

# Rochester Carburetors

## MODEL "H"

### 1961 DESIGN CHANGES

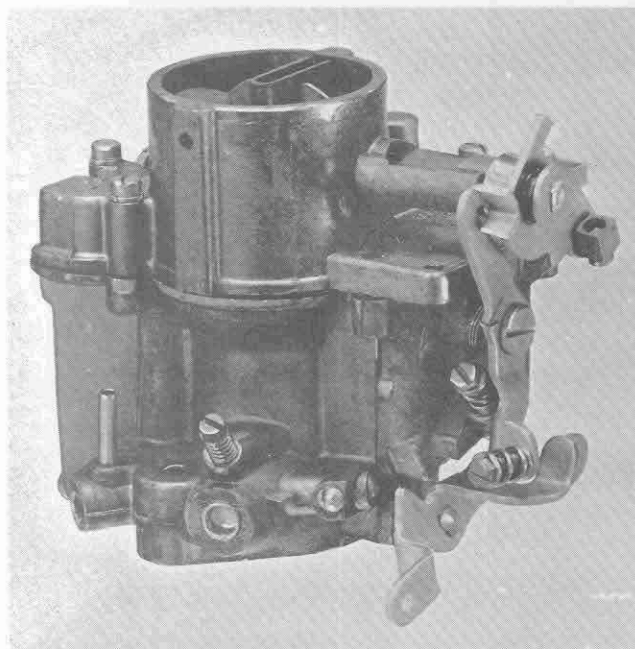
BULLETIN: 9D-11-61  
PAGE 1 OF 1  
DATE APRIL, 1961  
SUPPLEMENT NO. 1 TO  
BULLETIN 9D-11 DATED  
JANUARY, 1960

#### CHEVROLET "CORVAIR" — Model H

##### APPLICATION\*

Passenger — Powerglide and Synchronesh  
Station Wagon — Powerglide and Synchronesh  
LDFC — Powerglide and Synchronesh  
Hi-Performance — Synchronesh

\*Refer to 9C bulletin for carb. nos.



##### APPEARANCE

The 1961 Model H carburetor for the Chevrolet Corvair is the same basic design as in 1960 except for the following changes.

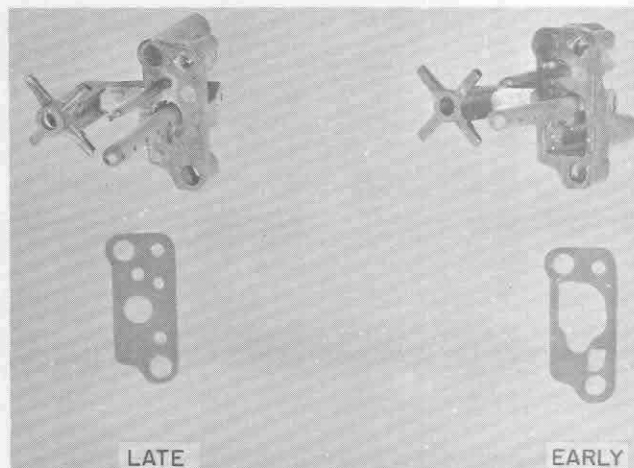
The choke system has been completely re-designed with the addition of an individual manual choke mounted in the air horn of each carburetor. A single control knob on the dash will operate the choke on each carburetor simultaneously.

A fast idle cam is mounted on the end of the choke valve shaft to increase engine speed during the engine warm-up period. In operation, the cam actuates a kick lever which pushes the throttle lever increasing the throttle valve opening. The fast idle cam is eccentric so that the proper engine fast idle speed will be maintained for any degree of choke valve opening.

The external bowl vent has been removed and the carburetor bowl is vented by the internal vent only.

##### OPERATION

The following changes were made for improved operation and performance.



##### Main Metering System

In early production carburetors the venturi cluster has a vapor cavity in the cluster casting directly over the main well.

The vapor cavity will be blocked off by a solid gasket on Powerglide application and will be open on the Synchronesh.

The main well insert is used with the solid gasket in the Powerglide units.

To standardize for service the solid venturi cluster gasket will be used on all applications. A main well insert is included in the repair kit and should always be used with the solid venturi cluster gasket. In later production carburetors the venturi cluster will not have the vapor dome and main well inserts will be used on all models.

