With the approach of comparative saturation of the market and of increasingly severe competition, service will many times be the deciding factor between success and failure.

The company whose service results in the greatest enhancement of the investment value of the product will possess a superior competitive weapon.

The intelligent, progressive manufacturer will not look upon service as a necessary evil,—for the right kind of service will make sales.

Discussion

H. R. Cobleigh. To my regret, I cannot take exception to any of the statements in Mr. Preble's paper, for discussion is always more interesting, or at any rate more exciting, when there are two sides to the question.

A few years ago much of Mr. Preble's presentation might have been regarded as theoretical, and therefore open to debate, but today no one well informed on the subject would challenge any of his statements. About all that seems left for me to do is to stress or amplify some parts:

The commonest meaning of the word "service," though not in dictionary language, is "doing something for somebody," and that, broadly, is the sense in which it is used in the automotive industry. More explicitly "automotive service is attention to purchasers of motor vehicles after the sale."

Unfortunately many car owners think service means "something for nothing." We do have what we call free service or "warranty service" for which no charge is made during the first three months of use of the vehicle and some owners do not distinguish between this and service for which they should pay.

As some sage has remarked, "you can't get something for nothing in this world, and darned little for a dollar." Free service is always paid for sometime, somewhere, somehow, by somebody and generally in advance, being covered in the car price and so divided among all purchasers. Reasonable people realize that it is better for everyone to pay his own share when and as necessary.

I would not buy my shoes where they promised to resole them free because I would know that I paid for it when I bought them, instead of not until I needed new soles, and further that, if I

wore out my soles slower than the average, I would be paying more than my share.

When the public as a whole becomes educated to the "pay-as-you-get-it" service, it will have no other. Some think it will hasten that day if we discontinue the use of the word "service" because that is so generally taken to imply something for which there will be no charge, and substitute the term "maintenance."

Personally I should rather reform the interpretation of the word than to discard it for one which indicates a wrong conception of our job. Maintenance cannot mean more than taking care of cars, whereas service, righly comprehended, is taking care of car owners. Properly repairing à car is, after all, only the means to the end of pleasing the customer; hence, however good the work, if we displease him in any other way, we have failed.

There are three things that are essential to any business, and automotive service is a business; it should be merchandised just as any more tangible commodity. These three essentials are—ability, honesty and courtesy—and they are equally important, although this discussion will be confined to the first

Suffice it to say for the other two that honesty in service requires true diagnosis of troubles, keeping of promises and fair prices. Courtesy includes prompt attention to customers, sympathetic treatment of complaints and the manifold little things that place.

The ability part involves three "M's"—men, methods and materials. The personnel should be adequate and competent—one of our greatest problems—for the demand for men has ever been ahead of the supply. The industry is just now initiating a comprehensive plan for mechanic training, centering in a standard course which all automobile schools will be asked to adopt. Those doing so will have the cooperation of the industry in providing technical information and laboratory material and in placing of graduates. And in the technical training the executive side is not neglected.

Many of the larger factories have, for some time, engaged in educational work for their field men and several have very creditable schools.

For seven years the National Automobile Chamber of Commerce has held semi-annual meetings for service men, originally limited to factory service managers. Now one meeting each year is

a joint meeting with the Society of Automotive Engineers and the other a field meeting to which all in automotive service two years the latter has been augmented by an Automotive Maintenance Equipment Show with over a hundred exhibitors.

Methods have been so fully covered in Mr. Preble's paper that this heading may be passed with a summary. There are systems for parts stocking, inspection and distribution; instructions and standard times for repair operations; cost accounting; standard charges to customers (flatrate system); piece work payment of mechanics; periodic inspection of owners cars; following up work done to see that it satisfies; reports to the factory of chronic troubles to guide future design; etc.

Materials include both replacement parts and the tools and shop equipment with which they are installed. The parts subject also has been quite thoroughly treated by Mr. Preble.

The factory's concern is owner satisfaction for the sake of the car reputation; hence all repair shops—dealer's or independent—are encouraged to use "genuine" parts, meaning the same as original equipment, and discounts are being adjusted to favor their use. The factories keenly oppose the use of inferior parts because it hurts the owners as well as themselves.

Standard or branded parts (those sold under their own trade name) offer legitimate competition if they equal the original parts in quality, i.e. analysis, heat treatment and dimensional tolerances, and may be of instant advantage to the purchaser because of quicker delivery or better price.

The disadvantage to the car owner is that this loss of business to the car factories compels them to divide their parts distributing cost over a smaller volume made up more largely of the slower moving parts, hence increasing the cost, to the car owner, of those parts for which the car factory is the only source

A discussion of repair shop equiment deserves an evening in itself. The greatest waste in maintenance is the excessive labor bill, most of which is a consequence of inadequate equipment. Only 48 per cent of our repair shops are machine-tool equipped. Fortunately, however, these shops do 75 per cent of the work. But that does not say that all of these have sufficient equipment. The

trouble is that most of the repair shops have an insufficient volume of work to justify much of an installation; that is why the 52 per cent have only hand tools.

It is the machinery and methods used in production which make possible the present low price of new cars. Prices are lower now than ever before in the history of the industry. No article of manufacture has been duicker to get back to prewar levels. If cars were built as they are repaired they do. Conversely if they could be serviced as they are built, maintenance costs could be reduced to a quarter of what they are now. This, no doubt, is a theoretical ideal, impossible of attainment, but certainly there is vast room for improvement.

From factory to distributor, to dealer and to purchaser, is a constantly thinning out process of car density, comparable to the arterial system of the human body. If it were possible to have a venous system for the automobile body politic to re-collect cars for repair work, it would warrant labor-saving machinery and methods that would cut the cost of the work tremendously.

Sending cars back to the factory for repairs is precluded by the transportation costs and time loss, but it is not inconceivable that one of the developments of the future will be a carefully spotted distribution of factory-type repair shops that will handle all the major repairs on all makes of cars and trucks within a practicable driving radius. Minor repairs and adjustments would continue to be cared for by dealers and independent repair shops and garages.

Metropolitan districts have a volume of work that will support fair-size and well-equipped service stations and, generally speaking, reasonably good service, as judged by present standards, is to be had in such sections, although admittedly there is still considerable room for improvement in city service.

However, 60 per cent of our motor vehicles are in towns of less than 5000 population. Add to this the fact that the nation's annual maintenance bill is six billion dollars, or three times as much as is spent in the purchase of cars, and it will readily be granted that there is an attractive field here for the best efforts of engineers and management experts in devising time- and labor-saving methods and equipment for reducing repair costs.

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