

## FORD (Cont.)

3) If equipped, remove automatic transmission dipstick and tube. Disconnect manual linkage at transmission. Remove center drive shaft support and remove drive shaft at transmission. Place transmission jack under oil pan and raise engine 4", measured from front engine mounts. Insert wooden blocks between engine and mounts to support engine.

**NOTE:** Engine and transmission assembly will pivot around rear engine mount. Engine must remain centered in engine compartment to obtain the required lift.

4) Remove oil pan attaching bolts and lower oil pan. Unbolt oil pump and pickup tube and lay in pan (except on E-100 and E-250 models with 5.8L engine). Remove nut attaching pickup tube to No. 3 bearing cap stud. Remove oil pan.

### "F" MODELS & BRONCO WITH 4.2L, 5.0L & 5.8L W ENGINES

1) Remove oil dipstick (on pan entry models only). Remove fan shroud and position over fan. Disconnect engine mounts. On automatic transmission models, disconnect oil cooler line at left side of radiator. Raise engine and place wooden blocks under engine supports.

2) Drain engine oil. Remove oil pan attaching bolts and lower oil pan onto engine crossmember. Remove 2 bolts holding oil pump pickup tube to oil pump. Remove nut attaching oil pickup tube to No. 3 main bearing cap stud. Lower pickup tube and screen assembly into oil pan. Remove oil pan.

### "E" MODELS WITH 6.6L ENGINE

1) Disconnect battery and remove engine cover. Remove air cleaner and drain cooling system. Disconnect upper radiator hose and remove fan shroud bolts. Remove oil filler tube and dipstick-to-manifold mounting bolt. Raise vehicle on hoist.

2) Remove splash shield under alternator. If equipped with automatic transmission, remove cooler lines at radiator. Disconnect lower radiator hoses. Disconnect fuel line at pump. Remove engine mount nuts. Drain engine oil and remove oil dipstick tube from oil pan. Disconnect exhaust crossover pipe from exhaust manifolds.

3) If equipped, remove automatic transmission dipstick and filler tube. Disconnect manual linkage at transmission. Remove center drive shaft support and remove driveshaft from transmission.

4) Place a transmission jack and wood block under oil pan. Raise engine 2", measured from front engine mounts. Insert wooden blocks between engine and mounts to support engine.

**NOTE:** Engine and transmission assembly will pivot around rear engine mount. Engine must remain centered in engine compartment to

achieve required lift. DO NOT raise engine more than 2" or damage to air conditioning main and auxiliary suction lines may result.

5) Remove oil pan attaching bolts and lower oil pan onto crossmember. Unbolt oil pump and pickup tube and lay in oil pan. Remove oil pan.

### "F" MODELS WITH 6.6L ENGINES

1) Remove oil dipstick. Remove fan shroud attaching bolts and position shroud over fan. Raise vehicle and drain engine oil. Disconnect starter cable and remove starter.

2) Place a jack under engine and remove engine front support. Place wooden blocks between engine supports and brackets. Remove jack. If vehicle is equipped with automatic transmission, remove oil cooler lines and position out of way. Remove oil pan attaching bolts and remove oil pan.

3) When installing, coat oil pan gasket and block surface with sealer. Oil pan gasket is a 2-piece type.

### "E" MODELS WITH 7.5L ENGINE

1) Remove engine cover and air cleaner assembly. Disconnect battery and drain cooling system. Disconnect throttle and transmission linkage at carburetor. Disconnect power brake vacuum line. Disconnect fuel line, choke lines, and air cleaner adapter from carburetor.

2) Disconnect radiator hoses and transmission oil cooler lines. Remove fan assembly, shroud and radiator. Remove power steering pump and position to one side with hoses connected. Remove oil dipstick tube and engine mount attaching bolts. Remove oil filler tube and bracket.

3) If equipped, remove air conditioning lines or rotate them downward at rear of compressor to clear dashboard. Raise vehicle on a hoist. Drain crankcase and remove oil filter. Remove exhaust crossover pipe from exhaust manifolds. Disconnect manual and kickdown linkage from transmission. Remove drive shaft and coupling shaft assembly. Remove transmission tube assembly.

4) Remove dipstick and tube from oil pan. Position a jack under oil pan and raise engine about 4" or until transmission touches floor board. Insert wooden blocks between engine and mounts to support engine.

**NOTE:** Engine and transmission will pivot around rear engine mount. Engine must remain centered in engine compartment to achieve required lift.