##### Pump System

A new pump assembly will be used for improved pump performance. The vapor vent ball seat will have a square approach seat, the square seat allows a narrower seating surface, resulting in a more positive seal and reduces the possibility of the vent ball sticking on its seat.

##### Choke System

The manual choke operates basically the same as on the Model B carburetor. Synchronization of the choke valves is very important to make sure they fully close and open together for efficient choke operation.

##### Adjustments

All adjustments remain the same as on the 1960 models except the manual choke which requires a fast idle setting. The pump adjustment procedure is new on the early Powerglide units.

Refer to 9C bulletin for correct adjustment procedure and settings.

Refer to 9D-1 bulletin for complete carburetor metering specifications.

Refer to 9D-11 manual for operation and overhaul procedures.

## MODEL "H"

# 1962 DESIGN CHANGES

## CHEVROLET "Corvaire"

### \*Applications

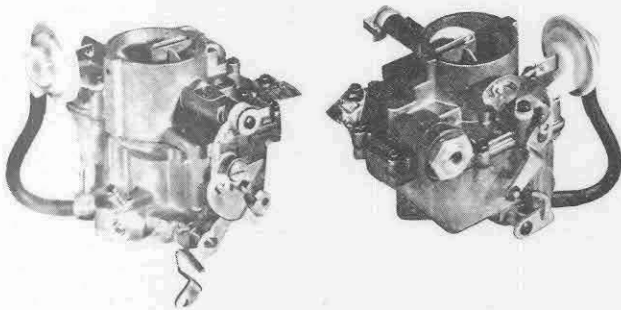
#### STANDARD ENGINE

Automatic Transmission  
Synchronesh

#### HI-PERFORMANCE

Automatic Transmission  
Synchronesh

\*Refer to 9C Bulletin for Carburetor numbers



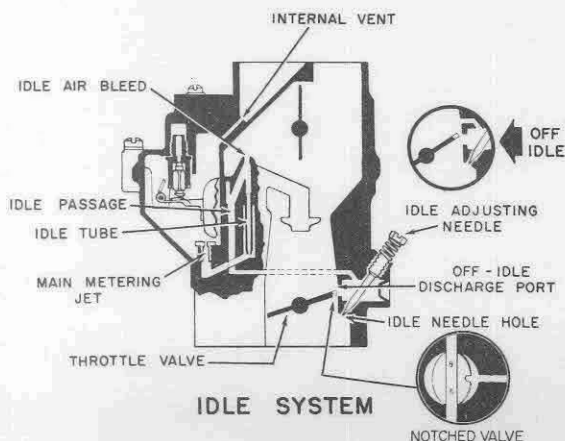
The Model H for 1962 has the following changes:

1. Choke rod, levers, fast idle cam and a choke vacuum a choke vacuum break diaphragm are added, to operate the choke automatically.
2. New throttle lever with fast idle and choke unloader tang added.
3. Throttle valve notched adjacent to off-idle port for improved idle characteristics.
4. Revision of the idle system.
5. Complete recalibration for 1962 engine.

### OPERATION

The following changes were made for improved operation and performance.

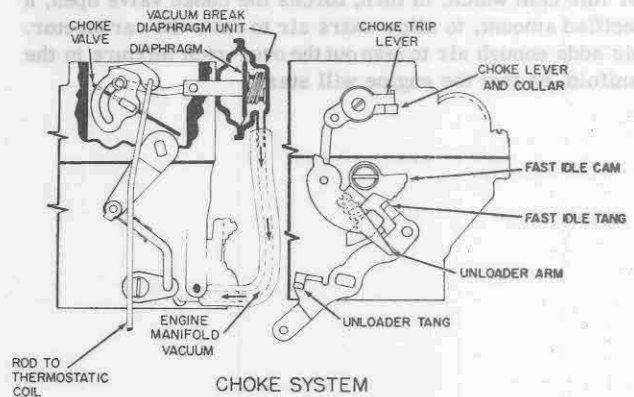
### IDLE SYSTEM



Operation is basically the same as on previous models except for the following changes which were made for improved idle operation and low speed performance.

