1972 CARTER WGD 2-BARREL

PONTIAC **Carter Carburetor No.**
350" V8 Engine **Synchro-mesh Trans.**
Carter Model WGD 6311S

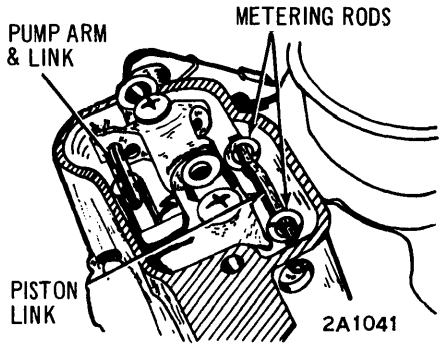
CARBURETOR IDENTIFICATION

Carter carburetor number is stamped on tag attached to carburetor by air horn screw.

DESCRIPTION

New for Pontiac in 1972, the WGD 2-Bbl. carburetor is standard on the 350 CID engine with manual transmission. Of conventional offset bowl design, the offset choke valve and fast idle cam are controlled by a rod connected to a remote thermostatic coil located on the exhaust manifold. A vacuum diaphragm, mounted on the carburetor body and working in opposition to the thermostatic coil, opens the choke valve to an optimum position when the engine is started and vacuum becomes available.

Correct air-fuel ratio is maintained at all speeds and types of operation by two adjustable metering rods and jets. When maximum engine power is demanded, a spring-loaded vacuum-controlled piston, linked to the metering rods, overrides the throttle (mechanical) positioned rods and raises the rods from the jets to provide a richer air-fuel mixture. As the demand for maximum power decreases and manifold vacuum rises, the "power piston" and linkage is pulled down by vacuum against the metering rod arm, and the metering rods are again mechanically controlled by throttle position.



METERING ROD & PUMP LINKAGE

ADJUSTMENT

Idle Speed & Mixture

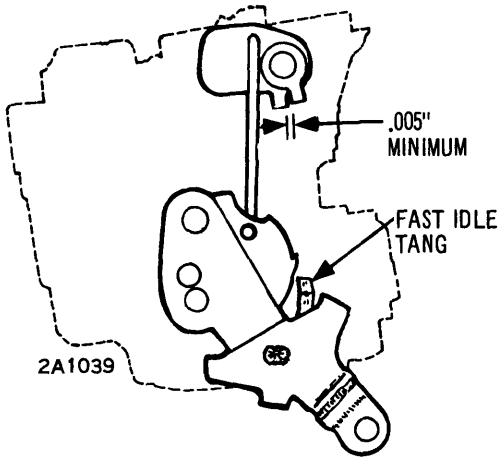
Idle Speed – With engine at normal operating temperature, air cleaner in position and A/C Off, adjust carburetor idle speed screw to obtain specified RPM (see Specifications).

Idle Mixture – *NOTE – Carburetors are fitted with* **locked** *mixture screws and must not be tampered with.*

Fast Idle Cam Position

1) With air cleaner removed, open throttle so as to clear fast idle cam, and close choke valve. With choke valve held fully closed, and stop on fast idle cam against the casting, specified clearance (see Specifications) should be obtained between the inner and outer choke levers.

2) If adjustment is necessary, bend outer lever lug as required. *NOTE – With choke fully closed, tang on fast idle cam must clear stop on throttle body flange.*



FAST IDLE CAM & SPEED ADJUSTMENTS

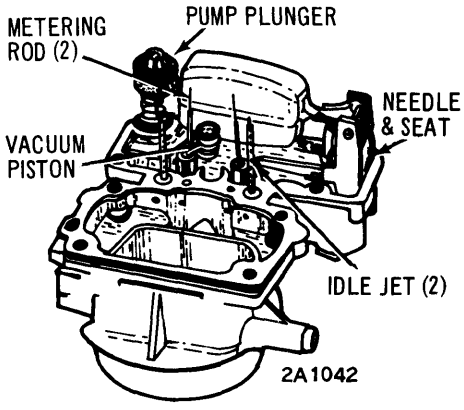
Fast Idle Speed

With engine at normal operating temperature, rotate fast idle cam so that fast idle tang contacts high step of cam. Bend fast idle tang to obtain specified engine RPM (see Specifications).

