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ADJUSTING BLOWER BELT TENSION

Two procedures have been developed for adjusting Corvair blower belt tension. Adjusting the belt with a screwdriver or a torque wrench will provide the proper belt tension for trouble-free engine operation.

To insure durability and proper operation, correct blower belt tension must be maintained. A loose belt can roll over or whip causing the belt to fray or break. A frayed belt or one which has rolled over should never be reinstalled except under emergency conditions. Excessively tightened belts can lead to failure of the blower, idler or generator bearings.

When installing a new belt, it is recommended that the belt be installed at the proper tension as shown below, and the engine run at approximately

1500 rpm for about a minute to seat the belt. The tension should then be reset as required.

For the service personnel who do not have belt tension gauges, the following procedures are recommended for adjusting the blower belt tension:

Screwdriver Method

1. Loosen idler pulley attaching bolt and nut to eliminate frictional drag between pulley bracket and engine mounting.
2. Insert a 16" screwdriver between the idler pulley and bracket, positioning the end of the screwdriver against the raised boss on the engine (fig. 1).
3. Exert a 25 lb. pull on new or used belts, tighten idler pulley bolt and nut.

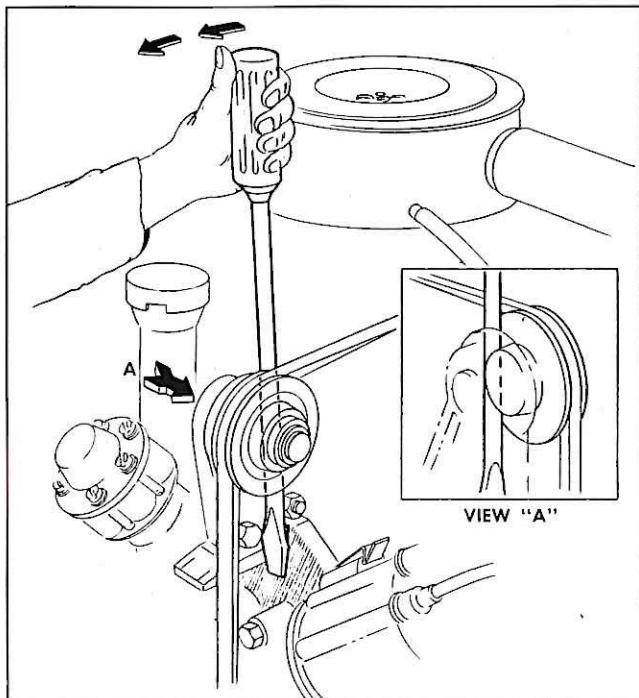


Fig. 1—Screwdriver Position for Adjusting Blower Belt Tension

NOTE: A spring scale positioned on the screwdriver handle can be used to familiarize the serviceman with the amount of pull required to tighten the belt.

4. A new belt should be retensioned after approximately 4000 miles service.

Torque Wrench Method

A Blower Belt Tensioning Tool can be made from two pieces of metal (fig. 2). The shank (part A) is made from a steel bar approximately $\frac{1}{4}$ " thick, $\frac{3}{4}$ " wide, 5" long. The hook (part B) is fashioned from the slotted end of a generator brace, Part No. 3836330 or 3739845, which can be bent around a piece of one inch pipe.

The square hole for the torque wrench may be replaced by welding a discarded socket or a long nut to the side of the shank. The dimensions (fig. 2) must be held to plus or minus $\frac{1}{16}$ ". This will insure the correct amount of belt tension when the specified torque is applied.

Position the shank of the tool to the rear of vehicle and tap the hook of tool to fit the top of idler pulley bracket, with the reinforcing rib of casting positioned in the slot of the hook. This will provide a close "final fitting" of the tool to the pulley bracket (fig. 3).

