ON-VEHICLE ADJUSTMENTS

2001 Honda Civic

2001 ENGINE PERFORMANCE
On-Vehicle Adjustments

NOTE: For on-vehicle adjustments on Passport, refer to Rodeo in Isuzu ON-VEHICLE ADJUSTMENTS article.

NOTE: Information for Civic HX (D17A6 engine) is not available from manufacturer.

SERVICE PRECAUTIONS

INSIGHT

WARNING: When performing any inspection or service procedure on this vehicle, ensure following service precautions are followed to prevent personal injury or death due to the extremely high voltage.

The following service precautions must be followed:

* Ensure ignition is off and ignition key is removed from ignition before performing any inspection or service procedure in engine compartment, as engine may automatically start and shut off when ignition is on.
* Read all service and warning labels in engine compartment before performing any procedures in engine compartment.
* All high-voltage wire harness connectors contain Orange connectors. DO NOT touch any wiring harness that contains Orange connectors.
* High-voltage battery and other high-voltage components may be identified by HIGH VOLTAGE caution labels. DO NOT touch these components.
* If necessary to inspect or service high-voltage system, ensure ignition is off. Remove trunk floor mat. Remove battery module cover from Intelligent Power Unit (IPU) lid. Remove locking cover from battery module switch. Turn battery module switch off and install locking cover on switch. See Fig. 1. Wait at least 5 minutes to allow condensors to discharge before touching any high-voltage wiring harness, connectors or components. Remove undercover, mid-frame cover clips and IPU lid. See Fig. 2. Using a DVOM, measure voltage at junction board terminals. See Fig. 3. If voltage reading is 0.1 volt or less, high-voltage system has been properly deactivated and high-voltage cables can be disconnected safely. If voltage is present, DO NOT attempt to disconnect high-voltage cables due to a malfunction in high-voltage system.
* If necessary to touch any high-voltage wiring harness, connectors or components, use insulated gloves. Ensure insulated gloves are dry and in good condition and that no holes exist in insulated gloves by applying air pressure to insulated glove before touching any high-voltage wiring harness, connectors or components.
* DO NOT wear any metal objects while working on vehicle which may accidently drop and cause a short circuit.
* If any high-voltage wiring harness connector is disconnected, ensure terminal on wiring harness connector is wrapped with tape to prevent wiring harness connector from

contacting any surface.
* If servicing high-voltage system, place sign on roof of vehicle to indicate to other technicians that high-voltage system is being serviced.

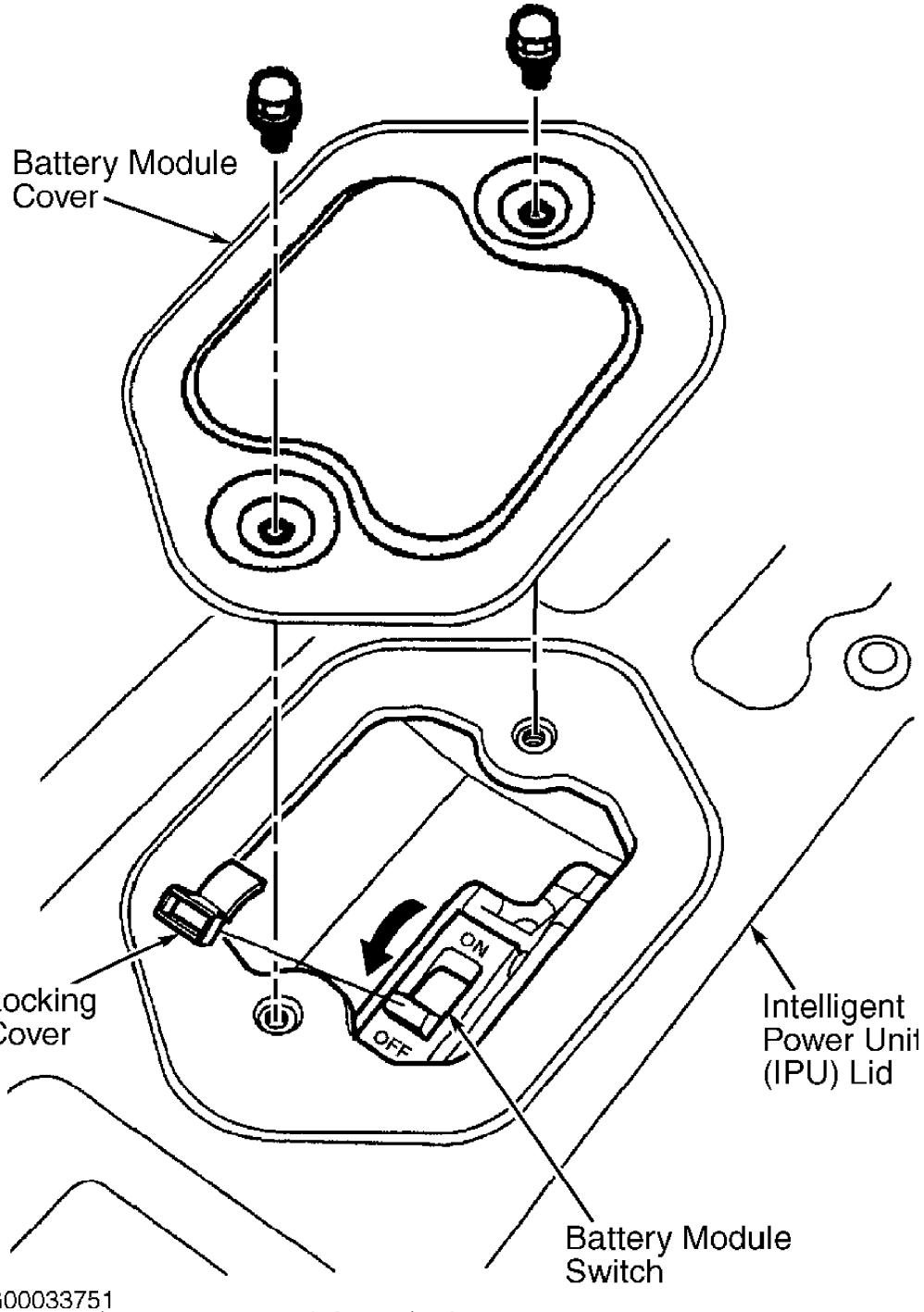

Fig. 1: Locating Battery Module Switch
Courtesy of American Honda Motor Co., Inc.

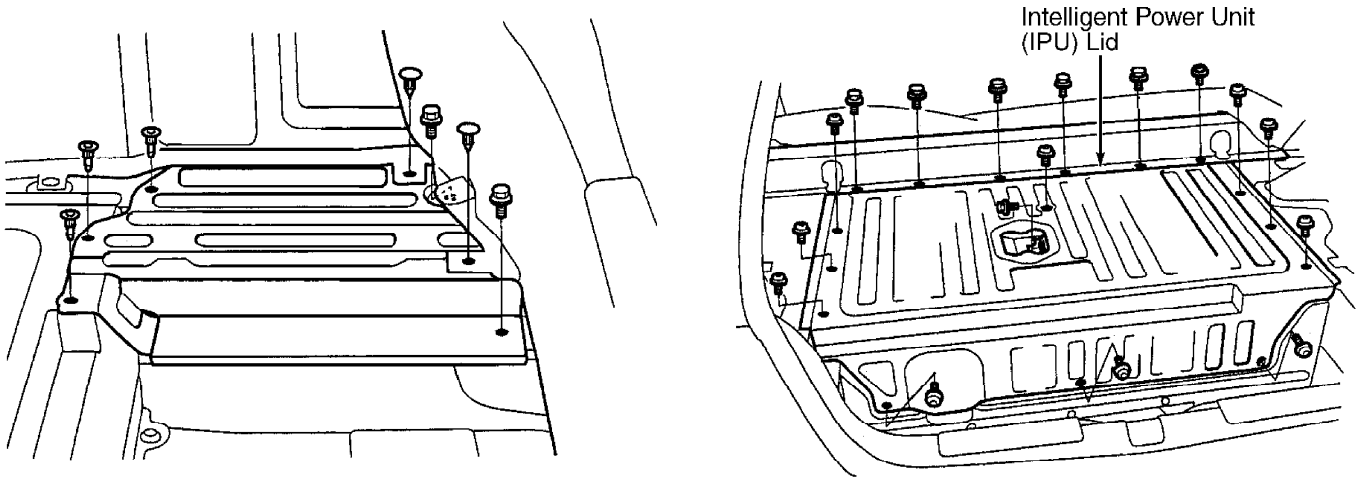

Fig. 2: Removing Undercover & Mid-Frame Cover
Courtesy of American Honda Motor Co., Inc.

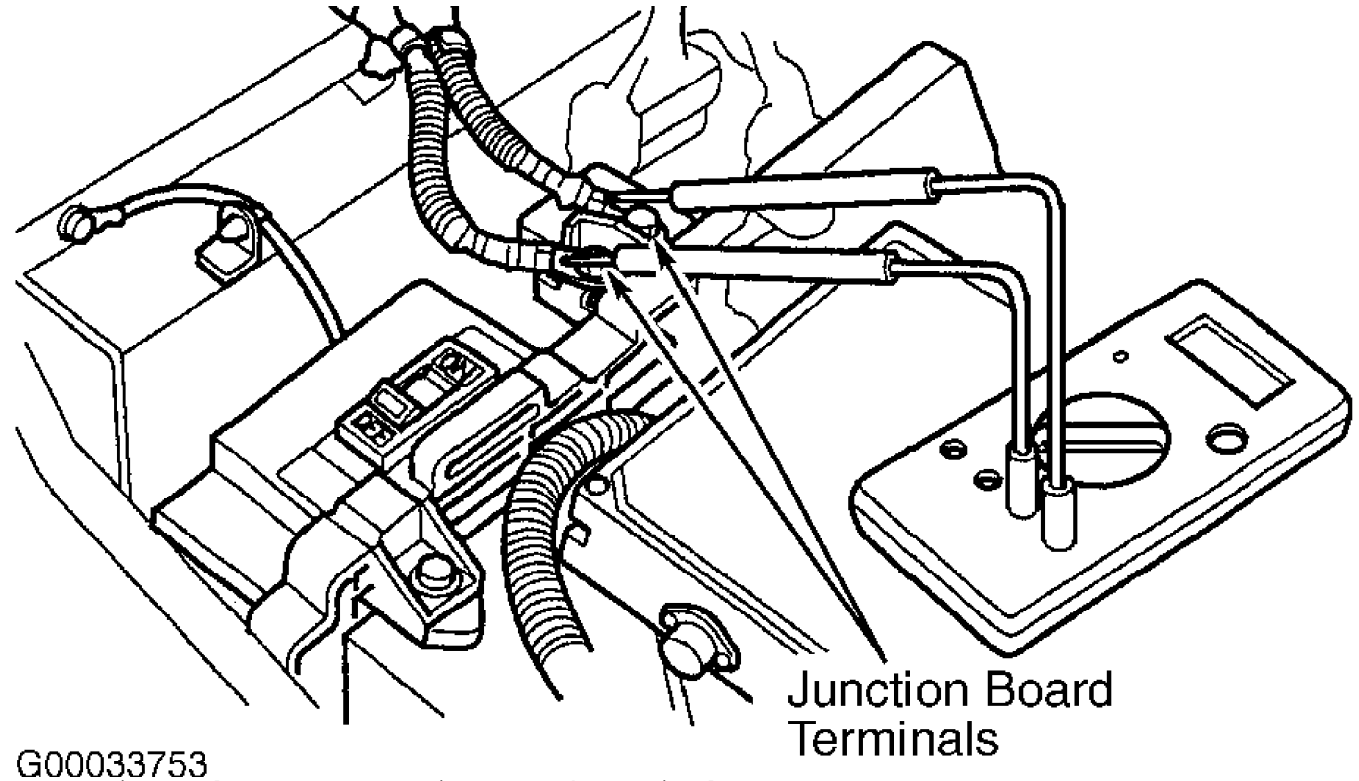

Fig. 3: Testing Voltage At Junction Board Terminals
Courtesy of American Honda Motor Co., Inc.

ENGINE MECHANICAL

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

VALVE CLEARANCE

DUAL OVERHEAD CAMSHAFTS (DOHC)

NOTE: Valves should be adjusted only when cylinder head temperature is less than 100°F (38°C).

CR-V & Prelude

NOTE: On some applications, word "UP" is cast into camshaft pulley. On other applications "UP" mark will be represented by an arrow pointing to outer edge of camshaft pulley.

1) Remove upper timing cover, valve cover, spark plugs and distributor cap. Adjustment of exhaust and intake valves for each cylinder are done at same time.

2) On CR-V, rotate crankshaft to bring piston No. 1 to Top Dead Center (TDC) on compression stroke by aligning White mark on crankshaft pulley with pointer. On Prelude, remove rubber plug from window in flywheel/drive plate housing located under distributor. Rotate crankshaft to bring piston No. 1 to Top Dead Center (TDC) on compression stroke by aligning White mark on drive plate (A/T) or flywheel (M/T) with pointer.

3) On all models, TDC (White mark) should align with timing pointer. The "UP" marks on camshaft pulleys should be at top, and TDC grooves on camshaft pulleys should align with cylinder head surface. See Fig. 4.

4) Measure clearance between camshaft and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 5. Adjust valve clearances to specification if necessary. Loosen valve adjuster lock nuts and turn adjusting screw for each valve on cylinder No. 1. Go to next step.

5) On CR-V, tighten valve adjuster lock nuts to 18 ft. lbs. (24 N.m). On Prelude, tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m). On all models, check valve clearance after tightening lock nut. Readjust valve clearance if necessary.

6) Rotate crankshaft counterclockwise 180 degrees (camshaft pulleys rotate 90 degrees). Ensure "UP" marks on camshaft pulleys are on exhaust side and cylinder No. 3 is at TDC. Adjust valves on cylinder No. 3. Repeat step 5) and go to next step.

7) Rotate crankshaft counterclockwise 180 degrees (camshaft pulleys rotate 90 degrees). Ensure "UP" marks on camshaft pulleys are aligned and pointing downward, TDC grooves on camshaft pulleys are aligned with cylinder head surface and cylinder No. 4 is at TDC. Adjust valves on cylinder No. 4. Repeat step 5) and go to next step.

8) Rotate crankshaft counterclockwise 180 degrees (camshaft pulleys rotate 90 degrees). Ensure "UP" marks on camshaft pulleys are on intake side and cylinder No. 2 is at TDC. Adjust valves on cylinder No. 2. Repeat step 5) and go to next step.

9) After adjusting valve clearance, retighten crankshaft pulley bolt to 181 ft. lbs. (245 N.m). Replace upper timing cover, valve cover, spark plugs and distributor cap. On CR-V, tighten timing cover and valve cover bolts and nuts to 89 INCH lbs. (10 N.m). Tighten valve cover bolts and nuts sequentially in 2-3 passes. See Fig. 6. On Prelude, tighten timing cover and valve cover bolts and nuts sequentially in 2-3 passes to 106 INCH lbs. (12 N.m). See Fig. 7.

