

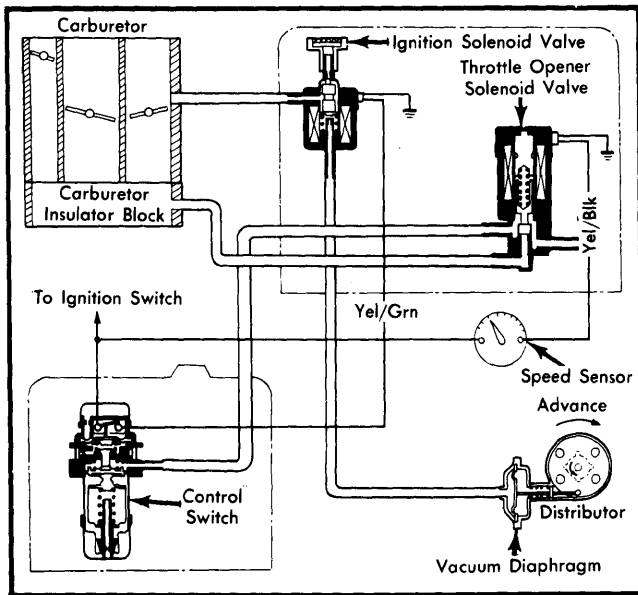
## HONDA IGNITION TIMING CONTROL SYSTEM

Accord  
Civic  
Prelude

### DESCRIPTION & OPERATION

All Honda engines have ignition control systems to achieve low emission levels, maximum fuel economy, and best engine performance. Each engine application has a specific system, designed to advance and retard ignition timing as necessary. The systems are composed as follows:

**Accord & Prelude (Man. Trans. Only)** – When vehicle speed is below preset speed of the speed sensor and throttle is above idle, the vacuum advance unit receives vacuum and ignition timing is advanced. When vehicle speed is above preset speed of the speed sensor and manifold vacuum is below a set vacuum of the control switch, vacuum to the advance unit is cut off.



**Fig. 1 Accord & Prelude Ignition Timing Controls (Man. Trans. Only)**

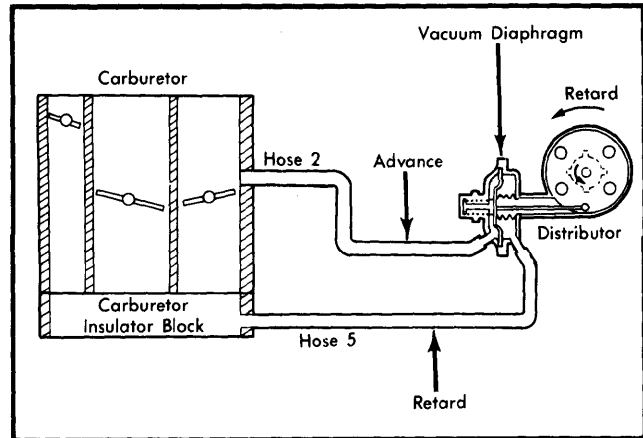
**Accord & Prelude (Auto. Trans. Only)** – This system gives vacuum retard in response to manifold and carburetor vacuum.

**Civic 1500 (Federal Man. Trans. Only)** – This system gives vacuum advance in response to manifold vacuum from the carburetor insulator block.

**Civic 1500 (Calif. Auto. Trans. Only)** – When engine coolant temperature is below the set temperature of the thermosensor and engine is at idle, the purge control/unloader solenoid valve cuts off manifold vacuum to the vacuum retard unit.

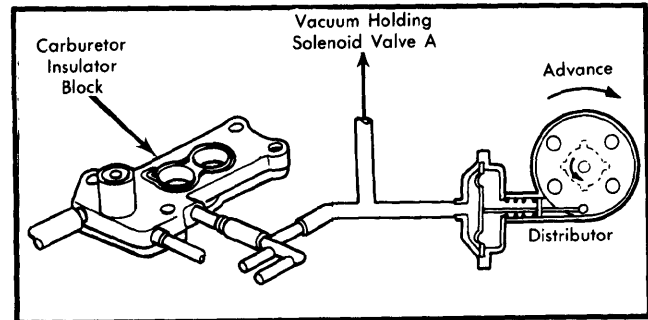
**Civic 1300 (Calif. Man. Trans. Only)** – When vehicle speed is above the preset speed of the speed sensor or engine coolant temperature is below the set temperature of the thermosensor, the ignition solenoid valve allows vacuum to the vacuum advance diaphragm and ignition timing is advanced.

**Civic 1300 (Calif. Auto. Trans. Only)** – When engine coolant temperature is below the set temperature of the thermosensor, the ignition solenoid valve allows vacuum to the vacuum advance diaphragm and ignition timing is advanced.



