



VOL. 6 No. 15

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BOGEY TIMES - - - Are You Making Them?

THE subject of gross and net profit is not always of particular interest to the mechanic. Here, however, is where you, as a mechanic, enter this picture. Packard was one of the first concerns to flat rate repair operations. The company had little enough to go on in establishing flat rate prices for all repair operations. Average times of average mechanics working under average conditions as to tools and equipment were studied and averaged against a time study made when a good mechanic handled the same operations with proper tools and equipment. In order to keep all of these times up-to-date, it would mean constant revision for several reasons. First, the tool equipment available today is even better than that which was available a year or two years ago. Second, the average mechanic employed today is a better mechanic than the average employee several years ago, and third, the automobile of today in general is easier to work on than was the automobile of several years ago.

We also have the fact that as a repair operation is performed over and over again, the wide awake mechanic produces methods of his own, which reduce the time required to complete the job. It is, therefore, safe to say that the average Packard mechanic today can save a great deal of time on the bogey time specified for any given operation. Many mechanics today are paid a flat rate based on the bogey time and because of the fact that work is not crowding in the shop, many mechanics feel that it is best to complete the operation in full bogey time. In other shops where the straight hourly rate is used, the same feeling is evident because the mechanic does not wish to go onto idle time for which he is not paid.

The mechanic should not feel, however, that the company employing him is not vitally interested in the time used for each repair operation, even though that time does not exceed the bogey time allowed. Take, for instance, the job for which the management pays you \$1.00, by checking the time it takes you to do every part of this job, you will find several items which you probably haven't thought much about. This actual job will undoubtedly require seventy minutes of your time. To this must be added certain items of overhead, which are

directly chargeable to this repair operation. In other words, each mechanic has an overhead of his own, besides the overhead which the management must have in the way of heat, light, equipment, building, taxes, etc.

The mechanic's overhead on this seventy minutes of work is about as follows:

- Getting tools ready for the job—seven minutes.
- Getting parts for the job—eleven minutes.
- Correcting minor mistakes—fifteen minutes.
- Putting tools away—three minutes.
- Keeping the car stall clean after job—four minutes.
- Miscellaneous wasted time—ten minutes.

This according to the time study, which someone has made, shows fifty minutes as the overhead time chargeable to this job. The total time used, therefore, is the seventy minutes on the job and the fifty minutes overhead, which equals one hundred twenty minutes, or two hour's time. To this two hours must also be added the general overhead which enables you to have a place to work in and which enables the management to operate a show room and sales force to dispose of cars.

Disregarding this, however, and taking just the direct mechanic's overhead, you can easily see how important it is to the management that each mechanic not only make bogey time on each operation which he performs, but that he beat the bogey time as much as possible. It is also directly up to the mechanic to reduce what we have termed, "The mechanic's overhead."

How to do this:

Four things are necessary and they must be kept in mind during all of the time that you are working. The first of these is *efficiency*. This means doing the best possible job in the shortest possible time.

Second, *team work*. You have already learned that by helping others, you help yourself.

Third, *initiative*. By this we mean finding the better way of doing the job.

Fourth, *loyalty*. By this we mean not only a full loyalty to the company, but to yourself.

"EVERY OWNER A SALESMAN"

The Vacuum Booster Brake

The development of the vacuum brake booster is shown in the diagrams below. Fig. 1 shows a common type of installation which will stop the car without great physical effort but gives the driver no sense of feel of the braking effort involved and, as the average driver judges his braking result by the pedal pressure exerted, the deceleration result is uncertain. Fig. 2 illustrates the reaction type of brake booster linkage with an adjustment for altering the pedal pressure to suit the driver. With this type of construction it is possible to so adjust the load on the pedal as to enable the driver to obtain a smooth and easy stop regardless of the amount of foot pressure exerted.

