HOLLEY MODEL 5220 2-BARREL

CARBURETOR APPLICATION

CHRYSLER CORP.
(DODGE RAMPAGE)

Application	Chrysler Corp. Carb. No. Man. Trans.	Auto. Trans.
1.7L (105") 4-Cylinder		
Federal		
Without A/C	R-9582A	R-9584A
With A/C	R-9583A	R-9585A

CARBURETOR IDENTIFICATION

Carburetor identification number may be found stamped on side of float bowl or on a metal tag attached to carburetor.

DESCRIPTION

Carburetor is a 2-stage, 2-venturi type. Primary venturi is smaller than secondary. Secondary stage is mechanically operated by linkage to primary and secondary throttle levers. Primary stage includes curb idle, accelerator pump, idle transfer, main metering and power enrichment systems. Secondary stage includes main metering and power enrichment systems. A single fuel bowl supplies fuel for both stages. Carburetor is equipped with an electric automatic choke which has a 2-stage bi-metal heating element.

NOTE — *Manual transmission carburetors have 1 choke valve. Automatic transmission carburetors have 2 choke valves (secondary smaller than primary).*

The fuel inlet system maintains a constant level of fuel in fuel bowl. A dual float controls flow of fuel into fuel bowl by opening and closing the fuel inlet needle. The fuel bowl is externally vented to the carbon canister.

The idle system provides fuel necessary for curb idle and low speed operation. Fuel flows from fuel bowl through primary main jet into main well. From main well, fuel flows into idle well and through idle tube. Primary air bleed at top of idle tube adds air to fuel. The air/fuel mixture moves down idle passages, past idle transfer slot, past idle mixture screw and out idle discharge port. At speeds above idle, the throttle valve opens the idle transfer slot and additional air/fuel mixture is admitted to carburetor. The idle transfer slot also serves as air bleed during curb idle.

The main metering system is divided into primary and secondary systems. Both operate the same. As throttle valve opening increases, vacuum created by the air flow draws fuel from fuel bowl, through the main jets and into main wells. The high speed air bleeds add air to the fuel through holes in sides of main well tubes. This air/fuel mixture is drawn through main well area and discharged from venturi nozzle. As air/fuel mixture increases from main metering system, idle system tapers off. The secondary system becomes operational when primary throttle opening exceeds 45°.

Accelerator pump system is a diaphragm type located on side of carburetor. This system provides the necessary additional fuel required when throttle valves are opened quickly. The pump system provides fuel until main metering system can meet the air/fuel mixture requirements of the engine.

Power enrichment system in primary and secondary circuits provide additional fuel during heavy loads or high speed operation. The primary system is controlled by manifold vacuum applied to power valve diaphragm from passage in carburetor base. The power valve diaphragm is spring operated. As manifold vacuum decreases, the spring opens the power valve and additional fuel is supplied. As manifold vacuum increases, the spring closes the power valve. The secondary enrichment system is controlled in the same manner when secondary throttle valve approaches wide open position.

The automatic choke system has an electric heater and switch in choke housing. During summer, switch is closed to provide maximum heater output. During winter, switch is open to decrease heater output until choke reaches warm temperature. Electricity is supplied to choke housing whenever engine is running to open the choke and keep it open.

TESTING

CHOKE HEATER

With ignition off, connect a jumper wire between battery positive terminal and choke heater connection. Remove air cleaner and observe choke plate. Choke plate should fully open within 5 minutes when vehicle is parked inside.

NOTE — *The choke housing is attached to carburetor with tamper-proof screws. Thermostat setting is not adjustable.*

ADJUSTMENT

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

FLOAT LEVEL

1) Remove air horn and gasket. Turn air horn upside down. Allow weight of float to press down against float needle valve. See *Fig. 1*.