1. Loosen idler pulley attaching bolt and nut to eliminate frictional drag between pulley bracket and engine mounting.

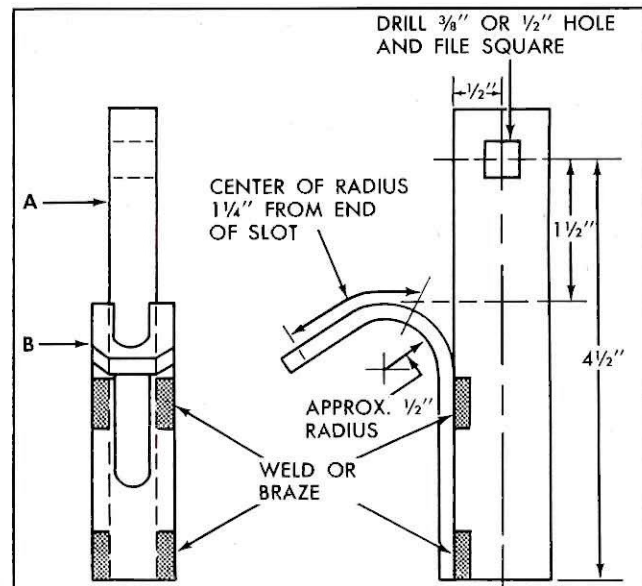


Fig. 2—Blower Belt Tension Tool

2. Apply 15 ft. lb. torque, pulling the wrench toward the rear of the vehicle, and tighten the pulley mounting bolt and nut while maintaining 15 ft. lbs. pull.

CAUTION: Do not allow torque to even momentarily exceed 15 ft. lbs. Slight torque increases will produce excessive belt tension. If torque wrench is

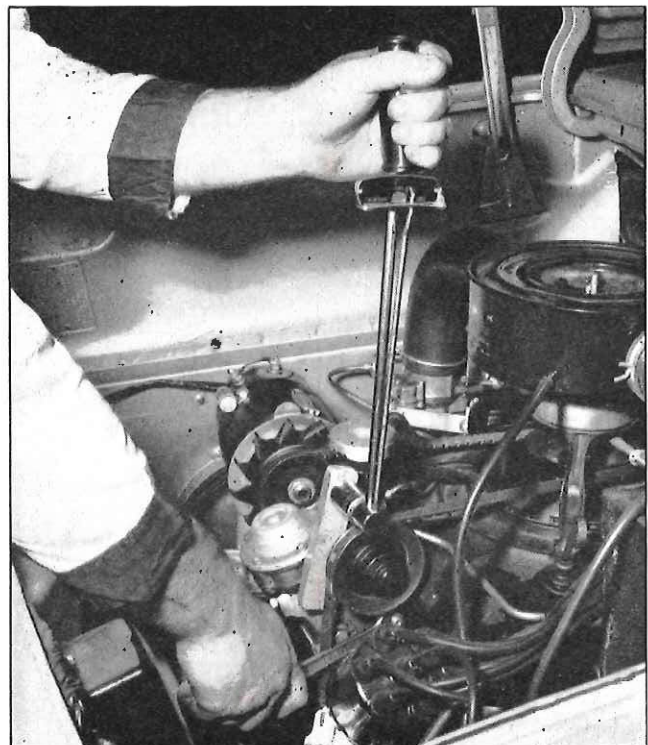


Fig. 3—Using Blower Belt Tension Tool

allowed to "wander" above the specified torque, the belt must be completely loosened and freed-up. Otherwise, the belt tends to pull into the pulley grooves, and the final running tension will be excessive.

Corvair Service

PUSH ROD GUIDE

New design push rod guides are now being used in the Corvair engines. The guides improve push rod alignment and reduce valve tip wear. This is accomplished by reducing the size of and relocating the push rod guide holes.

The guides are held in place by the rocker arm ball studs (fig. 4). The new guides eliminate the need for attaching bolts and rocker arm ball stud washers. It is now necessary to remove the ball studs before removing the push rod guide. This affects service operations on replacing valve lifters or push rod tube seals.

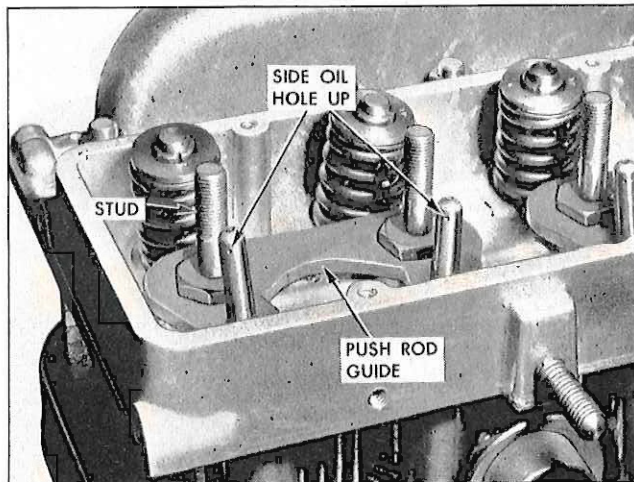


Fig. 4—Push Rod Guide

The ball stud holes in the push rod guides are chamfered. The guides are installed with the chamfered side up. The top side is stamped with a "U" marking. Remember, the torque on all threaded attachments is important on the Corvair Turbo-Air Engine. Always use a torque wrench on the ball studs if the push rod guides must be disturbed for any reason.