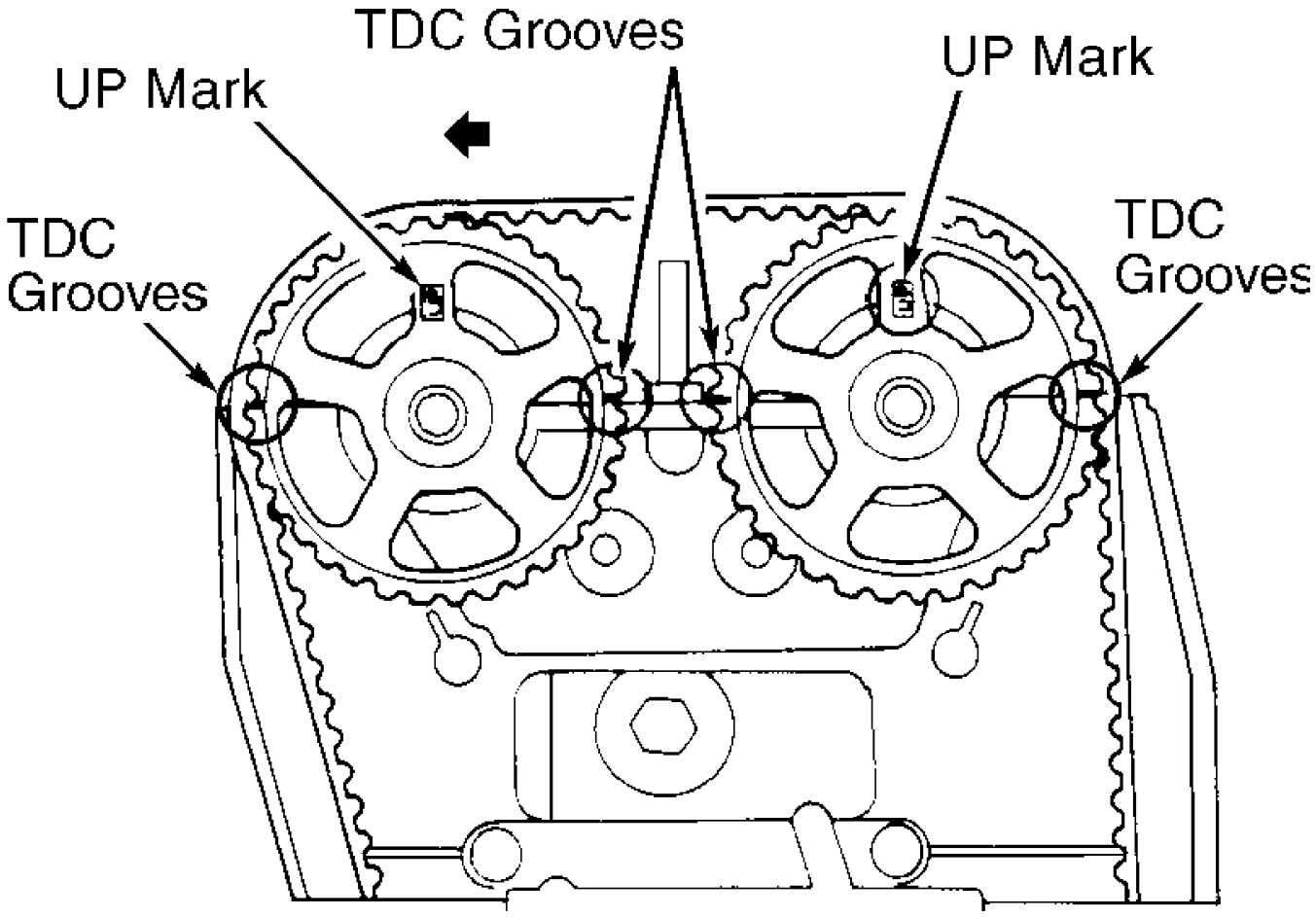

Fig. 4: Aligning DOHC Pulleys To Cylinder No. 1 (CR-V & Prelude)
Courtesy of American Honda Motor Co., Inc.

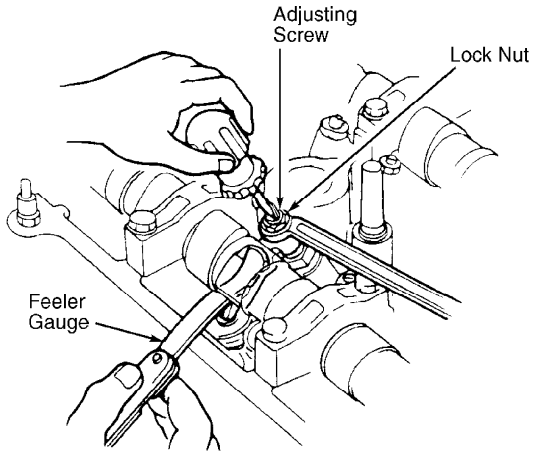

Fig. 5: Adjusting DOHC Valve Clearances (CR-V & Prelude)
Courtesy of American Honda Motor Co., Inc.

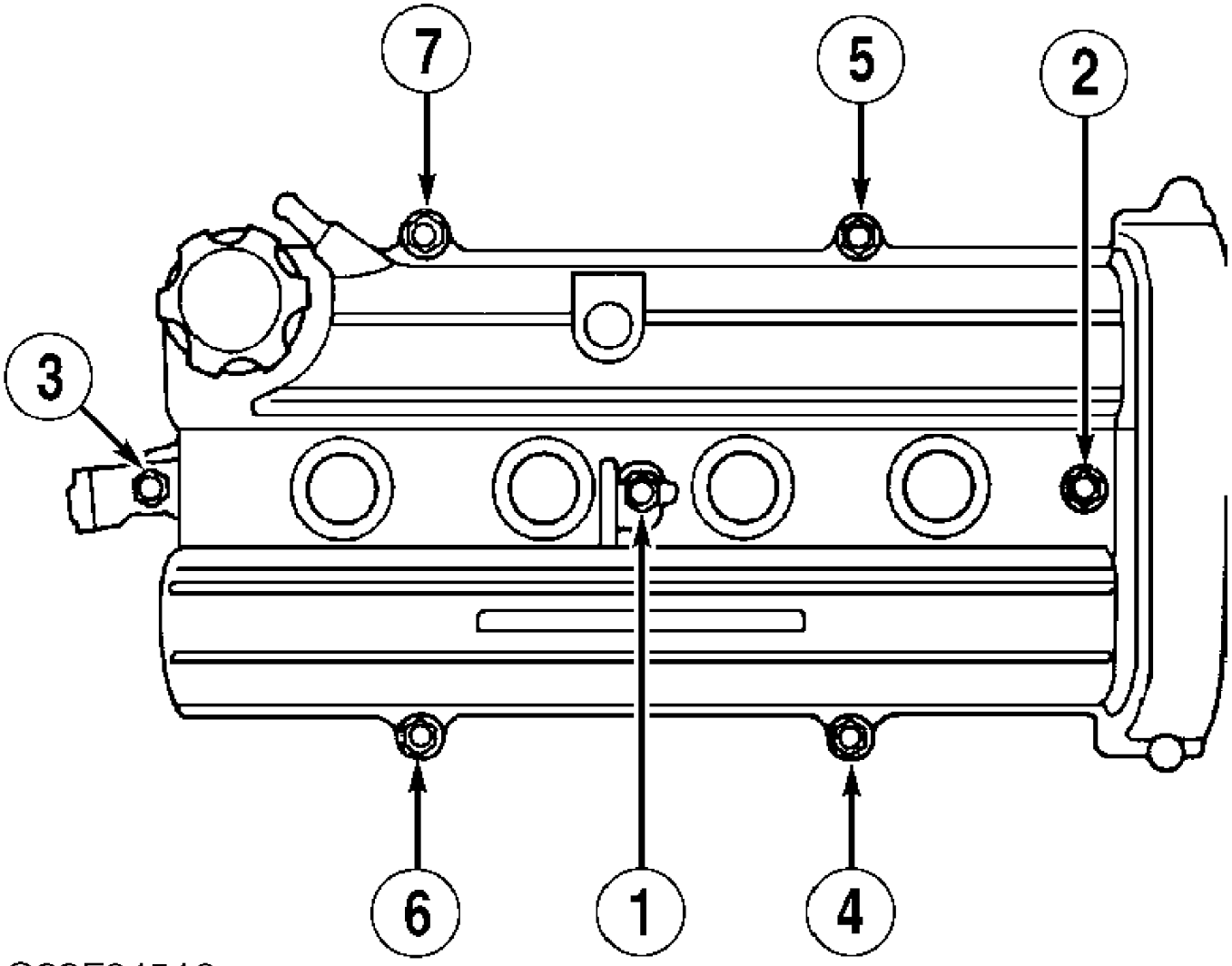

Fig. 6: Valve Cover Tightening Sequence (CR-V)
Courtesy of American Honda Motor Co., Inc.

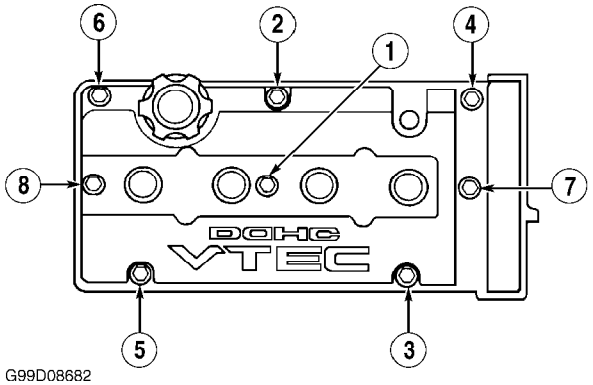

Fig. 7: Valve Cover Tightening Sequence (Prelude)
Courtesy of American Honda Motor Co., Inc.

S2000
1) Remove dipstick. Disconnect Positive Crankcase Ventilation

(PCV) and breather hose. Remove ignition coil cover and ignition coils. Remove spark plugs and valve cover. Adjustment of exhaust and intake valves for each cylinder are done at same time. Rotate crankshaft to bring piston No. 1 to Top Dead Center (TDC) on compression stroke by aligning White mark on crankshaft pulley with pointer. Marks on timing chain pulley should be aligned with cylinder head surface. Marks on outer edges of camshaft pulleys should be pointing toward each other. See Fig. 8.

2) Measure clearance between valve stem and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 9. Adjust valve clearances to specification, if necessary. Loosen valve adjuster lock nuts, located under camshaft, and turn adjusting screw for each valve on cylinder No. 1. Go to next step.

3) Tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m). Check valve clearance after tightening lock nut. Readjust valve clearance, if necessary.

4) Rotate crankshaft clockwise 180 degrees (camshaft pulleys rotate counterclockwise 90 degrees). Ensure mark on intake camshaft pulley is pointing down, mark on exhaust camshaft pulley is pointing up, and cylinder No. 3 is at TDC. Adjust valves on cylinder No. 3. Repeat step 3) and go to next step.

5) Rotate crankshaft clockwise 180 degrees (camshaft pulleys rotate counterclockwise 90 degrees). Ensure mark on intake camshaft pulley and mark on exhaust camshaft pulley are pointing away from each other and cylinder No. 4 is at TDC. Adjust valves on cylinder No. 4. Repeat step 3) and go to next step.

6) Rotate crankshaft clockwise 180 degrees (camshaft pulleys rotate counterclockwise 90 degrees). Ensure mark on intake camshaft pulley is pointing up and mark on exhaust camshaft pulley is pointing down and cylinder No. 2 is at TDC. Adjust valves on cylinder No. 2. Repeat step 3) and go to next step.

7) After adjusting valve clearances, retighten crankshaft pulley bolt to 181 ft. lbs. (245 N.m). To complete valve adjusting procedure, reverse removal procedures. Ensure valve cover mating surfaces are clean. Ensure spark plug seals are not damaged. Tighten valve cover sequentially in 2-3 passes to 106 INCH lbs. (12 N.m). See Fig. 10.

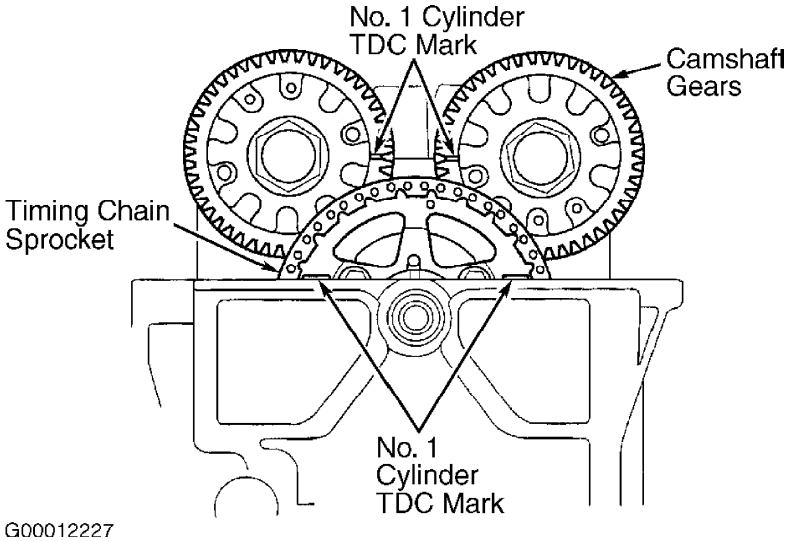

Fig. 8: Aligning Dual Camshaft Pulleys To Cylinder No. 1 (S2000)
Courtesy of American Honda Motor Co., Inc.

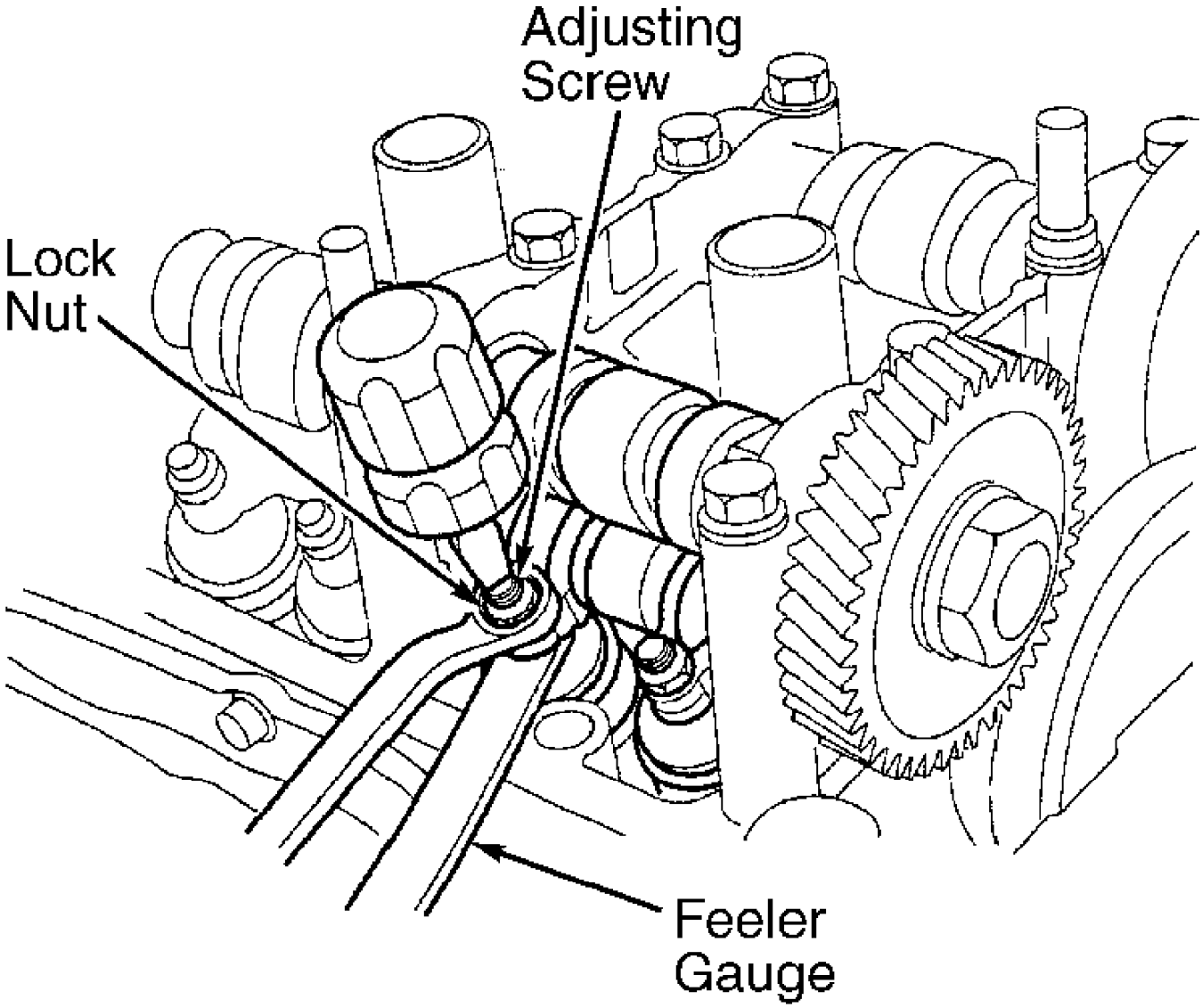

Fig. 9: Adjusting Valve Clearances (S2000)
Courtesy of American Honda Motor Co., Inc.

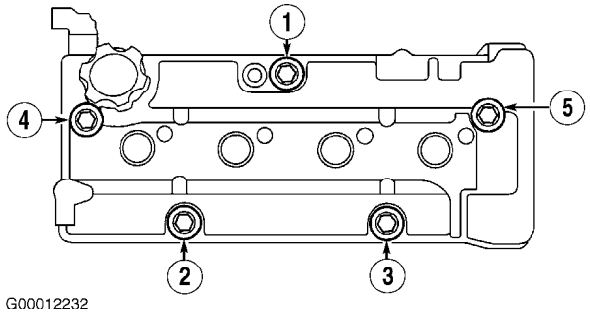

Fig. 10: Valve Cover Tightening Sequence (S2000)
Courtesy of American Honda Motor Co., Inc.

