

# PONTIAC



## Service Craftsman News

No. 9 S-266

October - November, 1954

# 1955 NEW MODEL INFORMATION

### 1955 ENGINE OIL RECOMMENDATIONS

The terms Regular, Premium and Heavy Duty have generally been used to designate the types of engine oils supplied by the oil industry to meet the requirements of various service conditions. These terms have been replaced by the designations "For Service ML", "For Service MM", and "For Service MS or DG".

Petroleum based engine oils of type "MS or DG" as supplied by reputable marketers are recommended for use in our new Pontiac engines.

The numerical designations such as 10W, 20W and 20, etc., adopted by the Society of Automotive Engineers, classify lubricating oil only according to fluidity (viscosity). The oils with the lower numbers are lighter and flow more readily than do the oils with the higher numbers. The letter "W" after the number indicates an oil adapted for cold weather starting. Multi-viscosity type crankcase oils such as 5W-10W, 5W-20, 10W-20W, 10W-30 are designed to combine the easy starting characteristics of the lower number

with the warm weather operating characteristics of the higher number.

An oil should be used which provides safe lubrication, satisfactory oil economy under warm climatic conditions, and easy starting at the lowest atmospheric temperatures expected during the period the oil is to remain in the engine. Based on these considerations, the numbers of engine oil which are recommended for the Pontiac engine under various climatic conditions are shown in Fig. 1.

**IMPORTANT:** The oil placed in the crankcase at the factory is a high quality "MS" type, 10W oil and should be left in the engine for the first 1,000 miles. At the end of the first 1,000 miles, the crankcase should be drained and refilled to the proper level with an oil suitable for your individual climatic and driving conditions as recommended in the chart. Should it be necessary to add or change engine oil during the first 1,000 miles, an oil not heavier than 10W should be used.

This information will be contained in the second printing of the 1955 "Pontiac Owner's Guide".

<u>Atmospheric Temperatures Expected</u>	<u>S.A.E. Number Recommended</u>	<u>Acceptable Alternate</u>
32°F. to 110°F. ....	20	10W-30 10W-20W
10°F. 110°F. ....	20W	
10°F. below zero to 95° above zero	10W	
10°F. below zero and colder .....	5W	5W-20 5W-10W

**NOTE:** Petroleum based oils which are identified as "For Service MS or DG" are recommended for the Pontiac Engine.

Fig. 1 Engine Oil Chart

**1955 PAINT COLOR INFORMATION**

Following is a list of 1955 paint colors. All paints ordered for service should be ordered by Dupont Stock Number:

Color Comb. Number	Color	Dupont Stock No.
5500	Raven Black	246-2048
5501	Beaumont Blue	1957
5502	Corsair Tan	1963
5503	Persian Maroon	1964-H
5504	Falcon Grey	1960
5505	Avalon Yellow	1727
5506	Bolero Red	1961-H
5507	Valley Green	1959
5508	Marietta Blue	1864
5509	Castle Grey	1956
5510	Sequoia Green	1958-H
5511	Firegold (Brown)	1962-Z
5512	Turquoise Blue	1955
5531	Nautilus Blue	1986

**Vogue Color**

Comb. Number	Color	Dupont Stock No.
5553	(UP) Raven Black (LO) Valley Green	246-2048 1959
5554	(UP) Falcon Grey (LO) Castle Grey	1960 1956
5555	(UP) Raven Black (LO) Avalon Yellow	246-2048 1727
5556	(UP) Raven Black (LO) Bolero Red	246-2048 1961-H
5557	(UP) Sequoia Green (LO) Valley Green	1958-H 1959
5558	(UP) Beaumont Blue (LO) Marietta Blue	1957 1864
5559	(UP) Marietta Blue (LO) Castle Grey	1864 1956
5560	(UP) Raven Black (LO) Castle Grey	246-2048 1956
5561	(UP) White Mist (LO) Firegold (Brown)	1984 1962-Z
5562	(UP) White Mist (LO) Turquoise Blue	1984 1955
5563	(UP) Castle Grey (LO) Corsair Tan	1956 1963
5564	(UP) Castle Grey (LO) Nautilus Blue	1956 1986
5565	(UP) Sequoia Green (LO) Avalon Yellow	1958-H 1727
5566	(UP) Nautilus Blue (LO) Castle Grey	1986 1956

