

Engine Tune-up

Idle Speed Inspection/Adjustment

Carbureted Engine:

(KS KG, KQ)

Inspection/Adjustment

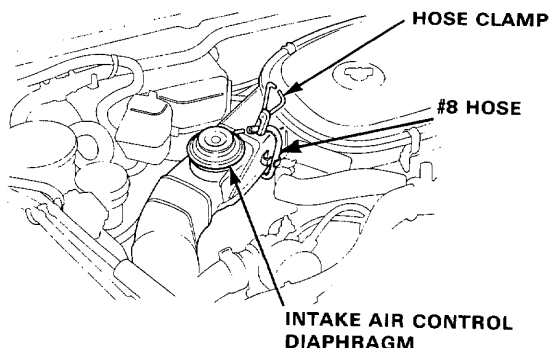
Propane Enrichment Method

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

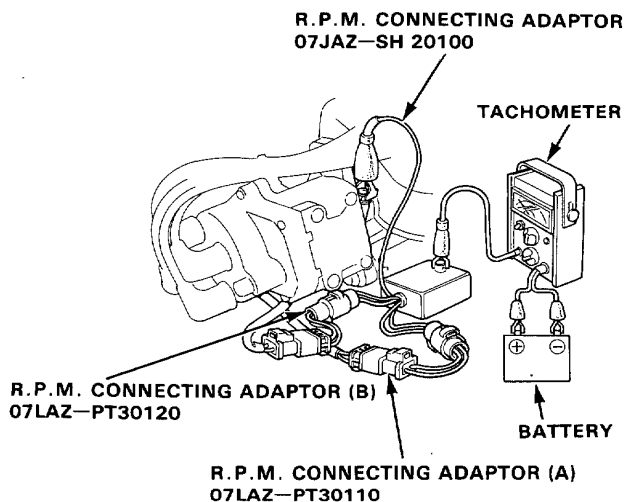
NOTE:

- This procedure requires a propane enrichment kit.
- Check that the self diagnosis indicator before making idle speed and mixture inspections.

1. Start the engine and warm up to normal operating temperature (the cooling fan comes twice).
2. Disconnect the #8 vacuum hose from the intake air control diaphragm and clamp the hose end.



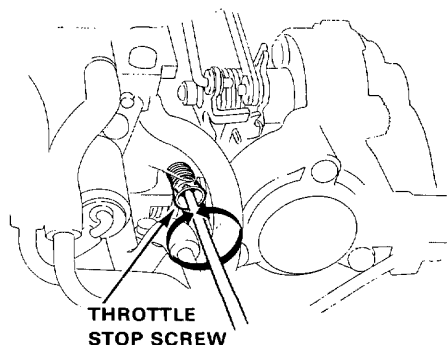
3. Connect a tachometer.



4. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500—3,000 min⁻¹ (rpm) for 1 minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

Idle speed should be:

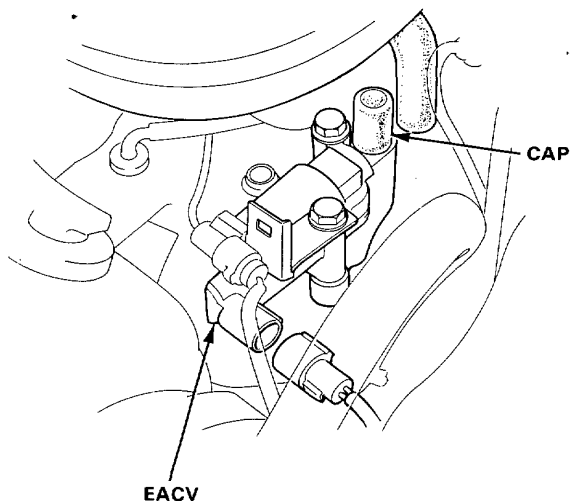
Manual	800 ± 50 min ⁻¹ (rpm)
Automatic	750 ± 50 min ⁻¹ (rpm) (in "D")



Adjust the idle speed, if necessary, by turning the throttle stop screw.