**Fig. 2 Accord & Prelude Ignition Timing Controls (Auto. Trans. Only)**

**Civic (1300 Federal Man. Trans., 1500 Calif. Man. Trans., 1300 & 1500 Federal Auto. Trans.)** – This system gives vacuum advance only when engine operates with throttle above idle.



**Fig. 3 Civic 1500 Ignition Timing Controls (Federal Man. Trans. Only)**

### TESTING

**Accord & Prelude (Man. Trans. Only)** – 1) Connect vacuum gauge to vacuum advance hose and start engine. Gauge should show vacuum at 3500 RPM. If vacuum shows on gauge go to step 3). If no vacuum shows on gauge, check for voltage at ignition solenoid valve.

2) If there is no voltage, check for vacuum at inlet of ignition solenoid valve with engine at 3500 RPM. If there is vacuum, replace ignition solenoid and retest. If there is voltage at ignition solenoid valve, check for vacuum at control switch at idle. If there is no vacuum, replace control switch and retest. If there is vacuum, check for voltage at throttle opener solenoid valve. If no voltage, replace throttle opener solenoid valve. If there is voltage, replace speed sensor and retest.

3) Jack up front of car and support with safety stands. Push positive probe of voltmeter into Yellow/Green wire connector at control box 2 and connect negative probe to ground.

4) Start engine and place transmission in second gear. Raise engine speed to 4500 RPM and release throttle suddenly. If voltage appears and vacuum disappears, go on to step 7). If voltage appears and vacuum is still available, replace ignition solenoid valve and retest. If voltage does not appear and vacuum is still available, go to step 5).

## HONDA IGNITION TIMING CONTROL SYSTEM (Cont.)

5) Check for vacuum at control switch with speed above 15 MPH. If there is vacuum, replace control switch and retest. If there is no vacuum, go to step 6).

6) Check for voltage at throttle opener solenoid valve with speed above 15 MPH. If there is no voltage, replace speed sensor and retest. If there is voltage, check for vacuum at throttle opener solenoid valve. If there is vacuum, replace throttle opener solenoid valve and retest. If there is no vacuum, check for obstruction in vacuum hose.

7) Attach vacuum pump to vacuum advance diaphragm, start engine and draw 6 in. Hg vacuum. If timing advances, test is complete. If it does not advance, replace vacuum advance diaphragm.

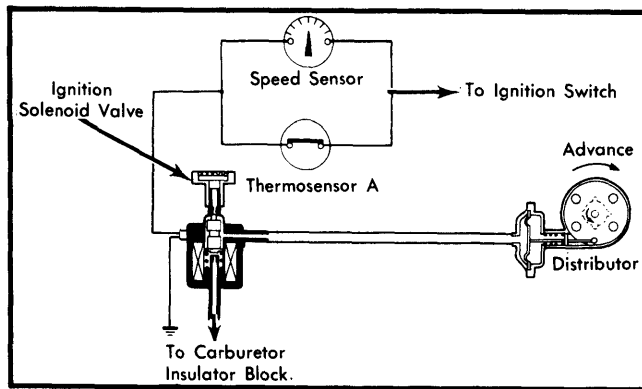
**Accord & Prelude (Auto. Trans. Only) – 1)** Connect vacuum gauge to vacuum hose 2 and raise engine to 3500 RPM. If there is vacuum, go to step 2). If there is no vacuum, check for obstruction in carburetor body port.

2) Connect vacuum gauge to hose 5 and start engine. If there is vacuum, go to step 3). If there is no vacuum, check for obstruction in vacuum hose.

3) Attach vacuum pump to fitting where hose 5 connects to vacuum advance diaphragm and start engine. Draw 6 in. Hg vacuum. If timing retards, test is complete. If timing does not retard, replace vacuum advance diaphragm and retest.

**Civic (1300 Calif. Man. Trans., 1300 & 1500 Calif. Auto. Trans.) – 1)** With engine cold, connect a vacuum gauge to vacuum advance hose on 1300 models and to vacuum hose 2 on 1500 models, then start engine.

2) If there is vacuum at idle on 1300 models, go on to step 5). If there is no vacuum at idle, check all hoses for obstructions or loose connections at hose fittings. If there is still no vacuum go on to step 4).



**Fig. 4 Civic 1300 Ignition Timing Controls (Calif. Man. Trans. Only)**

3) If there is no vacuum at 3000 RPM on 1500 models, check hose and connections between distributor and carburetor port. Clean or replace. If there is vacuum at 3000 RPM, connect a vacuum gauge to hose 5. If vacuum is present at hose 5 replace purge control/unloader solenoid valve and retest. If there is no vacuum, go on to step 6).

4) With ignition on, check for voltage at ignition solenoid valve. If there is voltage, check for vacuum at inlet of ignition solenoid valve at an idle. If there is vacuum, replace ignition

solenoid valve and retest. If there is vacuum, check for blockage in port in carburetor insulator block.

