

GENERAL MOTORS (Cont.)

CHEVROLET (Cont.)

3) Raise vehicle on hoist. Drain crankcase. Disconnect exhaust pipes at manifolds. Remove starter. Remove flywheel or converter housing inspection cover. Remove bolts attaching flywheel-to-torque converter. Remove motor mount through bolts.

4) Remove transmission-to-engine bolts. Lower vehicle. Raise transmission using a floor jack. Attach engine lifting device to engine. Raise engine slightly. Remove motor mount to engine brackets. Remove engine from engine compartment.

5.7L (350") Diesel – 1) Drain cooling system. Remove air cleaner. Cover air intake port in intake manifold. Mark hood and hinges for reassembly reference. Remove hood. Disconnect negative battery cables at batteries. Disconnect engine ground strap (from right cylinder head to cowl).

2) Remove radiator hoses. Remove engine oil and transmission oil cooler lines. Remove heater hoses. Disconnect power steer-

ing hoses from steering gear. Remove A/C compressor from engine, with hoses and brackets attached, and position aside.

3) Disconnect fuel line from fuel pump. Disconnect all wiring to engine. Remove hairpin clip at bellcrank. Remove throttle and T.V. cables from intake manifold and position aside. Remove upper radiator support. Remove radiator.

4) Raise vehicle on hoist. Disconnect exhaust pipes at manifolds. Remove torque converter cover. Remove bolts attaching converter-to-flywheel. Remove motor mount bolts or nuts. Remove 3 bolts attaching transmission-to-engine on right side.

5) Disconnect wires from starter and remove starter. Lower vehicle. Secure chain lift to engine. Place a board on top of a jack and raise transmission slightly. Remove 3 bolts attaching transmission-to-engine on left side. Remove engine from engine compartment.

OLDSMOBILE

4-CYLINDER MODELS

1.8L (112") & 2.0L (122") – 1) Disconnect battery cables at battery. Drain cooling system. Remove air cleaner. If equipped, remove power steering pump. Remove window washer bottle. If equipped with A/C, remove relay bracket at bulkhead connector. Remove bulkhead connector.

2) If equipped, remove cruise control servo bracket. Disconnect all vacuum hoses and wiring to engine. Remove bolts attaching vacuum booster to master cylinder. Lay vacuum booster aside. Remove heater hose at hot water pipe. Remove fan assembly. Remove horn. Remove carburetor linkage.

3) Raise vehicle on hoist. Remove heater hose and fuel line at intake manifold. If equipped, remove A/C compressor brace. Remove exhaust shield. Remove starter. Remove exhaust pipe at manifold. Remove front tires.

4) Remove stabilizer at lower control arms. Remove ball joints from steering knuckle. Remove drive axles at transaxle. Remove transaxle strut. If equipped with A/C, remove inner fender shield, drive belt and compressor.

5) Remove front motor mount nuts. If equipped with manual transaxle, remove clutch cable at transaxle. If equipped with automatic transaxle, remove detent cable at transaxle. On all models, install engine lifting device. Remove transaxle mount and bracket. Remove engine from engine compartment.

2.5L (151") Man. Trans. – 1) Disconnect battery cables at battery. Raise vehicle on hoist. Remove front engine mount-to-cradle nuts. Remove forward exhaust pipe. Remove starter motor, with wiring attached, and position aside.

2) Remove flywheel housing inspection cover. Lower vehicle. Remove air cleaner. Remove all transaxle-to-engine bolts. Remove forward torque reaction rod from engine and radiator core support. If equipped, remove A/C compressor and position aside, leaving refrigerant lines connected.

3) Remove vacuum hoses at canister. If equipped, remove power steering hose. Remove all vacuum hoses and electrical connectors at solenoid. Remove heater blower motor. Disconnect accelerator cable at carburetor. Drain cooling system.

4) Disconnect heater hose at engine. Disconnect upper and lower radiator hoses. Disconnect engine wiring harness at bulkhead connector. Install engine lifting device. Lift engine slightly. Remove heater hose and fuel line at intake manifold. Remove engine from vehicle.

2.5L (151") Auto. Trans. – 1) Disconnect battery cables at battery. Drain cooling system. Remove air cleaner and heat tube. Disconnect engine wiring harness connector. Disconnect all vacuum lines. Remove throttle and transmission linkage at carburetor.

