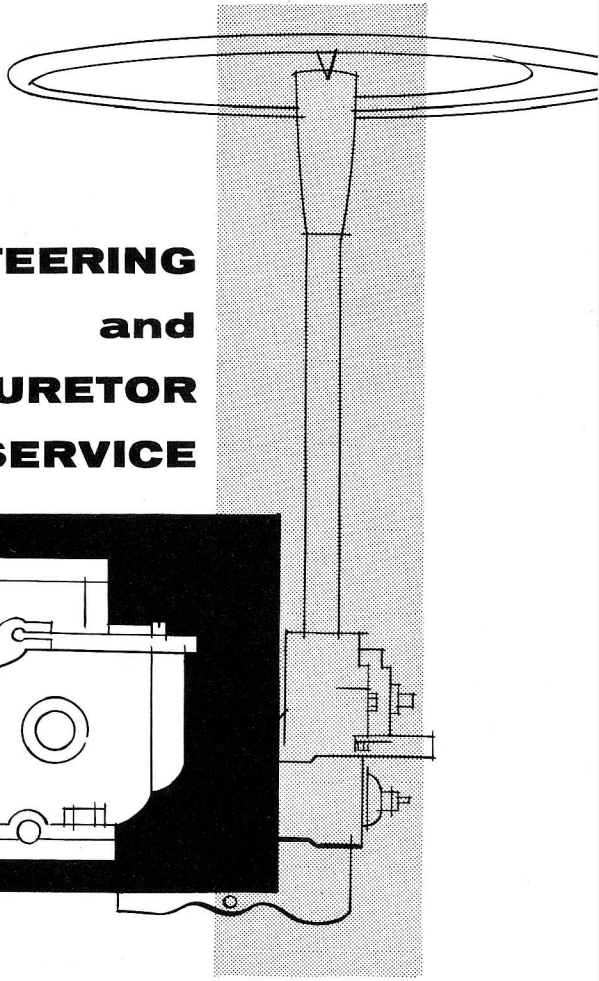
SERVICE REFERENCE BOOK

of the MASTER TECHNICIANS SERVICE CONFERENCE

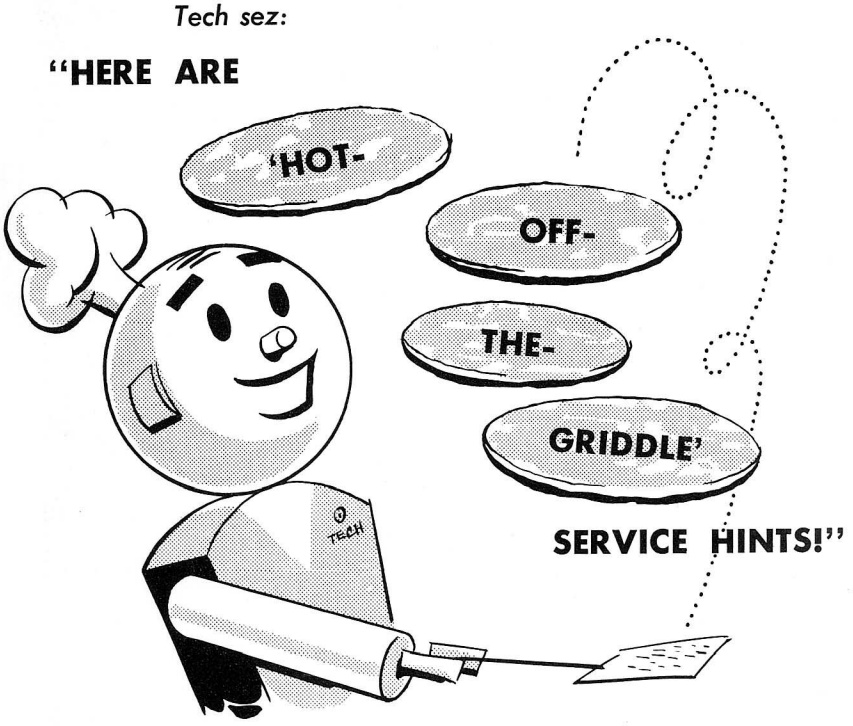
session no. 126



POWER STEERING and CARBURETOR SERVICE

PREPARED BY CHRYSLER CORPORATION

Plymouth • Dodge • De Soto • Chrysler • Imperial



A lot's been cookin' on power steering and carburetion since the last time we talked about those units. And, there's some new information about engine cooling and the Sure-Grip differential. You'll not only be interested in learning about these improvements, but you'll also want to know how they affect service procedures.

This reference book provides that up-to-the-minute information so hot off the griddle that it's still warm. You'll find it a big help in handling your current service problems.

Here's how these useful hints are arranged for your reference:

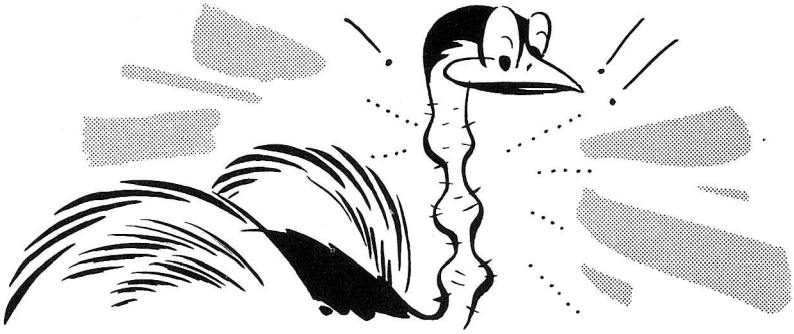
POWER STEERING CONDITIONS

Road-test to be Sure! No matter how an owner describes a power steering condition, a road test will tell you what he really has in mind. When possible, of course, it pays to drive the car with the owner along. Then you can let him drive in his own way and over a route he generally takes.

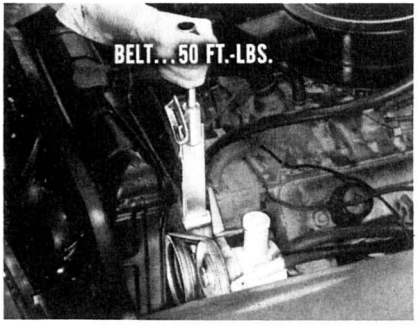
He'll point out the condition as it shows up, and you'll get a better idea of what may need attention. Then you drive the car and get a firsthand experience of the condition yourself. This will help later when you road-test the car to see if you've corrected the trouble.

Lumpy power steering

Suppose your road test reveals a lumpiness in the power steering unit. This can be caused by low fluid level, a slipping belt, low pump pressure, or some internal condition. And that's the order in which the possible causes should be checked, easiest steps first.