5567	(UP) Avalon Yellow (LO) Raven Black	1727 246-2048
5568	(UP) Raven Black (LO) Nautilus Blue	246-2048 1986
5569	(UP) Avalon Yellow (LO) Sequoia Green	1727 1958-H
5570	(UP) Nautilus Blue (LO) Raven Black	1986 246-2048
5572	(UP) Valley Green (LO) Raven Black	1959 246-2048
5573	(UP) Castle Grey (LO) Falcon Grey	1956 1960
5574	(UP) Bolero Red (LO) Raven Black	1961-H 246-2048
5575	(UP) Valley Green (LO) Sequoia Green	1959 1958-H
5576	(UP) Marietta Blue (LO) Beaumont Blue	1864 1957
5577	(UP) Castle Grey (LO) Marietta Blue	1956 1864
5578	(UP) Castle Grey (LO) Raven Black	1956 246-2048
5579	(UP) Corsair Tan (LO) Castle Grey	1963 1956

**LOCATION OF 1955 CASTING INFORMATION****CYLINDER BLOCK**

Engine Car Serial Number - Located on a machined pad on front of right hand bank of block.

Production Engine Number - Located on front of block near right edge of timing chain cover.

Casting Date - Located on top of block behind distributor shaft hole.

Mold Number - Located on inside front corner of right bank.

Pattern Number - Located forward of front core hole plug on right bank.

**CYLINDER HEAD**

Casting Date - On heads installed on right bank located on right front corner of head. On heads installed on left bank located on left rear corner of head.

Pattern Number - Located outboard of casting date.

When reporting conditions which could be caused by foundry practices, give the casting date along with car serial number and other information.

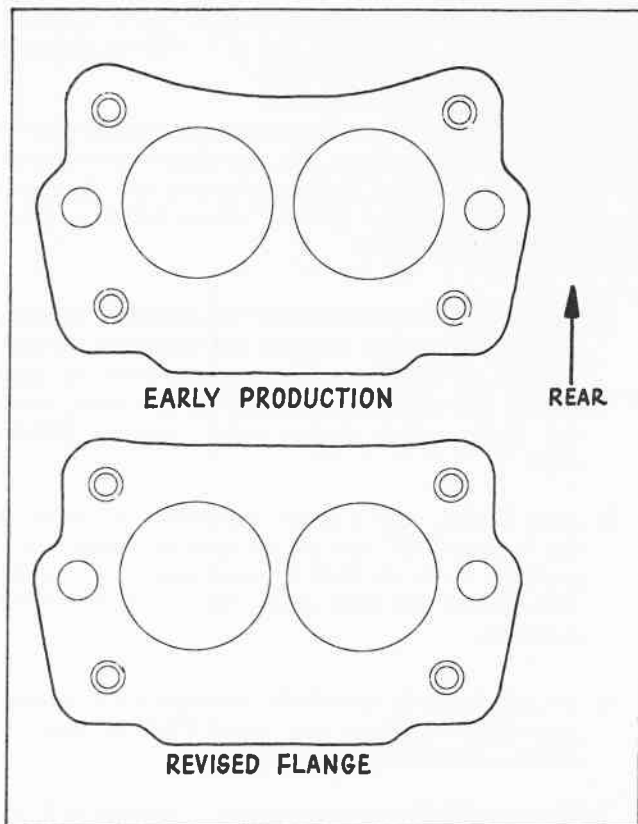


Fig. 2 Early and Revised Type Intake Manifolds

### TWO TYPES INTAKES MANIFOLD USED IN EARLY PRODUCTION

Approximately 1,000 engines have been built with an intake manifold which will accommodate the Carter Carburetor only. After these first 1,000 engines, the manifold casting is changed so as to accommodate either the Rochester or Carter carburetors. The early manifold can be identified by a curved section at the rear of the carburetor mounting flange (Fig. 2) while the revised manifolds are nearly straight across the rear of the carburetor mounting flange.

If a Rochester Carburetor is inadvertently installed on one of the early intake manifolds, there is a possibility of a high vacuum leak at the windshield wiper vacuum passage in the carburetor flange due to insufficient sealing area.

