

Honda Engines

ACCORD, CIVIC & PRELUDE 4-CYLINDER

ENGINE CODING

ENGINE IDENTIFICATION

Engine serial number is stamped on a machined pad. Pad is located on firewall side of engine near the transaxle. Serial number is preceded by engine model number.

ENGINE IDENTIFICATION

Application	Code
Civic	
1335 cc	EJ1
1487 cc	EM1
Accord & Prelude	
(1751 cc)	EK1

ENGINE, CYLINDER HEAD & MANIFOLDS

ENGINE

Removal

1) Remove battery cables, battery, and mounting tray. Remove headlight trim, front bumper apron and grille, to gain access to hood brackets. Remove hood.

2) Drain engine oil from crankcase. Drain coolant from radiator and engine. Engine drain plug is located below No. 2 spark plug. Drain gear oil from transaxle.

3) Remove air cleaner and related hoses and ducting. Label and disconnect all vacuum, ventilation and air hoses between engine and chassis.

4) Label and disconnect all electrical wiring between engine and chassis. Disconnect fuel hoses at fuel filter. Disconnect throttle cable from carburetor.

5) Remove radiator hoses and heater hoses from engine. If equipped, detach EGR control box and let hang next to engine. Remove alternator. If A/C equipped, remove compressor (with hoses connected) and bracket, and secure away from engine.

6) On manual transaxle models, remove clutch slave cylinder with hydraulic line attached. On automatic transaxle models, remove oil cooling lines. Remove cable clip and pull speedometer cable out of cable holder. DO NOT remove cable holder.

7) Remove anti-afterburn valve. If equipped, remove power steering pump and bracket. Place front of vehicle on jack stands and remove front wheels.

8) On Prelude models, remove engine guards and stabilizer bar. Disconnect both lower ball joints and tie rod ends. Remove right and left axles.

9) On vehicles with automatic transaxle, remove shift console, indicator, shift cables, and housing. On manual transaxle models, disconnect shift rod clevis and torque rod. Disconnect exhaust pipes.

10) Attach lifting device and raise engine enough to relieve load on engine mounts. Remove engine support bolts, and push left engine support (timing belt side of engine) into shock mount bracket.

11) Remove front and rear engine mounts and torque rods. Carefully lift engine/transaxle assembly out of vehicle, ensuring all wires and hoses are detached.

Installation

Install engine in reverse order of removal. When replacing axles, insert shaft until spring clip "clicks" into groove in differential side gear. Make sure all control cables are adjusted properly.

CYLINDER HEAD

Removal

1) Disconnect negative cable from battery. Drain cooling system. Remove air cleaner and related hoses and ducting. Label and disconnect all electrical wiring to cylinder head.

2) Disconnect lines, vacuum hoses and throttle cable from carburetor, then remove carburetor. Remove wiring and vacuum hoses from distributor. Remove coolant hoses from cylinder head.

3) Remove header pipe from exhaust manifold. If equipped with power steering, remove power steering pump and set aside. On vehicles without A/C, remove bolt securing alternator bracket to cylinder head, and loosen alternator adjusting bolt.

4) If A/C equipped, remove compressor (with hoses connected) and secure away from engine. Remove compressor bracket. Remove cam cover and timing belt upper cover.

5) Bring No. 1 piston to TDC at end of compression stroke. Loosen timing belt pivot and adjusting bolts, then slip timing belt off camshaft sprocket.

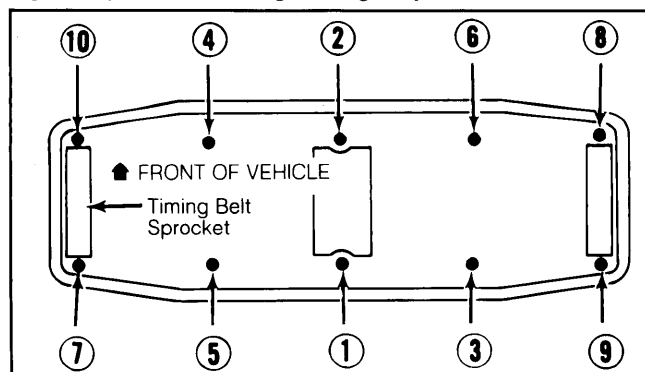
6) Remove oil pump gear cover and pull oil pump shaft out of cylinder head. Remove cylinder head bolts in reverse of tightening sequence by turning 1/3 turn at a time until all bolts are loosened. Remove cylinder head.

Installation

1) Ensure that all mating surfaces are clean and free of cracks. Ensure No. 1 piston is still on TDC. Time valves by aligning camshaft sprocket timing marks. See Figs. 3 and 4.

2) Using new head gasket, install and tighten head bolts in 2 steps. See Fig. 1. To complete installation, reverse removal procedure.

Fig. 1: Cylinder Head Tightening Sequence



Tighten head bolts to 22 ft. lbs. (30 N.m), then further tighten to 44 ft. lbs. (60 N.m).

