

TIMING CHAIN

CAUTION: If cylinder head is installed and timing chain is disconnected, **DO NOT rotate camshaft or crankshaft; valves will contact pistons, resulting in bent valves.**

Removal

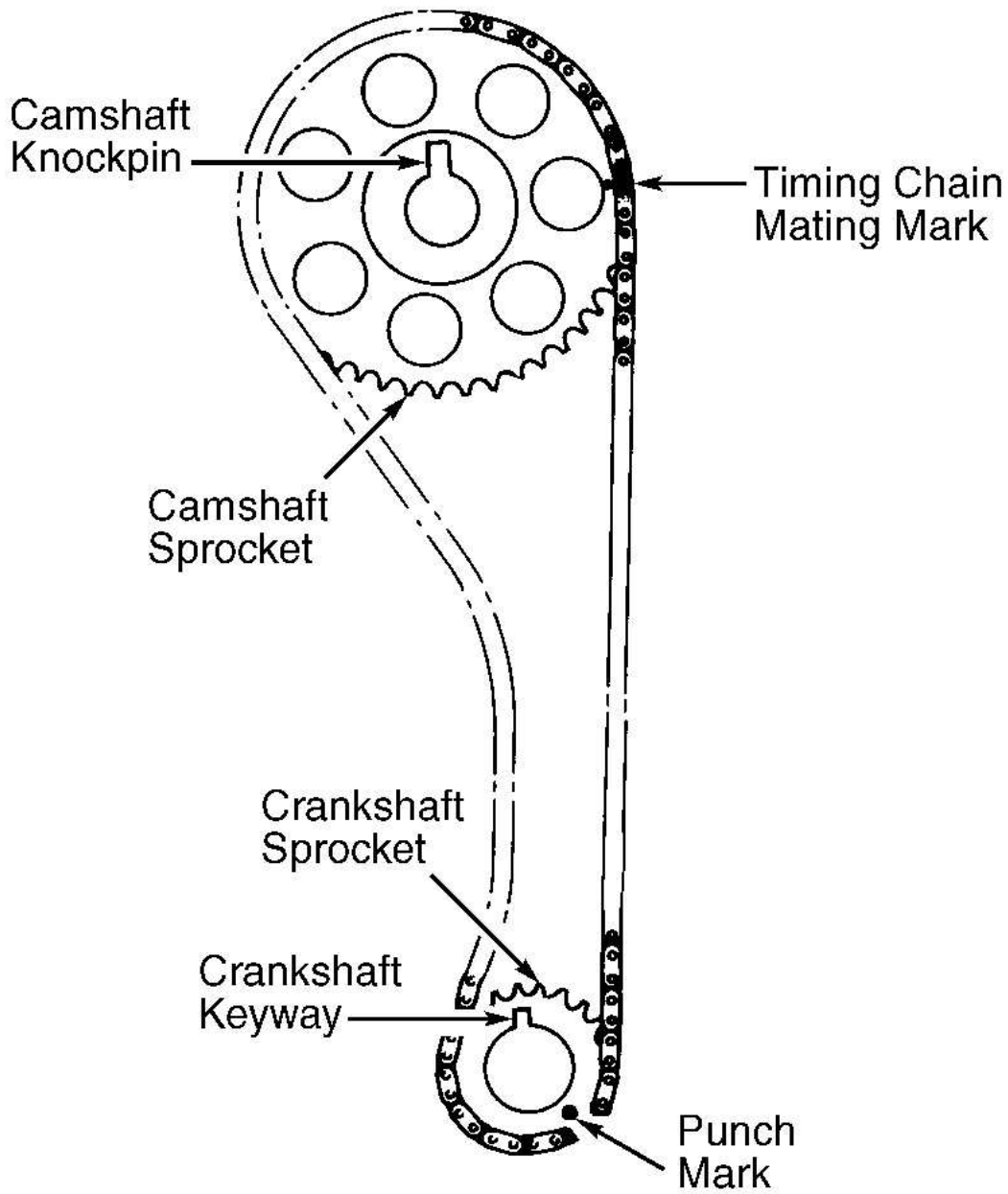
1. Release fuel pressure. See **FUEL PRESSURE RELEASE** under REMOVAL & INSTALLATION. Disconnect negative battery cable. Drain coolant from radiator and cylinder block. Remove radiator shroud and fan. Remove accessory drive belts. Remove spark plugs.
2. Remove distributor cap. Set cylinder No. 1 at TDC of compression stroke (rotate crankshaft until marks on crankshaft pulley and front cover align, and distributor rotor points to spark plug wire No. 1 on cap). Remove distributor. Remove power steering pump, idler pulley and power steering pump brackets.
3. Remove A/C compressor idler pulley (if equipped). Remove crankshaft pulley. Remove oil pump and oil pump drive spindle from right side of front cover. Remove oil pan. See **OIL PAN** under REMOVAL & INSTALLATION. Remove front cover.
4. Remove chain tensioner, chain guides, timing chain and sprocket. Remove oil thrower, oil pump drive gear and crankshaft sprocket.

