SERVICE REFERENCE BOOK

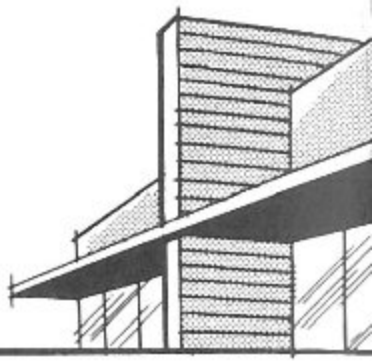
of the MASTER TECHNICIANS SERVICE CONFERENCE

session no. 131

NEW CAR PREDELIVERY SERVICE

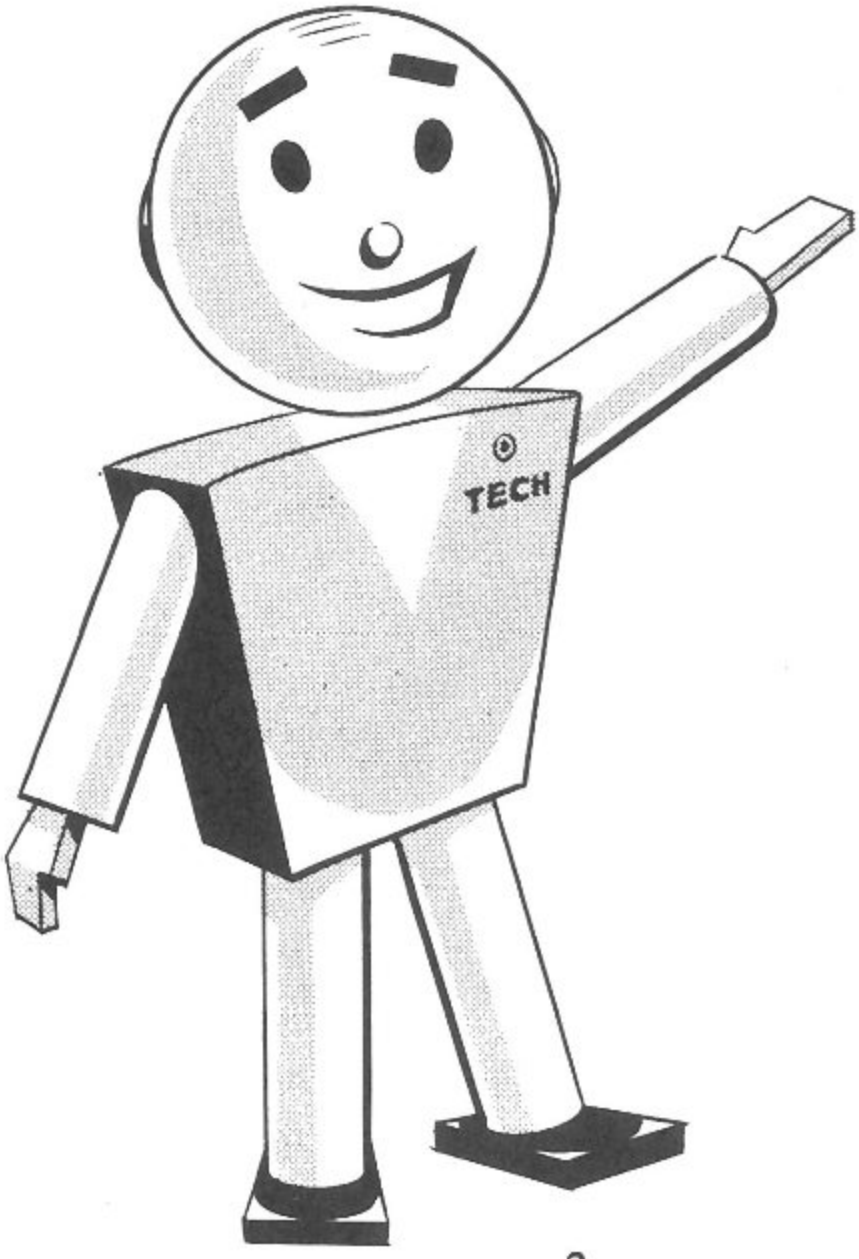
PREPARED BY CHRYSLER CORPORATION

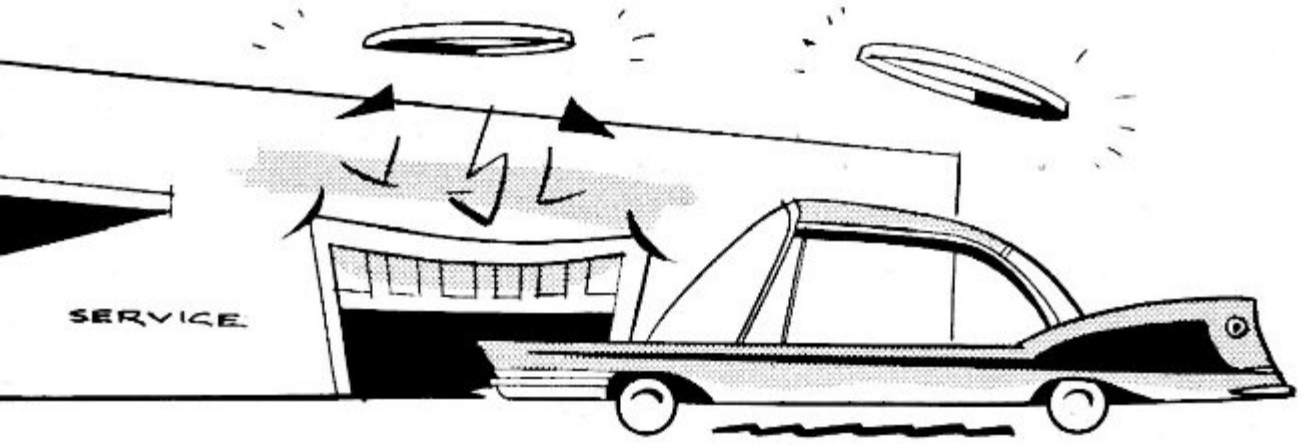
Plymouth • Dodge • De Soto • Chrysler • Imperial



Tech sez:

"DON'T LOSE 'FACE'





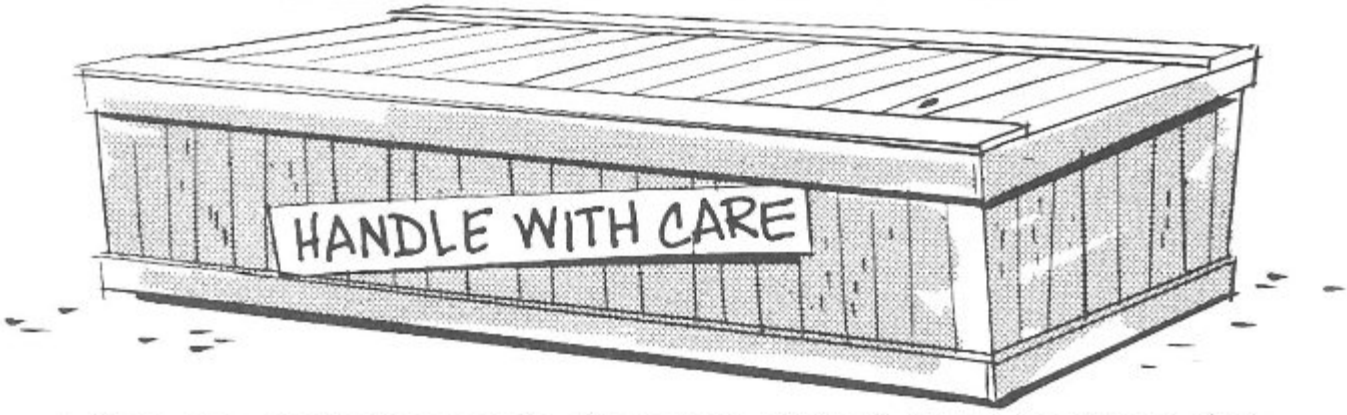
WITH NEW CAR CUSTOMERS!"

