PONTIAC
Service Craftsman News

No. 6 S-295 June, 1957

ENCOURAGE OWNERS TO HAVE AIR CONDITIONING SYSTEMS CHECKED

Mysterious? . . . NOT AT ALL

(See Page 51 For Complete Story)

ADJUSTMENT PROVISIONS EQUAL FOR U.S. AND CANADIAN BATTERIES

An agreement has been reached between Delco Battery and General Motors of Canada which will liberalize and standardize warranty and adjustment provisions for batteries.

The Battery Owner's Policy, which is being issued by G.M. of Canada with batteries manufactured in Canada and used on 1957 model cars, specifies that both the 90 day warranty and the adjustment features will be honored in the United States as well as in Canada.

U.S. and Canadian built batteries are now subject to the same warranty and adjustment provisions throughout both countries. American drivers can expect to receive the same Delco battery warranty treatment in Canada as they would receive in the United States. This is possible due to the similarity in construction features and adjustment periods of the batteries. All warranty and adjustment transactions should be based on prices in effect locally.

SUMMER SEASON BRINGS NEED FOR INSPECTION

The sale of Pontiac air conditioning in 1956 was over 500% greater than 1954, the year it was introduced. All forecasts indicate that the increase in 1957 will be even greater.

To assure continued improvement in our market, it is important that we protect the reputation we have established for a dependable unit with low maintenance cost. The best way to retain this reputation is through proper service to the units we now have in operation.

It is recommended that the testing procedure outlined on page 48 be sold to owners of air-conditioned cars before the summer season begins. A suggested straight time allowance of 2.0 hours should enable every dealer to perform the service on a profitable basis. If it is necessary to correct leaks, add oil or Freon, or make extensive repairs, additional time must be allowed.

Dealers should contact all owners of air-conditioned cars by phone or post card to suggest this service. A suggested layout and copy for a special post card can be found below.

(See A/C Maintenance, Page 48)

WE WANT YOU TO ENJOY YOUR

AIR CONDITIONING

Your Pontiac Air Conditioning is the finest available. However, like any part of your car, it does require periodic maintenance. You'll want to be using your air conditioning every day . . . and we want you to enjoy the maximum benefits.

Please Come in Now and Let Us Assure Your Satisfaction

QUALITY PONTIAC COMPANY
1234 HOME STREET PHONE AB 1-2345
HOMETOWN, U.S.A.

QUALITY PONTIAC COMPANY

BE FAMILIAR WITH STRATO-FLIGHT CHANGES

REVIEW '57 H.M. MODIFICATIONS PUBLISHED EARLIER THIS YEAR

To ensure all Craftsmen are aware of the changes incorporated to date in the 1957 Strato-Flight Hydra-Matic transmission in addition to those covered in this issue of the Craftsman News, the following summary is given. These articles have been published in previous issues of the Service Craftsman News. For more detailed information on these changes consult the issue of the Service News listed after the topic.

MANUAL VALVE BODY—DECEMBER 1956

The manual valve body and channel plate to case spacer were revised to provide additional exhaust for neutral clutch apply oil in reverse. Revised parts only are available for service.

SHIFT VALVE BODY—MAY 1957

A new shift valve body was introduced to route 3-4 oil to the governor boost valve to reduce possibility of sticking or sluggish operation. A new channel plate to valve body spacer must be used with the new shift valve body. Although new parts can be used in place of first type, the first type parts will be serviced.

ALUMINUM SCREEN IN BOTTOM PAN—MARCH 1957

An aluminum screen was installed in the bottom pan of transmissions, numbers P57-128240 through 129190 to act as an added baffle to control foreign matter. The screen is not available for service.

BUSHING PURPOSELY OMITTED FROM 10,000 TRANSMISSIONS

Two quantities of Strato-Flight transmissions have been built which are equipped with output shafts in which the mainshaft pilot bushing has been intentionally omitted. The first group of transmissions, approximately 1,000, built minus the bushing are between serial numbers P57-196775 and P57-198023. The second quantity, consisting of about 9,000 transmissions, began with serial number P57-210778.

