4. THROTTLE POSITIONER (TP) SYSTEM

CONTENTS

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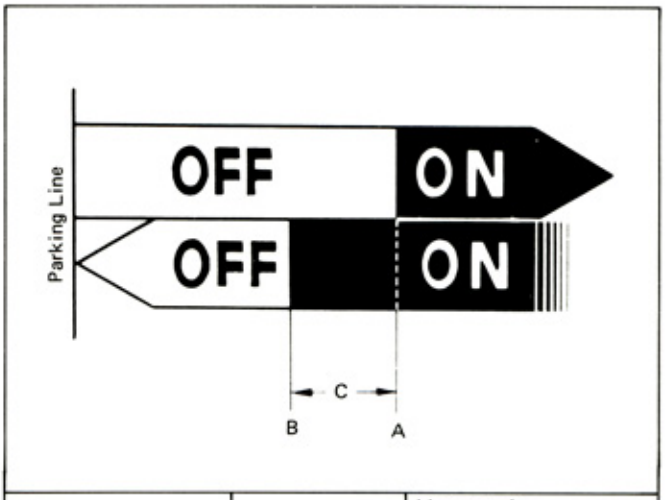
DESCRIPTION

When the accelerator pedal is released for deceleration, the throttle valve will close to the idle speed position. As a result, the engine intake mixture at that time will become rich and will not burn completely. The throttle positioner serves to leave the throttle valve slightly more opened than at idling when decelerated, to prevent the mixture from becoming rich so that complete combustion of the mixture will take place and reduce to a minimum the HC (hydrocarbon) and CO (carbon monoxide) formed.

OPERATION

1. When the vehicle speed reaches the "ON" range, the signal from the speed senser causes the computer to connect the VSV ground circuit. Thus, the VSV turns "ON" and allows the atmospheric pressure to act on the throttle positioner diaphragm.
   This causes the spring to push the diaphragm and set the positioner.



Engine Family	B Point (mph)	Hysteresis C = A – B (mph)
2T-C, 4M	11 ± 3	4 ± 2
20R	17 ± 3	4 ± 2
2F	9 ± 2	3 ± 2

