

# SERVICE BULLETIN

SERVICE DEPARTMENT, CHRYSLER & IMPERIAL DIVISION  
CHRYSLER CORPORATION



Information for  Service Mgr.  Shop Foreman  Parts Mgr.  Technicians

TO ALL CHRYSLER AND IMPERIAL DEALERS:

The enclosed bulletin covers the data and specifications of the 1961 Chrysler C300-G.

The information contained in this bulletin supplements the general service information in the 1960 Chrysler and Imperial Service Manual. This information covers in detail the specific data and specifications of the 1961 Chrysler C300-G engine and particular the two 4-barrel carburetors, full race camshaft, special ram induction intake manifold, low restriction air cleaners, heavy duty valve springs and dampers, 15 inch special wheels and tires, as well as other features exclusive with the 1961 Chrysler C300-G.

*C. T. McClure*

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No. 61-10

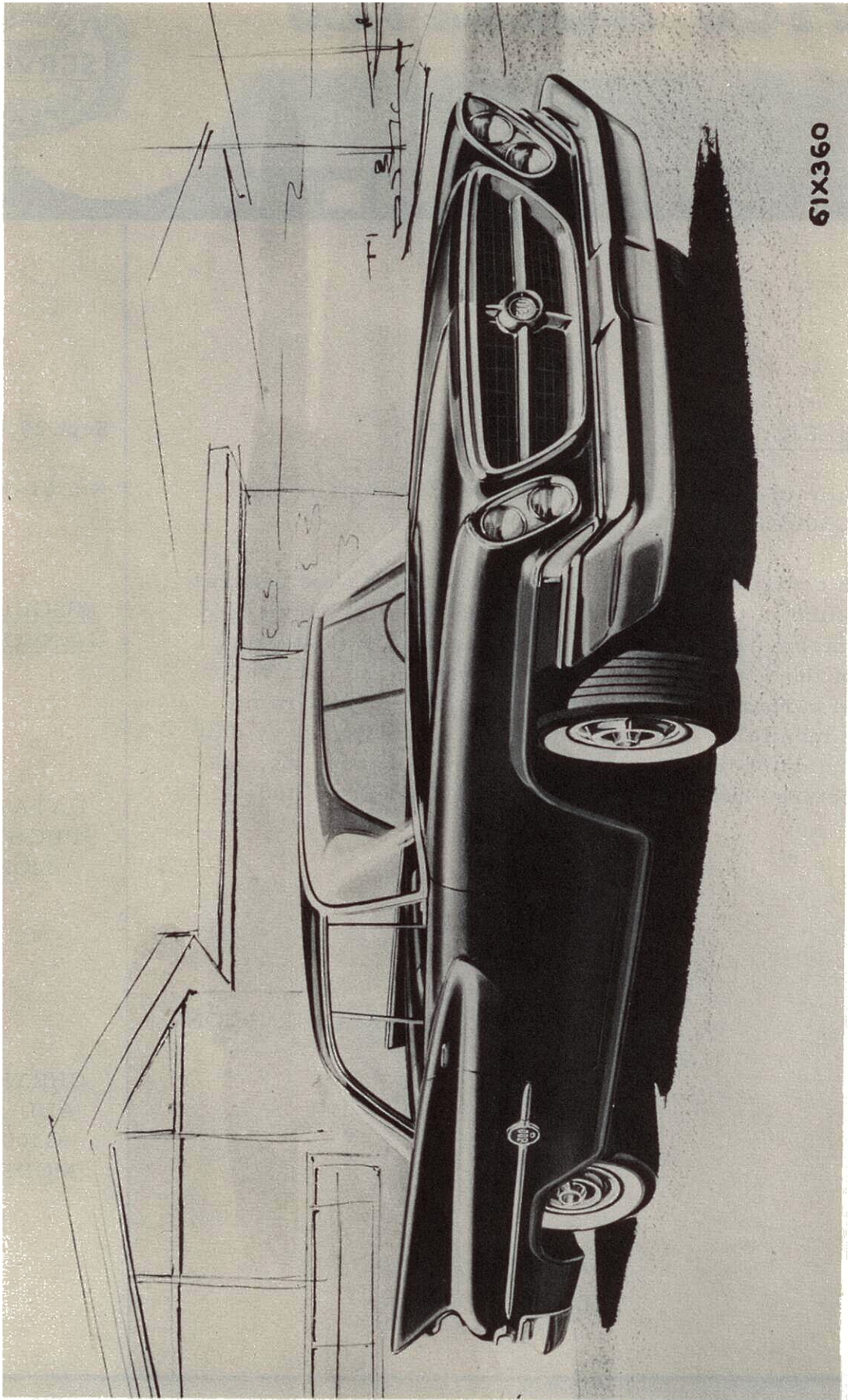
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DATA AND  
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CHRYSLER  
ALL 1961  
C300-G  
MODELS

IMPORTANT: This bulletin contains valuable information and was prepared at considerable expense to be of service to you. Failure to use this information may cost you good will and money. We suggest that you insure it is read by all those concerned, and then filed for future reference in your Service Bulletin Binder.





61X360

C-300G Two Door Hardtop

1961 CHRYSLER - 300G

GENERAL DATA AND SPECIFICATIONS

Sports Coupe Two-Door Hardtop and Convertible Coupe

Wheelbase.....	126	inches
Tread (front).....	61.2	inches
Tread (rear).....	60.0	inches
Length with Bumper.....	219.8	inches
Width with Bumper.....	79.4	inches
Height.....	55.1	inches
Rear Axle Ratio.....	3.23:1	
Tire Size.....	8.00 x 15	

Group 0 - LUBRICATION

Lubrication requirements and service procedures are the same as recommended for the RC-3. Refer to Group 0 in the 1960 Chrysler and Imperial Service Manual and the 1961 Chrysler and Imperial Service Manual Supplement.

Group 1 - ACCESSORIES (RADIOS AND HEATERS)

The radio and heater models are identical with those used on the RC-3. For Service Procedures, refer to the 1960 Chrysler and Imperial Service Manual.

Group 2 - FRONT SUSPENSION

The front wheel suspension system is of the same basic design as used on the RC-3, except for the following:



## FRONT SUSPENSION HEIGHT

The difference in the height between the floor and the measuring points on each lower control arm (lowest point on ball joint housing and underside of bushing housing between the flanges of arm) should be 1 3/4 inches. This height must be maintained + or - 1/8 inch with the maximum differential from the right to the left of 1/8 inch.

## Group 3 - REAR AXLE

The Rear Axle is of the same basic design as used on the RC-3. Standard and "Sure-Grip" axle ratio is 3.23, (42-13). For Service Procedures, refer to the Rear Axle, Group 3, of the 1961 Chrysler and Imperial Service Manual Supplement.

## Group 4 - PARKING BRAKE

The Parking Brake is the same type as used on the RC-3. To service the brake, refer to the Parking Brake Group 4 in the 1960 Chrysler and Imperial Service Manual.

## Group 5 - SERVICE BRAKES

The Brake System is similar to the type used on the RC-3. The power brake is a special oval metal type unit with a modified housing to control routing of the intake manifold vacuum hose to the unit, and eliminate interference at the carburetor. To service the brakes, refer to the Brake Group 5 in the 1960 Chrysler and Imperial Service Manual.



Group 7 - COOLING SYSTEM

The Cooling System is of the same design as used on the RC-3, except that the silent flite fan drive is standard equipment. A box shroud is used on cars equipped with air conditioning.

To obtain satisfactory idle cooling, adjust the carburetor for proper idle as indicated in the Fuel System, Group 14.

For servicing the Cooling System, refer to Group 7 in the 1960 Chrysler and Imperial Service Manual.

Group 7A - ACCESSORY BELT DRIVES

The methods for tensioning the accessory belts are the same as outlined in the Group 7A of the 1961 Chrysler and Imperial Service Manual Supplement.