The outside diameter of the rear end of the mainshaft is not changed. Therefore, if rear planet carrier and output shaft assembly should be removed, it can be replaced by an assembly incorporating the bushing, group 4.177, or reinstalled if there is no damage to this assembly.

Clutch Valve Body Revised

The clutch valve body in the 1957 Hydra-Matic transmission has been revised to provide a 2-1 detent downshift which will prevent engine "lugging" under extreme load at low car speed. The revised body directs 3-2 detent oil to the coupling valve (Fig. 1) to close the valve, causing a 2-1 downshift when the transmission is in second speed up to approximately 10 mph.

Coincident with this change and to prevent the possibility of an upshift in reverse, the coupling valve outer spring has been eliminated, and the coupling valve plug bore has been reduced to accommodate a smaller diameter plug.

In order to facilitate the above improvement, some transmissions were built using the early clutch valve body with a sleeve pressed into its bore and outer spring omitted, as shown in Fig. 2-"B".

Fig. 2-"A" illustrates the early design with inner and outer springs with the large diameter valve plug, Fig. 2-"B" is the optional or intermediate design, while Fig. 2-"C" shows the revised body with inner spring and smaller plug.

Channel plate, part No. 8618224 is used with the early clutch valve body Fig. 2-"A". Channel plate, part No. 8618195, is used with the optional and revised bodies (Fig. 2-"B" and 2-"C"). Channel plates are identified by a part number engraved in the panel on the plate.

Do not mix clutch valve bodies and channel plates.

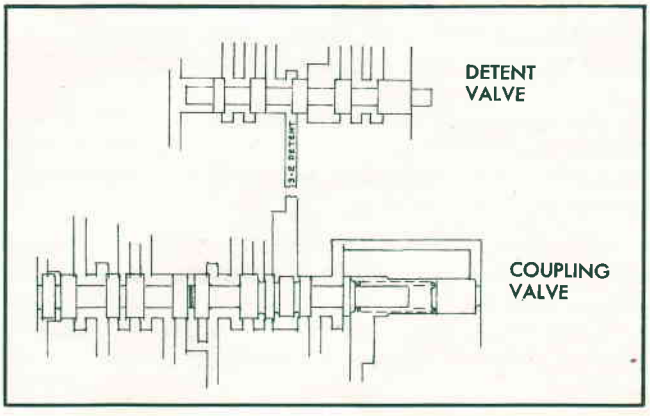

Fig. 1 3-2 Detent Oil Passage

FLYWHEEL REAR HOUSING SEAL NOW BLACK

A flywheel rear housing oil seal with black rubber was used in place of seal with red rubber in transmissions, serial number P57-150324 through 165034.