NEUTRAL SAFETY SWITCH ADJUSTMENT

An improved procedure for adjusting the neutral safety switch has been developed. With this method it is not necessary to remove the switch to make the adjustment. This procedure supersedes the information presented in the 1960 Corvair Shop Manual.

1. Remove "E" washer from pin, which attaches the movable lever of the neutral safety switch to the transmission range selector rod.

NOTE: The "E" washer is listed as a retaining ring under group 8.934 Part No. 9414805 in the Master Parts Catalogue.

2. Position transmission selector lever in Neutral.
3. Push nylon block, in the neutral safety switch, as far forward as possible.
4. Scribe a line on the right side of the metal container in line with the rear end of the nylon block, view A (fig. 5).

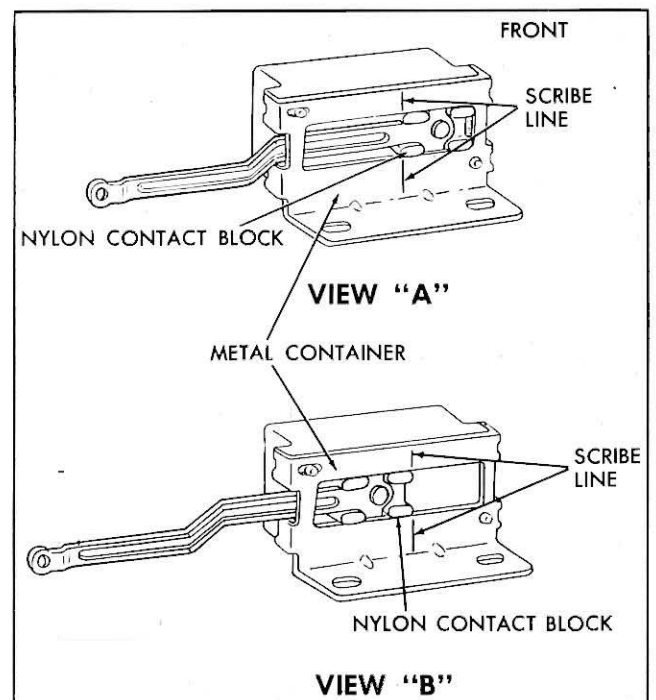


Fig. 5—Neutral Safety Switch

5. Pull the movable lever out (toward the rear of the vehicle) and attach the lever to the transmission range selector rod. Install the "E" washer.
6. Loosen the two neutral safety switch mounting screws. Move the metal container so the scribed line will line up with the front end of the nylon block, view B, (fig. 5).
7. Tighten the two mounting screws and sight up along the side of metal container to check for proper alignment of nylon block with scribed line.
8. Check operation of neutral safety switch. The engine must only start in "N"—Neutral position. Check operation of back-up lights (if installed).

NOTE: It is recommended to use same procedure for adjusting the neutral safety switch when the switch is replaced, but scribe the line before the switch is installed.

FUEL GAUGE BUZZ

If a noise is noticeable in the fuel gauge area, it can be caused by the lower end of the fuel gauge mounting plate vibrating against the instrument cluster housing. To correct this fuel gauge buzz, remove the fuel gauge and apply a 2" long piece of masking tape on the flange of the cluster housing (fig. 6). This will insulate the gauge mounting plate from the cluster housing.

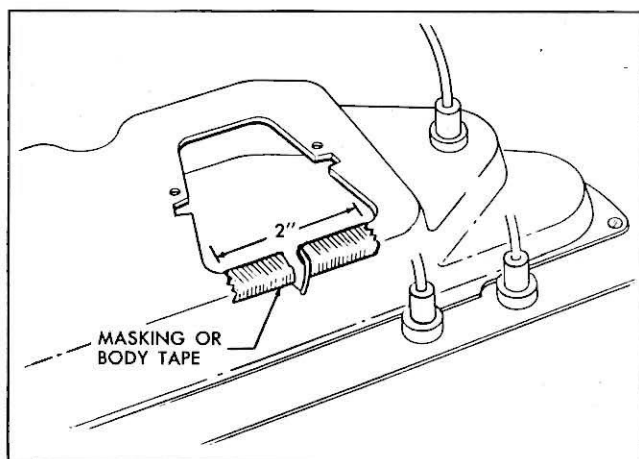


Fig. 6—Fuel Gauge Mounting Flange

FUEL TANK FLOAT NOISE

If a customer refers to a bumping noise in the area of the gas tank, there is a possibility the fuel float is bumping against the tank. This is most common with a $\frac{3}{4}$ to full tank. To correct this condition the following procedure is recommended:

1. Drain the gas tank.
2. Remove the fuel gauge.
3. Position the float on a bench in the "up" position. NOTE: Normally the float rod is in line with the centerline of the pickup tube.
4. Bend the float arm in area "A" so the end of the float is in line with the centerline of the pickup tube (fig. 7). NOTE: When bending, the float must move parallel to the bottom of the tank. If the height of the float changes, the fuel gauge reading will be incorrect.
5. Install the fuel gauge into the tank.

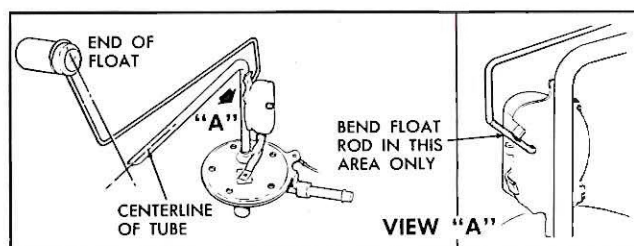


Fig. 7—Corrected Float Position

SYNCHRONIZING AND ADJUSTING CARBURETORS

Improper synchronization of carburetors and misadjustment of choke, idle speed and mixture settings contribute greatly to poor fuel economy and/or poor engine performance.

When the serviceman encounters this problem he should check that the fast idle screw is off the cam and the idle speed screws are against the throttle lever on both carburetors. If not, the carburetors should be synchronized. Reference to this procedure is page 7-8 Corvair Shop Manual.

NOTE: The following supplements step 4, page 7-8, Synchronizing Carburetors Procedure, Corvair Shop Manual. With the throttle linkage and spring disconnected, the feeler gauge feel is inadequate. It can be improved by disconnecting the throttle return spring and connecting it to the throttle lever and to a convenient point on the engine for each carburetor.

The idle speed and mixture should then be adjusted. It is advisable to perform this operation using a tachometer and vacuum gauge. Adjust the carburetors for the maximum vacuum and idle speed readings. Reference to this procedure is page 7-13, Corvair Shop Manual.

NOTE: The following supplements step 23, page 7-13, Corvair Shop Manual. With the use of a

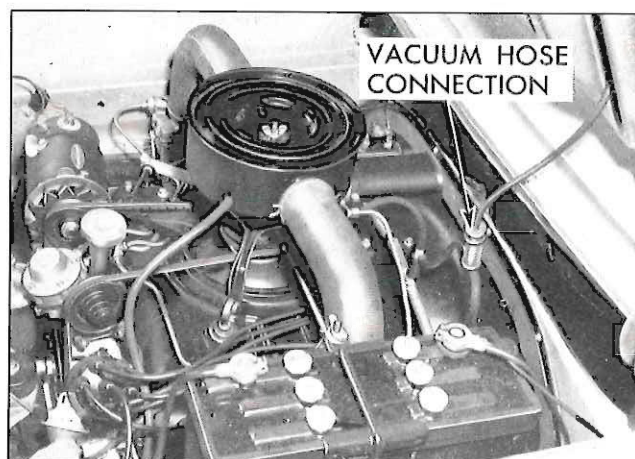


Fig. 8—Vacuum Hose Connection—Powerglide

jumper hose and tee, connect the vacuum line into the choke housing balance tube hose (fig. 8). Improper idle speed adjustment will result if the idle speed is adjusted with the choke housing hose disconnected. This procedure supersedes step 23, Tune-up Section, page 7-13, Corvair Shop Manual.

If the fast idle does not release with the engine warm or poor fuel economy is reported, it is possible the choke modifier is not adjusted properly.

The choke modifier is adjusted as follows:

1. Choke modifier lever must be attached to crossshaft lever by means of a modifier link and the carburetors should be adjusted for the correct idle speed.
2. Loosen lever and pointer screw.
3. Allow thermostat spring to return to free position.
4. Rotate pointer clockwise to align it with the scribed line (fig. 9).
5. Tighten lever and pointer screw.