Fig. 4-1 Vehicle Speed Ranges

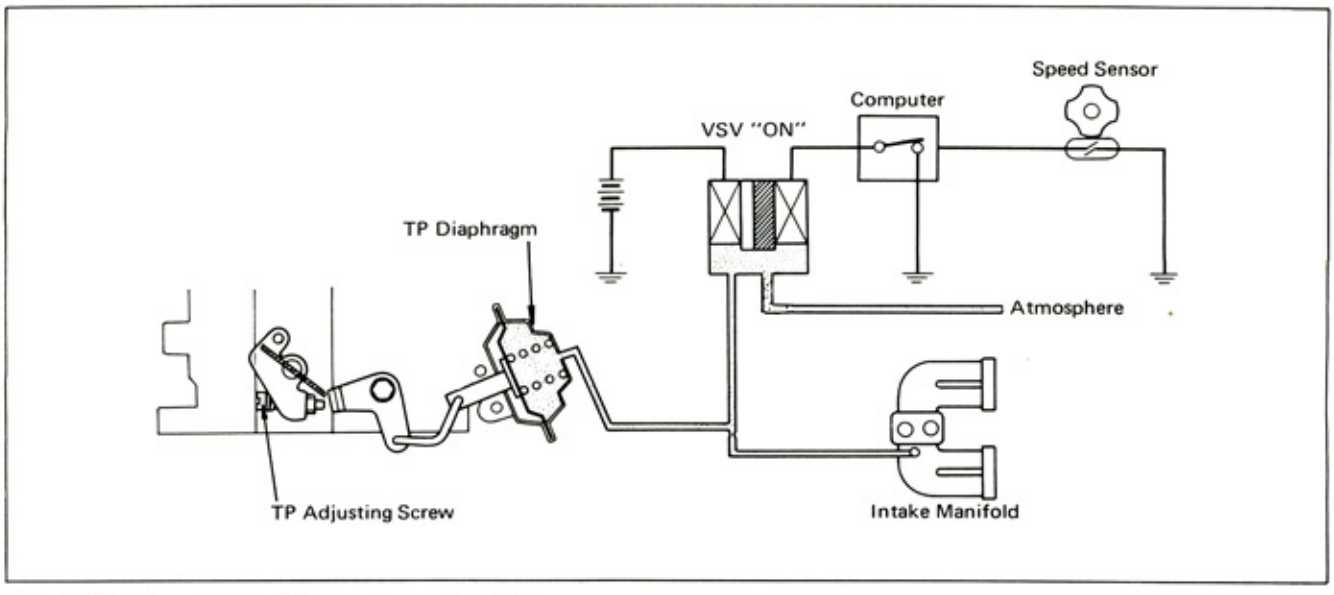


Fig. 4-2 Throttle Positioner Operation (1)

2. On releasing the accelerator pedal under the condition in 1 above, the throttle valve will be held in a position that is slightly more opened than at idle so that the engine does not idle.

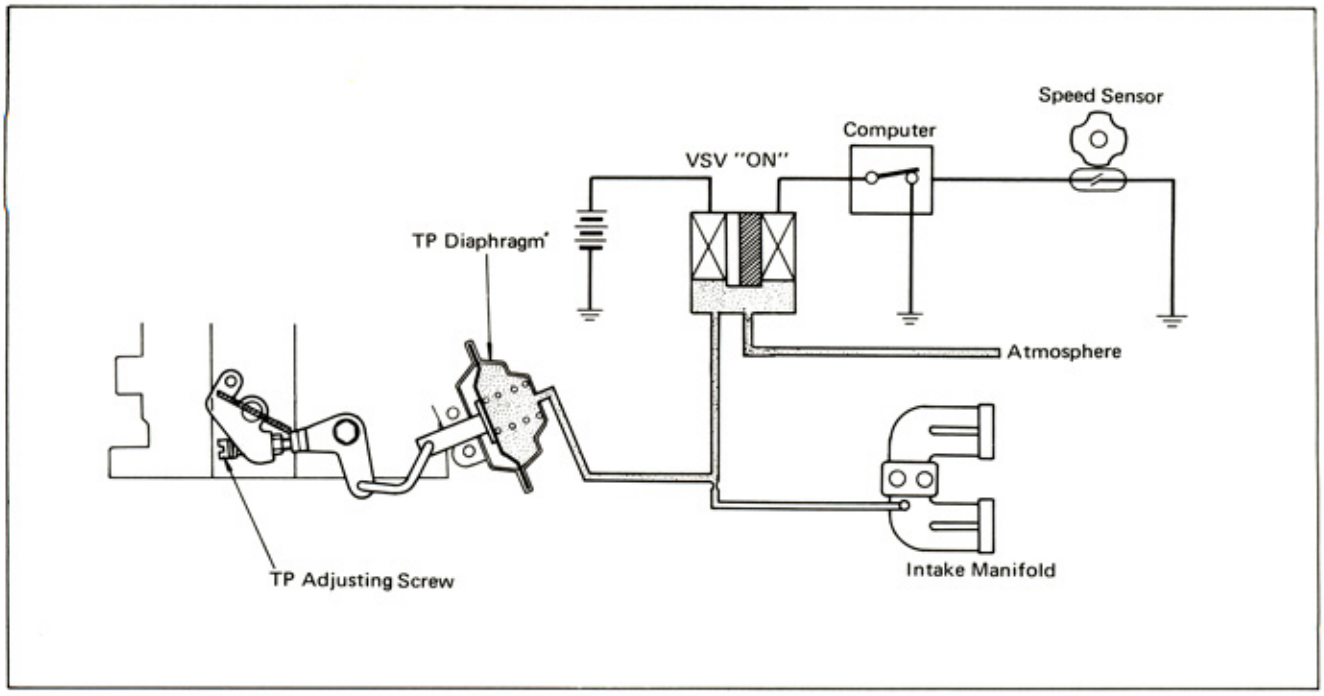


Fig. 4-3 Throttle Positioner Operation (2)

3. When the vehicle speed drops to the "OFF" range while under the condition in 2 above, the computer opens the VSV ground circuit, causing the VSV to turn "OFF". Thus, the intake manifold vacuum will act on the diaphragm to release the throttle valve setting and allow the throttle valve to return to the idle position.

