ARTICLE BEGINNING

1993 ENGINE PERFORMANCE
Honda On-Vehicle Adjustments

Accord, Civic, Civic Del Sol, Prelude

ENGINE MECHANICAL

Before performing any on-vehicle adjustments to fuel or ignition system, ensure engine mechanical condition is okay.

VALVE CLEARANCE

VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS TABLE

Model	Intake In. (mm)	Exhaust In. (mm)
Accord	.009-.011 (.23-.28)	.011-.013 (.28-.32)
Civic & Civic Del Sol	.007-.009 (.17-.23)	.009-.011 (.23-.28)
Prelude 2.2L Engine	.009-.011 (.23-.28)	.011-.013 (.28-.32)
Prelude 2.3L Engine	.003-.004 (.07-.11)	.006-.007 (.15-.19)

DUAL OVERHEAD CAMSHAFTS (DOHC)

1) With engine cold, remove upper timing belt cover, valve cover, spark plugs and distributor cap. Adjustment of exhaust and intake valves are done at same time.
2) Rotate crankshaft to bring piston No. 1 to TDC on compression stroke. UP marks on camshaft pulleys should be at top and TDC grooves on camshaft pulleys should align with cylinder head surface. See Fig. 1. Distributor rotor should point to spark plug wire No. 1 on cap.

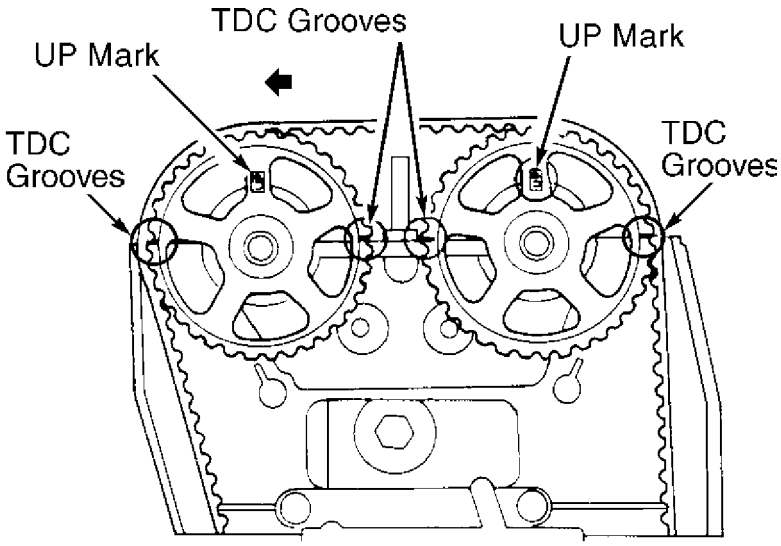

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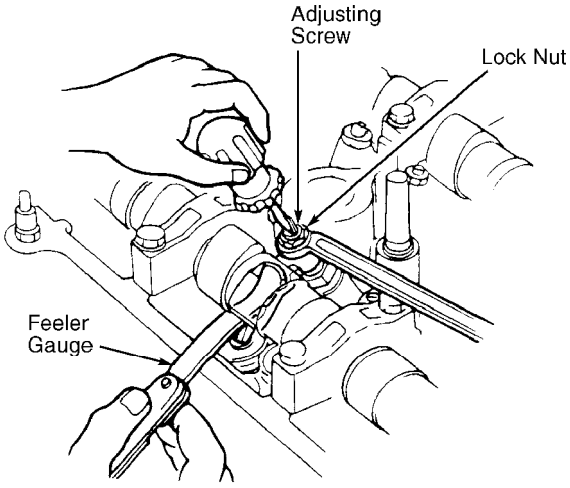
Fig. 1: Aligning Dual Camshaft Pulleys (Cylinder No. 1)
Courtesy of American Honda Motor Co., Inc.

3) Loosen lock nuts on valves for cylinder No. 1 and adjust valve clearances to specification. SeeFig. 2. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS table.

4) Tighten valve adjuster lock nuts to 20 ft. lbs. (27 N.m). Recheck valve clearance. Readjust valve clearance, if necessary.