The idle channel restriction has been removed along with the idle air bleed located just below the restriction. The idle air bleed in the top of the cluster has been greatly enlarged. Along with these changes, the throttle valve has been notched adjacent to the off-idle discharge port.

### CHOKE SYSTEM



The choke system on the model H carburetor for 1962 is fully automatic. A separate choke will be used in each carburetor and will operate independently.

The choke system will consist of a choke valve located in the carburetor air horn, a vacuum break diaphragm, fast idle cam, choke linkage and a thermostatic coil which is located beneath the engine cylinder head. The thermostatic coil is connected to the choke valve by a rod. The choke operation is controlled by a combination of intake manifold vacuum, the offset choke valve, atmospheric temperature and exhaust manifold heat.

The thermostatic coil located on the engine is calibrated to hold the choke valve closed when the engine is cold. As the engine is started, air velocity against the offset choke valve causes the valve to open slightly, against the torque of the thermostatic coil. When the engine is started and running, intake manifold vacuum applied to the vacuum diaphragm unit mounted on the carburetor air horn will open the choke valve to a point where the engine will continue to run without loading or stalling. The choke valve will remain in this position until the engine begins to warm up and the heat from the engine manifold warms up the thermostatic coil to relax its tension and allows the choke valve to gradually open. Opening of the choke valve is controlled directly by air flow through the carburetor air horn past the offset choke valve and manifold heat acting upon the thermostatic coil.

To prevent stalling during the warm-up period, it is necessary to run the engine at a slightly higher idle speed than for a warm engine. This is accomplished by a fast idle tang on the throttle lever which rests on steps of the fast idle cam.

The fast idle cam is, in turn, linked to the choke valve shaft by the choke rod. The graduated steps on the fast idle cam hold the throttle valve open sufficiently during the engine warm-up period to give the increased idle RPM needed, until the engine is thoroughly warm.

During the engine warm-up period, as the choke valve gradually opens, the fast idle cam rotates to lower steps until the choke valve is wide open, at which point the engine returns to normal curb idle.

A choke unloader is provided to mechanically open the choke valve so that the engine can be started if over choked or flooded.

When the accelerator is depressed to the floor a tang on the carburetor throttle lever contacts a projection on the fast idle cam which, in turn, forces the choke valve open, a specified amount, to allow extra air to enter the carburetor. This adds enough air to lean out the over-rich mixture in the manifold, so that the engine will start.



CHOKE SYSTEM

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The choke system will consist of a choke valve located in the carburetor air horn, a vacuum break diaphragm, fast idle cam, choke linkage and a thermostatic coil which is located beneath the engine cylinder head. The thermostatic coil is connected to the choke valve by a rod. The choke operation is controlled by a combination of intake manifold vacuum, the other choke valve, atmospheric temperature and exhaust manifold heat.

The thermostatic coil located on the engine is calibrated to hold the choke valve closed when the engine is cold. As the engine is started, air velocity against the other choke valve causes the valve to open slightly, against the tension of the thermostatic coil. When the engine is started and running, intake manifold vacuum applied to the vacuum diaphragm and mounted on the carburetor air horn will open the choke valve to a point where the engine will continue to run without loading or stalling. The choke valve will remain in this position until the engine begins to warm up and the heat from the engine manifold warms up the thermostatic coil to relax its tension and allow the choke valve to gradually open. Opening of the choke valve is controlled directly by air flow through the carburetor air horn from the other choke valve and manifold heat acting upon the thermostatic coil.

To prevent stalling during the warm-up period, it is necessary to run the engine at a slightly higher than the speed that is required for a warm engine. This is accomplished by a fast idle cam on the throttle lever which raises the speed of the fast idle cam.

ADJUSTMENTS

Adjustments remain the same as previous models. New adjustments are required for the automatic choke.

Refer to 9C bulletin for correct adjustment procedure and settings.

Refer to 9D-1 bulletin for complete carburetor metering specifications.

Refer to 9D-11 manual for operation and overhaul procedures.