Each time you prepare a new car for delivery, there's a lot that's on the line. Product reputation for quality, and your dealership reputation are both at stake. Your own ability to do top-flight service work is especially on display.

New car preparation, then, is a big opportunity to sell your service skill, and make a lasting good impression on new customers. As such, it's the key to *repeat service business*—as well as *repeat new car sales.*

Information outlined in this reference book will help you put your best foot forward during your predelivery opportunities. Page numbers below show you how the story's organized:

WHY NEW CARS NEED PREDELIVERY SERVICE



Cars are made by *people*—thousands of 'em! Even machines that make auto parts are set up, fed, operated, and unloaded by *people*. People assemble the new car, adjust it, paint it, drive it, ship and handle it many times before it gets to your dealership.

With so many people taking part in making something as complicated as an automobile, some little thing is bound to be overlooked or out of adjustment. Nobody can do a perfect job all of the time.

Our customers, however, expect us to provide them with products as nearly perfect as possible. So we can't take chances on a car we're about to deliver. And that's why predelivery service is vital.

Actually, new car get-ready is our best opportunity to get each customer off to a good start with his new car. That not only keeps him satisfied with his purchase, but he'll also be more apt to buy his next new car from us. In the meantime, he'll always have confidence in our ability to service his car properly.

There are three other basic reasons why good new-car delivery is a "must":

(1) The product has a reputation for quality, which we must help maintain.

(2) We are known for doing good service work. Our own reputation depends on how well we service the new car prior to delivering it to the owner.

(3) Our customer pays for predelivery service. Its cost is in the new-car price. And it always pays to give a customer full value for his money.

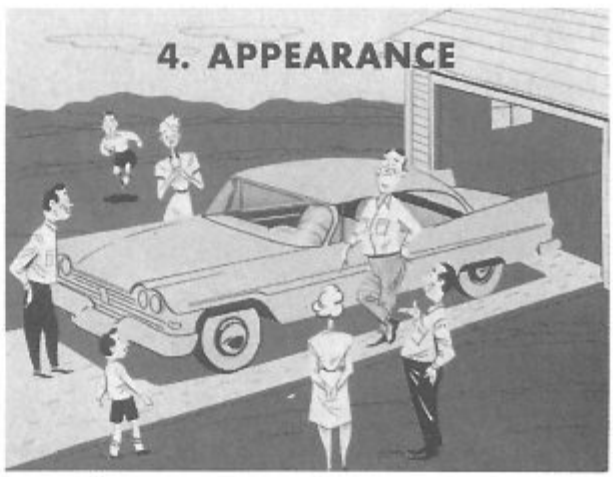
You'll do a more thorough job of new car preparation if you keep in mind four basic areas that should be covered:

SAFETY—Everything related to safe driving needs to be double-checked. Tightening and adjusting operations on front suspension and on brakes are good examples of safety items that must be checked. We have an obligation to see that the car is mechanically safe before it is delivered to the owner.

INVESTMENT PROTECTION—Both you and the owner have an investment in his new car. Should something fail due to lack of attention, somebody will have to pay. Checking lubricant levels, antifreeze protection, and other items help to safeguard this owner-dealer investment.

PERFORMANCE—You know better than any owner how well the car should perform. So see that all controls operate the way they should—from simple things such as car lights, to more complicated units such as automatic transmissions. Dependable performance is the one characteristic that will "sell" the owner on the quality of the product and on the quality of our service.

APPEARANCE. "Handsome is as handsome does." So be sure that the doors fit properly, floor mats are laid carefully in place, and moldings line up neatly. Many owners judge a new car more by appearance than anything else. His friends and neighbors are sure to remind him about any detail that doesn't look as nice as they think it should. An owner will be just as quick to tell you, too!



FOLLOW THE CHECK LIST

Take advantage of the new car preparation check list available for each make of car. Each list has been carefully prepared to cover the points that should be checked on that car for a satisfactory pre-delivery service. So, follow the steps listed. It will save time and help you do the job completely.

Wash the Car First. Most mechanics find it best to wash the car first even though it might get dirty during the predelivery service work. If you don't wash off the dust and dirt that has collected during shipment and storage, you may grind it into the paint. And if you do have to wash the car again, you still won't have to polish out or retouch tiny scratches in the paint.

Close all doors, windows and the deck lid tightly before washing the car. Leave the floor mats in the luggage compartment, and protective covers on the seats. Floor mats will stay cleaner in the trunk. Also, if a body leaks when the car is washed, you'll want water to run onto the floor where you can see it—not under a mat. It will help you spot leak locations.

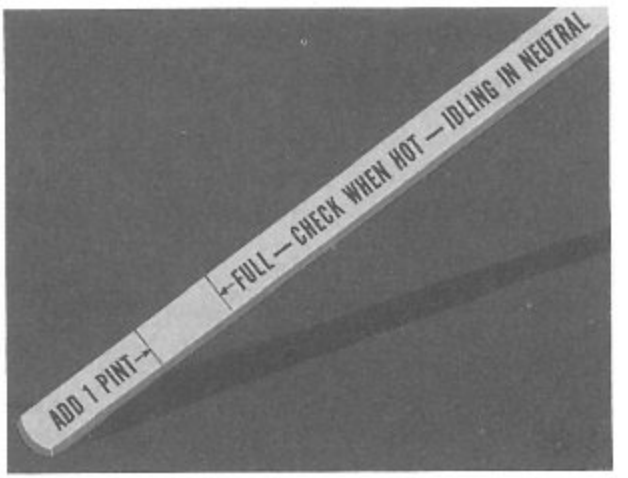
If any leaks are noticed, use soft chalk to mark their location. That's your guide to points that need special attention when you make your door and body inspection later.

Chassis Lubrication. Even though the car is lubricated at the factory, play it safe and lubricate all fittings.

Rear Axle. Check rear axle lubricant level. Tighten carrier bolts and inspect for evidence of leakage.

Manual Transmission. On cars with standard transmission, check the lubricant level and keep a sharp eye out for leaks.

Automatic Transmission. Fluid level must be checked while the fluid is hot and the engine is running. The fluid level dipstick is now marked "FULL" and "ADD 1 PINT". Set the handbrake, and operate all push buttons. This will fill all oil passages and insure a more accurate check. The correct level will range from the "FULL" mark to ½" below "FULL" mark. If the level is down to the "ADD 1 PINT" mark, add one pint of fluid.



Engine Oil. Check oil level in the engine. Do not drain and replace the special break-in oil installed at the factory until after the engine has been operated 1000 miles. If it is necessary to add oil during that period, use the proper viscosity of "MS" grade oil.

Brake Master Cylinder. Make sure the master cylinder is vented. It is plugged to prevent accidental loss of fluid during shipment. When cars are shipped "piggy back", leaking brake fluid might damage the finish of a car loaded below. Fill the master cylinder to its proper level, if necessary, and install the regular filler cap.

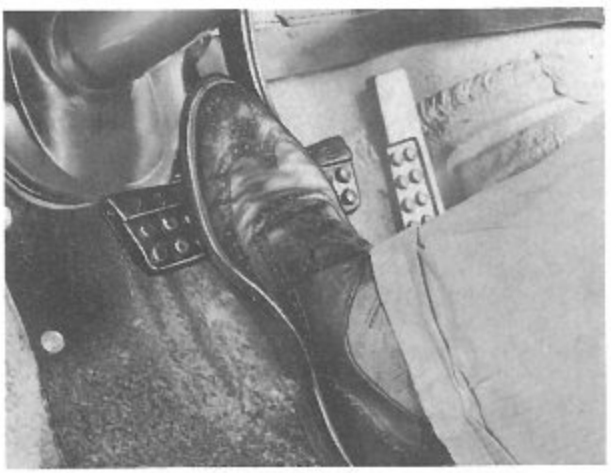
Steering Gear. Check fluid level on power steering-equipped cars, and add fluid if needed. On manual steering cars, check lubricant and add if necessary. Do not use a pressure gun to fill a manual gear, and avoid overfilling with lubricant.

