

# Engine Tune-up

## Idle Speed Inspection/Adjustment (Carbureted Engine)

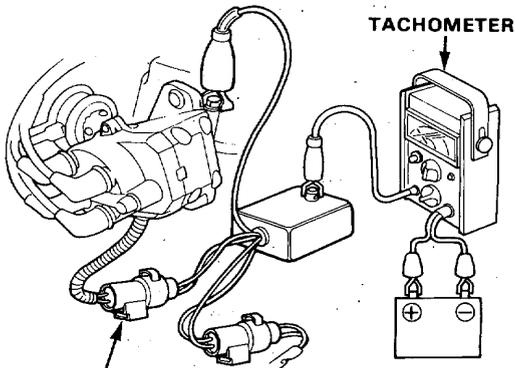
### NOTE:

- Ignition timing and valve clearance must be correct, and engine must be normal operating temperature; the cooling fan will come on.
- Snap the accelerator pedal several times and check the idle speed with the accelerator pedal fully returned.
- Check the clutch pedal (section 7) before making idle speed and mixture inspections.

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

### CO Meter Method

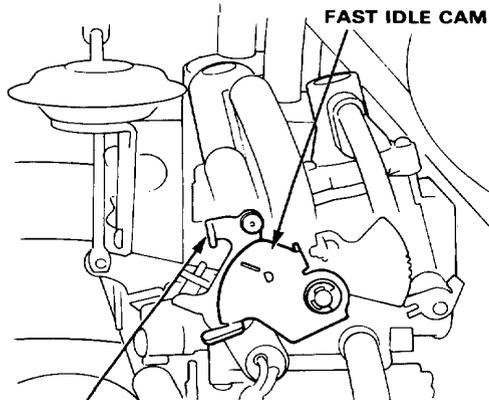
1. Warm up and calibrate the NDIR CO Meter in accordance with the manufacturer's recommended procedures.
2. Insert exhaust gas sampling probe into the tail pipe at least 40 cm and connect a tachometer.



R.P.M. CONNECTING ADAPTOR  
07JAZ-SH20100

3. (1.6 l Engine)  
Check the fast idle lever.

Fast idle lever should not be seated against fast idle cam.



FAST IDLE LEVER

- If the fast idle lever is against the fast idle cam, replace the fast idle cam (page 6-19).

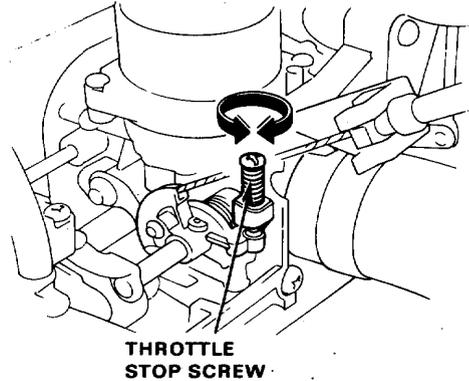
4. Check the idle speed with no load.

Idle speed should be:

Manual	750 ± 50 min <sup>-1</sup> (rpm)
Automatic	700 ± 50 min <sup>-1</sup> (rpm) (N or P)

5. If not within specification, adjust by turning throttle stop screw to obtain proper idle speed.

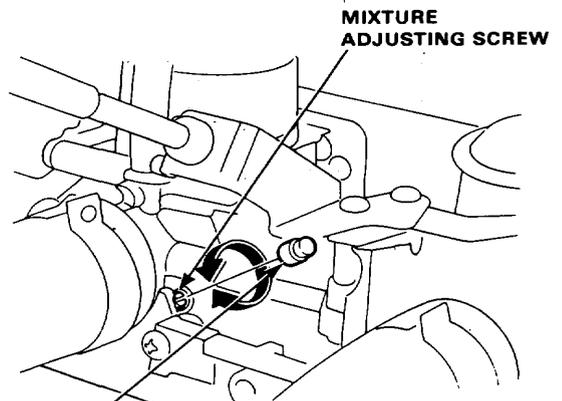
If idle speed cannot be adjusted properly, check for proper throttle cable adjustment.



6. Check specification for idle CO with no load.

Specified CO %: below 1.0 %

7. If not within specification, remove mixture adjusting screw hole plugs and adjust by turning mixture adjusting screws to obtain proper CO reading.



### HOLE CAP

Turning both mixture adjusting screws.  
clockwise: CO reading decreases  
counterclockwise: CO reading increases

- Readjust idle speed if necessary, and recheck idle CO.



8. Install the hole plugs.

If unable to obtain a CO reading of specified % by this procedure, check the engine turn-up condition.