If fluid level is up to the mark, then check the pump belt. It should be free from oil and grease. And on the current Plymouth model, for example, the belt should be tightened to 50 foot-pounds torque. All belts, by the way, should be tightened at the regular inspection period — 1,000- or 2,000-mile — depending on the model.



If you use the torque method of tightening the belt, loosen the mounting bracket bolts, and apply the specified torque to the bracket. Then, tighten all bolts while torque is applied.

If you use the belt deflection method of checking tension, use Scale C-690 to establish the 5-lb. load on the belt when measuring deflection. (Use this method only when the torque method isn't possible, as it isn't quite as accurate as the torque method.) Belt tension specifications are listed in the table on the next page.

POWER STEERING BELT TENSION SPECIFICATIONS

Torque Method

	NEW BELT	USED BELT
PLYMOUTH		
All Models	70 ft.-lbs.	50 ft.-lbs.
DODGE		
LD-1	40 ft.-lbs.	20 ft.-lbs.
LD-2	60 ft.-lbs.	40 ft.-lbs.
	*30 ft.-lbs.	20 ft.-lbs.
LD-3	90 ft.-lbs.	55 ft.-lbs.
	*80 ft.-lbs.	45 ft.-lbs.
DE SOTO		
All Models	90 ft.-lbs.	55 ft.-lbs.
	*60 ft.-lbs.	45 ft.-lbs.
CHRYSLER		
LC-1, 2, 3	120 ft.-lbs.	80 ft.-lbs.
	*70 ft.-lbs.	45 ft.-lbs.
LY-1	125 ft.-lbs.	75 ft.-lbs.

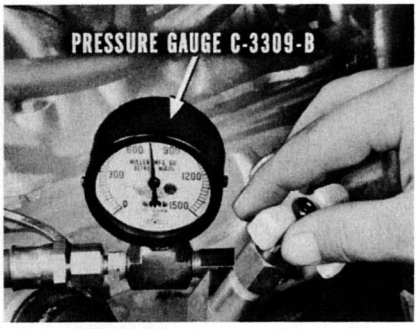
*Use these specifications on early production pumps with bolt-on type pulleys.

Deflection Method

PLYMOUTH		
318 cu. in.	1/16 in.	1/8 in.
350 cu. in.	1/8 in.	3/16 in.
6-cyl	3/32 in.	5/32 in.
DODGE		
LD-1	3/32 in.	5/32 in.
LD-2	1/16 in.	1/8 in.
	**1/8 in.	3/16 in.
LD-3	1/8 in.	3/16 in.
	**1/8 in.	3/16 in.
DE SOTO		
All Models	1/8 in.	3/16 in.
	**1/8 in.	3/16 in.
CHRYSLER		
LC-1	3/32 in.	5/32 in.
	**3/32 in.	3/16 in.
LC-2, 3, LY-1	3/32 in.	3/16 in.
	**3/32 in.	3/16 in.

**Use these deflections on early production pumps with bolt-on type pulleys.

NOTE: A belt is considered "used" when it has operated a minimum of 30 minutes.



If belt tension is up to specifications, and is free from oil or grease, install Pressure Gauge C-3309-B. See if pump maximum pressure is up to specifications. As these pressures vary for different models, consult the table below.

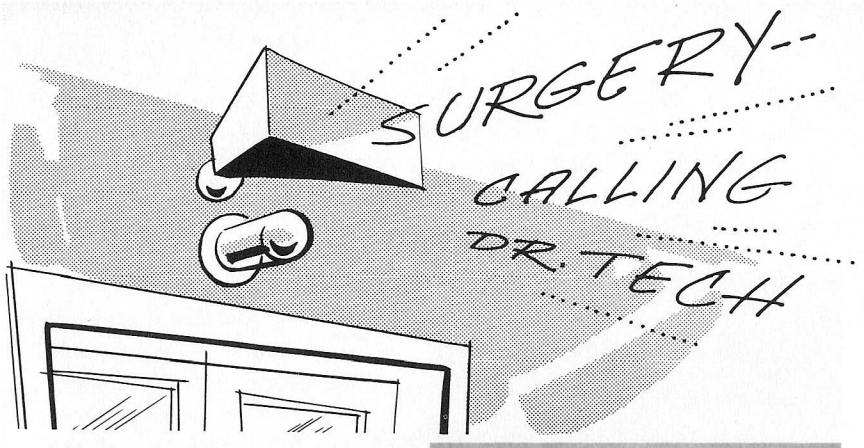
POWER STEERING PUMP PRESSURE
(psi)

MAKE	SLEEVE TYPE	SLIPPER TYPE	VANE TYPE	ROTOR TYPE
Plymouth V-8 Cyl. 6-Cyl.	750-900	850-950		900
Dodge		850-950 (Canadian)	750-800	
De Soto		850-950	750-800	
Chrysler	750-900	850-950		

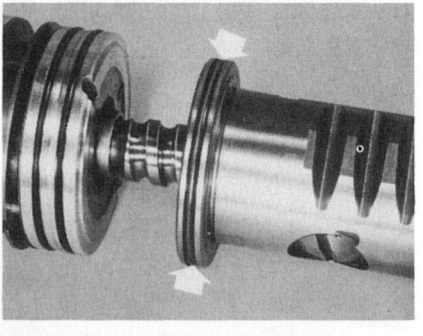
If you find pump pressure okay, along with fluid level and belt tension, then the unit must be removed for disassembly and further inspection.

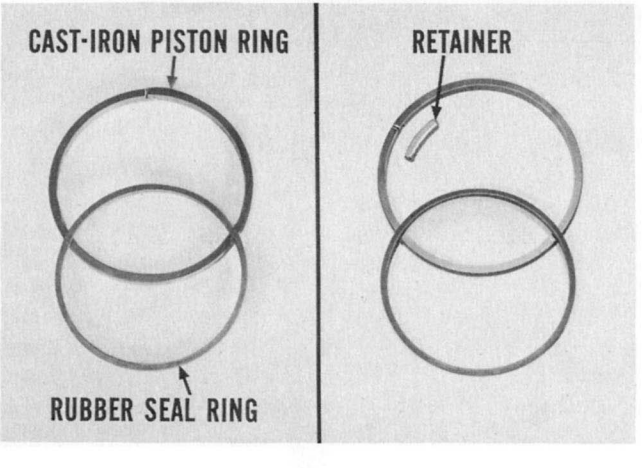
Once you get the power unit on the bench, remove the control valve and pivot lever (with spring), and the cross-shaft. Then remove the piston and wormshaft. Clean the parts carefully and check them for wear.