Radiator. Fill the radiator to its proper level. If you expect freezing weather, be sure the cooling system is protected with enough anti-freeze. On all air-conditioned cars, be sure that coolant is protected to 20° F. even in spring and summer.

Windshield Washer. Fill the windshield washer, and add approved solvent. An empty or frozen washer is something that no new owner appreciates.

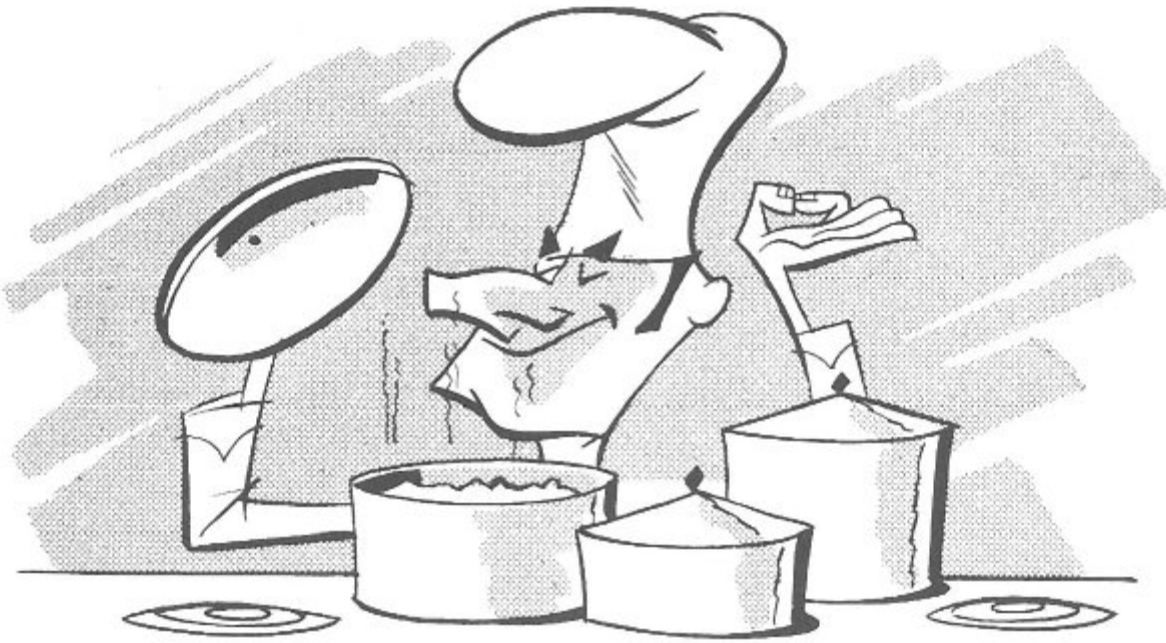
Battery. Test the battery, and charge it if any cell reads less than 1.250. Even a new battery loses some of its punch if the car's not driven regularly. Add water to bring each cell up to its proper level. Tighten the battery cable connections, and coat terminals with petrolatum. Remember that nothing kills an owner's enthusiasm so quickly as a low, or dead battery.

Tires. Inflate all tires to recommended pressures, and you're then ready to move into the service bay for further checks.



Each time you drive a new car, even if it is just across the shop, check the brake operation. Also, check the hand-brake to see how well it holds, and if it operates freely. Check the clutch pedal, if there is one, for 1″ of free-play and for smooth action.

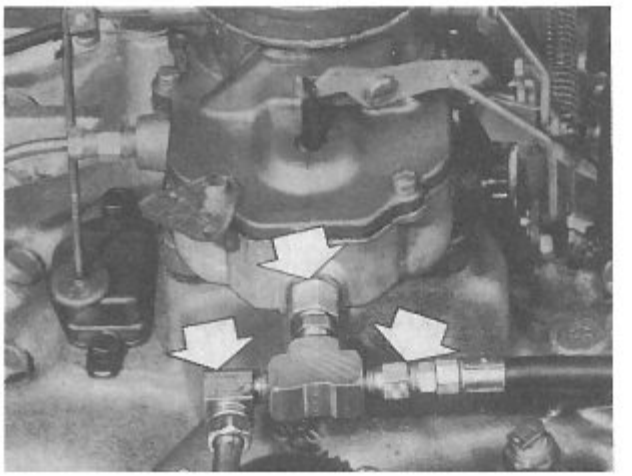
UNDER-THE-HOOD CHECK POINTS



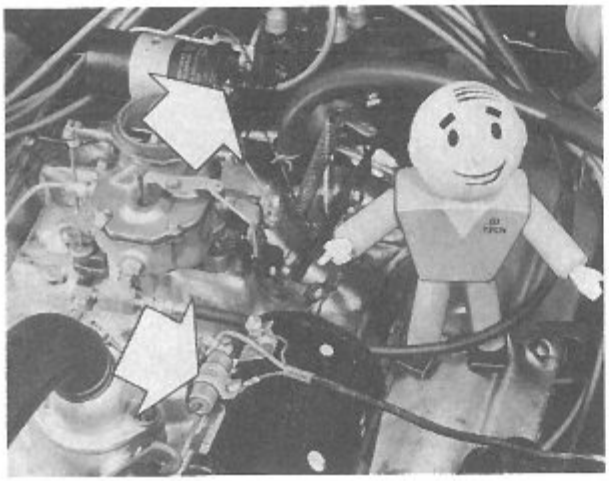
Fast Idle. When you start your under-the-hood checking, the engine is probably cold; therefore, it will run at fast-idle speed. So, hook up a tachometer and see if the engine runs at 1400 r.p.m., and if the fast-idle linkage is working freely. You can check curb-idle speed later, after the engine's warmed up.

Hose Connections. Check all hose connections next—water, heater, power steering—for leaks and tightness. Make sure no hoses hang down where they can get pinched, or burned.

Put a wrench on all fuel and brake lines that you can reach in the engine compartment. A wrench is the only way to check tightness positively.



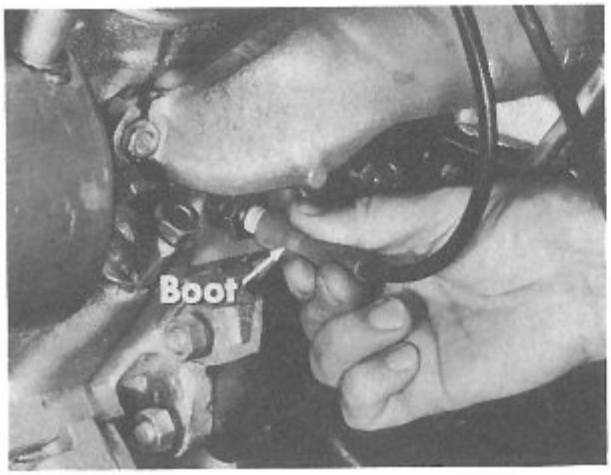
Electrical Connections. Don't forget to check electrical connections for tightness, too. Examine the starter, generator, and all ignition wires and their terminals. Be sure the plug-in type connectors are *firmly* connected. As most of you know, a loose connection will arc and corrode. A tight connection, on the other hand, will stay tight and clean.



See that protective rubber covers are in place. Make sure all wires are properly routed and securely retained by clips so they won't be damaged.

CAUTION: Go easy on checking spark plug cables for tightness.