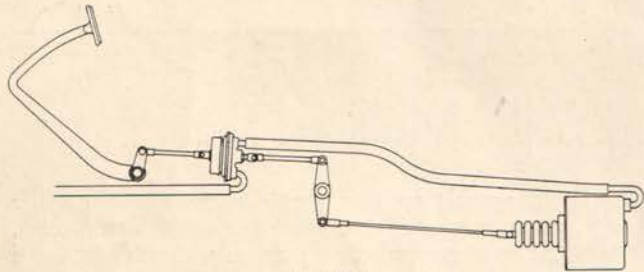


FIGURE 1

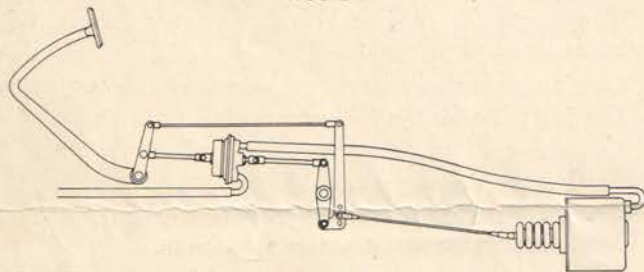


FIGURE 2

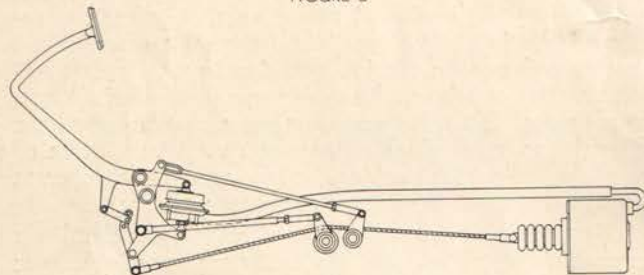


FIGURE 3

On the Packard Twin Six we secure all the benefits of the above design applied to an improved push-and-pull brake construction. See Fig. 3. The linkage and valve mounting as shown in Fig. 4 illustrates the method by which the Packard Engineers have secured a compact and sturdy hook-up which also incorporates the pedal reaction adjustment.

The booster system consists of two main units—the vacuum control valve and the brake cylinder. The control valve on the Packard Twin Six is interposed between the brake pedal and the linkage and the brake cylinder piston is connected to the brake lever by means of a steel cable. See Fig. 4.

When the car leaves the factory the clevis pin "M" shown in Fig. 4 is located in the center of the three holes in the upper end of the lever. If it is desired to reduce the pedal pressure, move pin "M" and the connecting links to the upper hole. To increase the pedal pressure, move links and pin to the lower hole.

When the brake pedal is in the "off" position, atmospheric pressure is present both at the front "A" and rear

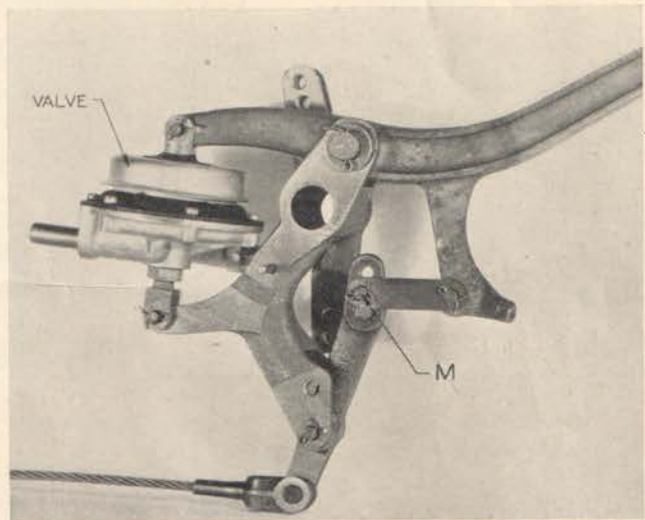


FIGURE 4

"B" of the piston "P". See Fig. 5. When the pedal is depressed, the air at atmospheric pressure on side "B" is drawn into the intake manifold of the engine, thereby creating a vacuum in the rear of the cylinder. The vacuum being present in the rear of the cylinder and atmospheric pressure present in the front of the cylinder causes the piston to move to the rear applying the brakes.

