

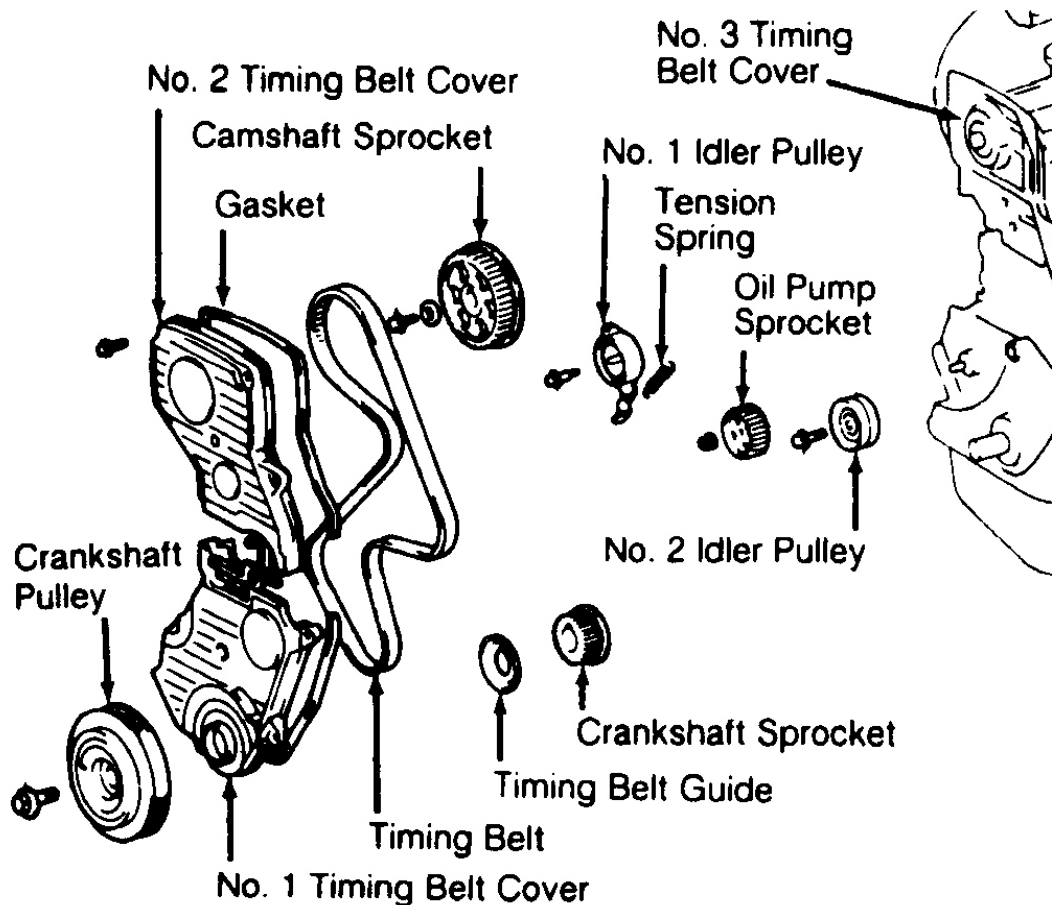
1994 Toyota Camry LE

TOYOTA 2.2L 4-Cylinder - Gasoline

1. Disconnect negative battery cable. Raise and support vehicle. Remove lower engine cover. On Celica and Camry, remove right front wheel. On all models, lower vehicle.
2. On MR2, remove right hood side panel and cruise control actuator. Remove right rear wheel. On Celica and Camry, remove alternator from engine and secure out of way. On Camry, remove coolant reservoir tank if it interferes with timing belt removal. Remove engine control (torque) rod from front of engine.
3. On all models, remove accessory drive belts. Using floor jack, slightly raise engine to remove weight from right (timing belt side) engine mount at timing belt cover.
4. Remove right (timing belt side) engine mount and bracket from front of engine. Remove spark plugs. Remove No. 2 timing belt cover and gaskets. See [Fig. 1](#).
5. Rotate crankshaft clockwise so cylinder No. 1 is at TDC on compression stroke. Cylinder No. 1 is front cylinder at timing belt end of engine.
6. Ensure timing mark on crankshaft pulley aligns with "0" mark on No. 1 timing belt cover. Ensure hole in camshaft sprocket aligns with alignment mark on camshaft bearing cap. See [Fig. 2](#). If hole in camshaft sprocket is not aligned with alignment mark, rotate crankshaft clockwise one full revolution.