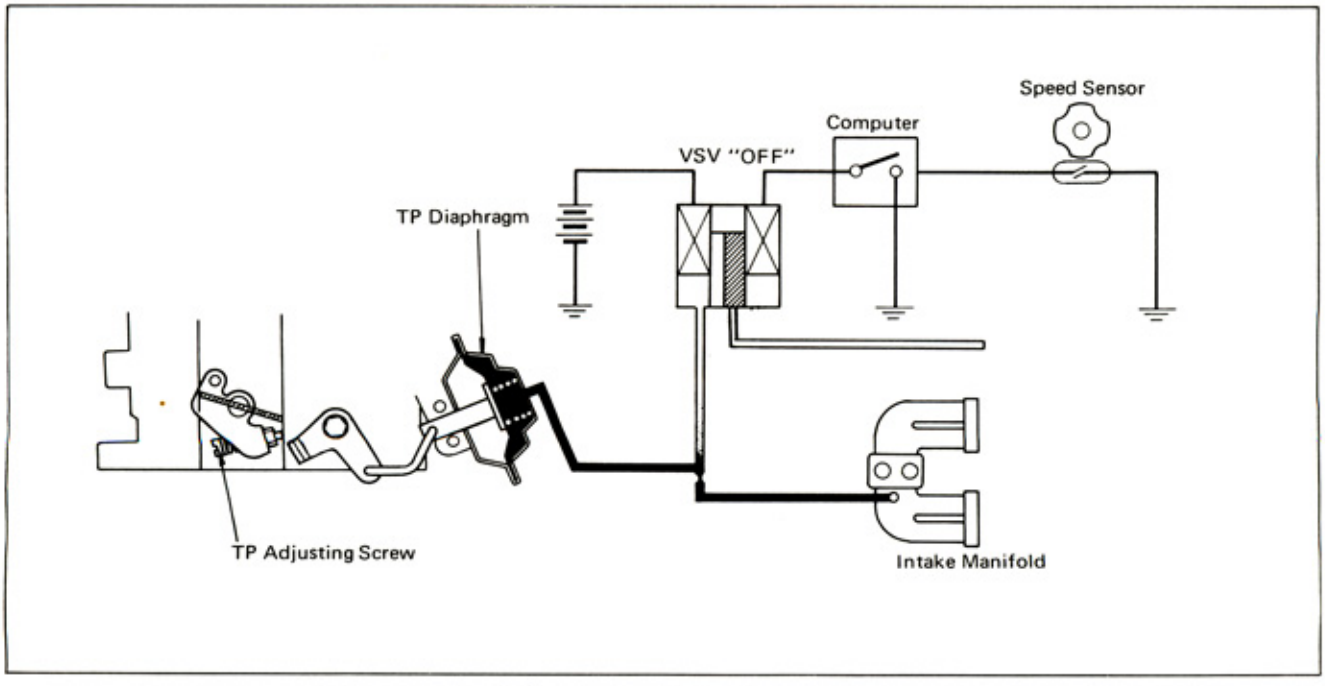