2) Remove upper radiator hose. If equipped, remove A/C compressor from brackets, with hoses connected, and position aside. Remove front engine strut assembly. Disconnect heater hose at intake manifold. Remove transaxle-to-engine bolts, leaving top 2 bolts in place.

3) Remove front mount-to-cradle nuts. Remove forward exhaust pipe. Remove flywheel inspection cover. Remove starter. Remove flywheel-to-torque converter bolts. Remove power steering pump and position aside. Remove remaining heater hose. Remove lower radiator hose.

4) Remove rear transaxle support bracket bolts. Remove fuel supply line at fuel filter. With a floor jack and a block of wood under transaxle, raise engine until front mount studs clear cradle. Attach engine lifting equipment to engine. Remove 2 remaining transaxle-to-engine bolts. Remove engine from engine compartment.

V6 MODELS

2.8L (173") Auto. Trans. & 3.0L (181") – 1) Disconnect battery cables at battery. Remove air cleaner. Drain cooling system. Disconnect all vacuum lines to engine. Disconnect detent cable at carburetor.

2) Disconnect accelerator linkage at carburetor. Disconnect engine wiring harness connector. Disconnect ground strap from engine (at engine forward strut). Disconnect radiator hoses from radiator. Remove heater hoses from engine.

3) If equipped, remove power steering pump and bracket from engine. Raise vehicle on hoist. Remove exhaust pipe. Dis-

GENERAL MOTORS (Cont.)

OLDSMOBILE (Cont.)

connect fuel line at rubber hose connection at right side of engine. Remove right front engine mount-to-cradle nuts.

4) Disconnect battery cables from starter and transaxle housing. Remove converter housing inspection cover. Remove flywheel-to-torque converter bolts. Remove transaxle case-to-engine block support bracket bolts. Lower vehicle. Position support stand under transaxle rear extension.

5) Remove engine strut bracket from radiator support and swing rearward. Remove transaxle housing-to-engine bolts, noting location of ground stud bolt. If equipped, remove A/C compressor from mounting bracket and position aside, leaving refrigerant lines connected. Install engine lifting device. Remove engine from engine compartment.

2.8L (173") Man. Trans. - 1) Disconnect battery cables at battery. Remove air cleaner. Drain cooling system. Disconnect vacuum hoses to engine. Disconnect accelerator linkage from carburetor. Disconnect engine harness connector.

2) Disconnect radiator hoses from radiator. Disconnect heater hoses from engine. If equipped, remove power steering pump and bracket assembly from engine. Disconnect clutch cable from transaxle. Disconnect shift linkage from shift levers. Remove cables from transaxle bosses.

3) Disconnect speedometer cable from transaxle. Install engine support fixture. Raise engine until weight is relieved from mount assemblies. Remove exhaust crossover pipe. Remove all but 1 transaxle-to-engine bolt.

4) Remove side and crossmember assembly. Disconnect exhaust pipe. Remove all powertrain mount-to-cradle attachments. Remove both drive axles from transaxle assembly. Lower left side of engine using engine support fixture.

5) Place suitable jack under transaxle. Remove last transaxle-to-engine bolt. Separate transaxle from engine. Install engine lifting fixture. If equipped, remove A/C compressor from engine, leaving refrigerant hoses connected. Disconnect forward strut bracket from radiator support and swing aside. Remove engine from engine compartment.

3.8L (231") & 4.1L (252") Exc. Toronado - 1) Mark hinges for reinstallation and remove hood. Disconnect battery and drain cooling system. Remove air cleaner. If equipped, remove A/C compressor from mounting bracket and position aside, leaving refrigerant lines connected. Remove fan, pulleys and belts.

2) Disconnect radiator and heater hoses at engine. Remove fan shroud assembly. If equipped, remove power steering pump and position aside, leaving hoses connected. Disconnect and plug fuel pump hoses at pump. Disconnect battery ground cable from engine.

3) Disconnect all electrical wiring at engine. Disconnect all vacuum lines to non-engine mounted components. Disconnect accelerator cable and TV cable at carburetor. Disconnect engine-to-body ground strap at engine. Raise vehicle on hoist and disconnect battery cable from starter motor.

4) Disconnect cable shield from engine. Disconnect exhaust pipes at manifolds. On automatic transmission, remove converter housing inspection cover. Remove converter-to-flex plate bolts. Remove engine-to-transmission attaching bolts.