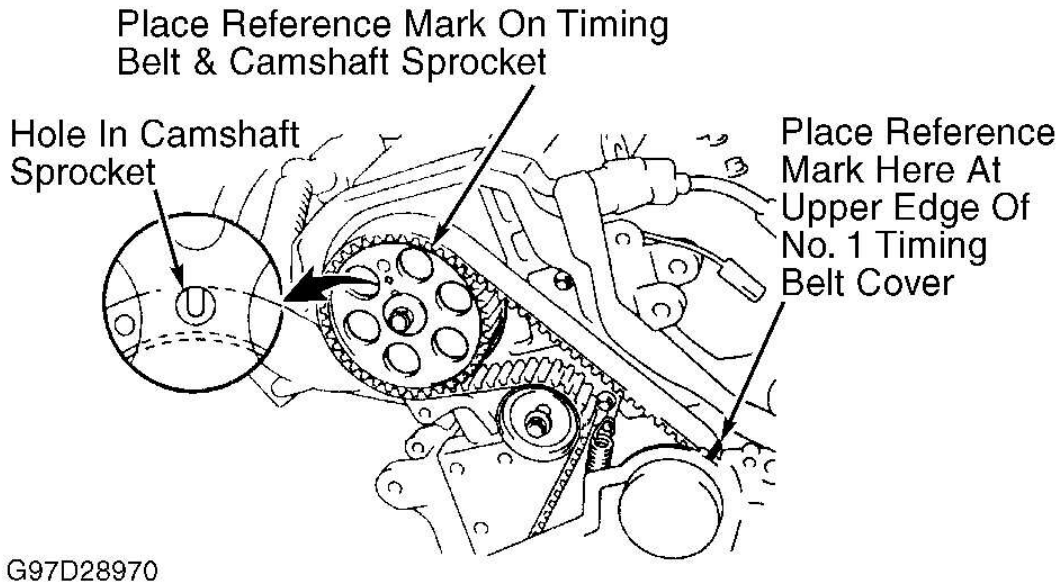
CAUTION: If reusing timing belt, mark direction of timing belt rotation on belt. Place mating marks on timing belt at camshaft sprocket and at crankshaft sprocket for reassembly reference. Also place reference mark on timing belt at upper edge of No. 1 timing belt cover. See [Fig. 2](#).

7. Loosen No. 1 idler pulley bolt. See [Fig. 1](#). Move No. 1 idler pulley outward, away from timing belt as far as possible. Temporarily retighten No. 1 idler pulley bolt. Remove timing belt from camshaft sprocket.
8. Using Pulley Holder (SST 09213-54015) or equivalent, hold crankshaft pulley. Remove crankshaft pulley bolt.
9. Using gear puller, remove crankshaft pulley. Remove No. 1 timing belt cover and gasket. Note direction of timing belt guide installation. See [Fig. 1](#). Remove timing belt guide.
10. Loosen No. 1 idler pulley bolt. See [Fig. 1](#). Remove timing belt from crankshaft sprocket. Remove idler pulleys (if necessary).



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Fig. 1: Exploded View of Timing Belt & Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 2: Aligning Camshaft Timing Marks
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Inspection

1. Inspect timing belt for damaged teeth, cracking or oil contamination. Ensure idler pulleys rotate freely. Replace components if damaged or worn.

NOTE: For 1992-96 Camry, the timing belt tension spring procedure has been revised. See **REVISED TIMING BELT TENSION SPRING PROCEDURE (1992-96 CAMRY)**.

2. Ensure free length of tension spring is within specification. See **TENSION SPRING SPECIFICATIONS** table. Measure free length between from inside edges of hooked portion of spring. Do not measure spring coils. See **Fig. 3**.
3. Measure tension needed to extend tension spring to specified installed length. Replace spring if tension is not within specification. See **TENSION SPRING SPECIFICATIONS** table.