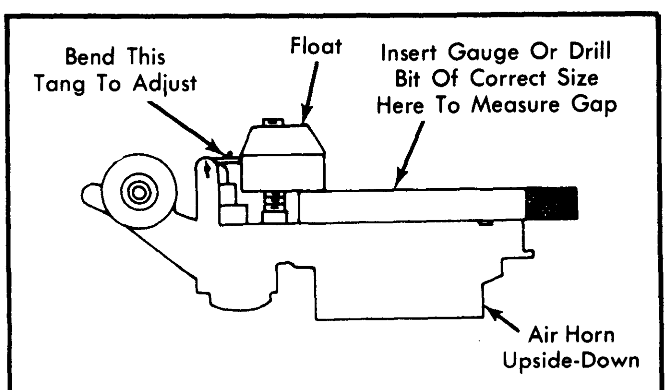

Fig. 1 Adjusting Float Level

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2) Measure float level specified clearance between top of float and air horn gasket surface. Clearance can be checked using a specified drill or pin gauge.

3) Make sure float tang still rests on float needle when clearance is checked. To adjust, bend tang that contacts float needle.

NOTE – *Do not apply pressure to float needle while checking or changing adjustment.*

FLOAT DROP

1) With air horn and gasket removed, turn right side up. Using a "T" scale, measure specified float drop from air horn gasket surface to bottom of float. See *Fig. 2.*

2) To adjust, bend float tang on float arm that contacts fuel inlet needle seat boss.

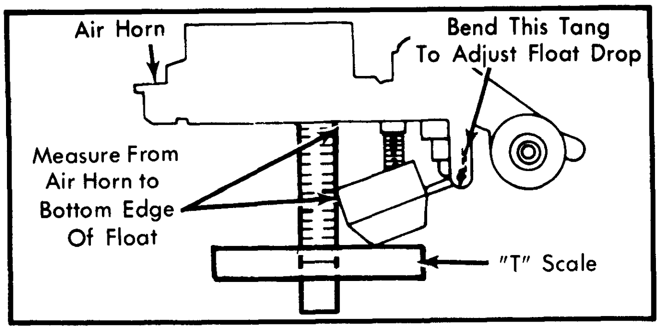

Fig. 2 Adjusting Float Drop

CHOKE VACUUM KICK (INITIAL CHOKE VALVE CLEARANCE)

1) Open throttle and close choke. Close throttle to trap fast idle cam in closed choke position. Disconnect vacuum hose at choke vacuum diaphragm. Connect an outside vacuum source and apply 15 in. Hg (minimum) vacuum.

2) Apply slight closing pressure to choke valve without bending linkage. An internal spring within choke system will compress to stop position.

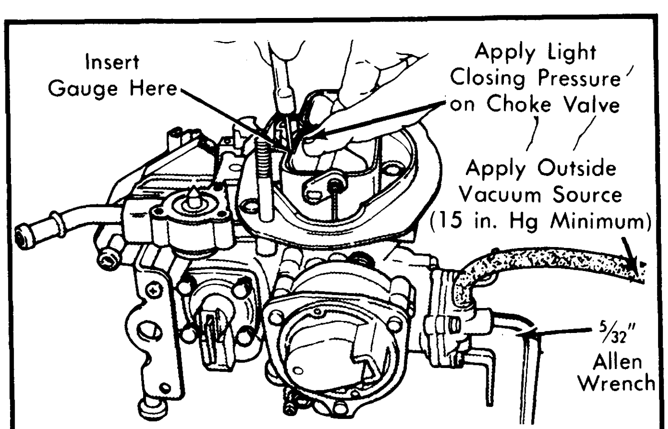

Fig. 3 Adjusting Choke Vacuum Kick (Initial Choke Valve Clearance)

3) Using specified drill or pin gauge, measure clearance between upper edge of choke valve and air horn wall at primary throttle end of carburetor. See *Fig. 3.*

CHOKE UNLOADER

Choke unloader is positioned by fast idle cam. No adjustment is required.

AUTOMATIC CHOKE

NOTE – *Choke diaphragm cover is retained with 2 standard screws and 1 tamper-proof screw. No adjustment is required. Choke housing should be removed only if carburetor is to be immersed in cleaning solvent.*

OVERHAUL

DISASSEMBLY

1) Remove fuel inlet fitting. Disconnect and pry choke operating rod from housing lever. Remove choke rod seal and operating rod. If equipped with solenoid idle stop (A/C models), remove retaining screws, bracket and solenoid.

2) Remove 5 air horn mounting screws and lock washers. Separate air horn from main body. Remove float hinge pin, float and float inlet needle.