SINGLE OVERHEAD CAMSHAFT (SOHC)

NOTE: Valves should be adjusted only when cylinder head temperature is less than 100°F (38°C).

NOTE: On some applications, word "UP" is cast into camshaft pulley. On other applications "UP" mark will be represented by an arrow pointing to outer edge of camshaft pulley.

Accord 2.3L & Civic

1) On Accord 2.3L, remove timing belt upper cover, valve cover, spark plugs and distributor cap. On Civic, remove ignition coil cover and ignition coils. Remove throttle cable clamps and harness holder from valve cover and remove valve cover. Remove grommet from upper timing cover. Disconnect TDC sensor and remove upper timing cover. On all models, adjustment of exhaust and intake valves for each cylinder are done at same time.

2) Rotate crankshaft to bring piston No. 1 to Top Dead Center (TDC) on compression stroke by aligning White mark on crankshaft pulley with pointer. On Accord, distributor rotor should point to spark plug wire No. 1 on distributor cap. On all models, "UP" mark on camshaft pulley should be at top, and TDC grooves on camshaft pulley should align with cylinder head surface. See Fig. 11.

3) Measure clearance between valve stem and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 20. Adjust valve clearances to specification if necessary. Loosen valve adjuster lock nuts and turn adjusting screw for each valve on cylinder No. 1. Go to next step.

4) On Accord and Civic with D17A2 engine, tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m). On Civic with D17A1 engine, tighten valve adjuster lock nuts to 13 ft. lbs. (18 N.m). On all models, check valve clearance and repeat adjustment, if necessary.

5) Rotate crankshaft counterclockwise 180 degrees (camshaft pulley rotates 90 degrees). Ensure "UP" mark on camshaft pulley is on exhaust side and cylinder No. 3 is at TDC. Adjust valves on cylinder No. 3. Repeat step 4) and go to next step.

6) Rotate crankshaft counterclockwise 180 degrees (camshaft pulley rotates 90 degrees). Ensure "UP" mark on camshaft pulley is pointing downward, TDC grooves on camshaft pulley are aligned with cylinder head surface and cylinder No. 4 is at TDC. Adjust valves on cylinder No. 4. Repeat step 4) and go to next step.

7) Rotate crankshaft counterclockwise 180 degrees (camshaft pulley rotates 90 degrees). Ensure "UP" mark on camshaft pulley is on intake side and cylinder No. 2 is at TDC. Adjust valves on cylinder No. 2. Repeat step 4) and go to next step.

8) After adjusting valve clearances, retighten crankshaft pulley bolt to 181 ft. lbs. (245 N.m) on Accord. On Civic D17A1 and D17A2 engines, retighten crankshaft pulley bolt to 14 ft. lbs. (19 N. m) without using an impact wrench and then tighten bolt an additional 90°. Install timing belt upper cover, valve cover, and all other components in reverse order of removal. Tighten timing belt cover and valve cover bolts and nuts to 87 INCH lbs. (10 N.m). Tighten valve cover bolts sequentially in 2-3 passes. See Figs. 12 or 13.

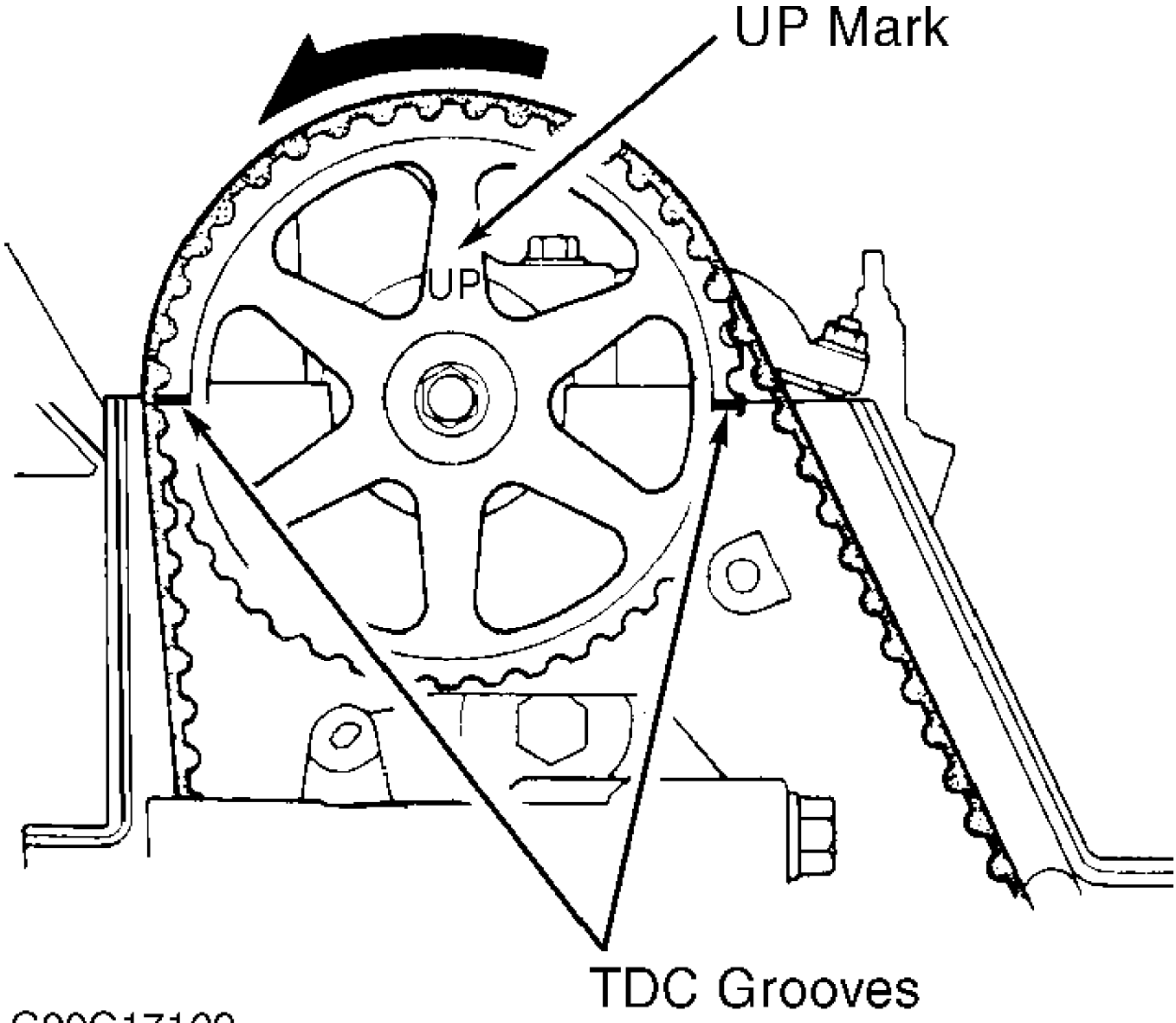

Fig. 11: Aligning No. 1 Cylinder SOHC Pulley Top Dead Center (TDC) Marks (Accord 2.3L & Civic)
Courtesy of American Honda Motor Co., Inc.

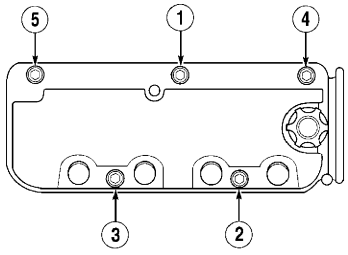

Fig. 12: Valve Cover Tightening Sequence (Accord 2.3L)
Courtesy of American Honda Motor Co., Inc.

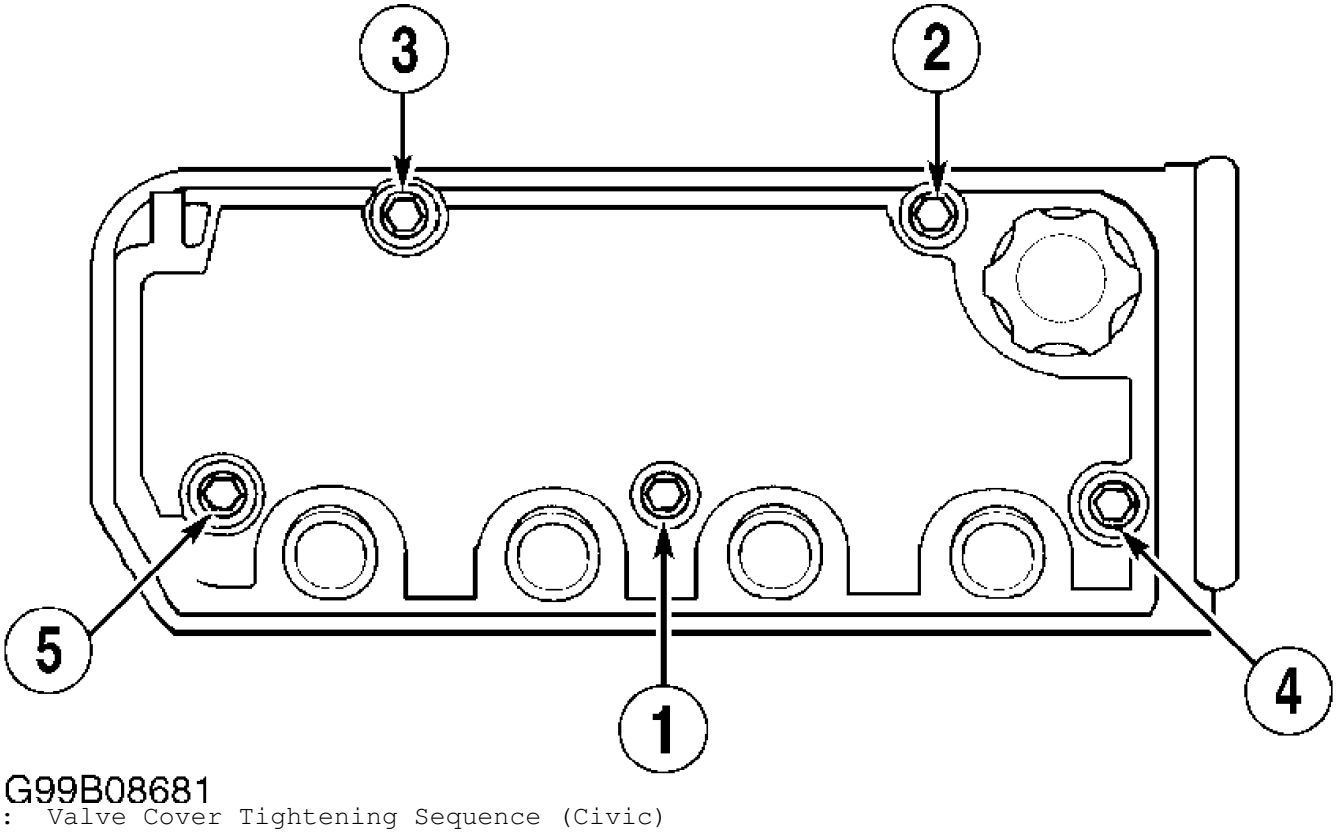

Fig. 13: Valve Cover Tightening Sequence (Civic)
Courtesy of American Honda Motor Co., Inc.

Accord 3.0L

1) Remove throttle body cover, intake manifold covers and intake manifold cover stay. Disconnect EVAP canister hose from throttle body. Disconnect vacuum hose and breather pipe from intake air duct, and remove intake air duct. Loosen lock nuts on throttle and cruise control cables and remove cables from accelerator linkage.

2) Disconnect vacuum hoses, brake booster vacuum hose and PCV hose from manifold. Disconnect breather hose and water by-pass hoses from throttle body. Remove intake manifold, valve covers and front upper timing belt cover. Adjustment of exhaust and intake valves for each cylinder are done at same time.

3) Rotate crankshaft clockwise until cylinder No. 1 Top Dead Center (TDC) mark on front camshaft pulley is aligned with TDC mark on back cover. See Fig. 16. Measure clearance between valve stem and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 20. Adjust valve clearances to specification if necessary. Loosen valve adjuster lock nuts and turn adjusting screw for each valve on cylinder No. 1. Go to next step.

4) Tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and check valve clearance. Repeat adjustment, if necessary. Rotate crankshaft clockwise until cylinder No. 4 TDC mark on front camshaft pulley is aligned with TDC mark on back cover. Loosen valve adjuster lock nuts and adjust valves. Tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and check valve clearance. Readjust valve clearance, if necessary.

5) Rotate crankshaft clockwise until TDC mark for next cylinder in firing order is aligned with TDC mark on back cover. See Fig. 16. Loosen valve adjusting lock nuts, adjust valve clearances. Tighten adjusting lock nuts. Check valve clearance and readjust if necessary. Repeat valve adjusting procedure in cylinder firing order

until all valve clearances are correct.

6) After adjusting valve clearances, retighten crankshaft pulley bolt to 181 ft. lbs. (245 N.m). To complete valve adjusting procedure, reverse removal procedures. Tighten intake manifold sequentially in 2-3 passes to 16 ft. lbs. (22 N.m). See Fig. 14. Tighten valve covers sequentially in 2-3 passes to 106 INCH. lbs. (12 N.m). See Fig. 15.

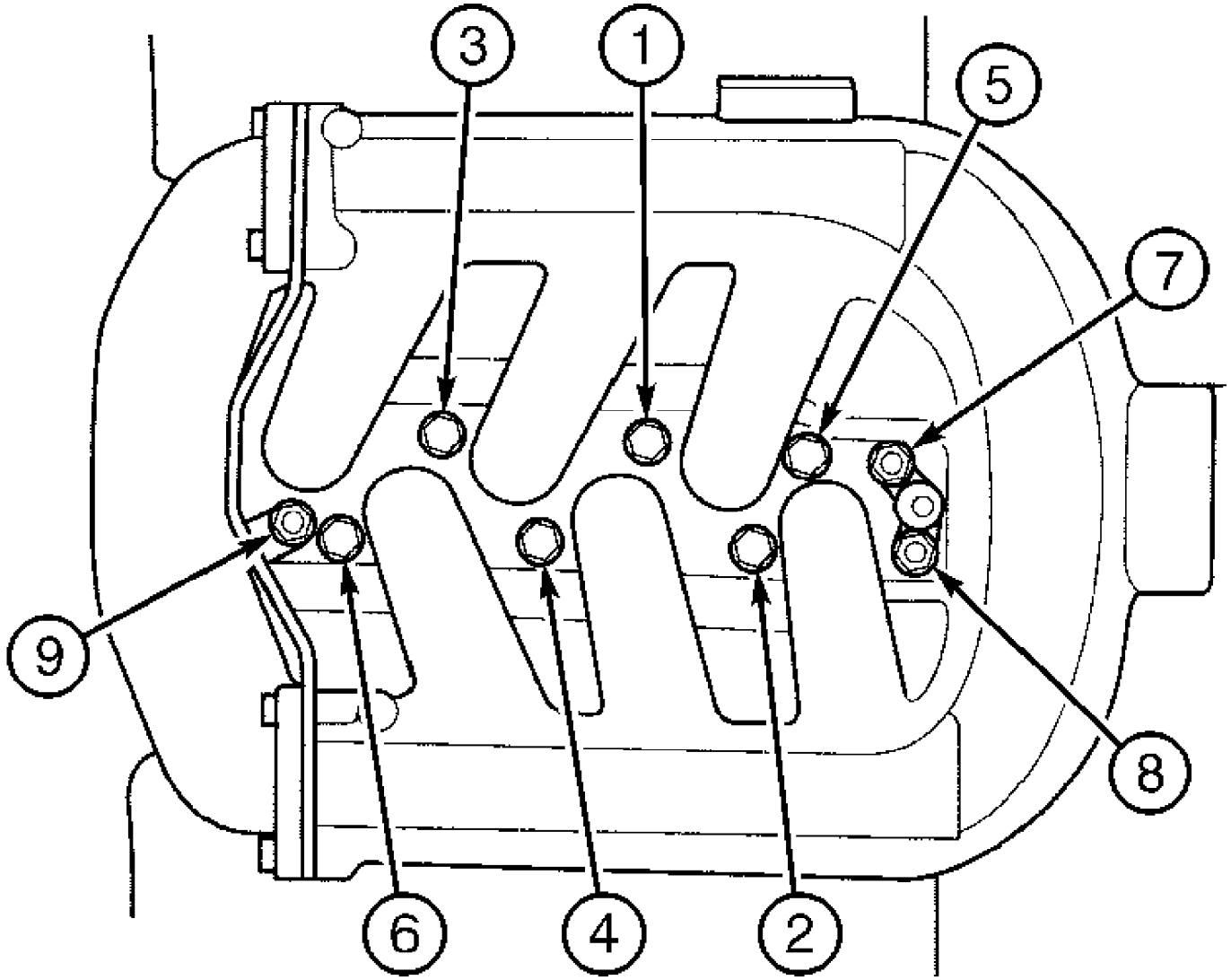

Fig. 14: Intake Manifold Tightening Sequence (Accord 3.0L)
Courtesy of American Honda Motor Co., Inc.