TENSION SPRING SPECIFICATIONS

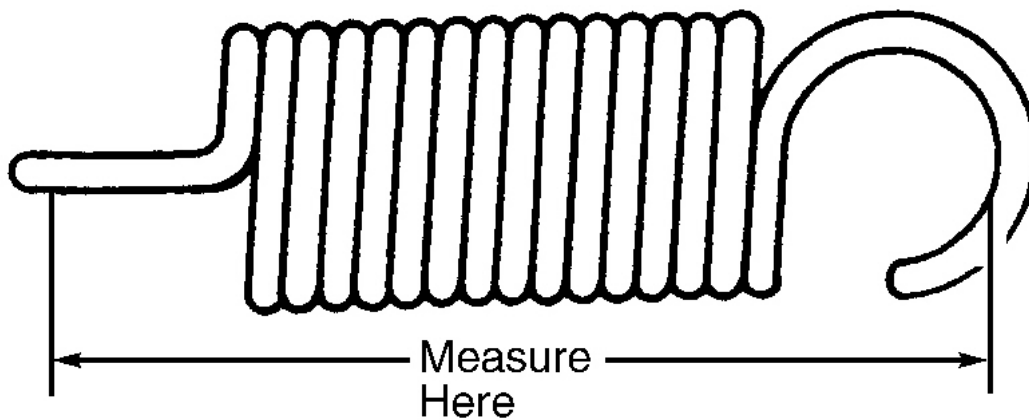
Application	Specification
Free Length	
Except 1999-00 Camry	1.811" (46.00 mm)
1999-00 Camry	1.654" (42.00 mm)
Tension At Spring Installed Length ⁽¹⁾	

many waters gallery

1994 Toyota Camry LE

TOYOTA 2.2L 4-Cylinder - Gasoline

Camry (1992-95)	
Green Spring	7.2-8.3 Lbs. (3.25-3.75 kg)
Silver Spring	10.5-11.6 Lbs. (4.75-5.25 kg)
Camry (1996-01)	7.2-8.3 Lbs. (3.25-3.75 kg)
Camry Solara	7.2-8.3 Lbs. (3.25-3.75 kg)
Celica & MR2	7.2-8.3 Lbs. (3.25-3.75 kg)
(1) At 1.988" (50.50 mm).	



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[Fig. 3: Measuring Tensioner Spring Free Length](#)

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Revised Timing Belt Tension Spring Procedure (1992-96 Camry)

From Toyota technical service bulletin EG001-99; January 29, 1999: For 1992-96 Camry, the timing belt tension spring procedure was revised. When replacing the timing belt on 1992-96 Camry with 2.2L, tension spring MUST be replaced. The revised tension spring 0 (Part No. 905-7-17003) is a 13-coil design which replaces the original 10-coil design.

Installation

1. Install No. 2 idler pulley (if removed). Install and tighten bolt to specification. See **TORQUE SPECIFICATIONS** . Ensure idler pulley is clean and rotates smoothly.
2. Install No. 1 idler pulley and tension spring (if removed). Pry No. 1 idler pulley away from timing belt area as far as possible. Temporarily tighten No. 1 idler pulley bolt. Ensure idler pulley is clean and rotates smoothly.
3. Using crankshaft pulley bolt, rotate crankshaft so timing mark on crankshaft sprocket aligns with timing