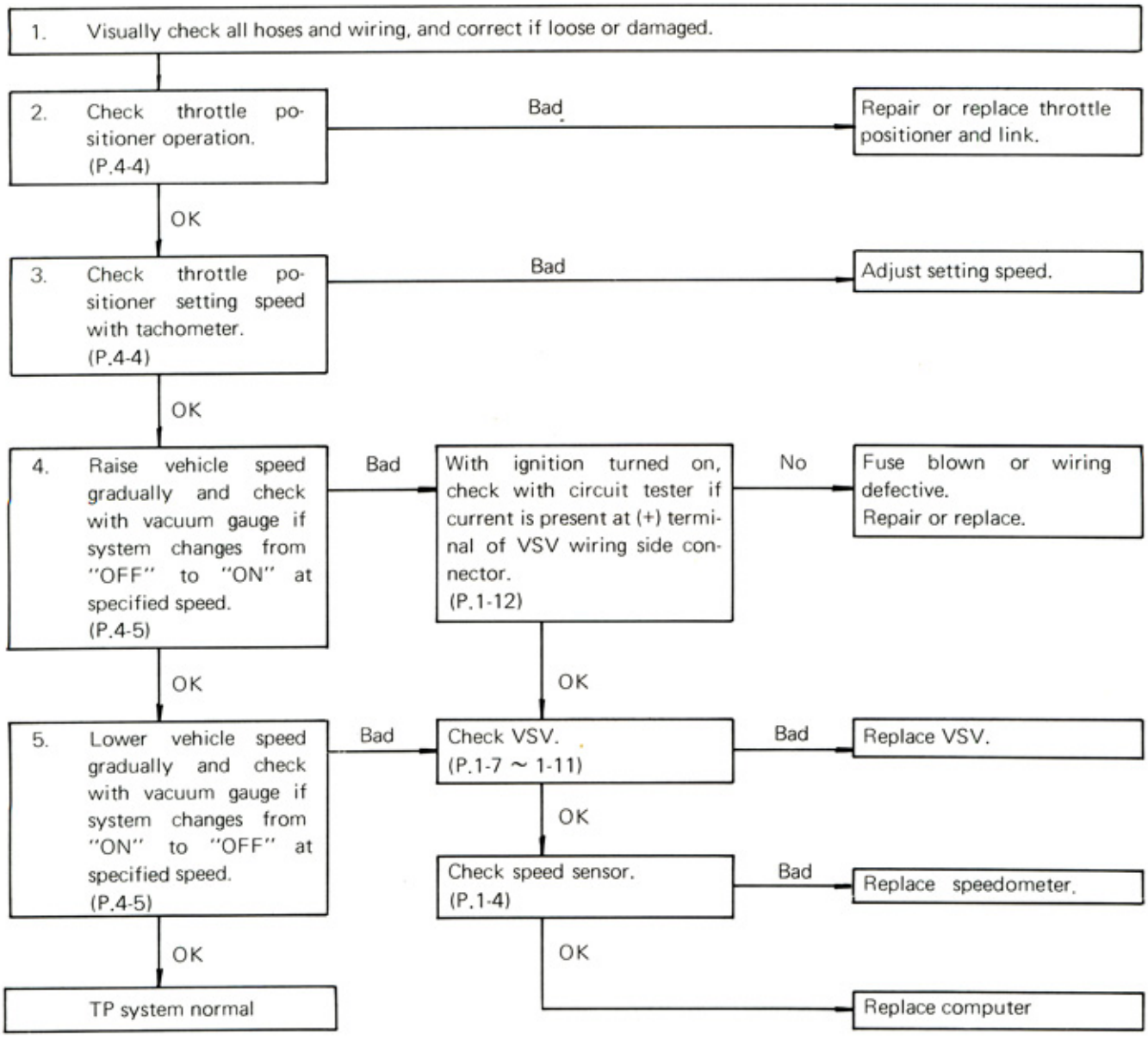