At sea level the pressure on the piston is 8 to 10 lbs. per square inch. Connection to the valve is effected by copper tubing and a special grade of rubber hose between the nipple "C" at the rear of the cylinder and nipple "X" on the valve. A connection is also made between the nipple "Y" and the manifold of the engine.

Referring to Fig. 5, "P" identifies the piston; "H", "H-1" and "H-2" the front bracket supports; "J" the rubber piston guard; "K" piston rod end; "L" the end seal.

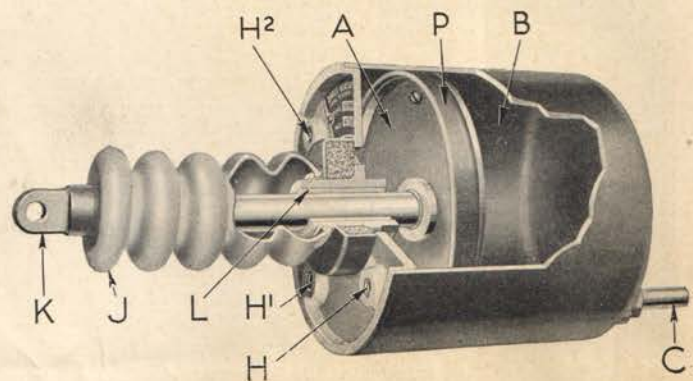


FIGURE 5

The diagram shows the operation of the valve which controls the amount of vacuum admitted to the cylinder. The view in Fig. 6 shows the "off" or released position of the valve mechanism. The diaphragm is seated, closing communication between the interior of the cylinder and the source of the vacuum. The cup shaped valve, which is "W" in Figs. 6 and 9, called the atmospheric valve, is unseated or open, establishing communication between the interior of the cylinder and

the atmosphere, which equalizes the pressure on both front and rear of the piston.

If the operator depresses the brake pedal, the atmospheric valve will be seated upon the diaphragm, as shown in Fig. 7, closing communication between the interior of the cylinder and the atmosphere, and thereafter the atmospheric valve will move the diaphragm, which is shown as "V" in Figs. 8 and 9, away from its seat (see Fig. 8 in the diagram), thus connecting the cylinder to the intake manifold; causing the air to be withdrawn from the interior of the cylinder in rear of the piston and creating a pressure on the front of the piston.

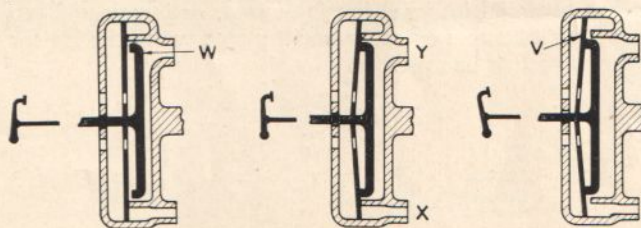


FIGURE 6

FIGURE 7

FIGURE 8

If the operator stops the forward movement of the brake pedal before all of the air is withdrawn from the cylinder, the valve casing, which is connected to the brake mechanism, will continue to be moved by the power of the cylinder until the valve casing has reseated the diaphragm, as shown in Fig. 7. This will shut off the cylinder from the intake manifold and hold the brakes as applied. When the brakes are fully applied and the valve mechanism is in the position shown in Fig. 8, any further force exerted on the brake pedal will be transmitted through the stops, shown as "Z" in Fig. 9 to the valve casing and brake mechanism.

