

This Is How It's Done

"Holy Hamburger," yells Mr. Donovan, "a hundred and seven dollars—What do you think I am—Do you think money grows on trees?"

One of two things is evident: It's beyond either his willingness or his ability to pay. Anyway, he's got us on the spot and we've got to sell for all we're worth—without making the mistake of over-selling him and destroying his confidence in our judgment of his needs. Here's how one service salesman does this job.

"I can appreciate how you feel about this, Mr. Donovan. Let's go over these items again and perhaps we can do a little trimming. We *could* pass up this rebor-ing of the cylinders and fitting over-sized pistons—for the time being, anyhow. Suppose we specify new rings. They'll do very nicely for a *while*. But this brake lining is something we had really better do. It's dangerous to drive any longer with them in their present condition."

After all, half a loaf is better than no bread at all; and certainly we don't want to have our owner taking his car to the competitive shop around the corner where they will sell him anything just to get his business.

So in writing up and selling the order, let's remember these essentials:

First, to describe each operation with a good reason for its price; second, to gain commitments on the individual items and total; and third, to get the owner's approval of the order. It's a lot easier to avoid arguments and disputes if the customer has a perfect understanding of his bill in the first place.

And now—just a word about promises. It's a good deal better to be short on promises and long on performance than the other way around. Don't let a cus-

tomers try to rush you into making a promise you can't keep—but on the other hand, let's guard against being too conservative, especially if the case is really urgent.

Broken promises are one of the major causes of customer dissatisfaction. So it's always well either to attach a condition to a promise—or to notify the owner promptly of any delay which will make it impossible to deliver the car on time.

And finally—remember this—every courtesy, friendliness, and service that we offer the owner of a new Packard, should be offered to the owner of an old Packard. For he is always a member of the Packard family as long as he owns that car. He is always a possible customer—and maybe one of our *best* prospects for a new Packard!

Now, let's review the 5 steps in handling the owner—

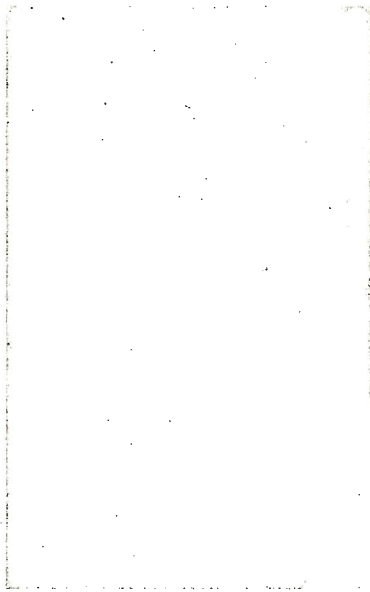
1. Prompt attention.
2. Diagnosis of the owner—and building his confidence and good will by a professional attitude and sympathetic understanding of his problem.
3. Accurate diagnosis of the customer's car and of the service job to be done.
4. Selling the customer on the need for the job—the price and the time necessary to do it right the first time.
5. Making and keeping promises.

If we follow the suggestions covered in these steps, we are going to get a lot more service work—we are going to have a lot more satisfied customers—and we are going to have a lot more new car owners, who in turn will become good service customers.

"EVERY OWNER A SALESMAN"

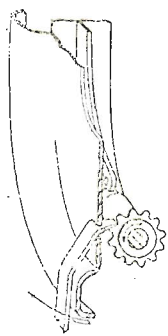
Brake Adjustment Instructions

The first and most important matter connected with a brake adjustment is to make sure the brake control system is functioning properly. It should operate freely, permitting the brake pedal to come back just clear of the toeboard and each brake cable to return to its released position.



(Fig. 1) LEFT FRONT BRAKE

1. Eccentric Adjustment
2. Adjusting Screw Hole Cover
5. Anchor Pin Nut



(Fig. 2)

Do not make any changes in the brake control system to compensate for brake lining wear. The only adjustments provided for this purpose are at the brakes proper and are as follows:

The Eccentric Adjustment (Fig. 1). This adjustment centralizes the brake shoes in the brake drum.

The Adjusting Screw (Fig. 2). This adjustment regulates the clearance between the brake lining surface and brake drum to compensate for lining wear.