Fig. 4-4 Throttle Positioner Operation (3)

THROTTLE POSITIONER SYSTEM INSPECTION PROCEDURE



Note

1. In case the system turns "ON" and "OFF" in accordance with vehicle speed but there is a wide difference in the vehicle speed range, replace the computer and repeat the test.
2. After completing inspection, make sure to properly reconnect all hoses and wiring connectors that were disconnected for the test.
   Also do not fail to refasten the clamps.
3. If any part had been replaced, repeat the test.

INSPECTION AND ADJUSTMENT

1. Throttle positioner operation inspection

(1) Have the engine idling.
(2) Disconnect the TP diaphragm sensing hose.
(3) Race the engine and then release the accelerator pedal.
(4) At this time, the TP adjusting screw should strike against the throttle valve lever so that engine will be turning faster than at idling.

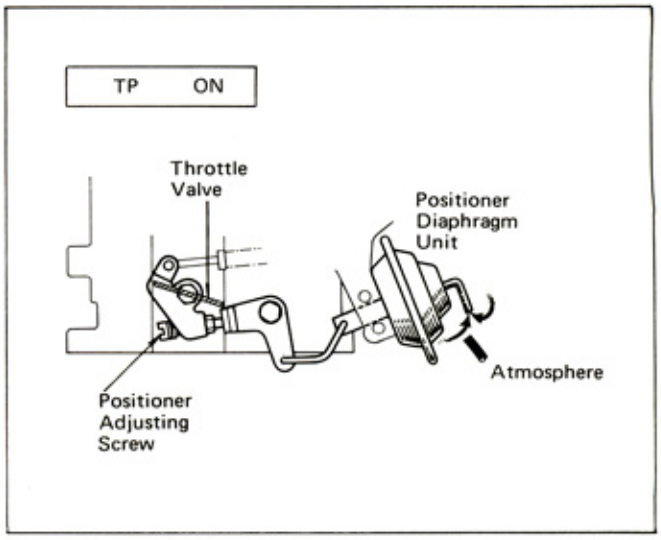


Fig. 4-5 TP Operation Inspection

(5) Under the above state, connect together the TP diaphragm and intake manifold with vacuum hose. This should release the TP adjusting screw from the throttle valve lever and allow the engine to return to idling state.
(6) If defective, inspect the diaphragm and linkage.
(7) After completing inspection, reconnect the vacuum hose that was removed for the test.

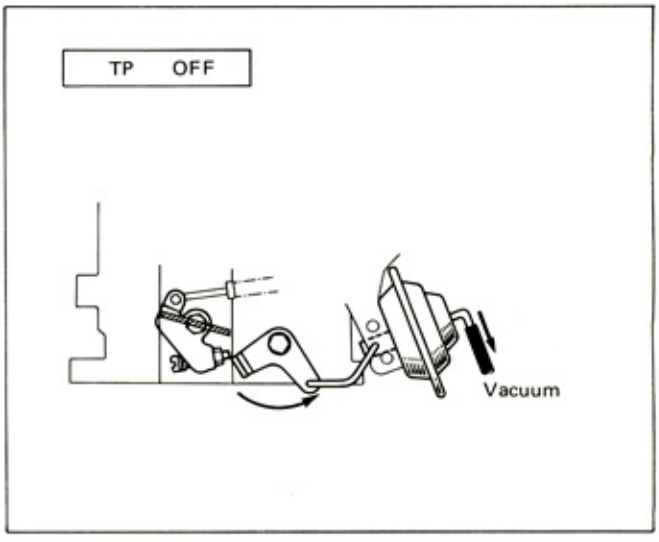


Fig. 4-6 TP Operation Inspection

2. Throttle positioner setting speed inspection

(1) Warm up the engine and check the idling speed.
(2) Disconnect the TP diaphragm sensing hose.
(3) Race the engine and then release the accelerator pedal.
(4) Check the engine speed at this time. If not at specified speed, make adjustments with TP adjusting screw.

Table 4-1 TP Setting Speeds (rpm)

Engine Family	Transmission	Speed
2T-C	M/T	1500 ± 100
	A/T	1400 ± 100
20R	M/T	1400 ± 100
	A/T	1050 ± 100
4M	M/T	1300 ± 100
	A/T	1200 ± 100
2F	M/T	1200 ± 100

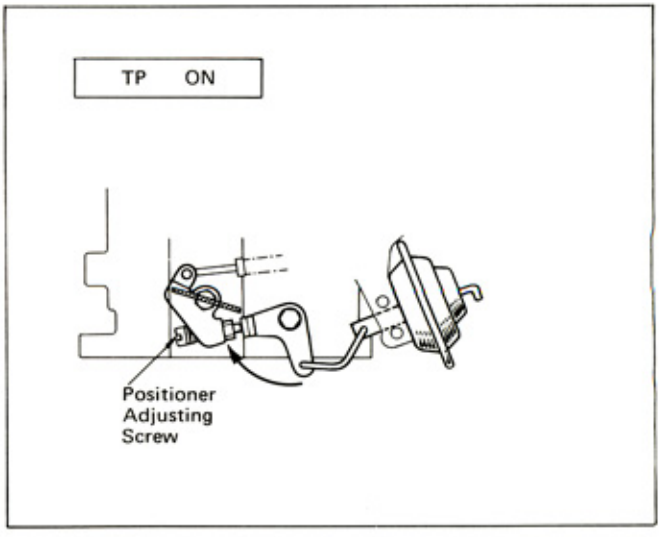


Fig. 4-7 TP Setting

3. Inspection from speed sensor to VSV

(1) Disconnect the vacuum hose between the TP diaphragm and VSV.
(2) Connect a vacuum gauge to the VSV and set the vacuum gauge at the driver's seat.
(3) Perform road test while observing the speedometer and vacuum gauge.

