

Engine Removal

CHRYSLER CORP.

6 CYLINDER ENGINES

225" "B" & "PB" MODELS

1) Remove engine compartment cover, disconnect battery, then drain cooling system and crankcase. Remove front bumper, grille and support brace. Disconnect radiator hoses, then remove radiator and support as an assembly. Remove power steering pump and air pump (with hoses attached) and position to one side. Disconnect throttle linkage, heater and vacuum hoses, and all electrical connections to coil, alternator and engine accessories.

2) Remove alternator, fan, pulley, heater blower motor and oil dipstick tube. Disconnect flexible line to fuel pump. Raise engine slightly and support rear of engine using suitable tool (C-3809). Raise vehicle on hoist and remove starter and distributor. Remove drive shaft and engine rear support. Disconnect all linkage, lines, electrical leads and cables to transmission. Support transmission using suitable floor jack and remove rear support bolts and housing to engine attaching bolts, then remove transmission from vehicle.

NOTE — If equipped with automatic transmission, separate torque converter from drive plate.

3) Remove clutch assembly and flywheel or drive plate from crankshaft. Remove oil pan and lower vehicle on hoist. Remove intake manifold and attach suitable lifting fixture tool (C-4145) on the third, fourth and fifth manifold lower studs on cylinder head and to engine bracket front bolt. Attach hook of suitable crane to lifting fixture and raise slightly to support engine. Remove support tool from rear of engine and front motor mounts from engine. Carefully remove engine from front of vehicle.

225" ALL OTHER MODELS

1) Remove hood, marking hinge positions for reassembly. Drain cooling system and crankcase. Disconnect battery cables and remove battery. If equipped with air conditioning, discharge system and disconnect compressor lines. *NOTE* — Cap lines to keep moisture or dirt from entering system. Disconnect electrical connections to engine, body-to-ground straps, flexible fuel line to fuel pump, radiator hoses and heater hoses. Disconnect oil cooler lines if equipped.

2) Remove air cleaner, carburetor, distributor cap, rotor and spark plug wires. Install suitable lifting fixture to cylinder head. Remove radiator and fan. Raise vehicle on hoist and install suitable engine support fixture tool (C-3487-A) to support rear of engine. Disconnect exhaust pipe from manifold.

3) Disconnect drive shaft, wires, linkage, cable and oil cooler lines at the transmission. Remove engine rear support crossmember. Support transmission using suitable jack and remove transmission housing-to-engine attaching bolts. Remove transmission from vehicle.

4) Lower vehicle and attach suitable chain hoist to lifting fixture, then raise slightly to relieve strain on front motor mounts. Remove front mount top stud nuts and washers. Raise engine and remove from vehicle.

V8 ENGINES

318", 360" & 440" "B" & "PB" MODELS

1) Drain cooling system and crankcase, disconnect battery and remove oil filter. Remove engine compartment cover and air cleaner. If equipped with air conditioning, discharge system and disconnect compressor lines. *NOTE* — Cap lines to keep moisture and dirt from entering system. Remove front bumper, grille and support brace.

2) Disconnect radiator hoses, then remove radiator, condenser and support as an assembly. Remove air conditioning compressor from vehicle and remove power steering pump with hoses attached (position to one side). Disconnect throttle linkage, heater and vacuum hoses and electrical connections to engine.

3) Remove alternator, fan, pulley and heater blower motor. Disconnect flexible line to fuel pump and remove oil dipstick tube. Remove intake manifold and left exhaust manifold. Remove right rocker arm cover (if equipped with air conditioning) to provide clearance at expansion valve and receiver/dryer during removal.

4) Raise engine slightly and support rear of engine using suitable tool (C-3809). Raise vehicle on hoist and remove starter. Remove drive shaft and engine rear support. Disconnect all linkage, lines, electrical leads and cables to transmission. Support transmission using suitable floor jack and remove rear support bolts, housing-to-engine attaching bolts, then remove transmission from vehicle.

NOTE — If equipped with automatic transmission, separate torque converter from drive plate.

5) Remove clutch assembly and flywheel or drive plate from crankshaft, then raise rear of engine approximately 2". Rotate crankshaft to position counterweights for oil pan removal. *NOTE* — Maximum clearance is when cut-out or notch of crankshaft flange is at 3 o'clock position. Remove oil pan bolts and lower oil pan so pickup tube and strainer may be moved towards right side for clearance. Remove oil pan from engine.