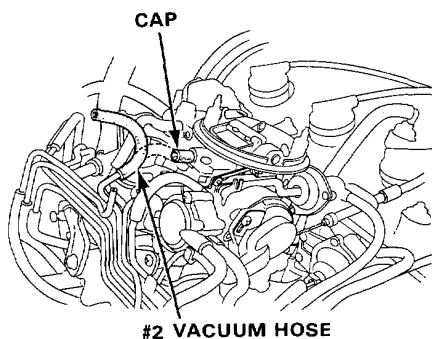
NOTE: If the idle speed is excessively high, check the throttle control system (page 6-112)

5. Disconnect the 2P connector from the EACV and disconnect the hose from the EACV, then cap the EACV.

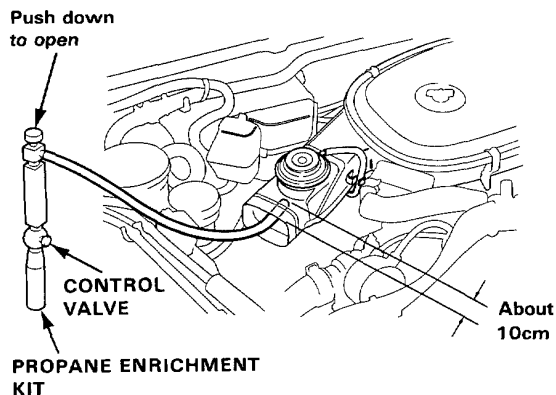




6. Disconnect the #2 vacuum hose from the carburetor, then cap the carburetor.

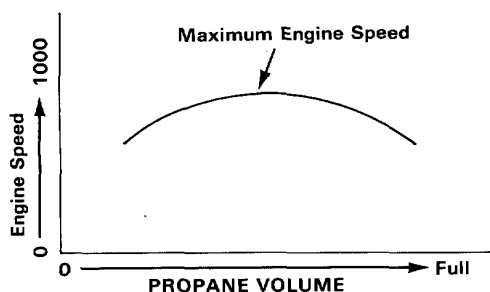


7. Disconnect air cleaner intake tube from air intake duct.
8. Insert the hose of the propane enrichment kit into the intake tube about 10 cm.
NOTE: Check that propane bottle has adequate gas before beginning test.



9. With engine idling, depress push button on top of propane device, then slowly open the propane control valve to obtain maximum engine speed. Engine speed should increase as percentage of propane injected goes up.

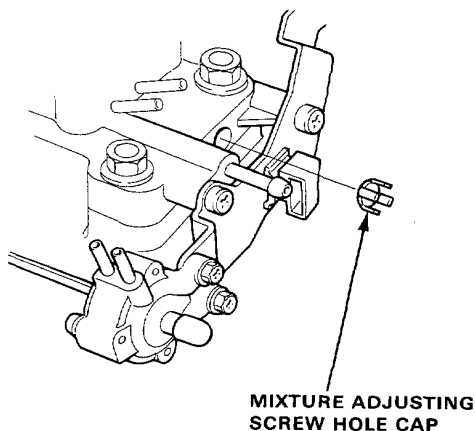
NOTE: Open the propane control valve slowly; a sudden burst of propane may stall the engine.



Engine speed increase should be:

Manual	$160 \pm 20 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$50 \pm 10 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

- If engine speed does not increase per specification, mixture is improperly adjusted. Go to step 10.
 - If engine speed increases per specification, go to step 14.
10. Remove the air cleaner and close the propane control valve.
 11. Remove the mixture adjusting screw hole cap.



(cont'd)

Engine Tune-up

Idle Speed Inspection/Adjustment (cont'd)

12. Start engine and warm up to normal operating temperature ; the cooling fan will come on.
13. Reinstall the propane enrichment kit and recheck maximum propane enriched engine speed.
 - If the propane enriched speed is too low, mixture is too rich: turn the mixture screw 1/4-turn clockwise and recheck.
 - If the propane enriched speed is too high, mixture is too lean: turn the mixture screw 1/4-turn counter-clockwise and recheck.
14. Close the propane control valve speed and remove the BACK UP fuse for 10 seconds to reset control unit. Recheck idle speed.