NOTE: This procedure supersedes information presented in 1960 Corvair Shop Manual.

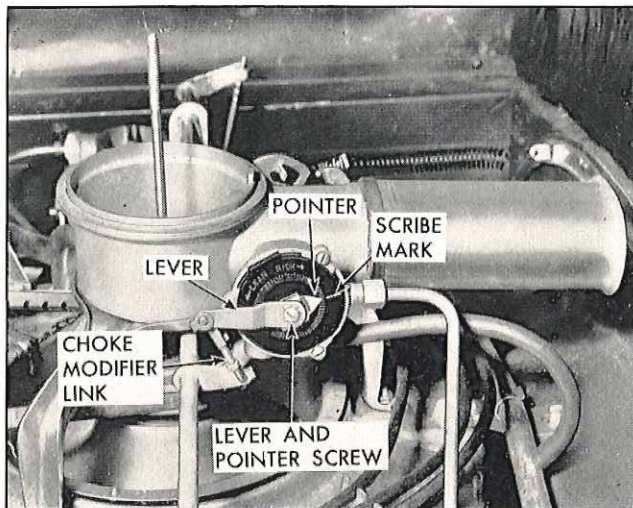


Fig. 9—Automatic Choke Adjustment

Early production models may not be properly assembled. Refer to page 7-9, fig. 7-16, part 17, Corvair Shop Manual. The flat washer should be installed between the fast idle cam and choke trip lever and the choke trip lever should be flattened out by placing it in a vise.

CHOKE UNLOADER AND FAST IDLE ADJUSTMENT

Cases have been reported stating the choke unloader and fast idle adjustment were not working properly. After further investigation it was deter-

mined that the throttle lever assembly failed to kick the unloader tang. To correct this condition, the following procedure is recommended:

1. Synchronize carburetors and set correct idle speed.
2. Depress accelerator pedal and check carburetors for wide open throttle.

NOTE: If wide open throttle position is satisfactory, proceed to step 3; if not, check and adjust the Accelerator Pedal and Pedal Rod Relationship and the Accelerator Control Linkage. These procedures are covered in the November and December Service News, respectively.

3. Place $\frac{1}{8}$ " spacer between the throttle lever and adjusting screw at the right hand carburetor.
4. Remove the clip attaching the fast idle swivel to the fast idle lever (fig. 10).
5. Turn down the fast idle adjusting screw until $\frac{5}{16}$ " of the screw projects beyond the threaded part of the lever.

NOTE: This specification supersedes information presented in 1960 Corvair Shop Manual.

6. Rotate the fast idle cam counterclockwise (viewed from left of vehicle) until the fast idle screw rests on the highest portion of the cam (fig. 10).

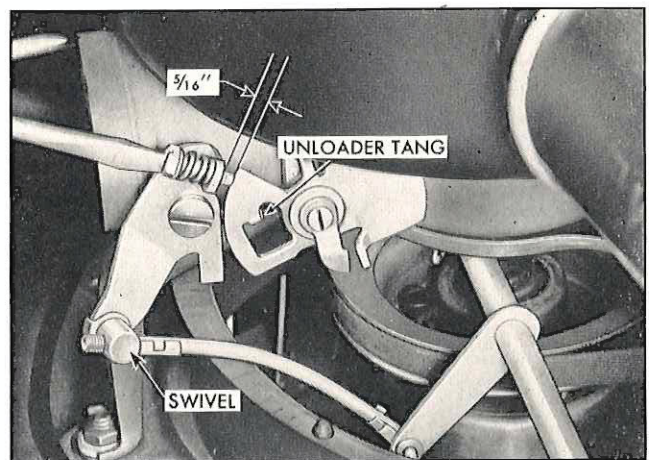


Fig. 10—Fast Idle Adjustment

7. Holding the screw and lever in this position, adjust the swivel on the fast idle link until the swivel pin will just enter the hole in the fast idle lever. Clip the swivel and link in position (fig. 10).
8. Remove $\frac{1}{8}$ " spacer. Linkage clearances will

reduce the $\frac{1}{8}$ " clearance. Readjust fast idle adjusting screw until $\frac{1}{8}$ " spacer can be reinstalled. This adjustment will provide the correct fast idle speed.

9. If unloading is still inadequate, bend unloading tang with Tool J-5197.
10. As a final check, with the unloader actuated, the clearance between the choke valve and adjacent wall of the air horn should be $\frac{1}{8}$ " measured with gauge tool provided in Chain Gauge Set J-8370.