If you're working on an early production unit, you're apt to find that the power piston has a synthetic rubber "D" ring. The rounded edge of this "D" ring should extend above the piston flange. If it doesn't, it's been worn so much that it permits fluid to leak past the piston flange. That can cause lumpy power steering. In any case,

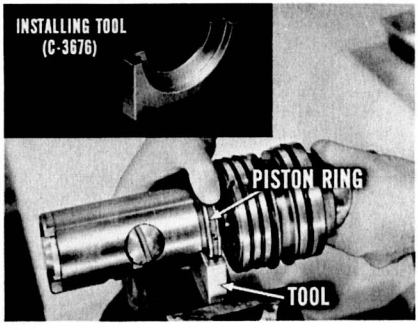


whenever you find a synthetic rubber "D" ring in a unit, replace it with the new cast-iron ring that is now available. The cast-iron ring makes a better seal, and seats in quicker, even if the piston bore surface is somewhat rough.

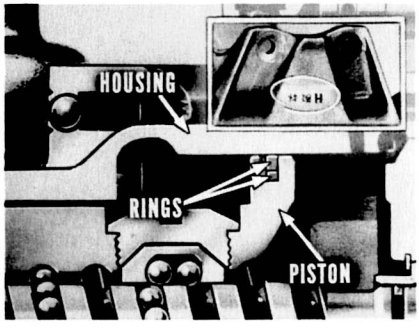




New Piston Ring Package. There are two cast-iron piston ring packages available for service, under Part No. 1879745. One package has the cast-iron ring and a synthetic rubber seal ring; the other contains the piston ring and seal ring, plus a retainer which fits on the piston ring to protect the seal ring.



Use the installing tool C-3676 to install the new rings on the piston. Lubricate them with type "A" automatic transmission fluid. Then, install the piston and wormshaft assembly into the housing carefully so the rings won't be damaged.

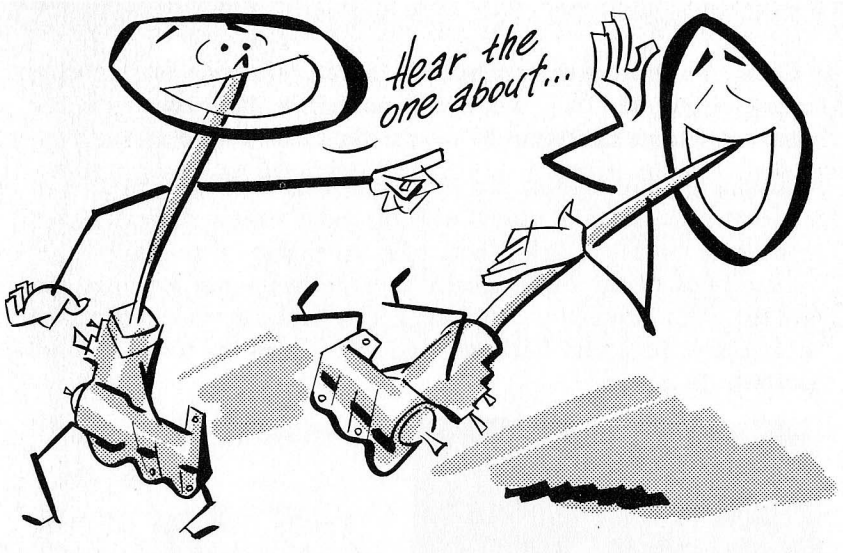


The most recent change in the power steering unit consists of a new housing, a new piston, cast-iron piston ring, and synthetic rubber seal ring. Units with these parts are identified by the letter "H", or letters following alphabetically, stamped between the mounting bolt holes.

The new piston and rings are not interchangeable with former parts, and can't be used in the early housing. So, use the new type housing, along with the new piston and wormshaft assembly, if you replace a damaged housing.

Power steering "chuckle"

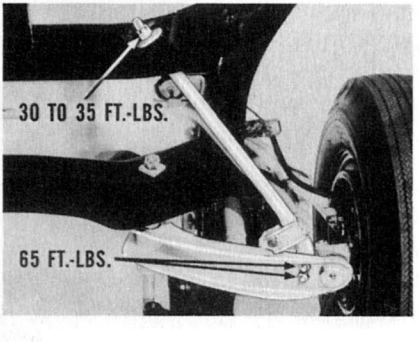
Once in a while you may get a report of a chuckling noise when driving over rough, choppy roads at speeds of 5 to 10 m.p.h. It's



annoying to some owners, and you may be asked to correct the condition.

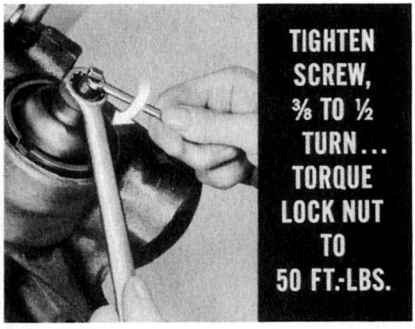
As you probably know, certain clearances are necessary in a hydraulic gear. Therefore, some noise on really rough roads is normal. But if noise seems to be greater than standard, backlash between the cross-shaft and piston teeth might be excessive. The cross-shaft adjustment should always be checked at the 1,000- or 2,000-mile inspection period to take care of the slight wearing-in of new parts. It's a good thing to check when chuckle is reported.

Loose lower control arm struts can also cause chuckle. Rear mounting bolt nuts should have 65 foot-pounds torque. The forward nut should be tightened to a torque of 30 to 35 foot-pounds.



Occasionally, front shock absorbers make a noise similar to chuckle when they're cold. This condition is normal, and is easy to identify because the noise disappears as soon as the shock absorbers warm up.

Adjusting the Cross-Shaft. To check the cross-shaft adjustment, you first center the steering wheel, with the front wheels straight ahead. Disconnect the center link. Then, with the engine running so you get the right feel of the mesh, loosen the adjusting screw lock nut and turn the screw *out* until you can feel a little backlash while moving the steering arm back and forth by hand. Next, turn the screw *in,* until backlash disappears.



Finally, turn the adjusting screw *in* ⅜ to ½ turn. Torque the lock nut to 50 foot-pounds, and you're done.

NOTE: If you are making the cross-shaft adjustment at the bench, after rebuilding a power unit, use the following procedure. First, center the gear. Loosen the adjusting screw lock nut and turn the adjusting screw *out* until you can feel backlash while moving the steering arm back and forth by hand. Then you are sure there's no preload on the cross-shaft teeth. Next, turn the adjusting screw *in* until backlash just disappears. Then, turn the screw *in* an additional 1¼ turns and tighten the lock nut.

