MOTORINDIA

VOLUME 2 AUGUST 1957 NUMBER 1

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Vol. 2 AUGUST 1957 No. 1

Editor : M. RAJAGOPALAN

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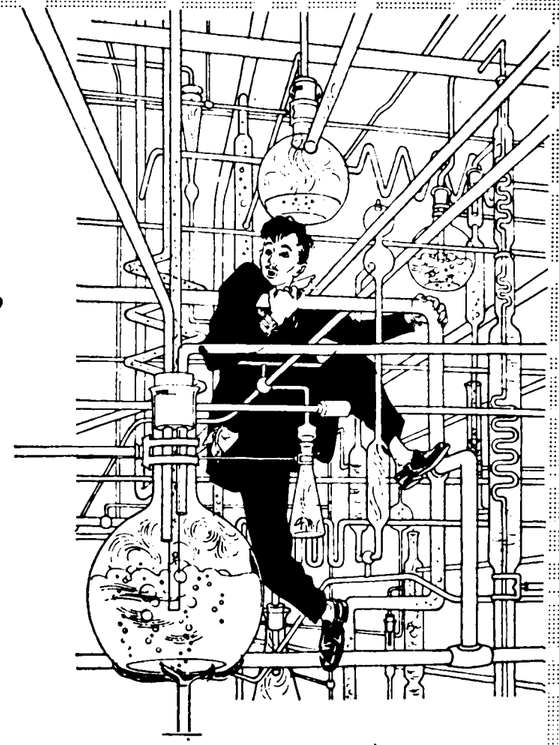
PUBLISHED ABOUT THE 28th OF EVERY MONTH

"Help —let me out!"



Many motorists may have wondered, seeing the rather technical look of some petrol advertisements, just what it's all about. Perhaps, blinded by science they even wonder whether there is very much in it after all.

This is a pity, for things have been happening to petrol. It is better—and *different*. Modern petrol is no longer obtained by simple distillation. First-class high power petrols—such as SHELL and B.O.C.—are produced by advanced refinery processes that lead to better fuels at an economic cost. But refining is only half the story. Additives play an increasing part in giving motorists the higher performance they need. You probably remember the first important additive—tetraethyl lead—which in 1922 sensationally reduced petrol 'knock'. The latest, and most important since tetraethyl, is I.C.A.—the ignition control additive—which, incorporating tricresyl phosphate, was developed by Shell Research to overcome problems of power loss through engine deposits. These deposits interfere with normal firing of the mixture, particularly in high compression engines, and were a serious brake on engine design. I.C.A. has proved the complete answer. It is a triumph of fundamental research as far removed as can be from an advertising 'stunt'. It is by products such as SHELL and B.O.C. petrol with I.C.A., available at Burmah-Shell sales points, that motoring becomes better, smoother and more economical.

BURMAH-SHELL... *in India's life and part of it*

MOTORINDIA

INVITES

ORIGINAL ARTICLES

AND ILLUSTRATIONS

FOR PUBLICATION

ON MATTERS RELATING

TO

AUTOMOBILES

and on

ROAD,

RAIL,

AIR &

SEA Travel

(RATES BY ARRANGEMENT)

EDITOR

MOTORINDIA

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editorial

OURSELVES

With this issue we enter the second year of our existence; and readers will forgive us if we turn autobiographical on such an occasion.

A year ago—it is even ludicrous to think—the vast number of members comprising the automobile industry and trade in the four States of South India, with all their contribution to national endeavour, with all their unending efforts to keep the vehicles moving by the manufacture or import and supply of automobile parts, had no medium through which they could present a united voice on the needs of the area and the industry to the Government, the public and the manufacturers: to the traders themselves their own problems, requirements, aims and even achievements. Such a situation naturally called for an urgent solution and we owe it to the enlightened members of the vehicle and parts trade here for having given us the encouragement and almost inducement to start a magazine for the common benefit of the motorist and the trade.

Having ventured to start this publication at such august auspices, we are indeed proud of the excellent response that the journal has received from the trade, as well as from motorist during the past 12 months. The columns of MOTORINDIA during the past year will bear ample testimony to the extent to which the trade as a whole and particularly the motor and fleet owners, have received the publication.

We are also gratified at the support we have had from far and near; and we on our part have done our bit in doing what is expected of such a publication. We have, during the past year, relentlessly brought home to the Government and the public alike through exclusive articles and through the Editorial and news columns the onerous duty which has been relegated to the automobile industry and the allied trades in helping the country march forward towards its targets. We have emphasized time and again, the extreme urgency of keeping the vehicles moving by proper servicing and replacement parts, and we have taken every possible opportunity to stress on the Government the need for even preferential treatment for the industry in view of its peculiar position and increased responsibility under the Second Five Year Plan.

For the cause of safer motoring we have been devoting our attention from our inception. Our suggestion for a traffic bulge in Round Tana, Madras for one way traffic on a bulge towards the South on the existing Mount Road and towards the North on a road from the Durga along the Canal and on to Simpson's corner at Mount Road, was made last December and we once again take this opportunity to draw the attention of the authorities to consider this for a satisfactory solution of the traffic problem, particularly in peak hours.

India is marching along planned targets. The whole world is happy about it, though there are some enemies of progress who are not so very enthusiastic. The need of the hour requires every Indian to put forth his best efforts to enable the country reach its economic goal; and in this, the automobile and allied industries have got a part which is second to none. We are sure the industry and the trade will strive towards this end; and on our part we are pledged to serve such a cause. It is in such a spirit that we look forward to the future. As for the daily increasing number of our subscribers, we are glad to announce conclusion of arrangements in many parts of the world that will bring them through our columns special despatches on motoring, tourism, trade, manufacturing and servicing interest, which, we have no doubt, will make this publication unique tn India in its service of the reader in the period ahead.

