

GENERAL MOTORS (Cont.)

CADILLAC (Cont.)

SEVILLE

1) Disconnect battery, remove air cleaner assembly and drain cooling system. Remove hood and mark hinges for installation. Remove both wheelhouse struts and radiator cover. Disconnect brake hose from brake pipe at rear of left cylinder head. Disconnect left branch of electrical harness and remove all heater, upper radiator and overflow hoses. Remove fan assembly and lower radiator hose.

2) Remove distributor cap and wiring, disconnect right branch of electrical harness. Disconnect accelerator linkage and vapor canister hose from throttle body. Remove fuel inlet line from fuel rail. Remove and plug power steering hoses from steering gear, secure hoses to engine. Disconnect fuel return line from pressure regulator. Remove, but do not disconnect, air conditioning compressor.

3) Raise vehicle and disconnect right exhaust pipe from manifold. Remove screws securing converter cover and remove cover. Remove starter motor and clip securing transmission cooler lines to oil pan. Remove three screws securing flex plate to converter. Remove engine mount bolts and exhaust crossover pipe. Remove engine-to-transmission screws.

4) Lower vehicle and remove screws securing heater water valve to evaporator and position valve out of way. Install suitable lifting fixture to engine, support transmission and slowly raise engine off mounts. Reposition transmission support, raise engine carefully and pull forward to disengage transmission. Raise engine and remove from vehicle.

CADILLAC

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
All Models (Exc. Eldorado and Seville)	
Front Mount to Engine Nut	21
Front Mount Stud to Frame Nut	30
Rear Mount to Crossmember	45
Crossmember to Frame Bolt	20
Rear Mount to Transmission Bolt	30
Transmission to Engine Bolts	35
Eldorado	
Engine Mount Bracket to Block	48
Engine Mount Bracket to Mount	40
Engine Mount to Frame	65
Transmission Mount Bracket	40
Transmission Mount Bracket to Mount	40
Transmission Mount to Frame	40
Seville	
Motor Mount to Engine	65
Motor Mount to Frame	30
Through Bolt	30
Converter Housing to Engine	35

CHEVROLET

4 CYLINDER MODELS

1) Disconnect battery cables, all water, vacuum and emission control hoses. Disconnect all wires at sending units, switches and solenoids. Remove radiator panel or shroud, radiator, fan and spacer. Position power steering pump and/or air conditioning compressor (if equipped) out of way without disconnecting hoses.

2) Raise vehicle and disconnect exhaust pipe at manifold. Remove flywheel inspection cover or converter underpan. If equipped with automatic transmission, remove converter-to-flex plate bolts and install converter safety strap. Remove converter housing or clutch housing bolts. Loosen engine front mounts at frame.

3) Lower vehicle and position jack under transmission for support. Using a suitable hoist, raise engine enough to take weight off of engine. Remove front engine mount bolts. Pull engine forward to separate from transmission and remove engine.

V6 AND 6 CYLINDER MODELS

1) Mark hinges and remove hood. Disconnect battery, remove air cleaner and drain cooling system.

NOTE — On VIN code "M" model, remove radiator.

2) Remove fan shroud, pulley and fan. Disconnect all electrical wiring, water and vacuum hoses, and fuel inlet line at fuel pump.

3) Disconnect accelerator linkage and exhaust pipes at manifold. Position power steering pump and/or air conditioning compressor (if equipped) out of way without disconnecting hoses.

4) Raise vehicle and position on safety stands. Remove starter, flywheel or converter cover, and on automatic, converter to flex plate bolt. On even-fire V6 (VIN A & 2), disconnect drive

Engine Removal

GENERAL MOTORS (Cont.)

CHEVROLET (Cont.)

shaft, shift linkage, equalizer shaft and transmission mount. Remove transmission with engine. On all other models, remove bell housing and motor mount through bolts.

5) Lower vehicle. Raise transmission using jack and wood block. Attach a suitable hoist to engine, lift, and remove motor mount to engine brackets. Remove engine.

V8 MODELS

1) Mark hinges and remove hood. Disconnect battery, remove air cleaner and drain cooling system. Remove fan shroud and radiator. Disconnect all electrical wiring, vacuum and water hoses. Disconnect accelerator linkage at intake manifold and fuel line at fuel pump. Disconnect fuel vapor storage canister hose (if equipped).