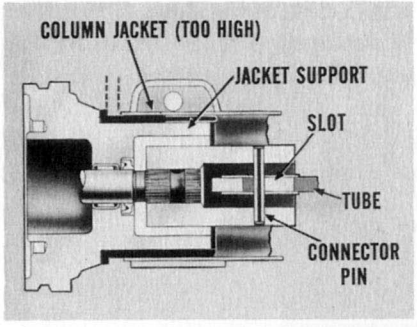
Following that, operate the unit through several cycles from one extreme turn to the other, and return it to center. Then, repeat the same steps of adjusting the cross-shaft. Loosen the lock nut and turn the screw *out* until you can feel backlash. Turn the screw *in* until backlash is gone. Finally, tighten the adjusting screw ⅜ to ½ turn, and tighten the lock nut to 50 foot-pounds to secure the adjustment.

The reason for repeating the adjustment procedure is easy to understand. When the piston is installed in the housing it might be turned slightly, so the teeth cut in its outer surface do not line up with the teeth of the cross-shaft over their entire surface. Therefore, setting the preload at 1¼ turns tight, and then operating the gear from one extreme to the other, serves to rotate the piston slightly so the teeth will mesh properly. That preload is too heavy for normal driving, however, so you have to back it off and then reset it. That's why you have to go through the adjustment twice on a rebuilt gear.

Poor returnability from a left turn

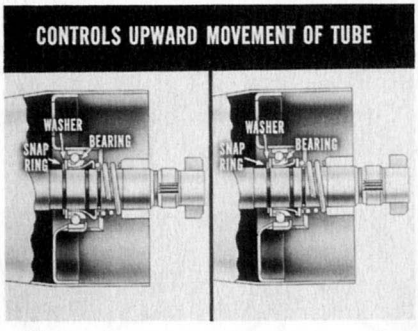
In a case of this kind, you'd want to be sure that front-end alignment was up to specifications first. If alignment is okay, check position of the control valve to be sure it's right. If this is all right, then you'd suspect some internal restriction was keeping the gear from returning to normal straight-ahead position following a left turn.

If there is a restriction, chances are the column jacket is assembled too *high* on the jacket support of the power unit. When that happens, the slot in the lower end of the steering tube bottoms on the tube connector pin. This pin must be located in the slot so it will allow a slight up-and-down movement of the wormshaft. This is the movement that controls valve operation.



How to correct the jacket position should be clear. All you do is loosen the jacket clamps. Then, push the jacket down against the shoulder on the jacket support. If there's a rubber insulation boot, the jacket end should rest on the flange of the boot. Tighten the clamps, and that's that.

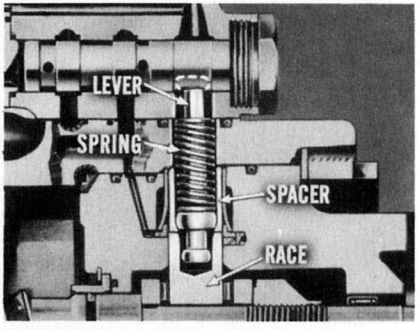
Now, if returnability is still poor after you relocate the jacket, remove the steering wheel and jacket. See if the spacer washer is assembled *under* the jacket bearing, or if the washer is missing. The washer, which is assembled between the snap ring and lower end of the jacket bearing, controls upward movement of the tube. It also maintains proper clearance between the steering wheel hub and top of the column.



NOTE: There should be only *one* washer below the bearing. Do not try to install additional washers. More than one washer will not only affect steering on a *left* turn, but can also completely hamper returnability on a *right* turn!

Spring-Loaded Pivot Valve Lever. Notice the letter stamped on the housing of any power unit you service. A unit stamped "J", for example, has a new spring-loaded pivot valve lever, along with a new valve housing (Part No. 1822391). This refinement has improved returnability on turns.

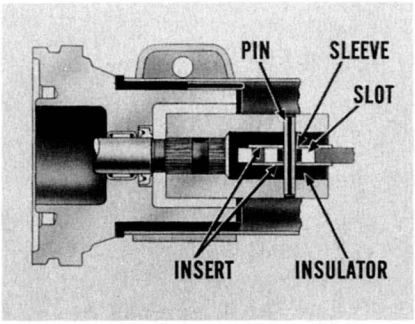
The shank of the new valve lever (Part No. 1822380) has a smaller diameter. This permits installation of a coil spring (Part No. 1822383) which sits on a shoulder right above the lever's spherical section. A spacer and race (Part Nos. 1822390, 1822381, 1822384), also new, go with the valve lever. Spring pressure holds the lever more firmly seated in the spacer. As a result, friction in the valve centering system is reduced, and returnability is improved.



Rattle—lower end of steering tube

Excessive clearance between the connector pin and its slot in the tube may cause this noise. To correct this, remove the pin from the coupling and tube, and slip additional inserts (Part No. 1733769) between the tube and the insulator. This will hold the pin more securely in the slot. A new tube insulator of a different shape, and new plastic inserts are being used on current production units. A new tube with a revamped lower end is also used with the new type insulator.

Another method of correcting this condition is to disconnect the coupling and remove the tube. Enlarge the slot to 3/8" and round the upper and lower corners. Secure a piece of rubber tubing 3/8" O.D., 3/16" I.D. Cut a 1/4" section for use as a sleeve. Put the sleeve in the slot. Assemble the two plastic inserts and rubber tube insulator in the coupling. Then, install the pin.



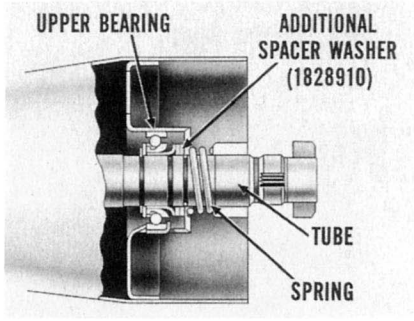
Rattle—upper end of steering tube

Too much clearance between the jacket bearing and tube will cause this rattle. If you remove the steering wheel, jacket and bearing, you can use a prick punch to knurl the bearing surface. That provides a tighter bearing fit. Reassemble the bearing, jacket and wheel.

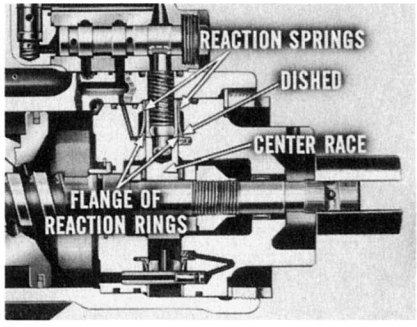
Steering column axial end play

Some owners may report end play they notice when they push down on the steering wheel. While this movement varies from only 1/16" to 3/16" and is generally regarded normal, some customers may want it corrected. If so, you can install an additional spacer washer (Part No. 1828910) *above* the upper steering tube bearing. This will in-

crease pressure of the 60-pound spring above the bearing that's designed to work in conjunction with the normal friction in the coupling to resist axial movement. In all cases, be sure to insert this spacer *above* the bearing. Getting it below will restrict worm-shaft movement, and affect returnability.

