ACCORD, CIVIC CVCC & PRELUDE 4 CYLINDER

ENGINE CODING

ENGINE IDENTIFICATION

Engine serial number is stamped at right, rear of engine. Serial number is preceded by engine model number.

Application	Code
Civic CVCC (1487 cc)	
Sedan	ED3
Station Wagon	ED4
Accord (1751 cc)	
Federal	KA ED
California	KL EK
High Altitude	KH EK
Prelude (1751 cc)	
Federal	EK1-15
California	EK1-10
High Altitude	EK1-19

NOTE – *Civic CVCC is referred to as "CVCC" in this article.*

ENGINE, CYLINDER HEAD & MANIFOLDS

ENGINE

Removal – 1) Remove grill to gain access to hood screws and remove hood after scribing location marks for reinstallation. Disconnect battery ground cable from battery and transmission. Completely remove engine torque arm. Disconnect all wiring and vacuum hoses to engine.

2) Drain radiator, disconnect hoses and remove and plug oil cooler lines (if equipped). Remove starter motor, distributor and radiator and disconnect clutch cable from arm (CVCC only). Remove cooling fan and housing. Remove emission control box from firewall. Remove complete air cleaner assembly and engine mount heat shield.

3) On Accord and Prelude with manual transmission, remove clutch slave cylinder and hose. If equipped with Hondamatic, remove center console and remove shift control from shift lever. On all models, raise front of vehicle and remove front wheels. Drain crankcase and transmission fluid. On CVCC and Prelude, remove cable clip and lift speedometer cable from drive. On Accord, remove speedometer gear attaching bolt and lift cable from transmission with drive gear.

NOTE – *On Accord with power steering, remove speedometer drive gear/sensor assembly with hoses attached and remove power steering pump. On air conditioner equipped models, discharge system and disconnect refrigerant hoses and electrical leads at compressor. Remove alternator, cover and bracket.*

4) Remove lower ball joints and tie rod ends on Accord and Prelude. Remove lower control arms at sub frame on CVCC. On all models, pull stub axles from transaxle case and protect splines. Remove front crossmember and lower engine mount bolt. Drive out pin securing shift linkage on manual transmission CVCC. Remove shift rod yoke bolt on Accord and Prelude with manual transmission.

5) Disconnect lower torque arm from transmission. On automatic transmission models, pull shift control cable out of housing. Disconnect exhaust pipe. Attach chain hoist to engine and position lifting hook 7 chain links from left side of engine and 14 links from right side of engine on CVCC, and 17 links from left, 13 links from right on Accord and Prelude. Raise hoist slightly to place tension on lifting sling. Install protective shield between engine and radiator.

6) Disconnect nut from rear engine mount and remove complete front engine mount assembly. Remove three bolts from left shock absorber mount assembly and push left engine mount into shock absorber mount bracket as far as it will go. Lift engine and remove from vehicle.

Installation – To install, reverse removal procedure and note following: Use new shift rod pin. Make sure sub-axles bottom in transmission, and spring clip holds sub-axle securely. Arrows on combination lights point outward. Adjust all control cables after installation is completed.

CYLINDER HEAD

NOTE – *To minimize the chances of warping cylinder head, remove head after engine has been allowed to cool.*

Removal – 1) Disconnect battery and drain cooling system. Disconnect upper radiator hose and heater hoses. Remove air cleaner, noting position of all hoses for installation. Remove distributor and associated wiring. Loosen alternator bracket and remove upper bolt from cylinder head. Remove valve cover and upper timing belt cover.

2) Disconnect all lines and linkages to carburetor and remove carburetor. Turn crankshaft so number 1 piston is at TDC. Loosen timing belt adjustment and slip timing belt off camshaft gear. Disconnect hot air and exhaust pipes from manifold. Remove bolts from manifold bracket.

NOTE – *Do not bend timing belt more than 90° or less than 1" diameter.*

3) Disconnect and identify all remaining vacuum and emission hoses, electrical and sensor wires. 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 in 30° increments until loose. Remove cylinder head.