2) Disconnect vacuum line to power brake unit at manifold. Remove power steering pump (if equipped) and set aside. Raise vehicle and disconnect exhaust pipes at manifolds. Disconnect (if equipped) converter bracket at transmission rear mount. Remove starter, and as applicable, flywheel splash shield or converter housing cover.

3) On vehicles with automatic transmission, remove converter to flywheel attaching bolt. Remove mount through bolts. Remove bell housing bolts. Lower vehicle and raise transmission using a floor jack. Attach engine lifting device and raise engine. Remove motor mount to engine brackets and remove engine assembly.

CHEVROLET TIGHTENING SPECIFICATIONS MONZA & CHEVETTE	
Application	Ft. Lbs.
Converter-to-Flywheel	35
Flywheel Housing-to-Engine	25
Crossmember-to-Frame	40
Crossmember-to-Transmission	
Center Nut	33
End Nut	21
ALL OTHER MODELS	
Application	Ft. Lbs.
151" (VIN V,1,9)	
Mount to Engine	35
Mount to Frame	45
231" V6 (VIN A,2)	
Motor Mount to Engine	60
Motor Mount to Frame	25-35
Through Bolt	45
250" L6 (VIN D)	
Motor Mount to Engine	40
Motor Mount to Frame	35
Through Bolt	30
All Other Engines	
Motor Mount to Engine	30-40
Motor Mount to Frame	25-35
Through Bolt	65-80
Converter Housing to Engine	35
Clutch Housing to Engine	25
Rear Mount to Transmission	30-35
Rear Mount to Crossmember	40
Crossmember to Frame	25

OLDSMOBILE

4 CYLINDER MODELS

1) Mark hinges and remove hood. Disconnect battery, drain cooling system and remove all water and vacuum hoses from engine. Disconnect electrical wiring and remove air cleaner. Remove shroud and fan assembly. Disconnect fuel lines, hoses and linkage from carburetor.

2) If equipped, remove power steering pump and A/C compressor without disconnecting hoses. Position to one side to clear engine. Raise vehicle on hoist and disconnect exhaust pipe from manifold. Drain crankcase.

Manual Transmission — Disconnect clutch linkage and remove cross shaft. Remove bell housing bolts, starter wiring and motor mount bolts.

Automatic Transmission — Remove converter cover and retaining bolts. Disconnect transmission filler tube support and starter wiring. Slide converter to rear and remove motor mount bolts.

All Models — Lower vehicle and use jack and block of wood to support transmission. Install lifting device and raise engine slightly to remove front engine mounts. Tilt engine up in front to remove from vehicle.

V6 MODELS

NOTE — Manual transmission and engine are removed as an assembly.

1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and drain cooling system. Disconnect all electrical leads at engine. Disconnect engine-to-body ground strap. Remove air conditioning compressor, without disconnecting lines, and position off to side.

2) Remove fan blade, pulleys and belts. Disconnect radiator and heater hoses from engine. Remove fan shroud assembly. Remove power steering pump, without disconnecting lines, and position off to side. Remove fuel pump hose and all vacuum lines at engine.

3) Disconnect throttle cable and downshift cable at carburetor. Raise vehicle and disconnect starter cables and cable shield from engine. Disconnect exhaust pipes from manifolds. Remove lower flywheel cover or converter cover.

GENERAL MOTORS (Cont.)

OLDSMOBILE (Cont.)

4) Scribe a mark on the converter and flywheel for reassembly alignment. Remove flywheel to converter attaching bolts. If equipped with automatic transmission, remove transmission to engine bolts. On manual transmission models, remove drive shaft, shift linkage, clutch equalizer shaft and transmission mount.

5) On all models, remove motor mount fasteners. Lower vehicle and support automatic transmission. Attach a suitable hoist to engine and raise enough to take weight off front engine mounts. Remove front mount through bolts. Separate automatic transmission from engine and remove engine. Remove engine and manual transmission as an assembly.