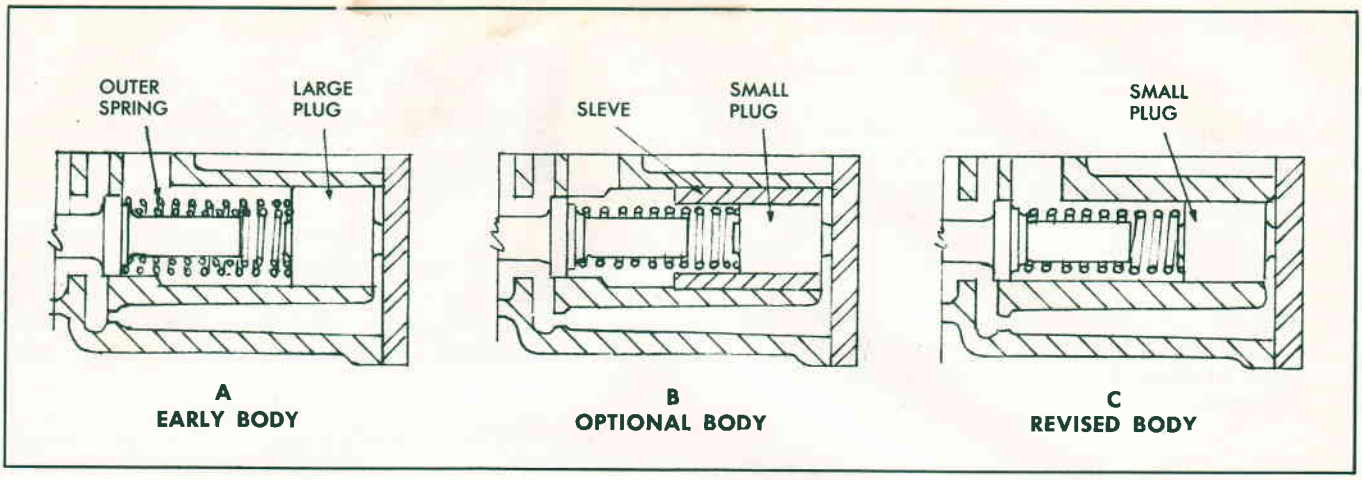

Fig. 2 Optional and Revised 1957 Clutch Valve Bodies

New Joining Arrangement Used on 1000 Hydra-Matic Transmissions

A mixed production change was made in which both first type front unit driven torus and front sprag inner race mated with four tangs and a second type which incorporates a spline joining arrangement were used.

Approximately 1,000 transmissions were involved starting from serial No. P57-170606. It is anticipated that production will return to the spline joining units when the stock of the first type, having the four tangs, is depleted.

Should either the driven torus assembly or front sprag inner race require replacement in transmission with late style parts, both parts must be replaced as a combination using old style driven torus, part No. 8616154, and inner race, part No. 8617448, until further advised.

COMPRESSOR PULLEY BEARING MAY BE CAUSING A/C NOISE

Reports are being received that air conditioning compressors require a replacement due to "noisy bearing".

The noise, "a rough or galled bearing", is very evident on idle speeds. If allowed to remain without correcting the condition, the noise becomes louder.

Investigation has revealed the noise experienced is not from the compressor front bearing, but rather from the compressor pulley bearing. A quick check to determine a noisy pulley bearing is to disconnect the compressor belt and with one hand on the compressor body, spin the compressor pulley with the other. If a grating or thumping action is felt through the compressor body, then the pulley bearing is faulty and should be replaced.

The pulley bearing may be replaced with the compressor on the car in the following manner:

1. Remove the six clutch cover ring to pulley screws from back of clutch cover.
2. Remove pulley from shaft using a puller such as harmonic balance shaft J2582-A or compressor pulley remover J6351. Note: If the J6351 compressor pulley remover is used, it will be necessary to remove the three coil retainer screws and lay back the clutch cover ring before removing pulley.
3. Replace pulley bearing (group 9.181 part number 5912761) and install compressor pulley assembly using J6323 compressor clutch plate and pulley installer.
4. Replace six clutch cover ring to pulley screws and tighten to 3 - 5 lb. ft. torque.
5. Replace felt and retainer, compressor shaft nut lock washer and compressor shaft nut. Tighten nut to 5 - 7 lb. ft. torque and bend over lock washer tangs.

Suggested straight time for performing this operation is .5 hr.

ADDITIONAL FLAT RATE TIME FOR QUARTER PANEL REPLACEMENT

Production changes for 1957 models make it impractical to fabricate the rear quarter as an assembly. If a quarter panel assembly must be replaced, it will be necessary to buy all of the components and assemble them as the job is built up.

Flat Rate Operation 1 - 940 for replacement of the quarter panel assembly does not allow for building an assembly from separate parts. The following additional time should be allowed:

1957 - All Except 2711	3.5 hrs.
1957 - 2711	6.0 hrs.

The above information affects 1957 models only.

A/C MAINTENANCE—'55, '56, '57 UNITS

(Continued from Page 1)

1. Clean out front of condenser to remove all obstructions, such as leaves, bugs, dirt, etc. Be sure that the space between the condenser and radiator is also free of this material. DO NOT STEAM CLEAN.

2. Remove air filter. Clean filter in water using a detergent and dry with compressed air. Coat both sides of filter with "R.P. handi-koter" or similar material.