5) Rotate crankshaft counterclockwise 180 degrees. Ensure cylinder No. 3 is at TDC. Adjust valves on cylinder No. 3. For remaining cylinders, repeat steps 3) - 5).

6) Replace valve cover and distributor cap. Tighten timing cover bolts and valve cover crown nuts to 7 INCH lbs. (10 N.m).



D - ADJUSTM

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Fig. 2: Adjusting Valve Clearances (DOHC)
Courtesy of American Honda Motor Co., Inc.

SINGLE OVERHEAD CAMSHAFT (SOHC)

1) With engine cold, remove timing belt upper cover, valve cover, spark plugs and distributor cap. Adjust exhaust and intake valves at the same time.

2) Rotate crankshaft to bring piston No. 1 to TDC on compression stroke. UP mark on camshaft pulley should be at top, and TDC grooves on camshaft pulley should align with cylinder head surface. See Fig. 3. Distributor rotor should point to spark plug wire No. 1 on distributor cap.

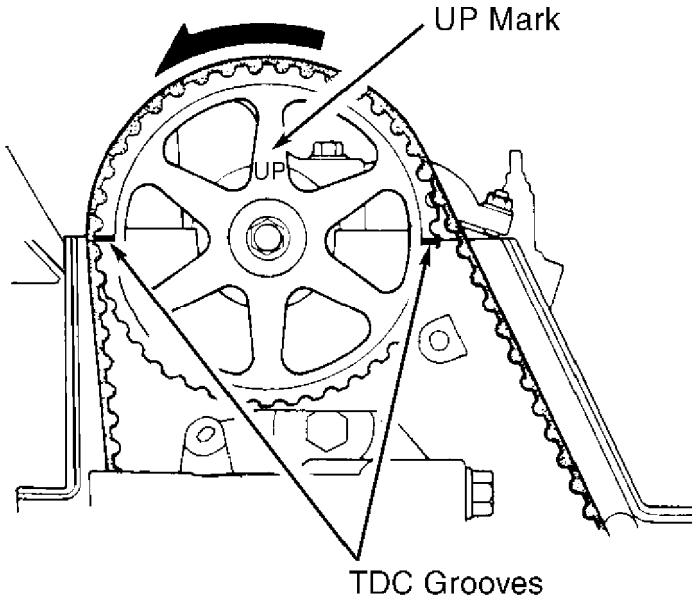

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Fig. 3: Aligning Typical Single Camshaft Pulley (Cylinder No. 1) Courtesy of American Honda Motor Co., Inc.

3) Loosen lock nuts on valves for cylinder No. 1, and adjust valve clearances to specification. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS table. See Fig. 4.

4) Tighten valve adjuster lock nuts on Accord and Prelude to 14 ft. lbs. (20 N.m). Tighten valve adjuster lock nuts on Civic and Civic Del Sol with D15Z1 or D16Z6 engines to 14 ft. lbs. (20 N.m). On all other Civic and Civic Del Sol applications, tighten valve adjuster lock nuts to 10 ft. lbs. (14 N.m). Recheck valve clearance and repeat adjustment, if necessary.

5) Rotate crankshaft counterclockwise 180 degrees. Ensure cylinder No. 3 is at TDC. Adjust valves on cylinder No. 3. For remaining cylinders, repeat steps 3) through 5).

6) Replace valve cover and distributor cap. Tighten timing cover bolts and valve cover crown nuts to 7 INCH lbs. (10 N.m).

