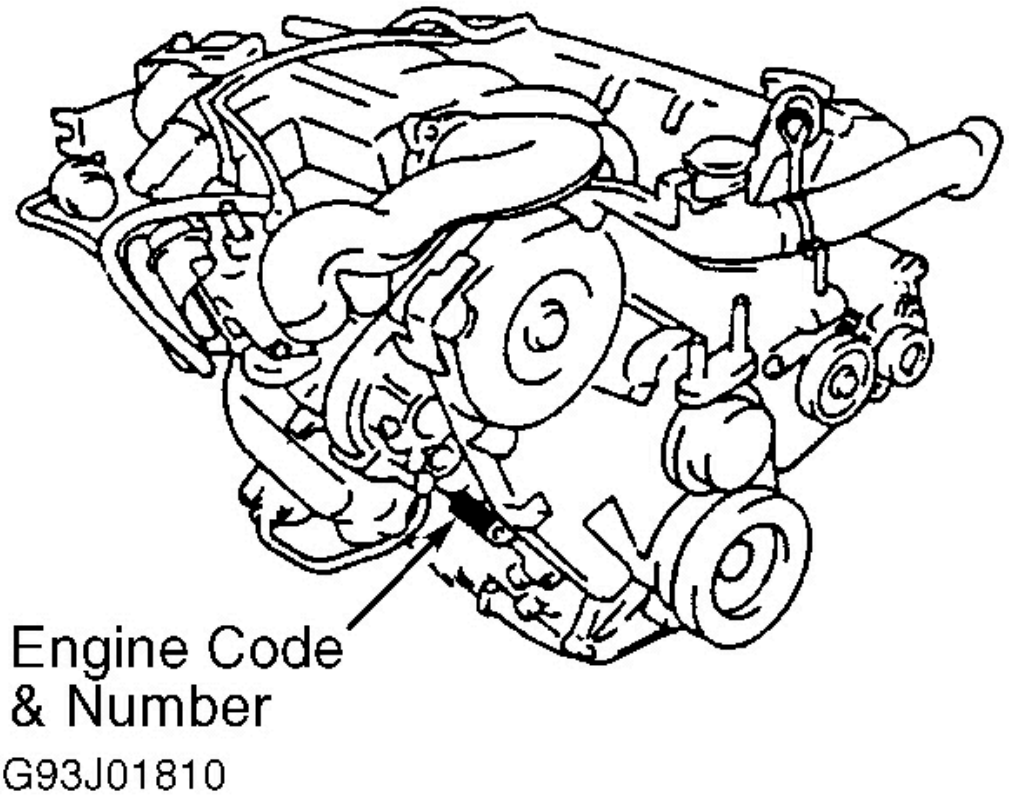

Fig. 1: Identifying Engine Code & Number
Courtesy of MAZDA MOTORS CORP.

ADJUSTMENTS

VALVE CLEARANCE ADJUSTMENT

1. No valve clearance adjustment is required, as hydraulic valve lash adjusters are used. If noise exists when engine is started, operate engine at 2000-3000 RPM for 10 minutes.
2. If noise stops, valve lash adjuster is operating correctly. If noise still exists, check engine oil level and oil pressure. Oil pressure should be within specification. See ENGINE LUBRICATION SYSTEM under ENGINE OILING. If oil pressure is not within specification, check for defective engine components.
3. If oil pressure is okay, remove valve cover. Push downward on valve lash adjuster. If valve lash adjuster pushes downward, replace valve lash adjuster. See VALVE LASH ADJUSTER under REMOVAL & INSTALLATION. If valve lash adjuster does not push downward, check for worn or damaged camshaft and components.

NOTE: Before installing valve cover, apply sealant on cylinder head at designated areas. See Fig. 8. Valve cover bolts must be tightened to specification in sequence. See Fig. 9.

REMOVAL & INSTALLATION

NOTE: For reassembly reference, label all electrical connectors, vacuum hoses and fuel lines before removal. Also place mating marks on engine hood and other major assemblies before removal.

