

## GENERAL MOTORS (Cont.)

### OLDSMOBILE (Cont.)

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.
<b>Crossmember-to-Frame</b>	
Starfire .....	31
All Others .....	37
<b>Transmission-to-Mount</b>	
Starfire .....	31
All Others .....	45
<b>Mount-to-Crossmember</b>	
Toronado.....	60
All Others .....	45
<b>Flywheel Housing-to-Engine</b>	
Starfire.....	35
Toronado.....	30
All Others .....	40
Converter-to-Flywheel.....	40
<b>Motor Mount-to-Frame</b>	50
<b>Motor Mount-to-Engine</b>	
Starfire.....	55
All Others .....	75

## PONTIAC

### 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.

### 6 CYLINDER MODELS

1) Remove hood and mark hinges for installation. Disconnect battery and drain cooling system. Disconnect all electrical and vacuum connections at engine. Remove air cleaner and upper radiator shield assembly. Disconnect radiator and heater hoses from engine. Remove fan assembly and disconnect accelerator linkage. If vehicle is equipped with power steering and/or air conditioning, remove power steering pump and/or A/C compressor without disconnecting hoses and position units out of way.

2) Raise and support vehicle, drain crankcase. Disconnect fuel line at fuel pump. Disconnect exhaust pipe from manifold and remove starter motor. If vehicle is equipped with automatic transmission, remove converter cover, converter retaining bolts and slide converter to rear. If equipped with manual transmission, disconnect clutch linkage and remove clutch cross shaft. Remove four lower flywheel housing bolts.

3) Disconnect transmission filler tube support and starter wire harness shield from cylinder head. Remove front motor mount-to-frame bracket bolts and lower vehicle. Support transmission and attach suitable hoist to engine. Support engine with hoist and remove two remaining flywheel housing bolts. Raise transmission slightly, pull engine forward and remove engine by tilting front of engine upward.

### V6 & V8 MODELS

1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and drain cooling system. Remove air conditioning compressor (if equipped) from mount without disconnecting lines and position out of way. Remove fan pulleys and drive belts. Disconnect radiator hoses and remove fan shroud.

2) On models equipped with 260" V8, remove radiator. Remove power steering pump (if equipped) from mount without disconnecting lines and position out of way. Disconnect all electrical and vacuum connections at engine. Disconnect accelerator linkage or cable at carburetor.

3) Raise vehicle and position on safety stands. Disconnect exhaust pipes at exhaust manifolds. Remove flywheel or converter housing cover. Scribe mark aligning converter to flex

# Engine Removal

## GENERAL MOTORS (Cont.)

### PONTIAC (Cont.)

plate for installation. Remove converter-to-flex plate bolts.  
**NOTE** — This is not necessary on vehicles with manual transmissions. Remove manual transmission with engine.

**NOTE** — The remainder of the engine removal procedure will vary depending on model and engine as follows:

**All Models W/231" V6 - 4)** On automatic transmission equipped vehicles, remove engine-to-transmission bolts. On manual transmission equipped vehicles, disconnect propeller shaft, shift linkage, clutch equalizer shaft and transmission mount. Remove motor mount bolts, lower vehicle and support automatic transmission. Attach suitable lifting device to engine and raise so the mounting through-bolts may be removed. Alternately raise engine and transmission support until engine may be disengaged from automatic transmission. Remove engine or engine and transmission combination from vehicle.

**All Models W/260" V8 - 4)** Remove motor mount bolts. Remove three bolts on right side securing engine to transmission. Remove starter with wires attached and secure starter to frame, out of way.

5) Lower vehicle and support transmission with a jack and wood block. Remove three bolts on left side securing engine to transmission. Attach a suitable hoist and remove engine.

**Ventura W/350" V8 - 4)** Remove starter cable and cable shield from engine. If equipped with automatic transmission, remove transmission-to-engine bolts. **NOTE** — Manual transmission is removed with engine. On manual transmission models, remove drive shaft, shift linkage, clutch equalizer shaft and rear transmission mount. On all models remove motor mount fasteners, lower vehicle and support automatic transmission.

5) Attach a suitable hoist to engine and raise enough to take weight off front engine mounts. Remove front mount through bolts. Raise engine and transmission support until engine and automatic can be separated and remove engine. Remove engine and manual transmission assembly (if equipped).

**All Models W /350" (Exc. Ventura), 400" & 455" V8 - 4)** Disconnect starter cable at starter. Remove four lower transmission-to-engine bolts (two on each side). Disconnect transmission filler tube support and starter cable shield from cylinder head. Remove two front motor mount bolts.

5) Lower vehicle and support transmission with a jack and a wood block. Remove remaining transmission-to-engine bolts and raise transmission slightly with a jack. Attach a suitable hoist to engine and remove engine.

### PONTIAC TIGHTENING SPECIFICATIONS

#### 4 CYLINDER MODELS

Application	Ft. Lbs.
Clutch Housing-to-Engine .....	25
Automatic Transmission-to-Engine .....	35
Crossmember-to-Frame Bolts .....	28
Crossmember-to-Mount Bolts .....	26
Rear Mount-to-Transmission .....	26

#### 6 CYLINDER MODELS

Application	Ft. Lbs.
Motor Mount-to-Engine.....	33
Motor Mount-to-Bracket .....	45
Flywheel Housing-to-Block .....	35

#### V6 MODELS

Applicaton	Ft. Lbs.
Motor Mount-to-Engine.....	55
Flywheel Housing-to-Block .....	15
Motor Mount Through-Bolt .....	40-55
Motor Mount-to-Frame .....	25-35

#### V8 MODELS

Application	Ft. Lbs.
All Models W/260" V8	
Motor Mount Bracket-to-Frame .....	35
Motor Mount-to-Engine .....	65
Motor Mount Through Bolt .....	35
Rear Mount-to-Trans .....	45
Rear Mount-to-Crossmember .....	60

Application	Ft. Lbs.
Ventura W/350" V8	
Motor Mount Bracket-to-Frame	
All (Exc. Crossmember Through Bolt) .....	25-35
Crossmember Through Bolt .....	70-90
Motor Mount-to-Engine .....	50-75
Motor Mount Through Bolt .....	40-55

All Remaining Models	
Motor Mount Bracket-to-Frame .....	50-65
Motor Mount-to-Frame	
Catalina, Bonneville, Grand Ville, Grand Safari ..	50-65
All Others .....	25-35
Motor Mount Through Bolt .....	40-50
Rear Mount-to-Transmission .....	35-45
Rear Mount-to-Crossmember	
Firdbird .....	45-60
All Others .....	30-45