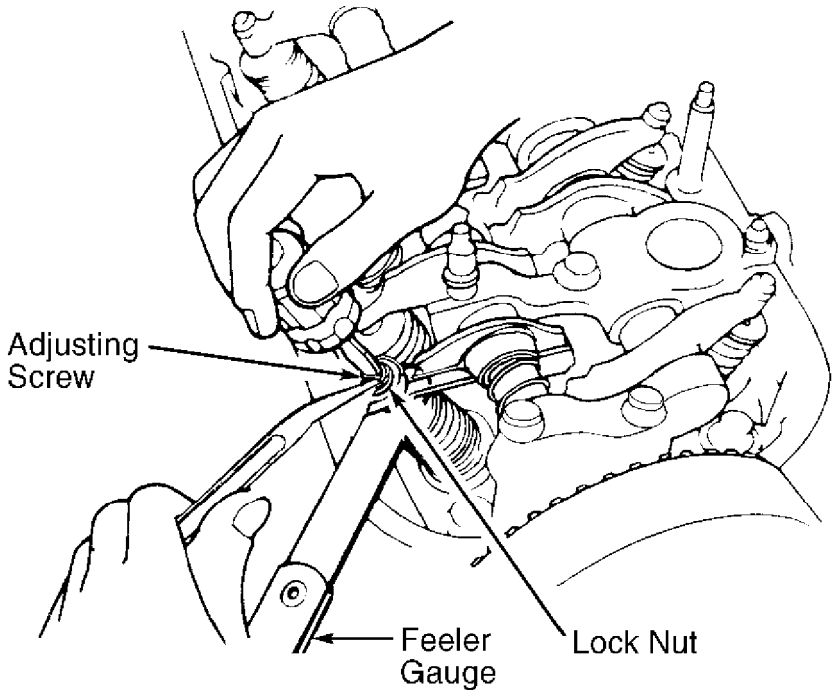

Fig. 4: Adjusting Valve Clearances (SOHC)
Courtesy of American Honda Motor Co., Inc.

IGNITION TIMING

Accord

1) Remove rubber cap from inspection window on bellhousing of cylinder block. Start and warm engine to normal operating temperature (cooling fan comes on). Connect a jumper wire between Orange/Red and Green/White wire terminals of ignition timing check connector located above passenger-side kick panel, under dash. SeeFig. 5.

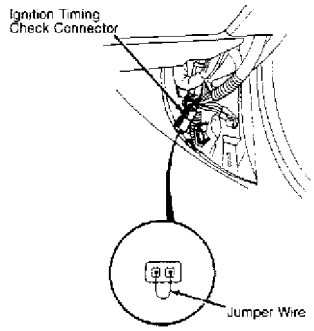

Fig. 5: Locating Ignition Timing Check Connector (Accord)
Courtesy of American Honda Motor Co., Inc.

2) Connect a timing light to spark plug wire No. 1. Check base ignition timing with timing light. See IGNITION TIMING table. TDC

mark (White) and timing mark (Red) are on flywheel (M/T) or drive plate (A/T). See Fig. 6.

3) Loosen hold-down bolts and rotate distributor to adjust timing. Tighten distributor hold-down bolts to 16 ft. lbs. (22 N.m). Recheck timing to ensure it hasn't changed.

4) Remove timing light. Remove jumper wire from ignition timing check connector. Install rubber cap to inspection window.

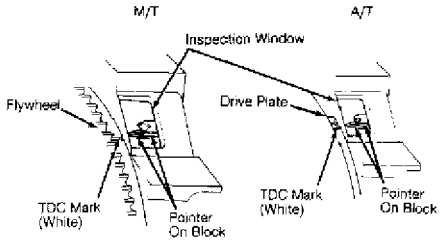

Fig. 6: Locating Ignition Timing Marks (Accord)
Courtesy of American Honda Motor Co., Inc.

IGNITION TIMING TABLE (Degrees BTDC @ RPM)

Application	Specification
Accord & Prelude	13-17 @ 700-800
Civic & Civic Del Sol	
1.5L Engine (D15B7)	
A/T	16 @ 700
M/T	16 @ 650
1.5L Engine (D15B8)	12 @ 650
1.5L Engine (D15Z1)	16 @ 600
1.6L Engine (D16Z6)	
A/T	16 @ 700
M/T	16 @ 650

Civic, Civic Del Sol & Prelude

1) To view timing marks on Prelude, remove rubber cap from inspection window on cylinder block by bellhousing. On Civic and Civic Del Sol, timing marks are on timing belt cover and crankshaft pulley. On all models, start and warm engine to normal operating temperature (cooling fan comes on). Connect timing light.

2) Ignition timing check connector is located behind passenger-side kick panel (Civic and Civic Del Sol) or under center of dash (Prelude). See Fig. 7 or 8. Connect jumper wire between Brown and Green/White wire terminals (Civic and Civic Del Sol) or Blue/White and Brown/White wire terminals (Prelude).