5) Remove oil pan attaching bolts and lower oil pan onto crossmember. Remove oil pump and pickup tube assembly and lay in oil pan. Remove oil pan.

**NOTE:** Torque specifications for components may be found in Engine Removal Section.

## GENERAL MOTORS

### 4-CYLINDER ENGINES

1) Remove engine. Remove oil pan attaching hardware. Remove oil level gauge guide tube from intake manifold and oil pan. Remove oil pan.

2) When installing, apply a thin coat of sealer to each end of gasket and at seams of rear main and front cover. Align holes of gasket on block and install oil pan.

# Oil Pan Removal

## GENERAL MOTORS (Cont.)

### 6-CYLINDER ENGINES

#### 4.1L & 4.8L ENGINES

##### Van Models

1) Disconnect negative battery cable and remove engine cover. Remove air cleaner and studs. Remove fan guard. Remove radiator upper supports. Raise vehicle.

2) If vehicle is equipped with manual transmission, perform the following steps before continuing: Disconnect clutch cross shaft from left front mount bracket. Remove transmission-to-bell housing upper bolt. Remove transmission rear mount bolts and install two  $\frac{7}{16}$ " x 3" bolts. Raise transmission using jack and install 2" block between mount and crossmember.

##### Except Van Models

1) Disconnect negative battery cable. Raise vehicle and drain engine oil. Remove starter and flywheel splash shield or torque converter housing underpan as applicable.

2) Remove bolts from front engine mount. Raise front of engine, reinstall mount bolts, and lower engine. Remove oil pan bolts and oil pan.

### V6 ENGINES

1) Remove engine. Remove oil pan attaching hardware. Remove oil pan.

2) When installing, apply a  $\frac{1}{8}$ " (3 mm) bead of sealer on entire oil pan sealing flange. Align holes of gasket on block and install oil pan.

3) Remove starter and drain engine oil. Remove engine mount bolts. Raise engine sufficiently to insert wooden blocks between engine mounts and crossmember brackets.

4) Remove flywheel splash shield or torque converter cover as applicable. Remove oil pan attaching bolts and remove oil pan.

### V8 ENGINES

#### 5.0L & 5.7L ENGINES

1) Raise vehicle on hoist and drain engine oil. Remove exhaust crossover pipe. On vehicles with automatic transmissions, remove converter housing underpan.

2) On 4-WD pickups models with automatic transmission, remove strut rods at engine mounts. On all models, remove oil pan mounting bolts and oil pan.

#### 7.4L ENGINE

1) Disconnect negative battery cable. Loosen fan shroud. Remove air cleaner and distributor cap. Raise vehicle and drain oil. On models equipped with manual transmission, remove starter.

2) Remove flywheel splash shield or converter cover as applicable. Remove oil filter. On gauge equipped models, remove oil pressure line from block. Remove front engine mount through bolts. Raise engine and remove oil pan bolts and oil pan.

#### 6.2L DIESEL ENGINE

1) Disconnect negative battery cables. Raise vehicle and drain engine oil. Remove transmission dust cover.

2) Remove oil pan bolts. Remove left engine mount bolt. Raise engine and remove oil pan.

3) When installing, apply a  $\frac{1}{32}$ " bead of sealer on entire oil pan sealing flange. Sealer must be wet to the touch when bolts are tightened.

**NOTE:** Torque specifications for components may be found in Engine Removal Section.

## JEEP

### 4-CYLINDER ENGINES

1) Disconnect negative battery cable. Raise vehicle and drain oil. Remove starter. Remove oil pan bolts and oil pan.

2) When installing, apply small amount of sealer in depression where oil pan gasket contacts block.

### 6-CYLINDER ENGINES

1) Disconnect negative battery cable. Raise vehicle and drain oil. Remove starter.

2) On "CJ" models, position a jack under transmission housing, disconnect right support cushion bracket from block and raise engine enough to gain clearance for oil pan removal.

3) On all models, remove oil pan attaching bolts, oil pan, seals, and side gaskets.

4) When installing, apply sealer to side gaskets and oil pan gasket ends.

### V8 ENGINES

1) Disconnect negative battery cable and drain engine oil. If equipped with manual transmission, bend tabs down on dust shield to aid engine removal. Remove oil pan attaching bolts and oil pan.

2) When installing, apply sealer to oil pan gaskets and ends.

**NOTE:** Torque specifications for components may be found in Engine Removal Section.