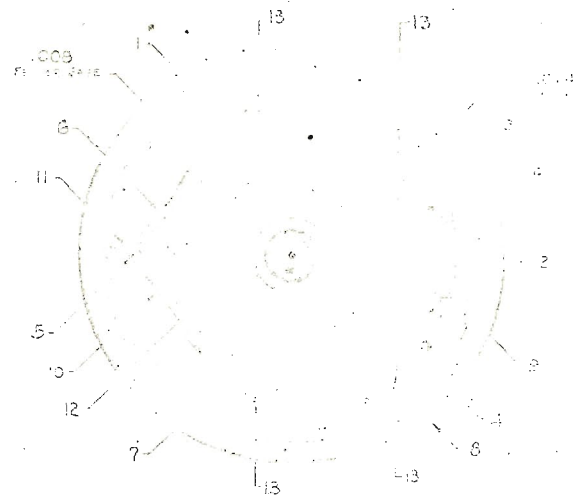
ADJUSTMENT FOR WEAR ONLY

1. Jack up all four wheels. Inspect position of cross shaft to be certain that same is in a fully released position.

2. Inspect the brake cables. If loose or unequal make adjustments of all four cables as outlined in operations 8 and 9 under complete brake adjustment.

3. Remove inspection hole cover from brake drum. Loosen eccentric lock nut on eccentric adjustment and insert .014 inch feeler gauge between the brake drum and lining as indicated in (Fig. 4) at about 1½ inches from the adjusting screw end of the top shoe lining. Turn the eccentric adjustment in the direction the wheel revolves when the car is moving forward until .014 inch feeler is snug. Tighten the lock nut.

4. Try an .008 inch feeler at a point 1½ inches from the anchor pin end of the top shoe lining or in position indicated. (Fig. 4) .008 inch feeler gauge.



(Fig. 4) LEFT FRONT BRAKE

- | | |
|----------------------------------|----------------------------------|
| 1. Secondary Brake Shoe. | 8. Backing Plate. |
| 2. Adjusting Screw. | 9. Adjusting Screw Spring. |
| 3. Secondary Brake Lining. | 10. Primary Shoe Return Spring. |
| 4. Primary Brake Lining. | 12. Operating Lever. |
| 5. Anchor Pin. | 13. Brake Shoe Hold Down Spring. |
| 6. Secondary Shoe Return Spring. | 14. Adjusting Screw Pivot Nut. |
| 7. Cable Return Spring. | |

The clearance at this point should not vary more than .003 of an inch. Should the variation be greater than .003 of an inch it will be necessary to relocate anchor pin as outlined in operations 4 and 5 of complete brake adjustment. **DO NOT READJUST THE ANCHOR PIN, HOWEVER, UNLESS THIS INSPECTION SHOWS IT NECESSARY.**

Expand brake shoes one notch at a time with the adjusting tool (Fig. 2) until lining comes in contact with the brake drum. Release the adjusting screw at each of the four wheels from 20 to 30 notches, using care to see that the same number of notches is released at each of the four wheels.

5. Depress the pedal with pedal jack until wheel with the least brake drag can just be turned over by hand. Then back off the adjusting screw on the tight brakes until the brake drag is alike at all four wheels. Figure 2 shows adjusting screw being tightened.

6. Remove pedal jack and check all wheels for freeness.

7. Lower car and make final check on brake testing machine or road.

ALWAYS LOOSEN ADJUSTING SCREW ON TIGHT BRAKES RATHER THAN TIGHTEN ADJUSTING SCREW ON LOOSE BRAKES. This is a safeguard against a car going into service with some one brake too tight.

9. Replace drum inspection hole covers and adjusting screw hole covers.

COMPLETE BRAKE ADJUSTMENT

NOTE: This complete brake adjustment is to be followed in cases where an inspection as in paragraph 5 shows that shoe adjustment only will be inadequate or where new shoes have been installed.