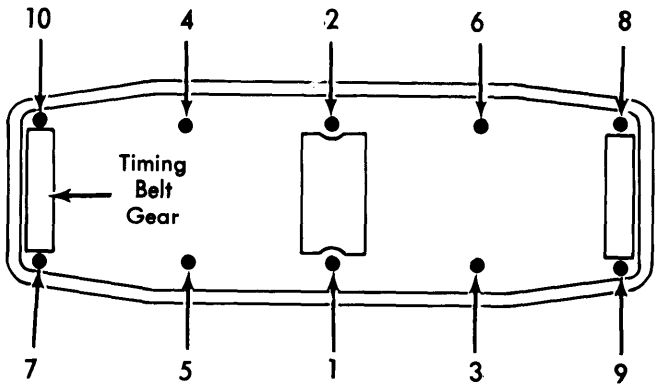

Fig. 1 Cylinder Head Tightening Sequence (Loosen in Reverse Sequence)

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

Installation – Ensure that cylinder head and block surfaces are clean and install new head gasket. Place head in position, ensuring that dowel pins are aligned. "UP" mark on timing belt gear should be at the top. Tighten head bolts in sequence shown in *Fig. 1* and complete installation in reverse order of removal.

MANIFOLDS

Removal – Loosen 4 intake-to-exhaust manifold bolts, then remove special manifold-to-head mounting nuts in reverse of tightening sequence *(See Fig. 2)*. Remove and disassemble manifolds.

Installation – Use new gaskets between manifolds and heat shield and tighten the 4 bolts holding manifolds together *FINGER TIGHT*. Place manifolds and new gasket in position on head and tighten special mounting nuts to final torque. Tighten the 4 bolts to final torque in sequence shown in *Fig. 2*.

NOTE – *Spring washers under special nuts must be mounted with dished surface facing in.*

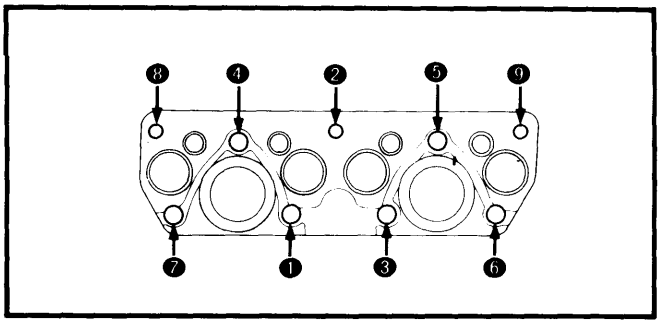

Fig. 2 Manifold Tightening Sequence (Loosen in Reverse Sequence)

CAMSHAFT

Camshaft Lobe Height

Application	In. (mm)
1487 cc	
Intake	1.4966-1.5029 (38.01-38.17)
Exhaust	1.4789-1.4851 (37.56-37.72)
Auxiliary	1.6475-1.6537 (41.85-42.01)
1751 cc Man. Trans.	
Intake	1.4930-1.5025 (37.92-38.16)
Exhaust	1.4962-1.5057 (38.00-38.24)
Auxiliary	1.7219-1.7345 (43.73-44.06)
1751 cc Hondamatic	
Intake	1.4782-1.4876 (37.55-37.79)
Exhaust	1.4814-1.4909 (37.63-37.87)
Auxiliary	1.7219-1.7345 (43.73-44.06)

TIMING BELT

1) Remove water pump drive belt, water pump pulley and crankshaft pulley. Remove upper timing belt cover from cylinder head and remove lower timing belt cover from engine block.

2) Loosen, do not remove, timing belt adjusting and pivot bolts. Slide belt off pulleys. To install, reverse removal procedure using care not to excessively bend or twist belt. Do not expose belt to engine oil or grease as this will damage belt. Install belt so same direction of rotation will be maintained to prevent excessive belt wear.

CAMSHAFT

1) Remove rocker arm assembly, then lift out camshaft Inspect camshaft and cylinder head bearing surfaces for wear or damage. Check camshaft runout. If runout exceeds .004" (.10 mm), replace camshaft. Measure total camshaft lobe height. If total height of lobes is not to specifications, replace camshaft.

