

Oil Pan Removal

GENERAL MOTORS (Cont.)

BUICK (Cont.)

V6 MODELS

All Except Skylark and Riviera — Raise vehicle and drain crankcase. Remove flywheel cover and crossover pipe. Remove oil pan bolts and oil pan.

Skylark — Disconnect negative battery cable. Raise vehicle and drain crankcase. Remove crossover pipe. Remove transaxle converter-starter shield or clutch housing cover, as required. Remove starter. If equipped with manual transaxle, remove engine mount nuts and raise engine $\frac{3}{4}$ ". Remove front cover retaining bolts and oil pan bolts. Remove oil pan.

Riviera — Remove oil pan bolts and remove oil pan.

V8 MODELS (Except Diesel)

All Models (265" & 301") — Disconnect battery and remove fan and distributor cap. If necessary, remove air conditioning compressor for clearance. Raise vehicle, drain crankcase and disconnect exhaust pipes from manifolds. Remove starter and flywheel inspection cover. Position No. 1 cylinder at bottom dead center. Loosen fuel pump-to-timing cover bolts for clearance. Install engine lifting tool (J-23515-2) to engine with adapter (J-23515-16) bolted to lifting tool. Tighten tool to timing chain cover and raise engine. Remove engine mount through bolts. Remove oil pan bolts and, *allowing tool to swing freely*, raise engine until pan can be removed. Support engine with wood blocks and remove oil pan.

All Models (305") — Disconnect battery, remove air cleaner and upper fan shroud. Remove oil dipstick and tube. Raise vehicle and drain crankcase. Remove crossover pipe, torque converter and starter (manual transmission). Remove engine mount through bolts, raise engine, remove oil pan bolts and lower pan. Replace through bolts to hold engine and remove oil pan, rotating crankshaft to clear counterweights.

All Models (350" VIN X) — Disconnect battery, remove radiator tie bar screws and fan shroud. Remove air cleaner and disconnect accelerator linkage. Raise vehicle, support on safety stands and drain crankcase. Disconnect exhaust crossover pipe and remove lower flywheel housing cover. Remove shift linkage attaching bolt and swing out of way. Remove engine front mounting bolts. Raise engine with jack under vibration damper and remove oil pan bolts. Remove oil pan, rotating crankshaft to clear No. 1 and 2 crank pins and counterweights.

NOTE — On A/C equipped vehicles, place support under right side of transmission prior to raising engine to prevent engine/transmission assembly from cocking to right.

All Except Riviera (350" VIN R) — Remove distributor cap and align rotor to No. 1 firing position. Disconnect battery. Remove dipstick, upper radiator support and fan shroud

screws. Raise vehicle and drain crankcase. Remove flywheel cover and disconnect exhaust and crossover pipes. Remove starter. Remove engine mounts from block and raise engine with suitable lifting tool. Remove oil pan bolts and oil pan.

Riviera (350" VIN R) — Engine must be removed before oil pan can be removed. See *appropriate article in ENGINE REMOVAL Section*.

V8 DIESEL MODELS

All Except Riviera — Remove oil pump drive. If equipped with air conditioning, remove drive and vacuum pump. Disconnect battery and remove dipstick. Remove upper radiator support and fan shroud screws. Raise vehicle and drain crankcase. Remove flywheel cover. Disconnect exhaust and crossover pipes. Remove oil cooler lines at filter and remove starter. Place suitable support under front of engine. Remove motor mount bolts and lift front of engine, ensuring engine does not tip to either side. Remove oil pan bolts and oil pan.

NOTE — Reinstall mount bolts and lower engine to frame for doing extended work on engine.

Riviera — Disconnect negative battery cable. Remove top final drive-to-transmission bolts. Raise and support vehicle and disconnect frame braces. Disconnect idler arm and pitman arm from relay rod. Disconnect drive axles from output shaft support and disconnect support from engine. Remove final drive-to-transmission bolts. Install transmission jack and remove final drive. Clean mating surfaces and remove splash shield. Remove starter and drain crankcase. Remove oil pan bolts and oil pan.

BUICK

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
4 Cylinder	
Oil Pan Bolts	6
Timing Cover-to-Oil Pan Bolts	7
V6 Engines	
173"	
6 mm Bolts	6-9
8 mm Bolts	14-22
231" & 252"	14
V8 Engines	
265", 301" & 305"	12
350"	
VIN R & Diesel	10
VIN X	14

CADILLAC

V6 MODELS

Raise and support vehicle on safety stands; drain crankcase. Remove flywheel cover and crossover pipe. Remove oil pan.