And, if you ever have to remove the cables, be sure to pull on the terminal *boot*—not the cable. The electrical conductor in spark plug cables marked with the name "radio" is not a wire. It is either woven cord impregnated with electrical conducting material, or a rubber core with a similar conductor. This type of cable serves as an electrical resistor, to reduce ignition interference in radio reception. Pulling the cable may stretch it, and change its resistance value.



Mounting Bolts, Drive Belts. Another good item to cover is tightness of generator, power steering pump and air conditioning compressor mounting bolts. After putting your wrench on those bolts, check drive belt tensions and see that they're drawn up tight according to specifications. Drive belts need adjustment even after brief operation.

But once they're tightened properly, they'll hold their adjustment. Check tensions you get against those specified for the "M" Series models in the chart below.

GENERATOR AND POWER STEERING DRIVE BELT TENSIONS

(Used belts—belts that have been run 15 minutes or longer)

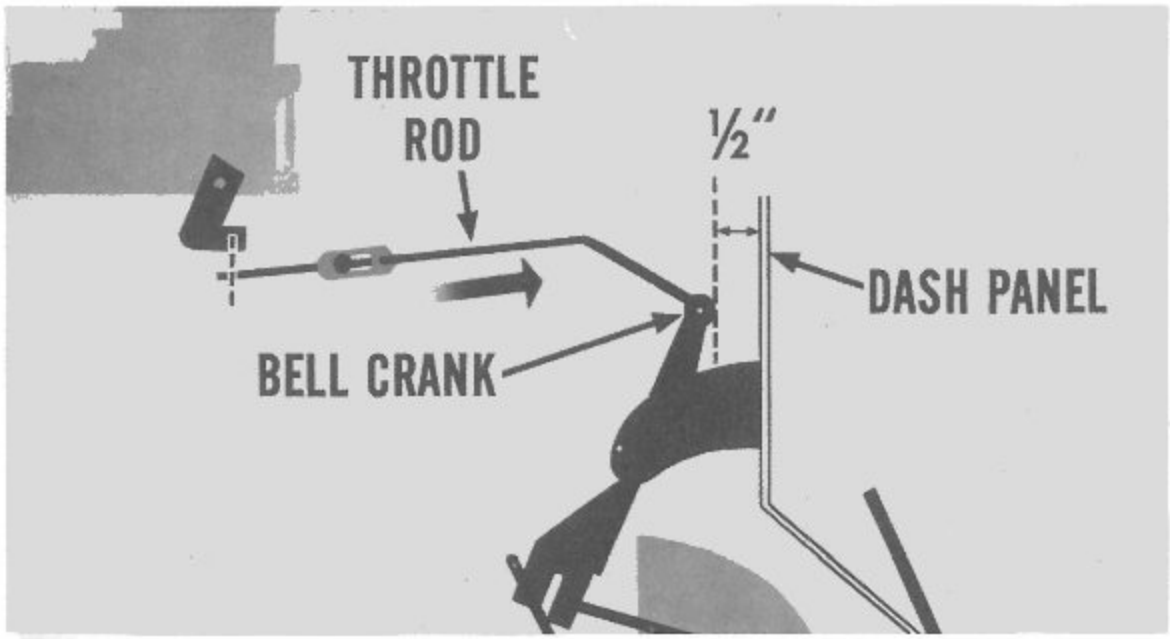
	TORQUE (FT.-LBS.)	DEFLECTION (INCHES)
6-CYLINDER ENGINES		
Crankshaft-Water Pump-Generator Belt	20	5/32
Crankshaft-Water Pump-Power Steering	20	5/32
Water Pump-Generator	10	7/32
V-8 ENGINES		
Crankshaft-Water Pump-Generator	20 (15 on Dodge Coronet)	1/4
Crankshaft-Power Steering	55 (50 on Plymouth and Dodge Coronet)	3/16 (1/8 on Plymouth and Dodge Coronet)

NOTE: Refer to appropriate shop manual for specifications on new belts, and for tension specifications applicable to air conditioning compressor and air suspension compressor drive belts.

Manifold Nuts. Tighten manifold and carburetor mounting stud nuts. Test the exhaust manifold heat control valve to see if it operates freely without binding. If it tends to stick, put a few drops of Manifold Heat Control Valve Solvent on the shaft.

Curb Idle. If the engine's up to operating temperature, adjust curb idle to specifications for the car you're getting ready. Every owner expects a new engine to idle smoothly at the proper speed. Unless engine idle is right, the automatic transmission won't shift as smoothly as it should.

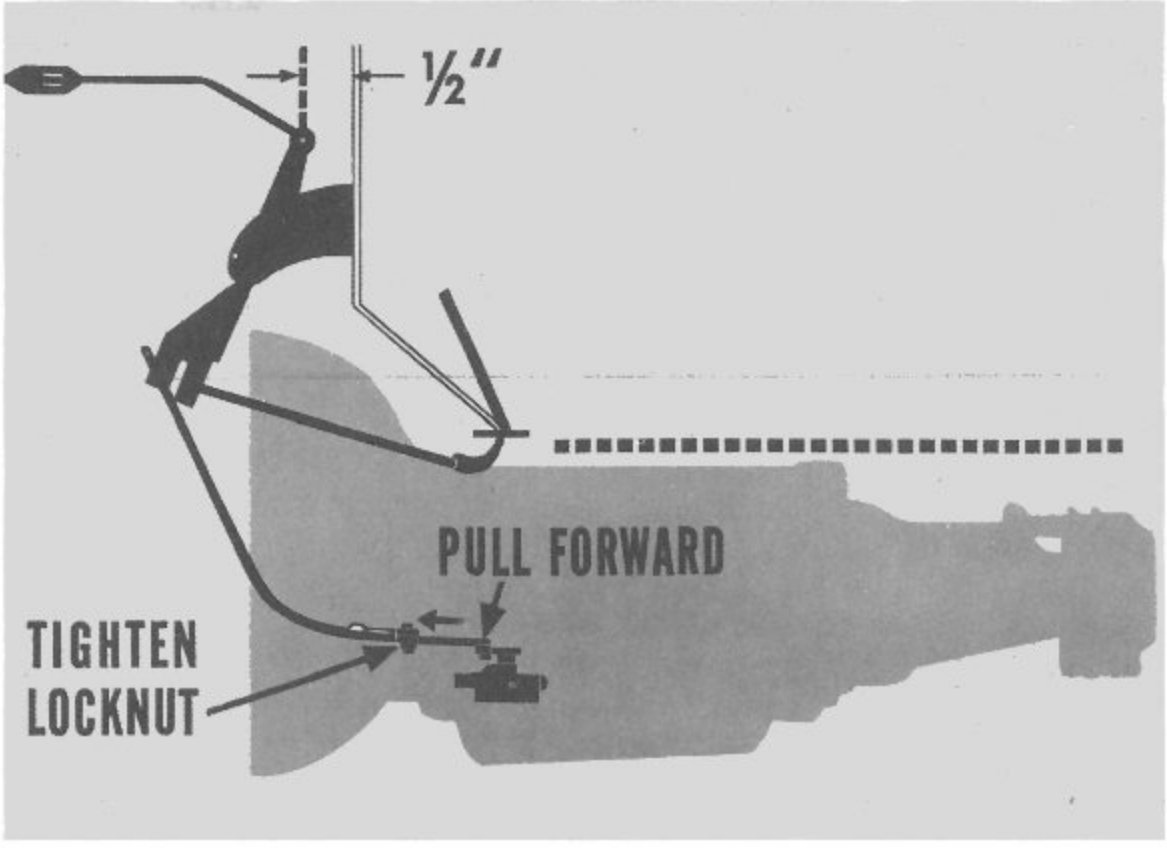
Throttle Linkage Adjustment—Automatic Transmission. To make this adjustment, the carburetor throttle lever must be in slow-idle position —off the fast-idle cam. Disconnect the throttle rod from the throttle lever at the carburetor.