2) Oil camshaft bearing journals and install camshaft and seal or tachometer drive body. Apply silicone seal to mating surfaces on end camshaft supports and cylinder head. Install rocker arm assembly and tighten to specifications.

VALVE TIMING

Rotate crankshaft until TDC mark on flywheel or automatic transmission drive plate is aligned with index mark. Rotate camshaft until "UP" mark on pulley is at 11 o'clock position and timing mark aligns with arrow on cylinder head. *See Fig. 3*. Without disturbing pulley positions, slide timing belt on and adjust belt tension.

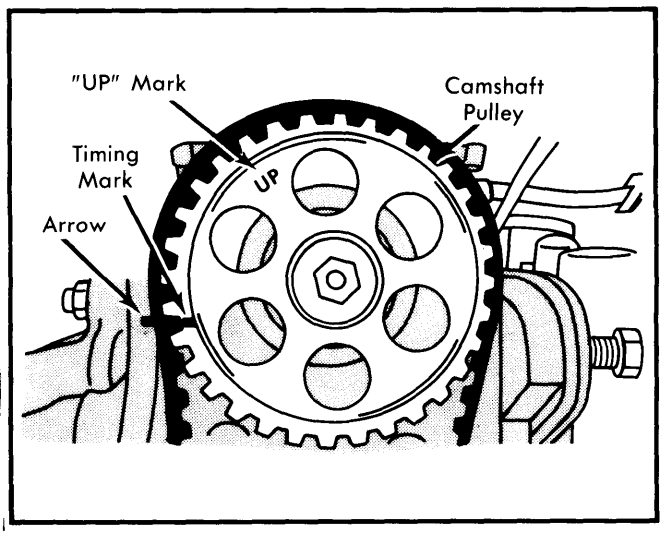

Fig. 3 Camshaft Alignment Marks in Position for Installing Camshaft Belt

TIMING BELT TENSION

Loosen timing belt pivot bolt (upper) and adjustment bolt (lower) on lower timing belt cover. Rotate engine ¼ turn counterclockwise and tighten adjusting bolt, then tighten pivot bolt. Do not apply pressure to timing belt while adjusting tension.

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

VALVES

VALVE ARRANGEMENT

Rear Side – I-E-E-I-I-E-E-I (left to right).
Front Side – All Auxiliary.

ROCKER ARM ASSEMBLY

Removal – Loosen rocker arm shaft support bolts in criss-cross pattern starting with end supports. Pull out roll pins from both end shaft supports and remove supports, rocker collars, rocker arms and springs. Retain components in proper order for reassembly.

Installation – Measure all rocker arms for arm-to-shaft clearance. If clearance exceeds .0035" (.08 mm), replace rocker shaft and/or arms. Assemble in reverse of disassembly and install rocker arm assembly on engine. Tighten support bolts in a criss-cross pattern starting with center support.

VALVE SPRINGS

Intake & Exhaust Valves – Using valve spring compressor, remove valve keepers, collars and springs. Check valve springs for squareness, free length and tension. Install in reverse of removal procedure, making sure closely wound coils are nearest cylinder head.

AUXILIARY VALVES

1) Remove valve holder nut using special tool (07907-6570001) and pull valve holder assembly out of head. Auxiliary chamber collar may be removed using special 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 collar in each auxiliary valve hole with 2 new gaskets. Use alignment tool (07944-6590000) inserted in round hole toward spark plug opening with oval hole of collar towards combustion chamber. Leave alignment tool in place and insert auxiliary valve with new "O" ring, torquing to final specification with same tool used for removal.

VALVE GUIDE SERVICING

NOTE – *For best results, heat cylinder head to 300°F (150°C) to remove or replace valve guides.*

Using suitable driver, drive valve guides out of cylinder head from port side. Install new guides from top of head with driver and attachment. Drive guide in until attachment bottoms on head. Ream valve guides to provide proper clearance.