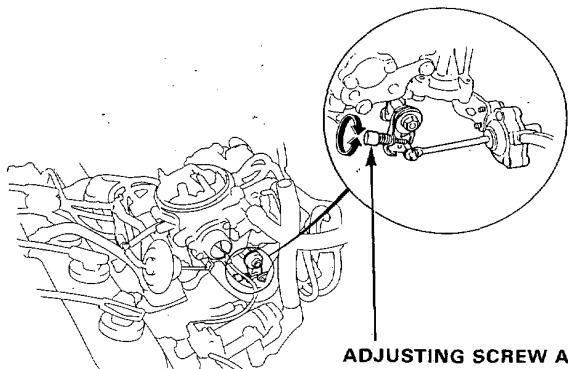
Idle speed should be:

Manual	$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

- If idle speed is as specified (step 4), go to step 15.
 - If idle speed is not as specified, adjust by turning throttle stop screw, then repeat steps 13 and 14.
15. Remove propane enrichment kit and reconnect air cleaner intake tube on the air intake duct.
 16. Reinstall the mixture adjusting screw hole cap.
 17. Disconnect the connector on the P/S oil pressure switch, and check the idle speed.

Idle speed should be:

Manual	$950 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$820 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

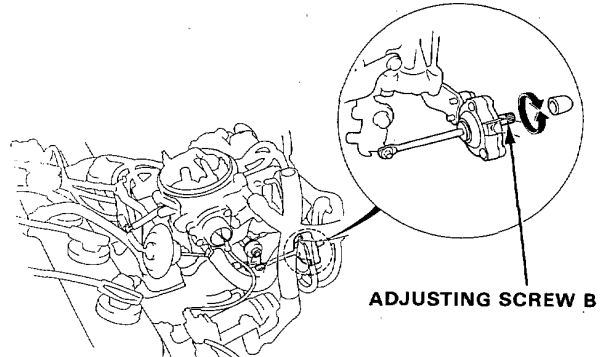


Adjust the idle speed, if necessary, by turning the adjusting screw A.

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

Idle speed should be:

Manual	$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")



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



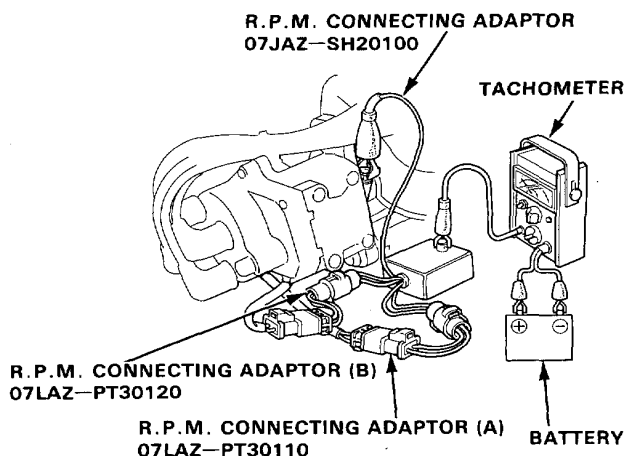
(Except KS, KG, KQ)

CO Meter Method

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

NOTE: Check that the self-diagnosis indicator (KX) before making idle speed and mixture inspections.

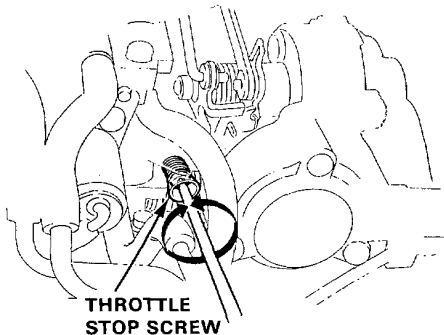
1. Start the engine and warm it up to normal operating temperature (the cooling fan comes twice).
2. Connect a tachometer.



