

General Instructions

For adjustment data and dimensions, refer to Job No. 07-0.

Prior to idle speed adjustment, check dwell angle, timing and spark plug electrode gap.

A. Adjustment of Idle Speed and Throttle Control Linkage

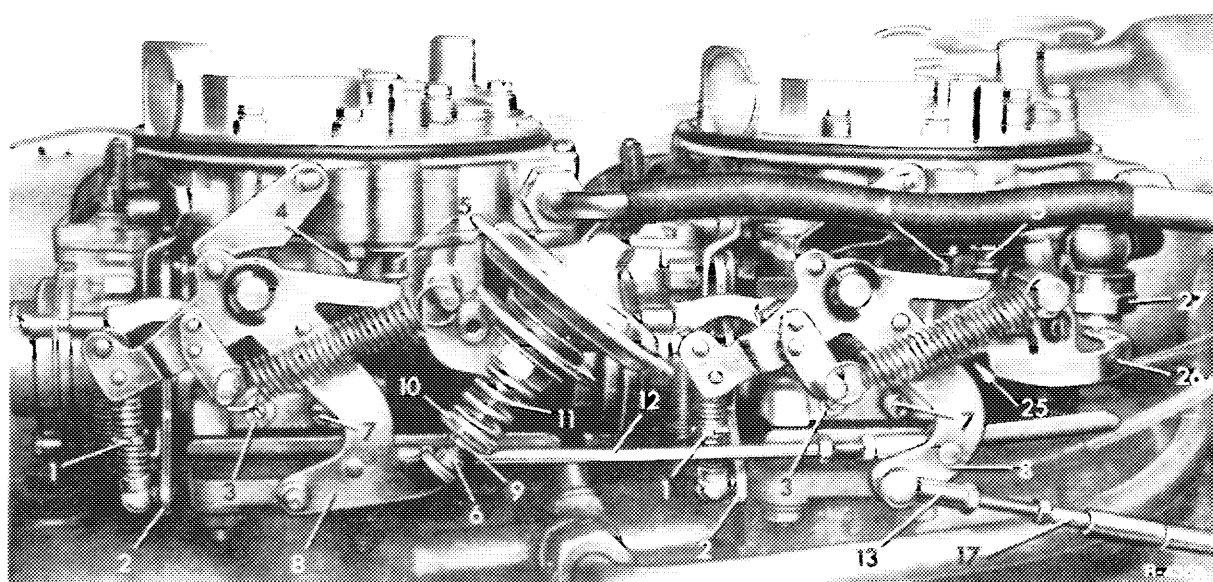


Fig. 07-4/1

- | | | | |
|-------------------------------|----------------------|-----------------------|---|
| 1 Idle speed adjustment screw | 6 Adjusting screw | 11 Compression spring | 25 Adjustment screw – fuel return valve |
| 2 Throttle valve arm | 7 Idle mixture screw | 12 Link | 26 Actuating lever – fuel return valve |
| 3 Test connection | 8 Actuating lever | 13 Ball head | 27 Fuel return valve |
| 4 Idle speed stop screw | 9 Lock nut | 17 Control rod | |
| 5 Float housing vent valve | 10 Adjustment nut | | |

1 Run engine to raise oil temperature to a minimum of 60–80° C.

connector from 100° C thermostatic switch in thermostat housing.

Caution: Do not adjust idle speed on an overheated engine, e. g. after a hard ride or after output measurement on the dynamometer.

3 Disengage link (12) and control rod (17) (Fig. 07-4/1).

2 Remove air cleaner. On vehicles with US exhaust emission control as of model year 1970, pull cable

4 Check stage I and II throttle valves as well as actuating levers (8) for ease of movement.

5 Check whether both the actuating levers (8) contact the idle speed stop (4). On vehicles with vacuum control, back off adjustment screw (6) (Fig. 07-4/1).

6 Check control of float housing vent valves (see section F).

7 With the idle speed adjustment screws (1), adjust to a speed of 800–900 rpm. Synchronize carburetor using a synchro-tester (Fig. 07-4/2 and 3).