305" & 350" V8 MODELS (VIN G, H & L)

1) Remove hood and mark hinges for installation. Disconnect battery cables at battery. Remove air cleaner and drain cooling system. Disconnect radiator and heater hoses. Remove radiator and fan shroud. Disconnect all electrical wires from engine. Disconnect accelerator linkage at intake manifold.

2) Disconnect fuel line from fuel pump. Disconnect all vacuum lines. Remove air conditioning compressor and/or power steering pump, without disconnecting lines, and position out of way. Raise vehicle and disconnect exhaust pipe at manifold, and (if equipped), converter bracket at rear transmission mount.

3) Remove starter. Remove flywheel splash shield or converter housing cover as applicable. On automatic transmission models, remove converter to flywheel bolt. On all models, remove mount through bolts. Lower vehicle and raise transmission using a floor jack. Remove motor mount to engine brackets and remove engine.

260", 301", 350" & 403" V8 MODELS (VIN F, P, Y, R, N & K)

Except Toronado — 1) Drain cooling system. Remove air cleaner and hot air pipe. Remove hood and mark hinges for installation. Disconnect negative battery cable at battery and ground wire at inner fender panel. Disconnect engine ground strap.

2) Disconnect radiator hoses, automatic transmission cooler lines, heater hoses, vacuum hoses, fuel hose from fuel line, wiring and throttle cable. Remove power steering pump and/or air conditioning compressor, without disconnecting lines, and position off to side.

NOTE — On 301" (VIN Y) engine only: Radiator may be left in place if engine fan and pulleys are removed. Metal vacuum modulator line must be disconnected but not bent or kinked. Disconnect transmission filler tube support. Remove four engine-to-transmission bolts (two each side), support transmission and lift slightly, and remove remaining bolts.

3) Remove upper radiator support and radiator. Raise vehicle and disconnect exhaust pipes at manifolds. Remove torque converter cover and three bolts holding converter to flywheel. Remove engine mount bolts or nuts.

4) Remove three (right side) bolts securing engine to transmission. Remove starter with wires attached and secure to frame. Lower vehicle and attach lifting device to engine. Raise transmission and remove three (left side) engine to transmission bolts. Remove engine assembly.

Tornado — 1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and drain cooling system. Disconnect radiator venturi shroud strap (if equipped), remove seal clips and slide seal towards radiator to gain clearance. Disconnect engine ground strap and upper and lower radiator hoses at engine. Disconnect transmission cooler lines at radiator.

2) Disconnect heater hoses, upper radiator baffle and radiator. Remove radiator fan shroud and venturi components (if equipped). Remove power steering pump and mount and/or air conditioning compressor and mount from engine, without disconnecting lines and position out of way. Disconnect fuel lines at fuel pump. Disconnect accelerator linkage, all vacuum hoses and electrical connections at engine. Disconnect left exhaust pipe at manifold.

3) Raise vehicle and position on safety stands. Loosen but DO NOT remove upper left bolt securing converter cover. Disconnect right exhaust pipe at manifold. Disconnect starter cable and remove starter. Remove remaining converter cover bolts and pivot cover out of slot at upper left bolt. Scribe mark aligning converter to flex plate and remove converter bolts. Remove front engine mount nuts.

4) Scribe a mark around washers at right output shaft support bracket and remove bracket. Remove through bolt on left side securing final drive to engine. Remove lower right transmission-to-engine bolt. Attach a suitable support (BT-6322) to final drive. Lower vehicle and attach a suitable hoist to engine. Remove remaining transmission-to-engine bolts. Remove engine from compartment. It may be necessary to raise or lower transmission with a jack and wood block to separate engine and transmission.

OLDSMOBILE TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
151" (VIN V,1,9)	
Motor Mount to Block	35
Motor Mount to Frame	45
305" & 350" (VIN G,H,L)	
Motor Mount to Engine	30-40
Motor Mount to Frame	25-35
Through Bolt	65-80
Tornado Models	
Motor Mount to Engine	45-50
Motor Mount to Frame	75
All Other Engines	
Motor Mount to Engine	60-75
Motor Mount to Frame	35-50
Through Bolts	35-45
Converter Housing to Engine	30-35
Clutch Housing to Engine	25-30
Rear Mount to Transmission	30-40
Rear Mount to Crossmember	45
Crossmember to Frame	40-50