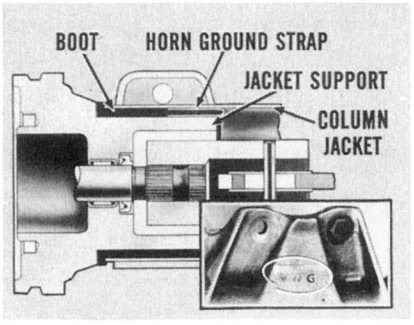


Lack of "Feel-of-the-Road". This can happen if the reaction area parts are installed in the wrong sequence when the power unit has been disassembled for service. So, if you get a report of this condition, see if the flange of the upper and lower reaction ring is positioned against the face of the center race. The steel reaction springs should be assembled over the reaction rings. The center of the spring should rest against the flange of the ring, and slightly dish the spring.



New column jacket insulation boot

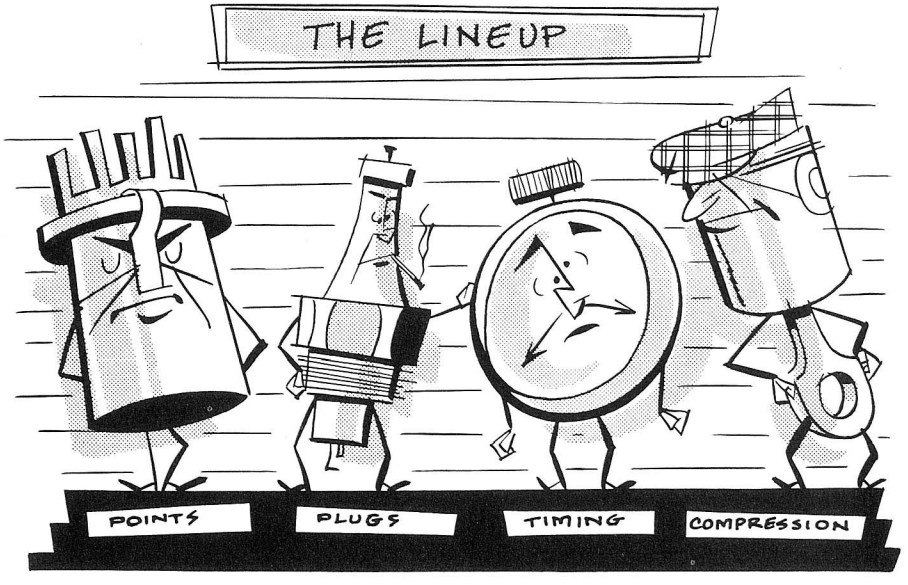
A rubber boot between the column jacket support and jacket assembly is designed to dampen noises that might otherwise be transmitted up the steering column. There's also a new horn ground strap used which folds over the upper end of the boot. Both of these additions required changes in the diameters of the column support and jacket. Units with these improvements are identified by the letter "G", and



letters following (alphabetically). You can't install this new boot on earlier units because there's not enough space between the support and jacket. But if you replace the housing or power unit with later production parts, the new boot and ground strap can be used.

CARBURETOR SERVICE SUGGESTIONS

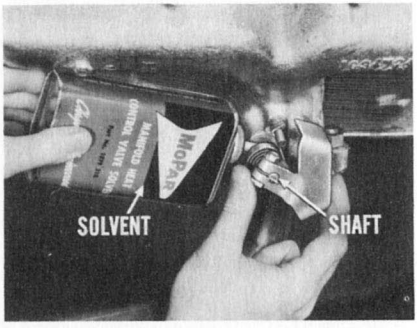
Always road-test any car reported to have a carburetor condition. And, before suspecting the carburetor, always check the distributor points, spark plugs, timing, and compression.



Engine stalls after cold start

If you're working on a car where the engine stalls in neutral, or in gear, after a cold start, check the manifold heat control valve before you touch the carburetor. If the heat control valve sticks open, hot exhaust gases won't warm up the intake manifold so it can vaporize fuel properly. Engine warm-up will be poor, and it'll stall. This can even cause stumble on acceleration and poor fuel economy.

So, move the counterweight back and forth against the tension of its thermostatic coil. It should turn freely and return to the closed position. You can free up a sticking shaft with heat control valve solvent (Part No. 1879318). Be sure, though, that the valve is cool. Let the solvent soak in several minutes. Then, turn the shaft back and forth to loosen it up.



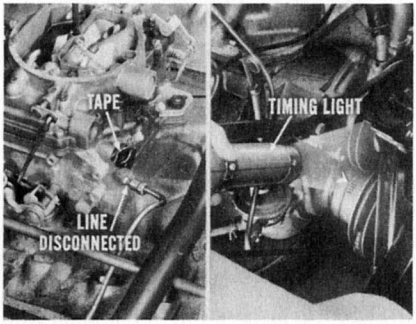
NOTE: If the shaft is stuck tightly, tap the ends of the shaft *lightly* with a hammer to break it loose (after solvent has been applied). Then rotate further to free it up.

With the engine idling, you can test the valve by accelerating to wide-open throttle momentarily and then releasing the accelerator quickly. The counterweight should rotate about ½" clockwise, and return to closed position. Sluggish action, or no movement means the shaft is binding. No return to closed position means the thermostatic coil is weak or broken.

When checking timing, make sure you're not getting a slight automatic advance. This calls for checking timing with the vacuum line between the distributor and the carburetor disconnected, and then with it connected. You see, if the throttle valves don't return to idle,

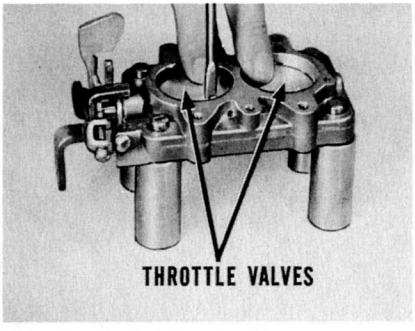
the vacuum advance port is exposed. This could cause a slight advance movement of the plate. When setting timing at idle, you don't want *any* advance—vacuum or mechanical.

So, disconnect the vacuum line and stick some tape over the connector (or the line, if disconnected at the distributor) to keep engine speed the same. Then, use a timing light to set timing at the idle speed recommended for the model you are servicing. Then, connect the vacuum line and check timing again. If both readings are the same, and up to specifications, you'll know vacuum isn't affecting timing. But if there is a difference in the two readings, and you can't equalize them by readjusting idle speed within specifications with the vacuum line connected, you'll have to remove the carburetor.

