

# Oil Pan Removal

## GENERAL MOTORS (Cont.)

### CHEVROLET (Cont.)

#### V8 MODELS (Except Diesel)

**Corvette** — Disconnect negative battery cable. Raise vehicle and drain crankcase. Disconnect idler arm and lower steering linkage. Remove flywheel splash shield. Disconnect exhaust pipe from manifold and converter and lower. Remove oil pan bolts and oil pan.

**All Other Models** — 1) Disconnect negative battery cable. Remove air cleaner, snorkel and upper fan shroud (one piece shroud on Camaro with heavy duty radiator). Remove distributor cap and move aside, on Camaro only. Raise vehicle and drain crankcase. Remove exhaust crossover pipe at manifold and converter. Remove torque converter cover. On manual transmissions, remove starter and flywheel cover.

2) Remove engine mount through bolts, oil pan bolts, and lower pan. Raise engine and reinstall through bolts to hold engine. Remove oil pan, rotating crankshaft to clear pan.

#### V8 DIESEL MODELS

Disconnect battery cables. Remove air cleaner, drive and vacuum pump and fan shroud. Raise vehicle and drain crankcase. Remove flywheel cover and starter. Remove engine mount through bolts and raise engine. Loosen left mount and remove right mount. Remove oil pan bolts and pan.

**NOTE** — Mounts should be reinstalled and engine lowered to frame for extended work.

## OLDSMOBILE

#### 4 CYLINDER MODELS

**Omega** — 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 suitable hoist (J-22825-40). Remove lower alternator bracket and engine support bracket. Remove oil pan bolts and oil 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.

**Starfire** — Disconnect negative battery cable. Raise vehicle and drain crankcase. Remove rear section of frame crossmember. Disconnect exhaust pipe at manifold and loosen hanger bracket. Remove starter and set to one side. Remove flywheel inspection cover. Disconnect steering linkage at steering gear and idler arm support. Remove oil pan bolts and oil pan.

#### V6 MODELS

**Omega** — 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.

**Starfire & Cutlass** — Raise vehicle and drain crankcase. Remove crossover pipe and flywheel cover. Remove oil pan bolts and pan.

**All Other Models** — Disconnect battery cables and fan shroud to radiator screws. Remove air cleaner and disconnect throttle and transmission linkage at intake manifold. Raise vehicle and drain crankcase. Remove flywheel cover and shift linkage. Disconnect exhaust crossover pipe and front engine mount bolts. Disconnect idler arm at frame and swing down. Raise engine, remove oil pan bolts and pan.

#### V8 MODELS (Except Diesel)

**All Models (305")** — Disconnect battery cables and remove air cleaner and upper fan shroud. Remove dipstick and tube (Cutlass only). Raise vehicle and drain crankcase. Remove crossover pipe and torque converter cover. Remove engine mount bolts, oil pan bolts and lower oil pan to clear crankshaft throws. Raise engine and install mount bolts without tightening. Remove oil pan.

**All Models (260", 307" & 350", Exc. Toronado)** — Remove distributor cap and align rotor to number 1 firing position. Disconnect battery and remove dipstick. Remove upper radiator support and shroud. Raise vehicle and drain crankcase. Remove flywheel cover. Disconnect exhaust and crossover pipes. Remove crossover pipe (Cutlass only). Remove starter and engine mounts from block. Lift front of engine as far as possible using engine lifting tool (BT-6501). Remove oil pan bolts and oil pan.

**Toronado (307" & 350")** — Disconnect negative battery cable. Remove final drive-to-transmission bolts. Raise and support vehicle on safety stands. Disconnect frame braces. Disconnect idler arm and pitman arm at relay rod with suitable tool (J-24319-01). Disconnect drive axles at output shafts and battery cable bracket at output shaft support. Disconnect output shaft support at engine block. Remove final drive-to-transmission bolts and remove final drive with transmission jack. Remove splash shield and starter. Drain crankcase and remove oil pan bolts and oil pan.