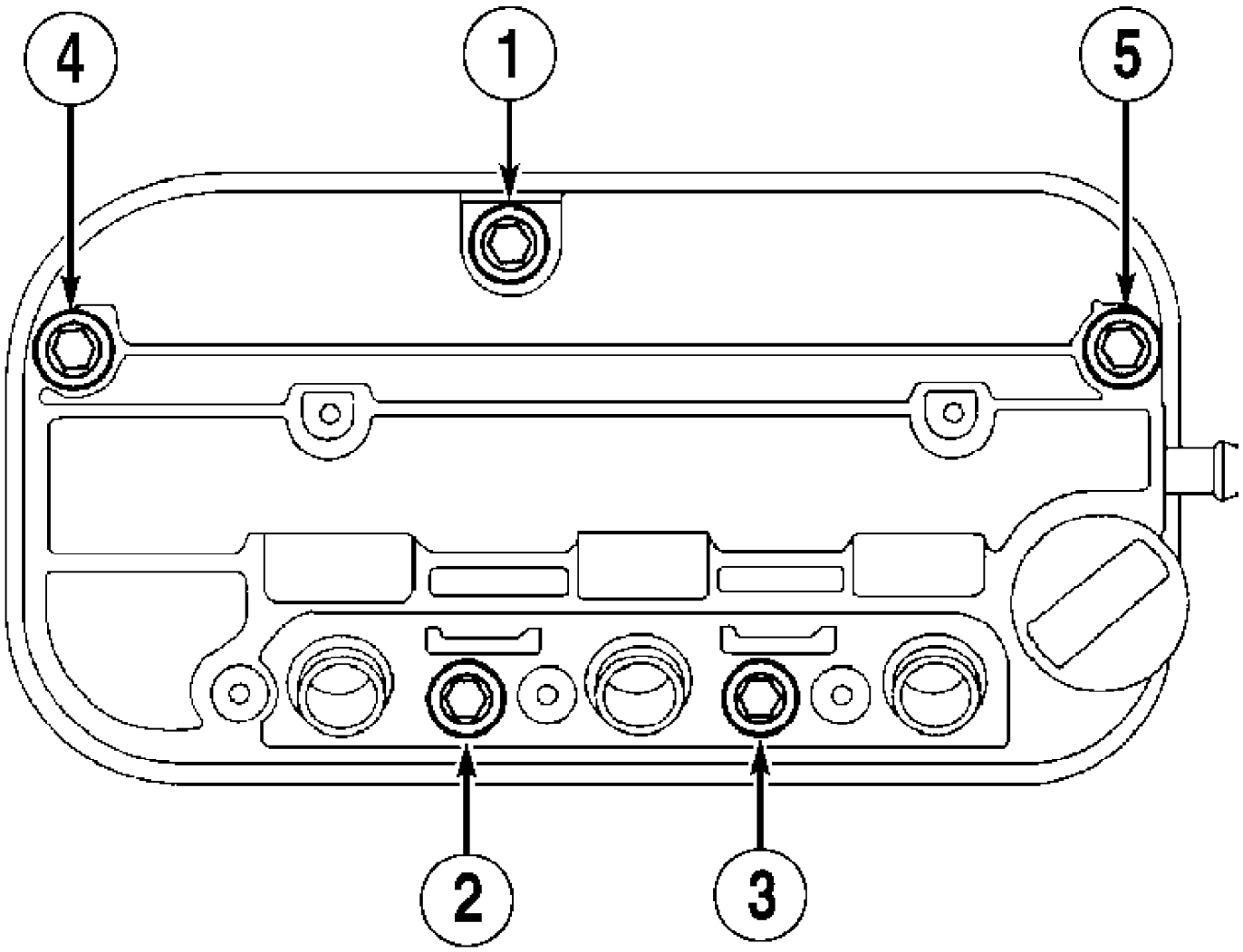

Fig. 15: Valve Cover Tightening Sequence (Accord 3.0L & Odyssey)
Courtesy of American Honda Motor Co., Inc.

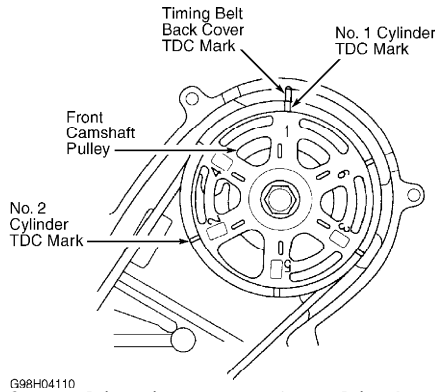

Fig. 16: Aligning No. 1 Cylinder SOHC Pulley Top Dead Center (TDC) Marks (Accord 3.0L & Odyssey)
Courtesy of American Honda Motor Co., Inc.

Insight

1) Remove engine cover and valve cover. Rotate crankshaft to bring piston No. 1 to Top Dead Center (TDC) on compression stroke by aligning White mark on crankshaft pulley with pointer. No. 1 piston TDC mark on camshaft sprocket should be aligned with cylinder head surface. See Fig. 17.

2) Measure clearance between valve stem and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 20. Adjust valve clearances to specification if necessary. Loosen valve adjuster lock nuts on valves for cylinder No. 1, and adjust valve clearances to specification.

3) Tighten intake valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and exhaust valve adjuster lock nuts to 10 ft. lbs. (14 N.m) and check valve clearance. Readjust valve clearance, if necessary. Rotate crankshaft clockwise 240° (camshaft sprocket turns 120°) until No. 3 TDC mark on camshaft sprocket is aligned with cylinder head surface. Loosen valve adjuster lock nuts and adjust valves. Tighten intake valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and exhaust valve adjuster lock nuts to 10 ft. lbs. (14 N.m) and check valve clearance. Readjust valve clearance, if necessary.

4) Rotate crankshaft clockwise 240° (camshaft sprocket turns 120°) until No. 2 TDC mark on camshaft sprocket is aligned with cylinder head surface. Loosen valve adjuster lock nuts and adjust valves. Tighten intake valve adjuster lock nuts to 14 ft. lbs. (19 N. m) and exhaust valve adjuster lock nuts to 10 ft. lbs. (14 N.m) and check valve clearance. Readjust valve clearance, if necessary.

5) After adjusting valve clearances, retighten crankshaft pulley bolt to 14 ft. lbs. (19 N.m). To complete valve adjusting procedure, reverse removal procedures. Ensure valve cover mating surfaces are clean. Install NEW intake manifold gasket. Tighten valve cover bolts sequentially in 2-3 passes to 106 INCH. lbs. (12 N.m). See Fig. 18.

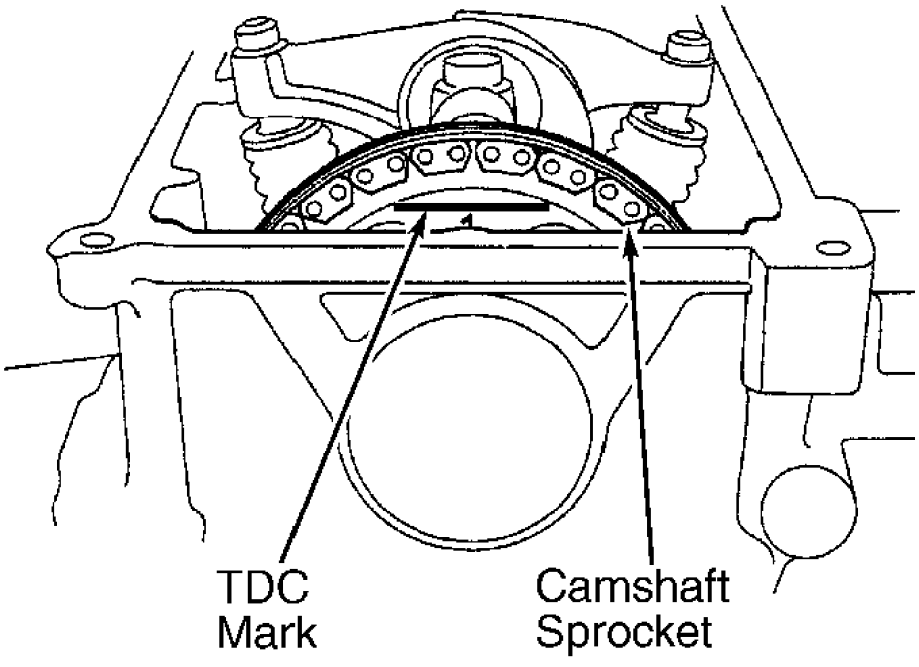

Fig. 17: Aligning No. 1 Cylinder SOHC Pulley Top Dead Center (TDC) Mark (Insight)
Courtesy of American Honda Motor Co., Inc.

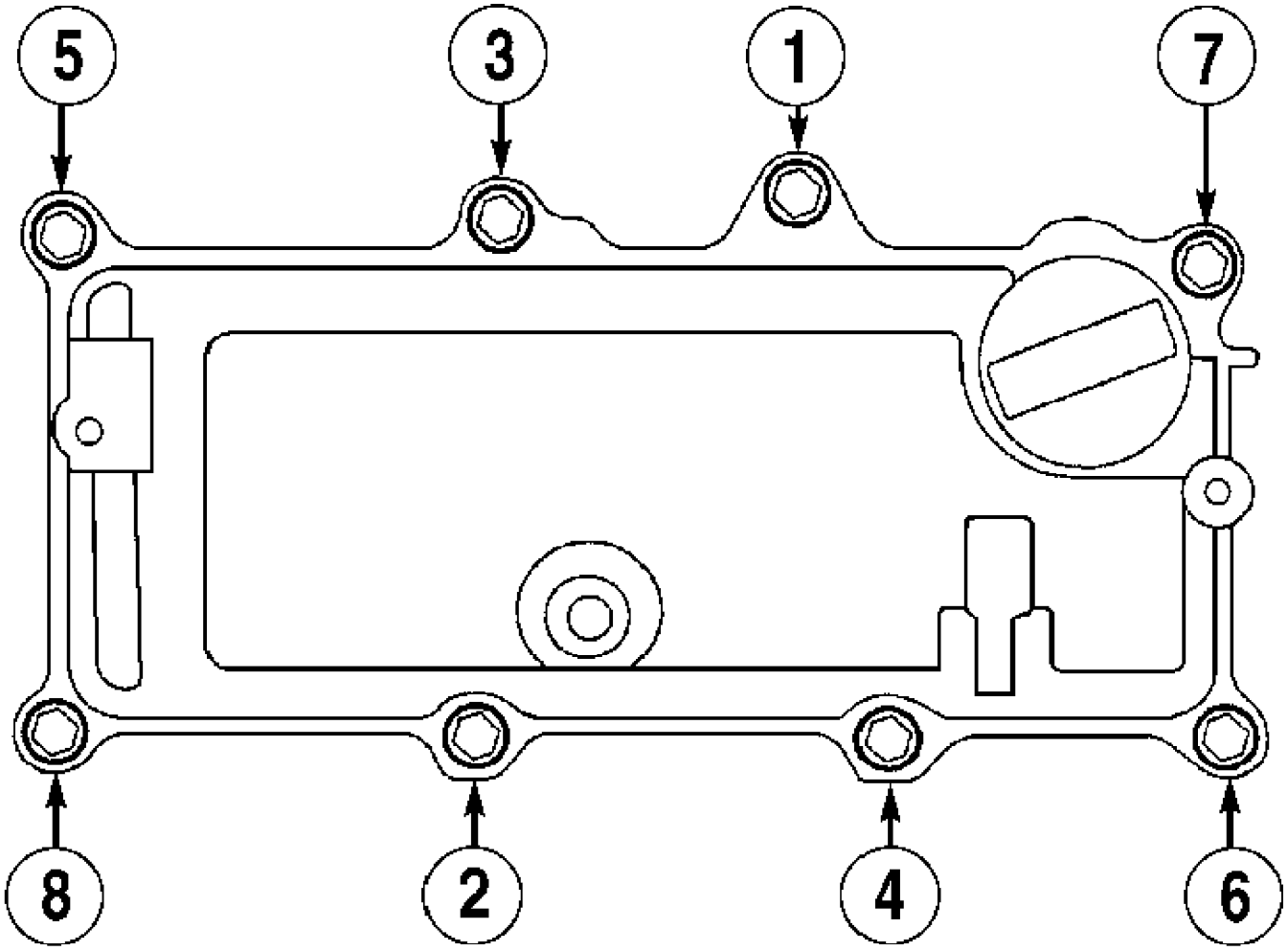

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Fig. 18: Valve Cover Tightening Sequence (Insight)
Courtesy of American Honda Motor Co., Inc.

Odyssey

1) Disconnect EVAP canister hose from throttle body. Disconnect vacuum hose and breather pipe from intake air duct, and remove intake air duct. Remove ignition coil and intake manifold covers. Loosen lock nuts on throttle and cruise control cables and remove cables from accelerator linkage.

2) Disconnect vacuum hoses, brake booster vacuum hose and PCV hose from manifold. Remove engine wire harness and wire harness clamps from intake manifold. Disconnect Intake Air Temperature (IAT) sensor, Idle Air Control (IAC) valve, Throttle Position (TP) sensor, and Manifold Absolute Pressure (MAP) sensor connectors. Disconnect breather hose and water by-pass hoses from throttle body. Remove intake manifold, valve covers and front upper timing belt cover.

3) Rotate crankshaft clockwise until cylinder No. 1 Top Dead Center (TDC) mark on front camshaft pulley is aligned with TDC mark on back cover. See Fig. 16. Measure clearance between valve stem and rocker arm. See VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD) table. See Fig. 20. Adjust valve clearances to specification if necessary. Loosen valve adjuster lock nuts on valves for cylinder No. 1, and adjust valve clearances to specification.

4) Tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and check valve clearance. Repeat adjustment, if necessary. Rotate crankshaft clockwise until cylinder No. 4 TDC mark on front camshaft pulley is aligned with TDC mark on back cover. Loosen valve adjuster lock nuts and adjust valves. Tighten valve adjuster lock nuts to 14 ft. lbs. (19 N.m) and check valve clearance. Readjust valve clearance, if necessary.

5) Rotate crankshaft clockwise until TDC mark for next cylinder in firing order is aligned with TDC mark on back cover. See Fig. 16. Loosen valve adjusting lock nuts, adjust valve clearances. Tighten adjusting lock nuts. Check valve clearance and readjust if necessary. Repeat valve adjusting procedure in cylinder firing order until all valve clearances are correct.

6) After adjusting valve clearances, retighten crankshaft pulley bolt to 181 ft. lbs. (245 N.m). To complete valve adjusting procedure, reverse removal procedures. Ensure valve cover mating surfaces are clean. Ensure spark plug seals are not damaged. Install NEW intake manifold gasket. Tighten intake manifold sequentially in 2-3 passes to 16 ft. lbs. (22 N.m). See Fig. 19. Tighten valve covers sequentially in 2-3 passes to 106 INCH. lbs. (12 N.m). See Fig. 15.