Group 8 - ELECTRICAL SYSTEM

The servicing of the Electrical System is the same as described in the 1961 Chrysler and Imperial Service Manual Supplement, except for the specifications listed as follows:

DISTRIBUTOR SPECIFICATIONS

Chrysler Part No.....	1889568
Model (AutoLite) .....	1BS-4011
Advance - Automatic (Distributor Degrees at Distributor RPM).....	0° @ 325 to 475 0 to 4.3° @ 475 4.5 to 6.5° @ 640 9 to 11° @ 2400

Advance - Vacuum (Distributor Degrees at Inches of Mercury) . . . . .	0° @ 7.2 to 8.9" 4.5 to 7.5° @ 12" 7.5 to 10.5° @ 14.5"
Breaker Point Gap . . . . .	.014" to .019"
Breaker Arm Spring Tension . . . . .	17 to 21.5 oz.
Dwell Angle . . . . .	One Set Points 27 to 32° Both Sets Point 34 to 40°
Timing . . . . .	5° BTC
Condenser Capacity . . . . .	.25 to .285 mfd.
Shaft Side Play . . . . .	.000" to .003" *
Shaft End Play (After Assembly) . . . . .	.003" to .010"
Rotation . . . . .	Counter-Clockwise
Spark Plug Type . . . . .	A-32
Size . . . . .	14 MM
Gap . . . . .	.035"
Firing Order . . . . .	1-8-4-3-6-5-7-2
Coil . . . . .	Chrysler Auto-Lite Chrysler Essex 1688212 200567 2095223 62-160-2
Primary Resistance @ 70°-80°F . . . . .	1.65 - 1.79 ohms 1.41 - 1.55 ohms
Secondary Resistance . . . . .	8000 - 9200 ohms 9200 - 10600 ohms
Ballast Resistor . . . . .	2095501
Resistance @ 70°-80°F . . . . .	0.6 ohms
Current Draw (Coil and Ballast Resistor in Circuit)	
Engine Stopped . . . . .	3.0 Amperes
Engine Idling . . . . .	1.9 Amperes

\* When distributor is new or after rebuilding (new bushings and/or shaft installed), service wear tolerance should not exceed .005".

Group 9 - ENGINE

The Chrysler 300G is powered by a high performance version of the 413 cubic inch engine. The outstanding feature is the long branch induction intake manifolds cast of aluminum. Two four-barrel carburetors and dual air cleaners are used in the 413 cubic inch engine.

The engines use the high load valve springs and spiral type surge dampers.



## ENGINE - DATA AND SPECIFICATIONS

### MAIN BEARINGS

Diametral Clearance (desired) . . . . .	.001 to .002 inch
<u>MAIN BEARING SIZES</u> . . . . .	No. 1 - 2.750 x .914 inch
	No. 2 - 2.750 x .914 inch
	No. 3 - 2.750 x .943 inch
	No. 4 - 2.750 x .914 inch
	No. 5 - 2.750 x .914 inch

### TAPPETS

Type . . . . .	Hydraulic
Clearance in Block. . . . .	.0005 to .0018 inch
Body Diameter . . . . .	.9040 to .9045 inch

### VALVES - INTAKE

Lift. . . . .	.430 inch
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### VALVES - EXHAUST

Lift. . . . .	.430 inch
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### VALVE SPRINGS

Number . . . . .	16
Free Length . . . . .	2.38 inch
Load (when compressed to) (valve closed) . . .	1.860 inch - 92 to 105 lbs.
Load (when compressed to) (valve open) . . . .	1.43 inch - 197 to 213 lbs.
Valve Springs I.D. . . . .	1.070 to 1.090 inch
Valve Spring Installed Height (Spring Seat to Retainer) . . . . .	1.830 to 1.890 inch
Recondition at . . . . .	1.910 inch
Surge Damper . . . . .	Spiral Type

### VALVE TIMING

Intake - opens	20° BTC
closes	68° ABC
duration	268°
Exhaust - opens	60° BBC
closes	28° ATC
duration	268°
Valve Opening Overlap	48°

### Engine Idle Setting

Set the idle adjustment to obtain a smooth idle at 725-750 rpm, as outlined in the Fuel Group of the 1960 Chrysler and Imperial Service Manual.

### Ignition Timing

Disconnect distributor vacuum line, set ignition at 5 degrees BTDC and reset engine idle back to 725-750 rpm if necessary.

### Valve Timing Procedure

(1) Check the accuracy of the TDC mark on the pulley (vibration damper) by bringing the number one piston to top dead center.

(2) Rotate the crankshaft until #6 exhaust valve is closing and #6 intake valve is opening.

(3) Install a dial indicator on #1 intake valve so that the indicator pointer contacts the retainer as near to a 90° angle as possible.

(4) Insert a 1/4 inch spacer between the rocker arm and the stem of #1 intake valve (second valve from the front on the left bank). Allow the spring load to bleed the tappet down giving in effect a solid tappet. Adjust the dial indicator to zero.

(5) Turn the crankshaft clockwise (normal running direction) until the valve has lifted .024 inch. The timing of the crankshaft should be now read from 10° BTC to 2° ATC. Turn the crankshaft counterclockwise until the dial indicator is at zero and remove the spacer.



## Group 10 - ENGINE OILING SYSTEM

The Engine Oiling System remains the same as used on Model RC-3. For service procedures, refer to the 1960 Chrysler and Imperial Service Manual.

## Group 11 - EXHAUST SYSTEM

There are larger exhaust pipes with a connecting balance pipe, and low restriction mufflers are now installed as standard equipment, also a manifold heat control valve is now installed on each exhaust manifold.

For service procedures, refer to the 1960 Chrysler and Imperial Service Manual.

## Group 13 - FRAME

The frame is the same basic construction as used in the RC-3. For service procedures, refer to Group 13 in the 1960 Chrysler and Imperial Service Manual.

## Group 14 - FUEL SYSTEM

Two AFB carburetors are used on the 413 cubic inch engine.

Data and specifications, carburetor adjustments, and servicing of the manifolds are covered in the following paragraphs.

## DATA AND SPECIFICATIONS

### CARBURETOR

Type . . . . .	4 Barrel Downdraft
Model. . . . .	AFB 2903S

### THROTTLE BORE

Primary . . . . . 1 7/16"  
Secondary . . . . . 1 11/16"

### MAIN VENTURI

Primary . . . . . 1 3/16"  
Secondary . . . . . 1 9/16"

### LOW SPEED JET

Primary . . . . . No. 65 - .035"

### ADJUSTMENTS

Accelerator Pump Setting (top of plunger to  
air horn) . . . . . 7/16"  
Choke unloader (wide open kick) . . . . . 1/4"  
Fast Idle Adjustment . . . . . .010  
Fast Idle Speed (rpm) . . . . . \*\*\*  
Idle Speed Adjustment (rpm) . . . . . \*\* 725 - 750  
Secondary Throttle Lever Adjustment . . . . . 19/64"  
Secondary Throttle Lock-Out Adjustment . . . . . .020"  
Float Setting (gasket to top of floats) . . . . . 9/32"  
Float Drop . . . . . 3/4"  
Idle Mixture (both screws-turns open) . . . . . 1-2  
Automatic Choke Unit Setting . . . . . 1 Notch Rich

\*\* 725 to 750 rpm and constant with the transmission in Neutral (N)  
and the air conditioning compressor "on" (if so equipped).

\*\*\* See procedure for Setting Fast Idle Speed.

### CARBURETOR ADJUSTMENTS

The following adjustments should be made with the carburetor on  
the bench for ease of working, and should be made in the following  
order:



### Fast Idle Adjustment

(1) With the choke valve held tightly closed and carburetor inverted, tighten the fast idle adjusting screw (on the high step of the fast idle cam) until wire gauge Tool T-109-200 (.010 inch) can be inserted between the primary throttle valve and the bore (side opposite idle port), as shown in Figure 1. The index mark on the fast idle cam should be in direct line with the fast idle screw shank.

(2) Invert the carburetor and open the throttle valves to wide open position. Close the choke valve tightly and then close the throttle valves. Release the choke valve. This will position the fast idle cam to fast idle. The index mark on the cam should line up with the center of the fast idle adjusting screw, as shown in Figure 2.

(3) If an adjustment is necessary, bend the fast idle connector rod at the angle, using Tool T-109-213, until the index mark on the cam indexes the fast idle adjusting screw.