MANIFOLDS

Removal

Disconnect exhaust head pipe from manifold. Loosen 4 intake-to-exhaust manifold bolts. Remove

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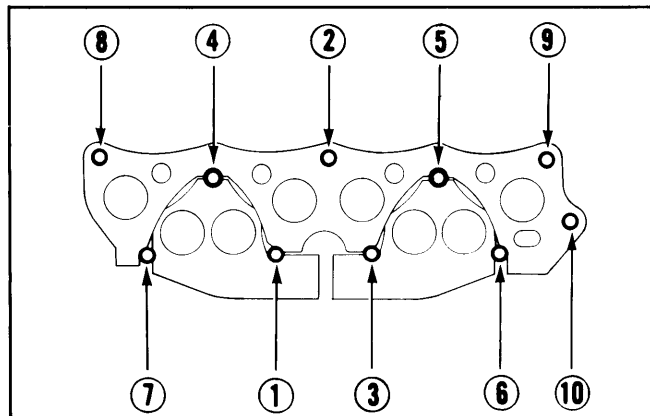
manifold-to-head mounting nuts in reverse order of tightening sequence. Remove and disassemble manifolds.

Installation

1) Use new gaskets between manifolds and heat shield. Tighten the bolts holding manifolds together finger tight. Place new gasket in position on cylinder head.

2) Note that spring washers used with special nuts must be installed with dished surface facing inward. Install and tighten manifolds. See Fig. 2. Tighten exhaust manifold-to-intake manifold bolts.

Fig. 2: Manifold Tightening Sequence



Tighten manifolds-to-cylinder head nuts and bolts securing manifolds together, to 16 ft. lbs (22 N.m).

CAMSHAFT

TIMING BELT

Removal

1) Turn crankshaft to position No. 1 piston on TDC at end of compression stroke. Ensure valve timing marks are aligned. See Figs. 3 and 4.

2) Remove all drive belts from pulleys. Remove water pump pulley and crankshaft pulley. Remove upper timing belt cover from cylinder head and remove lower timing belt cover from engine block.

3) Loosen timing belt tensioner to relieve tension on timing belt. If same timing belt is to be reused, mark direction of belt rotation before removing. Slide belt off sprockets.

CAUTION: Never expose timing belt to oil or grease, as this will cause belt deterioration.

Installation

1) Ensure crankshaft and camshaft positions have not changed. Install timing belt onto sprockets, using care not to excessively bend or twist belt.

2) With tensioner adjusting and pivot bolts loosened, rotate crankshaft counterclockwise 1/4 turn to create tension on belt.

3) Tighten tensioner adjusting bolt (lower bolt) first, then tighten pivot bolt (upper bolt). Reverse removal procedures to complete installation.

VALVE TIMING

Rotate crankshaft until TDC mark on flywheel or driveplate is aligned with index mark. If valve timing is correct, camshaft timing marks will be aligned as illus-

trated. See Figs. 3 and 4. Timing belt removal and installation procedures are explained in Timing Belt.

Fig. 3: Positioning Camshaft Timing Marks for Accord and Prelude (1751 cc engine)

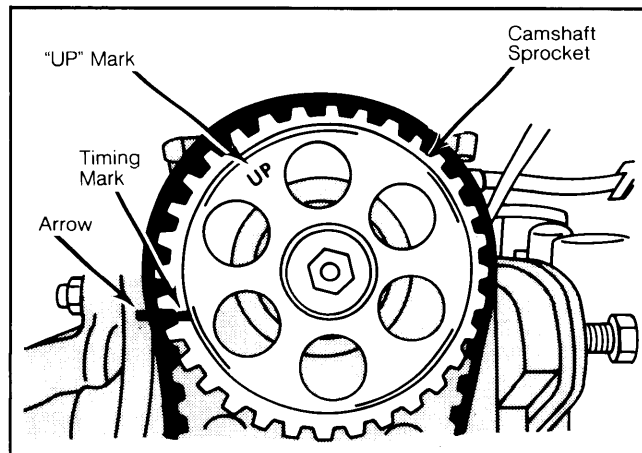
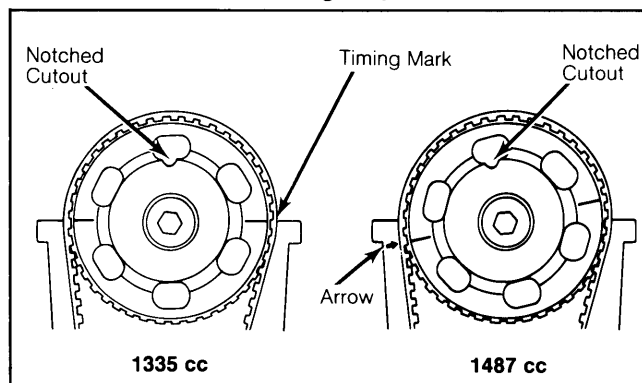


Fig. 4: Positioning Camshaft Timing Marks for Civic (1335 & 1487 cc engines)



CAMSHAFT

Removal

1) Turn crankshaft to position No. 1 piston on TDC at end of compression stroke. Ensure camshaft timing marks are aligned. See Figs. 3 and 4.

2) Remove timing belt covers. Loosen timing belt to relieve tension on timing belt. Remove timing belt from camshaft sprocket. Remove camshaft sprocket.

3) Starting at ends and working towards middle, loosen rocker arm bolts 2 turns at a time in a criss-cross pattern until fully loosened. Remove rocker assembly from head. Lift camshaft from cylinder head.

Installation

1) Oil camshaft journals and bearing surfaces in caps and cylinder head. Install camshaft with keyway pointing upward (No. 1 piston at TDC). Install rocker arm assembly.

2) Starting with bolts at middle of rocker arm assembly and working outward in a circular pattern, tighten all bolts to first specification, then tighten 8 mm bolts only, to final specification.