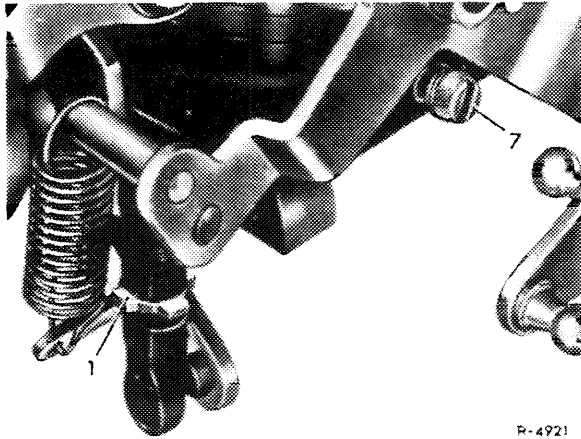


Fig. 07-4/2

1 Idle speed adjustment screw 2 Mixture control screw

8 With the aid of an exhaust emission tester and by turning the mixture control screws (7), adjust to a CO value of 3.5 to 4.5 % CO, on vehicles with Europe exhaust emission control (as of year of manufacture 1971) to 2.0–3.5 % CO, and on vehicles with US exhaust emission control (model years 1968/69/70/71) to 1.0–1.5 % CO.

Note: On carburetors with limited mixture enrichment (exhaust emission control), turn both mixture control screws (arrow) clockwise to the stop. Then turn them left steadily and adjust to specified exhaust emission value (Fig. 07-4/4).

Turning out = richer
Turning in = leaner

9 Recheck speed and synchronization.

10 Engage link (12) free of twist and check with synchro-tester whether both carburetors open uniformly. To do this, lift actuating lever (8) of forward carburetor to produce a speed of approx. 1200 to 1500 rpm.

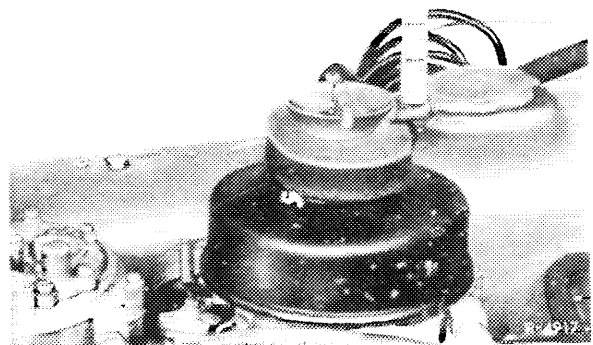


Fig. 07-4/3

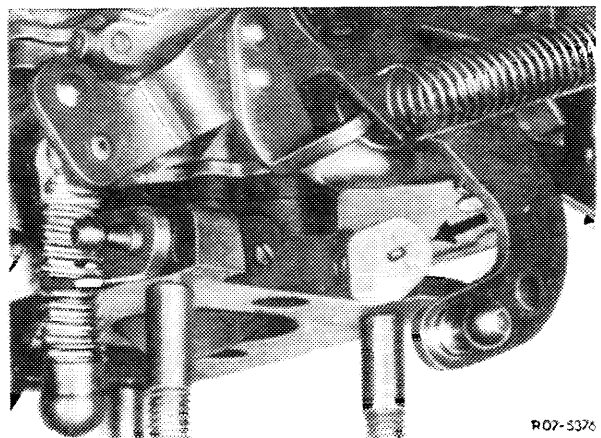


Fig. 07-4/4

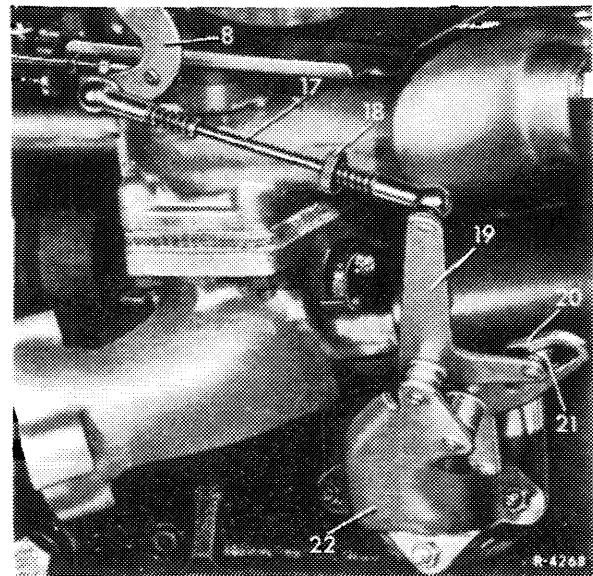


Fig. 07-4/5

8 Actuating lever	20 Slotted lever
17 Control rod	21 Roller
18 Adjusting nut	22 Bearing bracket
19 Bellcrank	

Check synchronization of both the carburetors and readjust link (12), if required.

