

Engine Removal

GENERAL MOTORS (Cont.)

OLDSMOBILE (Cont.)

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", 350", & 403" (VIN F, R & 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.

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.

Toronado – 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.
Crossmember-to-Frame	37
Transmission-to-Mount	45
Mount-to-Crossmember	
Toronado	60
All Others	45
Flywheel Housing-to-Engine	35
Converter-to-Flywheel	40
Motor Mount-to-Frame	50
Motor Mount-to-Engine	
Starfire	55
All Others	75

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 bellhousing

bolts and motor mount bolts. Lower vehicle and use jack and block of wood to support transmission.

4) Install lifting fixture and raise engine slightly to remove front engine mounts. Position engine 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.

GENERAL MOTORS (Cont.)

PONTIAC (Cont.)

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" (VIN U & 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" (VIN R & 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 con-

verter 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.

301" & 400" (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

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

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.
Exhaust Pipe-to-Manifold	30
Rear Mount-to-Transmission	35
Frame-to-Crossmember	30
Engine Mount-to-Frame	50
Engine Mount-to-Block	75
Rear Mount-to-Crossmember	40
Transmission Case-to-Engine	35
Motor Mount Through-Bolt	45
Rear Mount-to-Transmission	40