

# Engine Removal

## GENERAL MOTORS (Cont.)

### PONTIAC

#### 4 CYLINDER MODELS

1) Scribe alignment marks on hinges and hood. Remove hood. Disconnect battery, water and vacuum, and emission hoses. Disconnect all electrical wiring and remove air cleaner. Remove radiator shroud and fan. If equipped with power steering and air conditioning, remove pump and compressor and position to one side without disconnecting hoses.

2) Disconnect fuel lines and linkage to carburetor and raise vehicle on hoist to drain crankcase. Disconnect exhaust pipe from manifold. If equipped with automatic transmission, remove converter cover and retaining bolts. Slide converter to rear.

3) If equipped with manual transmission, disconnect clutch linkage and remove clutch cross shaft. Remove front motor mount bolts, starter harness, and transmission filler tube support. Remove four lower bellhousing bolts (two each side). Lower vehicle and use jack and block of wood to support transmission.

4) Install lifting fixture and remove remaining bellhousing bolts. Raise engine slightly and move forward to free from transmission. Tilt front of engine up to complete removal.

#### V6 MODELS

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

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

2) Remove fan shroud assembly. Remove power steering pump (if equipped) without disconnecting lines, and position out of way. Disconnect fuel pump hoses and battery ground cable from engine. Disconnect all vacuum and electrical connections at engine. Disconnect throttle control cable at carburetor.

3) Remove alternator and disconnect engine to body ground strap(s) at engine. Raise vehicle and disconnect starter cables, and cable shield from engine (if equipped). Disconnect exhaust pipes from manifolds. Remove lower flywheel or converter housing.

4) Remove flywheel to converter bolts. Scribe a chalk mark on flywheel and converter for reassembly alignment.

5) On automatic transmissions, remove transmission to engine attaching bolts. On manual transmissions disconnect propeller shaft, shift linkage, clutch equalizer shaft and transmission mount.

6) On all models remove motor mount through bolts and (if equipped) cruise control bracket. On automatic transmissions, lower vehicle and support transmission. On all models attach a lifting device to engine. Disengage automatic transmission from engine and remove engine.

#### V8 MODELS

##### 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, and remove fan shroud and radiator. Disconnect all electrical wires and vacuum connections at engine.

2) Disconnect fuel line at fuel pump and accelerator linkage at intake manifold. Remove air conditioning compressor, and/or power steering pump, without disconnecting lines, and position off to side. Raise vehicle and disconnect exhaust pipe at manifold and (if equipped), converter bracket at rear transmission mount. Remove starter. Remove flywheel splash shield or converter housing cover as applicable.

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

##### 350" & 403" V8 MODELS (VIN R, X & K)

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. Disconnect radiator and heater hoses. Disconnect all electrical and vacuum connections at engine.

2) Disconnect power steering hose bracket from engine and fuel hose from fuel line. Disconnect air conditioning compressor, with hoses attached, and position out of way. Disconnect throttle cable. Remove upper radiator support and radiator.

3) 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. Remove three (right side) engine to transmission bolts. Remove starter with wires attached. Lower vehicle and attach lifting device to engine. Raise transmission slightly, and remove three (left side) engine to transmission bolts. Remove engine.

## GENERAL MOTORS (Cont.)

### PONTIAC (Cont.)

#### 301" & 400" V8 MODELS (VIN Y, W, & Z)

1) Disconnect battery cables at battery. Drain cooling system. Scribe alignment marks around hood hinges and remove hood. Disconnect engine wire harness and engine to body ground straps. Remove air cleaner, and disconnect radiator and heater hoses at engine. Remove power steering pump and/or air conditioning compressor, with hoses attached, and position out of way.

2) Remove engine fan and pulley. Disconnect accelerator control linkage. Disconnect all electrical and vacuum connections at engine. Raise vehicle and disconnect exhaust pipes from manifolds. Disconnect starter wires. On automatic transmissions, remove converter cover, three retaining bolts and slide converter to rear.

3) On manual transmissions, disconnect clutch linkage, remove clutch cross shaft, starter and lower flywheel cover. Remove four lower bell housing bolts (two on each side). Disconnect transmission filler tube support (automatic transmission). Remove two front motor mount bolts. Lower vehicle and support transmission using a floor jack. Remove two remaining bell housing bolts and raise transmission slightly. Using suitable lifting device, remove engine.

### PONTIAC 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 Block .....	35
Motor Mount to Frame .....	30
Through Bolt .....	70
All Other Engines	
Motor Mount to Block .....	60-75
Motor Mount to Frame .....	30-35
Through Bolt .....	45-55
Converter Housing to Engine .....	30-35
Clutch Housing to Engine .....	25-30
Rear Mount to Transmission <sup>⓪</sup> .....	30-40
Rear Mount to Crossmember .....	30-40
Crossmember to Frame .....	30
⓪ - (VIN V, 1, 9) 65 ft. lbs.	