Next, move the throttle rod rearward to the limit of its travel. There should be ½" clearance between the rear edge of the bell crank and the dash panel. With the bell crank in that position, adjust the length of the rod so the carburetor end will line up with the carburetor throttle lever without moving the lever from idle position.

If you don't have ½" clearance between the bell crank and the dash panel, leave the throttle rod disconnected at the carburetor.

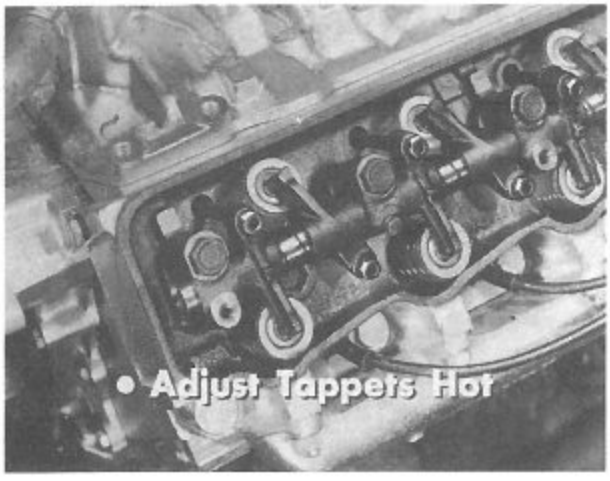
Make sure the engine is warmed up, and the carburetor adjusted to give recommended idle speed. Loosen the throttle lever locknut at the transmission. Have a helper hold the bell crank lever so that the ½" dimension is correct. With the bell crank lever held, pull the transmission end of the bell-crank-to-throttle-lever linkage as far forward as you can, and tighten the locknut to secure the adjustment.



Then, with the bell-crank-lever-to-dash-panel clearance correct, adjust the length of the throttle rod so it can be connected to the carburetor throttle lever without moving the lever.

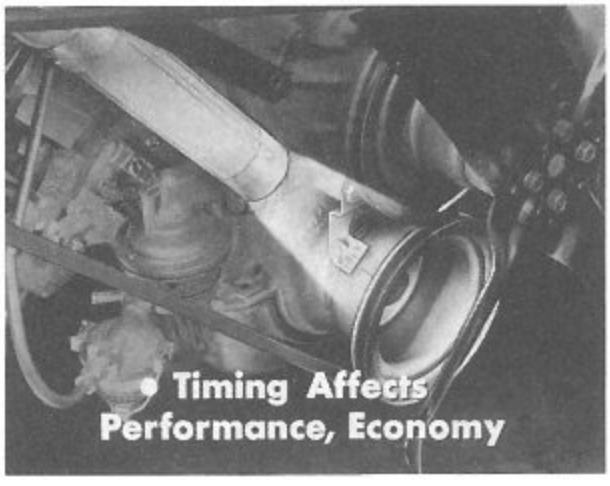
Don't forget to check the accelerator pedal position. You must be able to get a kickdown without compressing the floor mat. If necessary, you can adjust the length of the pedal-to-bell-crank rod to increase or decrease pedal travel.

Tappets. Even though tappets are quiet, it pays to adjust them on every engine that doesn't have hydraulic lifters. A noisy tappet can bother an owner, but isn't apt to cause any serious trouble. A quiet



• Adjust Tappets Hot

tappet, however, might mean insufficient clearance, and result in burning a valve. And, always adjust tappets *hot,* so they will have the proper clearance for normal running. This is an important operation on every predelivery service of a mechanical-tappet engine.



• Timing Affects Performance, Economy

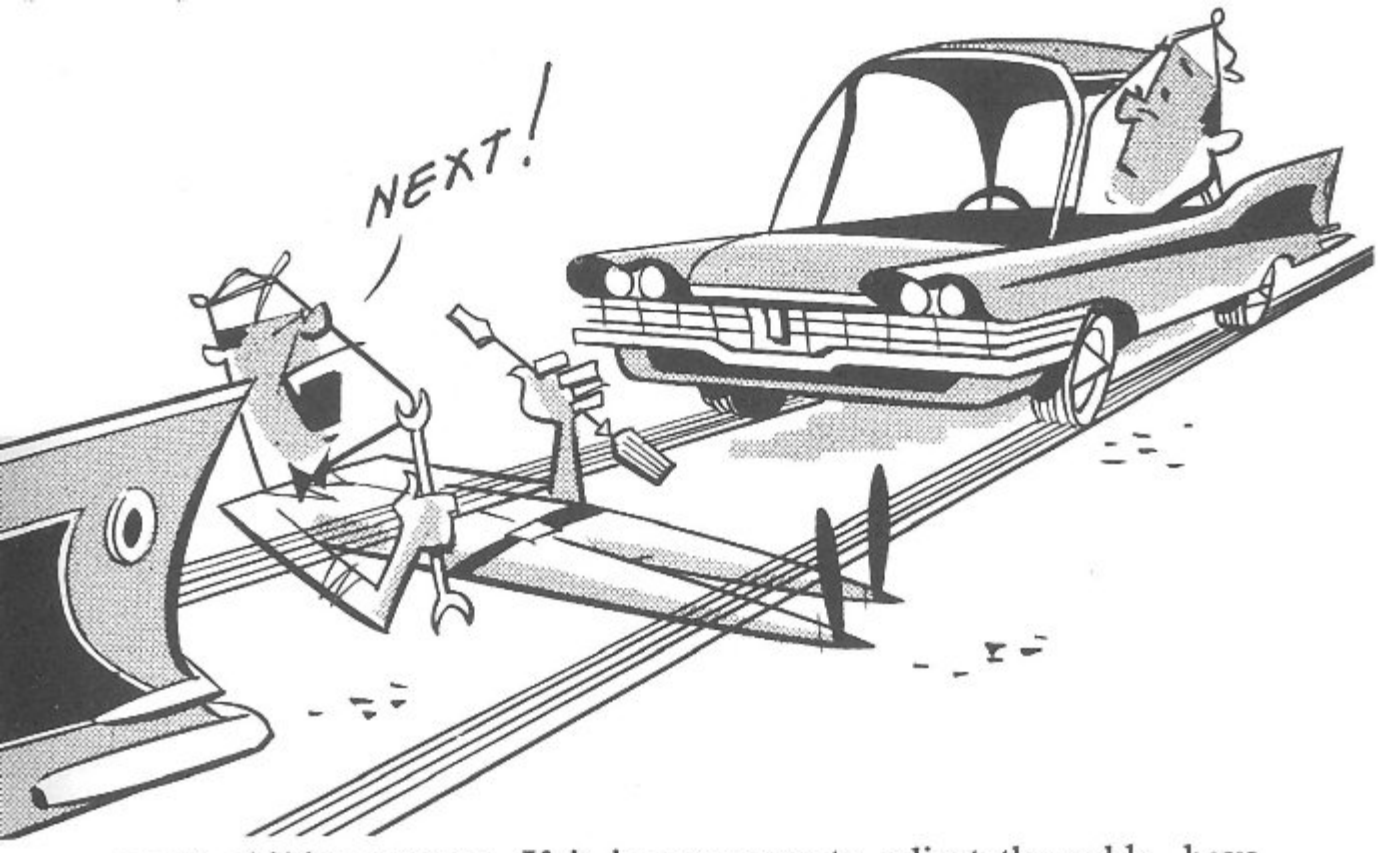
Timing. Since timing affects both performance and economy, be sure to set timing properly according to specifications for the engine. On V-8 engines, remember, you must disconnect the vacuum advance line and use masking tape to be sure engine vacuum isn't partially advancing the distributor.