Choke Unloader

1) Hold choke closed lightly. Fully open throttle, forcing choke valve open. Measure clearance between upper edge of choke valve and wall of air horn (see Specifications).

2) If clearance not correct, bend the unloader arm as required to obtain correct clearance.



AIR HORN PARTS

1972 CARTER WGD 2-BARREL (Cont.)

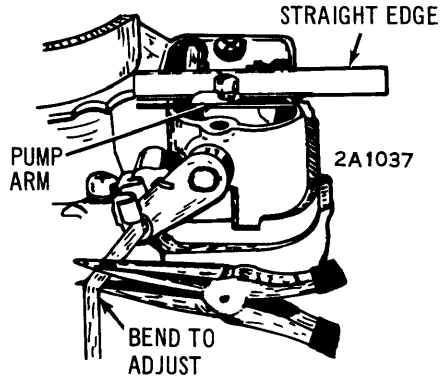
CARBURETOR ADJUSTMENT SPECIFICATIONS							
Carter Carb. No.	Idle Speed (Engine RPM)		Fast Idle Cam Position	Choke Unloader	Float Level	Accel. Pump	Metering Rods
	Hot	Fast					
6311S	800	1500	.005" Min.	3/16"	5/16"	①	①

① See text.

Acceleration Pump

1) Back out throttle stop screw, turn fast idle cam to "hot" position and fully close throttle valves.

2) Place straight-edge across dust cover boss. It should be parallel with top surface of pump arm. If adjustment is required, bend pump rod at offset.

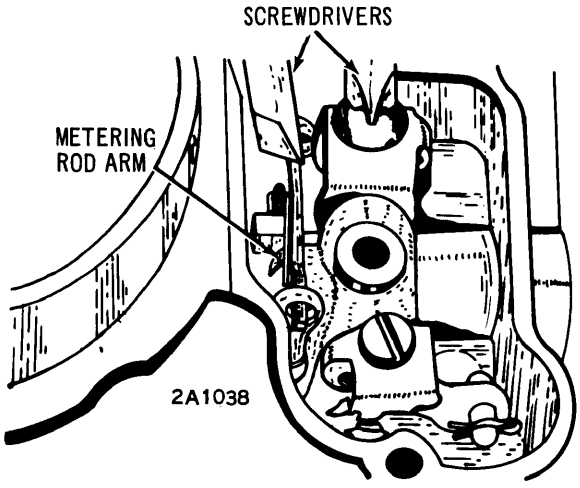


CHECKING & ADJUSTMENT OF PUMP

Metering Rods

1) Back out throttle stop screw and loosen metering arm set screw. Fully close throttle valves and press down on vacuum piston link until metering rods bottom.

2) While holding rods down and metering arm tongue against lip of vacuum piston link, tighten metering arm set screw.

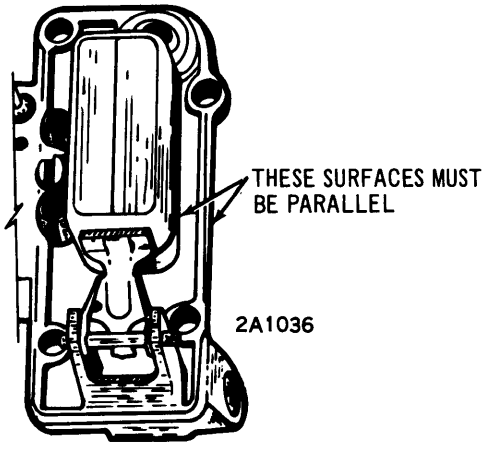


ADJUSTING METERING RODS

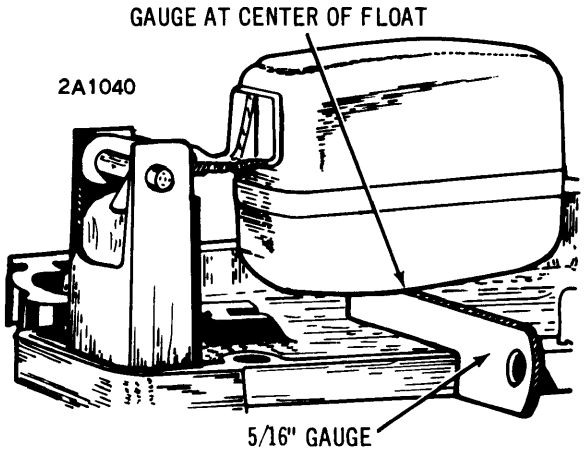
Float Level

1) With air horn inverted, check to see that float is parallel with outer edge of air horn casting. Bend float arm to adjust.