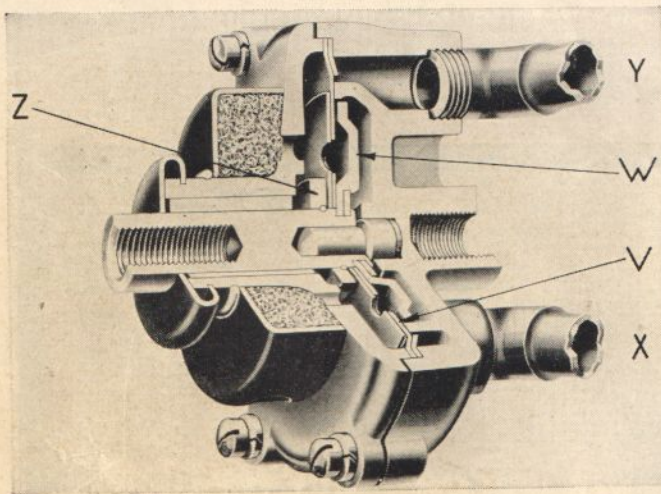


FIGURE 9

When the operator releases the brake pedal and permits the latter to move toward the rear, the atmospheric valve will open after the diaphragm has been seated, as shown in Fig. 6. This opens the cylinder to the atmosphere, equalizes the pressure on both sides of the piston and permits the brakes to be released.

The brakes when applied will remain as applied, provided the brake pedal is not moved to alter the position of the valve mechanism. Any leakage of air sufficient to cause the brakes to be released will move the valve casing into the position shown in Fig. 8, and reapply the brakes until the valve casing has been moved back to the neutral

position, shown in Fig. 7. Any leakage of air out of the cylinder sufficient to cause the brakes to be further applied will move the valve casing into the position shown in Fig. 6 and release the brakes until the valve casing has been moved back to the neutral position, Fig. 7.

If the motor misses as the brake pedal is being depressed, it indicates that either the vacuum control valve or the vacuum tube connections are leaking.

Marking on Differential Assemblies

Technical Letter 1928 described a change in the differential carrier assembly and indicated that those assemblies with the improvement were designated by the letter "A" stamped over the serial number. You will also find assemblies stamped with the letter "B" over the serial number. These also have the latest improvements.

In making replacements, use assemblies with either the "A" or the "B" marking.

New Type Carburetors

In the SERVICE LETTER of July 15, we described a method of recalibrating the D. L. carburetors. This recalibration applies to carburetors which are marked on the float chamber cover as type No. B-32200. Carburetors now in production include this change and are designated as type No. D-32201.

Improved Follow-Up System

A Sales Department without a prospect file would be in a hopeless condition today. No one would attempt to operate a Sales Department without such a file, yet many a distributor and dealer is attempting to operate a Service Sales Department without a prospect file and it is just about as hopeless a job.

Establishing a prospect file in the Sales Department is a much more difficult job than it is in the Service Department, yet both require attention and neither file is of any use unless it is kept up-to-date at all times. The new names available must be added promptly. The old names which do not belong in the file must be removed promptly, and above all, those names that are in the file must be used regularly and constantly.

A service follow-up file that is simply a duplication of records is a costly and unnecessary expense. No modern service station operates without having a file of repair order forms under each owner's name. If an analysis is required of a detail record of any particular owner, it is easily and quickly obtained. An alphabetical file of repair orders by owners' names is a necessity. It gives you the complete detail history of each owner obtaining work in your service department. The standard repair order form, D-104, supplies you with a copy of the repair order for this purpose. After a repair order has been billed, one copy of the order should be retained in the Accounting Department and one copy should be retained in the Service Department file. These are the only detailed records necessary on each repair transaction.

In order to establish an adequate service follow-up record, it is not necessary to copy off from the Service Department file of repair orders such information as the amount of money spent, the details as to how it was spent and the mileage of the car at each visit. Such information is already available on the repair order itself. If it is copied on a follow-up record, you are duplicating records unnecessarily.