### 1955 SERVICE BRIEFS

1. Timing setting on all 1955 engines is  $5^{\circ}$  BTDC. Distributor hold down clamp lock screw should be tightened to 12-15 lb. ft. torque.
2. When the carburetor is removed, care should be used to prevent any type of foreign material from falling into the opening in the intake manifold. The slope of the passages would allow any such material to pass directly down to the valves where it could cause considerable damage.

3. The same ammeter is used in 1955 as was used in 1954, however due to the 12-volt system current requirements are approximately one half of 1954 requirements. Corresponding conditions will cause only one half as much needle deflection on the 1955 model. For example full charge with a low battery will indicate about midway between the center index marking and the "C" on the 1955 model. During normal driving a slight charge or discharge will not be noticeable on the ammeter. Do not rely on the panel ammeter to check charging rate - use testing equipment and follow shop manual instructions.

4. The self-locking rocker arm ball nuts used on the 1955 Pontiac must be correctly installed to prevent damage to the nut and rocker arm stud. Never for any reason install nut upside down (small end down). Always liberally oil nut before installation. When installing nut it should have a noticeable drag on the stud.

5. The lamps used with 12-volt system are made with a much finer filament than those used with a 6-volt system. Therefore, care should be used in handling bulbs or accessories containing light bulbs. These bulbs are especially sensitive to jarring when in use, although normal road shock should not affect them. Care should be taken to avoid slamming hood or similar activities while lights are on.

6. The 1955 Generator should be lubricated before delivery and periodically thereafter following the procedure given on page 0-3 of the Preliminary 1955 Shop Manual.

7. When steam cleaning the 1955 Pontiac engine put a piece of tape over the open ventilation joint between the distributor cap and bowl. This will prevent damage to the distributor during the cleaning operation. The tape should be removed when the cleaning is completed.

### NEW TOWING INSTRUCTIONS ON HYDRA-MATIC EQUIPPED CARS

The only procedures now recommended for towing of Hydra-Matic equipped cars are to disconnect the propellor shaft or tow car with rear wheels raised off the ground. When towing Hydra-Matic equipped cars with the propellor shaft disconnected, the tow car operator should be cautioned to make certain that oil does not leak from rear bearing retainer.

This information supersedes all previously released Hydra-Matic towing instructions including those in the 1955 "Hydra-Matic Shop Manual" and the 1955 "Pontiac Owner's Guide".

## MANUAL CORRECTIONS

The following additions or corrections should be made to the 1955 Manuals as designated:

### 1955 Hydra-Matic Shop Manual

1. Line exhaust valve is backward and spring is interchanged on exploded views in Figs. 90, 104, 160.
2. Oil capacity on page 141 should be 9-1/2 quarts on refill and 10-1/2 quarts on overhaul.
3. Procedure for replacing governor flange on page 83 should not be used as flange is not serviced separately.
4. In step b. page 115 speed should be 2000 RPM instead of 2200.
5. Step 5a. on page 116 should read "Dr R" instead of 4th speed.
6. Step 11, page 51 remove the word lockwashers. No lockwashers are used in this location.

### 1955 Preliminary Shop Manual - Book II

1. On page 6B-26, step number 1 under Fast Idle Cam Index Adjustment, use the small end of tool J-5920 as shown in Fig. 3 instead of a #55 drill.