11 Adjusting control rod (17).

a) On vehicles with **manual transmission and automatic transmission with 2 planetary gear sets:**

Adjust control rod (17) such that roller (21) in the slotted lever contacts the final stop free of twist (Fig. 07-4/5).

b) On vehicles equipped with **automatic transmissions featuring 3 planetary gear sets:**

Disengage pull rod (23) from adjustment lever (15) and push it all the way back to transmission idle speed position. Slacken clamping bolts (16) at intermediate lever (14) and rotate adjustment lever (15) with reference to intermediate lever until the ball socket of pull rod (23) can be pressed on the adjustment lever ball end free of

twist. Tighten clamping bolts (16) (Fig. 07-4/6). With the engine running, adjust control rod (17) at ball end to allow the fully extended control rod to be engaged free of tension. Actuating lever (8) must then contact idle speed stop screw (4) (Fig. 07-4/1).

12 Position air cleaner. Readjust speed and exhaust emission value and check smooth operation of engine.

13 Check full load stop with the engine shut down. To do this, depress accelerator inside the vehicle. The accelerator must then contact the full load stop and the throttle valve lever of stage I must contact the carburetor body. If necessary, adjust regulating shaft (6) after having loosened hex. head bolt (7) (Fig. 07-4/7).

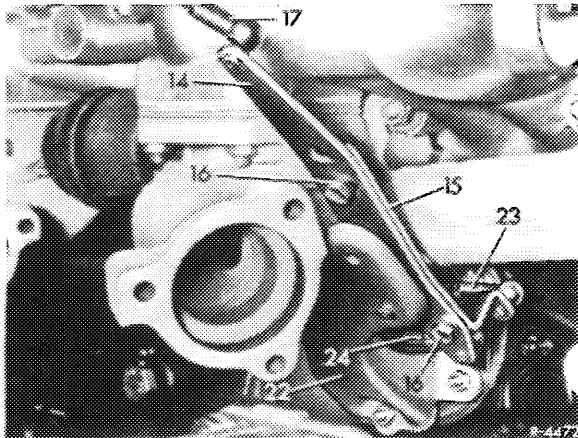


Fig. 07-4/6

- | | |
|-----------------------|-------------------------------------|
| 14 Intermediate lever | 22 Bearing bracket |
| 15 Adjustment lever | 23 Pull rod, automatic transmission |
| 16 Clamping bolts | 24 Pull rod, regulating shaft |
| 17 Control rod | |

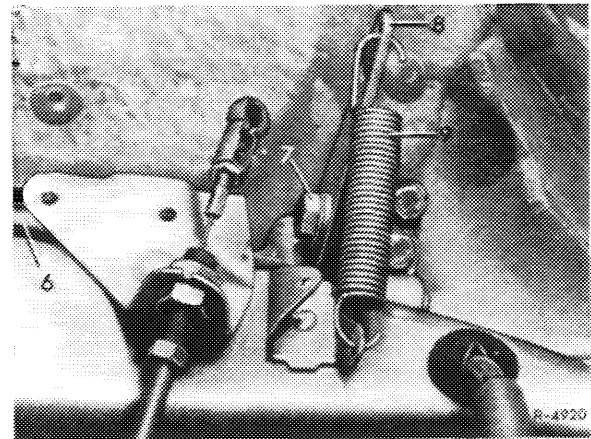


Fig. 07-4/7

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|--------------------|---------------------|
| 6 Regulating shaft | 8 Regulating lever |
| 7 Hex. head bolt | 9 Retracting spring |

B. Adjustment of Vacuum Regulator

Note: Prerequisite is a perfectly adjusted idle speed and a warmed-up engine.

1 With the engine shut down, back off adjustment screw (6) of the vacuum cell to lift vent valve (5) approx. 1.0 mm via actuating lever (8) (Fig. 07-4/8).

Caution: Loosen lock nut (9) before setting adjustment screw (6). For this purpose, counterhold diaphragm rod with an open end wrench at the milled faces. If the diaphragm rod is not counterheld, the diaphragm in the vacuum cell suffers damage. Retighten lock nut (9), at the same time counterholding diaphragm rod.