V8 MODELS (Except Diesel)

All Models (368") — Disconnect negative battery cable. Remove radiator cover, support rods and shroud. Loosen fan

belts and remove pulleys. Raise vehicle and drain crankcase. Remove exhaust pipe at manifold and catalytic converter. Remove engine mount through bolts. Remove starter and transmission lower cover. Using block of wood under crankshaft hub, raise engine with suitable jack. Remove oil pan bolts and oil pan.

GENERAL MOTORS (Cont.)

CADILLAC (Cont.)

NOTE — Observe clearance at cylinder heads to throttle linkage and A/C heater case; damage by contact in these areas could occur.

Eldorado (350" EFI) — Remove final drive assembly with output shafts attached. Remove starter and drain crankcase. Remove oil pan bolts and oil pan.

Seville (350" EFI) — Remove wheel house struts from both fenders. Remove radiator cover, raise vehicle and drain crankcase. Remove front engine mount through bolts. Remove exhaust crossover pipe, starter and torque converter cover. Remove oil pan bolts and raise engine as far as necessary to remove oil pan by placing screw jack under crankshaft pulley.

V8 DIESEL MODELS

Fleetwood & Deville — Remove drive and vacuum pump. Disconnect battery cables. Remove fan screws, leaving fan in housing. Raise vehicle and drain crankcase. Remove flywheel

cover and oil cooler lines. Disconnect exhaust crossover pipe and remove starter, ground strap and front engine mount through bolts. Remove oil pan bolts and oil pan.

Eldorado & Seville — Remove final drive assembly with output shafts attached. Remove starter and drain crankcase. Place screw jack under crankshaft pulley and raise engine as far as necessary, observing fan shroud clearance. Remove oil pan bolts and remove oil pan.

NOTE — Do not use output shafts as "handles"; use transmission jack.

CADILLAC	
TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
V6 Engines	14
V8 Engines	10

CHEVROLET

4 CYLINDER MODELS

Chevette (Exc. 200 Auto. Trans.) - 1) Disconnect negative battery cable and drain radiator. Remove upper radiator support, upper shroud half (if equipped) and radiator hoses. Disconnect cooler lines (if equipped) and remove radiator. Remove air conditioning condenser (if equipped) from radiator support and lay on top of engine. Remove heater core housing and engine mount bolts.

Chevette (200 Auto. Trans.) — Disconnect negative battery cable. Remove air cleaner and heater housing unit. Pull back motor mount wire restraints and remove mount bolts. Remove upper radiator support or fan shroud as applicable. Raise vehicle and drain crankcase. Remove flywheel splash shield and rack and pinion assembly. Loosen cover-to-rear exhaust pipe clamp bolts. Install engine lifting tool and raise engine. Remove oil pan bolts and oil pan.

Monza — Disconnect negative battery cable. Raise vehicle and drain crankcase. Remove rear section of crossmember. Disconnect exhaust pipe at manifold flange and loosen hanger bracket. Remove starter and flywheel housing inspection cover. Disconnect steering linkage. Remove oil pan bolts and pan.

Citation — Raise vehicle and drain crankcase. Remove front engine mount cradle nuts. Disconnect exhaust pipe at manifold and rear transaxle mount. Disconnect starter and remove flywheel housing inspection cover. Remove upper alternator bracket. Raise engine with hoist (J-22825-40). Remove lower alternator bracket and engine support bracket. Remove oil pan bolts and pan.

NOTE — Upon reinstallation of oil pan, timing gear cover bolts should be installed last. Cover bolts are installed at an angle and holes align after other pan bolts are snugged.

V6 MODELS

Citation — Disconnect negative battery cable. Raise vehicle and drain crankcase. Remove crossover pipe. Remove transaxle converter-starter shield or clutch housing cover, as applicable. Remove starter. If equipped with manual transaxle,

remove engine mount nuts and raise engine $\frac{3}{4}$ ". Remove front cover retaining bolts and oil pan bolts. Remove oil pan.

All Models (229") — Disconnect negative battery cable. Remove upper fan shroud. Raise vehicle and drain crankcase. Remove crossover bolts and lower crossover pipe. Remove torque converter cover. Remove starter bolts and swing starter aside. Remove left engine mount through bolt and loosen right engine mount through bolt. Raise engine and reinstall left through bolt without tightening. Remove oil pan bolts and oil pan.

CHEVROLET	
TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
4 Cylinder	
98"	4.5
151"	
Oil Pan Bolts	6
Timing Cover-to-Oil Pan Bolts	7
V6 Models	
173"	
6 mm Bolts	6-9
8 mm Bolts	14-22
229"	
$\frac{1}{4}$ " Bolts	7
$\frac{5}{16}$ " Bolts	14
231"	14
V8 Models	
$\frac{1}{4}$ " Bolts	7
$\frac{5}{16}$ " Bolts	14
Diesel	10

All Models (231") — Raise vehicle and drain crankcase. Remove flex plate cover and crossover pipe. Remove oil pan bolts and oil pan.