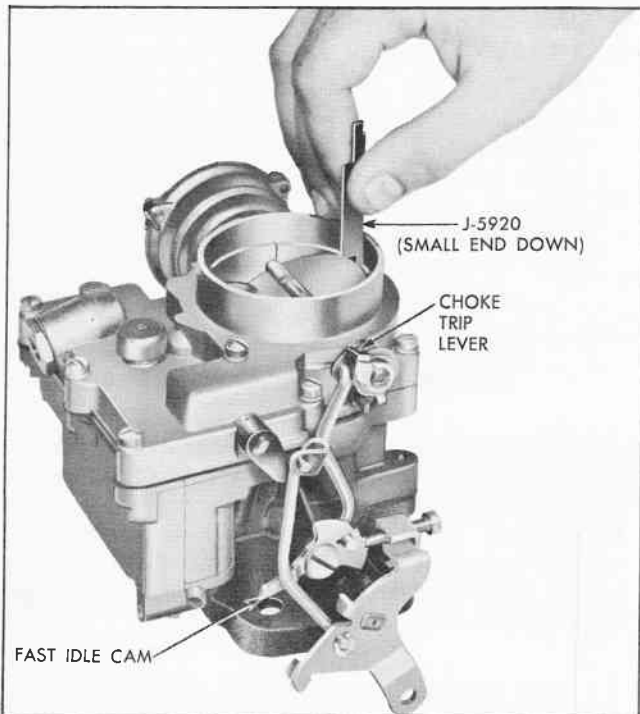


Fig. 3 Checking Fast Idle Adjustment

2. On page 6B-27, step number 2 under Unloader Adjustment, use large end of J-5920 as shown in Fig. 4 instead of a #20 drill.
3. On page 6B-28 the disassembly procedure cannot be followed as given. The two choke valve screws are now installed from the bottom and it is necessary to remove the bowl cover before removing the choke valve.
4. Move steps 1, 2 and 3 under "Assembly of Choke", page 6B-34 to page 6B-33 at the beginning of "Assembly of Cover". These steps must be done before the cover is installed on the bowl, since the choke valve screws enter from the bottom side.
5. Page 6B-34, step 3 under Assembly of Choke, if the letters "RP" are not stamped on choke valve, position valve so that beveled edge of valve fits flat against air horn when valve is in the closed position.
6. On pages 6B-34 and 6B-35 in steps 6 and 7 under Assembly of Choke use tool J-5920 in place of drills as covered in 1 and 2 above.
7. On page 6B-37 under Rochester Carburetor Specifications substitute tool J-5920 in place of #55 and #20 drill.
8. On page 6-13, step 7 remove reference to tool J-3049. The tool will not be used.

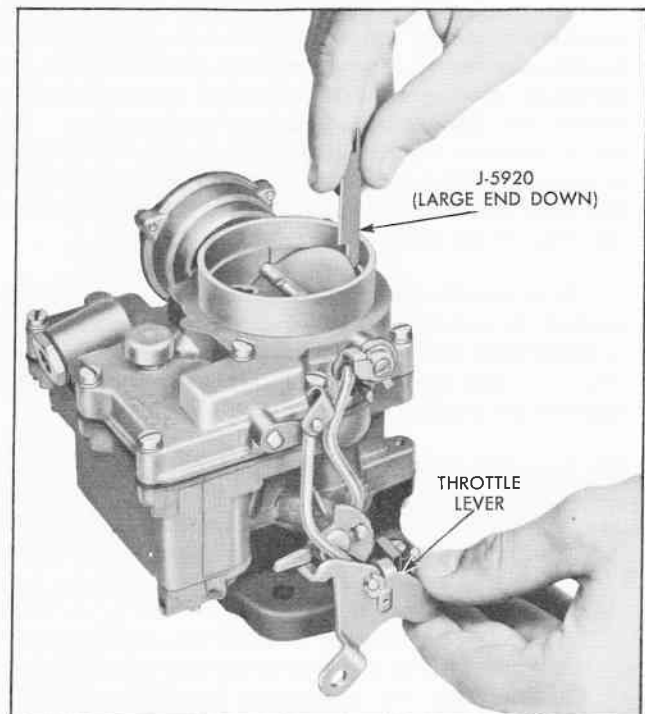


Fig. 4 Checking Unloader Adjustment



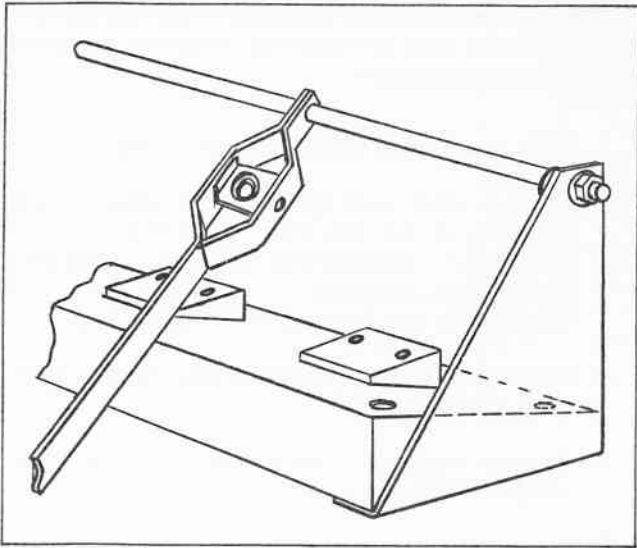


Fig. 5 Correct Assembly of Tool J-5712

### CYLINDER HEAD HOLDER AND VALVE SPRING COMPRESSOR J-5712

Tool J-5712 is shipped disassembled and must be assembled in the dealership. Fig.5 shows the proper assembly of the base and end pieces. Note that the thinnest edge of the base goes to the vertical edge of the end pieces. Improper assembly will result in incorrect operation of the tool.