### Choke Unloader Adjustment

(1) With the throttle valves in the wide open position, it should be possible to insert Tool T-109-31 (1/4 inch) gauge between the upper edge of the choke valve and the inner wall of the air horn, as shown in Figure 3.

(2) If an adjustment is necessary, bend the unloader lip on the throttle shaft lever, using Tool T-109-41, until correct opening has been obtained.



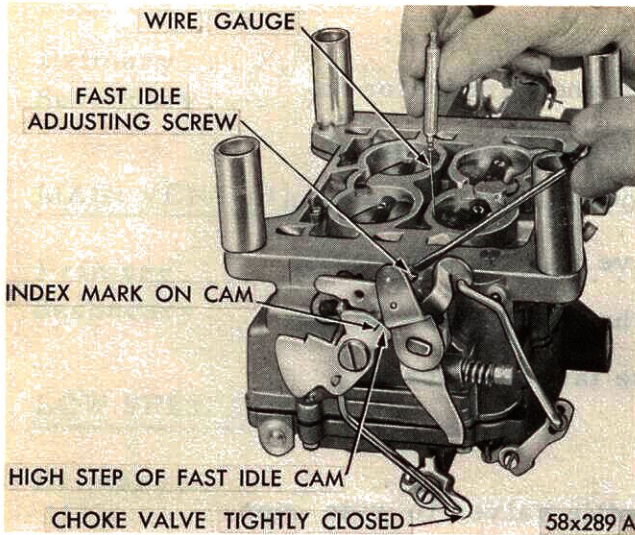


Fig. 1-Measuring and Adjusting the Fast Idle

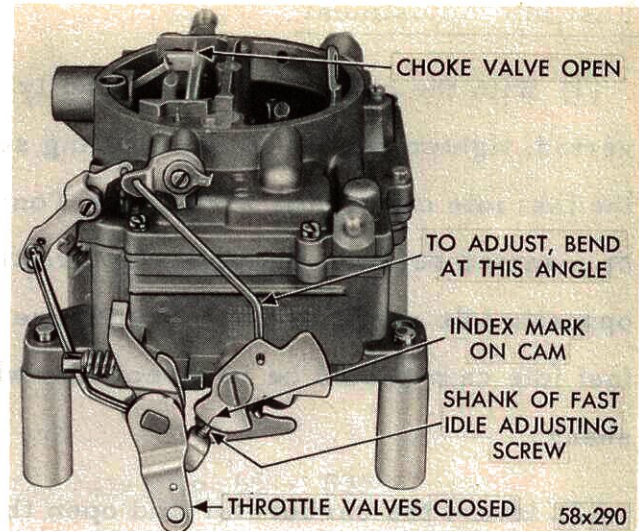


Fig. 2-Indexing Fast Idle Cam

### Accelerator Pump Adjustment

(1) With the choke valve wide open (to release the fast idle cam) close the throttle valves. Measure the distance from the top of the plunger shaft, using a "T" scale, as shown in Figure 4. This distance should be  $7/16$  inch.

(2) If an adjustment is necessary, bend the throttle connector rod at the lower angle, using Tool T-109-213, until correct travel has been obtained.

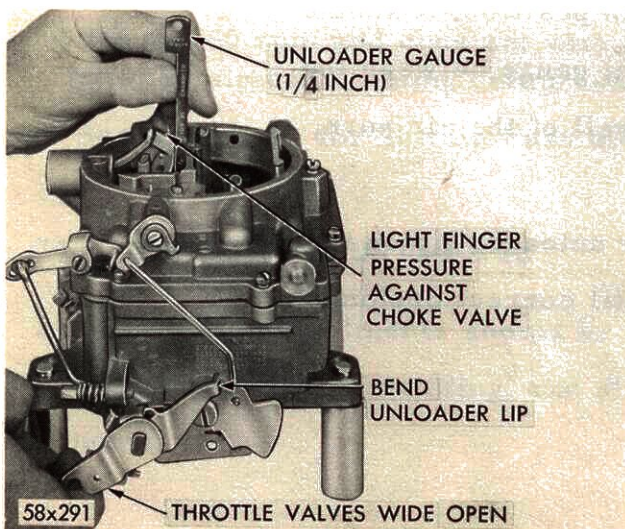


Fig. 3-Measuring & Adj. Chock Unloader (Fast Idle Kick)

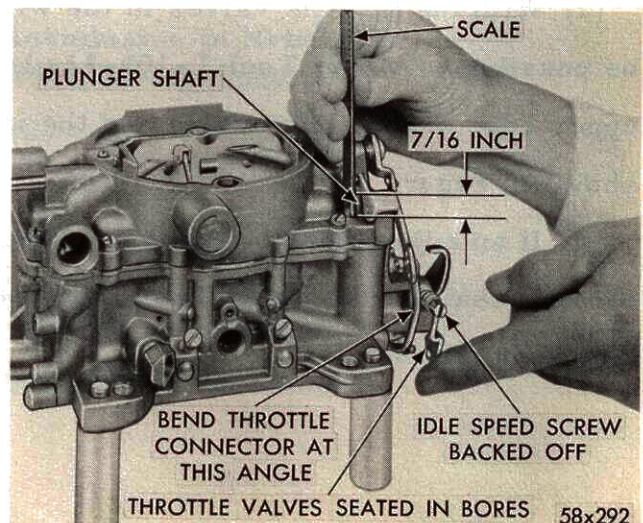


Fig. 4-Measuring Accelerator Pump Travel



## Secondary Throttle Lever Adjustment

(1) To check the secondary throttle lever adjustment, block the choke valve in the wide open position and invert the carburetor.

(2) Slowly open the primary throttle valves until it is possible to measure  $29/64$ " between the lower edge of the primary valve and the bore (opposite idle port), as shown in Figure 5. At this point, the secondary valves should just start to open.

(3) The wide open throttle stop lugs on both the primary and secondary throttle levers should contact the bosses on the flange at the same time.

(4) If an adjustment is necessary, bend the secondary throttle operating rod at the angle, using Tool T-109-213, until correct adjustment has been obtained.

(5) At original assembly, the wide open throttle stops are adjusted so that the primary throttle valves go 6 to 8 degrees past the vertical position while the secondary throttle valves stop 6 to 8 degrees before the vertical position. Do not attempt to make further adjustments other than the one in paragraph (4) above.

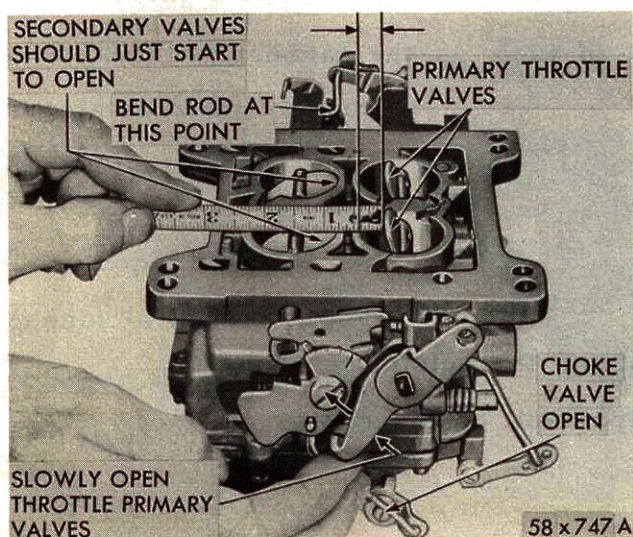


Fig. 5-Testing Secondary Throttle Opening

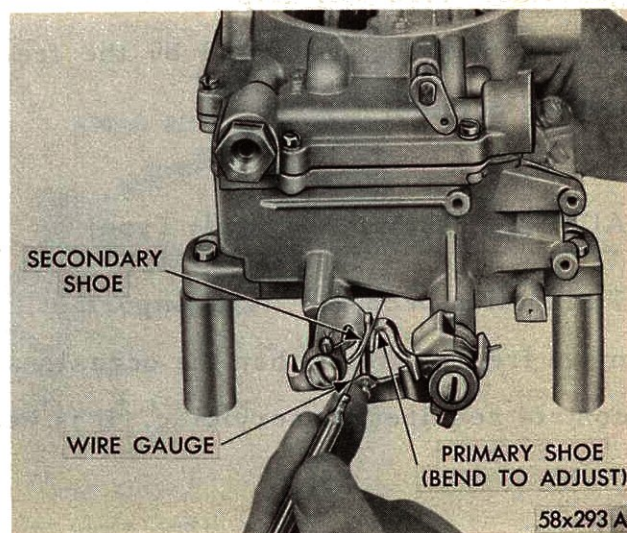


Fig. 6-Measuring Clearance Between Closing Shoes

(6) With the primary and secondary throttle valves in the tightly closed position, it should be possible to insert Tool T-109-29 (.020 inch) wire gauge, between the positive closing shoes on the secondary throttle levers, as shown in Figure 6.