3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000min⁻¹ (rpm) for 1 minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

Idle speed should be:

Manual	800±50min ⁻¹ (rpm)
Automatic	750±50min ⁻¹ (rpm)(in "D")



Adjust the idle speed, if necessary, by turning the throttle stop screw.

NOTE: If the idle speed is excessively high, check the throttle control system (page 6-112)

4. Calibrate the NDIR CO Meter in accordance with the manufacturer's recommended procedures. Insert exhaust gas sampling probe into the tailpipe at least 40 cm.
5. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min⁻¹ (rpm) for 1 minute. Check specification for idle CO with cooling fan, air conditioner OFF and headlights OFF.

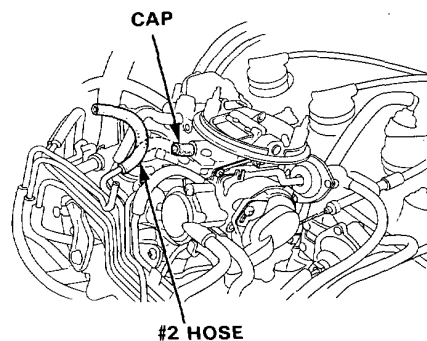
Specified CO%:

KX: 0.1% maximum

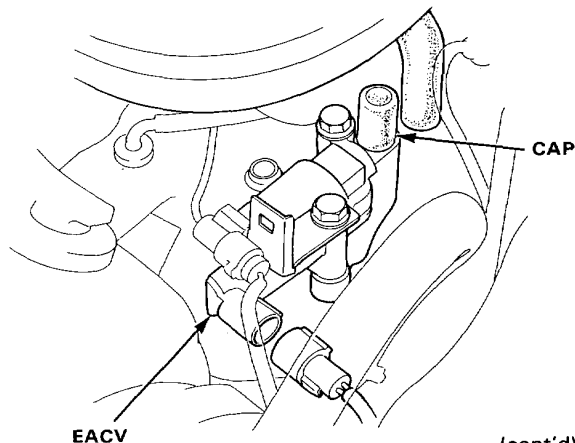
Except KX: 1±1%

- If idle CO is as specified, go to step 14.
- If not, go to step 6 through 13.

6. KX ;
Disconnect the #2 vacuum hose from the carburetor, then cap the carburetor.



7. KX:
Disconnect the 2P connector from the EACV and disconnect the hose from the EACV, then cap the EACV.

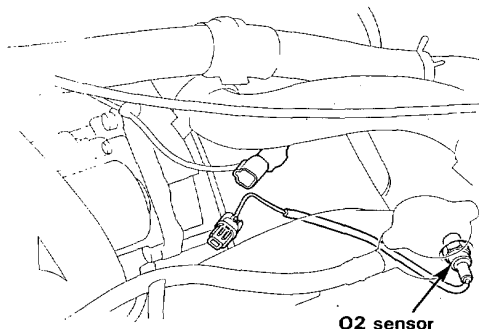


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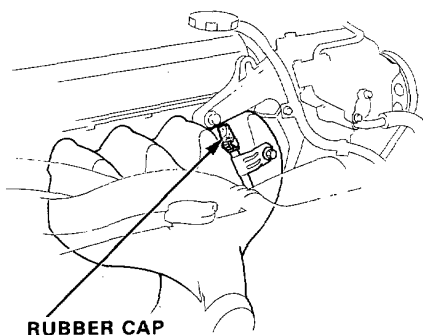
Engine Tune-up

Idle Speed Inspection/Adjustment (cont'd)

8. KX:
Disconnect the wire harness from the O₂ sensor.



9. KX:
Remove the rubber cap from the gas pipe.



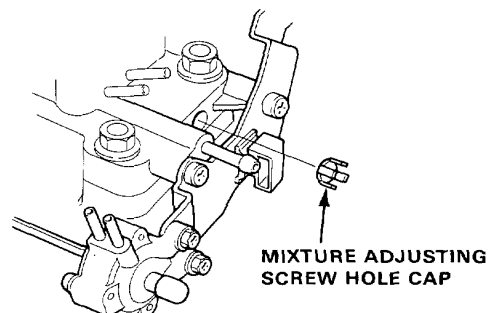
10. KX:
Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min⁻¹ (rpm) for 1 minute. Check specification for idle CO.