2) With proper gauge (see Specifications), measure distance between air horn and **middle** of float. If adjustment is required, bend float arm until float just touches gauge. *NOTE – Avoid pressing float needle into needle seat when making adjustment. Allow weight of float only to seat needle when gauging.*



FLOAT ALIGNMENT



CHECKING FLOAT LEVEL

1972 CARTER WGD 2-BARREL (Cont.)

OVERHAUL

Disassembly

Bowl Cover – 1) Remove fuel inlet filter, disconnect pump rod from throttle lever and remove upper end of pump rod from pump lever. Remove fast idle cam attaching screw. Upper end of choke link cannot be removed from choke shaft until after air horn and choke valve are removed.

2) Remove vacuum break lever from end of choke shaft, remove vacuum break diaphragm from air horn. Remove air horn screws (8) and remove air horn from float bowl. Invert air horn, remove float hinge pin and float. Remove fuel inlet needle and pull clip from float, then remove needle seat and gasket. Remove power jet piston by depressing stem and allowing it to snap free. *CAUTION – Use care not to bend piston stem.*

3) Remove pump assembly from inner pump lever by rotating the assembly until it clears the tang on the inner lever and then slide it out of the hole in the lever. Remove outer pump lever and shaft by loosening set screw on the inner lever and sliding outer lever and shaft from the air horn.

4) File off staked ends of choke valve attaching screws and remove screws and choke valve. Remove choke valve shaft from air horn. Remove fast idle cam, fast idle link and lever from choke shaft.

Float Bowl – 1) Remove accelerator pump inlet filter screen and pump plunger return spring, then remove aluminum check ball from bottom of pump well. Remove main metering jets and power valve.

2) Remove screws (3) attaching venturi cluster to bowl, remove cluster and gasket.

3) Remove accelerator pump discharge spring retainer, then remove spring and check ball. Invert carburetor and remove screws (3) attaching float bowl to throttle body. Separate float bowl and throttle body.

Throttle Body

1) Do not remove the idle mixture adjusting needles unless it is necessary to clean or replace the throttle body assembly or if the idle mixture needles are damaged. New idle mixture limiter caps are provided in the repair kit. If idle mixture needles are removed, before the new limiter caps are installed it will be necessary to re-set the idle mixture to specifications.

2) It is recommended that the throttle valves not be removed from the throttle shaft. Valves are aligned at the factory.

Cleaning & Inspection

1) Clean castings and all metal parts in a clean cleaning solvent. Blow out all passages in castings and dry off all parts with compressed air. *CAUTION – Vacuum break unit, gaskets and pump plunger should not be immersed in solvent. Use only clean gasoline to clean pump plunger.*

2) Check all components for wear, distortion, burrs. Be sure all filter screens are clean and not damaged. If idle adjusting needles were removed, check for ridges on face of needles and replace if such ridges are present. *CAUTION – Do not use wires or drills to clean out jets or passages. The orifices may be enlarged if this is done, affecting carburetor calibration.*

Reassembly

1) Use all new gaskets. Assemble carburetor by reversing disassembly procedure. If new idle mixture screws are being installed, install needles and springs just finger tight, then back out screws four turns as a preliminary adjustment. *NOTE – Do not install the plastic limiter caps until the idle mixture has been adjusted on the engine.*

2) When installing choke valve, letters "RP" on choke valve should face towards top of air horn. Center choke valve and maintain approximately .020" clearance between the upper choke lever and air horn casting before tightening the choke valve screws. Choke valve should move freely in air horn bore.

3) When installing pump lever and shaft, be sure choke link and fast idle cam assembly hangs straight down (air horn right side up). Otherwise choke link will not clear pump lever when final positioning of choke link is desired. After installing fuel needle and seat assembly and float, check and adjust float level and float drop.