3. Check to ensure that the evaporator drain is open and flush evaporator clean with water. Check and modify, if necessary, the 1957 evaporator drain tube to prevent flooding. See the December 1956 issue of the Service Craftsman News, page 71.

4. Check adjustment of all controls:

   1955 model - check and adjust the air valve control cable and the air recirculation control cable.

   1956 and 1957 models - check and adjust air valve control cable and thermostat (rancostat) control cable.

5. Check compressor for sufficient oil.

6. Inspect compressor drive belt and check and adjust belt tension:

   1955 and 1956 models - 53-57 lb. ft. torque for a used belt. 60 lb. ft. torque for a new belt.

   1957 model - 35 lb. ft. torque (both new and used).

7. Check to ensure that the air distributor hoses are connected.

8. Check electrical circuit for proper operation of master control and relay switch, compressor clutch and blower motor.

9. Adjust engine idle with air conditioning at "OFF" position:

   1955 model - 450-470 rpm with transmission in neutral.

   1956 model - 510-530 rpm with transmission in neutral.

   1957 model - 500-520 rpm with transmission in drive range.

10. Perform operational test. Adjust and-or correct as outlined in the respective Air Conditioning Manual.

At A Glance...

The recommended procedure for servicing the paper filter element in the triple 2 barrel air cleaner is to replace this element every 10,000 miles or more often under severe dust conditions. The replacement filter may be ordered in a normal manner under part No. 1553443.

It is not recommended that this filter be washed, cleaned and re-used as the element in most instances will be damaged if this is attempted.

Never under any circumstances oil this element.

STICKING VALVES

Reports are being received that sticking valves result in breakage of the valve head when the engine is started and/or damaging the engine to such an extent that the engine block requires replacement. The condition of sticking valves is the result of the valve guides being fitted too tight at the time of manufacture.

This sticking condition appears to be only on certain cars; therefore, the cases must be handled on an individual basis. Everyone in Manufacturing and Engineering are aware of the problem that has occurred and corrective steps have been taken in manufacturing so that this service problem will be eliminated in a very short period of time.

CRANKCASE VENTILATOR BAFFLE

We have discontinued the use of the crankcase ventilator lower baffle in our 1957 production cars. This change was made to prevent high velocity of air circulation at extremely high engine speeds which could cause some oil loss through the ventilator outlet pipe. This change became effective in production in early March starting with engine production no. 176732.

SHIMMING DISTRIBUTOR SHAFT

It has been reported that mechanics are installing shims at the lower end of 1957 distributor shaft in addition to the spacer washer specified.

The spacer washer provides the proper clearances between breaker plate, weight base, and weights; whereas addition of shims increases friction between parts retarding the spark. With distributor in upright position and drive gear extended away from distributor housing, the clearance between top of drive gear and underside of spacer washer should be .036/.068 in. Discontinue the use of shims.

SEAL CONVERTIBLE TOP TO PREVENT WATER WICKING

Due to the inherent characteristics of a convertible top, a degree of water wicking has always been considered standard. In the event a convertible top is encountered with excessive water wicking stains, the stains may be removed and the wicking characteristics substantially reduced by using the materials and procedures given below.

1. Sealer: "Convertible Top Sealer" (Minnesota Mining and Manufacturing Company) or equivalent.

   Available in black color. Sealer may be brushed on or dispensed through a pressure-type applicator such as a Plews Oiler, a K-P Controlled-Flow Oiler, etc. CAUTION: Exercise extreme care during application, as sealer is highly injurious to trim, paint and the vinyl back window.

2. Silicone Waterproofing Solution: such as "Silicone Anti-Wick Material #XT-5092" (Dow Corning Corporation, Midland, Michigan).

   Apply with a one-inch wide bristle brush. CAUTION: Silicone solution is highly inflammable. Apply in a well ventilated area, away from excessive heat or flame.

3. Black Convertible Top Dye: such as

   A. "Top Ink" (Century Products Company, Detroit, Michigan).

   B. "Perma-Tint Convertible Top Dye" (Kent Products Company, Detroit, Michigan). CAUTION: Dyes are highly inflammable. Apply with a brush in a well ventilated area, away from excessive heat or flame.