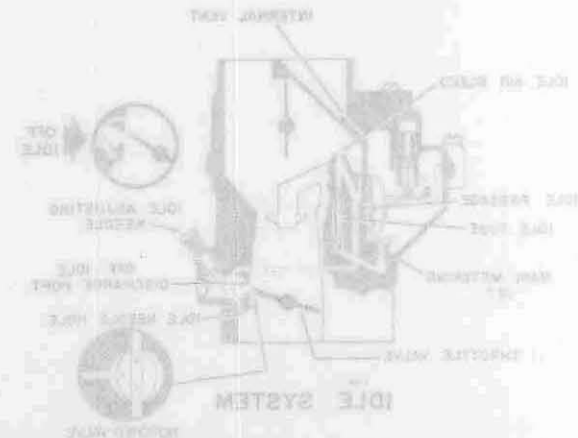


The model H for 1962 has the following changes:

- 1. Choke rod, lever, fast idle cam and a choke vacuum break vacuum break diaphragm are added to operate the choke automatically.
- 2. New throttle lever with fast idle and choke unloader tang added.
- 3. Throttle valve necked adjacent to off-idle port for improved idle characteristics.
- 4. Revision of the idle system.
- 5. Complete recalibration for 1962 engine.

The following changes were made for improved operation and performance.

IDLE SYSTEM



IDLE SYSTEM

**ALWAYS CHECK FIRST:**

Heat Riser, Intake Manifold Bolts,  
Compression, Ignition System,  
Fuel Pump Pressure and Volume,  
Crankcase Vent System.

# Delco Rochester

## Carburetor

### TROUBLE SHOOTING CHART

BULLETIN 9D-20  
March 1964

Replaces Bulletin 9D-3  
Dated 12-1-56  
File in "D" Section  
of Manual



Locate the complaint by reading across the top of the complaint columns, then find Step 1. If Step 1 does not remedy the complaint, move to Step 2 in that column. Take Steps 3, 4, 5, etc. in order until you have located the trouble.

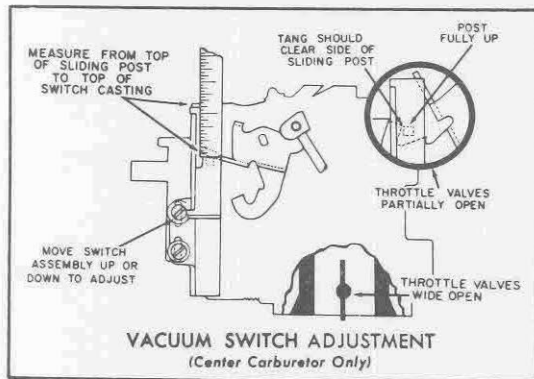
★ Indicate other possible trouble points.

COMPLAINT										CHECK POINTS	WHAT TO LOOK FOR
FLOODING	ROUGH IDLE	ECONOMY	HESITATION	ACCELERATION FLATNESS	SURGE	LOW TOP SPEED OR POWER	COLD OPERATION	STALLING	HARD HOT STARTING		
	1	★		★			★	1	★	IDLE ADJUSTMENT	Correct speed and mixture
	3		3		★	2	3	3	4	FLOAT ADJUSTMENT	Use gauge and set to specifications
			1	★			★			PUMP ADJUSTMENT	Use correct dimension, throttle valves closed
	★	★							3	IDLE VENT ADJUSTMENT	Dirt, wear, sticking open; must be closed except at idle
		★					1	★	1	AUTOMATIC CHOKE ADJ.	Set to latest specification
							2	★		CHOKE ROD ADJUSTMENT	Use correct gauge, fast idle screw on 2nd step of cam, next to high step
							3		2	UNLOADER ADJUSTMENT	Use correct gauge, throttle valves wide open; check to see that throttle linkage allows wide open position on car
							4	★		FAST IDLE ADJUSTMENT	Set with warm engine, use tachometer, set to information specification
							5	★		SECONDARY LOCKOUT ADJ.	Proper clearance so cam is free to move with throttle valves closed
							6	★		SECONDARY CONTOUR ADJ.	Proper clearance so throttle valves are free to move with choke open
								2		THROTTLE RETURN CHECK	Proper clearance with throttle lever, vacuum leaks
		1		1	5	2				POWER PISTON	Bent or sticking, distorted spring
		2		2	4	1	★			POWER VALVE	Dirty, sticking, loose, incorrect part
		4		3	1	4	★			METERING JETS	Loose, plugged, incorrect part
1	★	★				5		5	5	NEEDLE & SEAT	Worn, damaged, dirty, loose or incorrect part
	★	★	5	4	3	★				VENTURI CLUSTER	Dirty, loose screws, incorrect part
2		★			★			★	★	FLOAT	Bent, leaky, distorted float arms, damaged balance springs
	3							★		IDLE NEEDLES	Worn, damaged
	4		★	★		★	★	★		THROTTLE VALVES	Sticking open or closed, damaged, not aligned properly
4	★	★	★	★	★	★	★	4	★	GASKETS	Improper seal, hard or brittle material, loose screws
	2							★	★	IDLE PASSAGES	Dirty or Plugged
	★	★				★	★			POWER PISTON VACUUM PAS.	Plugged or vacuum leaks
	★	★					8		★	CHOKE VACUUM PASSAGE	Plugged or vacuum leaks
	★	★		★			9			THROTTLE BODY HEAT PAS.	Plugged with carbon, no heat to throttle body
	★	★								PUMP SHAFT SEAL	Crack or loose fit on plunger shaft
			2				★			PUMP PLUNGER	Hard or worn leather, distorted spring, stuck vent ball check
			3				★			PUMP INLET CHECK BALL	Out-of-round, damaged seat, stuck
	★		4				★	★	★	PUMP DISCHARGE CHECK	Out-of-round, damaged seat, stuck, distorted spring
		★		★			7	★	★	CHOKE PISTON, CHOKE VALVE	Dirty, damaged, sticking