### REMOVAL OF HYDRA-MATIC OIL PAN DRAIN PLUG ON 1954 OIL COOLER EQUIPPED CARS

A question has been raised as to the removal of the Hydra-Matic oil pan drain plug on cars equipped with the 1954 Hydra-Matic oil cooler package. The correct procedure is as follows:

1. Using a 1/2" open end wrench disconnect 520834 pipe assembly to 137406 connector (See Fig. 3 July 1954 "News").
2. Using a 7/8" wrench remove 520838 screw and valve assembly and 137406 connector from transmission oil pan.

### POWER BRAKE HOSE CEMENTED IN POSITION

When disassembling the Moraine power brake unit the rubber exhaust hose inside the power cylinder should be slipped off the vacuum exhaust tube as is covered in the 1955 Preliminary Shop Manual. Do not attempt to remove the hose from the power piston unless the hose itself needs replacing as it is cemented into the outlet on the piston.

If it is necessary to replace the hose the new hose should be cemented in place using "3M Super Weather-strip Adhesive" or equivalent. An instruction sheet to this effect will be found in each hose package.

### 1949-1954 FLAT RATE MANUAL CORRECTIONS

1. The time for operation 14-646 Automatic Expansion Valve Assembly-AC-Replace, should be 1.2 hrs. rather than .2 hrs.
2. On page 183, the page reference for Bumper should be 84 instead of 159.

### 1954 AIR CONDITIONING SERVICE INFORMATION

#### DIRTY AIR FILTERS

Reports are being received that insufficient air is being emitted from the nozzles on cars equipped with air conditioning. Upon investigation it was found that the air filter assembly was extremely dirty.

The 1954 Air Conditioning Shop Manual recommended that air filters be cleaned and reconditioned at least every 2,000 miles or more often in dusty areas. The frequency of cleaning and reconditioning the air filter is governed by the area in which the car is operated. The filter should be checked frequently in dusty areas and reconditioned after each dust storm. In coastal and the Great Lakes areas, it may be necessary to check the air filter frequently to remove the flies, bugs, etc. After cleaning, the filter should be treated with Pontiac Filter Reconditioner (8.800) Part No. 984920.

In areas where excessive bugs are encountered, the condenser and radiator assemblies should be checked frequently and thoroughly cleaned to permit maximum operational efficiency of these units. To further assist in the reduction of bugs which affect the cleanliness of the air filter, condenser and radiator, refer to the June, 1954, Service Craftsman News and install a radiator insect screen as explained on page 56 of that issue.

If dust comes out from the nozzles, the air filter should be checked to make sure there is sufficient oil on the filter to collect the dust. Even though the filter may look clean, it may be dry and should be reconditioned.

#### COMPRESSOR REED VALVE FAILURES

A noisy compressor which has a clicking or knocking sound accompanied by a complete failure of cooling may be the result of a reed valve failure in the compressor. The pressures will equalize on both sides of the system and all refrigeration ceases when this condition occurs.

If the compressor is stopped soon enough after this clicking or knocking is noted and if no excessive wear occurs to the piston or cylinder walls in the compressor, only the compressor need be changed.

The compressor must be opened for this examination. If upon inspection cylinder walls show excessive wear, then the receiver and dehydrator should also be changed in addition to the compressor and all lines connecting these parts plus the condenser should be thoroughly cleaned with carbon tetrachloride, thoroughly dried and purged with Freon 12.

#### BRUSH AND BRACKET ASSEMBLY CHANGES

A new type brush and bracket assembly has been released and is very similar to the old type brush and bracket assembly in every respect. The only difference between the late type (part #3133349) and the early type (#3132445) is that the brass retainer of the positive brush holder on the late type brush and bracket assembly measures 7/16" from the end of the plastic holder, while the height on the early type brush and bracket assembly measures 5/16". If replacement of the brush and bracket assembly is necessary and the early type assembly is needed and only the late type is in stock, remove the positive brush and cut or grind 1/8" from the brass retainer on the late type assembly. This should only be done in an emergency. The old type brush and bracket assembly with above alteration may be used to replace a new assembly that has failed but brush life on the old assembly will be somewhat reduced.