Hood Latch. That covers most of the under-hood items to be checked. But as you close the hood, make sure the hood latches and releases easily. An owner's apt to open and close the hood often for the first few days to show his friends the new engine.

UNDER-THE-CAR CHECK POINTS

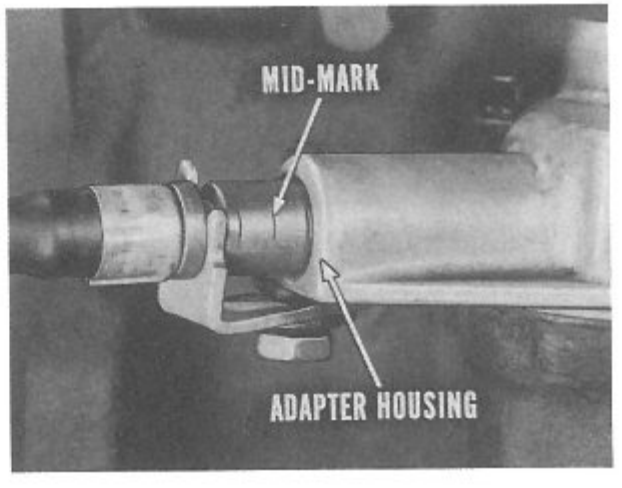
You'll soon learn which rattles and other troubles show up under the car on a road test, so you'll know just about what to tighten and check. Shipping hold-down clamps, of course, should be removed or they'll prevent proper spring action.

Push-Button Cable Adjustment. On cars with automatic transmissions, always check the push-button cable adjustment to insure a

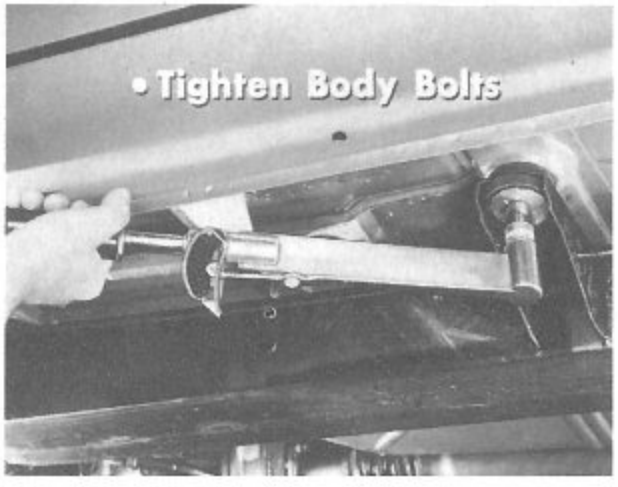


smooth shifting pattern. If it is necessary to adjust the cable, have somebody hold the "R" button all the way in to remove free-play at the button box. Next, loosen the screw holding the cable adjustable bracket to the adapter housing on the transmission. Remove the neutral starter switch. Then, use a screwdriver to hold the manual valve lever in reverse detent position.

Push the cable *all the way into* the adapter housing, and mark it. Do not use excessive force. Pull the cable out *all the way,* and mark that point on the cable. Then, put a mark mid-way between the two marks. Push the cable *in* until the mid-mark is flush with the adapter housing, and tighten the screw. Reinstall the neutral starter switch. Be sure the manual valve lever is centered in the hole so it can make positive contact with the switch. If the lever is not centered, remove the oil pan and correct the condition before you install the switch.



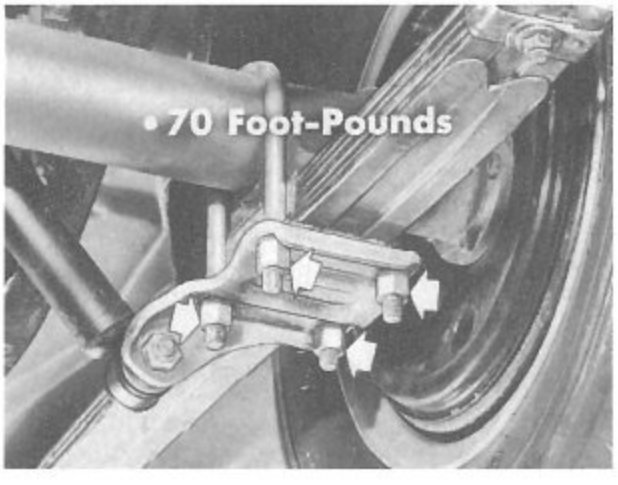
Brakes. Since brakes are an important safety item, tighten all line connections and check for leakage. When you adjust brakes, be sure the final movement of the adjusting cam is *toward* the shoe, and don't try for a high pedal. Your final check should be that each wheel turns freely without any drag. The parking brake shouldn't drag, either.



Body Mounting Bolts. Tighten body mounting bolts according to the specifications for the car you're getting ready for delivery. The body must be snugged down properly before you check door fit and operation later. Body mounts can shift or take a set during shipment.

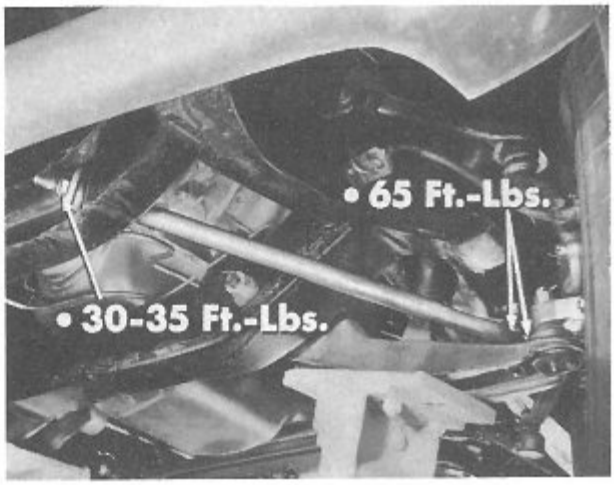
Bumper Brackets. A slightly loose bumper can really sound off because it is wrapped so snugly around front and rear end sheet metal. It's a lot easier to put a wrench on the bolts now than it is to find out which one made the racket during your road test.

Muffler and Tailpipe. Put a wrench on muffler and tailpipe mounting bracket bolts. They should be tight and the tailpipe should clear all possible points of contact so it won't rub or rattle when the car rides over rough roads.



Rear Axle U-Bolts. Since a loose U-bolt can cause brake howl, erratic brake action, and even lead to spring breakage, you'd better tighten the U-bolts. Use a torque wrench to run them down to 70 foot-pounds.

Steering Gear and Linkage. Tighten all steering gear attaching nuts, inspect tie rod and drag link ball joints, and tighten the lateral strut-to-lower-control-arm mountings. These struts take most of the front wheel braking force. If they're loose, you can expect brake trouble. A torque of 65 foot-pounds is specified for the strut-to-control-arm bolts: 30 to 35 foot-pounds is called for on the front nut.