## TRIPLE POWER PACK

MODEL 2G—2GC

### ADJUSTMENTS



To adjust vacuum switch cut-in point use the following procedure.

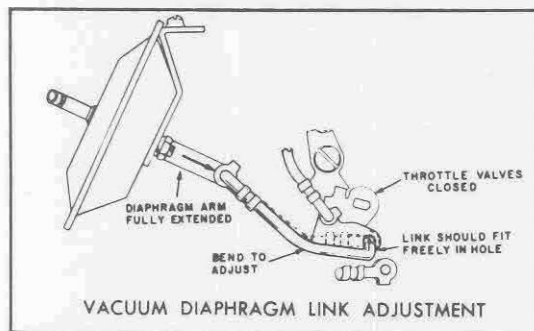
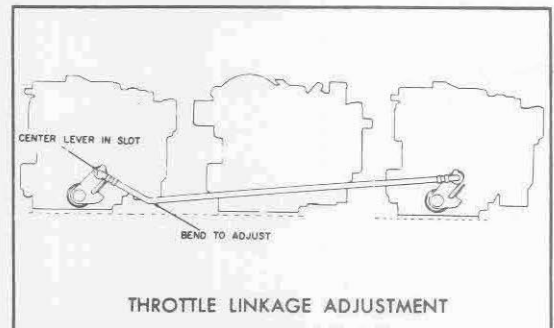
Open the throttle valves to the wide open position. With a scale, measure the distance from the top of the vacuum switch housing to the top of the sliding switch post.

If the dimension is not correct, adjust in the following manner.

Loosen two retaining screws holding switch to bracket; with the throttle valves held in the wide open position, move the switch up or down until the specified measurement is obtained between the top of the switch post and the top of the switch housing.

After making the above adjustment, open and close the throttle valves to make sure the inside edge of the vacuum switch closing tang clears the side of the switch post. The switch post should be in the full up position when checking for alignment.

Disconnect one end of throttle actuating rod which connects the throttle levers on the front and rear carburetors together. With both the throttle valves closed on the front and rear carburetors the rod should center in the slot in the throttle lever. Bend the throttle rod to adjust. Connect throttle rod after adjustment.



With the throttle valves closed and the arm on the vacuum diaphragm in the fully extended position, bend the vacuum unit actuating link — if necessary so that it just fits into the hole in the throttle lever.

MAKE	YEAR	VAC. SWITCH ADJ.
CADILLAC	1958-60	1-5/32
CHEVROLET	1958-61	1-1/32
OLDSMOBILE	1957	1-1/32
	1958	1-1/8
PONTIAC	1957-58	1-1/32
	1959	1-5/32
	1960-64	1-3/32