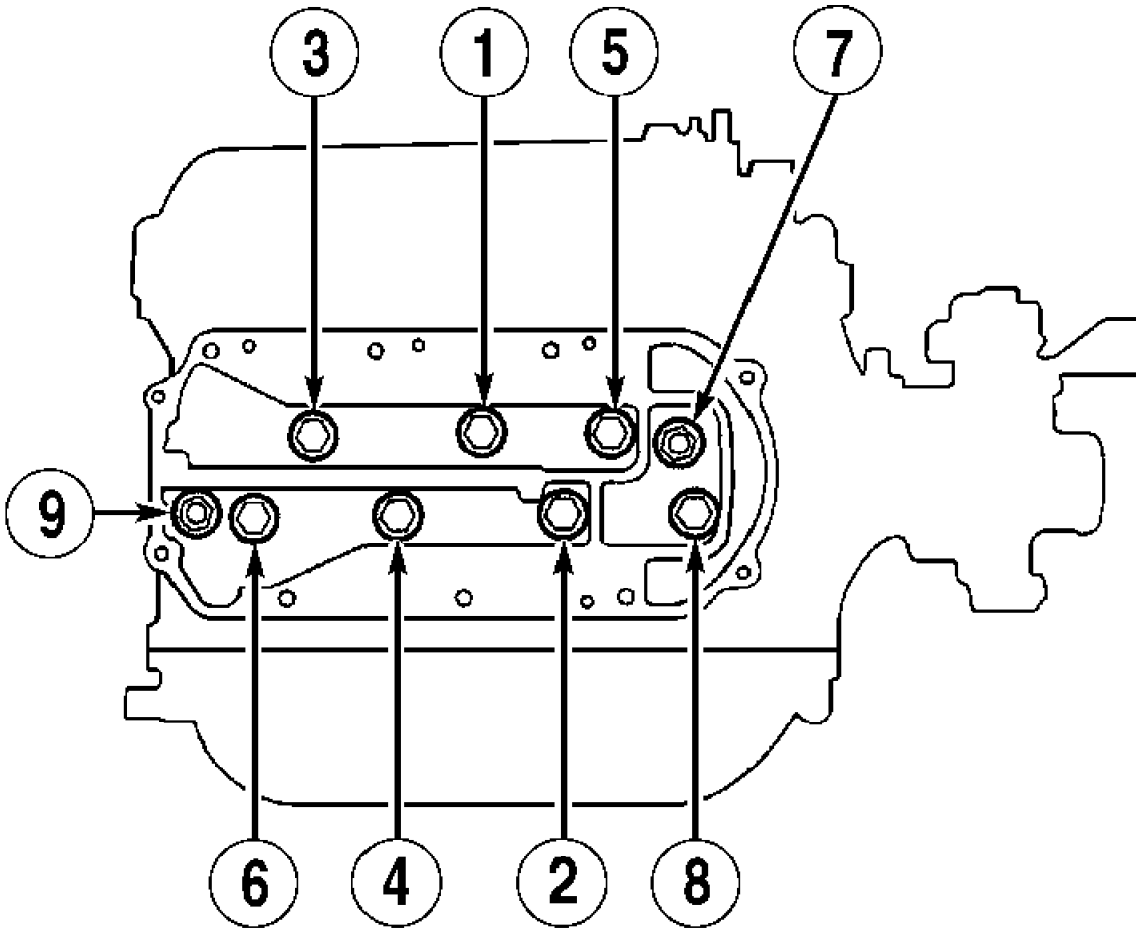

Fig. 19: Intake Manifold Tightening Sequence (Odyssey)
Courtesy of American Honda Motor Co., Inc.

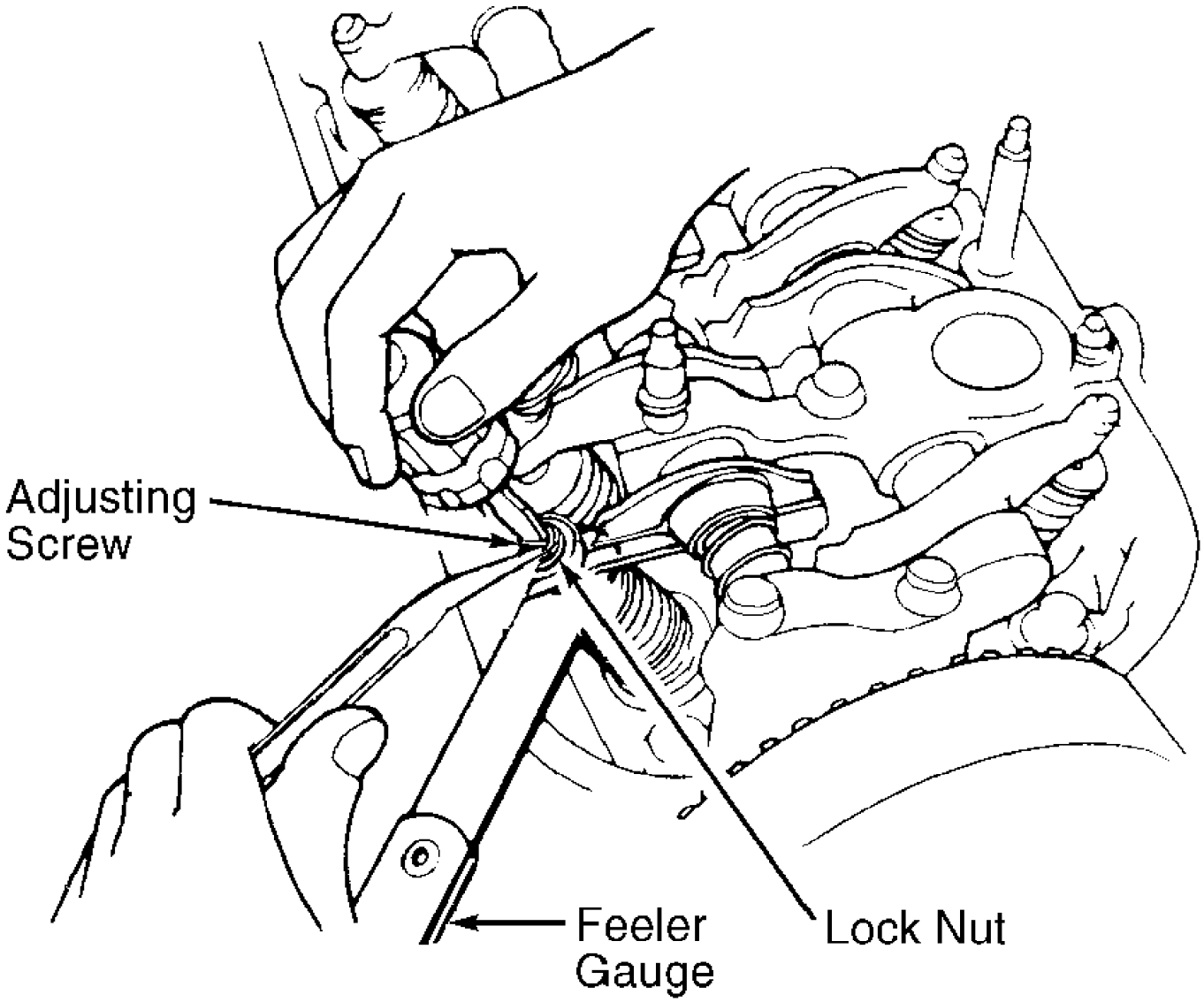

Fig. 20: Adjusting Valve Clearances (SOHC - Typical)
Courtesy of American Honda Motor Co., Inc.

VALVE CLEARANCE ADJUSTMENT SPECIFICATIONS (COLD)

Model	Intake In. (mm)	Exhaust In. (mm)
Accord		
2.3L	.009-.011 (.24-.28)	.011-.013 (.28-.32)
3.0L	.008-.009 (.20-.23)	.011-.013 (.28-.33)
Civic	.007-.009 (.18-.22)	.009-.011 (.23-.27)
CR-V	.003-.005 (.08-.12)	.006-.008 (.16-.20)
Insight	.007-.009 (.18-.22)	.008-.010 (.20-.25)
Odyssey	.008-.009 (.20-.23)	.011-.013 (.28-.33)
Prelude	.006-.007 (.15-.19)	.007-.008 (.17-.21)
S2000	.008-.010 (.21-.25)	.010-.011 (.25-.29)

IGNITION TIMING

ACCORD, INSIGHT, ODYSSEY & S2000

1) Set parking brake. Connect tachometer. Start engine and ensure idle speed is correct. See IDLE SPEED & MIXTURE. Turn ignition off and connect scan tool to Data Link Connector (DLC). On Accord, DLC is located behind driver's side left kick panel. See Fig. 21. On Insight, DLC is located behind passenger's side of center console. See Fig. 25. On Odyssey, DLC is located above driver's side lower heater cover. See Fig. 22. On S2000, DLC is located under passenger's side of instrument panel. See Fig. 23. On all models, follow scan tool prompts. Run engine at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

2) Connect timing light to No. 1 ignition coil wire. Check base ignition timing with no electrical loads. See IGNITION TIMING (DEGREES BTDC - RED MARK @ RPM) table. Timing marks are located on timing belt cover (Accord and Odyssey), oil pump (Insight) or timing chain cover (S2000) and crankshaft pulley. See Figs. 28, 29, 32 or 34. Timing is controlled by Powertrain Control Module (PCM). If timing is not as specified, replace PCM. See REMOVAL, OVERHAUL & INSTALLATION article. Turn ignition off. Remove scan tool, timing light and tachometer.

CIVIC

NOTE: Information not available from manufacturer for Civic HX (D17A6 engine).

1) Set parking brake. Connect tachometer. Start engine and ensure idle speed is correct. See IDLE SPEED & MIXTURE. Turn ignition off and connect scan tool to Data Link Connector (DLC), located at bottom of instrument panel on right side of steering column. See Fig. 24. Follow scan tool prompts. Run engine at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

2) Remove ignition coil cover. Connect timing light to No. 1 ignition coil wire. Check base ignition timing with no electrical loads. See IGNITION TIMING (DEGREES BTDC - RED MARK @ RPM) table. Timing marks are located on timing belt cover and crankshaft pulley. See Fig. 30. Timing is controlled by Powertrain Control Module (PCM). If timing is not as specified, replace PCM. See REMOVAL, OVERHAUL & INSTALLATION article. Turn ignition off and remove scan tool.

CR-V

1) Set parking brake. Start engine and ensure idle speed is correct. See IDLE SPEED & MIXTURE.

2) Turn ignition off, connect SCS Service Connector (07PAZ-0010100) to 2-pin service check connector located under instrument panel, on right side of center console. See Fig. 21. Service check connector uses a Brown wire and a Black wire.

3) Connect tachometer. Run engine at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

4) Connect timing light to No. 1 spark plug wire. Check base ignition timing at specified engine idle speed. See IGNITION TIMING (DEGREES BTDC - RED MARK @ RPM) table. Red mark

indicates degrees Before Top Dead Center (BTDC). White mark indicates No. 1 cylinder Top Dead Center (TDC). See Fig. 31.

5) If timing is not as specified, loosen distributor hold-down bolts and rotate distributor to adjust timing. Rotate distributor counterclockwise to advance timing and clockwise to retard timing. Tighten distributor hold-down bolts to 18 ft. lbs. (24 N.m). Check timing after tightening distributor hold-down bolts. Remove timing light, tachometer and SCS service connector.

PRELUDE

1) Set parking brake. Start engine and ensure idle speed is correct. See IDLE SPEED & MIXTURE. Turn ignition off. Connect SCS Service Connector (07PAZ-0010100) to 2-pin service check connector (Green/Black wire and Red/White wire) located on right side of center console, behind access cover, next to 16-pin Data Link Connector (DLC). See Fig. 27. Connect tachometer. Run engine at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

2) Connect timing light to No. 1 spark plug wire. Check base ignition timing with no electrical loads. See IGNITION TIMING (DEGREES BTDC - RED MARK @ RPM) table.

3) Timing marks are located on flywheel/drive plate. Remove rubber plug from window in flywheel/drive plate housing located under distributor. See Fig. 33. Timing is controlled by Powertrain Control Module (PCM). If timing is not as specified, replace PCM. See REMOVAL, OVERHAUL & INSTALLATION article. Remove SCS service connector from 2-pin service check connector.

IGNITION TIMING (DEGREES BTDC - RED MARK @ RPM) (1)

Application	Specification
Accord	
2.3L	(2) 10-14 @ 650-750
3.0L	(2) 8-12 @ 630-730
Civic	(2) 6-10 @ 650-750
CR-V	(3) 14-18 @ 700-800
Insight	(2) 10-14 @ 850-950
Odyssey	(2) 8-12 @ 680-780
Prelude	(3) 13-17 @ 650-750
S2000	(2) 3-7 @ 750-850

(1) - Check in no-load condition (headlights, blower motor, rear defogger, A/C and cooling fan off) with M/T in neutral or A/T in Neutral or Park.
(2) - With scan tool connected to 16-pin Data Link Connector (DLC). See Figs. 21-25.
(3) - With SCS service connector (7PAZ-0010100) connected to 2-pin service check connector located under passenger side instrument panel.

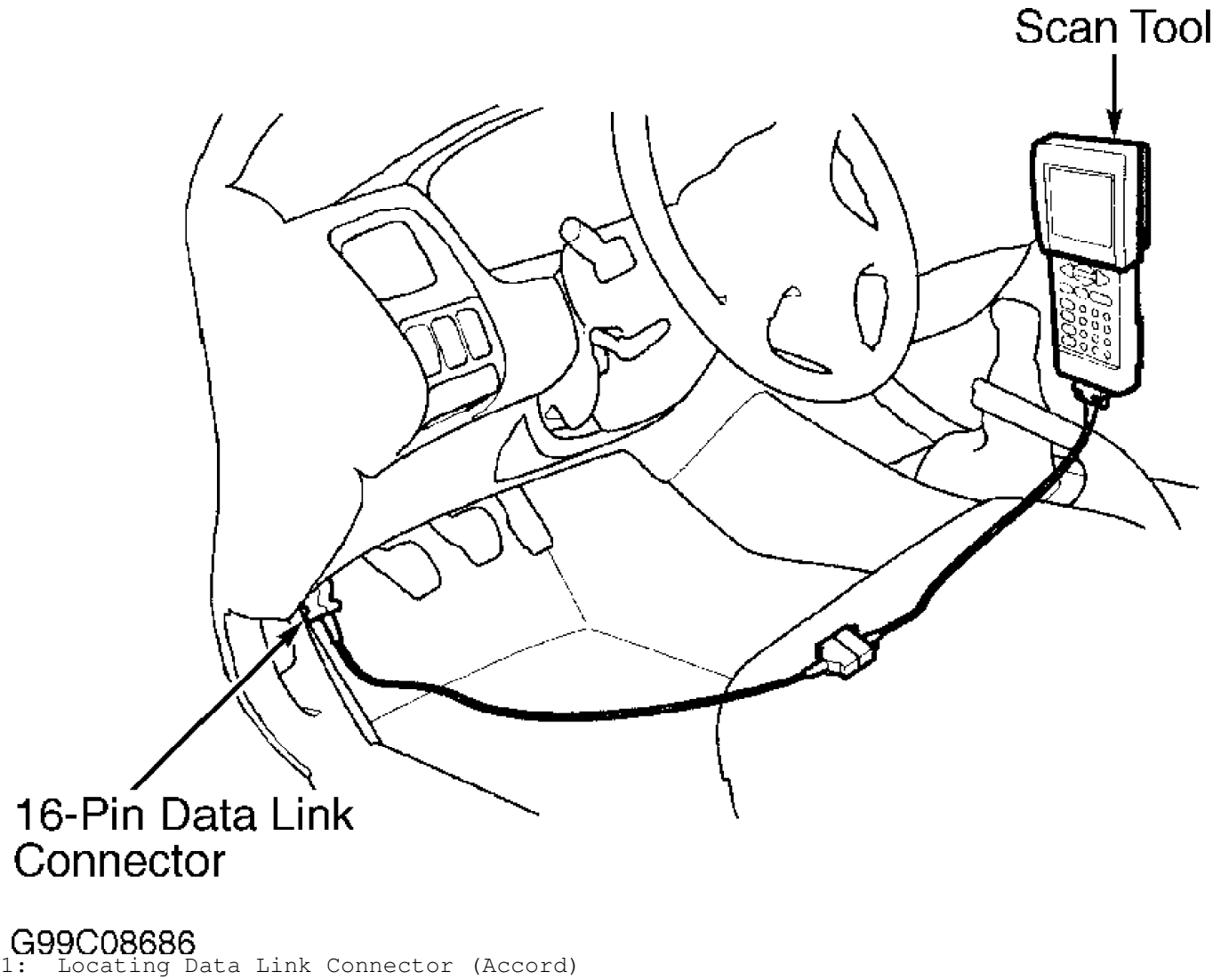

Fig. 21: Locating Data Link Connector (Accord)
Courtesy of American Honda Motor Co., Inc.

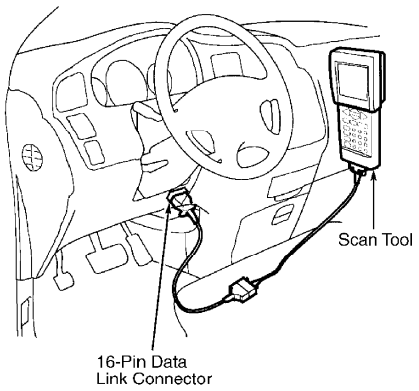

Fig. 22: Locating Data Link Connector (Odyssey)
Courtesy of American Honda Motor Co., Inc.