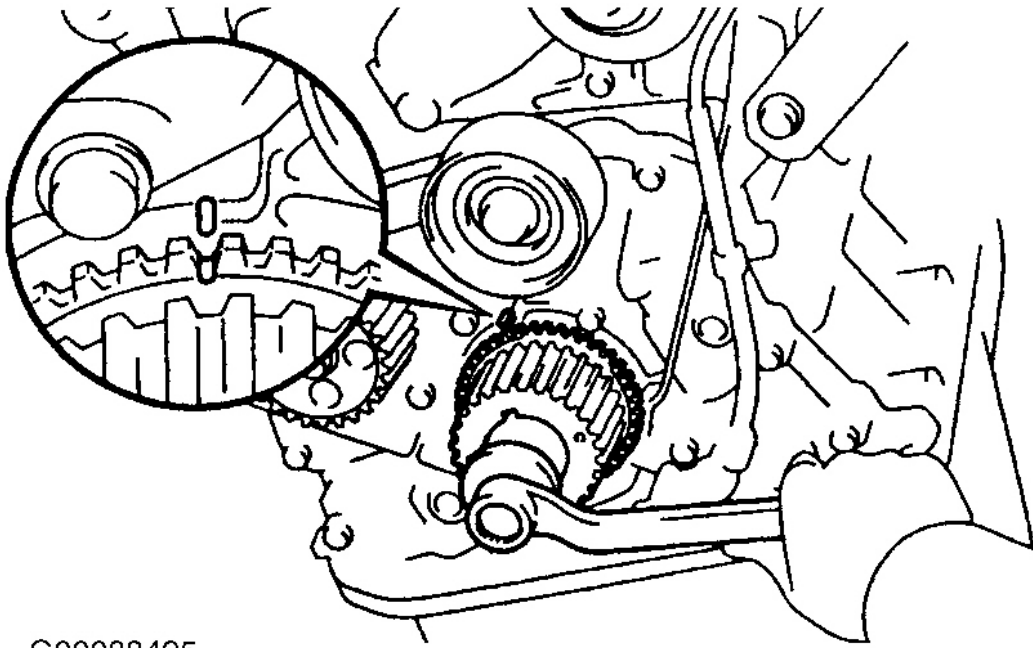
mark on oil pump housing. See [Fig. 4](#) . This will position keyway in crankshaft sprocket at 12 o'clock position.

CAUTION: If reusing timing belt, ensure reference marks on timing belt align with reference marks placed on crankshaft and camshaft sprockets. Ensure timing belt is installed in original direction of rotation.

4. Ensure all sprockets and idler pulleys are clean. Install timing belt on crankshaft sprocket, oil pump sprocket, No. 1 idler pulley, and then No. 2 idler pulley in sequence.
5. Install timing belt guide with cupped side away from crankshaft sprocket and flat side toward timing belt. Install No. 1 timing belt cover and new gasket.
6. Align crankshaft pulley key groove with key in crankshaft. Install crankshaft pulley. Install and tighten crankshaft pulley bolt to specification.
7. Rotate crankshaft clockwise so cylinder No. 1 is at TDC on compression stroke. Ensure timing mark on crankshaft pulley aligns with "0" mark on No. 1 timing belt cover. If reusing timing belt, ensure reference mark on timing belt aligns with upper edge of No. 1 timing belt cover.
8. Rotate camshaft, and align hole in camshaft sprocket with alignment mark on camshaft bearing cap. See [Fig. 2](#) . Install timing belt on camshaft sprocket. If reusing timing belt, ensure reference mark on timing belt aligns with the reference mark on camshaft sprocket. Ensure tension exists on timing belt between the crankshaft and camshaft sprockets.

CAUTION: DO NOT rotate crankshaft counterclockwise, as viewed from timing belt end of engine.