1. Jack up all four wheels.

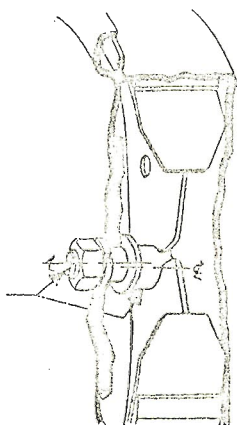
2. Disconnect all four cables at their respective cross shaft levers by removing clevis pins from clevises.

3. Inspect the position of the pedal shaft and cross shaft to see that these parts of the control system are returning freely to a fully released position.

The position of the brake pedal with respect to the road board should be checked to make sure that it is just clear of the board and any adjustment that is required to put the pedal in the proper position is accomplished by either shortening or lengthening the hand brake cable. The hand brake lever should be in the fully released position and all four brake cables disconnected.

4. Remove adjusting hole covers (2) (Fig. 1) and inspection hole covers on the brake drums. Loosen eccentric lock nut on the eccentric adjustment and insert .014 inch feeler gauge between the lining and the brake drum as indicated in (Fig. 4) at about $1\frac{1}{2}$ inches from the adjusting screw end of the top shoe lining. Turn the eccentric in the direction the wheel revolves when the car is moving forward until the feeler is snug.

5. Loosen the anchor pin nut (Fig. 5) and rotate the anchor pin in the same direction wheel revolves when the car is going forward and adjust the eccentric to give the specified clearance of .014 of an inch at the adjusting screw end and .008 of an inch at the anchor pin end of the top shoe lining.



(Fig. 5)

6. TIGHTEN THE ANCHOR PIN NUT AS TIGHT AS POSSIBLE WITH A SIX-TEEN INCH WRENCH.

7. Perform the above operations on all four brakes.

The outer end of the anchor pin is shown with an indication that the higher side of the screw driver slot corresponds to the high side of the eccentric section of the pin. By turning the anchor pin in either direction the lining will be brought in contact with the brake drum. However, it is desirable that when making an anchor pin adjustment all four anchor pins be revolved in the same direction the wheel revolves when the car is

going forward in obtaining the required shoe clearances.

8. Using adjusting tool expand brake shoes at the adjusting screw (Fig. 2) until each wheel can just be turned by hand.

9. If necessary readjust brake cable lengths as follows:

- Back off each clevis lock nut and remove clevis pins.
- Lubricate clevis pins with graphite grease.
- Adjust clevis until pin can be easily entered through clevis and cross shaft lever holes, meanwhile pulling slightly on the cable to remove slack and back lash at the shoe actuating lever (12) (Fig. 4).
- Install clevis pin and lock with cotter key.
- Tighten clevis lock nuts.

10. Release the adjusting screw at each of the four wheels from 20 to 30 notches, using care to see that the same number of notches is released at each wheel.

11. Follow operations 5, 6, 7 and 8 under Adjustment for Wear Only.

GENERAL INFORMATION

Illustrated in (Fig. 4) is a wheel side view of a left front brake with drum removed. In performing the re-

assembling of brake shoes (3) and (4) into their proper location on the backing plate (8) where *two different types of brake lining* are used in the same brake, it is necessary that the linings and their respective shoes be assembled in a definite location. The brake shoes shown in (Fig. 4) are marked by the letters "S" and "P" abbreviating the words secondary and primary. Irrespective of the position in which the brake assembly is mounted to the axle the primary brake shoe is always the one that comes in contact with the brake drum first during a forward braking application to transfer servo movement to the secondary shoe.

Indicated at (6) and (10) are the brake shoe to anchor pin return springs. The *heavier* spring should always be connected with the *secondary* shoe.

In re-assembling adjusting screw (2) it is necessary that the notch wheel be assembled to correspond to adjusting hole in backing plate.

To remove hold down springs (13) press the outer cupped washer in toward the brake shoe and revolve 90 degrees.

EQUALIZING

It will be found that the brakes will equalize best with a slightly increased pull on the right front wheel.

In setting the brakes, on our factory equipment, the right front wheel is set for a pull of 675 to 650 lbs. with the other three wheels at 500.

The actual pull in pounds will vary with the equipment which is used, but this ratio will remain the same.