(7) If an adjustment is necessary, bend the shoe on the secondary throttle lever, using Tool T-109-22, until correct clearance has been obtained.

#### Secondary Throttle Lock-Out Adjustment

(1) Open the throttle valves, then manually open and close the choke valve. The tang on the secondary throttle lever should freely engage in the notch of the lock-out dog.

(2) If an adjustment is necessary, bend the tang on the secondary throttle lever, until engagement has been made. Use Tool T-109-22 for this operation.

(3) After adjustments have been made, reinstall carburetor on engine, using a new gasket.

(4) It is suggested that the carburetor bowl be filled with clean gasoline. This will help prevent dirt that is trapped in the fuel system from being dislodged by the free flow of fuel, as the carburetor is primed.

#### AUTOMATIC CHOKE (Well Type)

To function properly, it is important that all parts be clean and move freely. Other than the occasional cleaning, the automatic choke control requires no servicing. It is very important, however, that



the choke control unit works freely at the thermostatic coil spring housing and at the choke shaft. Move the choke rod up and down to check for free movement of the coil housing on the pivot. If the unit binds, a new unit should be installed. The Well Type Choke Control Unit is serviced only as a complete unit. Do not attempt to repair (see Fig. 7).

Do not lubricate any parts of the choke or control unit since this causes dirt accumulation which would result in binding of the choke mechanism.

Do not attempt to change the calibration setting. (Refer to Specifications.) This is pre-determined and should it be changed, improper choke action would result.

Clean all choke parts using a suitable solvent and then blow dry with compressed air. Examine all choke parts for wear or damage. Worn or damaged parts must be replaced with new parts in order to insure proper choke operation.

When installing the well type choke unit, make certain that the coil housing does not contact the sides of the wall in the intake manifold. Any contact at this point will affect choke operation.

The proper assembly sequence of the manifold choke to the intake manifold is as follows:

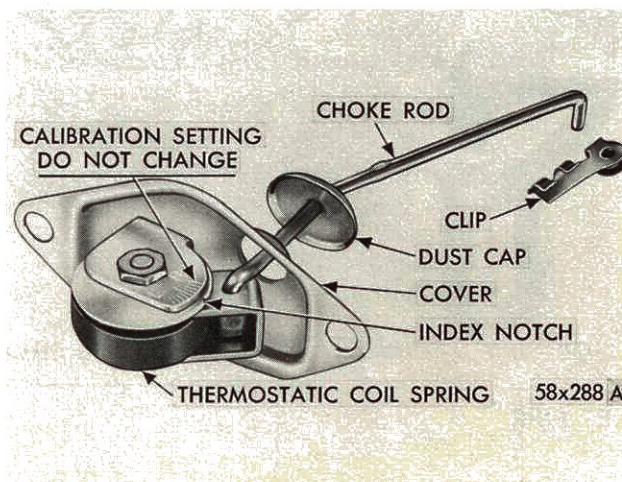


Fig. 7-Cross-Over Choke Control Unit



- (1) Gasket - choke coil well
- (2) Cup - choke coil well
- (3) Retainer - choke coil well
- (4) Assembly - choke coil housing and rod

### IDLE SPEED ADJUSTMENT (CURB IDLE)

The idle speed adjustment is made after the carburetors have been installed on the engine. Be sure to keep idle mixture screws within 1/8 turn of each other. Refer to Paragraph "Idle Speed and Mixture Adjustment".

### INDUCTION MANIFOLD

The Induction Manifold equipped engine, as shown in Figure 8, consists of twin air cleaners, twin AFB carburetors (with individual automatic well type chokes) and two aluminum manifolds, containing eight long sweeping passages (four in each manifold).

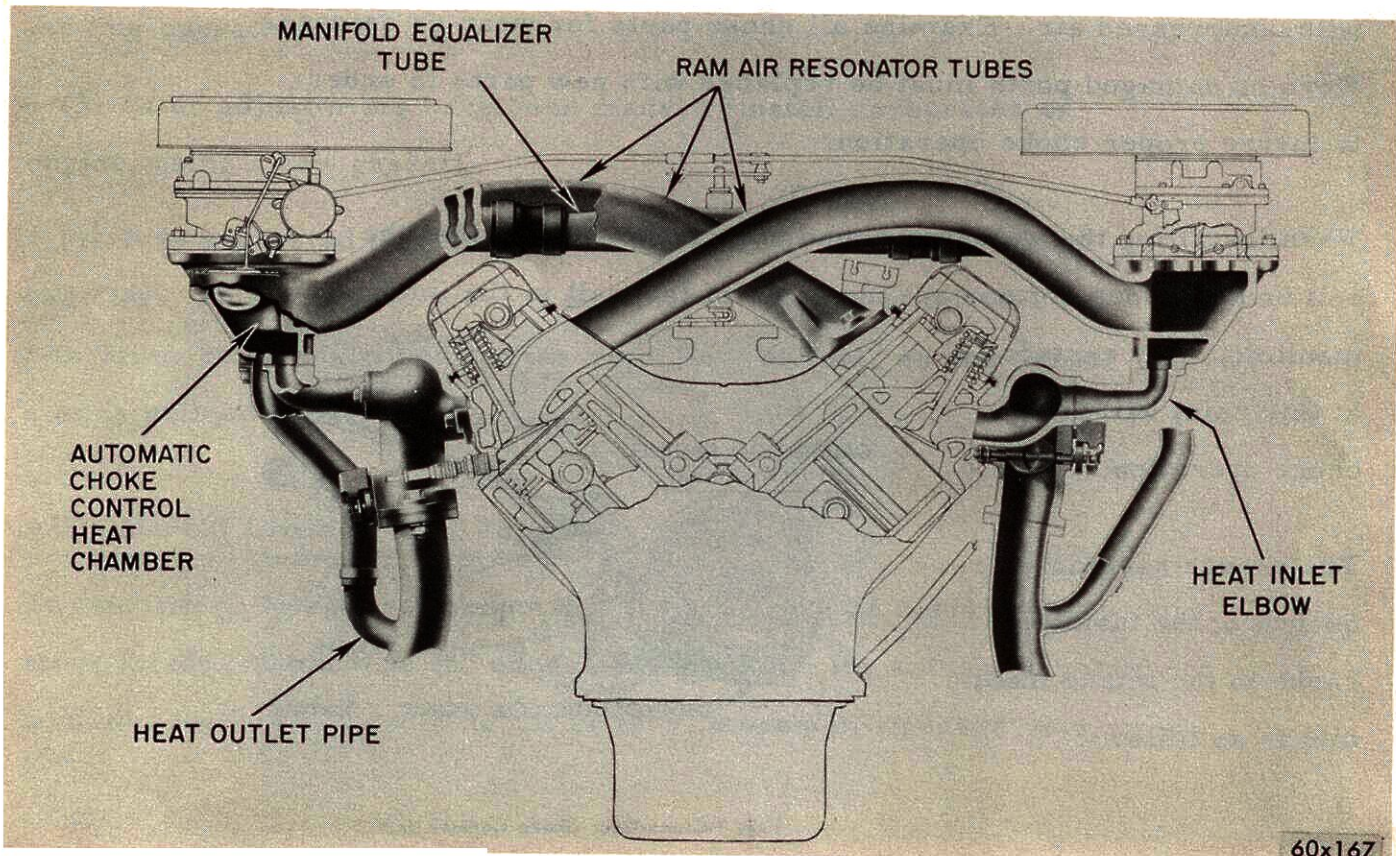


Fig. 8-Ram Manifold (Sectional View)



The air-fuel mixture from each carburetor flows into a chamber directly under the carburetor, then passes through the long individual intake branches to the opposite cylinder bank. The right hand carburetor supplies air-fuel mixture for the left hand cylinder bank, whereas the left hand carburetor supplies the right hand cylinder bank. The passages between the right and left hand manifolds are interconnected with a pressure equalizer tube.