3) Install remaining components in reverse order of removal. Before installing cam cover gasket, apply non-hardening sealant to upper rounded surface of front and rear camshaft caps.

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CAMSHAFT OIL SEAL

Removal

Using procedures explained in Camshaft removal, remove camshaft sprocket from camshaft. Pry oil seal from recess in camshaft cap.

Installation

Using seal installing tool, drive in camshaft seal until tool bottoms. Install remaining components in reverse order of removal.

CAMSHAFT END THRUST

1) Attach dial indicator to front end of cylinder head with indicator point on distributor drive gear. Pry camshaft rearward. Zero dial indicator.

2) Pry camshaft forward and record end thrust. Desired end thrust is .002-.006" (.05-.15 mm). Maximum allowable end thrust is .02" (.5 mm).

VALVES

VALVE ARRANGEMENT

Civic

I-E-E-I-I-E-E-I (Rear side, left-to-right).

Auxiliary intake valves (Front side)

Accord & Prelude

E-I-E-I-I-E-I-E (Rear side, left-to-right)

Auxiliary intake valves (Front side)

ROCKER ARM ASSEMBLY

Removal

Remove cam cover. Loosen rocker arm shaft bolts in crisscross pattern starting with end caps and working inward. To disassemble, pull out roll pins in end caps. Keep parts in order for reassembly.

Installation

If shafts were disassembled, reassemble in reverse order of disassembly. Install rocker arm assembly on engine. Tighten support bolts in a circular pattern, starting with center support bolts and working outward.

VALVE GUIDE SERVICING

Inspection

Disassemble cylinder head. Measure inside diameter of valve guide and outside diameter of valve stem to determine stem-to-guide clearance. If clearance is excessive, replace guides and install new valves.

Removal

Heat cylinder head to 300°F (150°C). Using a valve guide driver tool, drive out guide from combustion chamber side of head.

Installation

Install new guides from top of head with driver and adapter tool (07943-SA50000). Drive guide in until adapter bottoms on head. Ream valve guides to provide proper clearance.

VALVE SPRINGS

Removal

Remove cylinder head from engine. Using valve spring compressor, remove valve keepers, retainer and springs. Keep parts in order for later installation.

Inspection

Using a steel square and flat surface, check valve springs for squareness. Measure free length of

valve springs. Using valve spring tension tester, measure spring tension.

Installation

Install in reverse of removal procedure. Install springs with closely wound coil end towards spring seat. Check valve spring installed height, and adjust as necessary.

VALVE SPRING INSTALLED HEIGHT SPECIFICATIONS

Application	Measurement In. (mm)
Auxiliary Valve Spring .....	.98 (25.0)
Intake & Exhaust	
Inner Valve Spring	1.40 (35.6)
Outer Valve Spring	1.49 (37.8)

VALVE STEM OIL SEALS

When replacing valve stem oil seals, note that seals for intake valves have a white spring. Oil seals for exhaust valves have a black spring.

AUXILIARY INTAKE VALVES

1) Remove auxiliary valve holder nut using special "T" wrench (07907-6570001). Remove valve holder assembly using slide hammer tool (07741-0010100). Auxiliary chamber collar may be removed with a slide hammer type puller.

2) Compress spring and remove keepers. Disassemble and inspect valve assembly. Valve seat may be reconditioned, however entire assembly should be replaced if any component exceeds service limit.

3) Install chamber in each auxiliary valve hole with 2 new gaskets. Insert alignment tool (07944-6590000) in spark plug hole to center the chamber.

4) Install new "O" ring on auxiliary valve assembly, then install in chamber. Using "T" wrench used for removal, tighten holder nut.

VALVE CLEARANCE ADJUSTMENT

1) Adjust valves with engine cold. Remove cam cover. Rotate crankshaft so that No. 1 piston is on TDC at end of compression stroke. Adjust valve clearances on No. 1 cylinder.

2) Rotate crankshaft counterclockwise 180° so that No. 3 piston is on TDC at end of compression stroke. Adjust valve clearances on No. 3 cylinder.

3) Rotate crankshaft counterclockwise 180° and adjust valve clearances on No. 4 cylinder. Rotate crankshaft counterclockwise 180° and adjust valve clearances on No. 2 cylinder.

VALVE CLEARANCE SPECIFICATIONS

Application	Clearance In. (mm)
1335 cc and 1487 cc	
Intake and Auxiliary .....	.005-.007 (.12-.17)
Exhaust .....	.007-.009 (.17-.22)
1751 cc	
Intake and Auxiliary .....	.005-.007 (.12-.17)
Exhaust .....	.010-.012 (.25-.30)

ACCORD, CIVIC & PRELUDE 4-CYLINDER (Cont.)

PISTONS, PINS & RINGS

PISTON & ROD ASSEMBLY

Removal

1) With oil pan and cylinder head removed, remove any ridge from top of cylinder bore. Mark connecting rod and cap for cylinder identification.

NOTE: Do NOT confuse number stamped on connecting rod and cap with number indicating position of assembly in engine. This number indicates rod big end bore size only.