FUEL PRESSURE RELEASE

1. Start engine. Push release buttons on each corner of rear seat lower cushion. Remove rear seat lower cushion. Disconnect fuel pump electrical connector, located on top of fuel tank.
2. Allow engine to idle until it stalls. Turn ignition off. Reconnect fuel pump electrical connector. Install rear seat lower cushion.
3. Before disconnecting any fuel line connections, cover connection with shop towel to absorb any residual gasoline that may remain in fuel line. Carefully loosen fuel line connection, allowing residual gasoline to be released.

COOLING SYSTEM BLEEDING

1. Fill radiator and coolant reservoir. Start engine and allow to idle until engine is at normal operating temperature and thermostat is open. Accelerate engine to 2200-2800 RPM for 5 minutes.
2. Increase engine to 3000 RPM for 5 seconds at least 4 times. Allow engine to idle. Shut engine off and allow engine to cool.
3. Repeat steps 1) and 2). Remove filler cap. Verify that coolant level is near the filler neck.
4. If coolant level is not near the filler neck, repeat steps 1) - 3). Fill coolant reservoir to the FULL level.

ENGINE

NOTE: Remove engine and transaxle as an assembly.

Removal

1. Release fuel pressure. See FUEL PRESSURE RELEASE under REMOVAL & INSTALLATION. Disconnect negative battery cable. Drain cooling system, engine oil and transaxle fluid. Raise and support vehicle. Remove front wheels.
2. Remove lower engine covers. Remove air intake duct and air cleaner assembly. Remove coolant reservoir. Remove air duct located near battery, battery and battery tray.
3. Disconnect necessary control cables, electrical connections, coolant hoses, vacuum hoses and fuel lines. Disconnect electrical connector from electric cooling fan. Remove shroud upper panel, radiator and electric cooling fan.

CAUTION: To disconnect heater hoses, press tabs inward on retainer on end of heater hose and then separate heater hoses at heater hose joint. DO NOT lose "O" rings and spacers located on heater hose joint.

4. Remove accessory drive belts. Disconnect necessary clamps and power steering pressure switch connector for removal of power steering reservoir. Remove retaining bolts and power steering reservoir with hoses attached, and secure reservoir aside.
5. Remove retaining nut and power steering pump pulley. Remove A/C compressor and power steering pump with hoses attached, and secure components aside.
6. On M/T models, remove clutch release cylinder with hose attached, and secure cylinder aside. Disconnect shift rod and stabilizer rod at transaxle. On A/T models, disconnect shift control cable at transaxle.
7. On all models, disconnect electrical connections at transaxle. Remove front suspension crossmember located below exhaust pipe, and remove front suspension lower control arms.
8. Remove front exhaust pipe located between exhaust manifolds and rear exhaust pipe. Remove retaining nuts and stabilizer bar link located between lower control arm and stabilizer bar.
9. Remove retaining nut and separate tie rod end from steering knuckles. Support engine with hoist. Remove engine mount-to-crossmember nuts. Remove retaining bolts, nuts and engine mount crossmember located below the engine.
10. Remove ball joint-to-steering knuckle retaining through bolt. Remove axle shaft bracket-to-cylinder block retaining bolts. See **Fig. 2**. Pry lower control arm downward and separate ball joint from steering knuckle.
11. Using bar inserted between axle shaft and transaxle, pry axle shafts from transaxle. See **Fig. 2**. Use care not to damage oil seal when removing axle shaft.
12. Remove through bolt, retaining nuts and left (timing belt side) engine mount. Remove retaining bolts and nuts, and separate transaxle mount and bracket from transaxle and body. Lift engine and transaxle from vehicle.