A follow-up record, which quickly gives you the visits of each individual owner, special information as to whether or not he has availed himself of your winter preparation campaign; your special lusterizing campaign, etc. and a record of when you contacted the owner who is not coming in regularly and how this contact was made is all that is necessary to operate an efficient follow-up system.

The visible book system makes only the cards on one page visible at any one time. This may run from thirty to forty cards. The visible cabinet equipment has around eighty-five to ninety-five records visible at any one time. The wall board type on wing mounting, as has been described in previous issues of the SERVICE LETTER, has about two hundred names visible at any one time.

The one system that is entirely visible all of the time is the wall board system, which we have recommended for some time. It is being used by dealers with two and three hundred names on their list. It is being used by some of our largest distributors. It is being successfully used by one of our large branches with well over two thousand names on the list.

The sheets used in this system were not quite flexible enough in that it was not always possible to add a new owner's name on the record in exact alphabetical location and for this reason we have been endeavoring to find an equipment which would overcome this difficulty. We believe that we have such an equipment at this time.

The equipment we now offer is made up of a simple steel frame with provisions for hanging on the wall. These frames are approximately 17½" wide and 2' long. The frame is divided in the center and the record is kept on individual strips of light fiber board. When the record is typed, the fiber board is in one piece and it is broken off into these strips after it is typed. If you wish to add a name at any time, you simply remove one of the bottom strips and insert the new record strip in its proper alphabetical location, at the same time adding a second strip in the right hand side of the frame for the follow-up notations. If a record is to be removed, or transferred to some other section of the file, it is simply

taken out and the record retains alphabetical sequence.

The table which follows will enable you to figure out the approximate cost for an installation to take care of your owner records. If you wish to examine the record in more detail, we will be very glad to send you a sample record completely filled out to show you the full possibilities of this system. The equipment is available either through this department, or through the Acme Card System Company of Chicago with offices in all of the principal cities. Dealers will please order through their distributors and distributors will please order on the regular D-19 Parts Order Form addressed to the Service Literature Department.

If additional information is desired, or if you wish to examine a sample of this record, please write the Editor of the SERVICE LETTER.

| | | | | |
|---------------------|-----|----------------|---------|--|
| | | For 100 names | | |
| 2 panels at \$5.00 | | 160 spaces | \$10.00 | |
| 4 sheets | .15 | | .60 | |
| 4 sheets | .15 | | .60 | |
| | | | \$11.20 | |
| | | For 200 names | | |
| 3 panels at \$5.00 | | 240 spaces | \$15.00 | |
| 8 sheets | .15 | | 1.20 | |
| 8 sheets | .15 | | 1.20 | |
| | | | \$17.40 | |
| | | For 500 names | | |
| 7 panels at \$5.00 | | 560 spaces | \$35.00 | |
| 20 sheets | .15 | | 3.00 | |
| 20 sheets | .15 | | 3.00 | |
| | | | \$41.00 | |
| | | For 1000 names | | |
| 13 panels at \$5.00 | | 1040 spaces | \$65.00 | |
| 35 sheets | .15 | | 5.25 | |
| 35 sheets | .15 | | 5.25 | |
| | | | \$75.50 | |