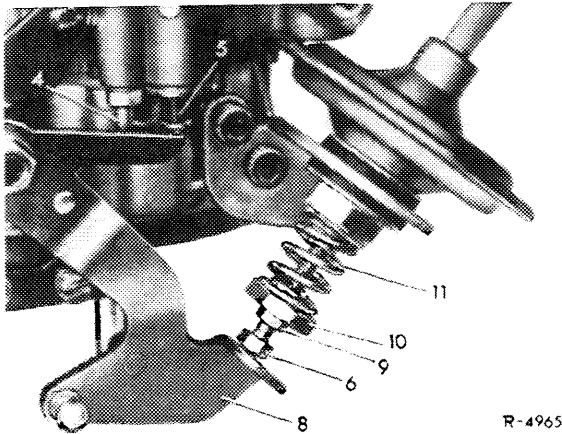


Fig. 07-4/8

- | | |
|----------------------------|-----------------------|
| 4 Idle speed stop screw | 9 Lock nut |
| 5 Float housing vent valve | 10 Adjusting nut |
| 6 Adjusting screw | 11 Compression spring |
| 8 Actuating lever | |

C. Adjustment of Automatic Choke

- 1 Check choke valves for ease of movement.
- 2 Switch on ignition and test whether the choke valves open fully after a few minutes.

Note: On vehicles with Europe exhaust emission control manufactured as of 1971 and with US exhaust emission control as of model year 1970/71 on which the rear carburetor choke valve is controlled by a thermostatic switch, the choke valve opens at a cooling water temperature of 65° C (thermostatic switch in cylinder head) or at 55° C (thermostatic switch in crankcase).

- 3 Check adjustment of automatic choke cover (3). The marks on the choke cover (2) and choke housing (1) must be aligned (Fig. 07-4/9).

- 4 Adjust choke valve gap (engine cold or warm).

Run engine. Slightly lift up throttle control linkage. On **one** carburetor, insert a screwdriver between automatic choke housing (1) and throttle lever (2) and push transmission arm (5) (Fig. 07-4/10) up to the stop that can be felt at the diaphragm rod (5). (Fig. 07-4/12). Release throttle control linkage.

- 2 At idle speed, adjust compression spring (11) with adjustment nut (10) to obtain an approx. clearance of 0.1 mm between adjustment screw (6) and actuating lever (8).

- 3 On vehicles with automatic transmission or air conditioner, check engine for smooth operation and, if necessary, readjust with the selector lever moved to a driving position and reset specified exhaust emission values with a tester.

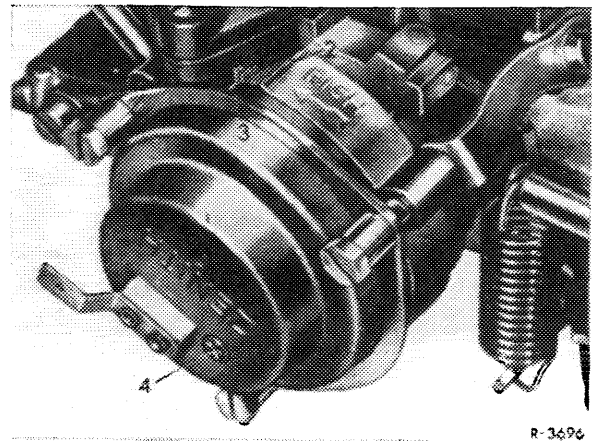


Fig. 07-4/9

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|--------------------------------------|-------------------------|
| 1 Marking on automatic choke housing | 3 Automatic choke cover |
| 2 Marking on automatic choke cover | |

Measure choke valve gap between choke valve and carburetor wall with a 2.4 mm ϕ measuring arbor, on US version vehicles with a 2.2 mm ϕ arbor. If required, adjust choke valve gap with adjustment screw (5). Turning the adjusting screw out enlarges the choke valve gap, turning it in decreases it (Fig. 07-4/11). Repeat this check on the other carburetor.