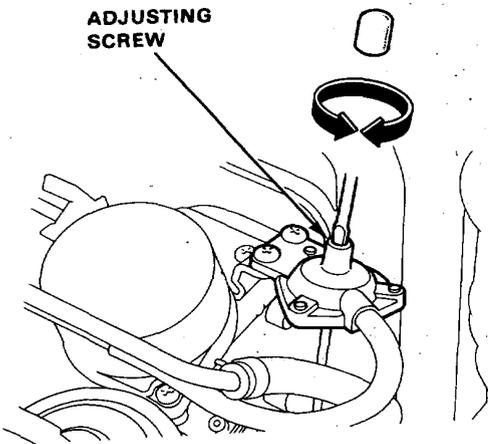
9. If equipped with air conditioner, check the idle speed with the A/C on.

Idle speed should be:

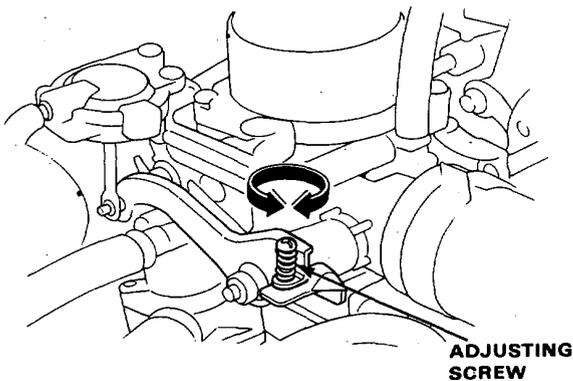
Manual	$750 \pm 50 \text{ min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{ min}^{-1}$ (rpm) ( <b>N</b> or <b>P</b> )

Adjust the idle speed, if necessary, by turning the adjusting screw.

(1.4 l Engine)



(1.6 l Engine)



## Tailpipe Emissions (Carbureted Engine)

### Inspection

**WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

1. Follow steps the CO meter method. (page 6-15).
2. Warm up and calibrate the CO meter according to the meter manufacture's instructions.
3. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

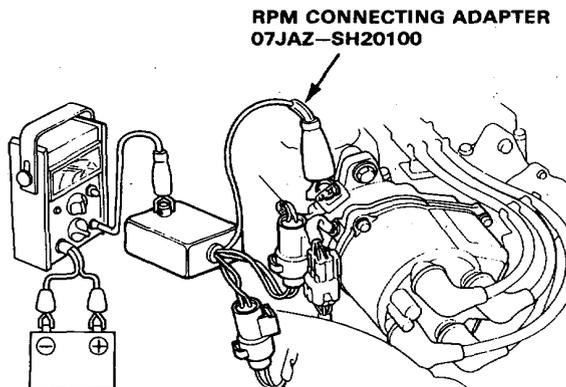
Specified CO% ; 1:0%

# Engine Tune-up

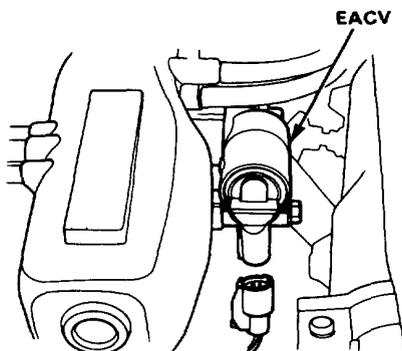
## Idle Speed Inspection/Adjustment (Fuel-Injected Engine)

### 1.6 Fuel-Injected Engine:

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes on).
2. Connect a tachometer.



3. Disconnect the 2P connector from the EACV.



4. Check idling in no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating.

Idle speed should be:

(SOHC)

$680 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (A/T: in **N** or **P**)

(DOHC with CATA)

$700 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC without CATA)

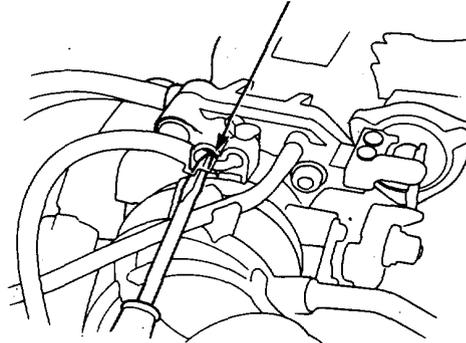
M/T:  $700 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

A/T:  $650 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (in **N** or **P**)

Adjust the idle speed, if necessary, by turning the idle adjusting screw.

NOTE: If the idle speed is excessively high, check the throttle control system (page 6-169).

IDLE ADJUSTING SCREW



5. Turn the ignition switch OFF.
6. Reconnect the 2P connector on the EACV, then remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.
7. Restart and idle the engine with no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating for one minute, then check the idle speed.

Idle speed should be:

(SOHC)

$780 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (A/T: in **N** or **P**)

(DOHC with CATA)

$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC without CATA)

M/T:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

A/T:  $750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (in **N** or **P**)

8. Idle the engine for one minute with headlights (Hi) and rear defogger ON and check the idle speed.

Idle speed should be:

(SOHC)

$780 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC with CATA)

$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC without CATA)

M/T:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

A/T:  $750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

9. Idle the engine for one minute with heater fan switch at HI (right end) and air conditioner on, then check the idle speed.