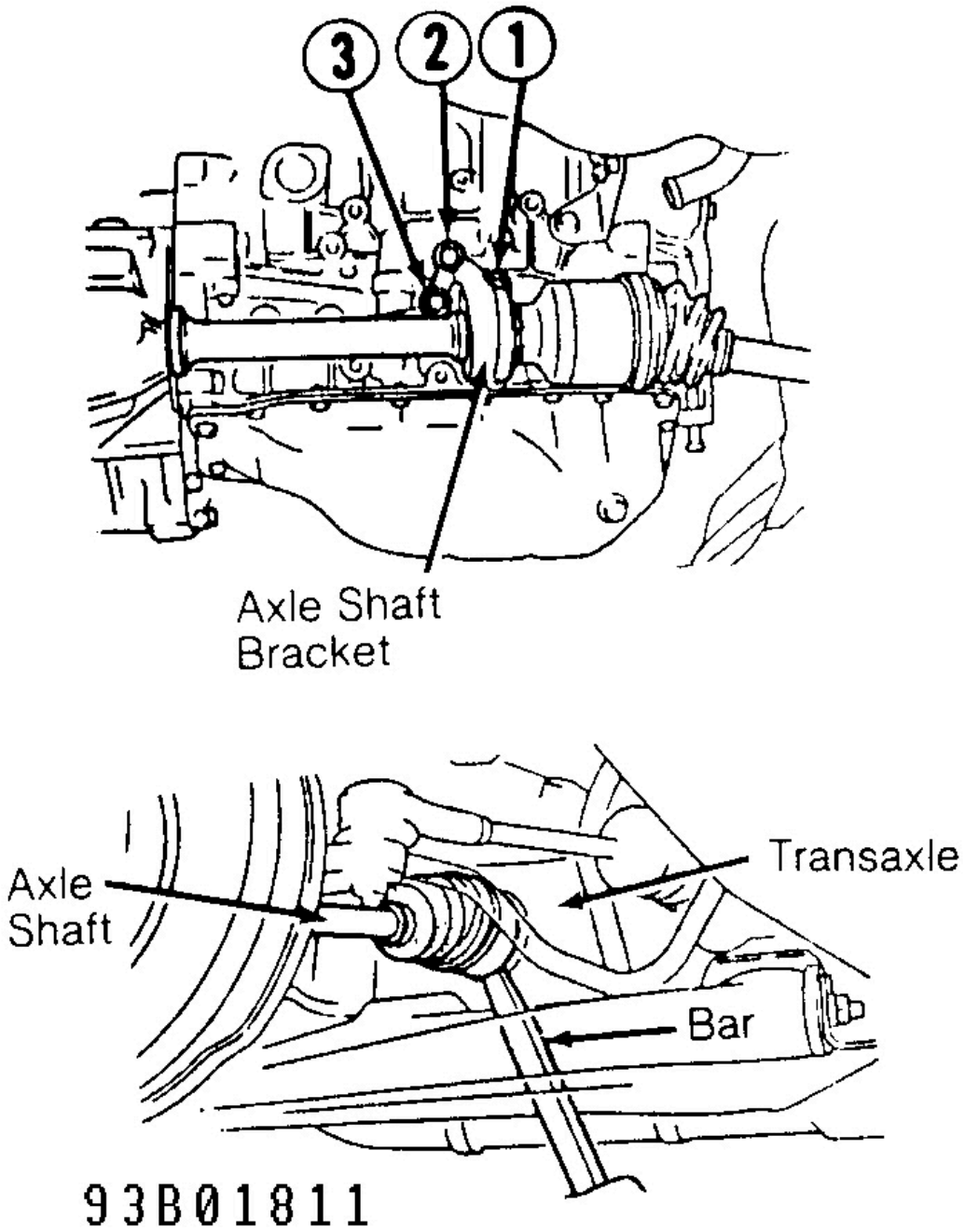

Fig. 2: Removing Axle Shafts & Identifying Axle Shaft Bracket Bolt Installation Sequence
Courtesy of MAZDA MOTORS CORP.

Installation

1. Install engine mount crossmember. Tighten retaining nuts and bolts to specification. See TORQUE SPECIFICATIONS table at end of article. Install engine and transaxle.
2. Install engine mount-to-crossmember retaining nut, and tighten it to specification. Install left (timing belt side) engine mount, through bolt and retaining nuts. Tighten through bolt and retaining nuts to specification. See TORQUE SPECIFICATIONS table.
3. Install transaxle mount and bracket will all bolt and nuts loosely installed. Tighten bracket retaining bolts to specification in sequence, and then tighten retaining nuts to specification. See **Fig. 3**.