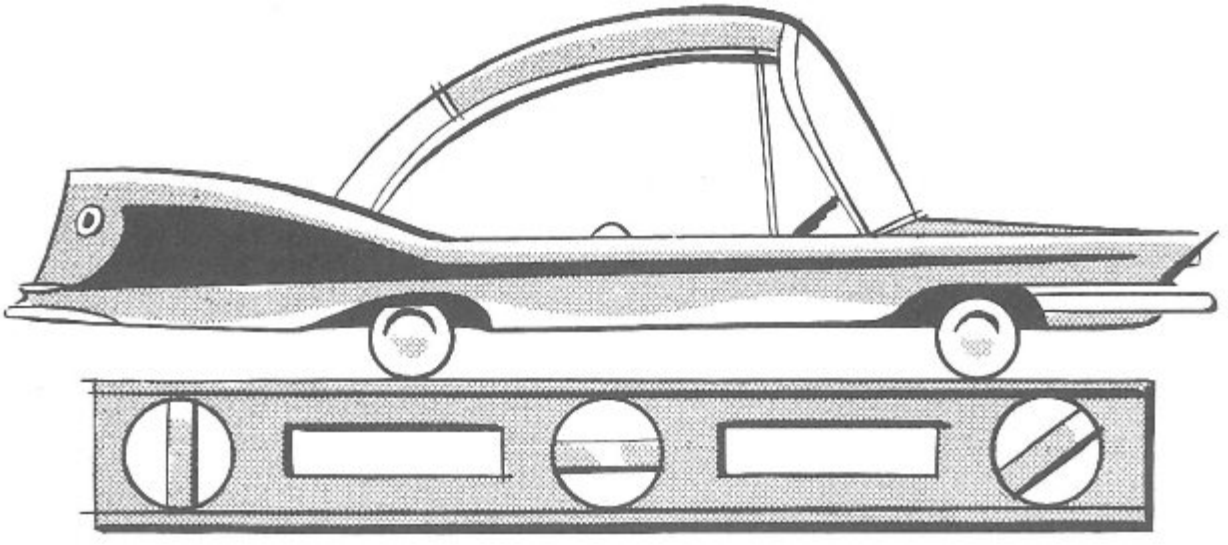
Front Wheel Bearings. Proper adjustment of the front wheel bearings is another safety item. A loose or dry wheel bearing can cause brake pull, as well as brake noise. With the new wheel spindle lock nut, you'll find it easy to adjust the bearings right to specifications.

Wheel Hub Bolts. Tighten wheel hub bolts. And if anybody suggests swapping wheels and tires from one model to another, be sure the wheels are interchangeable. The bolt circles may match, but the wheel might not fit properly on the drum. This, naturally, can lead to a serious brake headache.

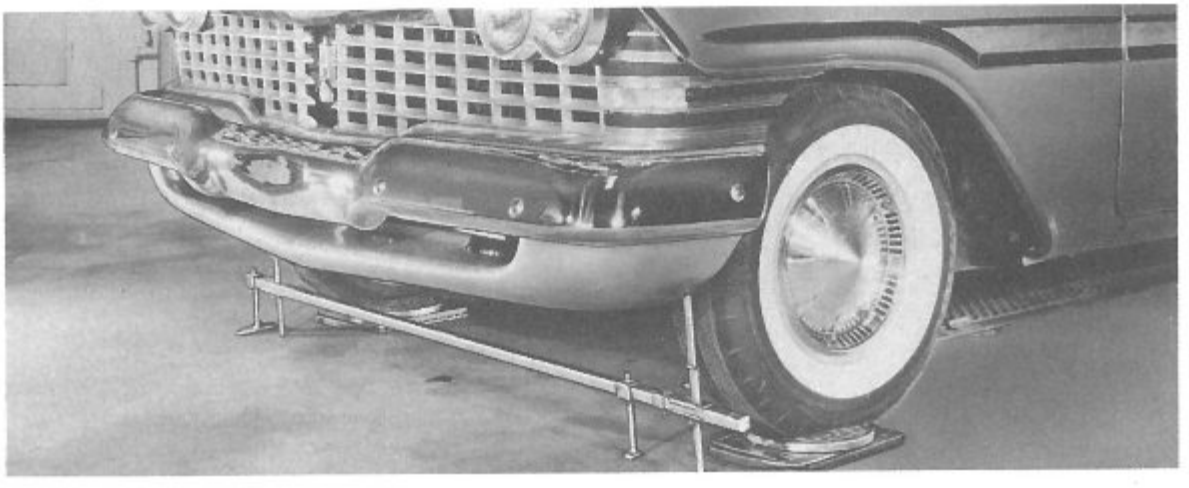
Wheel Covers. If the axle nut cotter pins are in place, install the wheel covers.

SERVICE FLOOR OPERATIONS

Front Suspension. Front suspension level is important to brake operation and car handling. Even though suspension level is checked at the factory, some changes can take place during shipment. After all, the full car weight rests on the suspension for quite a distance; springs and control arms get quite a workout in transit. So the level must be checked.



Toe-In. Always check toe-in. Improper toe-in affects handling and can cause rapid tire wear. At the same time, you can make sure that the steering wheel is centered in straight-ahead position.



Headlight Aiming. Check headlight aim on every new car by using the mechanical headlight aimer. State laws are strict about headlights. If a new owner gets a traffic ticket because the headlights are incorrectly aimed, he's not going to like it.

Jack and Spare Tire. Check the jack for operation and see that it and the spare tire are stowed securely so they won't rattle. This is also a good time to install the floor mat in the luggage compartment.

Deck Lid. Close and open the deck lid a few times to check operation of the latch and key. Inspect the fit carefully. Look for metal-to-metal contact with adjacent panels. If water got into the luggage compartment during the car wash, now's the time to correct the leak.

Floor Mats and Seat Cushions. Install the floor mats and make sure that seat cushions are firmly in place. Nails for holding the mats down smoothly are usually found in the glove compartment. Avoid getting the mats and upholstery dirty. Protective covers will help.

Doors and Keys. Check the opening and closing of every door. Make sure the keys fit and work easily in the locks. Test operation of all door glass, the vent windows and latches. These showcase items are important. Remember that if the doors and windows passed the wash-test, you can be reasonably sure you're delivering a tight car. Otherwise, this is the time to correct leaks at those points.

Power Window Lifts. Run windows up and down on any car so equipped. Make sure that the switches work properly, and the glass is perfectly aligned.

Convertible Tops. Any owner of a new convertible is sure to give the top a workout his first few weeks. So, check up-and-down operation and be sure to check the fit of the boot along with the latching mechanism.

Suburban Tailgate. On Suburban models, check operation and fit of the tailgate. Run the tailgate glass up and down and make sure the new owner won't have any difficulty. On some models, the owner won't be able to reach his spare tire unless the tailgate opens. Where the spare is mounted in the rear fender, make sure the mounting and latching mechanism works easily. On all Suburbans, see that the spare tire and tools are stowed so they won't rattle.

Seat Adjuster. Operate the front seat to its forward and rearward limits of travel. Models with new swivel seats deserve an extra operational check. Swivel seats are certainly going to be shown to a lot of

the owner's friends and neighbors. Power seats should also be operated to see that they work as they should.

Rear View Mirror and Sun Visors. Inside the car, check everything the owner's apt to use the first time he drives the car. You can be sure that he'll try everything he can reach. The rear view mirror and sun visors, for instance . . . see that they adjust easily and stay put, once they're adjusted. Check the ash tray for ease of operation.

Control Knobs. Do more than turn control knobs. Try to pull them off. If any are loose, be sure to tighten them or the owner will bring them back with blood in his eye. It's always smart to check controls and switches to see that all of them work as they should.

Glove Compartment, License Plates. Don't forget the owner's manual, and the owner's service policy completely filled out. Install the license plates, fill the gas tank, and you're ready for the road test.

ROAD-TEST THE CAR

If you've taken care of all the steps up to this time, you'll have little to do after a road-test. But, by driving the car over various road surfaces, and at different speeds, you can make doubly sure that the new car passes your own standard of perfection. So, always put the new car through its paces.

Primarily, what you want to check is handling, ride, roadability, braking, overall performance, feel and sound on bumps, operation of accessories and all the instrument panel gauges.

Directional Signals. On a series of right and left turns, check handling, wheel returnability, and operation of directional signals. Make sure the horn blows with the steering wheel in all positions.

Shifting. On standard transmissions, shift up and down to check operation of the clutch and gearshift linkage. On automatic transmissions, check the entire shift pattern. Try all push-button positions, and be sure to check kickdown operation.

Braking. Test the brakes for noise, pull, straight-line stops. Try the brakes at higher speeds and at different pedal pressures.