VALVE CLEARANCE ADJUSTMENT

NOTE – *Cylinder head temperature should be below 100° F when adjusting valves.*

1) Remove valve cover and rotate crankshaft so that number 1 piston is at TDC on firing stroke. "UP" mark on pulley should be at top and TDC grooves on back side of pulley should align with cylinder head surface. Adjust valve clearance on number 1 cylinder.

2) Rotate crankshaft 180° COUNTERCLOCKWISE so that TDC groove in pulley is aligned with identation on belt cover. Adjust valves on number 3 cylinder. Rotate crankshaft an additional 180° counterclockwise and check valve clearance on number 4 cylinder. Rotate crankshaft an additional 180° counterclockwise and check clearance on number 2 cylinder.

Valve Clearance Specifications

Application	In. (mm)
1487 cc	
Intake and Aux.	.005-.007 (.12-.17)
Exhaust	.007-.009 (.17-.23)
1751 cc	
Intake and Aux.	.005-.007 (.12-.17)
Exhaust	.010-.012 (.25-.30)

PISTONS, PINS & RINGS

PISTON & ROD ASSEMBLY

1) With oil pan and cylinder head removed, ream any ridge from top of cylinders. Mark piston and rod assemblies for proper reinstallation. Remove rod caps and push piston and rod assemblies out top of cylinder with a hammer handle.

2) Assemble piston and connecting rod with piston front mark and connecting rod oil jet hole on same side and facing intake manifold. Using a ring compressor, install piston and rod assemblies in proper cylinder.

NOTE – *Do NOT confuse reference number stamped across bearing cap and connecting rod with number indicating position of assembly in engine. This number indicates rod bore diameter only.*

FITTING PISTONS

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

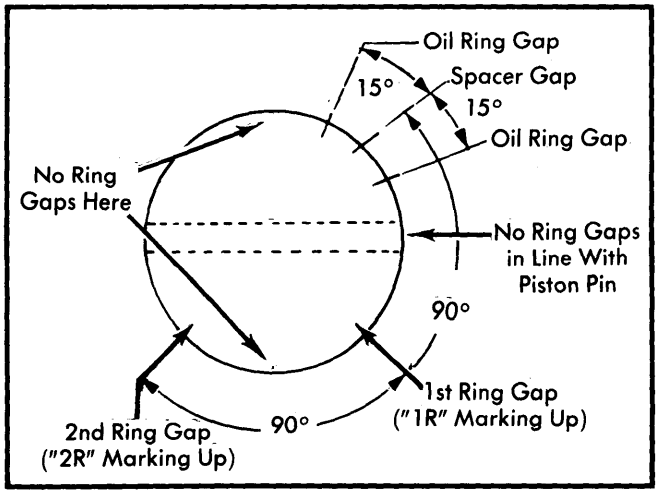

Fig. 4 Piston Ring Installation

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

mm), rebore cylinder for oversize pistons. Determine piston-to-cylinder clearance. If not within specifications, rebore cylinder for oversize pistons. An oversize piston of 2.923" (74.25 mm) diameter is available for 1487 cc engines and 3.04" (77.22 mm) for 1751 cc engines.

2) Install three piece oil ring on piston with end gaps of rails and spacer staggered about 15°. Install top ring about 90° from oil spacer and second ring about 180° from spacer. Make sure no end gaps are in line with piston pin hole or thrust face of piston. Install all rings with markings facing upward.

PISTON PINS

Using a press and piston pin removal tool set (07973-6570000), press piston pin out of piston and connecting rod. Install new pin by placing pilot through piston and connecting rod. Lightly oil piston pin and place piston, rod, pin and ram on press base. Press in pin until centered in connecting rod.

CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

MAIN & CONNECTING ROD BEARINGS

1) Prior to disassembly, mark main and connecting rod bearings caps for reassembly in their original positions and check crankshaft endplay and connecting rod side play. Remove piston and connecting rod assemblies, remove main bearing caps and remove crankshaft.

2) Measure crankshaft for bend, out-of-round and taper *(See Specifications)*. If any measurement exceeds specifications, crankshaft must be replaced. Do not attempt to regrind crankshaft as bearing journals are specifically heat-treated.