3) Remove 3 power valve diaphragm mounting screws and diaphragm assembly. Remove fuel inlet seat and gasket.

Main Body – 1) Remove power enrichment valve. Using a screwdriver, remove primary and secondary main metering jets, high speed bleeds and main well tubes. Note size and position of each for reassembly reference.

2) Remove discharge nozzle screw, discharge nozzle and gasket. Turn carburetor upside down and catch accelerator pump discharge weight ball and check ball. (Both balls are same size). Remove 4 accelerator pump cover screws, cover, pump diaphragm and spring.

3) Remove 2 upper choke diaphragm cover screws. Grind or file head from lower screw. Remove cover and spring. Remove remaining portion of lower screw with small pliers.

4) Rotate choke shaft and lever assembly counterclockwise. Rotate choke diaphragm assembly clockwise and remove from housing. Remove end of lower screw from housing.

NOTE – *If choke diaphragm is replaced, diaphragm cover must also be replaced.*

5) If equipped, remove 2 wide open throttle cutout switch mounting screws. Mark location of switch for reassembly reference. Remove wiring harness retaining screws. Open retaining clip and remove cutout switch assembly.

6) Mount carburetor in padded vise with idle mixture screw facing up. Drill a 5/64" hole in casting surrounding idle mixture screw at a 45° angle towards idle mixture plug. Redrill hole to 1/8". Drive plug out with a blunt punch. Count number of turns required to lightly seat mixture screw. Remove idle mixture screw and spring. See *Fig. 5.*

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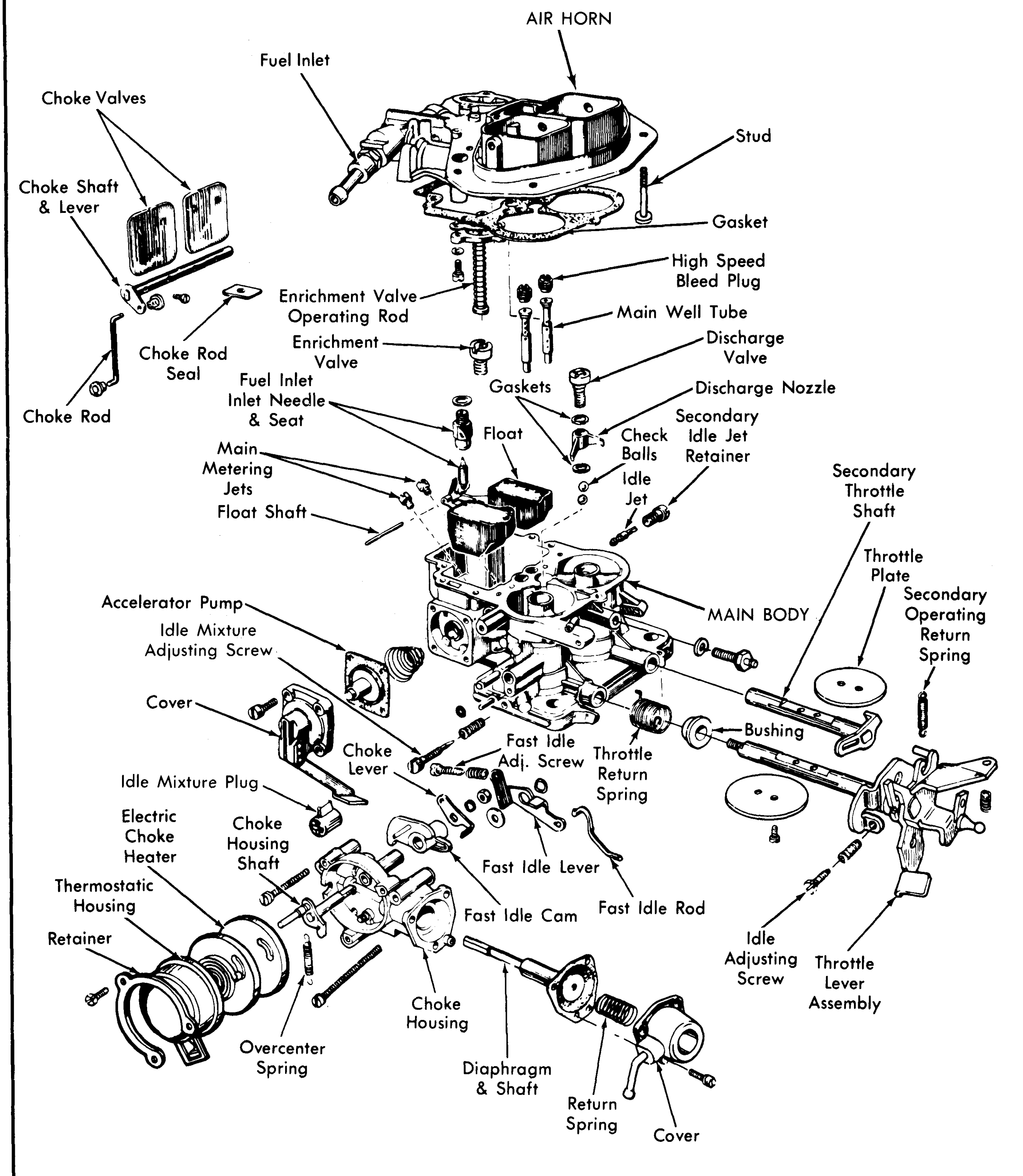