PROCEDURE FOR SEALING TOP

1. Place protective coverings on front seat cushion, front seat back and on painted surfaces of the rear quarter panels and the rear compartment lid.

2. Remove the rear seat cushion and rear seat back. If rear seat back is equipped with a rear seat speaker, disconnect speaker wire.

3. Remove rear roof bow wire-on binding. Wipe roof bow area to remove dust and moisture. Inspect trimmed edge of top deck material. Trim, if necessary, so that the resealed edge of the top deck material and the tack heads will be completely concealed when the wire-on binding is reinstalled. Recement any loose or gapped sections of the top deck material to the rear roof bow using 3M Super Weatherstrip Adhesive. Allow adhesive to dry. Using a pressure-type applicator, apply sealer to the trimmed edge of the top material, around each tack head, into each tack hole and into the two screw holes used for attaching the metal retainer at each end of the wire-on binding. Allow approximately 15 minutes for sealer to dry, then install wire-on binding.

4. Remove folding top bag fasteners from top of the rear seat back panel. Remove attaching bolts from folding top side and rear trimstick retainers. Place a prop under the trimstick retainer so that edges of trim material are readily accessible above the pinchweld molding.

   Using a 1/2 inch wide bristle brush, apply sealer to: trimmed edges of top, top bag and back curtain; around each tack head; and around each trimstick retainer attaching bolt hole. See "A" in figure 3. If holes in top material are too large and/or improperly cut or punched, apply a liberal amount of 3M Super Weatherstrip Adhesive around the holes, then apply a section of waterproof industrial tape to outside of top material over the cemented area. Pierce or punch tape to allow trimstick retainer attaching bolts to slide through.

   Inspect folding top compartment drain gutter for possible water leak openings.

   Pull back side flaps along back curtain plastic window. Using a pressure-type applicator carefully apply sealer to vertical seams of back curtain window. See "B" in section "A-A", figure 4. Reinstall trimstick retainer. Reinstall folding top bag to top of rear seat back panel.