3) Using Plastigage method, determine bearing clearances. If bearing replacement is necessary, use following procedure to determine bearing size to use.

Crankshaft Wear Specifications

Application	Standard In. (mm)	Service Limit In. (mm)
Runout	.0012 (.03)	.0024 (.06)
Taper	.0002 (.005)	.0004 (.010)
Out-Of-Round	.0002 (.005)	.0004 (.010)

4) Referring to *Figs. 5 and 6,* note that all **letters** stamped on crankshaft counterweight pads apply to connecting rod journal nearest letter. All **numbers** stamped on crankshaft apply to nearest main bearing journal. Connecting rod caps have numbers stamped on cap and cylinder block has Roman numerals stamped on pad at flywheel end of block.

5) To determine color (size) of bearing insert to use, pair up numbers and/or letters on tables and where the column and row intersect, this will be bearing insert to use. Example: For a main bearing, use "Main Bearing Journals" table. If number stamped on crankshaft is "2" and roman numeral stamped on block for corresponding journal is "III", you would use a "Green" bearing insert

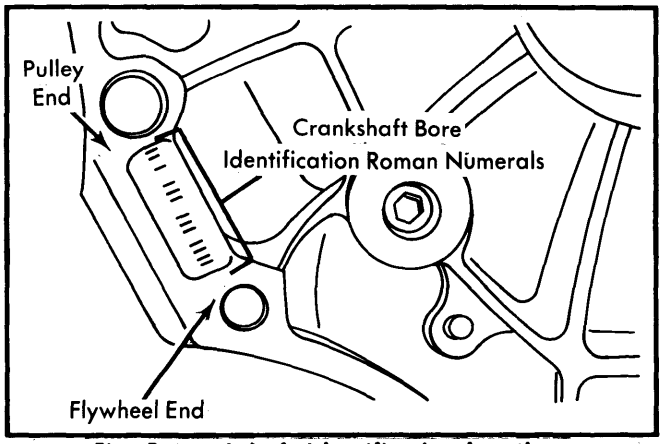

Fig. 5 Crankshaft Identification Locations (All Engines)