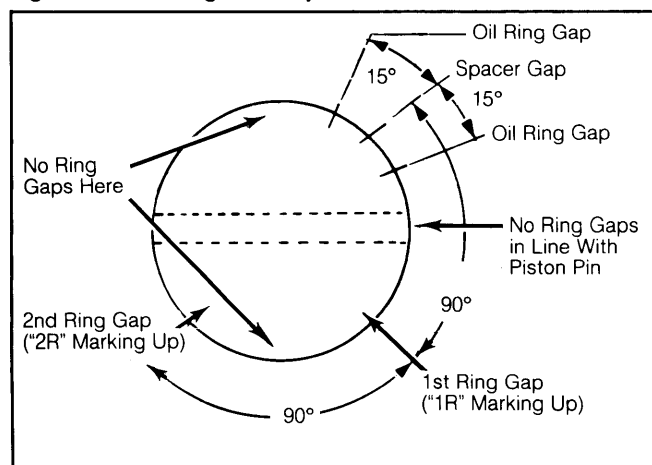
2) Remove rod cap. Push piston and rod assembly out top of cylinder block. Install cap on rod from which removed.

Installation

1) Lubricate piston, rings and cylinder bore with engine oil. Install piston rings and properly space end gaps on piston. See Fig. 5.

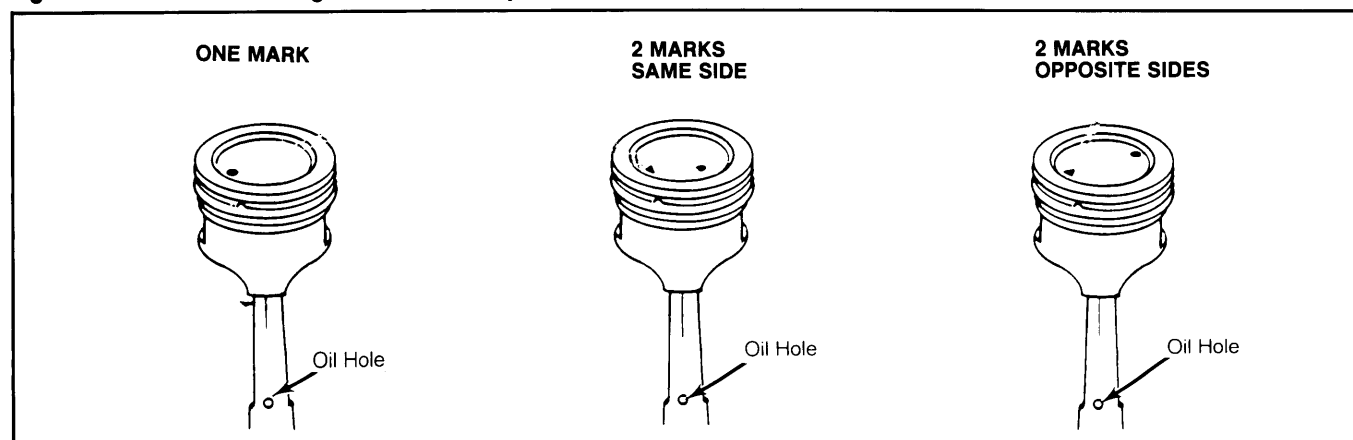
2) Install piston and rod into cylinder bore. When properly installed, mark on piston head and oil hole in connecting rod will be positioned toward manifold side. See Fig. 6. Install and tighten rod cap.

Fig. 5: Piston Ring End Gaps



Top compression ring is identified by two 30° chamfers on outer edge.

Fig. 6: Piston-to-Connecting Rod Relationship



Oil hole in connecting rod allows lubrication to thrust side of cylinder wall and piston.

FITTING PISTONS

1) Measure cylinder bore for out-of-round and taper. If out-of-round exceeds .002" (.05 mm) or taper exceeds .004" (.10 mm), rebore cylinder for oversize pistons.

2) Determine piston-to-cylinder bore clearance. If not within specifications, rebore cylinder and install oversize pistons.

3) Oversize pistons are available in diameters of 2.843" (72.21 mm) for 1335 cc engines, 2.927" (74.35 mm) for 1487 cc engines and 3.040" (77.22 mm) for 1751 cc engines.

FITTING RINGS

1) Push a ring into cylinder bore approximately 3/4" from bottom of bore. Ring must be square in bore. Using a feeler gauge, measure ring end gap. Compare measurement with specifications.

2) Install rings onto piston. Both compression rings are chamfered. Note that top compression ring has two 30° chamfers on outer edge. Second compression ring's outer edge is slightly chamfered.

3) Using a feeler gauge, measure ring side clearance between ring and ring land. If ring lands have high steps or are excessively worn, replace piston.

4) Properly space ring end gaps on piston. See Fig. 5. Make sure no end gaps are in line with piston pin or thrust face of piston. Install rings with manufacturer's marking facing upward.

PISTON PIN REPLACEMENT

Removal

Using a hydraulic press and piston pin remover/installer tool set, remove piston pin from piston and connecting rod.

Installation

1) Assemble connecting rod to piston with oil hole in rod and correct marking on piston head on same side. Note that some pistons have two markings on the piston head. See Fig. 6.

2) Lightly lubricate new piston pin with engine oil. Using piston pin installing tool set, press new pin into piston and connecting rod until pin is centered in rod.

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CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

CAUTION: Replace crankshaft if journals are worn. **DO NOT** regrind crankshaft, as bearing journals are specially heat-treated.

CRANKSHAFT MAIN BEARINGS

1) Prior to disassembly, ensure main bearing caps are marked for identification, for reassembly in their original positions.