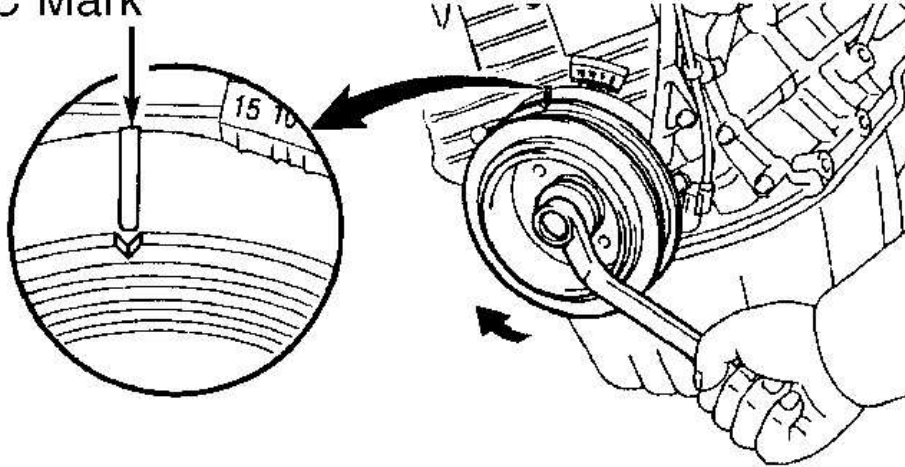
9. Loosen No. 1 idler pulley bolt 1/2 turn. Rotate crankshaft pulley 2 full revolutions clockwise from TDC to TDC.
10. Ensure timing mark on crankshaft pulley aligns with "0" mark on No. 1 timing belt cover, and hole in camshaft sprocket aligns with alignment mark on camshaft bearing cap. See [Fig. 2](#) . If timing marks are not aligned, remove timing belt and reinstall.
11. Rotate crankshaft clockwise 1 and 7/8 revolutions and align crankshaft pulley "0" mark with 45-degree Before Top Dead Center (BTDC) mark on No. 1 timing belt cover. See [Fig. 5](#) .
12. Tighten No. 1 idler pulley bolt to specification. See [TORQUE SPECIFICATIONS](#) . Install No. 2 timing belt cover and gaskets. Install and tighten spark plugs to specification.
13. To install remaining components, reverse removal procedure. Install all bolts/nuts on right (timing belt side) engine mount before tightening to specification.
14. On Camry, when installing control rod and bracket on strut tower and right (timing belt side engine mount), tighten bolts to specification in sequence. See [Fig. 6](#) . On MR2, tighten engine mount bolts in correct locations. See [Fig. 7](#) . Adjust drive belts to proper tension.



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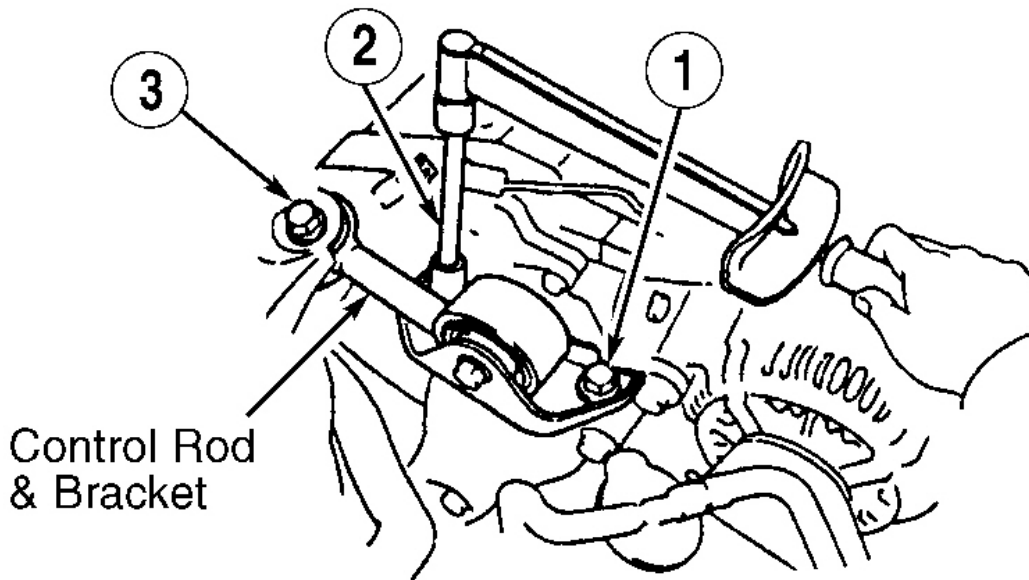
Fig. 4: Aligning Crankshaft Sprocket Timing Marks
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