#### REPAIR OF 1954 AIR CONDITIONING COMPRESSOR SHAFT SEAL LEAKS

If there is an indication of a compressor shaft seal leak, evidenced by the presence of oil around the shaft seal, check around shaft area with a leak detector. When the seal was originally assembled all parts were dipped in oil and visible oil may be surplus forced out in operation.

If the leak detector indicates a refrigerant leak, all seal parts must be replaced. Following is the seal replacement procedure.

1. Make installation tools as shown in Fig. 6.
2. Procure shaft seal kit #3134106 which contains one each of the following: Shaft Seal "O" Ring, Seal Seat, Seal Bellows "O" Ring, Snap Ring, Seal Bellows Assembly. These parts are illustrated in Fig. 7.
3. Attach manifold gauge set to compressor and pump down compressor.
4. Remove magnetic clutch assembly, spacer and brush and bracket assembly.
5. Clean front of compressor with a stiff brush using carbon tetrachloride as a solvent and blow clean and dry with compressed air.
6. Remove seal plate snap ring with #2 Truarc pliers or with screwdriver and needle nose pliers.
7. Remove seal seat and seal bellows assembly. (Pry off each with a screwdriver.)
8. Remove seal bellows "O" ring 3134092 (in seal face plate and bearing retainer) by using a sharp awl or a small screwdriver.