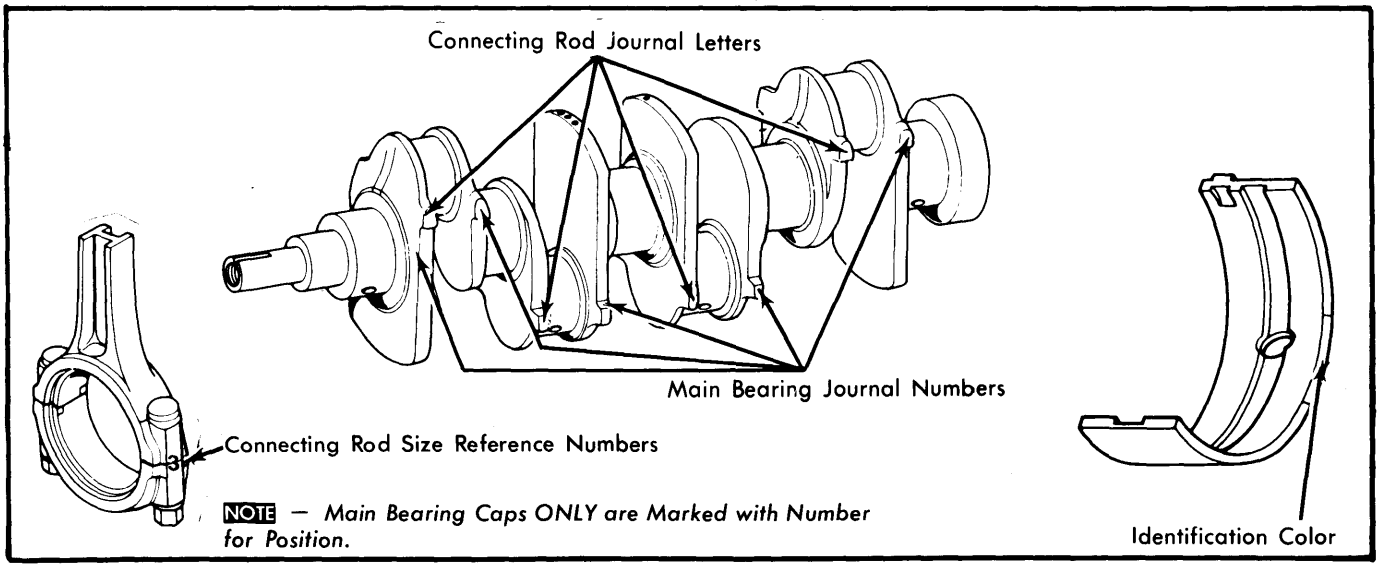

Fig. 6 Connecting Rod Bearing & Cylinder Block Identification Locations

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

Civic CVCC (1487 cc) Main Bearing Journals In. (mm)

Crankcase Bore Dia. 2.13 (54) / Journal Dia. 1.97 (50)	I	II	III	IIII
	+.0021 to +.0023 (+.052 to +.058)	+.0023 to +.0025 (+.058 to +.064)	+.0025 to +.0027 (+.064 to +.070)	+.0027 to +.0030 (+.070 to +.076)
1 +.0013 to +.0016 (+.033 to +.041)	Red −.0001 to −.0002 (−.002 to −.005)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +.0002 to +.0003 (+.004 to +.007)
2 +.0011 to +.0013 (+.028 to +.033)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.00004 to +.0002 (+.001 to +.025)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)
3 +.0009 to +.0011 (+.023 to +.028)	Yellow +.00004 to +.0002 (+.001 to +.005)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)
4 +.0006 to +.0009 (+.016 to +.023)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)	Blue +.0005 to +.0006 (+.013 to +.016)

Accord & Prelude (1751 cc) Main Bearing Journals In. (mm)

Crankcase Bore Dia. 2.13 (54) / Journal Dia. 1.97 (50)	I	II	III	IIII
	+.0016 to +.0018 (+.041 to +.046)	+.0018 to +.0020 (+.046 to +.051)	+.0020 to +.0023 (+.051 to +.058)	+.0023 to +.0025 (+.058 to +.064)
1 +.0009 to +.0012 (+.023 to +.030)	Red −.0001 to −.0002 (−.002 to −.005)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)
2 +.0007 to +.0009 (+.018 to +.023)	Pink −.0001 to +.00004 (−.002 to +.001)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)
3 +.0005 to +.0007 (+.013 to +.018)	Yellow +.0002 to +.00004 (+.005 to +.001)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)
4 +.0002 to +.0005 (+.005 to +.013)	Green +.0002 to +.0003 (+.005 to +.007)	Brown +.00004 to +.0003 (+.001 to +.007)	Black +.0004 to +.0005 (+.010 to +.013)	Blue +.0005 to +.0006 (+.013 to +.015)

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

Connecting Rod Bearing Journals In. (mm)				
Connecting Rod Dia. 1.69 (43) / Journal Dia. 1.654 (42)	1 0 to +.0002 (0 to +.006)	2 +.0002 to +.0005 (+.006 to +.012)	3 +.0005 to +.0007 (+.012 to +.018)	4 +.0007 to +.0009 (+.018 to +.024)
A 0 to −.0002 (0 to −.006)	Red −.0002 to −.0003 (−.005 to −.008)	Pink −.0001 to −.0002 (−.002 to −.005)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)
B −.0002 to −.0005 (−.006 to −.012)	Pink −.0001 to −.0002 (−.002 to −.005)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)
C −.0005 to −.0007 (−.012 to −.018)	Yellow −.0001 to +.00004 (−.002 to +.001)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)	Black +.0003 to +.0004 (+.007 to +.010)
D −.0007 to −.0009 (−.018 to −.024)	Green +.00004 to +.0002 (+.001 to +.004)	Brown +.0002 to +.0003 (+.004 to +.007)	Black +.0003 to +.0004 (+.007 to +.010)	Blue +.0004 to +.0005 (+.010 to +.013)

THRUST BEARING ALIGNMENT

Measure thrust bearing clearance and replace thrust washers or crankshaft as necessary. Do not change thrust washer thickness either by grinding or shimming. Install thrust washers with oil grooves facing toward crankshaft.