ACCELERATOR CONTROL LINKAGE ADJUSTMENT PROCEDURE

This procedure supersedes the information presented in the 1960 Corvaire Shop Manual.

1. Remove three screws attaching the mud guard over idler lever "A" and remove the mud guard.
2. Disconnect swivel "D" from lever "A" (fig. 11).
3. Disconnect swivel "B" from the left carburetor cross shaft lever "E" (fig. 11).

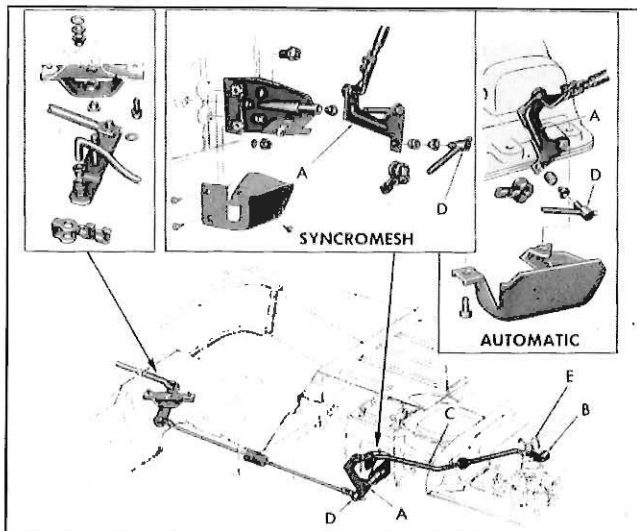


Fig. 11—Accelerator Linkage

4. Pull rod "C" to wide open throttle (through detent for Powerglide and against the stop for standard transmission) and turn lever "E" in wide open throttle position (carburetor throttle lever against the stop). Adjust swivel "B" to align with hole in lever "E", then lengthen rod "C" by backing off swivel five full turns.
5. Position accelerator pedal by placing a block of wood between pedal end and floor pan or mat. Refer to chart for correct size wood block.

	P. G.	Standard
Floor Pan	2"	1 $\frac{3}{4}$ "
Floor Mat	1 $\frac{1}{4}$ "	1"

6. Hold lever "A" in wide open throttle position (through detent) turn swivel "D" to align with hole in lever "A". Install mud guard.

NOTE: The complete procedure provides proper clearance between the accelerator pedal and floor mat at wide open throttle. If it is impossible to make the proper adjustment at either of the swivels, recheck the Accelerator Pedal and Pedal Rod Relationship procedure covered in November Service News.

"STRAP TYPE" TIRE CHAINS

"Strap type" tire chains cannot be used on the Corvaire car. The buckle and chain ride in the area of greatest tire side bulge, resulting in insufficient clearance between the chain and rear fender. Regular tire chains do not ride as far down on the tire sidewalls, and will provide satisfactory service.

WINDSHIELD WASHER JAR FLUID LEVEL

To prevent damage to luggage in the luggage compartment which may be caused by spilled washer solution, it is necessary to keep the fluid level in the windshield washer jar at least two inches below the top of the jar. If the container is filled above this level, the solution will run out between the jar and cover when turning corners, braking, accelerating or driving on rough roads.

The sealing ability of the cover can be improved if desired by applying body sealer into the cover groove.

CORRECTION—CORVAIRE REAR AXLE LUBRICANT

The November issue of Service News stated, in error, that rear axle lubricants for the Corvaire must not contain lead soap or active sulphur. Most rear axle lubricants contain some form of sulphur and many have a lead soap content. The caution should be against those lubricants that are of the lead soap, active sulphur variety.

Passenger Car Service

NEW SPARK PLUG SCOPE—AC ACILLOSCOPE

A new tool for accurately determining the operating condition of spark plugs is now being marketed. The scope can determine spark plug condition without removing the spark plugs from the

engine. This new tool, the AC ACilloscope, is readily connected to the car's battery, coil secondary lead and one spark plug wire (fig. 12). Functioning as an oscilloscope, it shows only the spark portion of the wave form that is developed on the screen of complete engine oscilloscopes. This device can quickly pinpoint a problem cylinder or demonstrate to an owner the condition of his spark plugs.