6) Attach a short chain between centers of cylinder heads and attach hook of suitable crane to chain. Raise crane arm to support engine and remove engine front mounts and fixture supporting rear of engine. Carefully remove engine from front of vehicle.

318", 360" & 440" "AW", "AD", "PW" & "PD" MODELS

1) Mark hinge positions on hood and remove hood from vehicle. Drain cooling system and crankcase. Disconnect battery ground cable. If equipped with air conditioning, discharge system and disconnect compressor lines. *NOTE* — Cap lines to keep moisture or dirt from entering system. Disconnect electrical connections to engine, body-to-ground straps, flexible fuel line to fuel pump, radiator hoses and heater hoses. Disconnect oil cooler lines if equipped.

2) Remove air cleaner, carburetor, distributor cap, rotor and spark plug wires. Install suitable lifting fixture to carburetor flange on intake manifold. Remove fan, spacer (or fluid drive) and radiator. Raise vehicle on hoist and install suitable tool (C-3487A) to support rear of engine. Disconnect exhaust pipes at manifolds.

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3) On models with automatic transmission, remove starter and position to one side. Remove transmission dust cover and attach "C" clamp on front bottom of torque converter housing to prevent converter from coming out. Remove drive plate-to-converter bolts and transmission housing-to-engine bolts.

4) On models with manual transmission, remove skid plate crossmember to underside of frame bolts and front end of skid plate to transmission crossmember bolts. Remove skid plate and disconnect speedometer cable. Disconnect front and rear output shafts. **CAUTION** — Do not allow shafts to hang free. Disconnect shift rods at transfer case, support case with suitable jack and remove extension to case mounting bolts. Move case rearward to disengage front input spline, lower transfer case and remove from under vehicle. Disconnect back-up light switch lead. Support transmission with a suitable jack and remove crossmember. Remove transmission-to-clutch housing bolts, slide transmission towards rear until drive pinion shaft clears clutch disc. Lower transmission and remove from vehicle.

5) Lower vehicle on hoist and attach a suitable lifting device to lifting fixture at carburetor flange. Remove front motor mount insulator top stud nuts and washers. Raise engine and remove from vehicle.

318", 360" & 440" "D" & "W" MODELS

1) Remove hood, marking hinge positions for reassembly. Drain cooling system and crankcase. Disconnect battery cables and remove battery. If equipped with air conditioning, discharge system and disconnect compressor lines. **NOTE** — Cap lines to keep moisture or dirt from entering system. Disconnect electrical connections to engine, body-to-ground straps, flexible fuel line to fuel pump, radiator hoses and heater hoses. Disconnect oil cooler lines if equipped.

2) Remove air cleaner, carburetor, distributor cap, rotor and spark plug wires. Install suitable lifting fixture to carburetor flange on intake manifold. Remove radiator and fan. Raise vehicle on hoist and install suitable engine support fixture tool (C-3487-A) to support rear of engine. Disconnect exhaust pipe from manifolds.

3) Disconnect drive shaft, wires, linkage, cable and oil cooler lines at the transmission. Remove engine rear support crossmember. Support transmission using suitable jack and remove transmission housing-to-engine attaching bolts. Remove transmission from vehicle.

4) Lower vehicle and attach suitable chain hoist to lifting fixture, then raise slightly to relieve strain on front motor mounts. Remove front mount top stud nuts and washers. Raise engine and remove from vehicle.

318" & 440" MOTOR HOME

Engine removal procedure will vary with body configuration. Removal of engine through front end is preferred method, however, inspection of vehicle should be done to determine most practical method to be used. Proceed with one of the three following methods:

Removal From Front End — 1) Remove battery ground cable, drain cooling system and remove radiator. Remove engine cover, passenger seat and any other fixtures which may limit access to top of engine. Disconnect heater hoses and all wires from engine, starter, alternator and ignition. Remove air cleaner, fuel line and carburetor.

2) Install suitable lifting adapter to carburetor mounting pad on intake manifold. Disconnect throttle linkage at transmission, line to fuel pump inlet and exhaust pipes at both manifolds. Use suitable engine support tool (C-3487A) to support engine assembly. Raise engine and transmission assembly slightly and disconnect rear transmission mount, speedometer cable and hand brake cable (if mounted to transmission). Separate engine and transmission and remove transmission from vehicle.

