

GENERAL MOTORS (Cont.)

CADILLAC

CAUTION — Do not loosen fittings on fuel injection system until pressure is first bled from system by opening Schrader fitting on fuel rail near pressure regulator. When opening fitting, place rags or container near fitting to catch any fuel spillage.

ALL MODELS, EXC. ELDORADO & SEVILLE

1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and inlet resonator assembly, and drain cooling system. Remove retaining screws for each wheel housing strut-to-radiator cover and position struts to side. Remove radiator hoses, radiator cover and fan.

2) Disconnect wiring harness and all electrical connections to engine. Disconnect Cruise Control servo from left cylinder head and brake hose from brake pipe. Disconnect throttle linkage and vapor canister hose. Detach power steering pump and air conditioning compressor without disconnecting hoses and position to one side.

3) Disconnect spark plug wires from right side of engine. Disconnect vacuum lines, heater hoses at right cylinder head. Loosen tie struts and swing to one side. Remove two upper transmission-to-engine bolts.

4) Raise vehicle and position on safety stands. Remove nuts securing front engine mounts to frame. Remove starter, converter inspection cover and bolts securing converter to flex plate. Remove remaining bolts securing engine to transmission. Disconnect exhaust pipes at exhaust manifolds.

5) Disconnect fuel line and vapor return line (if equipped with air conditioning) from fuel pump. Lower vehicle and support transmission with a jack. Move right side lifting bracket to a position so it straddles intake passage for number one cylinder. On engines with fuel injection, install suitable lifting bracket (J-25511). Attach suitable hoist to engine, pull engine forward to separate engine and transmission and remove engine.

ELDORADO

1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and inlet resonator assembly, and drain cooling system. Remove upper radiator hose, radiator cover and fan assembly. Disconnect alternator wires, right side spark plug wires and heater turn-on switch. Disconnect water control valve hose and starter motor wiring harness.

2) Remove power steering pump without disconnecting hoses and position to side. Remove air conditioning compressor mounts, disconnect electrical lead and move compressor to top of battery.

3) Disconnect accelerator linkage, wiring harness on left side of engine and vacuum lines. Remove left exhaust manifold flange nuts, transmission cooler line bracket screw and filler pipe nut from exhaust manifold. Position right engine lift hook over number one intake port. On engine with fuel injection, install suitable lifting bracket (J-25511). Remove upper screw securing steering gear flex coupling shroud to frame.

4) Raise vehicle and position on safety stands. Remove steering gear shroud. Remove bolt securing final drive to mount and disconnect fuel pump lines. Remove front engine mount nuts, lower radiator hose, right exhaust manifold flange nuts, and starter motor without disconnecting wiring. Remove converter inspection cover and bolts securing converter to flex plate.

5) Remove two lower transmission-to-engine bolts and right output shaft screws. Remove two output shaft bracket-to-engine screws and one screw securing bracket to final drive. Loosen right shock absorber lower mount nut and slide shock out on stud. Move drive axle as far rearward as possible and remove output shaft.

6) Lower car and support transmission. Remove bolts securing transmission to engine. Install a suitable hoist to engine, pull engine forward to separate engine and transmission and remove engine.

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.

Engine Removal

GENERAL MOTORS (Cont.)

CADILLAC (Cont.)

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 (ALL MODELS, EXC. ELDORADO & SEVILLE)

| Application | Ft. Lbs. |
|---|----------|
| Front Support Mount-to-Engine Nut | 21 |
| Front Support Mount Stud-to-Frame Nut | 52 |
| Rear Support Mount-to-Crossmember Bolt | 50 |
| Rear Support Crossmember-to-Frame Bolt | 20 |
| Rear Support Mount-to-Transmission Bolt | 50 |
| Transmission-to-Engine Bolts | 35 |

CADILLAC TIGHTENING SPECIFICATIONS ELDORADO

| Application | Ft. Lbs. |
|---|----------|
| Front Mount Support Bracket-to-Engine Nut | 21 |
| Front Support Cushion-to-Frame Nut | 35 |
| Front Support Cushion-to-Engine | |
| Mounting Bracket Nut | 57 |
| Rear Support Bracket-to-Transmission Bolt | 50 |
| Rear Support Assembly-to-Bracket | 46 |
| Rear Support Assembly-to-Frame | 52 |
| Transmission-to-Engine Bolts | 35 |

SEVILLE

| Application | Ft. Lbs. |
|--------------------------------------|----------|
| Engine Mount-to-Cylinder Block | 65 |
| Engine Mount-to-Frame | 30 |
| Engine Mount-Through Bolt | 30 |
| Transmission-to-Engine Bolts | 35 |

CHEVROLET

4 CYLINDER MODELS (EXC. CHEVETTE)

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.

4 CYLINDER MODELS (CHEVETTE)

1) Remove hood, disconnect both battery cables and remove battery cable clips along right frame rail. Drain cooling system and disconnect radiator hoses at engine and heater hoses at heater. Disconnect engine wiring harness at bulkhead connector. Remove radiator and fan assembly. Remove air cleaner assembly and disconnect fuel line along left frame rail,

automatic transmission throttle valve linkage (if equipped) and accelerator cable. On vehicles with air conditioning, remove compressor and lay aside. Raise vehicle and disconnect exhaust pipe at manifold.

2) Remove flywheel dust cover or converter underpan. On automatic transmission vehicles, remove converter-to-flywheel bolts. Remove transmission-to-engine bolts and lower vehicle. Support transmission, remove safety straps and front motor mount bolts. Install suitable lifting device, pull engine forward to clear transmission while slowly lifting engine. Check to make sure all disconnects are made and to ensure that clearance with surrounding components is maintained.

6 CYLINDER MODELS

NOTE — Engine and transmission are removed as an assembly.

1) Remove hood and mark hinges for installation. Disconnect battery, remove air cleaner and drain cooling system. Remove fan shroud, radiator, fan and pulley. Disconnect all electrical wires, water and vacuum hoses, and fuel inlet line at fuel pump.

2) Disconnect accelerator linkage at bell crank and exhaust pipe at manifold. Remove power steering pump and bracket (if equipped) without disconnecting hoses and position out of way.

3) Raise vehicle and position on safety stands, drain crankcase. Remove drive shaft and plug end of shaft. Disconnect transmission cooler lines (if equipped), shift linkage at transmission, speedometer cable, and TCS switch (if equipped) at transmission.