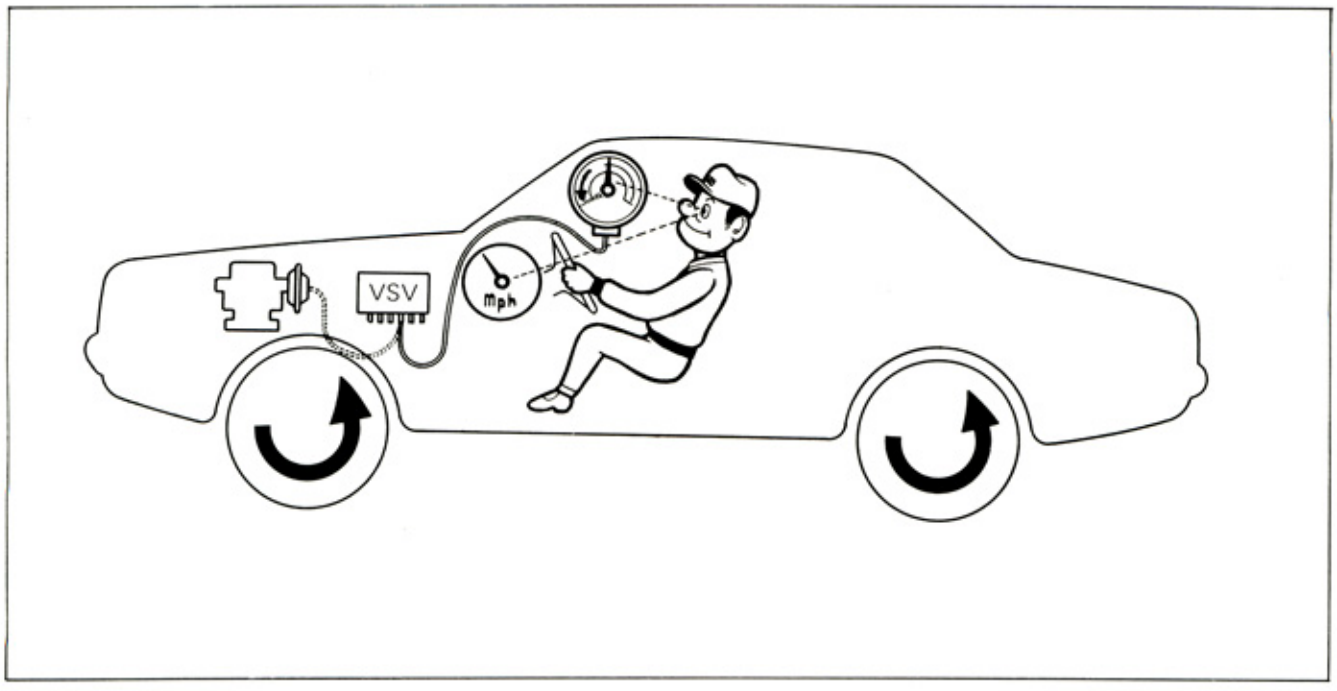


Fig. 4-8 TP System Inspection

(4) Check the vacuum gauge to see if it indicates nearly zero when the vehicle speed is in "ON" range.
(5) Check the vacuum gauge to see if it deflects toward vacuum side when the vehicle speed is in "OFF" range.
(6) If defective, inspect by methods outlined on P. 4-3.

