**CHASSIS & BODY** 



NISSAN MOTOR CO., LTD.

SECTION ER

# ENGINE REMOVAL & INSTALLATION

ER

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# ENGINE REMOVAL & INSTALLATION

## **ENGINE REMOVAL AND INSTALLATION**

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REMOVAL

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Experience has shown that it is much easier to remove the engine with transmission as a single unit than to remove the engine only. The engine can then be separated from the transmission assembly.



Fig. ER-1 Engine compartment

#### REMOVAL

- Scribe alignment marks on hood around hood hinges and remove hood from hinges.
- 2. Completely drain the cooling system, engine and transmission lubricant.
- 3. Disconnect the battery cable.
- Take off both upper and lower radiator hoses by removing the hose clamps. Then loosen the fixing bolts of the radiator, and take it out in sequence.

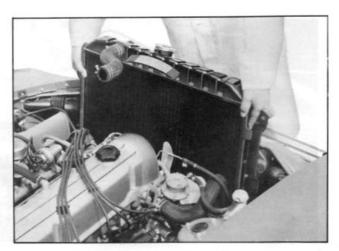


Fig. ER-2 Removing radiator

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- 5. Disconnect the fuel tube from the fuel pump.
- If equipped with heater, remove its hoses at engine attachment.
- Disconnect master vac vacuum hose from engine.
- Disconnect accelerator control linkage and choke control wire at the carburetor side.
- Disconnect the wirings for the starter, alternator, ignition coil, oil pressure switch and thermal transmitter.
- Remove the clutch operating cylinder and its return spring.



Fig. ER-3 Removing clutch operating cylinder

- 11. Disconnect the speedometer cable. Disconnect the reverse lamp switch.
- Disconnect the transmission control lever from the control lever bracket, and remove the control lever.

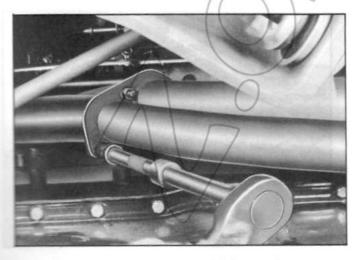


Fig. RE-4 Disconnecting exhaust tube

- Disconnect the front exhaust tube from the exhaust manifold.
- 14. Disconnect the center tube from the main muffler and remove the front tube, pre-muffler and center tube assembly.
- 15. Disconnect the propeller shaft by disconnecting it from the companion flange of the gear carrier.
- 16. Jack up the transmission a little and then remove the rear engine mounting member by removing the bolts fixing the engine mounting insulator to mounting spring, and the mounting member to under side of the body.

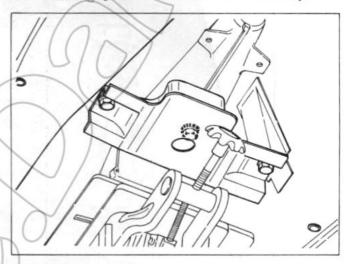


Fig. ER-5 Removing rear engine mounting

- Remove the fixing bolts securing the front engine mounting brackets to engine mounting insulators.
- 18. Hook with cable or chain to the slingers (hooks) which are installed on the engine cylinder head, one at the front and the other at the rear.



Fig. ER-6 Lifting engine

## ENGINE REMOVAL & INSTALLATION

At this lifting, lower the jack placed under the transmission gradually (draw off the jack at adequate stage), hoist up engine observing the tension of wire and adjusting the position of chain block so that the engine tilts in order to make it cleared off the body. At this lifting, take care that accessories installed on the body side do not touch the engine and transmission.

#### INSTALLATION

Reverse the removal procedure but do not connect any parts to the engine steadily until the engine mounting insulators have been replaced and the power unit weight is taken by them.

# FRONT ENGINE MOUNTING INSULATOR

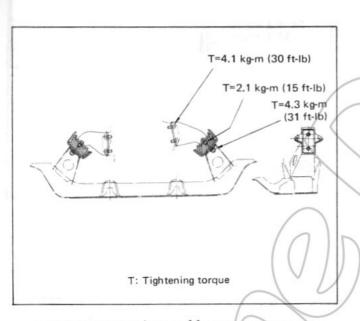


Fig. ER-7 Sectional view of front engine mounting

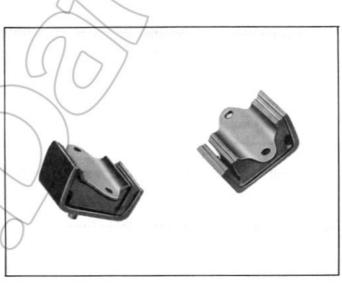


Fig. ER-8 Front engine mounting insulator

#### REMOVAL AND INSTALLATION

- 1. Support the engine weight by a jack.
- 2. Remove the nut connecting the front engine mounting insulator and the front suspension member. Remove the bolts connecting the engine mounting insulator and the engine mounting bracket.
- 3. Jack up the engine a little and remove the insulator.
- 4. Reverse the removal procedure.

Note: Keep the insulator free from Oil or Grease.

#### INSPECTION

If there is damage, deterioration, or separation of bonded surface, renew the parts.

# REAR ENGINE MOUNTING INSULATOR

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REMOVAL AND INSTALLATION

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ER-4

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#### REMOVAL AND INSTALLATION

- 1. Support the transmission weight by a jack.
- 2. Remove the nut connecting the rear engine mounting insulator and the mounting spring.
- 3. Remove the bolts fixing the mounting member to under side of the body. Then remove the mounting member with mounting spring.
- 4. Remove the bolts connecting the rear engine mounting insulator and transmission rear extension housing.
- 5. Remove the bolts, and separate the mounting spring and mounting member.
- T= 4.3 kg-m (31.1 ft-lb)

  T= 4.3 kg-m (31.1 ft-lb)

Fig. ER-9 Rear engine mounting

6. Install the rear engine mounting parts in reverse sequence of removal.

Note: Keep the insulator free from Oil or Grease.

#### INSPECTION

If there is damage, deterioration, or separation of bonded surface, renew the parts.

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