Inspection

Check chain roller links. Replace chain if roller links are cracked or worn.

Installation

1. Install crankshaft sprocket with sprocket teeth toward front of engine, and shoulder toward rear of engine. Install oil pump drive gear with gear teeth toward front of engine, and shoulder toward rear of engine. Install oil thrower.
2. Ensure cylinder No. 1 is at TDC of compression stroke. Camshaft knockpin (or keyway) and crankshaft sprocket keyway should be at 12 o'clock position. See **Fig. 7**. Install timing chain, aligning timing chain links with timing mark on each sprocket.
3. Tighten camshaft sprocket bolt to specification. See **TORQUE SPECIFICATIONS**. Install chain guide. Install chain tensioner. Apply lithium grease to sealing lip of front cover oil seal. Apply a .08-.12" (2-3 mm) diameter bead of sealant to front cover.
4. Install front cover, ensuring front cover-to-cylinder block oil seals are in position on right sealing surface of cylinder block. Apply sealant to rubber plugs for cylinder head cover. See **Fig. 4**. Install rubber plugs. Install cylinder head cover. Tighten bolts to specification.
5. Install oil pan. See **OIL PAN** under REMOVAL & INSTALLATION. Align punch mark on oil pump drive spindle with oil hole on oil pump. See **Fig. 8**. Using NEW gasket, install oil pump and drive spindle assembly into front cover. Ensure upper end of drive spindle is correctly positioned. Install distributor, ensuring rotor is correctly positioned. To complete installation, reverse removal procedure.



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Fig. 7: Aligning Timing Chain On Crankshaft & Camshaft
Courtesy of NISSAN MOTOR CO., U.S.A.