The throttle linkage operates through a center mounted bellcrank and controls both carburetors at the same time. It is very important that if one or more of the carburetors or either manifold has been removed, that a complete linkage adjustment be made in order to obtain peak engine performance. (Refer to Paragraph for "Setting the Manifold Throttle Linkage".)

## SERVICE PROCEDURES

### REMOVING THE MANIFOLDS (Fig. 9)

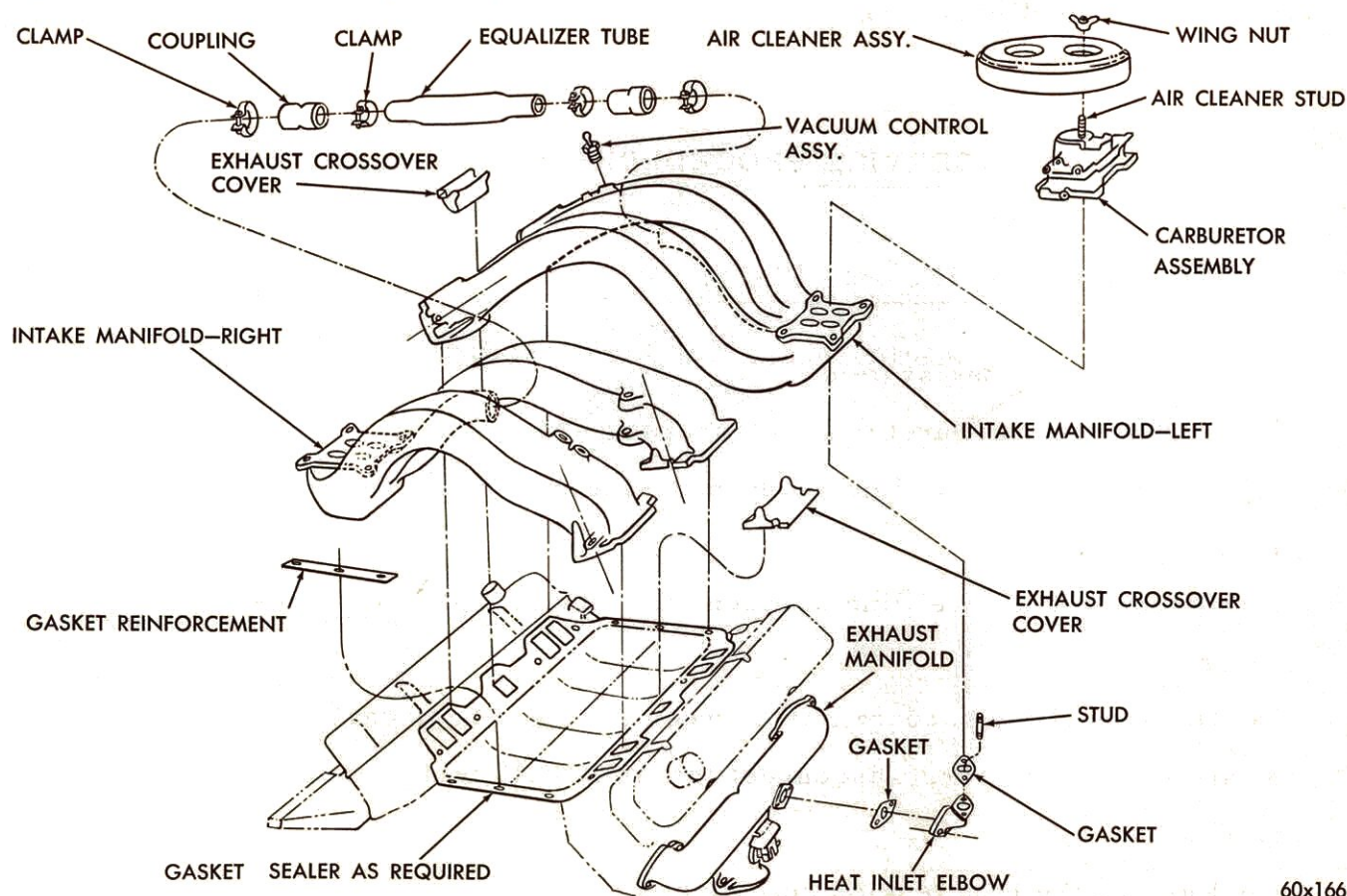
- (1) Drain the cooling system.
- (2) Remove the carburetor air cleaners.
- (3) Disconnect the fuel line between the fuel pump and the left hand carburetor.
- (4) Disconnect the fuel line between the left and right hand carburetor.
- (5) Disconnect the vacuum line between the right hand carburetor and the distributor. Disconnect the Anti-Stall device vacuum line.
- (6) Remove the high tension coil wire.

(7) Disconnect the throttle linkage at both carburetors and the bellcrank, to the accelerator shaft.

(8) Loosen the clamps that attach the equalizer tube couplings to the manifolds and the equalizer tube. Slide either coupling inward on the tube far enough to clear the manifold tube opening. Lift the equalizer tube, couplings and clamp up and away from engine.

(9) Disconnect the power steering hoses at the pump and secure against the fire wall.

(10) Remove the air conditioning compressor and brackets (if so equipped). Refer to Air Conditioning, in the 1960 Chrysler and Imperial Service Manual, Group 24.



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Fig. 9-Ram Manifold (Disassembled View)



### Left Hand Manifolds

(11) Remove the eight attaching bolts that hold the left fender shield access plate to the fender shield, then slide the plate out of the engine compartment.

(12) Remove the two bolts that attach the left hand by-pass pipe to the lower chamber.

(13) Remove the two bolts that attach the left hand exhaust manifold elbow to the lower chamber. Discard the gaskets.

(14) Remove the four bolts that attach the manifold to the right bank cylinder head. Remove the exhaust passage crossover cover.

(15) Lift the manifold and carburetor from the engine as an assembly.

(16) Remove the nuts that attach the carburetor to the intake manifold, then disconnect the automatic choke rod from the lever. Remove the carburetor.

(17) Remove the two bolts that retain the automatic choke in the manifold. Lift choke assembly, gasket, reinforcement and well cup out of the manifold.

### Right Hand Manifolds

(18) Remove the eight attaching bolts that hold the right fender shield access plate to the fender shield, then slide the plate out of the engine compartment.

(19) Remove the two bolts that attach the right hand exhaust by-pass pipe to the lower chamber.

(20) Remove the two bolts that attach the right hand exhaust manifold elbow to the lower chamber. Discard the gasket.

(21) Remove the four bolts that attach the manifold to the left hand bank cylinder head. Remove the exhaust passage cross-over cover.

(22) Lift the manifold and carburetor from the engine as an assembly.

(23) Remove the nuts that attach the carburetor to the intake manifold, then disconnect the automatic choke rod from the lever. Remove the carburetor.

(24) Remove the two bolts that retain the automatic choke in the manifold, lift choke assembly, gasket, reinforcement and well cup out of the manifold.

With the manifolds removed, work can now be done on the cylinder heads, tappets, etc.

### INSTALLING THE MANIFOLD

When installing the manifold, be sure and use new gaskets and be sure all mating surfaces are smooth and clean. Check to be sure that both manifold heat control valves are operating freely. If stuck or binding, free up, using heat control valve solvent.

Left Hand Intake Manifold, (Fig. 9)

(1) Place the automatic choke control unit in the reinforcement and well cup. Slide the assembly down into position in the intake manifold, using a new gasket. Install attaching bolts and tighten.