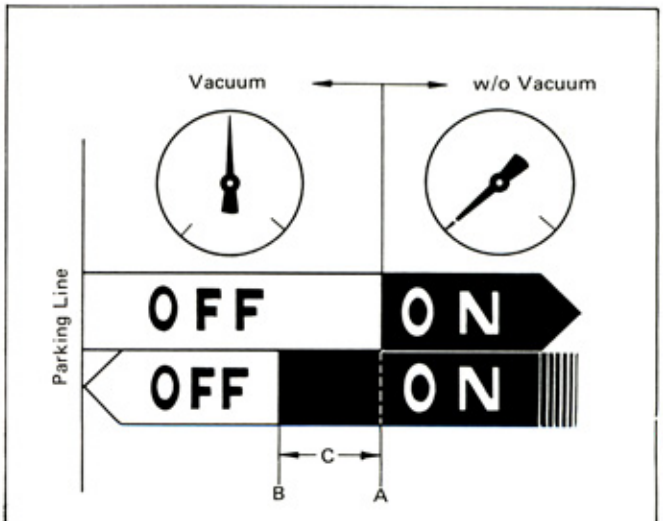


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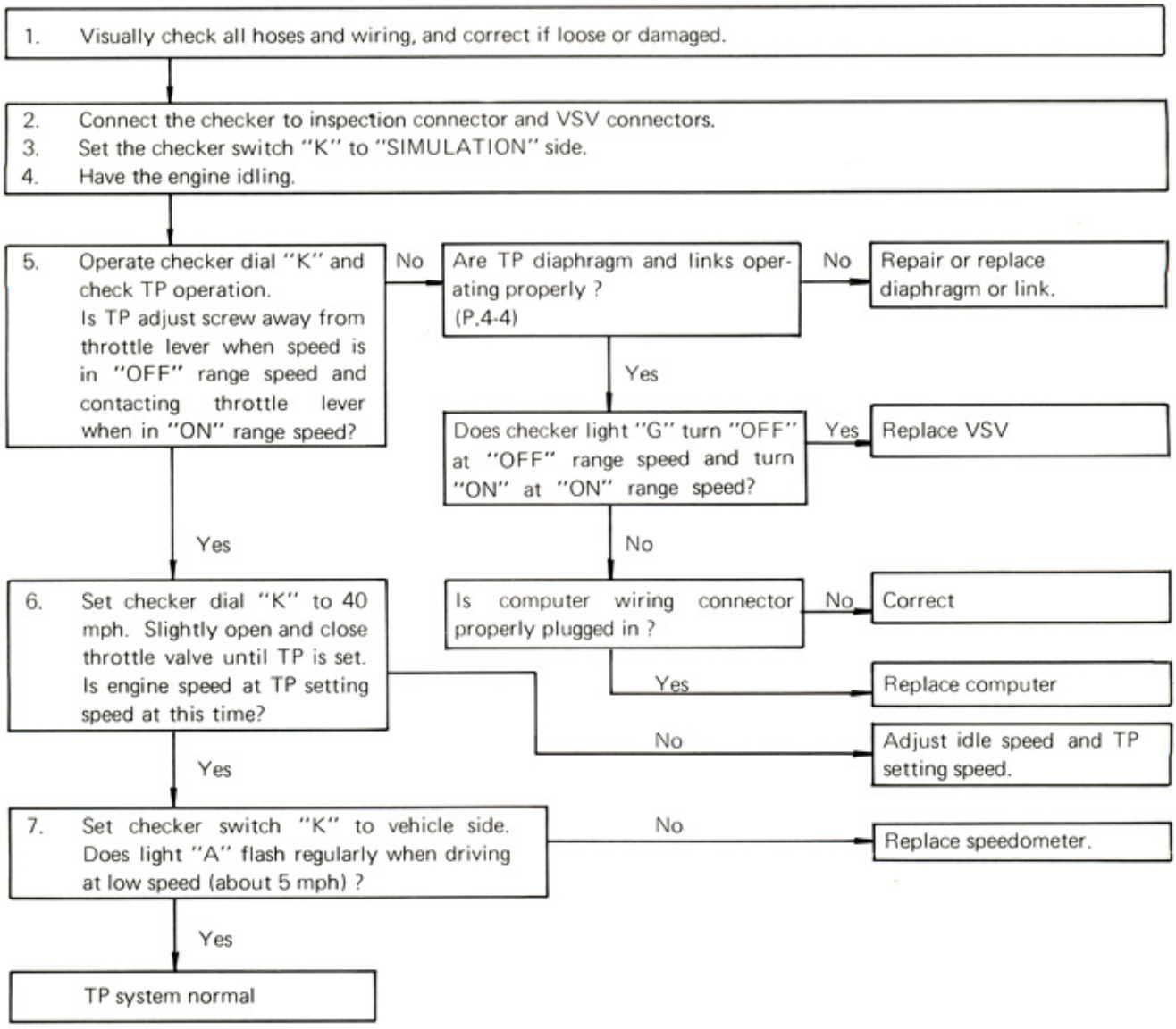
Fig. 4-9 Vehicle Speed Ranges