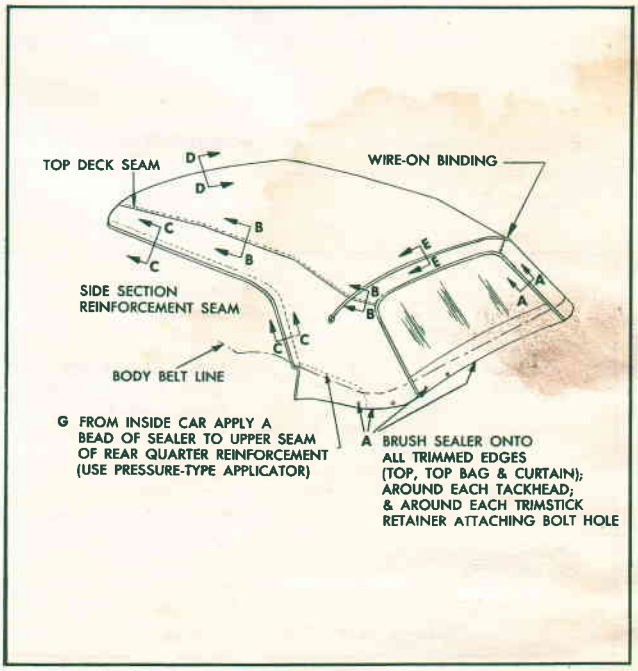

Fig. 3 Sealing Points on Convertible Top

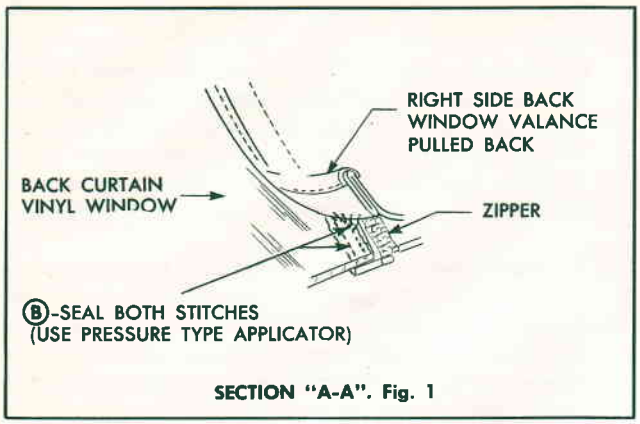

Fig. 4 Sealing Vertical Seams

5. Position top assembly so that top material may be propped in a position to avoid contact with stay pads. Check top center section to side section seams (between the front roof rail and the rear roof bow) for proper application of production sealer. Reseal, if necessary, with 3M Super Weatherstrip Adhesive. When adhesive is dry, apply sealer to top deck seams. Use a pressure-type applicator to reach the concealed upper portion of seam and a brush to cover lower, exposed portion of seam. See "C" in section "B-B", figure 5. To seal seam rearward of rear roof bow, see step No. 10.

6. With top in same position as in step 5, apply two beads of sealer to side section reinforcement seam. See "D" in section "C-C", figure 6. At this time, seal only forward horizontal portion of seam extending from front roof rail to folding top No. 2 roof bow. To seal vertical portion of seam rearward of top No. 2 roof bow, see step No. 11.