(2) Place the carburetor in position on the mounting pad of the intake manifold and engage the automatic choke control rod with the



choke lever. Secure with clip. Install the carburetor mounting nuts and tighten.

(3) Place the intake manifold assembly in position on the right hand bank cylinder head. Place the exhaust crossover passage cover over the passage, and install the manifold attaching bolts finger tight.

(4) Slide a new gasket between the left hand exhaust manifold elbow and the lower chamber of the intake manifold. Install attaching bolts finger tight.

(5) Slide a new gasket between the left hand exhaust by-pass pipe and the manifold lower chamber. Install the attaching bolts and tighten to 10 foot-pounds torque. Tighten the elbow attaching bolts to 10 foot-pounds torque and the intake manifold bolts to 50 foot-pounds torque.

(6) Slide the left hand fender shield access plate into position against the fender shield. Install the bolts and tighten.

If both manifolds were removed, continue to install the right hand manifold as follows:

(7) Place the automatic choke control unit in the reinforcement and well cup, slide the assembly down into position in the intake manifold, using a new gasket. Install attaching bolts and tighten.

(8) Place the carburetor in position on the mounting pad of the intake manifold and engage the automatic choke control rod with the choke lever. Secure with clip. Install the carburetor mounting nuts and tighten.

(9) Place the intake manifold assembly in position on the left bank cylinder head. Place the exhaust crossover passage cover over the passage, then install the manifold attaching bolts finger tight.

(10) Slide a new gasket between the right hand exhaust manifold elbow and the lower chamber of the intake manifold. Install the attaching bolts finger tight.

(11) Slide a new gasket between the right hand exhaust by-pass pipe and the lower chamber. Install attaching bolts and tighten to 10 foot-pounds torque. Tighten the elbow attaching bolts to 10 foot-pounds torque and the intake manifold bolts to 50 foot-pounds torque.

(12) Slide the right hand fender shield access plate into position against the fender shield. Install bolts and tighten.

(13) Place the air conditioning compressor and brackets in position (if so equipped) and install the attaching bolts. Tighten securely. (Refer to the Air Conditioning Group 24 for method of recharging the system) in the 1960 Chrysler and Imperial Service Manual.

(14) Connect the power steering hoses to the pump. (Refer to Power Steering Group 19 in the 1960 Chrysler and Imperial Service Manual for method of bleeding air out of the system.)

(15) Slide the equalizer tube, clamps and couplings over the manifold tubes. Slide either coupling outward far enough to firmly engage the manifold. Tighten the clamps securely. If the rubber coupling is soft or torn, replace with a new one.

(16) Connect the throttle linkage at both carburetors and bell-crank to accelerator shaft.

(17) Install the high tension coil wire.

(18) Connect the vacuum line between the left hand carburetor and the distributor and the vacuum line to the anti-stall device.

(19) Connect the fuel line between the left and right hand carburetor.

(20) Connect the fuel line between the fuel pump and the left hand carburetor.

(21) Install the right and left carburetor air cleaners.



(22) Fill the cooling system to the required capacity.

After the manifolds have been installed, it is very important that the setting of the throttle linkage be performed in order to obtain peak engine performance.

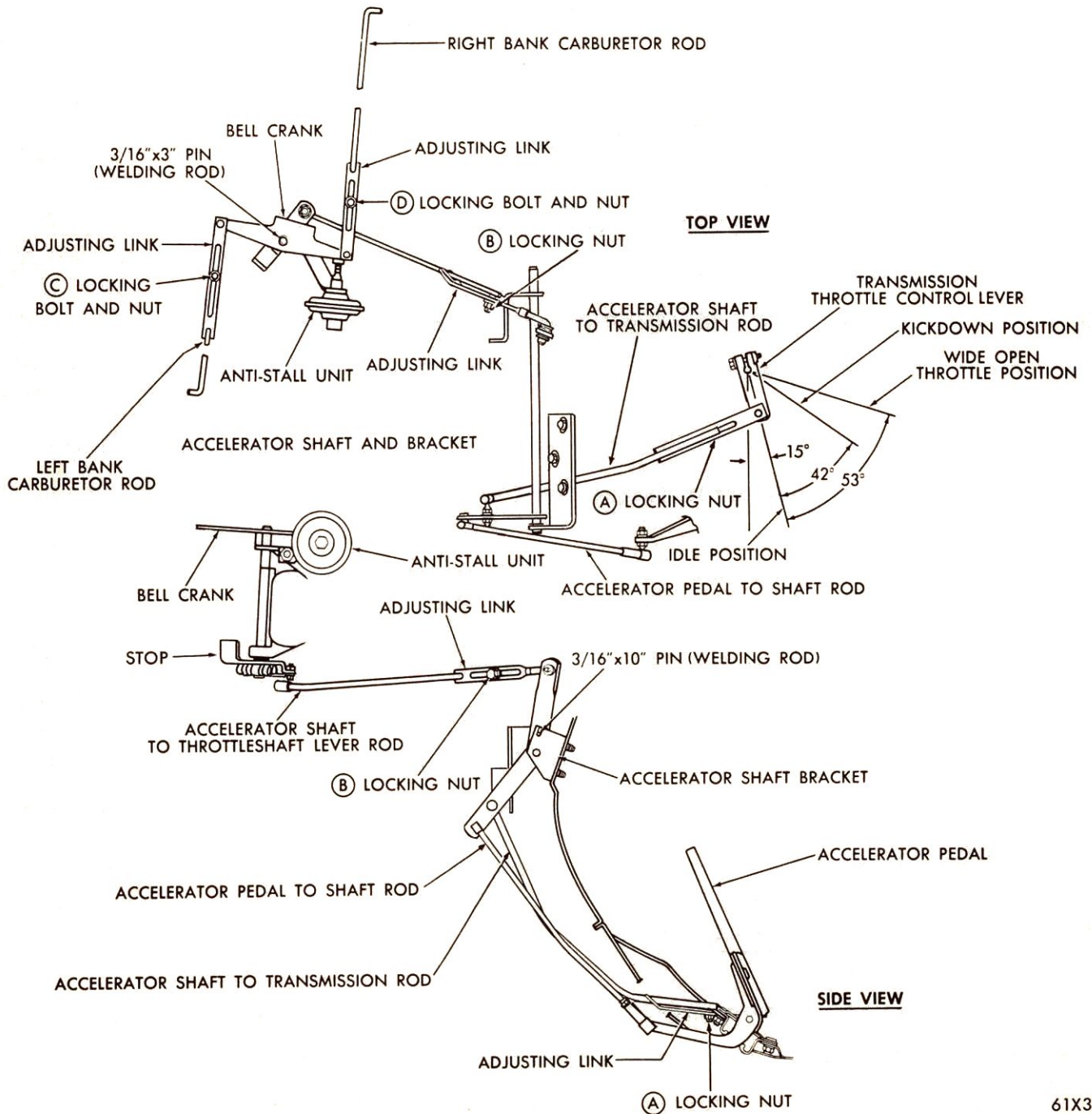


Fig. 10-Throttle Linkage (Schematic)

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## SETTING THE MANIFOLD THROTTLE LINKAGE

Setting the throttle linkage is a very important step. If improperly set, various conditions affecting car performance can be encountered, such as loss of performance, no wide open throttle response, improper shifting of the transmission, no kickdown, delayed upshifts, etc.

Setting the throttle linkage is divided into four parts:

1. Positioning the accelerator shaft.
2. Positioning the accelerator pedal.
3. Setting the bellcrank and synchronizing each carburetor.
4. Adjusting anti-stall device.

It is very important that the throttle linkage be set in this order. At any time the throttle linkage is reset, the anti-stall device must be reset.

### A. Positioning the Accelerator Shaft (Fig. 10)

(1) Loosen the adjusting nuts "A" and "B" (accelerator shaft to transmission rod and accelerator shaft to throttle shaft lever rod).

(2) Insert a piece of 3/16 inch drill rod, 10 inches long into the accelerator shaft bracket and through hole in the lever.

(3) Move the transmission throttle control lever forward until it stops. Tighten the locknut "A" securely. This positions the accelerator shaft.