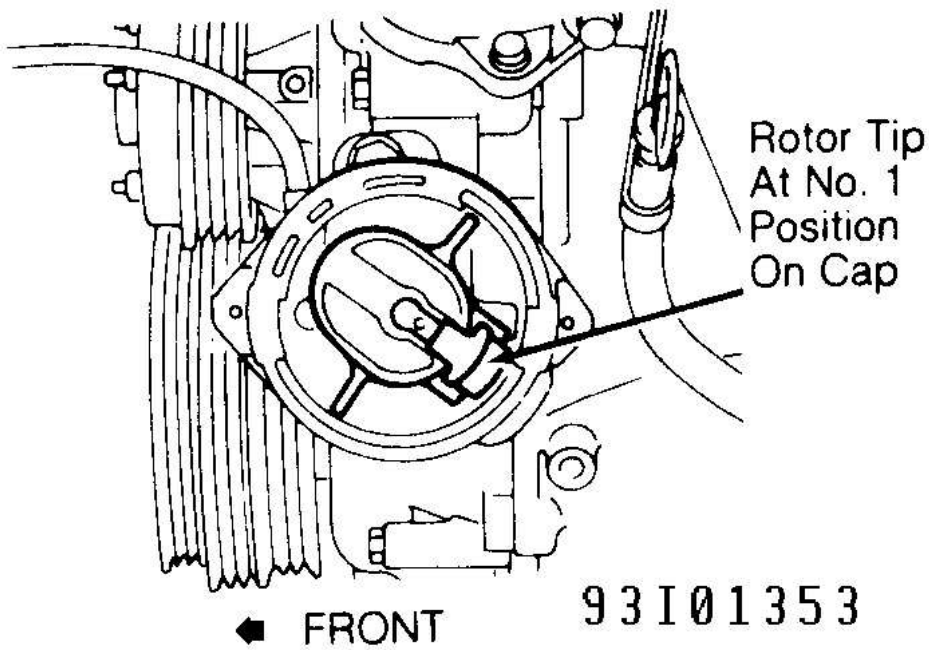
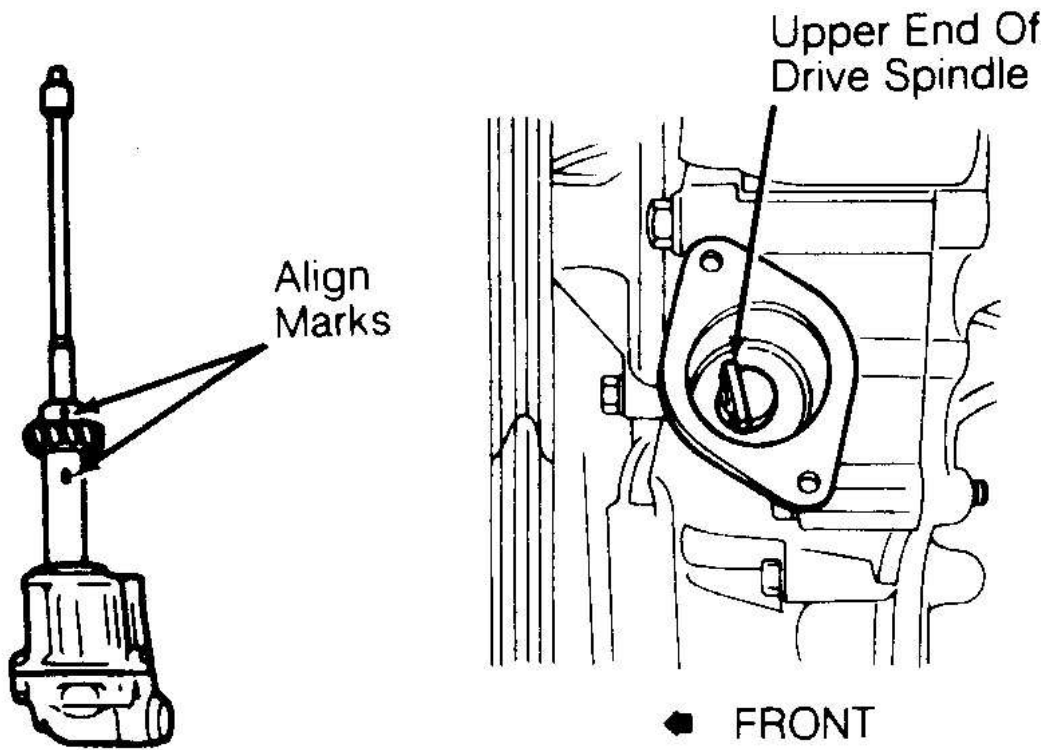


Fig. 8: Installing Oil Pump

1994 Nissan Pickup SE

2.4L 4-CYL 1994 ENGINES Nissan - 2.4L 4-Cylinder

Courtesy of NISSAN MOTOR CO., U.S.A.