Idle speed should be:

(SOHC)

$810 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC with CATA)

$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

(DOHC without CATA)

M/T:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

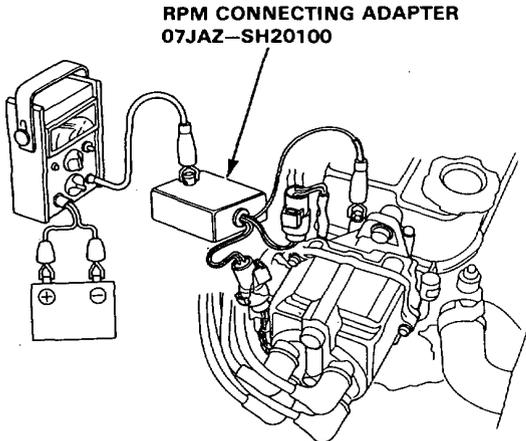
A/T:  $750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

NOTE: If the idle speed is not within specifications, see System Troubleshooting Guide on page 6-120.

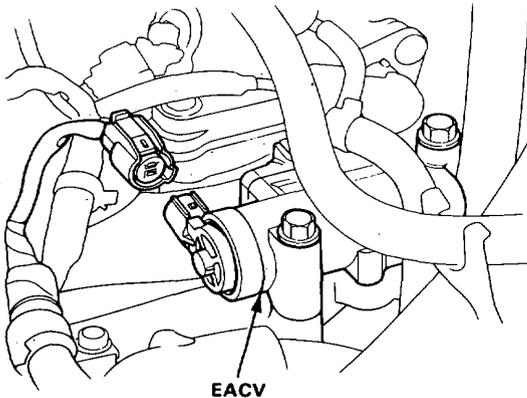


### 1.5 l Fuel-Injected Engine:

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes on).
2. Connect a tachometer.



3. Disconnect the 2P connector from the EACV.



4. Check idling in no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating.

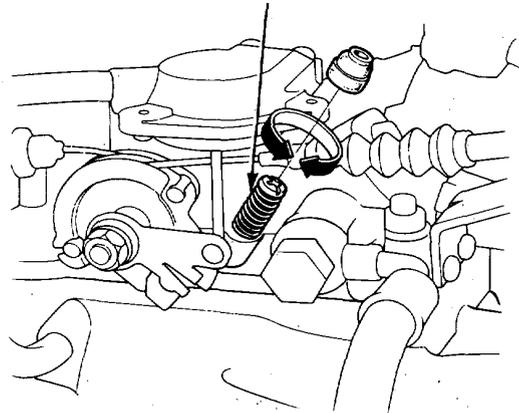
#### Idle speed should be:

$700 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (A/T: in **N** or **P**)

Adjust the idle speed, if necessary, by turning the idle adjusting screw.

NOTE: If the idle speed is excessively high, check the throttle control system (page 6-126)

#### IDLE ADJUSTING SCREW



5. Turn the ignition switch OFF.
6. Reconnect the 2P connector on the EACV, then remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.
7. Restart and idle the engine with no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating for one minute, then check the idle speed.

#### Idle speed should be:

$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$  (A/T: in **N** or **P**)

8. Idle the engine for one minute with headlights (Hi) and rear defogger ON and check the idle speed.  
Idle speed should be:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
9. Idle the engine for one minute with heater fan switch at HI (right end) and air conditioner on, then check the idle speed.

Idle speed should be:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

NOTE: If the idle speed is not within specifications, see System Troubleshooting Guide on page 6-120.

# Engine Tune-up

## Tailpipe Emission (Fuel-Injected Engine)

### Inspection

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

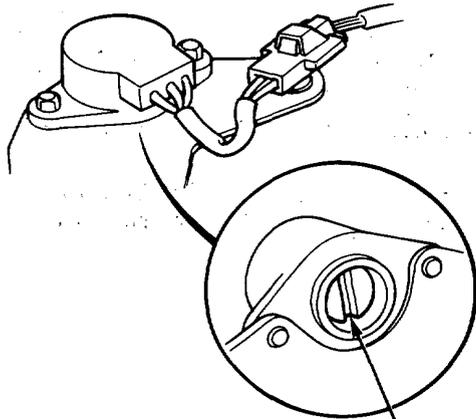
1. Start the engine and warm up to normal operating temperature (cooling fan comes on).
2. Connect tachometer.
3. Check idle speed and adjust the idle speed, if necessary (page 6-133, 134).
4. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
5. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

### Specified CO%:

With CATA: 0.1% maximum

Without CATA: 0.5 + 0.5%  
- 0.3%

- If unable to obtain this reading;  
On With CATA, see ECU troubleshooting (page 6-54).  
On other models, adjust by turning the adjusting screw of the IMA sensor.



ADJUSTING SCREW

- If unable to obtain a CO reading of specified % by this procedure, check the engine tune-up condition.