### B. Positioning the Accelerator Pedal

(1) Unsnap the accelerator pedal to shaft rod.

(2) Turn the threaded end of the rod either in or out until a measurement of 114 degrees is obtained between the floor of the car and the flat face of the accelerator pedal.



NOTE: This measurement can be made with a protractor.

(3) After correct measurement has been obtained, reconnect the rod. Remove the drill rod from the accelerator shaft bracket.

#### Setting the Bellcrank (Fig. 10)

(1) Loosen locking nuts "C" and "D" (left and right bank carburetor rods).

(2) Back off the anti-stall adjusting plunger far enough to allow the bellcrank to be pivoted.

NOTE: Hold the anti-stall control push rod while adjusting set screw to prevent damage to the diaphragm.

(3) Pivot the bellcrank until a 3/16 inch piece of drill rod 3 inches long can be inserted through the bellcrank hole and down into the locating hole in the intake manifold.

(4) Inspect each carburetor to be sure the choke valves are open, that the fast idle cams are released, and that the throttle valves are in the closed position.

(5) Tighten locking nuts "C" and "D" securely. Remove the drill rod from bellcrank.

(6) Push rearward on the accelerator shaft to throttle shaft lever rod adjusting link, until stop is felt. Tighten the locking nut "B" securely.

(7) Depress accelerator pedal all the way to the floor and check primary and secondary throttle valves for wide open throttle position.

## ADJUSTING THE ANTI-STALL DEVICE

- (1) Adjust the accelerator linkage properly.
- (2) Adjust the carburetor idle speed and mixture adjustments. Be sure the idle speed is 725-750 r.p.m. in neutral with the engine warmed up.
- (3) Disconnect the vacuum tube to the anti-stall device. Tape the open end of the tube to prevent air leakage into the manifold. Disconnecting the vacuum tube will allow the anti-stall plunger to extend and increase the engine idle speed.
- (4) Adjust the anti-stall plunger length so the engine speed is no higher than 1500 r.p.m.
- (5) Remove the tape from the vacuum tube and connect the vacuum tube to the anti-stall device. The anti-stall plunger will retract and will permit the engine idle to return to 725-750 r.p.m.

## ADJUSTING THE MANIFOLD AFB 2903S SERIES CARBURETOR

Two 4 barrel AFB 2903S series carburetors are used on the C-300G. These carburetors are fundamentally the same as AFB 4 barrel carburetors used on the other 1961 models. The service procedures for disassembly, cleaning, inspection and reassembly follow the same sequence of operations as covered in the 1961 Chrysler and Imperial Service Manual Supplement.

### Idle Speed and Mixture Adjustment (On the Vehicle)

Before the idle speed and mixture adjustments are made, inspect to be sure that the throttle linkage to both carburetors allows the return to the idle position simultaneously. This is very important in obtaining a good idle setting, since these carburetors are equipped with a bypass air bleed for setting the idle speed.



The Ignition Timing should be checked to make certain it is within specifications  $5^{\circ}$  BTC on the Chrysler Model C-300G as this also affects idle quality. If the ignition timing is not within specifications, disconnect the vacuum advance line at the distributor as there is full vacuum advance at idle and set the timing with the engine idle speed below 600 rpm and transmission in neutral and air conditioning compressor "OFF" (if so equipped). If, under these conditions, idle speed is still above 600 rpm, adjust both carburetor idle by-pass air bleed screws equally until desired idle speed is obtained.

Connect the vacuum advance line and warm engine up to normal operation temperature. Turn ignition off.

- (1) Turn all adjusting screws (mixture and by-pass) in finger tight.
- (2) Open the by-pass idle air bleed screw one full turn on each carburetor.
- (3) Open each idle mixture screw  $3/4$  turn.
- (4) Connect a tachometer, then start the engine.
- (5) Turn the mixture screws on the left carburetor  $1/8$  turn at a time until the smoothest idle has been obtained.
- (6) Repeat this procedure on the right carburetor, keeping the mixture screws within  $1/8$  turn of each other.
- (7) With the transmission in Neutral (N), air conditioning compressor "ON" (if so equipped) and parking brake applied, set the curb idle speed from 725 to 750 rpm by adjusting the by-pass air bleed screws on each carburetor. Be sure to keep the by-pass air bleed screw openings equal on both carburetors.
- (8) Repeat steps 5, 6 and 7 until a smooth idle at 725 to 750 rpm has been obtained.

If either carburetor has been removed for cleaning or repair, set the throttle linkage as outlined under Paragraph "Setting the Ram Manifold Throttle Linkage".

#### Fast Idle Adjustment (On Vehicle)

When making fast idle adjustment on the vehicle, each AFB carburetor should be adjusted individually. To make the fast idle adjustment, proceed as follows:

- (1) The engine should be at normal operating temperature and have the curb idle speed set to 725 to 750 rpm as described in Paragraph "Idle Speed and Mixture Adjustment" (on the vehicle).
- (2) Turn air conditioning compressor "OFF" (if so equipped).
- (3) Remove each air cleaner.
- (4) Disconnect each throttle rod at the bellcrank on the intake manifold.
- (5) Open the throttle valves of the left carburetor slightly. Position the fast idle cam index mark. The right carburetor should remain at curb idle position to line up with the fast idle adjusting screw. Allow the throttle valves to close.
- (6) Adjust fast idle screw until a fast idle speed of 1375 to 1425 rpm is obtained.
- (7) After the desired engine speed has been obtained, open the throttle slightly to allow the fast idle cam to return to the open choke (or off fast idle) position.
- (8) Repeat steps 5, 6 and 7 in setting the right hand carburetor fast idle speed as it is very important at the completion of this step (8), that each carburetor has identical fast idle speeds.



NOTE: There is no specification for engine rpm with both carburetors simultaneously set at the fast idle position.

(9) Connect both carburetor throttle rods to the bellcrank.

### Indexing the Choke Piston

Before indexing the choke piston, be sure the ignition system and timing are at the required specifications, that the manifold heat control valves are operating properly (this is very important for normal warm-up of the engine).

After the above items have been inspected and corrected, index the choke piston as follows:

- (1) Remove the choke housing baffle plate.
- (2) Remove the throttle return spring, so that the throttle can be set at one quarter open.
- (3) Be sure the choke valve is wide open.
- (4) Slide a .026 inch wire into the choke piston slow, so that the hook on the end enters the slot in the cylinder, Figure 11. (This gauge can be made by bending the .026 inch end of wire gauge Tool T-109-189 to form the shape, as shown in Figure 11.)
- (5) Push on the choke valve, counterclockwise, trapping the wire gauge between the piston and the cylinder slot (choke linkage hanging free).

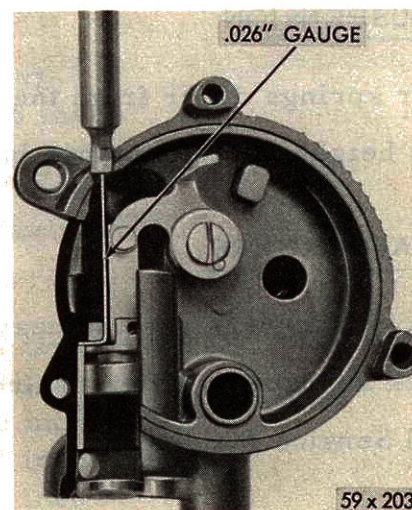


Fig. 11-Indexing the Choke Piston

(6) It should now be possible to insert a No. 32 drill between the choke valve and wall of the air horn. If an adjustment is necessary, bend the link that connects the choke shaft to the choke piston lever (at angle) until the correct clearance has been obtained.

(7) Place the choke baffle plate in position and install retaining screws. Tighten securely.

(8) Connect the throttle return spring.

## Group 16 - UNIVERSAL JOINTS AND PROPELLER SHAFT

The universal joint is the same as used on the RC-3.

The C-300G is equipped with a heavier-ribbed front universal joint dust cover boot to prevent boot collapse at high speeds. The propeller shaft is a 3 1/4 inch diameter stepped shaft to allow for tunnel clearance. For service procedures, refer to Group 16 in the 1960 Chrysler and Imperial Service Manual.

