

Engine Removal

GENERAL MOTORS

4-CYLINDER ENGINES

1) Open hood, mark position of hood hinges and remove hood. Disconnect negative battery cable and raise vehicle. Remove rear transmission mount nuts. Support transmission and remove crossmember at frame and top transmission bolts. Reinstall crossmember and remove transmission support.

2) Remove engine-to-transmission bolts. Remove torque converter cover. Remove exhaust manifold. Disconnect starter leads and remove motor mount bolts. Disconnect fuel lines and transmission cooler lines (automatic transmission). Lower vehicle and drain coolant.

3) Disconnect necessary wires and hoses from alternator, carburetor and other accessories. If equipped, remove power steering pump and air conditioning compressor and lay aside. Loosen alternator and disconnect front heater hose. Remove upper fan shroud, radiator and heater hoses, fan assembly and transmission oil cooler lines. Remove radiator assembly.

4) Disconnect accelerator cable and spring, and detent cable from carburetor. Using a floor jack, support transmission. Install lifting device and remove engine from vehicle.

V6 ENGINES

1) Open hood, mark position of hood hinges and remove hood. Disconnect negative battery cable and raise vehicle. Remove rear transmission mount nuts. Support transmission and remove crossmember at frame and top transmission bolts. Reinstall crossmember and remove transmission support.

2) Remove engine-to-transmission bolts. If difficulty in removing the upper left bolt is encountered, remove 2 left body mounting bolts and loosen radiator support bolt. Raise the cab on the left side with a block of wood to gain clearance for removing the bolt. Remove torque converter cover. Remove exhaust manifold. Disconnect starter leads and remove motor mount bolts. Disconnect fuel lines and transmission cooler lines (automatic transmission). Lower vehicle and drain coolant.

3) Disconnect necessary wires and hoses from alternator, carburetor and other accessories. If equipped, remove power steering pump and air conditioning compressor and lay aside. Loosen alternator and disconnect front heater hose. Remove upper fan shroud, radiator and heater hoses, fan assembly and transmission oil cooler lines. Remove radiator assembly.

4) Disconnect accelerator cable and spring, and detent cable from carburetor. Using a floor jack, support transmission. Install lifting device and remove engine from vehicle.

6-CYLINDER ENGINES

VAN MODELS

1) Disconnect negative battery cable and drain cooling system. Remove engine cover and air cleaner. If equipped, discharge A/C system and remove compressor. Disconnect accelerator linkage from carburetor and remove carburetor. Remove grille and cross brace. Remove windshield washer jar and, if equipped, A/C vacuum reservoir.

2) Disconnect radiator hoses, oil cooler lines (if equipped), A/C condenser bracket (if equipped) and radiator support brackets. Swing A/C condenser out of the way (if equipped) and remove radiator. Remove all hoses, wiring linkage and lines from engine. Raise vehicle and remove fuel line from fuel pump.

3) Drain crankcase and remove propeller shaft. Remove exhaust pipe at manifold and linkage from transmission. Remove speedometer cable and transmission mount bolts. If equipped with manual transmission, disconnect clutch linkage and remove clutch cross shaft. Remove engine mount bolts.

4) Lower vehicle and attach lifting device. Raise engine slightly to remove right hand motor mount. Remove engine with transmission.

EXCEPT VAN MODELS

1) Disconnect negative battery cable and drain cooling system. Disconnect accelerator cable and detent cable (automatic transmission) from throttle lever. Remove air cleaner, hood and engine compartment cover (chassis models). Disconnect radiator hoses, transmission cooler lines (if equipped) and remove radiator and shroud from vehicle. Remove battery from chassis models.

2) Disconnect wiring, lines, linkage and hoses from engine. Remove fan and water pump pulley. Disconnect fuel line from fuel pump. Raise vehicle and remove starter, flywheel or converter splash shield and exhaust pipe from manifold.

3) If equipped with automatic transmission, remove converter-to-flex plate bolts. Remove engine mount bolts. On 4-WD models, remove strut rods at motor mounts.

4) Remove clutch/torque converter housing retaining bolts and support transmission with chain. Lower vehicle and attach lifting device. Remove engine.

V8 ENGINES

VAN MODELS

1) Disconnect battery cables and drain cooling system. Remove coolant reservoir, grille, upper radiator support and lower grille valance. Disconnect transmission oil cooler lines (if equipped) and radiator hoses. If equipped with A/C, discharge system and remove condenser and vacuum reservoir.

2) Remove washer jar with bracket, radiator brackets, radiator and shroud. Remove air cleaner, air stove pipe and accelerator cable from carburetor. If equipped with power steering, remove pump and lay aside. Disconnect wiring from firewall connection and remove carburetor. Remove thermostat housing, oil fill pipe and disconnect heater hoses. If equipped with cruise control, remove servo, transducer and bracket.

3) Raise vehicle and drain crankcase. Disconnect exhaust pipe at manifold. Remove propeller shaft and shift linkage. Disconnect fuel line from pump. Disconnect speedometer cable. Remove transmission mount bolts and engine mount bracket-to-frame bolts.

4) Drain crankcase. Remove engine mount through bolts. Raise engine slightly and remove engine mounts. Block up engine with wooden block between oil pan and crossmember. Lower vehicle and install lifting device. Remove engine/transmission assembly.

Engine Removal

GENERAL MOTORS (Cont.)

EXCEPT VAN MODELS

1) Disconnect battery cables and drain cooling system. Remove hood, air cleaner, accessory drive belts, fan and water pump pulley. Disconnect all hoses, lines, linkage and wiring from engine. If equipped with A/C, remove compressor and lay aside.

2) Disconnect transmission oil cooler lines (if equipped) and remove radiator with shroud. If equipped with power steering, remove pump and lay aside. Disconnect fuel line from fuel pump. Raise vehicle and drain crankcase. On 4-WD models with automatic transmission, remove strut rods at motor mounts. Disconnect crossover pipe from exhaust manifold.

3) Remove flywheel or converter splash shield. Remove starter and wiring along right pan rail. Remove gas gauge wiring. If equipped with automatic transmission, remove converter-to-flex plate attaching bolts.

4) Support transmission and remove clutch-/torque converter housing-to-engine bolts. Remove lower engine mount bracket-to-frame bolts. Lower vehicle and attach lifting device. Remove engine.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Flywheel Housing-to-Engine	30 (41)
Transmission Case-to-Engine	35 (47)
Converter-to-Flywheel Bolts	35 (47)
Rear Mount-to-Transmission	40 (54)
Rear Mount-to-Crossmember Bolt	40 (54)
Crossmember Mounting Bolt	25 (34)