2) Using Plastigage method, check bearing clearances. Ensure oil film is wiped from surfaces to be checked.

3) A code indicating cylinder block bore size for each main journal is stamped into the cylinder block. See Figs. 7 and 8. Crankshaft main journal sizes are coded, and stamped into the crankshaft. See Fig. 9. Use these codes to obtain correct replacement bearings.

Fig. 7: Location of Size Code for Main Journal Bore (1751 cc and 1487 Engines)

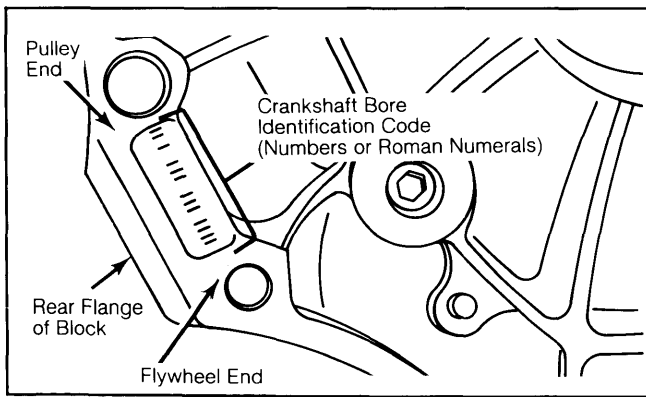
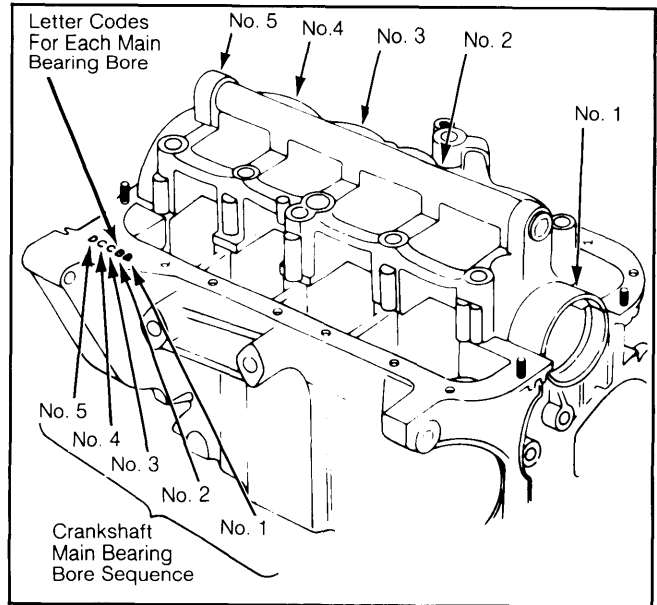


Fig. 8: Location of Size Code for Main Journal Bore (1335 cc Engine)

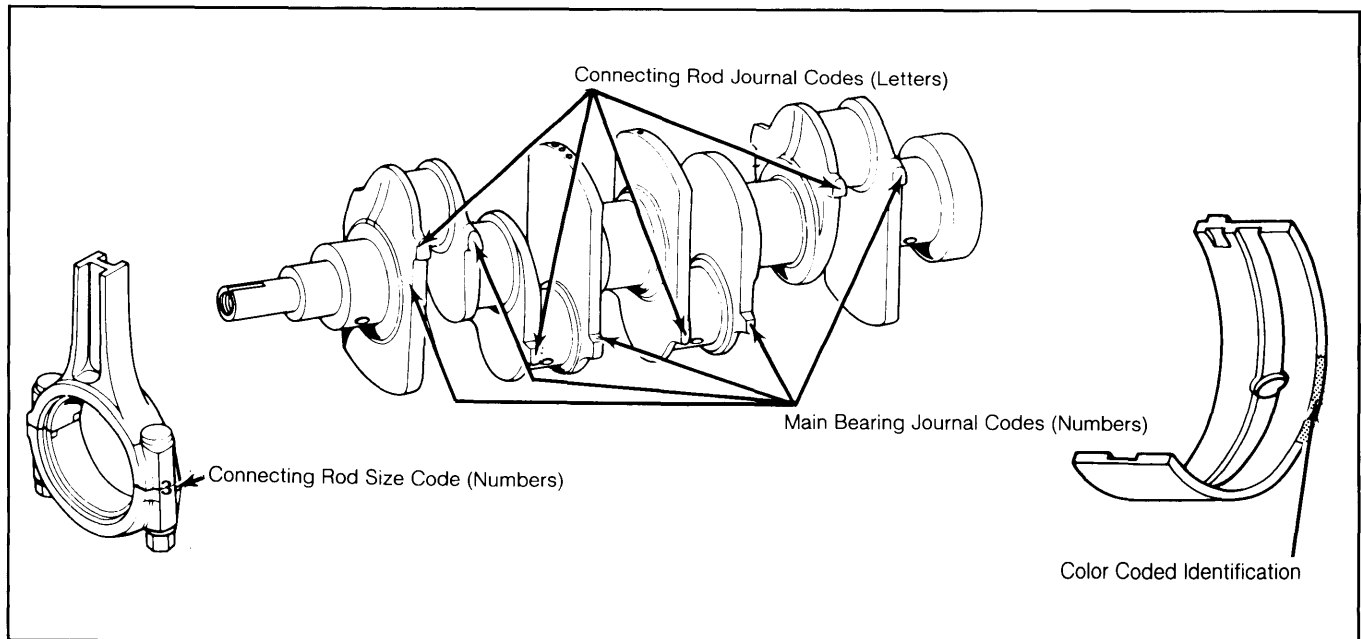


4) With crankshaft removed from engine, measure for bend, out-of-round and taper. If any measurement exceeds specifications in Crankshaft Wear Specifications table, replace crankshaft.