> **NOTE:** Never try to burn in new linings. Overheating linings and drums before they're seated by normal stops is a short cut to brake troubles. Instead, adjust brakes properly.

Rattles, Shock Absorbers. Drive over track crossings to check for rattles and squeaks. Make a note of any noises to correct on your return. This run over tracks will also check out ride and shock absorber action.

Steering and Handling. Check steering on a straight run to see if there's any tendency to wander. Check cornering, wheel return, and ease of handling. On power steering cars, check low speed and parking operation.

Engine Performance. You're a far better judge of engine performance than most new owners. So check for quiet operation as well as pep and go when you accelerate. If the engine starts easily, runs smoothly, responds quickly—and satisfies *you,* the new owner will certainly be happy with it, too.

CHECK THE ACCESSORIES

An owner shelling out extra cash for luxury items expects them to add to his driving enjoyment. So, give all the accessories a dry run and make sure the new owner won't be disappointed.

Windshield Washers and Wipers. Try the washers to check aim of the jets. Start the wipers—check their sweep and parking ability. Adjust the jets and wiper arms if necessary.

Heater. If it's cold, you'll have checked this unit early in the game. If the weather's hot, check fresh air operation. Check hot air delivery when you get back.

Air Conditioning. Be sure to test this unit with the controls in all positions. If the weather's cold, check the unit in a heated room.

Radio. Make sure each new customer enjoys the best radio performance and reception in the locality where he'll do most of his driving. So, on the road test, extend the antenna fully. Warm up the radio for 15 minutes. Then, park and set push-buttons to the best local stations. Check reception and be on the lookout for volume fading, weak signals, or poor touch-tune operation. If you feel reception's weak, remove the mounting screws so you can turn the antenna trimmer adjusting screw until maximum volume is attained. This screw is on the right side below the antenna receptacle.

FINAL CLEAN-UP AND INSPECTION

Normally, you'll have few final adjustments to make outside of correcting anything that didn't please you on the road test. In fact, if it didn't rain during your test, you may not even have to wash the car again. Wipe off any small streaks of water that blow away from the moldings, though, and make sure all the glass is clean.

Remove stickers, shipping tags, loose threads, and so on. Check for spots inside, and you're done. Remember that you want to deliver a car that will really impress the new owner from the moment he gets the keys!

THE NEW CAR PRESENTATION

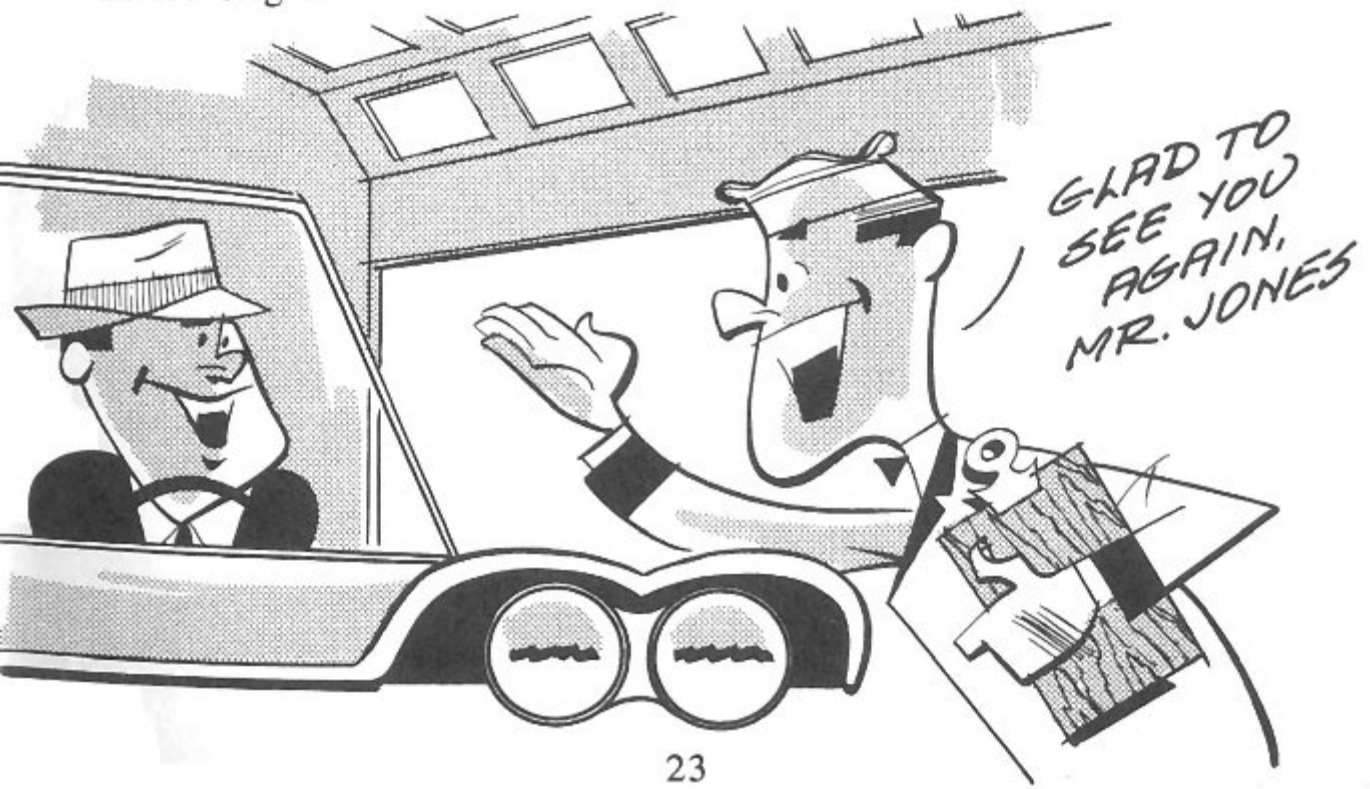
If you've done a thorough job, your service manager's presentation to the customer will serve everybody well. He should meet every new owner, and offer the facilities of the service department.

At the same time, he can explain the Owner's Service Policy, demonstrate all new controls and accessories. He should explain that the Owner's Manual will answer many questions on operation and care of the car. Each new owner should be shown how to enjoy the new car to its fullest.

If the new car is shipshape from every angle, the new owner will be glad to return for regular maintenance and all his service needs.

SUMMARY

The best test of new car preparation and the quality and value of all of your work is how many customers *keep coming back for more.* Good predelivery practices are important to both *repeat service business* and *repeat new car sales!* Do your part and keep your future bright!



RECORD YOUR ANSWERS TO THESE QUESTIONS ON QUESTIONNAIRE NO. 131

Thorough predelivery service is a "must" since the customer pays for it and it helps maintain quality and dealership reputations.	RIGHT	1	WRONG
Fast idle on a new engine that's cold should be set at 1400 r.p.m.	RIGHT	2	WRONG
Since the battery is new, there's no need to test it.	RIGHT	3	WRONG
Remove spark plug cables by pulling on the terminal boot or you'll stretch the combination cable-resistor and change its resistance value.	RIGHT	4	WRONG
Drive belts need adjustment after brief operation.	RIGHT	5	WRONG
Proper engine idle, fluid level, and throttle linkage and push-button cable adjustments insure a smooth-shifting automatic transmission.	RIGHT	6	WRONG
A loose rear spring U-bolt can cause brake howl, erratic brake action, and premature spring breakage.	RIGHT	7	WRONG
A loose or dry front wheel bearing can cause brake pull and brake noise.	RIGHT	8	WRONG
Burning in the new linings at high speeds is a short cut to proper brake adjustment.	RIGHT	9	WRONG
New cars should be presented to the owner by the service manager, who can explain operation of all accessories and regular maintenance needs.	RIGHT	10	WRONG

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