

FORD MOTOR CO.

4 CYLINDER MODELS

1) Mark hinges for reinstallation and remove hood. Drain crankcase and cooling system. Disconnect all electrical wiring, vacuum and water hoses. Remove radiator and fan. Remove A/C compressor from mounting bracket and lay aside with refrigerant lines attached.

2) Disconnect flexible fuel line from fuel tank line and remove starter. Raise vehicle and remove flywheel or converter housing upper bolts. Disconnect exhaust pipe at manifold, then right and left engine mounts at underbody bracket. Remove flywheel or converter housing cover.

3) With manual transmission, remove flywheel housing lower bolts. With automatic transmission, disconnect converter from flywheel and remove converter housing lower bolts.

4) Lower vehicle and support transmission on a jack. Attach suitable hoisting tackle to engine lifting brackets and remove engine from vehicle.

6 CYLINDER MODELS

1) Mark hinges for installation and remove hood. Drain crankcase and cooling system, disconnect battery and remove air cleaner. Disconnect all radiator and heater hoses and remove radiator. Remove fan, spacer, belt, and pulley. Disconnect accelerator linkage, fuel line, all electrical connections, and vacuum lines at engine.

NOTE — If engine is equipped with Thermactor system, remove or disconnect all components of system that will interfere with removal of engine.

2) On models equipped with power steering or air conditioning, remove unit from mount and lay aside with hoses attached. Remove starter.

3) On manual transmissions, disconnect the clutch retracting spring. Disconnect clutch equalizer shaft and arm bracket at underbody and remove.

4) Raise vehicle and remove flywheel or converter housing upper attaching bolts. Disconnect muffler inlet pipe at exhaust manifold. Disconnect right and left engine mounts at underbody bracket. Remove flywheel or converter housing cover.

5) Lower vehicle and support transmission on a jack. Attach suitable hoisting tackle to engine lifting brackets and remove engine from vehicle.

V6 MODELS

1) Mark hinges for reinstallation and remove hood. Drain cooling system and crankcase, then disconnect battery cables.

Remove air cleaner and intake duct assembly. Disconnect all coolant and vacuum hoses and fuel lines. Remove radiator and fan shroud.

NOTE — If engine is equipped with Thermactor system, remove or disconnect all components of system that will interfere with removal of engine.

2) Disconnect alternator ground wire and remove alternator with bracket. Disconnect all wiring, engine-to-body ground straps, carburetor linkage, and brake booster line. Raise vehicle, remove starter, and disconnect exhaust pipes from manifolds. Remove front support through-bolts.

3) On automatic transmissions, remove converter inspection cover, disconnect flywheel from converter, remove downshift rod, and remove converter housing-to-engine block bolts. Remove adapter plate-to-converter housing bolts.

4) On manual transmissions, remove clutch linkage and remove bell housing-to-engine block bolts. Lower vehicle and support transmission. Attach suitable lifting sling to lifting brackets at exhaust manifolds. Carefully remove engine from vehicle.

V8 MODELS

1) Mark hinges for reinstallation and remove hood. Drain crankcase and cooling system. Disconnect battery and alternator ground cables from engine. Remove air cleaner and intake duct assembly. Disconnect all coolant and vacuum hoses, fuel lines and transmission oil cooler lines.

NOTE — If engine is equipped with Thermactor system, remove or disconnect all components of system that will interfere with removal of engine.

2) Remove radiator, A/C condenser, fan, pulley, and starter motor. Position alternator and power steering pump out of way. Isolate A/C compressor and remove from engine.

3) Disconnect all wiring, engine-to-body ground straps, and transmission and carburetor controls. Disconnect exhaust pipes from manifolds. On manual transmission vehicles, remove clutch equalizer bar and any other clutch linkage. On vehicles with automatic transmission, remove converter housing cover and disconnect flywheel from converter. Remove engine front support bolts on all models.

4) Lower vehicle and support transmission with floor jack. Attach suitable lifting sling to engine lifting brackets. Lift engine slightly and pull forward and away from transmission. Lift engine from vehicle.