| NAME | ADDRESS | TELEPHONE | TYPE | DATE | MOTOR | MOTOR | JAN | FEB | MAR | APR | MAY | JUNE | JULY | AUG | SEPT | OCT | NOV | DEC |
|-----------------|------------------------|-----------|------|----------|---------|---------|-----|-----|-----|-----|-----|------|------|-----|------|-----|-----|-----|
| Armstrong, H.A. | 2147 Cowington Dr. | Ar-1-4437 | cou | 12-23-31 | 1011238 | 1011238 | | | | | | | | | | | | |
| Babcock, G.W. | 13200 Wraithmoor | Fa-3602 | sed | 9-11-31 | 1010874 | 1010874 | | | | | | | | | | | | |
| Bernier, S.L. | 3647 Seminole | Wn-1160 | lim | 10-2-31 | 1234271 | 1234271 | | | | | | | | | | | | |
| Bodmer, H.T. | 1302 Kensington | Hi-4461 | roa | 7-10-31 | 1007851 | 1007851 | | | | | | | | | | | | |
| Charles, G.M. | 14824 Sussex | Fa-4017 | sed | 11-4-31 | 1174345 | 1174345 | | | | | | | | | | | | |
| Cowell, H.H. | 583 Savahoe | Hi-2134 | cus | 12-12-31 | 1327436 | 1327436 | | | | | | | | | | | | |
| Doyle, E.H. | 14227 Wellesley, Drbrn | Or-2-1347 | roa | 9-11-31 | 1013437 | 1013437 | | | | | | | | | | | | |
| Erakins, J.J. | 18065 Goulburn | Pl-7384 | lim | 7-25-31 | 1034238 | 1034238 | | | | | | | | | | | | |
| Gantz, B.H. | 9202 American | Ge-1310 | cou | 11-30-31 | 1143217 | 1143217 | | | | | | | | | | | | |
| Haynes, E.C. | 180 Virginia Pk. | Tr-3531 | cus | 2-1-32 | 2548870 | 2548870 | | | | | | | | | | | | |
| Jorgenson, A.C. | 329 Holbrook | Zn-2029 | sed | 1-12-32 | 1775402 | 1775402 | | | | | | | | | | | | |
| Knowles, H.E. | 14247 Prevost | Ke-2-1754 | cou | 12-10-31 | 2237289 | 2237289 | | | | | | | | | | | | |
| Lieberman, H.H. | 2625 Elmhurst | Ar-2624-M | cus | 9-17-31 | 1647384 | 1647384 | | | | | | | | | | | | |
| Ludwig, J.E. | 210 Florence | Un-1-1627 | cou | 11-20-31 | 1473648 | 1473648 | | | | | | | | | | | | |
| McFadden, J.J. | 2435 W. Chicago | Lo-2-2341 | sed | 4-10-32 | 2437574 | 2437574 | | | | | | | | | | | | |
| Merritt, D.A. | 2016 Atkinson | Lo-2100 | lim | 11-24-31 | 1155743 | 1155743 | | | | | | | | | | | | |
| Nagel, B.E. | 1320 Cadillac | Hi-5637 | roa | 9-12-31 | 2431719 | 2431719 | | | | | | | | | | | | |
| Woff, J.W. | 2161 Lakeloe | Me-2-4132 | sed | 3-22-32 | 3147189 | 3147189 | | | | | | | | | | | | |
| Newton, D.H. | 9603 Paritan | Un-1-3441 | cou | 12-24-31 | 2284377 | 2284377 | | | | | | | | | | | | |
| Niemi, L.J. | 9300 Dexter | Su-6097 | cus | 1-21-32 | 3894541 | 3894541 | | | | | | | | | | | | |
| Noah, E.H. | 15748 Westbrook | Ne-2-1447 | lim | 10-29-31 | 1764109 | 1764109 | | | | | | | | | | | | |
| Norris, A.C. | 14735 Woodward | Lo-4627 | lim | 10-31-31 | 1243656 | 1243656 | | | | | | | | | | | | |
| Nordman, W.C. | 5061 Fernes | Or-7292 | cou | 11-12-31 | 1384737 | 1384737 | | | | | | | | | | | | |
| O'Malley, A.H. | 2043 Remans | Ar-1662 | cus | 12-24-31 | 1374626 | 1374626 | | | | | | | | | | | | |
| O'Neil, H.M. | 13251 Hobson | Fa-6322 | sed | 11-4-31 | 1746374 | 1746374 | | | | | | | | | | | | |
| Oaks, G.A. | 182 Algonquin | Hi-4877 | sed | 9-13-31 | 1372636 | 1372636 | | | | | | | | | | | | |

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