ENGINE OILING

ENGINE OILING SYSTEM

A rotor type oil pump draws oil from oil pan and delivers it under pressure through main bearing cradle to main and connecting rod bearings. Oil passes through rods to an oil jet which lubricates pistons and cylinder walls. An oil passage carries oil to camshaft bearings and rocker arms. Oil mist lubricates valve stems.

OIL PUMP

1) Remove oil pan, then oil pump assembly may be removed by removing four long bolts (one bolt under strainer). Pull out relief valve cotter pin and remove seat, spring and valve.

2) Remove two pump body bolts and disassemble pump. Inspect pump for wear or damage. Measure pump operating clearances and relief valve spring free length. Reassemble pump making sure marks on rotors face outward and are adjacent to each other. Place oil pickup in container of oil and operate pump with screwdriver to ensure that it is operating. Place finger over outlet hole and check the pressure is created as pump is turned.

Oil Pump Specifications

Application	Standard In. (mm)	Service Limit In. (mm)
Inner-to-Outer Rotor	.0059 (.15)	.0079 (.20)
Rotor-to-Body	.0039-.0071 (.10-.18)	.0079 (.20)
Rotor End Clearance	.0012-.0039 (.03-.10)	.0059 (.15)

NOTE – *If oil pump driven gear is to be replaced, camshaft must also be replaced.*

Crankcase Capacity (with Filter)

Application	Capacity
CVCC (1487 cc)	3.2 quarts
Accord & Prelude (1751 cc)	3.7 quarts

Oil Filter – Disposable with built-in by-pass valve.

Pressure Regulator Valve – Non-adjustable.

1487 cc Normal Oil Pressure – 48-60 psi (3.4-4.2 kg/cm²) at 3000 RPM. 20 psi (1.4 kg/cm²) minimum at idle speed.

1751 cc Normal Oil Pressure – 54-60 psi (3.8-4.2 kg/cm²) at 3000 RPM. 21 psi (1.5 kg/cm²) minimum at idle speed.

ENGINE COOLING

Thermostat – Starts to open at 176-183°F (80-84°C) and is fully open at 203°F (95°C).

Thermoswitch – Operates at 191-197°F (88.5-91.5°C).

Cooling System Capacity

Application	Appoximate Quantity
CVCC (1487 cc)	4.2 quarts
Accord & Prelude (1751 cc)	6.4 quarts

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

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 draining from bleed valve, close valve.

2) Start engine and place heater temperature control lever in high position. Run engine about ten minutes. Again open bleed valve and bleed system until there are no air bubbles in coolant draining from bleed valve. Refill radiator.

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

Year	Displ.		Carburetor	HP at RPM	Torque (Ft. Lbs. at RPM)	Compr. Ratio	Bore		Stroke	
	cu. ins.	cc					in.	mm	in.	mm
1979 CVCC	90.80	1487	1x3-Bbl.	63@5000	77@3000	7.9:1	2.91	74.0	3.41	86.5
Accord & Prelude	107	1751	1x3-Bbl.	.....	.....	8.0:1	3.03	77.0	3.70	94.0

VALVES

Engine & 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)
1487 cc							
Intake	1.374-1.382 (34.9-35.1)	45°	45°	.055 (1.4)	.259-.260 (6.58-6.59)	.001-.002 (.02-.05)	.....
Exhaust	1.098-1.106 (27.9-28.1)	45°	45°	.055 (1.4)	.258-.259 (6.55-6.58	.002-.003 (.05-.08)	.....
Auxiliary	.469-.476 (11.9-12.1)	45°	45°	.022 (.56)	.216-.217 (5.48-5.49)	.001-.002 (.02-.05)	.....
1751 cc							
Intake	1.335-1.343 (33.9-34.1)	45°	4B°	.060 (1.4)	.274-.275 (6.95-6.99)	.001-.002 (.02-.05)	.....
Exhaust	1.098-1.106 (27.9-28.1)	45°	45°	.060 (1.4)	.273-.274 (6.94-6.95)	.002-.005 (.05-.09)	.....
Auxiliary	.469-.476 (11.9-12.1)	45°	45°	.020 (.50)	.257-.259 (6.54-6.58)	.001-.003 (.02-.08)	.....