Fig. 4 Exploded View of Holley Model 5220 2-Barrel Carburetor

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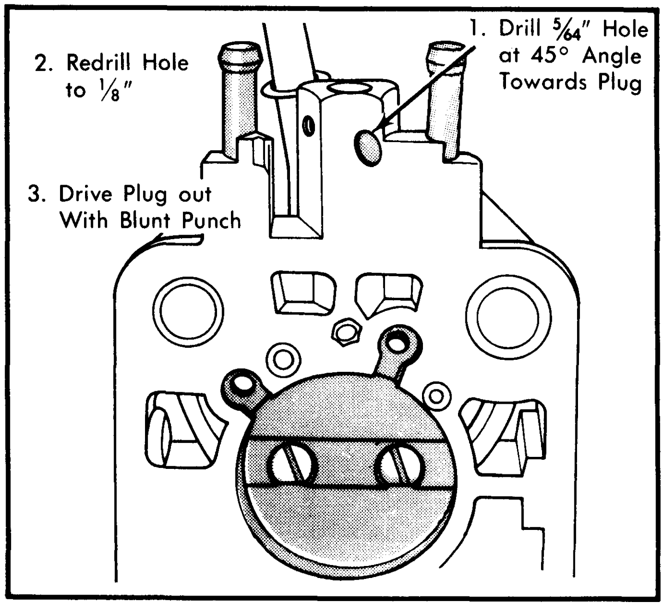

Fig. 5 Removing Idle Mixture Plug

CLEANING & INSPECTION

- Do not immerse plastic or rubber parts in solvent. Do not immerse diaphragm assemblies, dashpot or solenoid in solvent.
- Blow out all passages with compressed air. Do not use wire or drill bit to clean carburetor orifices.
- Inspect all parts for wear, cracks, nicks or burrs, and damage. Replace parts as necessary.
- After cleaning with solvent, wash all parts in hot water and blow dry with compressed air.

REASSEMBLY

Reassemble carburetor in reverse order of disassembly, noting the following:

1) Reinstall main jets, bleed jets, main well emulsion tubes and idle jets in proper locations.

2) To install power valve diaphragm, align 3 screw holes in diaphragm, body and cover. Hold stem and spring compressed against fuel bowl cover while installing and tightening screws.

3) Position wide open throttle cutout switch so A/C circuit will open when throttle lever is 10° before wide open throttle and stay open when throttle is in wide open position.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level Setting	Float Drop Setting	Fast Idle Cam Setting	Choke Vacuum Kick Setting	Choke Unloader Setting	Auto. Choke Setting
Chrysler Corp.						
R-9582A	31/64"	1-7/8"	.....	.052"	.....	①
R-9583A	31/64"	1-7/8"	.....	.052"	.....	①
R-9584A	31/64"	1-7/8"	.....	.052"	.....	①
R-9585A	31/64"	1-7/8"	.....	.052"	.....	①

① – No adjustment required.