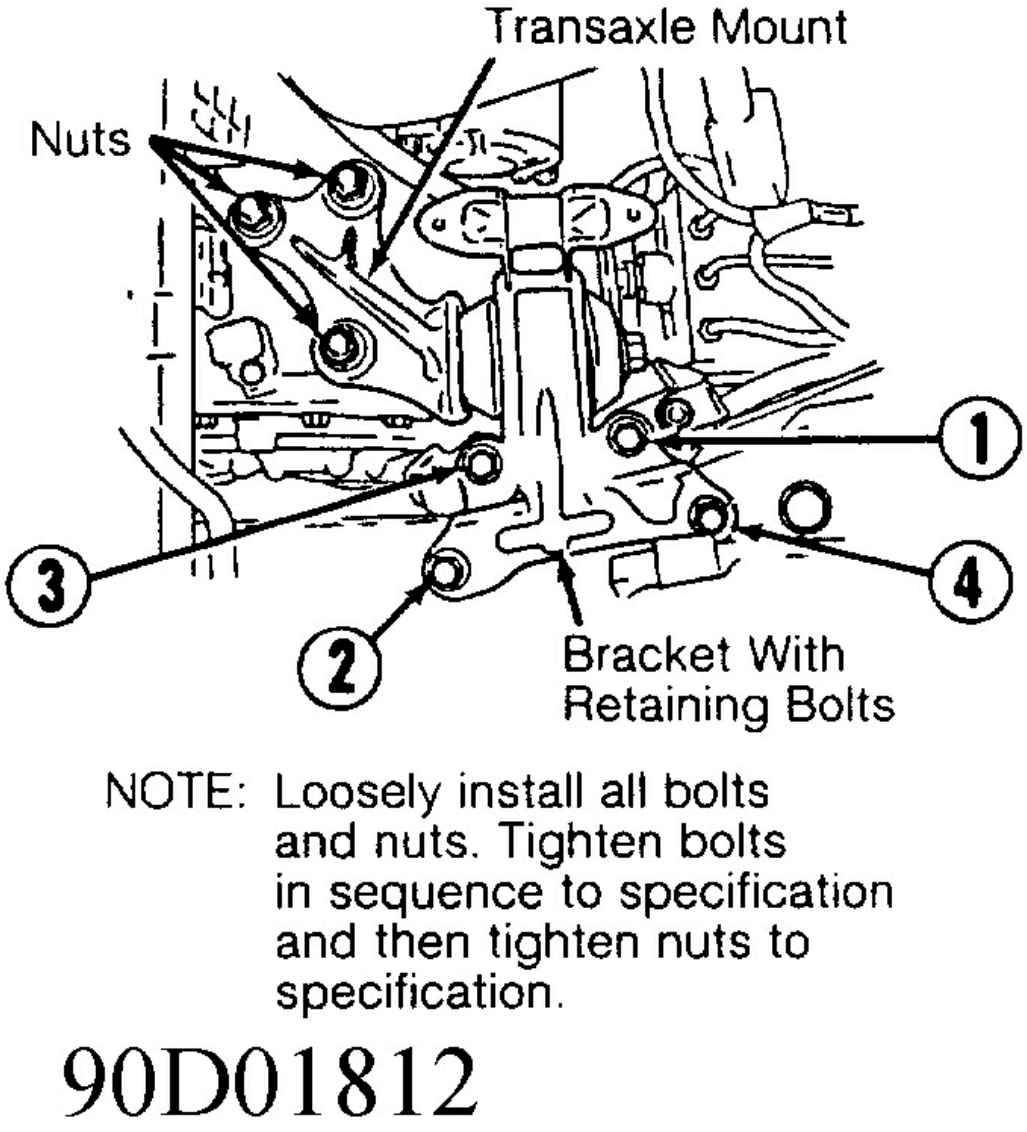

Fig. 3: Transaxle Mount Bracket Bolt Tightening Sequence