LUBRICATION

The brake cables and conduits should be lubricated with No. 213½ Greddag Graphite Grease whenever they are disconnected for relining brakes or any other reason. This can be done by unfastening the conduit support brackets on the backing plate and frame. The exposed part of the cable should then be cleaned and the conduit slipped over the cleaned portion so that the portion of the cable ordinarily covered by the conduit is exposed. This section of cable should then be liberally coated with Graphite Grease and the conduit slipped back into place.

BRAKE ADJUSTING TOOLS

		List Price
ST-847	Brake Anchor Bolt Wrench--16-inch	\$2.25
ST-846	Feeler Gauge--.008 and .014-inch	.30
ST-845	Brake Adjusting Screw Wrench	.25
ST-784	Brake Anchor Pin Adjusting Tool	1.25

Distributor Cap Protection

The SERVICE LETTER of August 1, 1934, described the manner in which the ignition coils should be insulated as a protection against moisture.

Moisture may also cause the short circuiting of the distributor cap, although this is not a common condition. When it develops it is usually the result of leakage at the bonnet center hinge. This can be checked on the wash rack.

Leakage at the hinge can usually be stopped by soldering the edges of the riveted joints which secure the hinge to the bonnet sections. If there is leakage through any of the rivets over the distributor these should also be closed with solder.

In most cases no difficulty will develop, and we do not feel that this treatment is necessary on all cars. We suggest, however, that the hinge be soldered in any case where moisture is found on or in the distributor.

Blue Coral



3. Application of Packard BLUE CORAL.
4. Thorough vacuuming of interior.
5. Spot clean upholstery.
6. Clean chrome parts.
7. Dress top, if necessary.

A suggested price for this complete treatment is \$20.00, however, it may be advisable in some cases to omit some operations listed and reduce the price accordingly.

There is also an over-the-counter market for BLUE CORAL. It can be applied by an individual. But, in making the sale be sure and impress upon the purchaser the importance of following directions carefully.

You are looking for profit producers. How about giving this an honest-to-goodness trial?

25 Years

Due to the success of a number of our distributors in merchandising BLUE CORAL treatments through our Service Department, we have arranged to supply Packard BLUE CORAL through the Factory Accessory Department.

For those not familiar with BLUE CORAL it is a scientific process developed to protect the finish of a new car, and restore the lustre to a car in service. It is not a polish or a wax but a restorative and protector. It removes from the finish all dirt and traffic film leaving a smooth dry glass-like finish.

Application of Packard BLUE CORAL is not easy—it takes from five to six hours of rubbing to properly apply the treatment, but when it is completed you have a finish that will last for several months. The application of Packard BLUE CORAL opens the way to increased labor sales in your Service Department. The opportunity it offers is not simply the sale of a bottle of BLUE CORAL, but the sale of a complete cleanup and re-lusterizing job consisting of the following:

1. Thorough washing of the car.
2. Touch-up all rust spots.

In this picture, besides having a very attractive accessory display, as it is done in Atlanta, we have at the left, Ross Henderson, who has completed twenty-five years with Packard. He was with the factory for a number of years and now handles accessories and parts in Atlanta. Ross says there isn't any secret to it, it's just a matter of hard work.

SUGGESTIONS OR QUESTIONS FROM READERS ARE ALWAYS WELCOME. HOW CAN WE MAKE THE SERVICE LETTER OF MORE VALUE TO YOU? ADDRESS LETTERS—NORM. LULL—EDITOR PACKARD SERVICE LETTER.