THROTTLE POSITIONER INSPECTION PROCEDURE

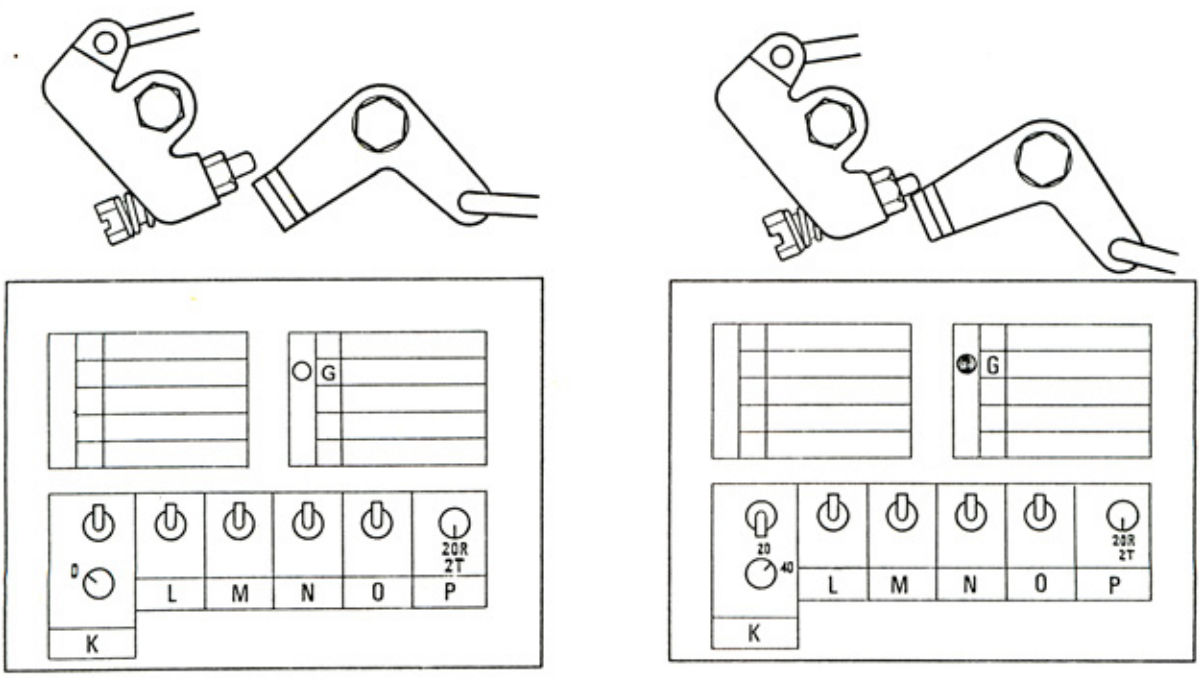
(If checker is used, TE series not applicable except those for California)



Note

After removing checker, plug in VSV connector securely.

(5)



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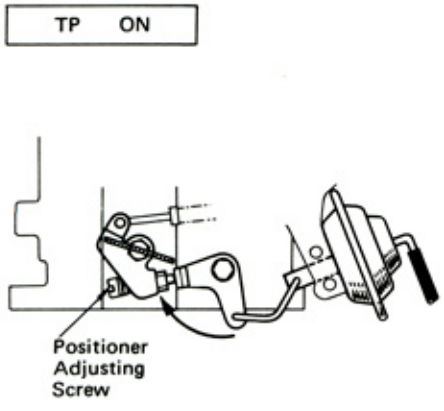

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	A/T	1400 ± 100
20R	M/T	1400 ± 100
	A/T	1050 ± 100
4M	M/T	1300 ± 100
	A/T	1200 ± 100
2F	M/T	1200 ± 100