CRANKSHAFT WEAR SPECIFICATIONS

Application	Standard In. (mm)	Service Limit In. (mm)
Runout .....	.0012 (.030)	.0024 (.060)
Taper .....	.0002 (.005)	.0004 (.010)
Out-of-Round0002 (.005)	.0004 (.010)

Fig. 9: Crankshaft Main & Rod Journals Identification Codes



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CONNECTING ROD BEARINGS

1) Prior to disassembly, ensure main bearing caps are marked for reassembly in their original positions. Also, check connecting rod side play.

2) Using Plastigage method, check bearing clearances. Ensure oil film is wiped from surfaces to be checked.

3) A code is stamped on each connecting rod and cap, indicating bore size of rod's big end. Crankshaft rod journals size codes are stamped on crankshaft counterweight pads. See Fig. 8. Use both codes to obtain correct replacement bearings.

CRANKSHAFT END THRUST

1) Attach a dial indicator to engine with indicator point on end of crankshaft. Push crankshaft away from dial indicator and zero dial indicator.

2) Firmly pull crankshaft towards dial indicator and record measurement. If not within specification, inspect thrust washers and thrust surface of crankshaft.

3) Replace worn parts as necessary. Thrust washer thickness is fixed. Do not change thrust washer thickness by grinding or shimming.

REAR MAIN BEARING OIL SEAL

1) When replacing oil seal, be sure seal bore in cap is dry. Apply non-hardening sealant to inside of seal bore, at cap-to-block parting line.

2) Coat crankshaft and seal lip with engine oil. Install seal with part number side facing outward. Drive in seal until it bottoms against block.

FRONT MAIN BEARING OIL SEAL

To replace front main bearing oil seal, use procedures set forth in Rear Main Bearing Oil Seal.

ENGINE OILING

NOTE: Oil pump is driven off camshaft. If pump driven gear is damaged, most likely camshaft drive gear is damaged. In this case, both camshaft and oil pump driven gear must be replaced.

CRANKCASE CAPACITY

Crankcase capacity is 3.2 quarts (3.0L) without oil filter replacement; 3.7 quarts (3.5L) when replacing oil filter.