5) On manual transmission, transmission is removed with engine. Remove drive shaft, shift linkage, clutch equalizer shaft and transmission mount. On all models, remove motor mount through bolts. Lower vehicle.

6) On automatic transmission, support transmission. On all models, install lifting device to engine. Raise engine and transmission alternately until engine clears motor mounts and can be disengaged from transmission, then remove engine from vehicle.

4.1L (252") Toronado - 1) Mark hinges for reinstallation and remove hood. Disconnect battery and drain cooling system. Remove air cleaner. Disconnect heater hoses at engine. Remove fan, pulleys and belts. Disconnect radiator hoses from engine.

2) Remove fan shroud. Disconnect transmission oil cooler lines at radiator and remove radiator. Discharge A/C system and remove A/C compressor. Disconnect all electrical wiring and vacuum lines at engine. Disconnect and plug fuel pump hoses at pump.

3) Disconnect accelerator cable at carburetor. Remove power steering pump from mounting bracket and position aside, leaving hoses connected. Remove alternator and disconnect engine-to-body ground strap(s) at engine. Raise vehicle on hoist and remove starter motor. Drain crankcase.

4) Remove converter housing inspection cover and remove converter-to-flex plate bolts. Remove lower engine-to-transmission attaching bolts. Remove right output shaft support bolts. Remove front motor mount bolts. Lower vehicle and install final drive support chain (BT-6322 or equivalent).

5) Remove remaining engine-to-transmission attaching bolts. Remove final drive-to-engine bracket bolts and remove bracket. Install engine lifting device and remove engine from vehicle.

4.3L (262") Diesel Front Wheel Drive - 1) Drain cooling system. Remove all fan belts. Remove air cleaner. Cover air intake port in intake manifold. Disconnect negative battery cables at batteries. Disconnect engine ground strap (from right cylinder head to cowl).

2) Raise vehicle on hoist. Remove flywheel cover. Remove flywheel-to-torque converter bolts. Disconnect exhaust pipe from rear exhaust manifold. Remove engine-to-transaxle brace. Remove engine mount-to-cradle retaining nuts.

3) Disconnect all wiring from engine. Disconnect lower oil cooler line. Remove power steering pump and bracket assembly and position out of way, leaving hoses connected. Remove heater water return pipe. If equipped, remove A/C compressor and position aside with hoses connected.

4) Disconnect all fuel and vacuum lines from engine. Plug all fuel lines. Disconnect throttle and T.V. cables at injection pump and cable bracket. Position cables aside. Remove upper oil cooler line and plug openings. Remove exhaust crossover pipe heat shield.

5) Disconnect transaxle filler tube and position aside. Remove exhaust crossover pipe. Remove engine mounting strut and strut brackets. Install suitable engine lifting device. Support transaxle rear extension with suitable jack. Remove transaxle-to-engine bolts. Remove engine from engine compartment.

GENERAL MOTORS (Cont.)

OLDSMOBILE (Cont.)

4.3L (262") Diesel Rear Wheel Drive – 1) Drain cooling system. Remove air cleaner. Cover air intake port in intake manifold. Mark hood and hinges for assembly reference. Remove hood. Disconnect negative battery cables at batteries. Disconnect engine ground strap (from right cylinder head to cowl).

2) Remove radiator hoses. Remove engine oil and transmission oil cooler lines. Disconnect all vacuum lines from engine. Remove power steering hoses. If equipped, remove A/C compressor from engine, with hoses and brackets attached, and position aside. Disconnect all fuel lines from fuel pump and injection pump.

3) Disconnect all wiring attached to engine, except at starter. Disconnect throttle cable from injection pump. Disconnect detent cable from injection pump and engine brackets. Remove upper radiator support. Remove radiator.

4) Raise vehicle on hoist. Disconnect exhaust pipes at manifolds. Remove torque converter cover. Remove flywheel-to-torque converter bolts. Remove starter. Remove motor mount through bolts. Remove 3 transmission-to-engine bolts on right side.

5) Lower vehicle. Install suitable engine lifting device to engine. Place a board on top of a jack and raise transmission slightly. Remove 3 transmission-to-engine bolts on left side. Remove engine from engine compartment.