7. Brush a ribbon of sealer between front roof rail and top material. See "E" in section "D-D", figure 7.

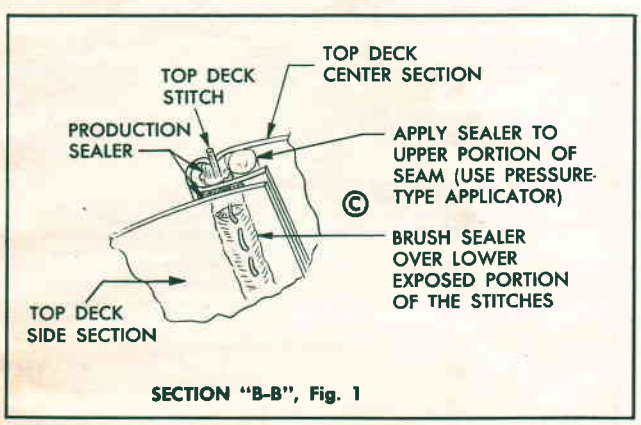

Fig. 5 Sealing Top Deck Seams

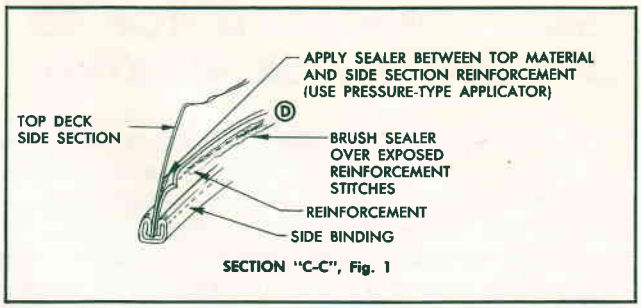

Fig. 6 Sealing Side Section Reinforcement Seam

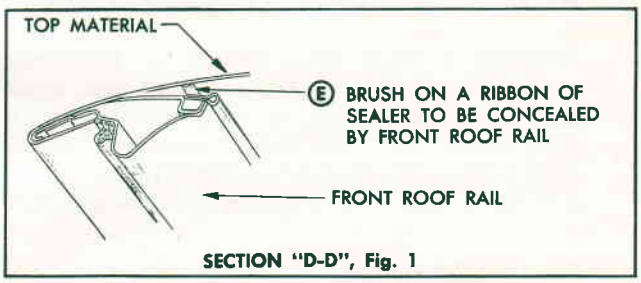

Fig. 7 Sealing Between Front Roof Rail and Top

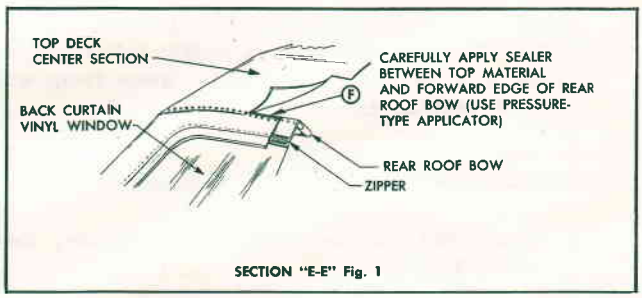

Fig. 8 Sealing Between Rear Roof Bow and Top

8. Brush a silicone waterproofing solution to upper surface of folding top stay pads, from front roof rail to folding top No. 2 roof bow. CAUTION: Silicone solution is highly inflammable. Apply in a well ventilated area, away from excessive heat or flame.

9. While silicone is drying, using a pressure-type applicator, very carefully apply a bead of sealer at forward edge of rear roof bow between bow and top material. Use sealer sparingly to avoid sealer from oozing out and presenting an unsightly appearance. See "F" in section "E-E", figure 8. NOTE: Allow approximately 30 minutes for sealer and silicone to dry before allowing stay pads to contact top material.

10. Raise folding top assembly. Lower back curtain window. Check rear portion of top center section to side section seams (rearward of rear roof bow) for proper application of production sealer. Reseal, if necessary, with 3M Super Weatherstrip

Adhesive. When adhesive is dry, using a pressure-type applicator, apply two beads of sealer to the top deck seams. See "C" in section "B-B", figure 5. Raise back curtain window.

11. Brush two ribbons of sealer onto side section reinforcement seam in rear quarter area, from folding top No. 2 roof bow down to end of seam. See "D" in section "C-C", figure 6.

Using a pressure-type applicator, very carefully apply a bead of sealer to upper edge of folding top rear quarter reinforcement seam from inside car. See "G" in figure 3.

REMOVING WICKING STAINS

1. When all sealers are thoroughly dry, wet stained area with clear warm water using a sponge as the applicator. Avoid rubbing stained area during application of water.
2. Slowly run a metal-ended attachment from a tank-type vacuum cleaner over stained area to remove excess water and stains.
3. Allow wetted area to thoroughly air-dry.
4. If stains persist, repeat above three steps.
5. When stains are satisfactorily removed, reinstall rear seat cushion, reinstall rear seat back and reconnect rear seat speaker wire.
6. If severe stains cannot be satisfactorily removed from a black inner lining, follow procedure for dyeing top material inner lining.

DYEING INNER LINING OF TOP

Before dyeing the top, place car in a well ventilated area. Open both doors and lower door windows, rear quarter windows and back curtain window for maximum ventilation within car. Top material must be thoroughly dry before applying dye.

1. Place protective covers over interior trim, back curtain plastic window and painted surfaces of rear quarter panels and rear compartment lid.
2. Using a 2 in. brush, lightly apply a convertible top dye to stained or discolored area. Feather-edge repaired areas to match original inner lining color.
3. Allow re-dyed areas to air-dry. If necessary, repeat step 2.
4. In the event that re-dyed areas do not satisfactorily blend with original color of inner lining, apply a uniform coating of dye to entire lining.
5. Reinstall rear seat cushion, reinstall rear seat back and reconnect rear seat speaker wire.

MYSTERIOUS? . . . NOT AT ALL

The "mysteries" of fuel injection were explored recently by Pontiac Resident Instructors who attended a special three-day school in Pontiac, Michigan. When the school was completed, the Instructors were in general agreement that fuel injection "isn't too mysterious or complicated after all".

The purpose of this school was to prepare the Instructors to teach fuel injection to dealer service men in Training Centers throughout the country. Featured is a colored slide film which points out the advantages of fuel injection and also describes the various types in use. The film also explains the principles of fuel injection operation by showing step by step diagrams of the various components which make up this new system. Following the film, students receive practical experience in actual disassembly and reassembly of a working fuel injection unit.

Schools of this type are designed to constantly improve and bring up-to-date the instruction offered dealer service personnel. Pontiac, through the G.M. Training Centers, offers the most thorough training for service men in the automotive industry.