3) Check ignition timing and adjust to specification, if necessary. See IGNITION TIMING table. To adjust, loosen distributor hold-down bolts and turn distributor housing counterclockwise to

advance or clockwise to retard timing. Align pointer with Red timing mark.

4) Tighten distributor hold-down bolts to 16 ft. lbs. (22 N. m). Recheck timing. Remove jumper wire from ignition timing check connector. Reinstall cap into inspection window on Prelude.

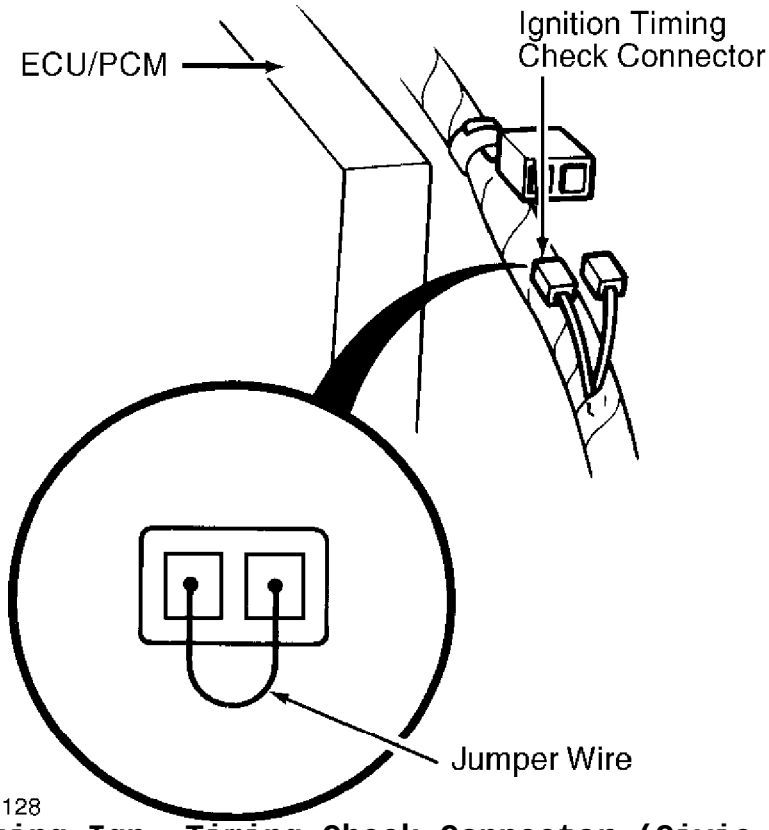

Fig. 7: Locating Ign. Timing Check Connector (Civic & Civic Del Sol) Courtesy of American Honda Motor Co., Inc.

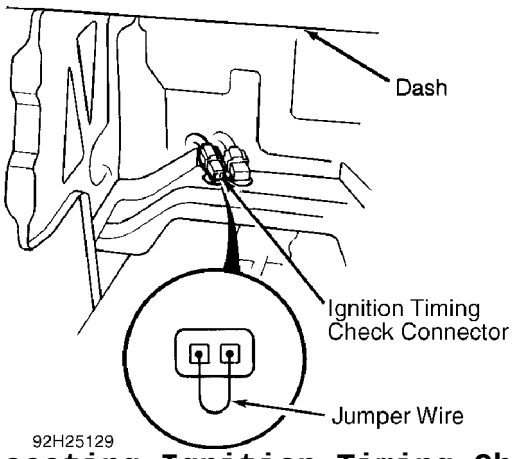

Fig. 8: Locating Ignition Timing Check Connector (Prelude) Courtesy of American Honda Motor Co., Inc.

D - ADJUSTMEI

IDLE SPEED & MIXTURE

IDLE MIXTURE

NOTE: Idle mixture is computer-controlled and is not adjustable. Maximum CO level is .1%.

IDLE SPEED

1) Start and warm engine to normal operating temperature (cooling fan comes on). Connect tachometer. Disconnect 2-wire Idle Air Control (IAC) valve connector. Ensure all accessories and cooling fan are off.

2) Check idle speed (before ECM is reset). If necessary, adjust idle speed by turning idle adjusting screw. SeeFig. 9. See IDLE SPEED SPECIFICATIONS table.