Specified CO%: 2.3 ± 1.0%

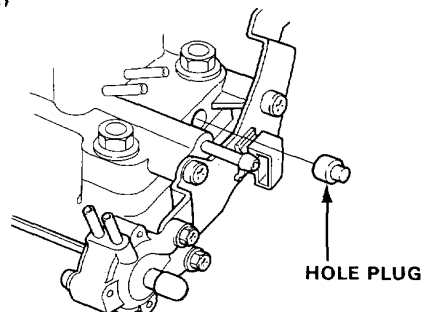
- If not, specification, go to step 11.

11. Remove mixture adjusting screw hole plug and adjust by turning mixture adjusting screw to obtain proper CO reading.

(KX)



(Except KX)



— Turning mixture adjusting screw

clockwise: CO reading decreases
counterclockwise: CO reading increases

Readjust idle speed if necessary, and recheck idle CO.

12. KX:
Reconnect the connector and hose.
Remove BACK UP fuse for 10 seconds to reset control unit.

13. KX:
Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min⁻¹ (rpm) for 1 minute. Recheck idle CO.

Specified CO%: 0.1%

- If idle CO is as specified, go to step 14.
- If not, check the self-diagnosis indicator (page 6-22). If not, inspect the EACV (page 6-104) and the catalytic converter (page 6-103), then repeat step 6.

14. Recheck idle speed.
Idle speed should be:

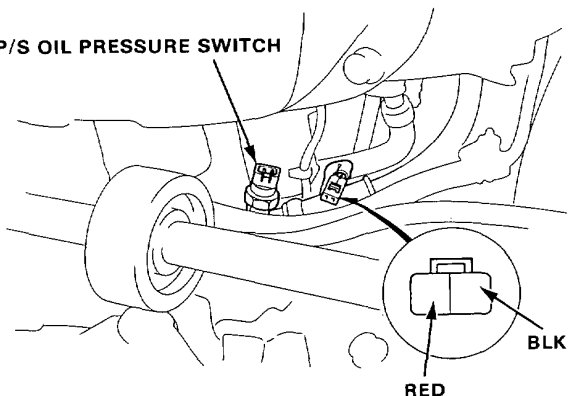
Manual	800 ± 50 min ⁻¹ (rpm)
Automatic	750 ± 50 min ⁻¹ (rpm) (in "D")



- If idle speed is as specified, go to step 15.
- If idle speed is not as specified, adjust by turning throttle stop screw, then repeat step 5.

15. Reinstall the mixture adjusting screw hole cap.
16. Disconnect the connector on the P/S oil pressure switch.
Except KX; Connect a jumper wire between the RED terminal and the BLK terminal.

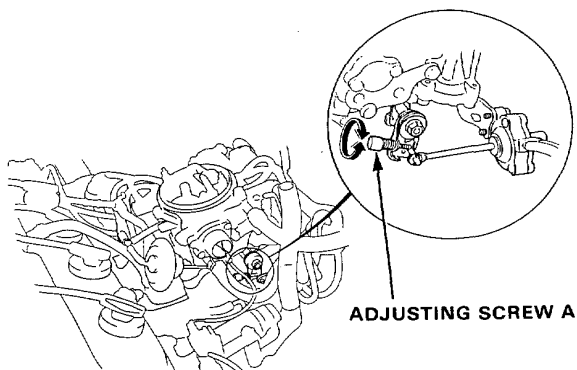
P/S OIL PRESSURE SWITCH



17. Check the idle speed.

Idle speed should be :

Manual	$950 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$820 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