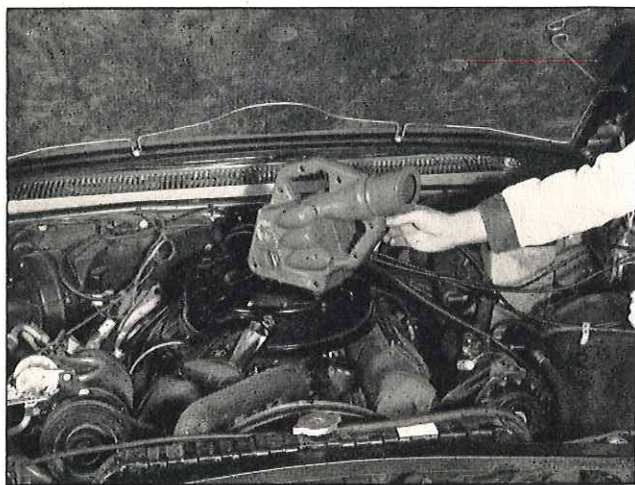


Fig. 12—AC ACilloscope Installation

Since spark plugs are a part of every tune-up procedure, this device can save a great deal of time on the part of the mechanic and can be a very effective selling tool. Results to date have not shown the device to be over-sensitive, or in other words, to condemn spark plugs that are actually all right. The pattern developed on the screen seems to represent a true picture of the conditions existing in each cylinder of the engine. Complete instructions for the use of this tool are packaged with the tool. Figure 13 shows how the pattern changes for various plug defects.

The ACilloscope measures sparking voltage at each spark plug and shows this voltage on the picture screen in a pattern or wave shape that allows the observer to compare the sparking ability of each individual spark plug. The wave shapes or pips grow longer when increased voltage is required to enable the spark to jump larger gaps and become shorter when the gaps are too narrow because of improper setting or accumulation of combustion deposits. Figure 13 illustrates wave patterns of different types of spark plug operation. They give the customer a convincing picture of the operating condition of his spark plugs and allow the mechanic to diagnose and correct conditions of hard starting, rough idling, loss of power, low- or high-speed miss and reduced gasoline mileage.

The ACilloscope is available from the G.M. Parts

How to read the ACilloscope

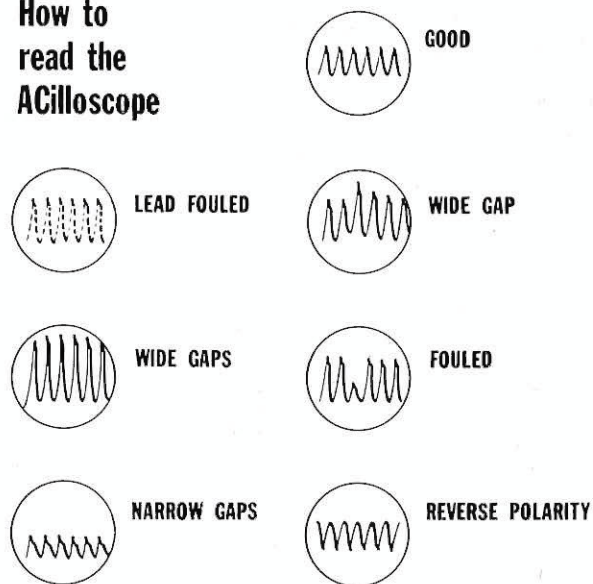


Fig. 13—Various Spark Plug Patterns

Warehouse under part no. 5612400. Other makes are also currently being merchandised.

VALVE LASH ADJUSTMENT PROCEDURE

The following procedure, performed with the engine running, supplements the valve lash adjustment information presented in the 1960 Passenger Car and Corvair Shop Manuals.

1. After the engine has been normalized, remove valve cover and install oil trough to the lower portion of the cylinder head to prevent oil from running out.

NOTE: Oil trough can be made by cutting a valve cover to $\frac{1}{3}$ original size and attach lower portion to the cylinder head (fig. 14).