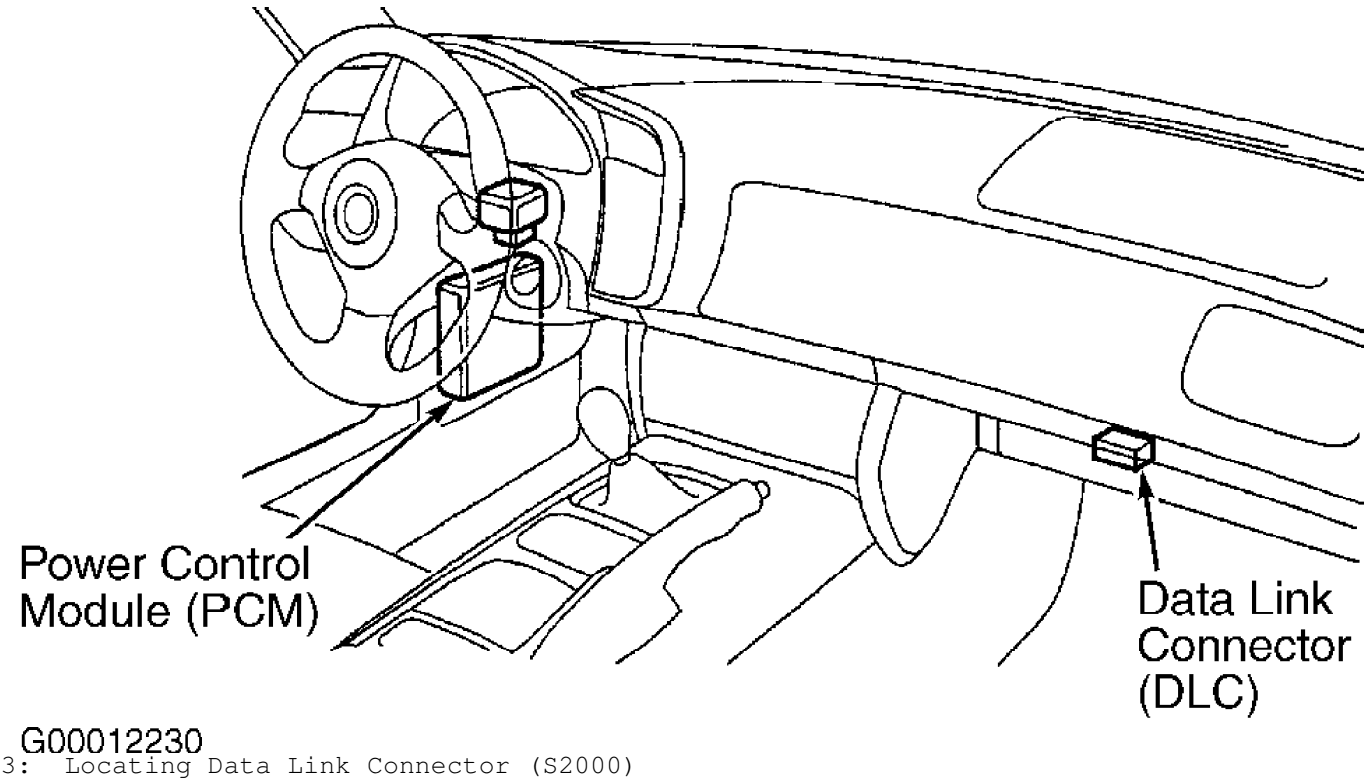

Fig. 23: Locating Data Link Connector (S2000)
Courtesy of American Honda Motor Co., Inc.

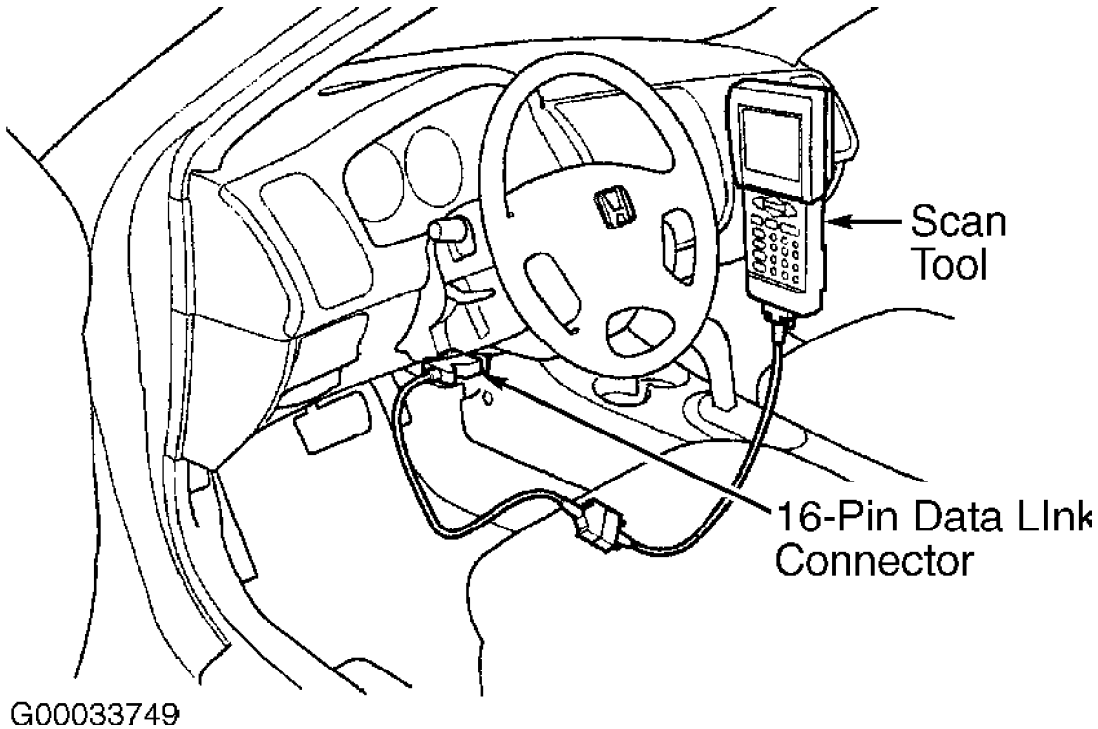

Fig. 24: Locating Data Link Connector (Civic)
Courtesy of American Honda Motor Co., Inc.

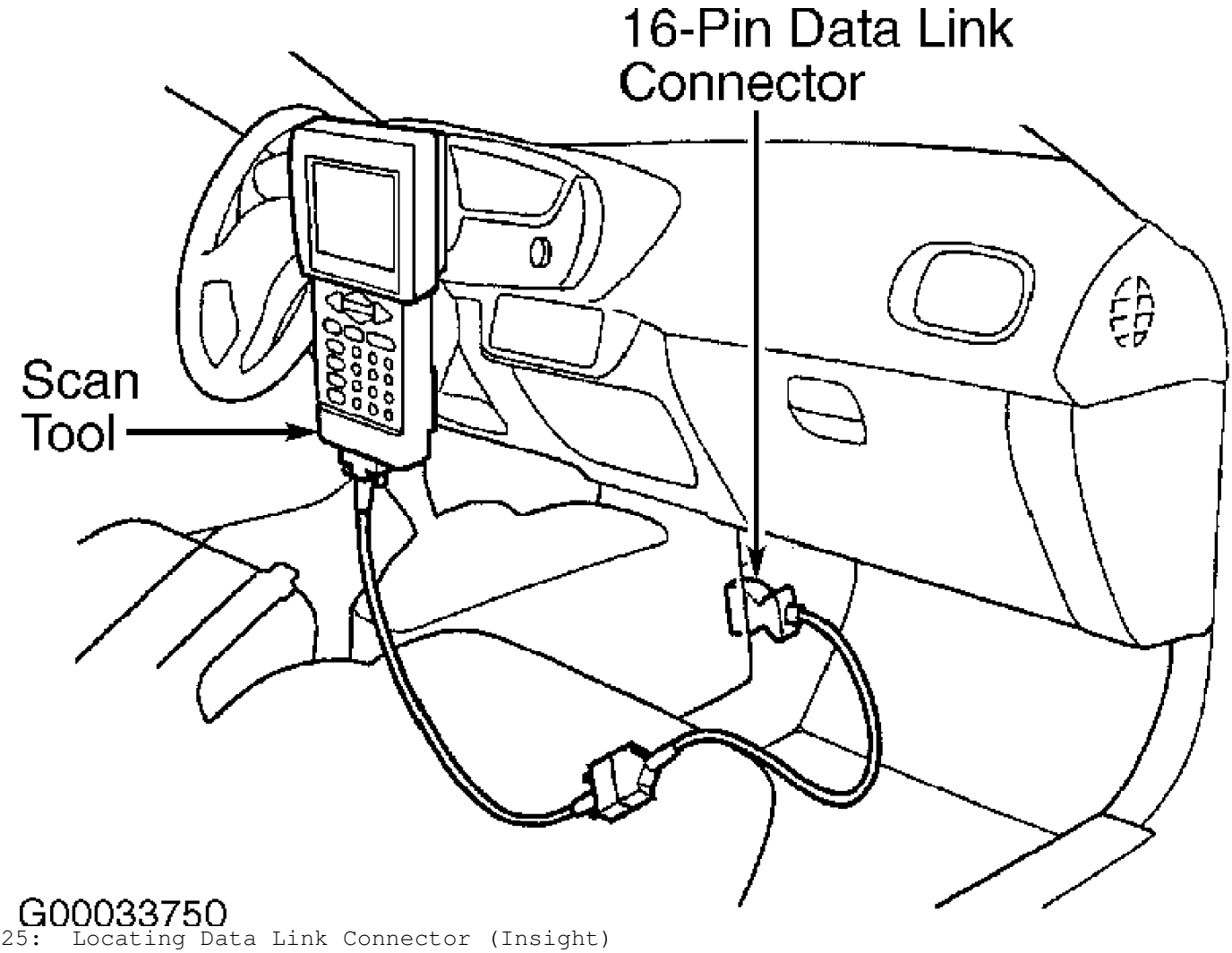

Fig. 25: Locating Data Link Connector (Insight)
Courtesy of American Honda Motor Co., Inc.

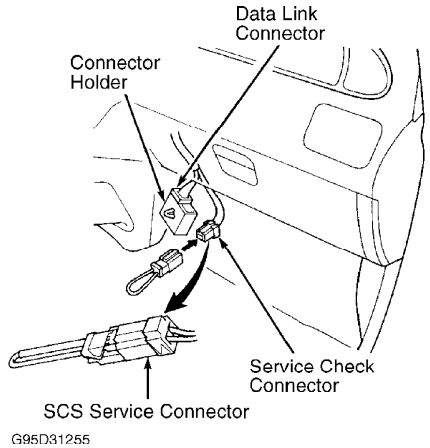

Fig. 26: Locating Service Check Connector (CR-V)
Courtesy of American Honda Motor Co., Inc.

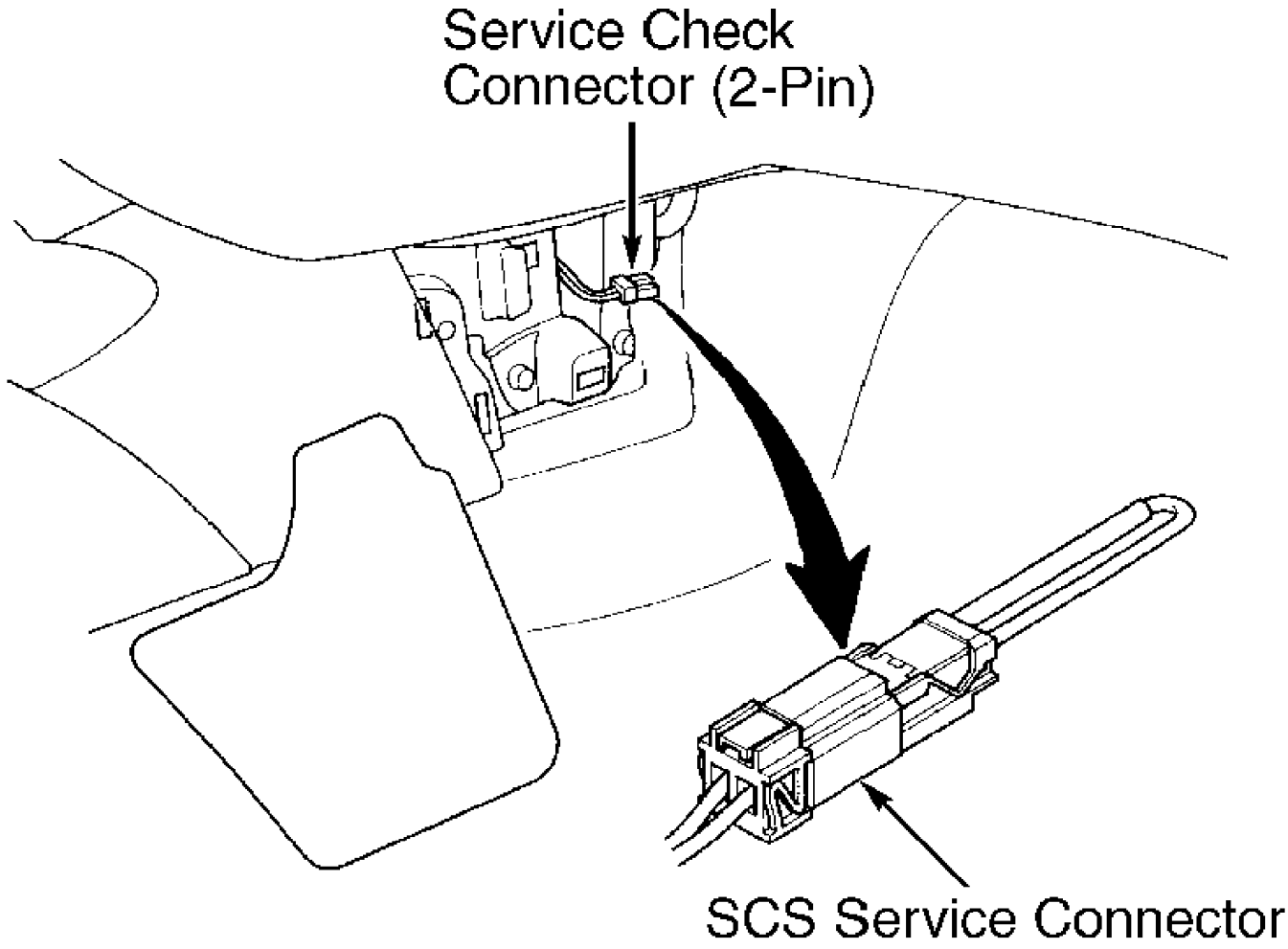

Fig. 27: Locating Service Check Connector (Prelude)
Courtesy of American Honda Motor Co., Inc.

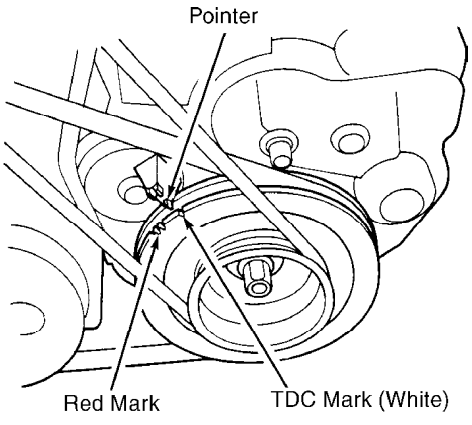

Fig. 28: Locating Ignition Timing Marks (Accord 2.3L)
Courtesy of American Honda Motor Co., Inc.