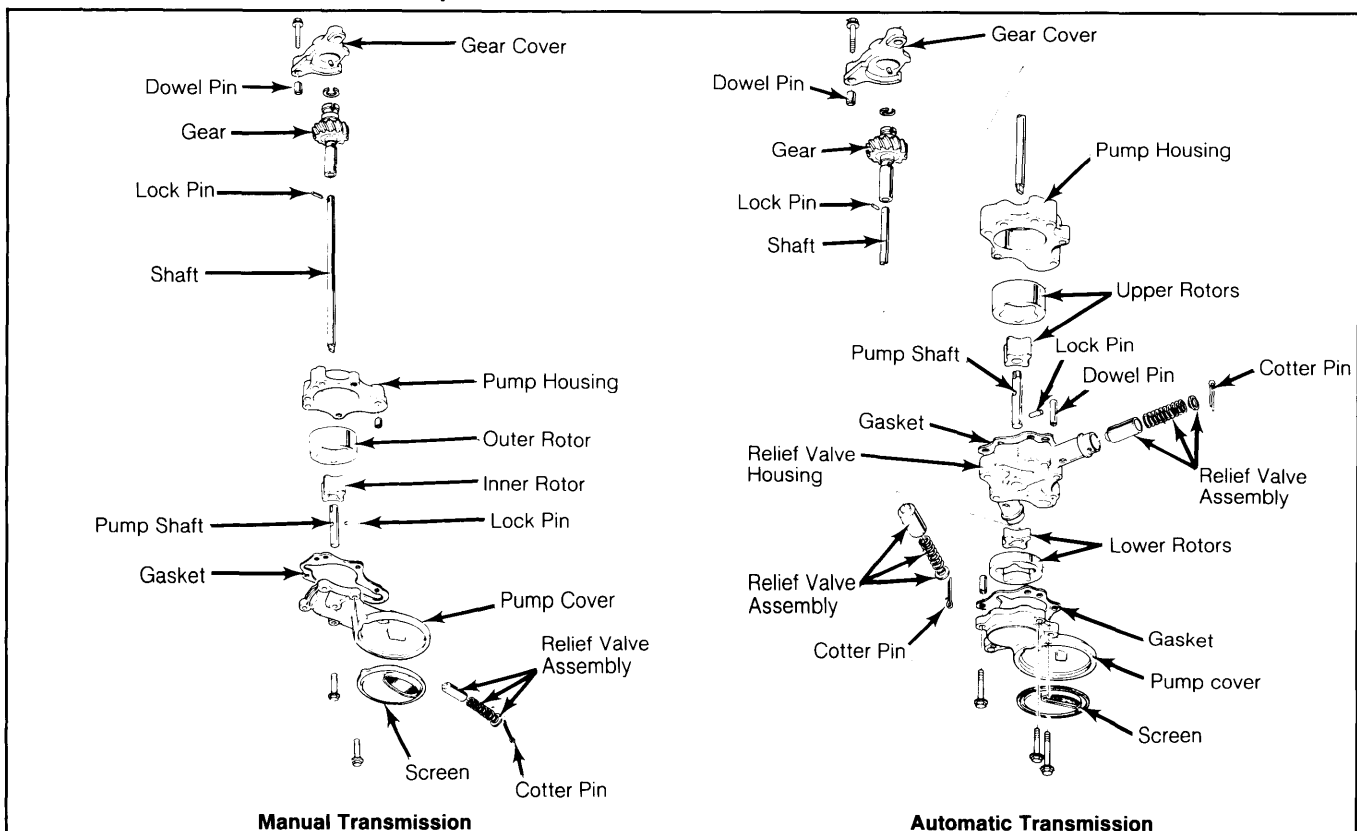
NORMAL OIL PRESSURE

For all models, minimum oil pressure at idle should be 21 psi (1.45 kg/cm²). For Civic models, oil pressure at 3000 RPM should be 48-60 psi (3.4-4.2 kg/cm²). For Accord and Prelude models, oil pressure at 3000 RPM should be 54-65 psi (3.8-4.6 kg/cm²).

ENGINE OILING SYSTEM

A rotor type oil pump draws oil from oil pan and delivers it under pressure to main and connecting rod bearings. An oil hole in each connecting rod lubricates thrust side of piston and cylinder wall. An oil passage

Fig. 10: Disassembled View of Oil Pump Assemblies



Oil pumps for 1751 cc engine shown, other engines similar.

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carries oil to camshaft bearings and rocker arms. Oil spray lubricates valve stems.

OIL PUMP

Removal & Disassembly

1) Remove oil pan. Remove oil pump assembly from engine. Remove bolts securing pump cover to pump body. Before removing pump cover, note the following:

2) Oil pumps on some models (equipped with automatic transmission) have 2 sets of pump rotors. On all models, mark installed position(s) of rotors to ensure they will be installed in their original rotor-to-rotor relation.

3) Disassemble oil pump. To remove relief valve and related components, remove cotter pin from pump cover (or relief valve body). See Fig. 10.

Inspection

1) Thoroughly clean all parts. Inspect all parts for wear or damage. On pumps with 2 sets of rotors and relief valve assemblies, inspection procedures and specifications apply to both sets.

2) With rotors installed in housing, use a feeler gauge to check clearance between inner rotor lobe and outer rotor. Compare measurement with specifications.

3) With rotors installed in housing, use a feeler gauge to check clearance between outer rotor and housing. Compare measurement with specifications.

4) Place rotors in housing. Lay housing gasket over housing and lay a straightedge over gasket. Insert a feeler gauge between straightedge and rotor assembly to measure rotors end play. Compare measurement with specifications.

5) Check fit of relief valve in its bore. Valve must slide freely in bore. If valve is scored, replace it. Check free length of relief valve spring.

OIL PUMP SPECIFICATIONS

Application	Standard In. (mm)	Service Limit In. (mm)
Rotor Lobe Clearance	.002-.006 (.04-.14)	.008 (.20)
Outer Rotor to Housing	.004-.007 (.10-.18)	.008 (.20)
Rotor End Play	.001-.004 (.03-.10)	.006 (.15)
Spring Free Length	2.00-2.10 (50.8-53.3)	2.00 (50.8)

Reassembly & Installation

1) Using new gaskets as necessary, reassemble pump in reverse order of disassembly. Make sure rotors are installed in their original positions.

2) Place oil pickup in container of oil and operate pump with screwdriver to prime pump. Place finger over outlet hole and check that pressure is created as pump is turned.

3) Install oil pump in reverse order of removal procedures.

ENGINE COOLING

THERMOSTAT

Thermostat begins opening about 176-183°F (80-84°C) and is fully open at 203°F (95°C).

COOLING FAN THERMOSWITCH

At temperatures of 191-197°F, thermoswitch actuates cooling fan.

COOLANT CAPACITY

Civic

Refill capacity (including reserve tank) for models with 1335 cc engine is 4.0 quarts (3.8L). For models with 1487 cc engine, refill capacity is 4.9 quarts (4.6L).

Accord & Prelude

Refill capacity (excluding reserve tank is 5.8 quarts (5.5L).

WATER PUMP

Removal

Drain radiator and loosen alternator adjusting bolts. Push alternator toward engine and remove drive belt. Remove water pump and "O" ring seal.

Installation

1) Reinstall water pump. Loosen cooling system bleed valve located on thermostat housing. Fill radiator with coolant. When air bubbles no longer appear in coolant, close valve.

2) Start engine. Set heater temperature control lever to high position. Run engine about 10 minutes, then open bleed valve again. Allow coolant to drain from bleed valve until air bubbles disappear, then close valve. Refill radiator.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Camshaft Sprocket	22 (30)
Connecting Rod	21 (28)
1751 cc Engine	23 (31)
Cylinder Head	44 (60)
Drive Plate	
1335 cc & 1487 cc Engines	36 (49)
1751 cc Engine	54 (73)
Flywheel	
1335 cc & 1487 cc Engines	51 (69)
1751 cc Engine	76 (103)
Intake-to-Exhaust Manifold Bolts	16 (22)
Main Bearing Bolts	
1335 cc Engine	29 (39)
1487 cc Engine	32 (43)
1751 cc Engine	48 (65)
Manifold Nuts	16 (22)
Rocker Arm Support	
6 mm Bolts	9 (12)
8 mm Bolts	16 (22)
Timing Belt Adjustment Bolt	
1335cc & 1487 cc Engines	32 (44)
1751 cc Engine	22 (30)
Timing Belt Pivot Bolt	
1335 cc & 1487 cc Engines	32 (44)
1751 cc Engine	22 (30)

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ACCORD, CIVIC & PRELUDE 4-CYLINDER (Cont.)