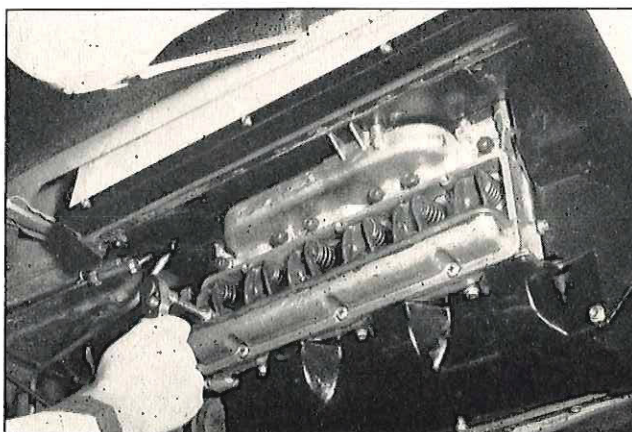


Fig. 14—Oil Trough

2. With the engine running at idle, back off valve rocker arm nuts (one at a time) until the rocker arm starts to clatter.
3. Turn rocker arm nut down until the clatter just stops.
- 4a. For V-8 engines, continue to turn nut down exactly $\frac{3}{4}$ turn. For L-6 engines $1\frac{1}{2}$ turns.
NOTE: *The engine will run rough for a few seconds, until the lifter plunger adjusts to its normal operating position. Noisy lifters should be replaced.*
- 4b. For Corvair perform steps 2 and 3 for all valves, then stop the engine and turn nuts down exactly $\frac{3}{4}$ turn.
5. Remove oil trough.
6. Install rocker covers with new gaskets.

REMOVING WAX COATING

Some dealers receiving cars from the St. Louis assembly plant have experienced difficulty removing the wax coating. These cars are completely covered with a sprayed on wax coating. The coating protects the car against road film, grease, railroad soot, etc.

The following procedure is suggested for removing the wax coating:

1. Wash vehicle to remove any accumulation of dirt and grit.
2. Excessive amounts of wax applied to windows or other areas should be removed with the use of DuPont's Prep-Sol (or equivalent).
3. The remainder of the wax can be removed by lightly buffing the area with a sheepskin pad.

NOTE: *This operation will give the car a high luster.*

Truck Service

DOOR STRIKER PLATE ADJUSTING TOOL

A valuable tool can be easily made for vertical adjustment of the 1960 Truck door striker plates. A rectangular piece of steel $2\frac{7}{32}$ " in height is attached to one end of a $\frac{1}{8}$ " thick, $\frac{1}{2}$ " wide, 8" long steel bar (fig. 15).

1. With the door open approx. 10", place the $\frac{1}{8}$ " end of the tool against the bottom of the Lock Rotor Housing.
2. Position the opposite end of the tool, with the $2\frac{7}{32}$ " piece attached, against the point of the Striker Assembly.

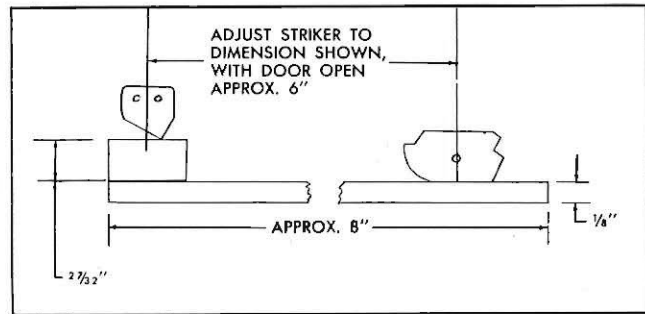


Fig. 15—Striker Plate Adjusting Tool

3. Adjust the Striker Assembly vertically, until the tool is flat against the bottom of the Lock Rotor Housing.

This tool is used to obtain the specified $2\frac{7}{32}$ " dimension between the bottom of the Lock Rotor Housing and the point of the Striker Assembly.

Another method to properly position the striker assembly is to check that the striker assembly clears the leading edge of the lock rotor by $\frac{1}{32}$ " to $\frac{1}{16}$ ". This method of adjusting the striker is not as positive as using the tool due to the difficulty of seeing the parts. Refer to the 1960 Truck Shop Manual, Section 14, pages 13 and 14 for complete door wedge and striker plate adjustment procedures.

GAS GAUGE READING

On early production trucks, if the gas gauge reading is empty when the tank is full, it is possible that the pink and brown leads at the gas gauge connector are reversed. To correct this condition, remove the connector and reverse the pink and brown leads in the connector.

RADIO INSTALLATION

Radio installation procedure for all truck models has been revised.

1. The speaker support brace and attaching screw should not be used, as the 3-point speaker mounting support is adequate.
2. The speaker and bracket is more easily installed by removing the L.H. defroster nozzle instead of the heater control switch.
3. The black wire should be attached to the fuse clip and the white wire to one of the dial lamp terminal blades.
4. If the truck is equipped with air brakes and electric tachometer, or if all panel lamp terminals are being used, splice any two grey wires into one connector to provide a place to install the radio dial light connector.