V8 MODELS

4.3L (260") & 5.0L (307") Exc. Toronado – 1) Drain cooling system. Remove air cleaner and hot air pipe. Mark hood and hinges for reassembly reference. Remove hood. Disconnect negative battery cable at battery. Remove engine ground strap (from right cylinder head to cowl).

2) Remove radiator hoses. Remove automatic transmission cooler lines from radiator. Remove all heater hoses. Remove all vacuum hoses connecting to engine. Disconnect power steering hose bracket from engine. If equipped, remove A/C compressor, with hoses and brackets attached, and position aside.

3) Disconnect fuel line at carburetor. Disconnect all wiring from engine. Disconnect throttle cable from carburetor. Remove upper radiator support. Remove radiator. Raise vehicle on hoist. Disconnect exhaust pipes at manifolds.

4) Remove torque converter cover. Remove bolts attaching converter-to-flywheel. Remove engine mount bolts or nuts. Remove 3 transmission-to-engine bolts on right side. Remove starter, with wires attached, and secure to frame.

5) Lower vehicle. Secure lift chain to engine. Place a board on top of a jack and raise transmission slightly. Remove 3 transmission-to-engine bolts on left side. Remove engine from engine compartment.

4.3L (260") & 5.0L (307") Toronado – 1) Mark hood and hinges for reassembly reference. Remove hood. Disconnect battery cables at battery. Remove air cleaner. Drain cooling system. Remove heater hoses. Remove fan. Remove upper radiator hose. Remove upper radiator support. Remove fan shroud. Remove lower radiator hose from water pump. Disconnect transmission cooler lines from radiator. Remove radiator.

2) Remove A/C compressor. Disconnect all wiring and vacuum hoses from engine. Disconnect accelerator rod and throttle valve cable. Disconnect all fuel lines from engine. Remove power steering pump. Remove transmission cooler line bracket. Disconnect left exhaust pipe from manifold.

3) Raise vehicle on hoist. Remove starter assembly. Drain crankcase. Remove flywheel shield. Remove flywheel-to-converter bolts. Disconnect right exhaust pipe from manifold. Remove splash shield. Remove right transmission-to-engine bolts.

4) Remove right output shaft support bolts. Remove front motor mount bolts. Install final drive support chain. Remove remaining transmission-to-engine bolts. Remove final drive-to-engine bracket. Install lifting chains to engine. Remove engine from engine compartment.

5.7L (350") Diesel Exc. Toronado – 1) Drain cooling system. Remove air cleaner. Cover air intake port in intake manifold. Mark hood and hinges for reassembly reference. Remove hood. Disconnect negative battery cables at batteries. Disconnect engine ground strap (from right cylinder head to cowl).

2) Remove radiator hoses. Remove engine oil and transmission oil cooler lines. Remove heater hoses. Disconnect power steering hoses from steering gear. Remove A/C compressor from engine, with hoses and brackets attached, and position aside.

3) Disconnect fuel line from fuel pump. Disconnect all wiring to engine. Remove hairpin clip at bellcrank. Remove throttle and T.V. cables from intake manifold and position aside. Remove upper radiator support. Remove radiator.

4) Raise vehicle on hoist. Disconnect exhaust pipes at manifolds. Remove torque converter cover. Remove bolts attaching converter-to-flywheel. Remove motor mount bolts or nuts. Remove 3 bolts attaching transmission to engine on right side.

5) Disconnect wires from starter and remove starter. Lower vehicle. Secure chain lift to engine. Place a board on top of a jack and raise transmission slightly. Remove 3 bolts attaching transmission to engine on left side. Remove engine from engine compartment.

5.7L (350") Diesel Toronado – 1) Disconnect negative battery cable at battery. Drain cooling system. Remove upper radiator support. Remove air cleaner. Cover air intake hole in intake manifold. Mark hood and hinges for reassembly reference. Remove hood.

2) Disconnect engine ground strap. Remove fan and fan shroud together. Disconnect upper and lower radiator hoses at engine. Disconnect transmission and engine oil cooler lines at radiator. Disconnect heater hoses from water pump and water control valve.

3) Disconnect all wiring to engine. Remove alternator with upper brace. Remove power steering pump bracket from engine. Position power steering pump aside. Remove A/C compressor from engine, with hoses and brackets attached, and position aside.

4) Disconnect all fuel lines to engine. Disconnect accelerator rod detent cable. Disconnect all vacuum hoses from engine.