Note: When pushing up the transmission arm (5), do not support the screwdriver on the automatic choke

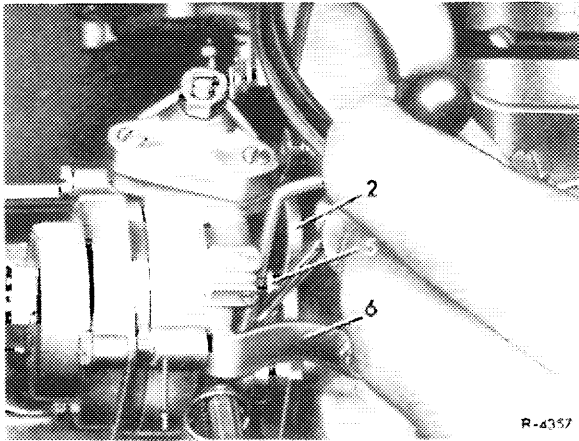


Fig. 07-4/10

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|---------------------------|-------------------------|
| 1 Automatic choke housing | 5 Transmission arm |
| 2 Throttle lever | 6 Choke housing bracket |

housing bracket (6) as you may then push the arm beyond the diaphragm stop (Fig. 07-4/10).

With the engine cold and the choke valves completely closed, the choke valve gap may be measured without lifting the transmission arm.

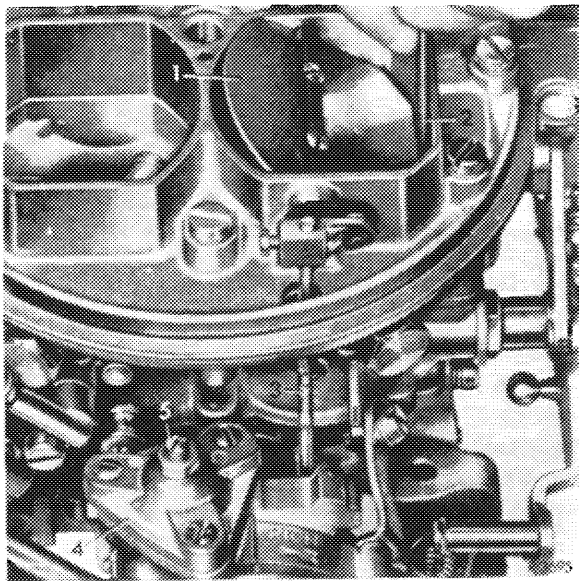


Fig. 07-4/11

- | | |
|---------------|-------------------|
| 1 Choke valve | 4 Choke valve |
| 2 Gauge | 5 Adjusting screw |
| 3 Link | |

5 Checking cold start idle speed increase. Prerequisite is a perfectly adjusted idle speed and a warmed-up engine. With the engine shut down, slightly lift throttle control linkage.

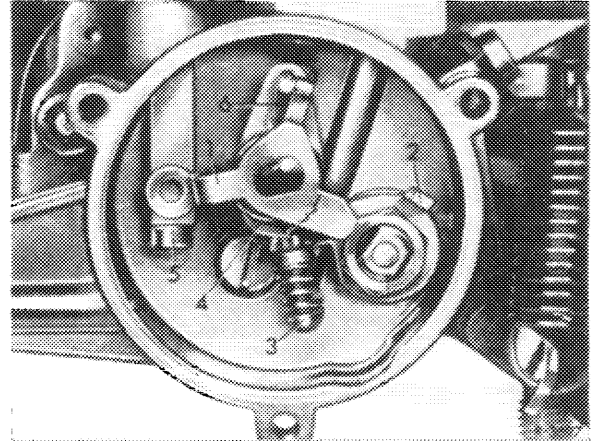


Fig. 07-4/12

- | | |
|--------------------|-----------------------|
| 1 Follower arm | 4 Fast idle cam |
| 2 Stop lever | 5 Stop, diaphragm rod |
| 3 Adjustment screw | 6 Return spring |

On **one** carburetor, insert a screwdriver between automatic choke housing (1) and throttle lever (2) and push up transmission arm (5). Release throttle control linkage and take out screwdriver (Fig. 07-4/10). Thus the adjustment screw (3) rests on the top notch of the fast idle cam (4) (Fig. 07-4/12).

Link (12) between the carburetors must remain engaged (Fig. 07-4/1). Run engine and measure speed, $n = 2400-2600$ rpm; on vehicles with US exhaust emission control $n = 2500-2700$ rpm.