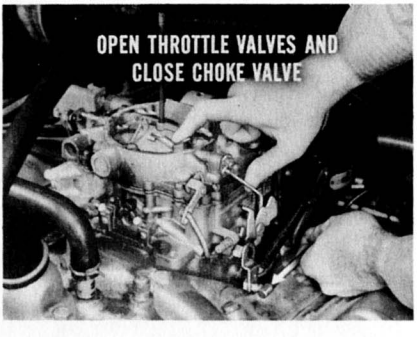


Check Throttle Valve Positioning. A difference in readings may call for repositioning of the throttle valves. Or, the throttle shaft (primary

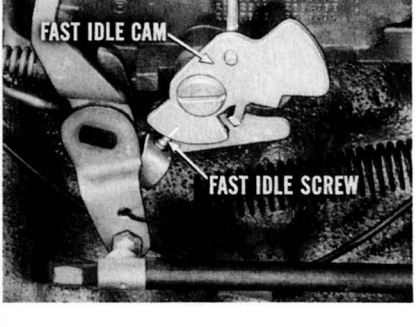
shaft on 4-barrel units) may be binding in the body. Damaged throttle valves should be replaced. If the shaft is sticking, remove it and polish the rough area with crocus cloth. Be careful not to reduce the diameter, because this can cause an air leak that will upset the fuel-air mixture ratio.

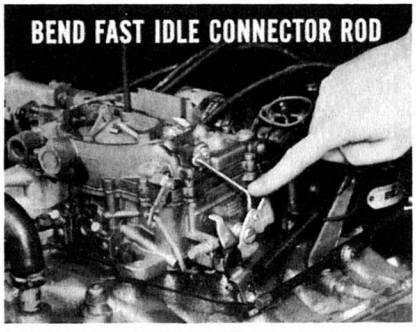


Fast-Idle Adjustment. This adjustment has to be high enough to keep the engine from stalling during warm-up. To check it, remove the air cleaner. Partially open the throttle valves to release the fast-idle cam. Close the choke by hand. Hold it closed, and release the throttle valves.



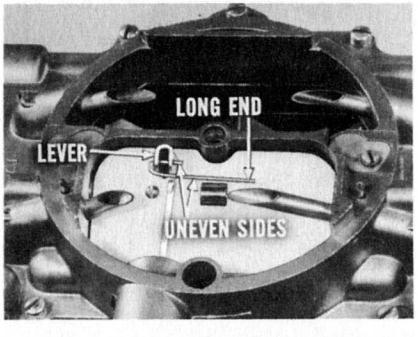
That should move the fast-idle cam to the position giving the correct fast-idle speed according to the specifications for the car you're working on. On the AFB and the BBD carburetors, the index mark on the cam should line up with the center of the idle-speed adjusting screw. If it doesn't, or if the idle speed isn't right, an adjustment will be necessary.

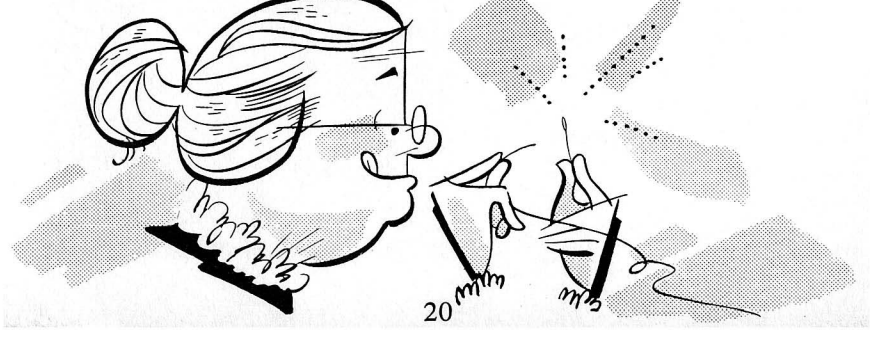




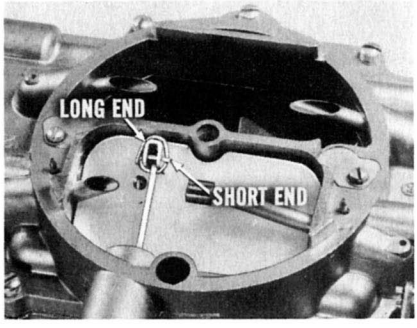
To make such an adjustment, get the fast-idle cam in the proper position first. You may have to bend the connector rod at the angle until the index mark lines up with the screw. Then, you'd adjust the screw to get the correct fast-idle speed.

If you check ignition, timing, heat control valve operation, and fast-idle speed and find them all okay, engine stalling may be caused by improper choke operation. Chances are it's opening too much during the engine warm-up period. Sometimes you can change the length of the vacuum piston link and correct this condition. On the AFB and the BBD carburetors with the cross-over choke marked AX, you can remove the cotter pin from the choke lever. Take a $\frac{1}{16}$" diameter wire about 1¾" long. Put one end through the two holes in the lever so it sticks out about ⅛" on the short end. Bend the long end of the wire around the bottom of the lever to form a "U" with uneven sides. Remove the wire.

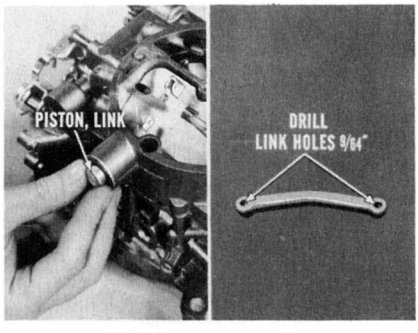




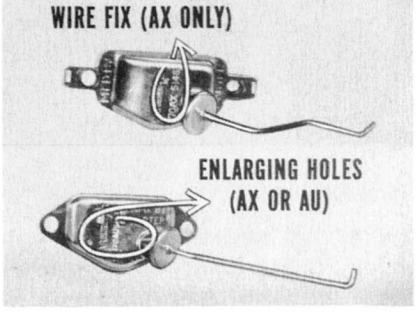
Pass the long end through the hole in the link, and the short end through the holes in the lever. Hold the wire tightly against the lever and bend the long end behind the short end extension, and over the top of the lever. Installing this wire will reduce the amount of choke opening at idle and light load running during warm-up, and help to prevent stalling.



In some cases, installing that wire might cause loading, or too rich a mixture. If so, there's an alternate correction you may want to use. In this case, remove the cotter pin and the welch plug. Pull out the piston and link. Drill the link holes oversize to $\frac{9}{64}$". Reassemble the piston and link, and install a new welch plug.