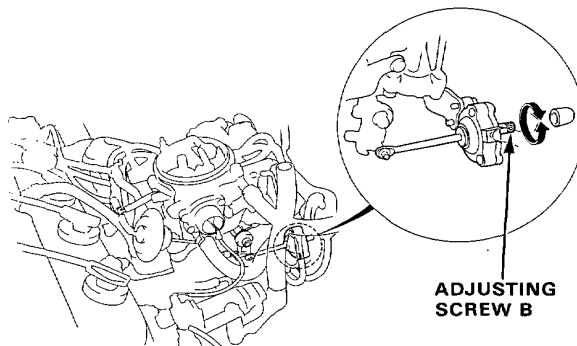


Adjust the idle speed, if necessary, by turning the adjusting screw A.

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

Idle speed should be:

Manual	$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")



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

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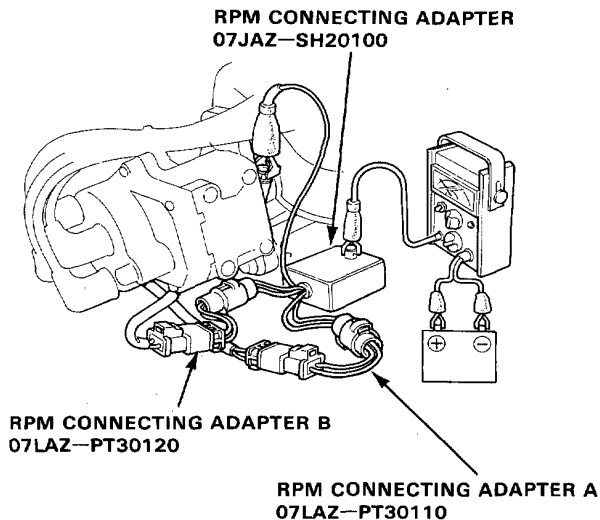
Engine Tune-up

Idle Speed Inspection/Adjustment (cont'd)

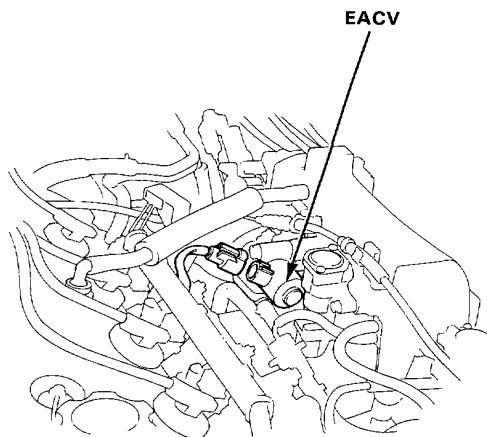
Fuel-Injected Engine:

Inspection/Adjustment

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:

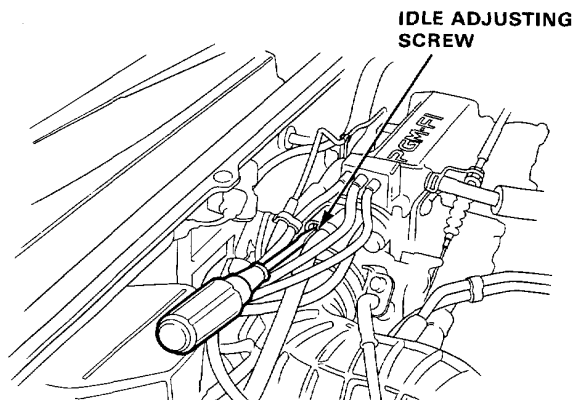
(Except KS, KW)

Manual	$600 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$600 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in N or P)

(KS, KW)

Manual	$550 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$550 \pm 50 \text{ min}^{-1}$ (in N or P)

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



5. Turn the ignition switch OFF.
6. reconnect the 2P connector on the EACV, then remove BACK UP fuse in the underhood relay box for 10 seconds to reset ECU.
7. Restart an 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:

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

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

Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

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

Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$

NOTE: If the idle speed is not within specifications, see System Troubleshooting Guide on page 6-192.