FORD MOTOR CO. TIGHTENING SPECIFICATIONS

4 CYLINDER MODELS

Application	Ft. Lbs.
Motor Mount-to-Engine	35-60
Motor Mount Through-Bolt	20-30
Motor Mount Bracket-to-Frame	20-30
Rear Mount-to-Trans.	40-60
Rear Mount-to-Crossmember	
Pinto & Bobcat	20-30
Mustang II	30-45
Crossmember-to-Frame	20-30

6 CYLINDER MODELS

Application	Ft. Lbs.
Motor Mount Bracket-to-Engine	17-32
Motor Mount Bracket-to-Frame	30-50
Motor Mount-to-Engine Bracket	20-32
Motor Mount-to-Frame Bracket	40-60
Rear Mount-to-Trans.	
3-Spd. Floor Shift	17-32
All Others	40-60
Rear Mount-to-Crossmember	30-50
Crossmember-to-Frame	20-30

Engine Removal

FORD MOTOR CO. (Cont.)

FORD MOTOR CO. TIGHTENING SPECIFICATIONS (Cont.)

V6 MODELS		V8 MODELS (Cont.)	
Application	Ft. Lbs.	Application	Ft. Lbs.
Motor Mount-to-Engine	35-60	351" M & 400"	
Motor Mount Through-Bolt	20-30	Motor Mount-to-Engine	35-60
Motor Mount Bracket-to-Frame	20-30	Motor Mount Bracket-to-Frame	
Rear Mount-to-Trans.	40-60	LTD II, Cougar, Thunderbird,	
Rear Mount-to-Crossmember		& Continental Mark V	35-50
Pinto & Bobcat	30-45	Ford & Mercury	20-35
Mustang II	20-30	Lincoln Continental	40-55
Crossmember-to-Frame	20-30	Motor Mount Through-Bolt	
		Ford & Mercury	20-35
		Rear Mount-to-Transmission	40-60
		Rear Mount-to-Crossmember	
		LTD II, Cougar & Thunderbird	20-35
		Ford & Mercury	40-60
		Lincoln Continental & Mark V	30-50
V8 MODELS			
Application	Ft. Lbs.		
302" & 351" W		460"	
Motor Mount-to-Engine	35-60	Motor Mount-to-Engine	35-60
Motor Mount Bracket-to-Frame		Motor Mount Bracket-to-Frame	
Granada, Monarch & Versailles	35-60	Ford & Mercury	20-35
LTD II, Cougar & Thunderbird	35-50	Lincoln Continental & Mark V	35-50
Mustang II	20-30	Motor Mount Through-Bolt	20-35
Motor Mount Through-Bolt		Rear Mount-to-Transmission	
Mustang II	20-30	Ford & Mercury	40-60
Rear Mount-to-Trans.		Mark V	20-35
Man. Trans. With Floor Shift	17-32	Rear Mount-to-Crossmember	
All Others	40-60	Ford & Mercury	25-40
Rear Mount-to-Crossmember	30-50	Mark V	30-50
Crossmember-to-Frame	20-30		

GENERAL MOTORS

BUICK

V6 & V8 MODELS

1) Mark hinges for reinstallation and remove hood. Disconnect battery, remove air cleaner and drain cooling system. Remove air conditioning and power steering pump (if equipped). Do not disconnect lines, just position out of way.

2) Remove fan pulleys and drive belts. Disconnect radiator hoses and remove fan shroud. Disconnect all electrical and vacuum connections at engine. Disconnect accelerator cable or linkage at carburetor.

NOTE — On vehicles equipped with 305", 350" or 403" (VIN H, K, L, R and U engines), remove radiator.

3) Raise vehicle and position on safety stands. Disconnect exhaust pipes at manifold and remove flywheel or converter housing cover.

Manual Transmissions — Remove manual transmission with engine. Disconnect propeller shaft, shift linkage and clutch equalizer shaft. Remove motor and transmission mount bolts. Lower vehicle and attach suitable hoist to remove engine.

Automatic Transmissions — Scribe mark aligning converter to flex plate for reassembly. Remove bolts holding converter to flywheel. Disconnect cooler, vacuum lines and starter. Remove bell housing and motor mount bolts.

All Models — Lower vehicle and support automatic transmission with jack and wood block. Raise engine until engine and transmission can be separated. Remove engine.

NOTE — Engine and transmission are removed as an assembly on VIN code "A" & "C" models. All other models, engines must be separated from transmission.

BUICK TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
All Models W/231" V6	
Motor Mount Bracket-to-Frame	25-35
Motor Mount-to-Engine	50-65
Motor Mount Through Bolt	
All Except Skyhawk	40-55
Skyhawk	25-35
Clutch Housing or Auto. Trans-to-Engine	35
All Models With V8	
Motor Mount Bracket-to-Frame	25-35
Motor Mount-to-Engine	50-65
Motor Mount Through-Bolt	40-55
Rear Mount-to-Transmission	45
Rear Mount-to-Crossmember	60