The vacuum hose for the ignition change-over on the forward carburetor must be removed prior to the measurement on vehicles with US exhaust emission control as of model year 1970. Adjust cold start idle

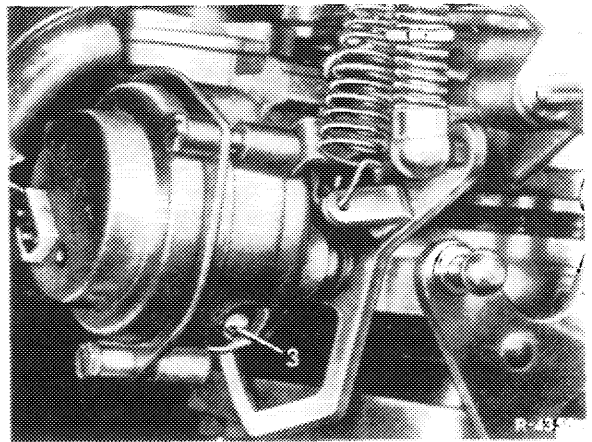


Fig. 07-4/13

- | |
|--------------------|
| 3 Adjustment screw |
|--------------------|

speed increase on carburetors with thermostatically controlled choke valve only at front carburetor.

If the speed must be corrected, turn adjustment screw (3) with the engine shut down (Fig. 07-4/13). The adjustment screw is visible through the opening in the choke housing as soon as full throttle is

applied. Backing off the screw will reduce the speed, turning the screw in will increase it.

1/2 screw revolution produces a speed change of approx. 200-300 rpm.

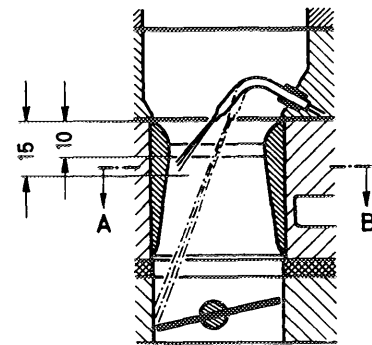
Repeat the same check on the **other** carburetor only in case of carburetors without thermostatically controlled choke valve.

D. Checking the Accelerating Pump

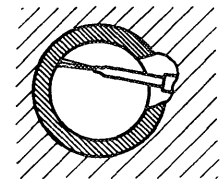
1 Slowly operate actuating lever (2-3 sec/stroke). A strong jet of fuel must be ejected at the injection pipe. If not, check injection pipe for obstructions or function-test pump plungers and valves (see Job No. 07-3).

2 Check spraying direction of injection pipe. The fuel jet must spray against the venturi wall 10-15 mm below the float housing upper edge.

Note: On vehicles with manual transmission the fuel jet may be directed to throttle valve gap for the purpose of immediate (harder) acceleration (Fig. 07-4/14).



Section A - B



Z-2559

Fig. 07-4/14

E. Adjustment of Fuel Return Valve

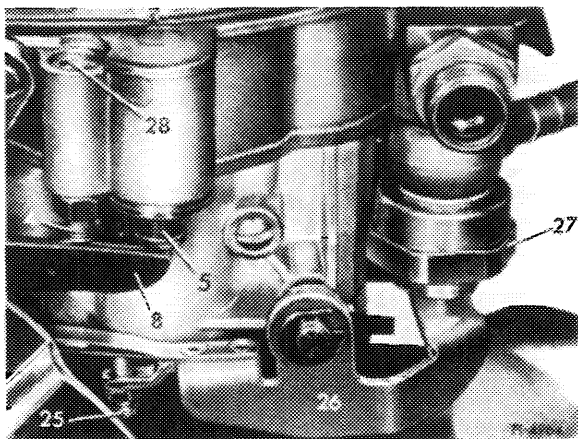


Fig. 07-4/15

1 Connect tachometer and check whether the return valve (27) is completely closed at approx. 2000 rpm. If required, adjust actuating lever (26) correspondingly by means of adjusting screw (25) (Fig. 07-4/15).

- | | |
|-----------------------------------|---------------------------------------|
| 4 Idle speed stop screw | 25 Adjustment screw |
| 5 Float housing, vent valve | 26 Actuating lever, fuel return valve |
| 8 Actuating lever, throttle valve | 27 Fuel return valve |
| | 28 Cap |

F. Adjustment of Float Housing Venting Valves

The venting valves (5) are adjusted by the manufacturer to 2.8–0.3 mm lift. The adjusting screw (4) is simultaneously the idling speed stop and should therefore not be adjusted. To check whether the adjusting screw (4) has already been adjusted by mistake, turn actuating lever (8) with the choke opened to the point where it is just impossible to lift the venting valve any further. Then measure the distance between the stop screw (4) and the actuating lever (8); use plug gauge (29) (twist drill) of 2.3 mm dia. for this purpose (Fig. 07–4/16).