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

Year	Displacement		Fuel System	HP@RPM	Torque Ft. Lbs.@RPM	Compr. Ratio	Bore		Stroke	
	Cu. In.	cc					In.	mm	In.	mm
1982										
Civic 1300	81	1335	1 x 3-Bbl.	.....	.....	9.3:1	2.83	72.0	3.23	82.0
Civic 1500	91	1487	1 x 3-Bbl.	.....	.....	9.3:1	2.91	74.0	3.41	86.5
Accord & Prelude	107	1751	1 x 3-Bbl.	.....	.....	8.8:1	3.03	77.0	3.70	94.0

VALVES

Engine Size & Valve	Head Diam. In. (mm)	Face Angle	Seat Angle	Seat Width In. (mm)	Stem Diameter In. (mm)	Stem Clearance In. (mm)	Valve Lift In. (mm)
1335 cc & 1487 cc Intake	1.366-1.374 (34.70-34.90)	45°	45°	.049-.061 (1.25-1.55)	.2591-.2594 (6.580-6.590)	.0008-.0020 (.020-.050)	.....
Exhaust	1.098-1.106 (27.90-28.10)	45°	45°	.049-.061 (1.25-1.55)	.2574-.2578 (6.537-6.547)	.0025-.0037 (.063-.093)	.....
Auxiliary	.469-.476 (11.90-12.10)	45°	45°	.014-.019 (.35-.49)	.2587-.2593 (6.572-6.587)	.0009-.0023 (.023-.058)	.....
1751 cc Intake	1.374-1.382 (34.90-35.10)	45°	45°	.049-.061 (1.25-1.55)	.2748-.2751 (6.98-6.99)	.0008-.0020 (.020-.050)	.....
Exhaust	1.098-1.106 (27.90-28.1)	45°	45°	.049-.061 (1.25-1.55)	.2732-.2736 (6.94-6.95)	.0024-.0035 (.060-.090)	.....
Auxiliary	.469-.476 (11.90-12.10)	45°	45°	.014-.019 (.35-.49)	.2587-.2593 (6.572-6.587)	.0009-.0023 (.023-.058)	.....

PISTONS, PINS, RINGS

Engine	PISTONS	PINS		RINGS		
	Clearance In. (mm)	Piston Fit In. (mm)	Rod Fit In. (mm)	Ring No.	End Gap In. (mm)	Side Clearance In. (mm)
1335 cc	.0004-.0020 (.010-.050)	.0004-.0009 (.010-.022)	.0006-.0015 (.016-.039)	No. 1 & 2 Oil	.006-.014 (.15-.35) .012-.035 (.30-.90)	.0012-.0024 (.030-.060)
1487 cc	.0004-.0024 (.010-.060)	.0004-.0009 (.010-.022)	.0006-.0016 (.014-.040)	No. 1 & 2 Oil	.006-.014 (.15-.35) .012-.035 (.30-.90)	.0012-.0020 (.030-.050)
1751 cc	.0004-.0024 (.010-.060)	.0004-.0009 (.010-.022)	.0007-.0017 (.014-.043)	No. 1 & 2 Oil	.006-.014 (.15-.35) .012-.035 (.30-.90)	.0008-.0018 (.020-.045)

CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

Engine	MAIN BEARINGS				CONNECTING ROD BEARINGS		
	Journal Diam. In. (mm)	Clearance In. (mm)	Thrust Bearing	Crankshaft End Play In. (mm)	Journal Diam. In. (mm)	Clearance In. (mm)	Side Play In. (mm)
1335 cc	1.9676-1.9685 (49.976-50.000)	.0009-.0017 (.024-.043)	No. 4	.004-.014 (.10-.35)	1.5739-1.5748 (39.976-40.000)	.0008-.0015 (.020-.038)	.006-.012 (.15-.30)
1487 cc & 1751 cc	1.9687-1.9697 (50.006-50.030)	.0010-.0022 (.026-.055)	No. 4	.004-.014 (.10-.35)	1.6526-1.6635 (41.976-42.000)	.0008-.0015 (.020-.038)	.006-.012 (.15-.30)

Honda Engines

ACCORD, CIVIC & PRELUDE 4-CYLINDER (Cont.)

ENGINE SPECIFICATIONS (Cont.)

CAMSHAFT

Engine	Journal Diam. In. (mm)	Clearance In. (mm)	Lobe Lift In. (mm)
1335 cc 1487 cc 1751 cc002-.004 (.05-.10)	.....

VALVE SPRINGS

Engine	Free Length In. (mm)	PRESSURE Lbs. @ In. (Kg @ mm)	
		Valve Closed	Valve Open
1335 cc 1487 cc 1751 cc Inner	1.665 (42.30)	.....	27-33@1.03 (12-15@26.2)
Outer	1.665 (42.30)	.....	94-114@1.11 (43-52@28.3)
Auxiliary	1.17 (29.7)	.....	26-32@.87 (12-14@22.0)