**CAUTION: DO NOT SCORE ANY METAL SURFACES.** Before installing any new parts, coat surfaces with compressor oil.

9. Install new seal bellows "O" ring in seal face plate and front bearing retainer.

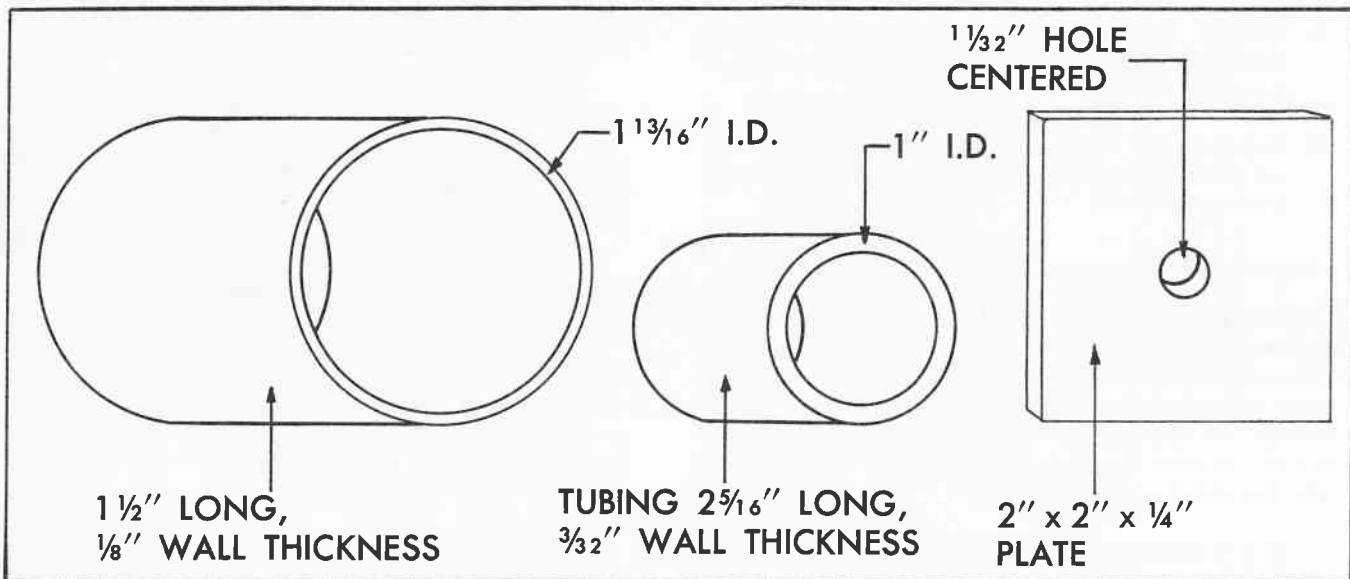


Fig. 6 Installation Tools For Compressor Shaft Seal Repair

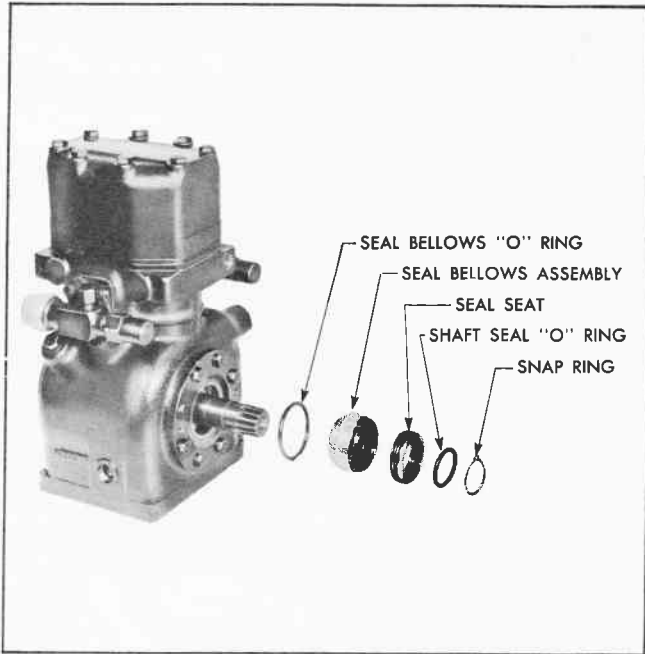


Fig. 7 Exploded View of Compressor Shaft Seal Assembly

10. Install new crankshaft front seal bellows assembly with the special tool as follows:

- a. Install seal bellows assembly on the shaft so the brass end of the seal assembly just touches the compressor assembly.
- b. Install the special tool having the 1-13/16" inside diameter, the 2" x 2" x 1/4" plate and the 5/16" x 1-1/4" N.F. hexhead bolt (with the nut threaded up to the head of the bolt) and complete installation as shown in Figure 8. Hold the head of the hexhead bolt and tighten the nut so that the back plate and spacer forces the seal bellows assembly tight against the compressor.

11. Install the shaft seal "O" ring in the seal seat. Place the seal seat on the compressor shaft with the finely ground surface of the seal seat toward the carbon nose of the seal assembly. Be sure seal contacting surfaces are clean and oiled. Slide the seal seat onto the shaft with your fingers as far as it will go.