Note: The difference between the measuring points on the stop screw and on the venting valve—under the influence of the actuating lever (8)—is 0.5 mm.

Remove closing cover (28) for adjusting stop screw (4) (Fig. 07–4/15).

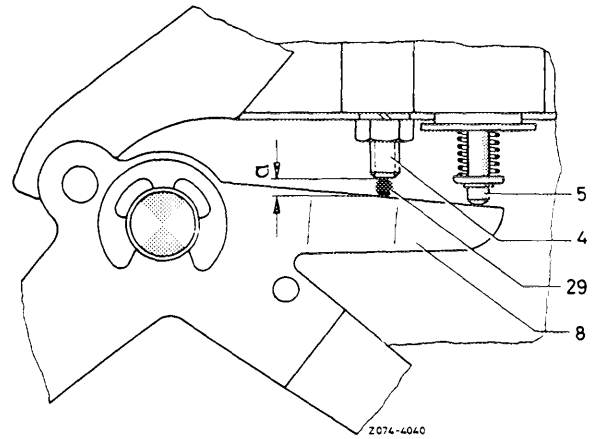


Fig. 07–4/15

a = 2.3 mm
4 Adjusting screw
5 Venting valve

8 Actuating lever
29 Plug gauge

SUBSEQUENT INSTALLATION OF IDLE SHUTOFF VALVES

Starting with model year 1971, the US version vehicles have been fitted with one shutoff valve per carburetor.

The shutoff valve was threaded into the throttle valve unit. For this purpose the throttle valve unit and float housing had to be modified on account of the idle fuel duct.

When the ignition is switched on, the shutoff valves are energized via fuse no. 4 (terminal 15/54) and open. When the ignition is switched off, they are de-energized and close the idle fuel ducts.

To test the shutoff valves, switch on ignition, disconnect the individual single connectors one after the other, and reconnect them. During this operation the noise of the valve opening must be heard.

Note: Failure of this valve has the same effect as a plugged idle fuel nozzle. When the old stock has been used up, any replacement carburetors supplied for vehicles of model year 1970, too, will be fitted with shutoff valves.

The carburetors are interchangeable. To install them, connect cable to main fuse box (fuse no. 4), route cable harness along main cable harness and connect shutoff valves. Clamp single connectors to side member (Fig. 00-72/13) using spring clamps.

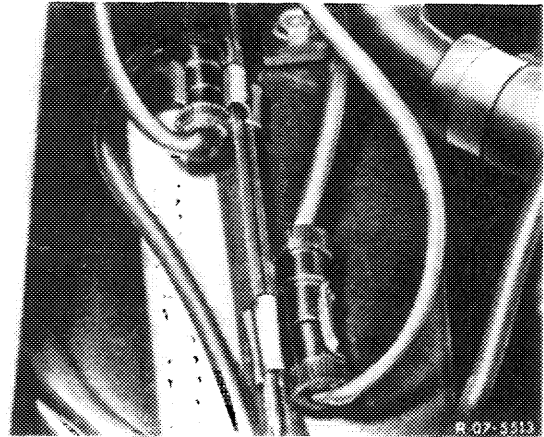


Fig. 00-72/13

The cable harness may also be shop-made.

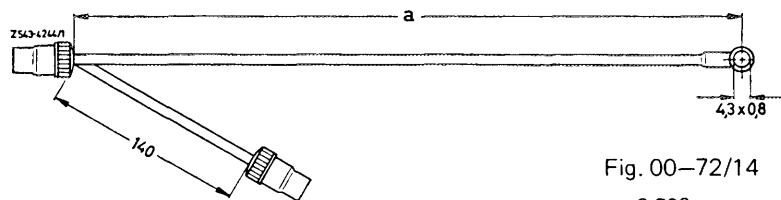


Fig. 00-72/14
a = 2,500 mm

Spare Parts

Quantity	Description	Part No.
3 m	Cable B 1,5, DIN 72551	072551 001680*)
3 m	Insulating tube B 4 x 0,4, DIN 40621	040621 004200*)
1	Terminal 4,3 x 0,8, N 261	900261 004000*)
2	Connector, single	000 545 47 28*)
2	Mounting clamps	002 988 48 78
1	Cable harness	108 540 49 09
2	Idle shutoff valve	000 072 02 17

*) Only if cable harness is shop-made

For subsequent installation with finished cable harness 5 work units will be granted. If the cable harness is made in the shop, an additional 3 work units will be granted.