## Group 17 - SPRINGS AND SHOCK ABSORBERS

### REAR SUSPENSION

The rear springs differ from the RC-3 in that the vehicle is 1/2 inch lower in height and the springs have a higher rate of deflection.

### SHOCK ABSORBERS

The shock absorbers are the heavy-duty type. To service the springs and shock absorbers, refer to Group 17 in the 1960 Chrysler and Imperial Service Manual.



Group 19 - STEERING

The "Constant Control Full Time" power steering gear assemblies are of the same basic design as used on the RC-3, except that the back pressure control valve assembly is inclined toward the front of the car to allow clearance between the return hose and the manifold. For service procedures refer to Group 19 in the 1960 Chrysler and Imperial Service Manual.

Group 21 - TRANSMISSION

Data and Specifications

Type . . . . .	Automatic Three Speed with Torque Converter
Torque Converter Diameter (inches) . . . . .	12 1/2"
Oil Capacity of Transmission and Torque Converter . . . . .	21 pts. Automatic Transmission Fluid Type "A" Suffix "A"
Method of Cooling. . . . .	Water

GEAR RATIOS

1 - Low . . . . .	2.45 to 1
2 - Second. . . . .	1.45 to 1
D - Drive . . . . .	1.00 to 1
R - Reverse. . . . .	2.20 to 1
N - Neutral . . . . .	-----

FRONT - REAR PUMPS

Type . . . . .	Gear (Rotary)
End Clearance (Front Pump) . . . . .	.001 to .0025 inch
End Clearance (Rear Pump) . . . . .	.0012 - .0027 inch
Tip Clearance . . . . .	.005 to .008 inch
Outer Rotor Diametral Clearance . . . . .	.008 inch Maximum

THRUST WASHERS

Input Shaft. . . . .	.115 to .117 inch (Natural)
	.097 to .099 inch (Red)
	.078 to .080 inch (Black)
	.059 to .061 inch (Orange)
Front Clutch and Sun Gear . . . . .	.062 to .064 inch
Output Shaft. . . . .	.062 to .064 inch

SNAP RINGS

Kickdown Annulus Gear . . . . .	.060 to .062 inch .064 to .066 inch
Rear Clutch. . . . .	.060 to .062 inch
Low-Reverse Planet Pinion Carrier . . . . .	.060 to .062 inch .064 to .066 inch .068 to .070 inch
Front Clutch . . . . .	.060 to .062 inch .064 to .066 inch .066 to .068 inch

Car Model	Trans. Part No.	KD Band Back Off	F/C Cushion	Accum. Spring**	Rear Discs	Clutch Spring	Gov. Type
RC4	1949808	2	Yes	None	5	180	C
RC4	2204693*	2 1/2	Yes	16	5	180	C

\* After transmission incorporating new kickdown band and rear clutch retainer.

\*\* Lbs. Spring Tension

SERVICE INFORMATION

TorqueFlite Transmission - Ram Manifold Engines

The following information will acquaint the service technician with the procedures that differ from the standard TorqueFlite transmission and the one used on cars equipped with the ram manifold.

The disassembly, inspection and assembly procedures are the same. There is a difference, however, in line pressure, governor, planet pinion carrier, and throttle linkage adjustment; they are as follows:

- (1) The line pressure is increased from 90 to 105 psi (refer to Line Pressure Chart). In order to compensate for this change a heavier regulator valve spring is used.



### LINE PRESSURE CHART

Push Button Position	Rear Wheels	Engine Speed (rpm)	Line Pressure (PSI)
R	Free to Turn	1600	235-275
N	-----	1200	100-110
D (Shifted into Direct)	Free to Turn	1200	104-106
2	Free to Turn	1200	100-110
1	Free to Turn	1200	100-110
D	Free to Turn	3500	108-115

(2) Governor pressure is also changed. (Refer to Governor Pressure Chart.) In this case, the governor weight assembly incorporates a heavier spring along with a lighter outer weight.

### GOVERNOR PRESSURE CHART

Push Button Position	Rear Wheels	C300-G Car Speed	Governor Pressure
D	Free to Turn	21-24	15 psi
D	Free to Turn	36-43	50 psi
D	Free to Turn	55-62	75 psi

(3) The kickdown and reverse planet pinion carrier assemblies differ in that they embody a planet pinion carrier that is made of a different aluminum alloy.

(4) The throttle linkage is designed to conform with the ram manifold equipped engine (refer to Fig. 10).

It is very important that the throttle linkage be set in the following order:

#### Positioning the Accelerator Shaft

(1) Loosen the adjusting nuts "A" and "B" (accelerator shaft to transmission rod and accelerator shaft to throttle shaft lever rod).

(2) Insert a piece of 3/16 inch drill rod, 10 inches long into the accelerator shaft bracket and through the hole in the lever.

(3) Move the transmission throttle control lever forward until it stops. Tighten the locknut "A" securely. This positions the accelerator shaft.

#### Positioning the Accelerator Pedal

(1) Unsnap the accelerator pedal to shaft rod.

(2) Turn the threaded end of rod either in or out until an angle of 114 degrees is obtained between the floor of car and the flat face of the accelerator pedal.

(3) This angle can be obtained with a protractor.

(4) After the correct angle has been obtained, connect the rod.

Remove the locating pin from the accelerator shaft bracket.

#### Setting the Bellcrank

(1) Inspect each carburetor to be sure the choke valves are open; that the fast idle cams are released and the throttle valves are closed.

(2) Loosen the locking nuts "C" and "D" (left and right bank carburetor rods).

(3) Back off the anti-stall adjusting plunger far enough to allow the bellcrank to be pivoted.

(4) Pivot the bellcrank until a 3/16 inch piece of drill rod 3 inches long can be inserted through the bellcrank hole and down into the intake manifold.

(5) Tighten the locking nuts "C" and "D" securely. Remove the 3/16 inch drill rod from the bellcrank.

(6) Push rearward on the accelerator shaft to throttle shaft lever rod adjusting link, until the stop is reached. Tighten the locking not securely.



## Group 22 - WHEELS AND TIRES

The Hi-Speed Super Cushion Nylon Blue Streak tubeless tires (white sidewall) (8.00 x 15) are standard equipment on the C-300G.

For Service Procedures, refer to Group 22 in the 1961 Chrysler and Imperial Service Manual Supplement.

## Group 23 - BODY AND SHEET METAL

The basic body to frame assemblies are similar to the RC-3 standard body. The hood panel, and radiator grille are entirely different from other Chrysler Models. The roof panel, windshield and rear glass, for the Special Club Coupe are the same as used on other 1961 Chrysler Special Club Coupe Models. The convertible windshield, folding top and rear curtain are the same as used on the RC-3 convertibles.

The door and quarter glass and panels are the same as used on the other 1961 Chrysler Special Club Coupe and convertibles, respectively, except that new chrome moulding attaching holes must be drilled in panels to correspond with the body trim mouldings, therefore, doors and quarter panels should be obtained without moulding holes. The rear deck lid has been modified with standard deck latch and lock assembly with special spare tire motif. Use deck lid less holes, and drill to suit.

Swivel seats are standard equipment on the Chrysler 300G. Separating the four seats down the center of the car is a raised instrument control console extending from the instrument panel all the way to the back of the rear seats, as shown in Figures 12 and 13. The tachometer, front window lifts, ash tray and lighter, are grouped in the console over the



Fig. 12-Front Raised Instrument Control Console

transmission tunnel between the front seats, and the ash tray and lighter are shown in between the middle of the rear seats, with both window lift switches. Installation, removal and servicing of body component are similar of the procedures in the 1960 Chrysler and Imperial Service Manual.

#### Group 24 - AIR CONDITIONING

The air conditioning is the same as RC-3 except that the suction and liquid lines were rerouted plus an additional tube added for expansion valve to the evaporator unit, due to the ram manifold engine.

Service procedures are the same as outlined in the 1961 Chrysler and Imperial Service Manual Supplement, and the Chrysler Corporation 1960 Air Conditioning Service Manual.