45 Degree
BTDC Mark



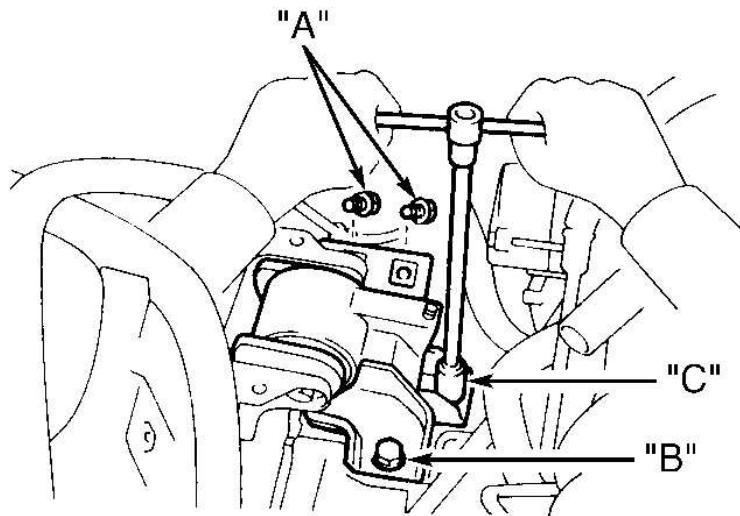
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Fig. 5: Aligning Crankshaft Pulley With 45-Degree BTDC Mark
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

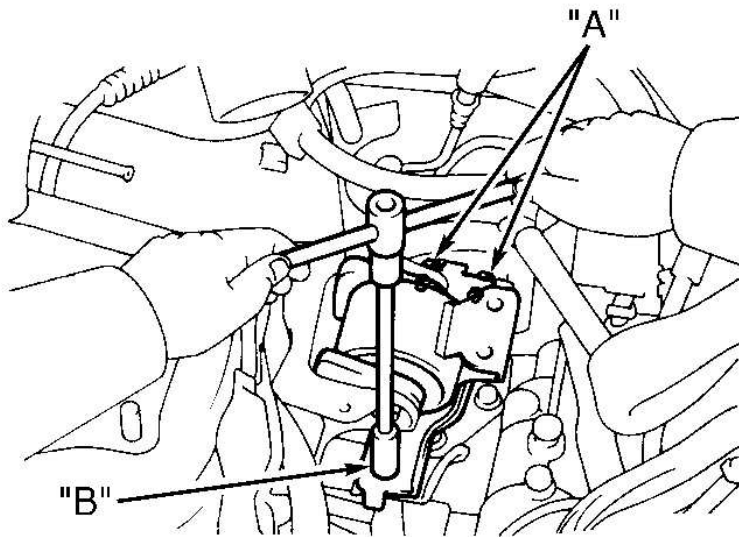


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Fig. 6: Control Rod & Bracket Bolt Installation Sequence (Camry)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



A/T MODELS



M/T MODELS

- Bolt "A" - 47 Ft. Lbs. (64 N.m)
- Bolt "B" - 54 Ft. Lbs. (73 N.m)
- Bolt "C" - 38 Ft. Lbs. (52 N.m)

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Fig. 7: Installing Left (Flywheel Side) Engine Mount Bolts (MR2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TORQUE SPECIFICATIONS

1994 Toyota Camry LE

TOYOTA 2.2L 4-Cylinder - Gasoline

TORQUE SPECIFICATIONS (CAMRY)

Application	Ft. Lbs. (N.m)
Alternator Bracket Bolt	31 (42)
Camshaft Sprocket Bolt	40 (54)
Coolant Outlet Bolt	11 (15)
Crankshaft Pulley Bolt	80 (109)
Engine Mounts & Brackets	
Right (Timing Belt Side) Engine Mount Bracket-To-Cylinder Block Bolt	38 (52)
No. 1 Idler Pulley Bolt	31 (42)
No. 2 Idler Pulley Bolt	31 (42)
Oil Pump Sprocket Nut	21 (29)
Power Steering Pump Bracket Bolt	32 (43)
Power Steering Pump-To-Bracket Bolt	32 (43)
Spark Plug	13 (18)
Valve Cover Nut	17 (23)
Wheel Lug Nut	76 (103)
INCH Lbs. (N.m)	
Coolant By-Pass Pipe-To-Water Pump Nut	78 (8.8)
No 3 Timing Belt Cover Bolt	69 (7.8)
Oil Pan Bolt/Nut	48 (5.4)
Oil Pump Body Cover Bolt	78 (8.8)
Oil Pump Pick-Up Tube Bolt/Nut	48 (5.4)
Oil Pump-To-Cylinder Block Bolt	82 (9.3)
Water Pump-To-Water Pump Cover Bolt	