY

Using a transmission jack, support the transaxle.

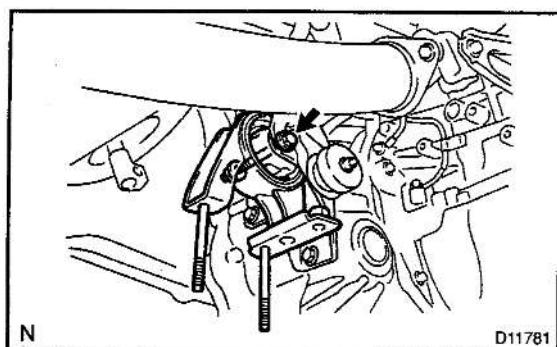
**22. DISCONNECT ENGINE LH MOUNTING BRACKET FROM ENGINE LH MOUNTING INSULATOR**

Remove the 5 bolts and engine LH mounting bracket from the LH mounting insulator.

Torque:

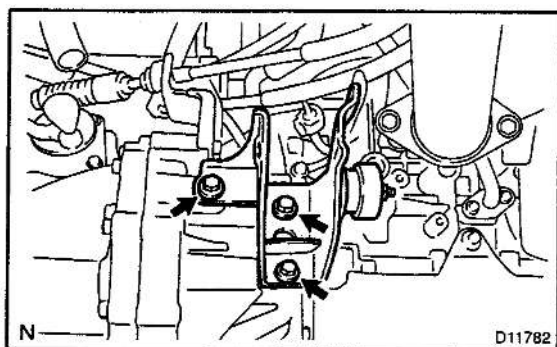
Bolt(A): 49 N·m (500 kgf·cm, 36 ft·lbf)

Bolt(B): 64 N·m (653 kgf·cm, 48 ft·lbf)

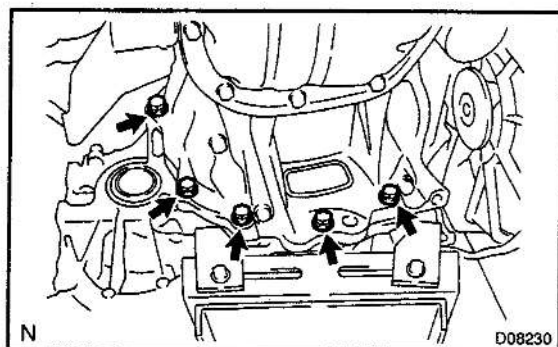


23. REMOVE ENGINE REAR MOUNTING INSULATOR AND BRACKET

- (a) Remove the bolt, nut and engine rear mounting insulator.
Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)



- (b) Remove the 3 bolts and engine rear mounting bracket.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)



24. REMOVE 5 TRANSAXLE LOWER SIDE MOUNTING BOLTS

Torque: 33 N·m (340 kgf·cm, 25 ft·lbf)

25. 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.

INSTALLATION

Installation is in the reverse order of removal (See page MX-4).

HINT:

After installation, check and inspect items as follows.

- Front wheel alignment.
- Do the road test.