STANDARD SIZES AND ADJUSTMENTS—Continued

Model	1100-1-2				1103-4-5				1107		1108					
MOTOR—Cont.																
Clearance to Push Rods—Motor Warm Ex.	.006"				.006"				Automatic Takeup		Automatic Takeup					
Clearance to Push Rods—Motor Warm In.	.004"				.004"				Automatic Takeup		Automatic Takeup					
Width of Contact of Valve Seat	Eight Hundred Eighty-three Ten-thousandths								.062"		.062"					
Clearance between Valve Stem and Guide	Inlet—Minimum—.025" Outlet—Minimum—.045"				Same Same				.0025" .005"		.0025" .005"					
Tension of Valve Springs	43 Lbs. at 3 1/8"				43 Lbs. at 3 1/8"				70 Lbs. at 2 3/4"		70 Lbs. at 2 3/4"					
Oil Pump Pressure at 1000 R. P. M.					Minimum—35 Lbs.—All Models											
Crankcase Oil Capacity	8 Qts.				10 Qts.				10 Qts.		10 Qts.					
Rod Clearance to Surface Oil in Crankcase	1 1/8"				1 1/8"				Front 2 1/8" Rear 1 1/8"		Front 2 1/8" Rear 1 1/8"					
Valve Timing	00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center				00's on Crankshaft and Camshaft Sprockets Should be Nearest together and Line up on Each Side of Center				00's on Crankshaft and Camshaft Sprockets Should be Nearest together on Center Line		00's on Crankshaft and Camshaft Sprockets Should be Nearest together on Center Line.					
Model	1100		1101		1102		1103		1104		1105		1107		1108	
SPRINGS																
Front	900 Lbs.	Body Type	900 Lbs.	Body Type	900 Lbs.	Body Type	950 Lbs.	Body Type	950 Lbs.	Body Type	950 Lbs.	Body Type	1075 Lbs.	Body Type	1075 Lbs.	Body Type
Rear	1200	703	1000	711 1200 712 1200 713 1200 716 1100 717 1100 718 1100 719 1000 721 1200 723 1100 727	1350	714 1350 715	1300	753	1300	750 1200 751 1400 752 1400 756 1300 757 1300 758 1300 759 1200 761 1400 763 1300 767 1400 773	1500	754 1500 755	1300	730 1200 731 1400 732 1400 736 1300 737 1300 738 1300 739 1200 741 1400 743 1300 747 1400 733	1075	734 1500 735 1300 4068 1400 4070 1300 4071 1400 4072 1400 4182 1500 D-788 1500 D-789
REAR AXLE	Six Pints—All Models															
Oil Capacity	Four Thousandths of an Inch—All Models															
Back Lash Between Driving Gear and Pinion—Minimum	Four Thousandths of an Inch—All Models															
Model	1100-1-2				1103-4-5				1107				1108			
STEERING																
Front Wheel Camber	1 1/2 Deg.				1 1/2 Deg.				1 1/2 Deg.				1 1/2 Deg.			
Front Wheel Caster	1 1/2 Deg.				1 1/2 Deg.				1 1/2 Deg.				1 1/2 Deg.			
Front Wheel Toe-in	1/8"				1/8"				1/8"				1/8"			
Front Wheel Bearing Adjustment	Tighten Nut as Tight as Possible and Back off 1/2 Turn or More and Lock															
Recommended Tire Pressure	35-40 Lbs.				35-40 Lbs.				35-40 Lbs.				35-40 Lbs.			
Shock Absorber Valving—Standard	Front Rebound—1-CH Front Compression—C-4 Front Static—2-A plus				Rear Rebound—5-GR Rear Compression—G-2 Rear Static—2-A plus				All Models							
TRANSMISSION																
Oil Capacity	Four and One-half Pints—All Models															
Ratio to Rear Wheels in Direct Drive	4.07 4.36 4.69				4.06 4.41 4.69 5.07				4.06 4.41 4.69 5.07				4.06 4.41 4.69 5.07			
In Second	6.21 6.65 7.15				6.21 6.74 7.15 7.63				6.21 6.74 7.15 7.63				6.21 6.74 7.15 7.63			
In First	10.01 10.71 11.53				10.01 10.86 11.53 12.49				10.01 10.86 11.53 12.49				10.01 10.86 11.53 12.49			
In Reverse	11.72 12.56 13.5				11.72 12.71 13.5 14.61				11.72 12.71 13.5 14.61				11.72 12.71 13.5 14.61			
Back Lash Between Gears Not Always in Mesh—Minimum	Four Thousandths of an Inch.—All Models															
Model	1100		1101		1102		1103		1104		1105		1107		1108	
TURNING RADIUS	20 Ft. 9 In.		23 Ft.		24 Ft.		23 Ft.		24 Ft.		24 Ft. 7 In.		24 Ft.		24 Ft. 7 In.	
UNIVERSAL JOINT																
Assembling Universal Joints	Arrows on Shaft and Universal Joint Sleeve Must be in Line.—All Models															