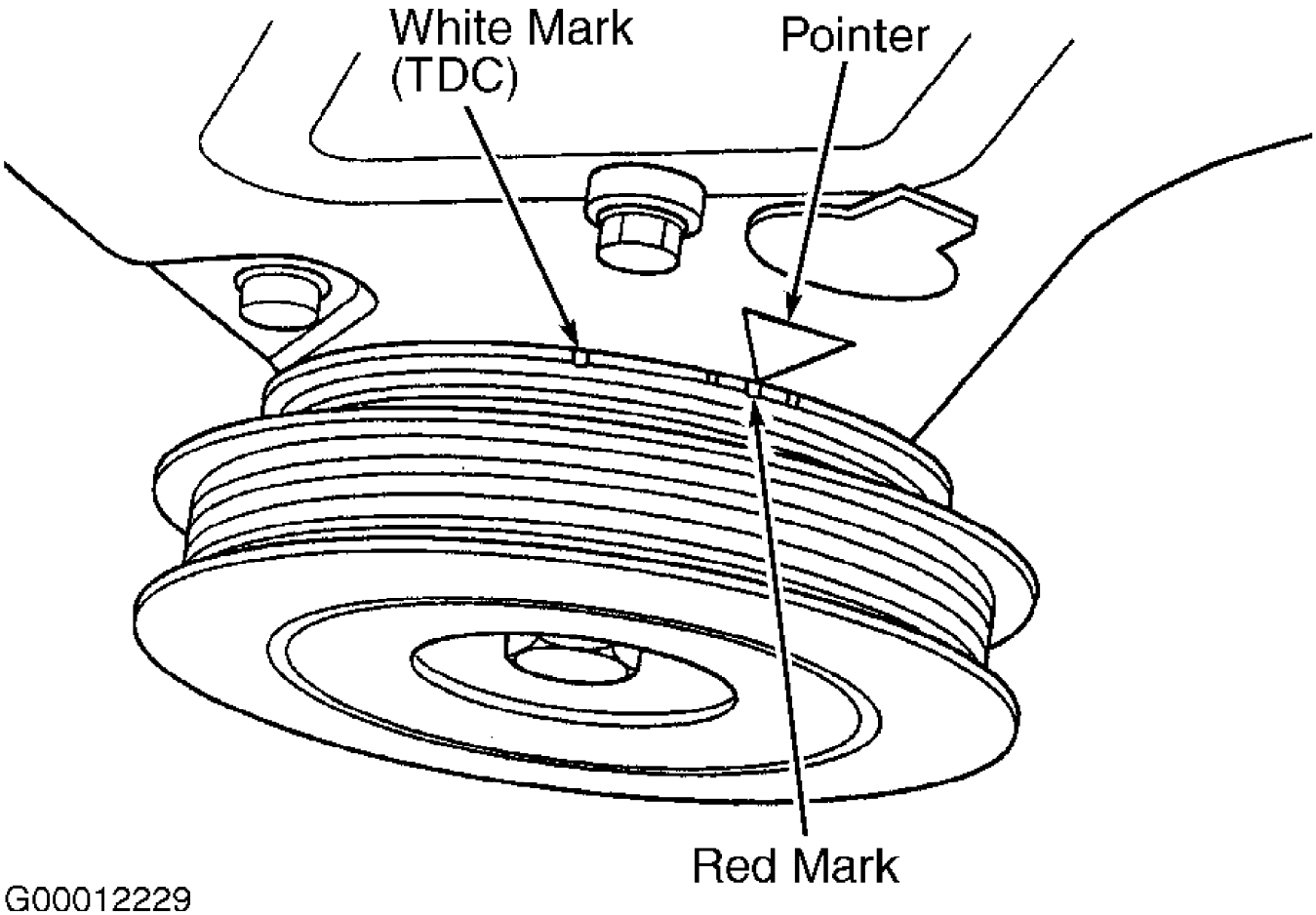

Fig. 29: Locating Ignition Timing Marks (Accord 3.0L & Odyssey)
Courtesy of American Honda Motor Co., Inc.

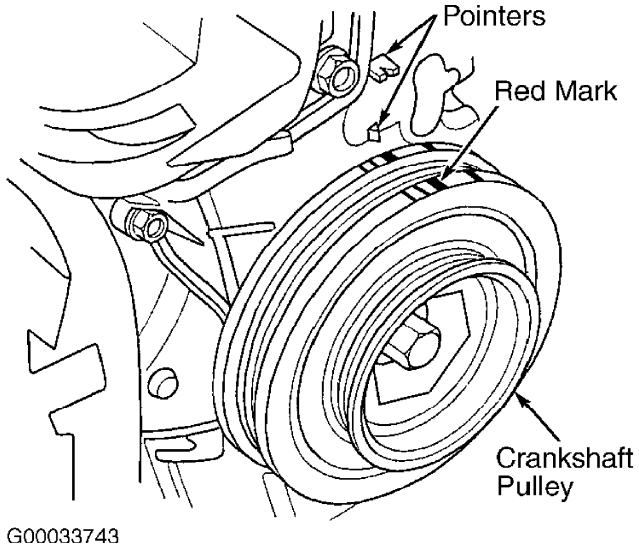

Fig. 30: Locating Ignition Timing Marks (Civic)
Courtesy of American Honda Motor Co., Inc.

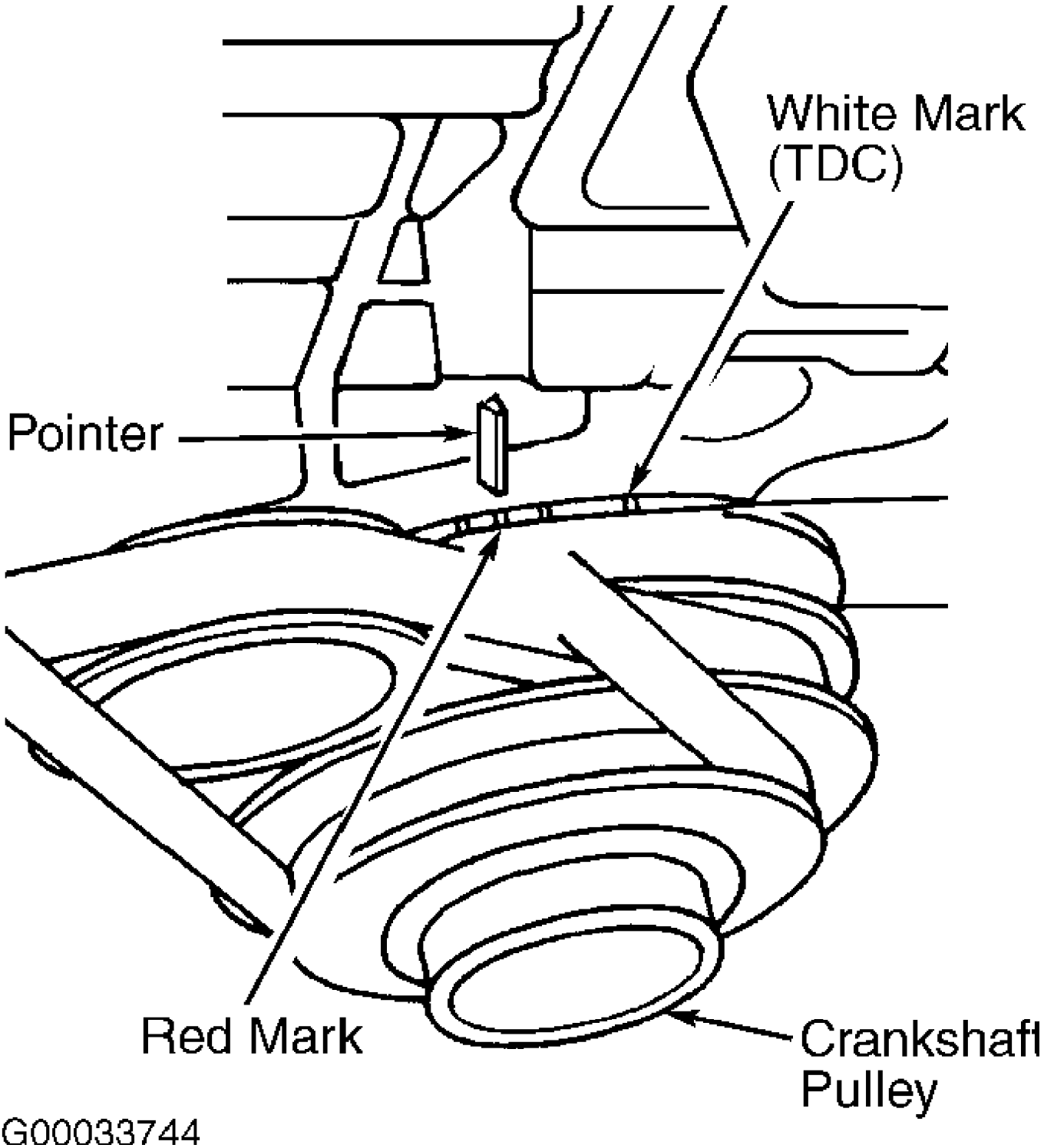

Fig. 31: Locating Ignition Timing Marks (CR-V)
Courtesy of American Honda Motor Co., Inc.

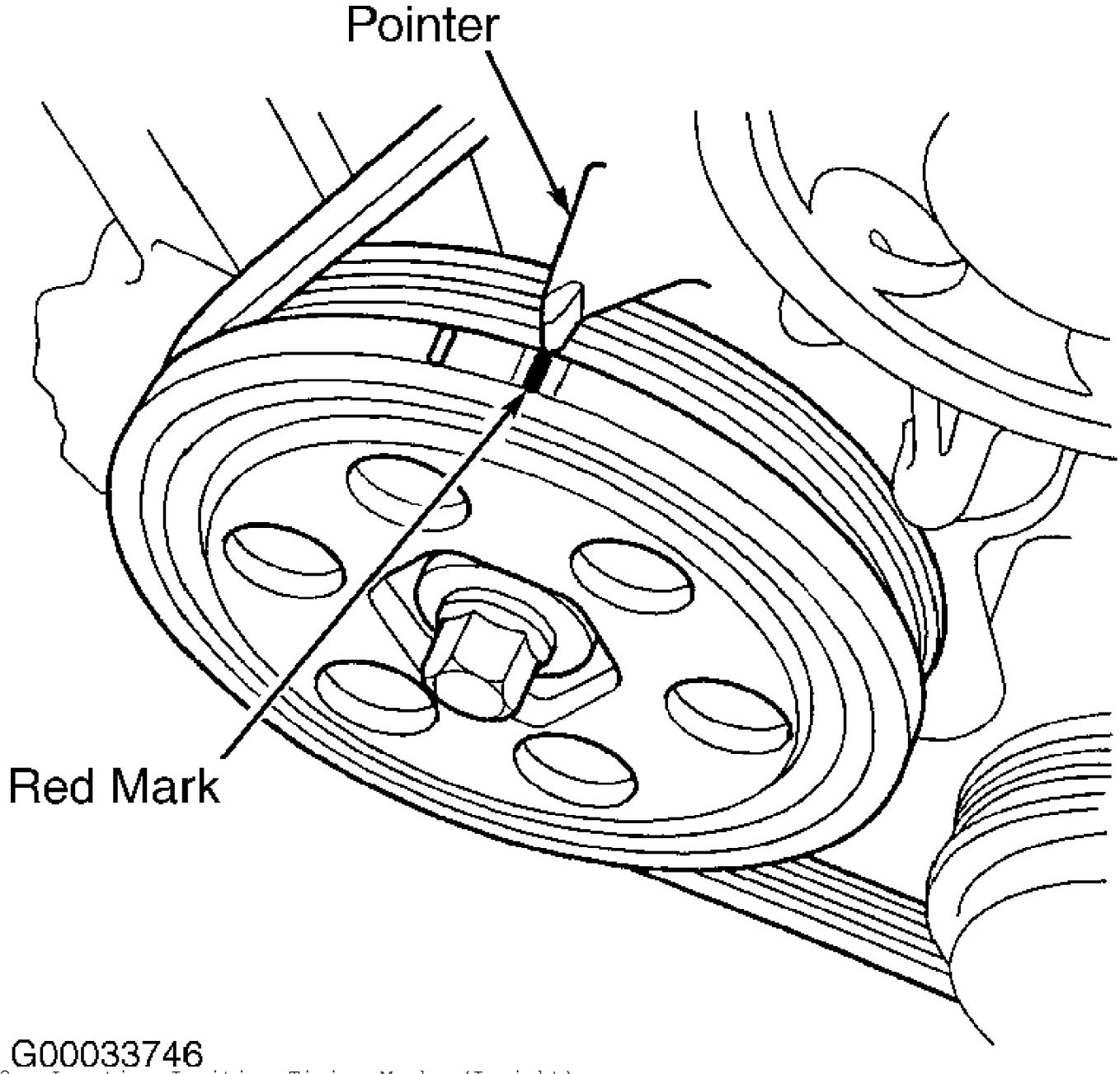

Fig. 32: Locating Ignition Timing Marks (Insight)
Courtesy of American Honda Motor Co., Inc.

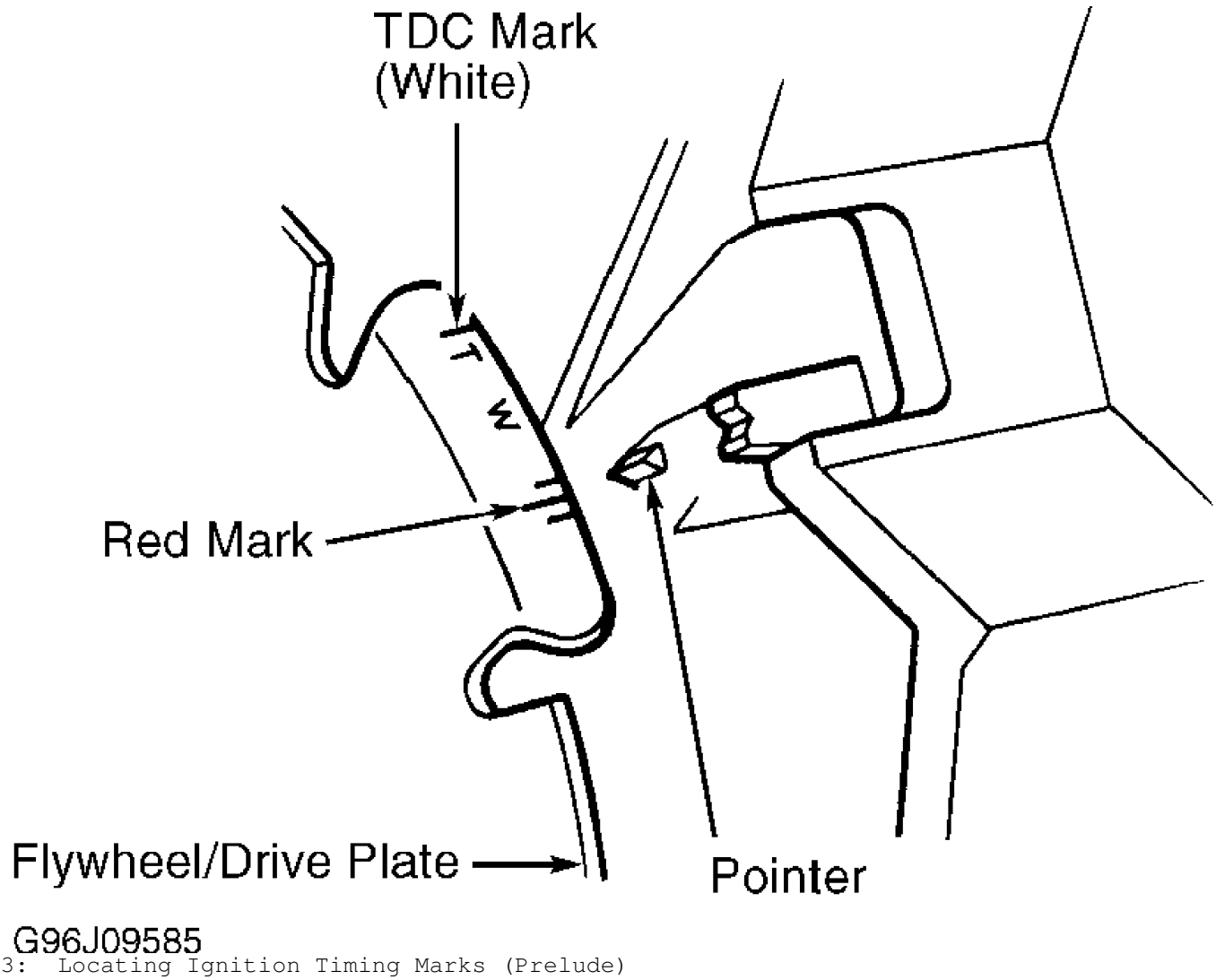

Fig. 33: Locating Ignition Timing Marks (Prelude)
Courtesy of American Honda Motor Co., Inc.