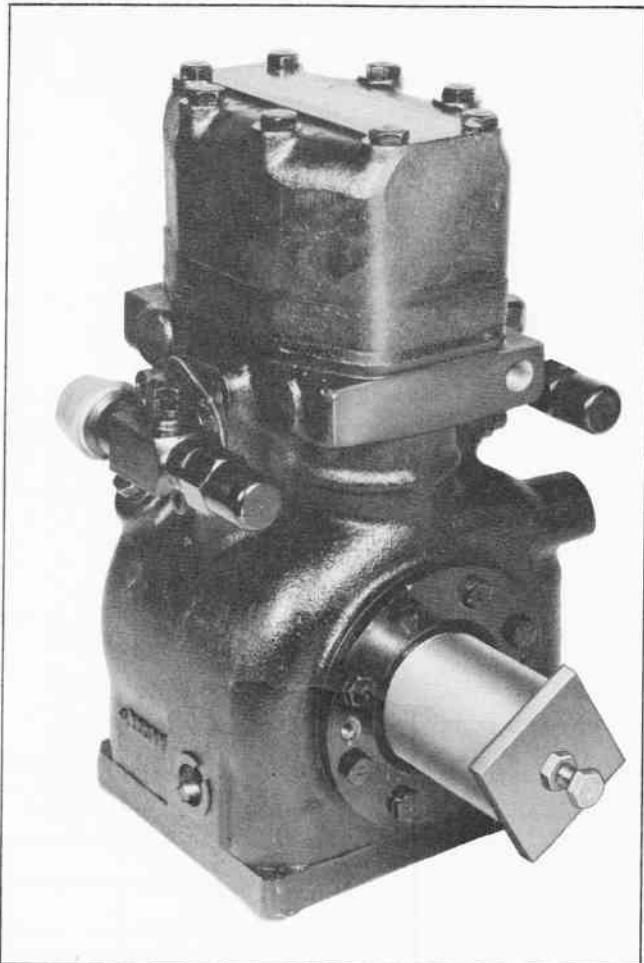


Fig. 8 Installation of Seal Bellows Assembly

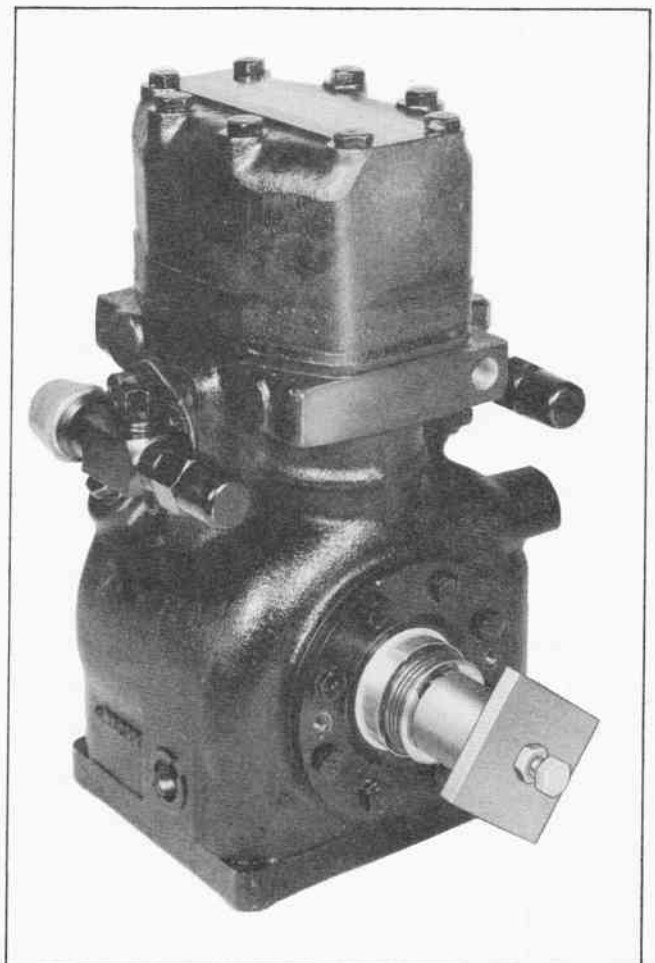


Fig. 9 Installation of Seal Seat



12. Install the snap ring onto the shaft slipping it against the seal seat. NOTE: The ends of the snap ring should be in the recessed groove of the seal seat.
13. As shown in Figure 9, complete the installation of the seal seat and snap ring by placing the 1" I.D. spacer into position and installing the 2" x 2" x 1/4" back plate and the 5/16" x 1-1/4" N.F. hexhead bolt and nut. Holding the head of the hexhead bolt, tighten the nut so that the back plate and spacer forces the snap ring into the snap ring groove on the compressor shaft.
14. Remove the spacer and replace the 2" x 2" x 1/4" plate and secure with the magnetic clutch assembly bolt; a safety measure should the parts blow off during the leak test.
15. Put a small charge of Freon 12 into the compressor by opening suction valve to permit Freon to enter compressor and close suction valve (all the way clockwise). Check for leaks around the seal assembly with the leak detector.
16. If no leaks are evident, remove the 2" x 2" x 1/4" plate and replace the brush and bracket assembly, the clutch assembly spacer and clutch assembly.
17. Replace the compressor belt and torque to 60 lb. ft.
18. Open suction valve and purge air from compressor by opening the valve at the high pressure gauge at the gauge manifold permitting the air to escape through center fitting.
19. After air has been purged, close the high pressure valve at the gauge manifold, close compressor valves to gauge fittings (completely counter-clockwise), remove manifold gauge set and replace valve covers.
20. The time allowance for this operation is 1.1 hours.

## Charlie Craftsman Says-



The 12 Volt electrical system used in 1955 is capable of much more violent shorts than the 6 Volt system. Use care and follow Shop Manual Procedures at all times.

## SERVICE MANAGER—IMPORTANT

This News contains important service information on Pontiac cars. Each subject should be cross-referenced in the space provided at the end of each section in the Shop Manual or its Supplement. **Be sure and cover every point with your entire organization.**

Each service man should sign in the space below after he has read and understands the information in this issue.