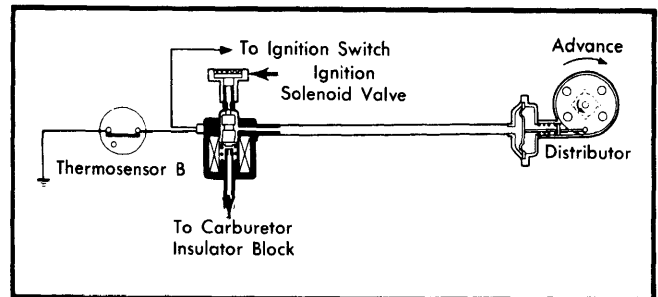
5) With engine warm and vacuum gauge connected to vacuum advance hose on 1300 models or connected to hose 2 on 1500 model, check for vacuum. If there is no vacuum on 1300 models, go on to step 7). If there is no vacuum on 1500 models, go on to step 9).

6) If vacuum remains, check thermosensor for continuity. If there is no continuity, replace ignition solenoid valve and retest. If there is continuity, replace thermosensor and retest.

7) Jack up front of car and support with safety stands. Push positive probe of voltmeter into Blue/White wire terminal at control box connector and connect negative probe to a ground. Start engine and accelerate slowly in second gear. If there is voltage go on to step 9). If there is no voltage, check electrical connections and check speed sensor.

8) With engine warm and vacuum gauge connected to vacuum hose 5 at distributor, check for vacuum. If there is vacuum, go on to step 9). If there is no vacuum, check purge control/unloader solenoid for voltage. If there is no voltage, replace purge control/unloader solenoid valve and retest. If there is voltage, replace thermosensor and retest.

9) Attach vacuum pump to vacuum advance diaphragm on 1300 models and to vacuum retard diaphragm fitting 5 on 1500 models. Start engine and draw 6 in. Hg vacuum. If timing advances or retards, test is complete. If vacuum does not change, replace diaphragm and retest.



**Fig. 5 Civic 1300 Ignition Timing Controls (Calif. Auto. Trans. Only)**

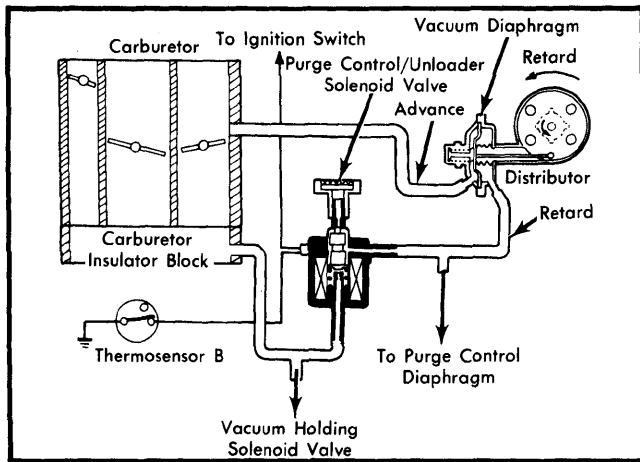
**Civic (All Federal Models, 1500 Calif. Man. Trans.) – 1)** Connect a tachometer, connect vacuum gauge to vacuum advance hose, then start engine.

2) Check for vacuum. If there is vacuum at 3500 (at idle on 1500 Federal Man. Trans.), go on to step 3). If there is no vacuum, check hoses and connections between distributor and carburetor insulator block or carburetor port for obstructions or leaks.

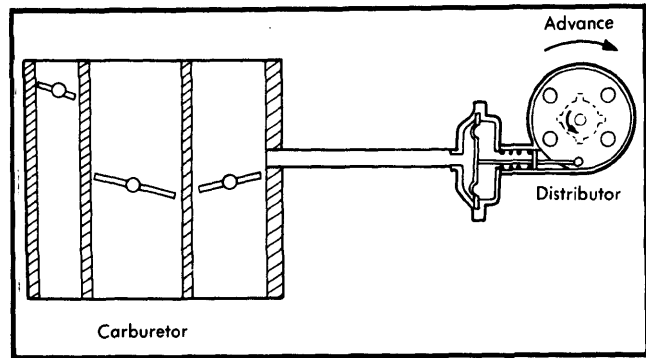
3) Connect vacuum pump to vacuum advance diaphragm and start engine. Draw 6 in. Hg vacuum. If timing advances, system is okay and test is complete. If timing does not advance, replace vacuum advance diaphragm and retest.

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## HONDA IGNITION TIMING CONTROL SYSTEM (Cont.)



**Fig. 6 Civic 1500 Ignition Timing Controls (Calif. Auto. Trans. Only)**



**Fig. 7 Civic Ignition Timing Controls (1300 Federal Man. Trans., 1500 Calif. Man. Trans., All Federal Auto. Trans.)**