3) **NOTE** — On some models it may be necessary to remove oil pan to obtain sufficient clearance for engine removal. Using suitable hydro-crane, attach hook to lifting fixture, raise engine slightly and remove engine front motor mounts from frame. Carefully remove engine assembly through front of vehicle.

Removal Through Side Door — Proceed as outlined for Removal From Front End while noting the following: Careful measurement of door should be made to ensure engine removal is possible. Engine accessories and exhaust manifolds may have to be removed. Remove engine through side door using suitable hydro-crane.

Removal From Beneath Vehicle — 1) Disconnect battery negative cable and raise vehicle on a two-post truck hoist. Drain cooling system, remove lower radiator hose and disconnect oil cooler lines at radiator. Remove torque converter cover plate and disconnect flex plate from converter. Remove front section drive shaft with center bearing and tie rear section out of the way.

2) Remove starter, hand brake drum from transmission short extension, brake cable, speedometer cable and oil cooler connections at transmission. Use suitable jack to support transmission and remove rear motor mount bolts. Raise transmission and remove crossmember, ground strap and transmission linkage.

3) Block engine up on front hoist support, unbolt transmission from engine, lower transmission jack and remove transmission from vehicle. Lower hoist. Disconnect electrical wiring harnesses, throttle linkage, sending units, vacuum hoses, upper radiator hose and heater connections. Remove fan drive and fan, oil dipstick with tube and power steering hoses.

4) Raise vehicle on hoist and remove fuel line at fuel pump. Install engine holding fixture using transmission jack under engine to obtain clearance. Hook holding fixture side members over frame longitudinals and remove transmission jack. Disconnect front brake tubing and hoses, then loosen front spring hanger bolts. Remove nuts from spring hanger bolts and disconnect drag link from pitman arm.

5) Position four tall jack stands under longitudinal frame members with two jacks on each side between front and rear axle. Remove front eyebolt from front spring hangers, remove strain from spring and drive the eyebolts out of spring eyes. Carefully lower front hoist post with tall jackstands in position. Springs will hang vertically from rear spring shackles.

6) Position transmission jack under engine, then remove front motor mount bolts and support brackets. Remove engine holding fixture. **CAUTION** — Transmission jack with suitable adapter is now sole support of engine. Carefully lower transmission jack until engine clears bottom of vehicle. **NOTE** — Steady engine as jack is lowered.

Engine Removal

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TIGHTENING SPECIFICATIONS

"B" & "PB" MODELS

| Application | Ft. Lbs. |
|---------------------------------|----------|
| Exhaust Pipe Flange | 35 |
| Flex Plate-to-Converter | 22.5 |
| Flex Plate-to-Crankshaft | 55 |
| Flywheel Housing Bolts | |
| $\frac{3}{8}$ " | 30 |
| $\frac{7}{16}$ " | 50 |
| Front Mount-to-Engine | 75 |
| Rear Mount-to-Crossmember | 50 |
| Starter Mount Bolt | 50 |

"AW", "AD", "PW" & "PD" MODELS

| Application | Ft. Lbs. |
|-------------------------------------|----------|
| Exhaust Manifold Nuts & Bolts | 20 |
| Flex Plate-to-Converter | 22.5 |
| Flex Plate-to-Crankshaft | 55 |
| Flywheel-to-Crankshaft | 55 |
| Flywheel Housing-to-Block | 50 |

"D" & "W" MODELS

| Application | Ft. Lbs. |
|-------------------------------------|----------|
| Exhaust Pipe Flange | 30-40 |
| Flex Plate-to-Converter | 22.5 |
| Flex Plate-to-Crankshaft | 55 |
| Flywheel-to-Crankshaft | 55 |
| Flywheel Housing-to-Block | 50 |
| Front Mount-to-Engine | 45-55 |
| Rear Mount-to-Engine | 50 |
| Starter Motor Bolt | 50 |
| Torque Converter Housing Bolt | 30 |

MOTOR HOME

| Application | Ft. Lbs. |
|---------------------------------|----------|
| Exhaust Pipe Flange | 40 |
| Flywheel Housing-to-Block | 50 |
| Front Mount-to-Engine | 50-55 |
| Rear Mount-to-Crossmember | 30 |