PISTONS, PINS, RINGS

Engine	PISTONS	PINS		RINGS		
	Clearance In. (mm)	Piston Fit In. (mm)	Rod Fit In. (mm)	Rings	End Gap In. (mm)	Side Clearance In. (mm)
1487 cc	.0012 (.03)	.0004-.0009 (.010-.022)	0-.0007① (0-.019)	No. 1	.008-.016 (.2-.4)	.0008-.0018 (.020-.045)
				No. 2	.008-.016 (.2-.4)	.0008-.0018 (.020-.045)
				Oil	.008-.035 (.2-.9)	.....
1751 cc	.001-.003 (.02-.07)	.0004-.0009 (.010-.022)	.0006-.0016 (.014-.04)	No. 1 & 2	.006-.014 (.15-.35)	.0008-.0018 (.020-.045)
				Oil	.012-.035 (.3-.9)	.....

① – Interference fit.

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

ENGINE SPECIFICATIONS (Cont.)

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)
1487 cc & 1751 cc	1.9687-1.9697 (50.006-50.030)	①.0010-.0022 (.026-.055)	No. 4	.0039-.0138 (.10-.35)	1.6526-1.6535 (41.976-42.000)	.0008-.0015 (.020-.038)	.0059-.0118 (.15-.30)

① – .0010-.0017" (.026-.044 mm) on 1600 cc.

VALVE SPRINGS

Engine	Free Length In. (mm)	PRESSURE Lbs. @ In. (kg @ mm)	
		Valve Closed	Valve Open
1487 cc			
Intake			
Inner	1.665 (42.3)	8@1.401 (4@35.6)	30@1.008 (14@25.6)
Outer	1.665 (42.3)	28@1.488 (13@37.8)	108@1.094 (49@27.8)
Exhaust			
Inner	1.988 (50.5)	27.5@1.331 (12.5@33.8)	44@1.024 (20@26)
Outer	2.118 (53.8)	51@1.437 (23.3@36.5)	85@1.102 (39@28)
Auxiliary	1.146 (29.1)	15.7@0.90 (7@23.0)	23@0.79 (11@20.0)
1751 cc			
Intake			
Inner	1.67 (42.3)	8.5@1.40 (4.0@35.6)	30@1.00 (14@25.6)
Outer	1.67 (42.3)	28@1.49 (13@37.8)	108@1.09 (49@42.3)
Exhaust			
Inner	1.99 (50.5)	28.3@1.36 (13@34.5)	44@1.02 (20@26.0)
Outer	2.12 (53.8)	57@1.44 (25@36.5)	85@1.10 (38@28.0)
Auxiliary	1.339 (34.0)	26@0.98 (12@25.0)	35@0.86 (16@22.0)

CAMSHAFT

Engine	Journal Diam. In. (mm)	Clearance In. (mm)	End Play In. (mm)
1487 cc & 1751 cc	.....	.0020-.0059 (.050-.150)	.0020-.0059 (.050-.150)

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Connecting Rod Bolts	18-21 (2.5-2.9)
Main Bearing Bolts	30-35 (4.2-4.8)
Cylinder Head Bolts	40-47 (5.5-6.5)
Camshaft Sprocket Bolt	18-22 (2.5-3.0)
Intake to Exhaust Manifold Bolts	16-20 (2.2-2.8)
Manifold Nuts	14-17 (2.0-2.4)
Rocker Arm Support	
6 mm Bolts	7-10 (1.0-1.4)
8 mm Bolts	14-17 (2.0-2.4)
Upper Torque Arm	25-31 (3.5-4.3)
Lower Torque Arm (CVCC)	5-9 (.7-1.2)
Auxiliary Valve Holder Nut	
1487 cc	47-55 (6.5-7.5)
1751 cc	54-61 (7.5-8.5)