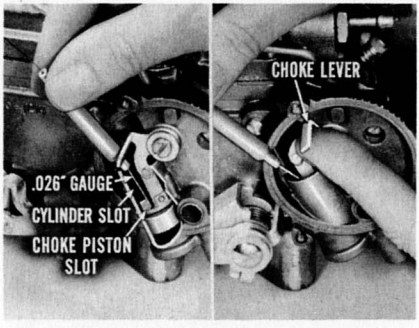


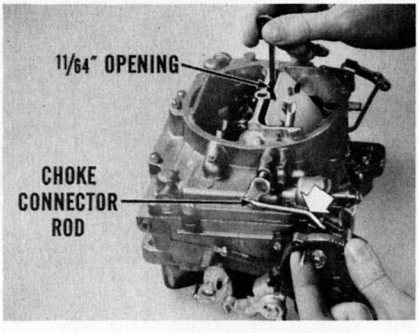
NOTE: Remember, installing the wire applies *only* to cross-over chokes with *AX* identification on the cover. Enlarging the holes can be done on either *AX* or *AU* chokes.



On the integral type choke, remove the retainer ring, cap, and thermostatic coil. Remove the throttle return spring, and set the throttle ¼-open. Let the choke valve go wide open.

Insert a .026″ gauge into the choke piston slot so the end hook enters the slot in the cylinder. (A .026″ step-up wire used on BBD carburetor can take the place of the gauge if one is not available.) Push the choke lever clockwise to trap the gauge between the piston and cylinder slots, leaving the choke linkage free.

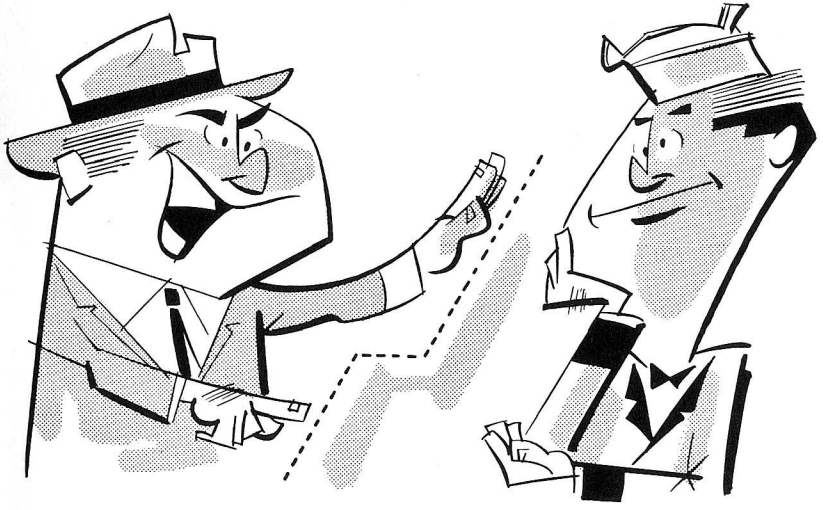




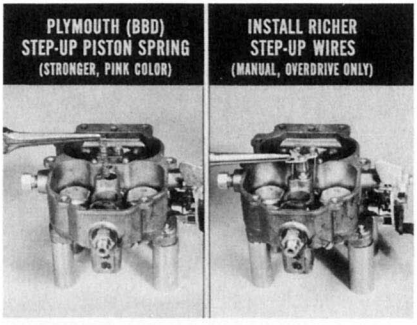
Bend the choke connector rod at the upper angle to provide an $11/64$″ opening between the choke valve and the wall of the air horn. Check this with Unloader Gauge T-109-166. Finally, remove the gauges. Reassemble the choke. Set the thermostatic coil cap one notch rich, and reinstall the throttle return spring.

Hesitation, flat spot on acceleration

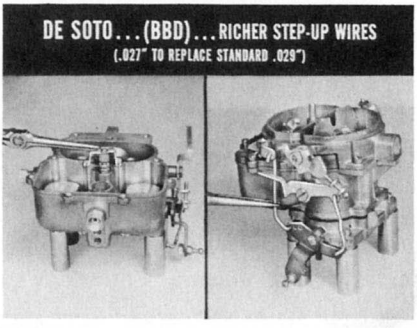
If an owner reports this condition, after warm-up, during speeds just above 20 m.p.h., check compression, ignition, and timing first. If they're okay, the fuel-air mixture is probably too lean. On Plymouth



with the BBD carburetor, you'd install a stronger, pink-colored step-up piston spring (Carter No. 61-549). And, on cars with manual and overdrive transmissions, install richer step-up wires .020″ diameter (Carter No. 75-1217, Chrysler Part No. 1631613), in place of the standard .022″ wire (Carter No. 75-1140).



On a De Soto with the BBD carburetor, you'd also install richer step-up wires, .027″ (Carter No. 75-998, Chrysler Part No. 1610794) to replace the standard .029″ (Carter No. 75-999) size. In addition, set the accelerator pump for its long stroke during cold weather.



On De Soto cars using the AFB carburetors, install the richer primary step-up jets (.091″, Carter No. 120-155, Chrysler Part No. 1826235). Do not use richer step-up rods with this new jet. You may have to set the accelerator pump at its long stroke in cold weather, but only if your road test indicates it's necessary.

On Chrysler Windsor models using the BBD carburetors, richer step-up wires, .028″ (Carter No. 75-1370, Chrysler Part No. 1826189), in place of the standard wires will improve performance. On Chrysler cars with AFB carburetors, replacing the standard step-up rods (Carter No. 16-45, Chrysler Part No. 1879663) will help.

Following is an easy-to-read table to help in the selection of carburetor parts when correcting this flat-spot-on-acceleration condition.

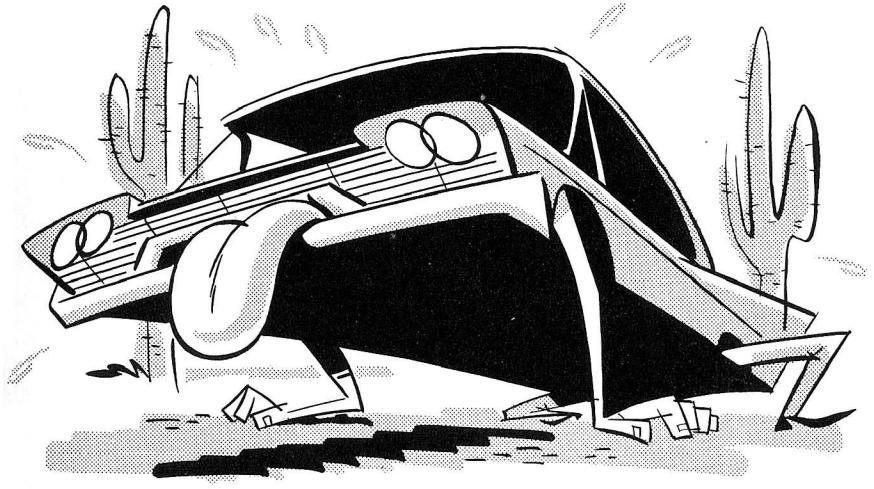
CARBURETOR STEP-UP WIRE AND STEP-UP ROD CHART