Since December, nearly 75,000 man hours of training have been given to Pontiac service men. The hours of training per month is averaging almost 25,000 with some Centers totaling over 1,000 hours per month. Emphasis is being placed on such units as Hydra-Matic, carburetion, power brakes and steering. In January, for example, a total of 14,936 hours was devoted to Hydra-Matic repair and diagnosis.

These figures indicate that dealers realize that the only way to give Pontiac owners the type of service they expect and should receive is through constant training. Pontiac Service Schools are prepared to offer the best training because the men teaching your service personnel are constantly informing themselves of new automotive developments such as fuel injection. Keep yourself abreast of the many improved mechanical changes by requesting your dealer to allow you to attend all schools.

ZONE RESIDENT INSTRUCTORS Attending a special three day fuel injection school. Left to Right: Dick Jeffers, Minneapolis; Wendel Wightman, Oklahoma City; Stan Cheatum, Kansas City; Lafe Stueland, Jr., Houston; George McNeal, Omaha; Dean Smale, Training Center Supervisor; Bill Holcomb, Dallas; Russ Gilchrist, St. Louis; Ted Parker, Supervisor of Service Training.

HINTS ON BODY WATER OR DUST LEAK DETECTION AND SEALING

Summer weather often brings reports of dust and water leaks. The following points are most likely to be the origin of dust and water leaks.

1. Windshield glass to channel and channel to body flange. Water leaks at these points can be corrected by using weatherstrip cement and a plews oiler.
2. Back window glass to channel and channel to body flange. Water leaks at these points can be corrected by using weatherstrip cement and a plews oiler. In some cases it may be necessary to raise the reveal moulding to seal properly.
3. Deck lid. Make sure the deck lid weatherstrip fits the drain gutter flange at all points. Examine gutter for broken welds. Broken welds can be sealed with auto body sealer.
4. Rear compartment floor; to rear end panel to wheel housings and to quarter panels. This is one of the most critical points of leakage and should be examined most carefully. A suggestion is to remove the spare tire and shut an employe, with flashlight, in the rear compartment during water test.
5. Door weatherstrips. See that all door weatherstrips fit against the body under tension at all points. It may be necessary to re-adjust the window run channels on catalina models to get a proper fit at top of door glass.
6. Door drain seals. See that all door drain seals are properly positioned and that they are not sealed over with cement or body sealing compound. If not in proper position they will permit dust to enter the body through the doors. If cemented in the closed position, water will fill the door and leak into the body.
7. Door ventilators. Adjust ventilators and weatherstrip so that water does not enter body.
8. Dash and cowl. Remove quarter trim panels before water test. The area around the ventilators must be thoroughly sealed and the cowl ventilator drains properly installed. Cowl to dash panel should be sealed with auto body sealer on the front side the entire length. Radio speaker screws, windshield wiper transmission mounts to cowl, speedometer and hand brake cable openings, and hood hinge screw holes must be sealed.
9. Rocker panel to wheel housing. A leak at this area will usually result in water and dust entering the dog-leg section of the rear quarter panel. Water will spill out onto the floor pan and wet the carpet at the rear of the rear door. Water may wick up the door windcord giving the appearance of a door water leak. Sealing at this point should be made at the lower forward section of the wheel house.
10. Quarter panel to floor pan. The body flange in the wheel housing area may not be properly welded and sealed. Leakage at this point is more critical on Safari bodies. It may be necessary to install metal screws before sealing with auto body sealer.

Wash Anti-freeze from Engine Parts

If a case is encountered where permanent type anti-freeze leaks into an engine, all parts which may have come in contact with the coolant should be washed with hot water or cleaned with steam. It is important to inspect valve lifters after cleaning. When all traces of the anti-freeze have been removed, apply an abundant supply of oil containing rust inhibitor additives to all engine parts.

Owners have informed us of cases where it was recommended that an engine be replaced because of permanent type anti-freeze being present throughout the engine. Replacing an engine for this reason is an unwarranted expense to the owner and should not be done.

All types of permanent anti-freeze manufactured by a reputable marketer today can be cleaned from engine parts by the use of hot water or steam.

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.