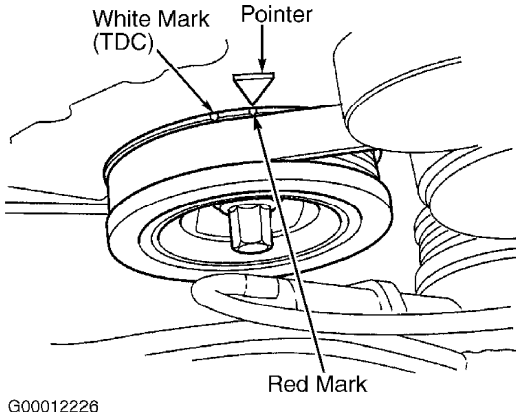

Fig. 34: Locating Ignition Timing Marks (S2000)
Courtesy of American Honda Motor Co., Inc.

IDLE SPEED & MIXTURE

IDLE MIXTURE

NOTE: Idle mixture is computer-controlled and is not adjustable. Maximum CO level is 0.1 percent.

IDLE SPEED (ACCORD & ODYSSEY)

NOTE: Manufacturer recommends using a Honda PGM tester to check and adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"

1) Ensure IAC valve is connected. Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Disconnect EVAP purge control solenoid valve 2-pin connector. For EVAP purge control solenoid valve location, see SYSTEM & COMPONENT TESTING article. Connect tachometer.

2) Set parking brake. Start engine and run at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger and A/C off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle until radiator cooling fan turns off. When radiator cooling fan turns off, check idle speed. See IDLE SPEED SPECIFICATIONS (ACCORD & ODYSSEY) table.

3) If idle speed is as specified, go to STEP "B". If idle speed is not as specified, turn idle adjusting screw located on top of throttle body in 1/4 turn increments. See Fig. 35. Check idle speed after turning idle adjusting screw 1/4 turn in either direction. After adjustment, go to STEP "B".

Step "B"

Turn blower motor to high speed with A/C on. Allow engine to idle for one minute and check idle speed. See IDLE SPEED SPECIFICATIONS (ACCORD & ODYSSEY) table. DO NOT adjust idle speed with A/C on. If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article. Turn ignition off and reconnect EVAP purge control solenoid valve 2-pin connector.

IDLE SPEED SPECIFICATIONS (ACCORD & ODYSSEY)

Application	Step "A" RPM	Step "B" RPM
Accord		
2.3L	650-750	720-820
3.0L	630-730	630-730
Odyssey	680-780	680-780

IDLE SPEED (CIVIC)

NOTE: Manufacturer recommends using a Honda PGM tester to check and adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"

1) Ensure IAC valve is connected. Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Disconnect EVAP purge control solenoid valve 2-pin connector. For EVAP purge control solenoid valve location, see SYSTEM & COMPONENT TESTING article. Connect tachometer.

2) Set parking brake. Start engine and run at 3000 RPM with

no electrical loads (headlights, blower motor, rear defogger, A/C and radiator cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

3) Check idle speed with no electrical loads. See IDLE SPEED SPECIFICATIONS (CIVIC) table. If idle speed is as specified, go to STEP "B". If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

Step "B"

Turn blower motor to high speed with A/C on. Allow engine to idle for one minute and check idle speed. After one minute check idle speed. See IDLE SPEED SPECIFICATIONS (CIVIC) table. DO NOT adjust idle speed with A/C on. If idle speed is not as specified, go toTROUBLE SHOOTING - NO CODES article. Turn ignition off and reconnect EVAP purge control solenoid valve 2-pin connector.

IDLE SPEED SPECIFICATIONS (CIVIC)

Application	Step "A" RPM	Step "B" RPM
Civic	650-750	670-770

IDLE SPEED (CR-V)

NOTE: Manufacturer recommends using a Honda PGM tester to check and adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"

1) Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Connect tachometer.

2) Set parking brake. Start engine and run at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and radiator cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle.

3) Disconnect IAC valve 2-pin connector and EVAP purge control solenoid valve 2-pin connector. For IAC and EVAP purge control solenoid valve locations, see SYSTEM & COMPONENT TESTING article. If engine stalls, depress accelerator pedal slightly and start engine. Stabilize engine speed at 1000 RPM and slowly release accelerator pedal.

4) Check idle speed with no electrical loads. See IDLE SPEED SPECIFICATIONS (CR-V) table. If idle speed is as specified, go to STEP "B". If idle speed is not as specified, remove idle adjusting screw cap located on top of throttle body. See Fig. 35. Turn idle adjusting screw until idle speed is as specified. Ensure timing is correct after adjustment. See IGNITION TIMING. If timing is not correct, adjust timing and repeat STEP "A". If timing is correct, go to STEP "B".

Step "B"

1) Turn ignition off. Reconnect IAC valve and EVAP purge control solenoid valve 2-pin connectors. Perform PCM reset procedure. See SELF-DIAGNOSTICS - INTRODUCTION article. Start engine and allow to idle with no electrical loads. After one minute check idle speed. See IDLE SPEED SPECIFICATIONS (CR-V) table.

2) If idle speed increases to 720-820 RPM, EVAP system may be purging EVAP canister. To temporarily stop purging, increase engine speed to more than 1000 RPM. Slowly release accelerator and check idle speed. See IDLE SPEED SPECIFICATIONS (CR-V) table. If idle speed is as specified, go to STEP "C". If idle speed is not as specified, go to

TROUBLE SHOOTING - NO CODES article.

Step "C"
Turn headlights on low and allow engine to idle. After one minute check idle speed. See IDLE SPEED SPECIFICATIONS (CR-V) table. If idle speed is as specified and vehicle is equipped with A/C, go to STEP "D". If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

Step "D"
Turn headlights off. Turn blower motor to high speed with A/C on. Allow engine to idle for one minute and check idle speed. See IDLE SPEED SPECIFICATIONS (CR-V) table. If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

IDLE SPEED SPECIFICATIONS (CR-V)

Step "A" RPM	Step "B" RPM	Step "C" RPM	Step "D" RPM
430-530	680-780	680-780	720-820

IDLE SPEED (INSIGHT)

NOTE: Manufacturer recommends using a Honda PGM tester to check and adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"
1) Ensure IAC valve is connected. Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Connect tachometer.
2) Set parking brake. Start engine and run at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and radiator cooling fan off) and transmission in Neutral. When radiator cooling fan comes on, allow engine to idle.
3) Check idle speed with no electrical loads. See IDLE SPEED SPECIFICATIONS (INSIGHT)
4) If idle speed is as specified and vehicle is equipped with A/C, go to STEP "B". If idle speed is not as specified, turn idle adjusting screw located on top of throttle body in 1/2 turn increments. See Fig. 35. Check idle speed after turning idle adjusting screw 1/2 turn in either direction. After adjustment, go to STEP "B" if vehicle is equipped with A/C.

Step "B"
Turn blower motor to high speed with A/C on. Allow engine to idle for one minute and check idle speed. See IDLE SPEED SPECIFICATIONS (INSIGHT). DO NOT adjust idle speed with A/C on. If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article. Turn ignition off and remove tachometer.

IDLE SPEED SPECIFICATIONS (INSIGHT)

Application	Step "A" RPM	Step "B" RPM
Insight	850-950	850-950

IDLE SPEED (PRELUDE)

NOTE: Manufacturer recommends using a Honda PGM tester to check and

adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"

1) Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Connect tachometer.

2) Set parking brake. Start engine and run at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in Park or Neutral. When radiator cooling fan comes on, allow engine to idle. Disconnect IAC valve 2-pin connector. If engine stalls, depress accelerator pedal slightly and start engine. Stabilize engine speed at 1000 RPM and slowly release accelerator pedal until engine idles.

3) Check idle speed with no electrical loads. See IDLE SPEED SPECIFICATIONS (PRELUDE) table. If idle speed is as specified, go to STEP "B". If idle speed is not as specified, remove idle adjusting screw cap located on top of throttle body. See Fig. 35. Turn idle adjusting screw, until idle speed is as specified.

Step "B"

1) Turn ignition off. Reconnect IAC valve 2-pin connector. Remove No. 13 CLOCK RADIO (7.5-amp) fuse from underhood fuse/relay block. Start engine and allow to idle with no electrical loads.

2) Check engine idle speed after one minute. See IDLE SPEED SPECIFICATIONS (PRELUDE) table. If idle speed is as specified, go to STEP "C". If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

Step "C"

Turn headlights on low beams and allow engine to idle. Check engine idle speed after one minute. See IDLE SPEED SPECIFICATIONS (PRELUDE) table. If idle speed is as specified, go to STEP "D". If idle speed is not as specified and vehicle is equipped with A/C, go to TROUBLE SHOOTING - NO CODES article.

Step "D"

Turn headlights off. Turn blower motor to high speed with A/C on. Allow engine to idle and check idle speed after one minute. See IDLE SPEED SPECIFICATIONS (PRELUDE) table. If engine idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

IDLE SPEED SPECIFICATIONS (PRELUDE)

Step "A" RPM	Step "B" RPM	Step "C" RPM	Step "D" RPM
500-600	650-750	740-840	740-840

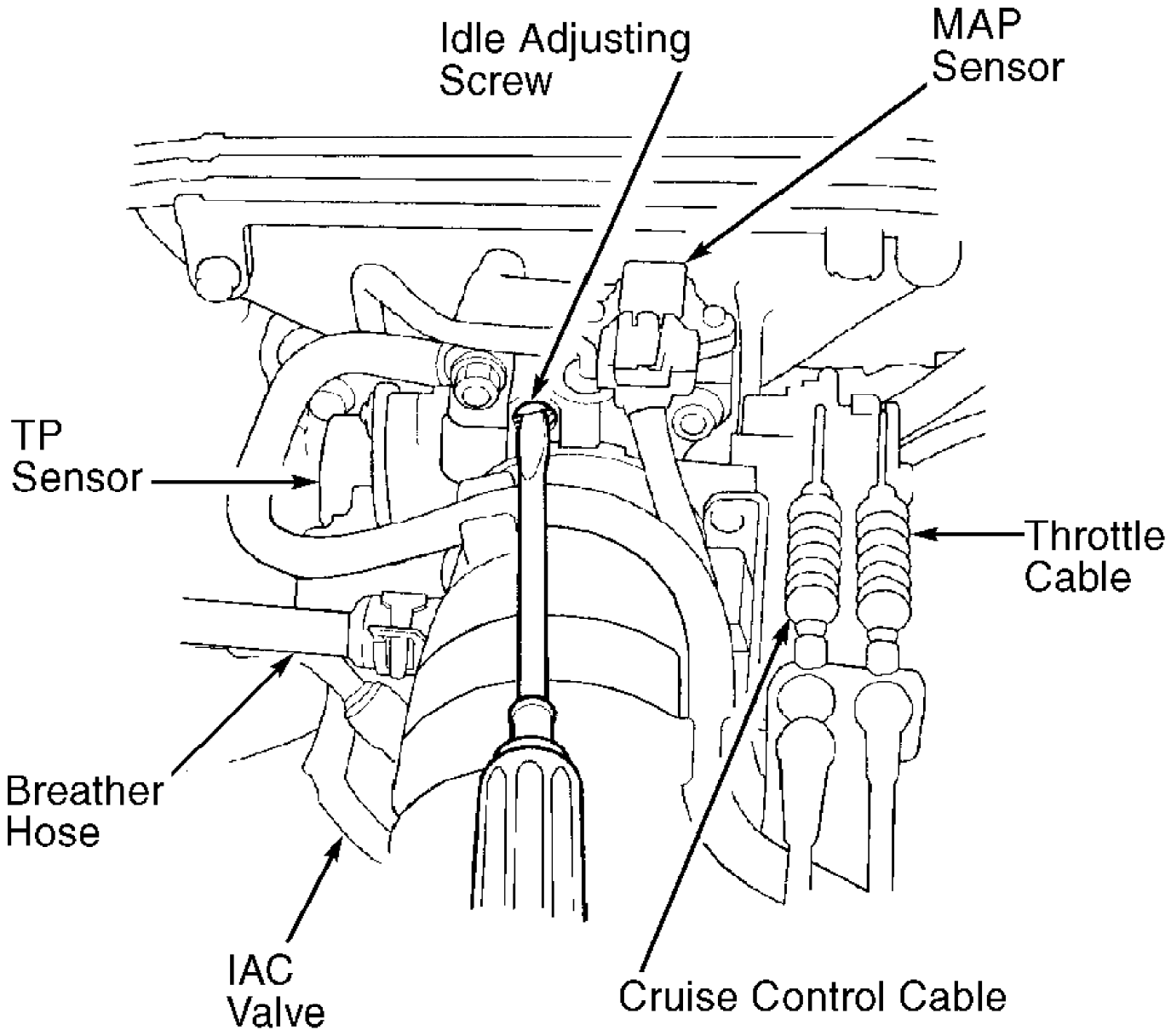

Fig. 35: Locating Throttle Body Components & Idle Adjusting Screw (Accord 3.0L Shown; Other Models Are Similar)
Courtesy of American Honda Motor Co., Inc.

IDLE SPEED (S2000)

NOTE: Manufacturer recommends using a Honda PGM tester to check and adjust idle speed. If a Honda PGM tester is not available, use following procedures.

Step "A"

1) Ensure IAC valve is connected. Check for DTCs. Ensure timing is correct, spark plugs and air cleaner are okay, and PCV system is operating properly. See SELF-DIAGNOSTICS - INTRODUCTION article. Disconnect EVAP purge control solenoid valve 2-pin connector. For EVAP purge control solenoid valve location, see SYSTEM & COMPONENT

TESTING article. Connect tachometer.

2) Set parking brake. Start engine and run at 3000 RPM with no electrical loads (headlights, blower motor, rear defogger, A/C and cooling fan off) and transmission in neutral. When radiator cooling fan comes on, allow engine to idle. After radiator cooling fan turns off, check idle speed. See IDLE SPEED SPECIFICATIONS (S2000) table.

3) If idle speed is as specified and vehicle is equipped with A/C, go to STEP "B". If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article.

Step "B"

Turn blower motor to high speed with A/C on. Allow engine to idle for one minute and check idle speed. See IDLE SPEED SPECIFICATIONS (S2000) table. If idle speed is not as specified, go to TROUBLE SHOOTING - NO CODES article. Turn ignition off and reconnect EVAP purge control solenoid valve 2-pin connector.

IDLE SPEED SPECIFICATIONS (S2000)

Application	Step "A" RPM	Step "B" RPM
S2000	750-850	850-950

FUEL SYSTEM

THROTTLE BODY CABLE ADJUSTING

NOTE: Only those cables that physically connect to throttle body are addressed in this article. For cruise control systems that utilize a vacuum actuator, see appropriate CRUISE CONTROL article in ACCESSORIES & EQUIPMENT.

Throttle Cable (Except Civic, Insight, Odyssey & S2000)

1) Ensure cable is routed properly and that cable moves smoothly without binding or sticking. Start engine and run at 3000 RPM with no loads and transmission in Park or Neutral, until radiator fan comes on. Allow engine to idle. With throttle link held against throttle lever, there should be no clearance.

2) Check cable deflection at throttle linkage. See THROTTLE BODY CABLE ADJUSTING SPECIFICATION table. Use cable lock nut and adjusting nut to correct cable deflection if necessary. Ensure throttle valve is fully open when accelerator pedal is fully depressed and that throttle valve is at idle position when pedal is released.

Throttle Cable (Civic, Insight, Odyssey & S2000)

Check cable deflection at throttle linkage. See THROTTLE BODY CABLE ADJUSTING SPECIFICATION table. Use cable lock nut and adjusting nut to correct cable deflection if necessary. Ensure throttle valve is fully open when accelerator pedal is fully depressed and that throttle valve is at idle position when pedal is released.

Cruise Control Cable (Accord 3.0L & Odyssey)

1) Ensure cable is routed properly and that cable moves smoothly without binding or sticking. Start engine and run at 3000 RPM with no loads and transmission in Park or Neutral, until radiator fan comes on. Depress Cruise control main switch on. Cruise control main switch is located left of steering wheel. Allow engine to idle. Measure amount of output linkage and inner cable free play from closed position until engine speed begins to increase. See THROTTLE BODY CABLE ADJUSTING SPECIFICATION table.

2) If free play is not within specifications, loosen lock nut

and adjusting nut. Move cable until engine speed begins to increase and tighten lock nut and adjusting nut. Turn adjusting nut away from bracket until specified amount of free play is reached. Pull cable until adjusting nut touches bracket and tighten lock nut. Check cruise control cable free play.

THROTTLE BODY CABLE ADJUSTING SPECIFICATION

Application	In. (mm)
Throttle Cable Free Play Deflection Accord, Civic, CR-V, Insight, Odyssey & Prelude	0.39-0.47 (10.0-12.0)
S2000	0.15-0.24 (4.0-6.0)
Cruise Control Cable Free Play Deflection Accord 3.0L & Odyssey	0.13-0.17 (3.3-4.3)