("L" Series)

MODEL	CARBURETOR TYPE	TRANSMISSION TYPE	PART NAME	CARTER NO.	CHRYSLER NO.
Plymouth	BBD	Auto. & Manual	Step-Up Piston Spring	61-549 (Pink)	None
	BBD	Man. & Overdrive	Step-Up Wire	75-1217 (.020″)	1631613
De Soto	BBD	Automatic	Step-Up Wire	75-998 (.027″)	1610794
	AFB	Auto. & Manual	Primary Step-Up Jets	120-155 (.091″)	1826235
Chrysler Windsor	BBD	Automatic	Step-Up Wire	75-1370 (.028″)	1826189
Saratoga New Yorker Imperial	AFB	Automatic	Step-Up Rod	16-45 (.0635″-.055″)	1879663

Fuel starvation at high speed

Fuel starvation may be reported during fixed throttle operation at higher speeds, or on full throttle acceleration. This condition may also occur at lower speeds as the car accumulates mileage. Frequently the condition is caused by a clogged fuel filter element. However, an incorrect float level or low fuel pump pressure can also cause starva-

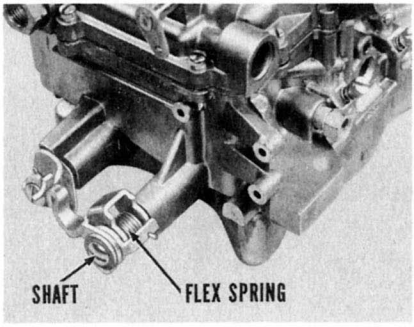


tion. You can make a quick check by removing the element from the filter and driving the car at the speeds at which the condition was reported by the owner. If the engine runs satisfactorily, the filter was clogged and responsible. Clogged filters can't be cleaned very well, so install a new one. If a new filter doesn't show improvement, check the float level and fuel pump pressure.

Power surge on acceleration

On models with the 350- or 361-cubic-inch engines and AFB four-barrel carburetors, you may get a report of a power surge on acceleration around 35 to 40 m.p.h. Since this takes place when the secondary throttle valves should gradually open, their *sudden* opening can cause the instant surge of power.

So check the secondary throttle valve shaft for binding. Also, check the throttle valves for damage or improper positioning that would prevent their gradual opening. Besides that, check the throttle flex spring on the right end of the primary throttle shaft. It may not be strong enough to overcome any slight sticking or resistance on the part of the throttle valve assembly. You can check this by removing the air cleaner and observing throttle opening. If valves are positioned properly, and the shaft doesn't bind, install a new, stronger flex spring (Carter No. 61-623).



ENGINE COOLING SERVICE

Engines that operate at temperatures cooler than normal tend to develop crankcase sludge and run less economically than they should. This could be traced to improper operation of the cooling system thermostat.

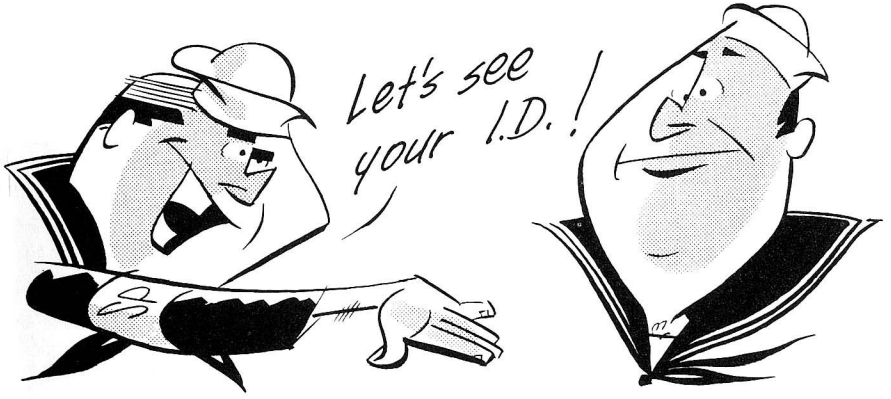
To check this, run the engine until it reaches normal operating temperature. Let the engine idle, and insert an accurate thermometer in the upper radiator tank so you can read the temperature of the coolant. Allowable temperatures at the upper tank are listed below:

Thermostat Rating	Coolant Temperature Range
160° F.	155° F.—165° F.
180° F.	175° F.—185° F.

If coolant temperatures are below those limits specified, replace the thermostat with one known to be satisfactory. If there's any question, you can use a thermometer of reliable accuracy and test a thermostat in a pan of hot water.

SURE-GRIP DIFFERENTIAL IDENTIFICATION

Sure-Grip differentials are identified by a letter "S" stamped on the pad next to the filler plug hole in the carrier. On some models, an aluminum tag at one of the carrier bolt nuts serves as Sure-Grip identification.



If you wish to make even more positive identification, raise the car and remove the filler plug. With a flashlight, sight through the plug hole. Look upward, to the left, and you will see differential case boltheads and the dome-like cylindrical shape of the case. Window openings of the case are also a Sure-Grip feature.

GOOD SERVICE WORK BUILDS CUSTOMER CONFIDENCE

Consistently good work does more to create service customer confidence than anything else. Trouble-shooting tips outlined in this book will help diagnose conditions quickly and correct them dependably and economically. They're your best bet to maintain a top reputation for expert service attention among our many owners.

RECORD YOUR ANSWERS TO THESE QUESTIONS ON QUESTIONNAIRE NO. 126

Possible causes of lumpy steering are low fluid level, a slipping belt, low pump pressure, or some internal condition.

RIGHT **1** WRONG

Units stamped "H", or letters following, have a new piston, cast-iron piston ring, synthetic rubber seal ring, along with a new housing.

RIGHT **2** WRONG

When replacing a damaged housing, use the new type housing along with the new piston and wormshaft assembly.

RIGHT **3** WRONG

Always check the cross-shaft adjustment at the 1000- or 2000-mile inspection period.

RIGHT **4** WRONG

Loose lower control arm struts can cause power steering chuckle on rough roads at low speeds.

RIGHT **5** WRONG

Poor returnability from a left turn can be caused by incorrect front-end alignment.

RIGHT **6** WRONG

A column jacket assembled too high on the power unit can affect returnability.

RIGHT **7** WRONG

Installing more than one washer between the snap ring and lower end of the jacket bearing will improve returnability.

RIGHT **8** WRONG

A slight ignition vacuum advance at idle speed is permissible when setting ignition timing.

RIGHT **9** WRONG

Lengthening the choke valve vacuum link with wire will decrease the amount of choke opening at idle and light-load running during the warm-up period.

RIGHT **10** WRONG

Litho in U.S.A.