

Engine Removal

FORD

6-CYLINDER ENGINES

NOTE: Procedures are for engine removal without transmission attached.

ALL "E" MODELS

1) Open hood and door, remove engine cover. Drain coolant, remove air cleaner and disconnect battery. Remove front bumper. Remove grille and lower gravel deflector as an assembly. Remove radiator hoses.

2) Disconnect transmission oil cooler lines at radiator (if equipped). Remove radiator and shroud. Disconnect heater hoses at engine. Disconnect alternator and move aside. Remove power steering pump drive belt, then remove power steering pump (with support) from engine. Disconnect and plug fuel line at fuel pump.

3) Disconnect distributor wiring, brake booster hose, and accelerator cable and bracket from engine. Disconnect automatic transmission kickdown (if equipped) at bellcrank. Remove exhaust manifold heat deflector and inlet pipe-to-manifold nuts. Disconnect both ends of transmission vacuum line at intake manifold and junction.

4) Remove upper transmission-to-engine bolts. If so equipped, remove automatic transmission dipstick tube support at intake manifold. Raise vehicle on hoist, drain crankcase and remove oil filter. Disconnect and remove starter and flywheel inspection cover. Remove 4 converter nuts (automatic transmission), then remove front engine support nuts. Remove remaining transmission-to-engine bolts. Lower vehicle, install suitable lift chain and remove engine from vehicle.

ALL "F" MODELS & BRONCO

1) Drain cooling system and crankcase. Remove hood and mark hinge positions for reassembly. Disconnect negative battery cable. Remove A/C compressor and condenser. Remove radiator and heater hoses. Remove flexible fuel line at fuel pump.

2) Remove radiator, fan and water pump pulley. Disconnect accelerator cable at carburetor and remove retracting spring. Disconnect engine wiring, transmission kickdown rod at bellcrank assembly (automatic transmissions). Disconnect battery and engine ground straps. Disconnect exhaust manifold from exhaust pipe. On vehicles with power brakes, disconnect vacuum line at intake manifold.

3) Remove alternator mounting bolts and position alternator to one side with wires attached. If equipped with power steering, remove pump from mounting brackets and place to one side with lines attached. If equipped with A/C, bleed system and disconnect lines at compressor.

4) Raise vehicle on hoist. Remove starter, automatic transmission fluid filler tube bracket (if equipped) and engine rear plate upper right bolt. On vehicles with manual transmission, remove flywheel housing lower retaining bolts and disconnect clutch retracting spring.

5) On vehicles with automatic transmission, remove converter housing access cover, flywheel-to-converter nuts and secure converter assembly in housing. Remove transmission oil cooler lines from clip at engine and converter housing-to-engine lower retaining bolts.

6) Remove insulator-to-intermediate support bracket nut from each front engine support. Lower vehicle and support transmission with a floor jack. Remove

remaining flywheel or converter housing-to-engine bolts. Attach lifting device to engine. Raise engine slightly and carefully pull from transmission. Remove engine from vehicle.

V6 ENGINES

ALL "F" MODELS

1) Drain cooling system. Disconnect negative battery cable. Disconnect under hood wiring connector, if equipped. Mark position of hood hinges and remove hood. Remove air cleaner assembly with intake duct and heat tube attached.

2) Remove fan shroud and cooling fan. Loosen drive belt idler and remove water pump pulley. Disconnect coolant hoses from radiator. Disconnect thermactor hose from downstream air tube check valve. Remove downstream air tube bracket attaching bolt at rear of right cylinder head. Remove coil secondary wire.

3) If equipped with power steering, remove pump mounting bracket bolts. Without disconnecting hoses, set pump and bracket assembly aside. If equipped with A/C, remove compressor mounting bracket bolts. Without disconnecting hoses, set compressor and bracket assembly aside. Remove alternator and set aside. Disconnect heater hoses from heater tube.

4) If equipped with speed control, disconnect servo chain at carburetor, remove servo bracket attaching screws and servo. Disconnect vacuum hoses and wiring as required. Remove engine ground strap. Disconnect transmission linkage at carburetor. Disconnect accelerator cable and remove cable bracket. Disconnect fuel supply line and PCV hose at carburetor. Remove carburetor.

5) With EGR spacer and gasket in position, attach engine lifting plate (T75T-6000-A) over carburetor studs and tighten nuts. Use studs only to mount lifting plate to prevent damage to aluminum intake manifold. When using lifting plate, do not remove engine with transmission attached.

6) Raise vehicle and drain crankcase. Disconnect and plug flexible fuel line at fuel pump. Remove transmission converter housing dust shield. Remove flex plate-to-torque converter nuts. Remove starter and transmission oil cooler line clips. Remove exhaust manifolds.