3) Turn ignition off. Reconnect 2-wire IAC connector. Remove BACK-UP fuse (Accord, Civic and Civic Del Sol) or CLOCK RADIO fuse (Prelude) from underhood relay box for 10 seconds to reset ECM. Restart engine.

4) On Civic, Civic Del Sol and Prelude, check idle speed (after ECM reset) with all accessories off and transmission in Neutral or Park. On Accord, check idle speed (after ECM reset) with transmission in gear.

5) On all models, idle engine for one minute with various accessories on, and check idle speed. Idle speed should be stable and within specification. See IDLE SPEED SPECIFICATIONS table. If idle is not within specification, check vacuum hose connections. Check idle adjuster screw, fast idle valve and Idle Air Control (IAC) valve for proper operation.

6) If idle components are okay, check MAP sensor, Electronic Load Detector (ELD), fuel injector circuit, A/C signal circuit, EGR system and lock-up control solenoid (if equipped) for proper operation. For component testing procedures, see G - TESTS W/ CODES and I - SYS/COMP TESTS articles in the ENGINE PERFORMANCE Section.

On Civic VX there has been a revision as per TSB Number HSN-0894-02 dated August 1994. Idle engine for one minute with headlights (low) ON, and check idle speed.

IDLE SPEED SPECIFICATIONS TABLE

Application	RPM
Accord & Prelude	
Before ECM Reset (1)	**500-600**
After ECM Reset (2)	
No Load	**650-750**

Under Load	720-820
Civic & Civic Del Sol	
Before ECM Reset (1)	370-470
After ECM Reset (2)	
No Load	
A/T	650-750
M/T	
Except D15Z1 M/T	620-720
D15Z1 M/T	550-650
Under Load	
Except D15Z1 M/T	700-800
D15Z1 M/T	650-750

(1) - With Idle Air Control (IAC) valve disconnected, headlights and cooling fan off and transmission in Neutral or Park.
(2) - See IDLE SPEED under IDLE SPEED & MIXTURE.

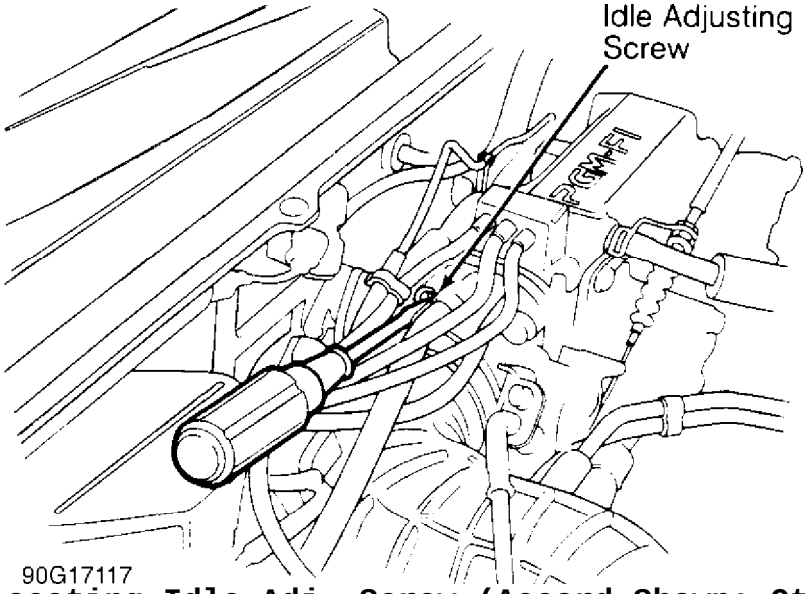

Fig. 9: Locating Idle Adj. Screw (Accord Shown; Other Models Similar) Courtesy of American Honda Motor Co., Inc.

THROTTLE ANGLE (POSITION) SENSOR

NOTE: For testing procedures, refer to G - TESTS W/ CODES or I - SYS/COMP TESTS article in the ENGINE PERFORMANCE Section. See THROTTLE ANGLE (POSITION) SENSOR SPECIFICATIONS table.

THROTTLE ANGLE (POSITION) SENSOR SPECIFICATIONS TABLE

Condition	Volts

Throttle Valve
Fully Closed 5
Wide Open 4.5

END OF ARTICLE