#### V8 DIESEL MODELS

**Toronado** — Disconnect negative battery cable. Remove final drive-to-transmission bolts. Raise and support vehicle on safety stands. Disconnect frame braces. Disconnect idler and pitman arm at relay rod with suitable tool (J-24319-01). Disconnect drive axles at output shafts and battery cable bracket at output shaft support. Disconnect output shaft support at engine block. Remove final drive-to-transmission bolts and remove final drive with transmission jack. Remove splash shield and starter. Drain crankcase and remove oil pan bolts and oil pan.

Application	Ft. Lbs.
4 Cylinder	
Oil Pan Bolts .....	6
Timing Cover-to-Oil Pan Bolts .....	7
V6 Models	
173"	
6 mm Bolts .....	6-9
8 mm Bolts .....	14-22
231" .....	14
V8 Models	
305"	
$\frac{1}{4}$ " Bolts .....	7
$\frac{5}{16}$ " Bolts .....	22
All Others .....	10

## GENERAL MOTORS (Cont.)

### OLDSMOBILE (Cont.)

**All Other Models** — Remove drive and vacuum pump. Disconnect battery cables and remove dipstick. Remove upper radiator support and shroud. Raise vehicle and drain crankcase. Remove flywheel cover. Disconnect exhaust and

crossover pipes. Remove oil cooler lines at filter base and remove starter. Remove engine mounts from block and lift engine as far as possible using engine lifting tool (BT-6501). Remove oil pan bolts and oil pan.

## PONTIAC

### 4 CYLINDER MODELS

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

**Sunbird** — Disconnect battery and raise vehicle. Drain crankcase and disconnect exhaust system. Remove flywheel lower cover and disconnect steering linkage at steering gear and idler arm support. Remove rear section of frame crossmember. Remove oil pan bolts and oil pan.

### V6 MODELS

**Phoenix (173")** — Disconnect battery; 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 3/4". Remove front cover retaining bolts and oil pan bolts. Remove oil pan.

**All Models (229")** — Disconnect battery; raise vehicle and drain crankcase. Remove dipstick and tube. Remove crossover pipe. Remove converter housing under pan (if equipped). Remove starter brace, inboard bolt and swing starter aside. Remove oil pan bolts and oil pan.

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

**NOTE** — The oil pan on 231" has no inner baffle; 350" (VIN X) has inner baffle.

### 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. 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 dipstick and tube. Raise vehicle and drain crankcase. Remove crossover pipe, torque converter

housing 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 pan.

**All Models (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 and raise engine with suitable lifting tool. Remove oil pan bolts and oil pan.

**All Models (350" VIN X)** — Disconnect battery, remove radiator tie bar screws and fan shroud. Remove air cleaner and disconnect throttle linkage. Raise vehicle, support on safety stands and drain crankcase. Disconnect 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 pan.

### V8 DIESEL MODELS

Remove oil pump drive. If equipped with air conditioning, remove drive and vacuum pump. Disconnect battery. Remove dipstick, upper radiator support and fan shroud screws. Raise vehicle and drain crankcase. Remove flywheel cover, oil cooler lines at filter base and starter. Disconnect exhaust and crossover pipes. Remove engine mounts, then lift front of engine with suitable lifting tool (BT-6501). Remove oil pan bolts and oil pan.

## PONTIAC

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
4 Cylinder	
Oil Pan Bolts .....	6
Timing Cover-to-Oil Pan Bolts .....	7
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6 mm Bolts .....	6-9
8 mm Bolts .....	14-22
229"	
1/4" Bolts .....	7
5/16" Bolts .....	14
231" .....	14
V8 Models	
305"	
1/4" Bolts .....	7
5/16" Bolts .....	14
265" & 301" .....	12
350"	
VIN R & Diesel .....	10
VIN X .....	14