

## GENERAL MOTORS

### 6 CYLINDER ENGINES

#### "C", "K", & "P" MODELS

1) Disconnect battery cables and drain cooling system, then remove air cleaner. Remove hood and engine compartment cover ("P" models only). Disconnect radiator hoses, transmission cooler lines (if equipped) and remove radiator and shroud from vehicle. Remove battery from vehicle on "P" models.

2) Disconnect electrical wiring at engine, accelerator linkage at manifold bellcrank, fuel line (from tank) at fuel pump, heater hoses at engine and vacuum lines at engine. Disconnect oil pressure gauge line (if equipped), emission system lines at carburetor, ground straps and power steering pump at engine bracket (position to one side).

3) Disconnect exhaust pipe at manifold and remove clutch cross-shaft (if equipped). Remove rocker arm cover, fan and pulley. Attach suitable lifting adapter to cylinder head, secure lifting device and raise slightly to remove engine weight from motor mounts. On all except "C" models, support transmission and disconnect transmission from engine, then remove motor mount attaching bolts.

4) On "C" models, remove drive shaft and plug opening in transmission. Disconnect switches, speedometer linkage, shift linkage, oil cooler lines (if equipped) and clutch linkage (if equipped) from transmission. Remove motor mount attaching bolts.

5) To remove engine on "K" models, raise engine and pull forward until disconnected from transmission. Raise engine and remove from vehicle. To remove engine on "P" models, raise engine and push forward to clear crossmember and disconnect from transmission. Remove engine from vehicle. On "C" models with automatic or four speed transmission, remove rear mount crossmember. Raise engine and transmission assembly and pull forward until removed from vehicle.

#### "G" MODELS

1) Remove both headlamp bezels, grille attaching screws, body and radiator support, then remove grille from vehicle. Drain cooling system. Disconnect heater hoses, radiator hoses, transmission oil cooler lines and remove fan guard and radiator. Position headlamp wiring to one side, then remove radiator upper tie bar and center support.

2) Disconnect battery cables at battery and radiator support baffle. Disconnect wiring harness at fuse panel and cowl attachments, and oil pressure gauge (if equipped). Raise vehicle on hoist. Disconnect fuel line from tank at fuel pump, ground straps, speedometer at transmission and transmission at crossmember. Disconnect exhaust pipe at manifold and remove exhaust system from vehicle.

3) Disconnect clutch linkage and/or transmission linkage and remove cross shaft. Remove driveshaft and install plug in transmission extension. Remove engine mount through bolts. Remove crossmember to engine mount bracket (right side only) attaching bolts. Lower vehicle on hoist until approximately 12" from floor.

4) Remove engine compartment cover and air cleaner assembly. Disconnect carburetor linkage and fuel line, then remove carburetor from manifold. Disconnect power brake

vacuum line at inlet manifold, spark plug wires from plugs, then remove ignition coil and engine rear lifting bracket. Attach lifting device to engine and raise slightly and remove right mount frame bracket and mount. Slowly raise engine while moving engine assembly forward and out of vehicle.

### V8 ENGINES

#### "C", "K", & "P" MODELS

1) Disconnect battery cables, drain cooling system and remove air cleaner. Remove hood, disconnect radiator hoses and remove radiator and shroud. Disconnect electrical wiring, accelerator linkage at manifold bellcrank, fuel line (from tank) at fuel pump, heater hoses, oil pressure gauge line (if equipped), vacuum lines and ground straps from engine.

2) Disconnect power steering pump with hoses attached (if equipped) and position to one side. Disconnect exhaust pipe at manifold and TCS switch (if equipped) at transmission. Remove fan, pulley, and clutch cross shaft. Attach suitable lifting device to engine lift brackets and raise slightly to remove weight from engine mounts.

3) On "C" models, remove drive shaft and install plug in transmission extension housing. Disconnect speedometer cable, shift linkage and clutch linkage (as required). Remove engine mount bolts. On vehicles with automatic or four speed transmissions, remove rear mount crossmember. Raise engine and transmission assembly, then pull forward until removed from vehicle.

4) On "P" models remove engine from vehicle as follows: Using suitable crane-type hoist through body front end opening, attach lifting sling to engine. Disconnect transmission from engine assembly, transmission controls, carburetor controls and remove engine cover, front bumper and sheet metal to provide clearance for engine removal. Raise engine and move forward to clear crossmembers and disengage from transmission. Remove engine assembly through front of vehicle.

5) On "K" models, disconnect transmission from engine and transmission to engine controls. Raise engine and pull forward until disconnected from transmission. Raise engine and remove from vehicle.

#### "G" MODELS

1) Remove both headlamp bezels, grille attaching screws, body and radiator support, then remove grille from vehicle. Drain cooling system. Disconnect heater hoses, radiator hoses, transmission oil cooler lines and remove fan guard and radiator. Position headlamp wiring to one side, then remove radiator upper tie bar and center support.

2) Disconnect battery cables at battery and radiator support baffle. Disconnect wiring harness at fuse panel and cowl attachments, and oil pressure gauge (if equipped). Raise vehicle on hoist and disconnect fuel line (from tank) at fuel pump, ground straps, speedometer at transmission, and transmission at crossmember. Disconnect exhaust pipe at manifolds.

# Engine Removal

## GENERAL MOTORS (Cont.)

3) Disconnect clutch linkage and/or transmission linkage and remove cross shaft. Remove drive shaft and install plug in transmission extension. Remove engine mount-to-crossmember bracket attaching bolts. Remove engine mount through bolts, then raise engine and remove bracket and mount as an assembly. Position blocks between engine and crossmember, then lower engine onto blocks. Lower vehicle on hoist until approximately 12" from floor.

4) Remove engine compartment cover and air cleaner assembly. Disconnect carburetor linkage and fuel line, then remove carburetor from manifold. Disconnect power brake vacuum line at inlet manifold. Remove the two forward center inlet manifold bolts attach lifting device to engine. Raise engine while moving the engine assembly forward and out of the vehicle.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Flywheel Housing-to-Engine .....	30
Rear Mount Crossmember-to-Frame.....	25
Rear Mount-to-Crossmember .....	35-45
Transmission Housing-to-Engine .....	30-35
Converter-to-Flywheel.....	30-35
Drive Axle Nut (Motor Home).....	110
Final Drive-to-Support Bracket.....	105
Final Drive Bracket-to-Engine.....	50
Inner Constant Velocity Joint.....	65
Output Shaft Bracket-to-Engine .....	55
Support Bracket-to-Crossmember .....	50
Support Bracket-to-Transmission.....	35
Venturi Ring-to-Bracket.....	20