7) Remove transmission-to-engine lower attaching bolts (2 on each side). Remove engine mount-to-crossmember nuts. Lower vehicle and position a jack under transmission to support transmission assembly. Remove 2 upper transmission-to-engine bolts.

8) Protect radiator with plywood. Raise engine and carefully pull out of engine compartment. While lifting engine free of vehicle, avoid bending or damaging rear cover plate, radiator and other components.

V8 ENGINES

ALL "F" MODELS & BRONCO

1) Drain cooling system and crankcase. Remove hood and hinges. Disconnect battery and ground cables from cylinder block. Remove air cleaner and intake duct assembly with crankcase ventilation and carbon canister hoses attached.

2) Disconnect radiator hoses and transmission oil cooler lines (if equipped). If equipped, discharge A/C

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system, remove condenser, and disconnect compressor lines. Remove fan shroud, radiator, fan, spacer and pulley. Remove alternator attaching bolts and position aside. Disconnect flexible fuel line at fuel tank line, vacuum lines, carbon canister hose, heater hoses and electrical wiring.

3) Disconnect accelerator cable, transmission shift rod and speed control linkages from carburetor, then remove retracting spring (if equipped). Disconnect power brake booster vacuum hose, if equipped. Remove flywheel housing-to-engine upper bolts.

4) Raise front of vehicle. Remove starter, then disconnect exhaust pipes from manifolds. Disconnect engine mounts from brackets at frame and remove remaining flywheel housing-to-engine bolts. If equipped with automatic transmission, remove converter inspection plate and converter-to-flywheel attaching bolts.

5) Lower vehicle and support transmission with a floor jack. Install lifting brackets on front of left cylinder head and rear of right cylinder head. Attach lifting sling and carefully raise engine and pull it from transmission. Lift engine from vehicle taking care that rear cover plate is not bent or other components damaged.

ALL "E" MODELS

1) Remove engine cover, open hood and disconnect battery. Drain cooling system, remove grille assembly with deflector and upper grille support bracket. Remove hood lock support and condenser upper mounting brackets (if equipped). Discharge A/C system, remove condenser and disconnect lines at compressor. Disconnect heater hoses, radiator hoses, and oil cooler lines (if equipped).

2) Remove radiator, fan shroud and fan assembly. Disconnect alternator lead wires at alternator, loosen adjusting bolt and pivot alternator toward engine. Remove air cleaner assembly with duct and valve assembly installed, and exhaust manifold shroud. Remove flexible tube from exhaust manifold stove.

3) Disconnect throttle and transmission linkage at carburetor. Remove accelerator cable bracket from engine. Disconnect fuel, choke, and vacuum lines to carburetor, then remove carburetor. Raise vehicle on hoist. Drain crankcase and remove oil filter. Disconnect exhaust pipes at exhaust manifolds. Disconnect automatic transmission fill tube at cylinder head (if equipped).

4) Remove engine mount attaching bolts and starter. Remove clutch housing-to-engine bolts on manual transmission models. On models with automatic transmission, remove converter inspection cover and remove converter-to-flex plate attaching nuts. Remove adapter plate-to-converter housing bolts and converter housing-to-engine lower bolts.

5) Remove ground cable-to-cylinder block. Lower vehicle and support transmission using a floor jack. Loosen power steering pump bracket and remove front bracket bolts. Disconnect vacuum line at rear of intake manifold, and engine wire loom. Remove speed control servo and accelerator cable bracket from intake manifold and position to one side.

6) Disconnect air conditioning compressor wire. Install lifting brackets to intake manifold. Remove 2 converter housing-to-engine upper bolts. Connect a lifting hoist and carefully move engine forward in engine compartment. Remove engine from vehicle.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Front Mount-to-Engine	
6-Cyl. "F" Models & Bronco	60-80 (81-108)
6-Cyl. "E" Models	50-70 (68-95)
V6	60-80 (81-108)
V8	50-70 (68-95)
Rear Mount-to-Engine	
6-Cyl. "F" Models & Bronco	60-80 (81-108)
6-Cyl. "E" Models	50-70 (68-95)
V6	60-80 (81-108)
V8	55-65 (75-88)
Converter Housing-to-Engine	
C-5 Transmission	28-38 (38-51)
C-6 Transmission	40-50 (54-68)
Converter-to-Flywheel	20-30 (27-41)
Flywheel Housing-to-Engine	
New Process 435 4-Speed Trans.	33-45 (45-61)
Ford 3.03 3-Speed Trans.	40-50 (55-65)
4-Speed Transmission	40-50 (55-65)