ROAD PASSENGER TRANSPORT

—IN SCOTLAND

Questions Relating to Training of Personnel, Peak Hour Traffic, Catering for Tourists, Operational Costs etc. are analysed by brilliantly in this article which relates to conditions in Scotland, and nevertheless, would help operators all the world over where the main problems are common.

Operators even Provide Catering & Hotel facilities!

by JAMES AMOS, O.B.E., M.Inst.T., Chairman, Scottish Omnibuses Ltd. and Associated Companies

Three are approximately 10,000 public road passenger transport vehicles in Scotland. Of these Scottish Omnibuses Ltd. and its associates own 4,550; Glasgow, Edinburgh, Dundee and Aberdeen Corporations own 2,250 plus about a thousand trams; and other operators 2,000. Of this last figure probably not more than 500 to 600 are used on stage services, the balance being used for private hire and contract work. The principal operator in this group is David MacBrayne Ltd. The majority are small operators, mostly providing for the local needs of scattered communities in rural areas.

Scotland's population of 5.2 million is mainly centred in the industrial mid-Scotland belt and in and around the cities of Edinburgh, Glasgow, Dundee and Aberdeen. The transport undertaking of each of these cities enjoys protection within its area from other road operators. The protection varies in character. In Glasgow there is a complete monopoly within the city boundary as it existed in 1937. Between that boundary and the boundaries that exist today there are substantial areas where Glasgow's monopoly does not apply. In 1956 the Corporation entered into an agreement whereby it would withdraw its transport services within the present city boundaries. These withdrawals will be completed at an early date. In the other three cities there is fares protection.

Excluding the Corporations, the Scottish bus group operates over 90 per cent of the road passenger service mileage in Scotland. The territory of the operating companies is largely arbitrary and is a mixture of historical development and operational convenience, although geographical factors and community of interest between centres of population naturally affect the respective areas to a considerable degree.

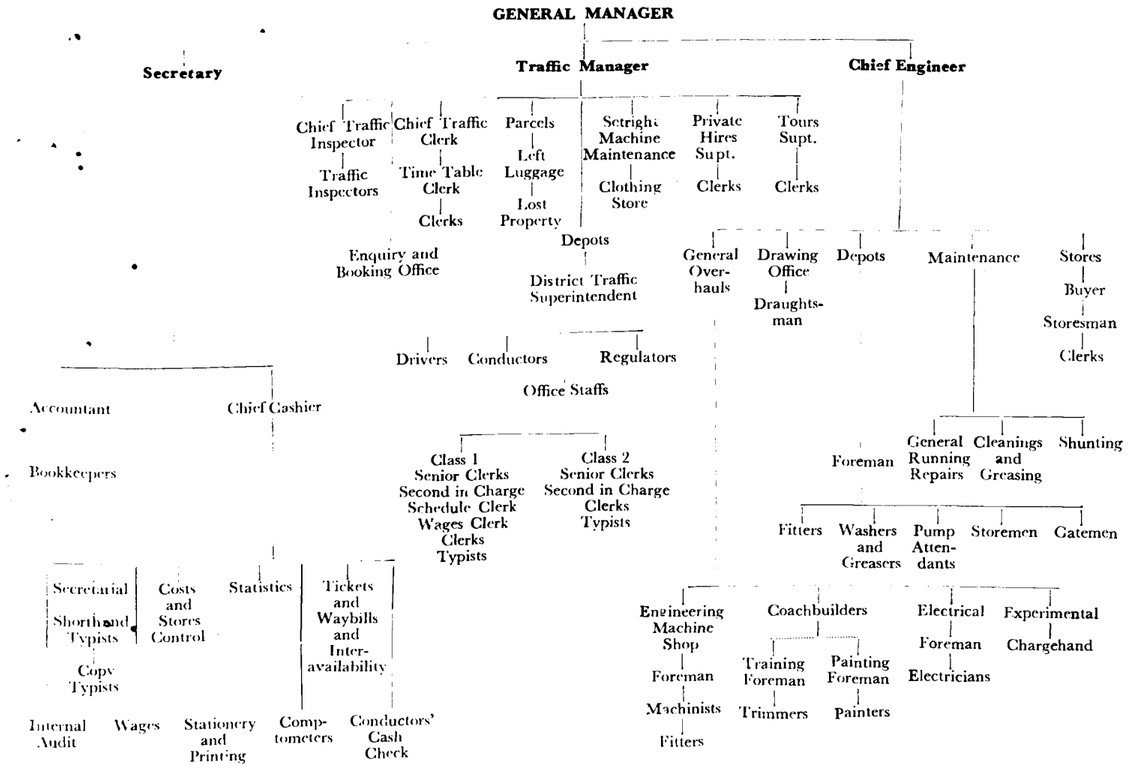
The aims of the group are summarized as: control of each area by a medium-sized company to retain a maximum of personal operational control; to decentralize operational arrangements so as to avoid loss of flexibility or adaptability to meet the varying needs of each particular area; to decide and apply a consistent policy throughout the area; to co-ordinate services and operational practices in such a way as to obtain the maximum operational economies consistent with the highest level of services; and to arrange a standard of charges throughout the group as will ensure its ability to meet its costs and show a reasonable return on the capital invested.

Operational contact between companies is maintained by regular meetings of separate committees composed of general managers, traffic managers, engineers and secretaries. These committees disseminate knowledge and examine departmental practices in each of the companies with a view to co-ordination and unification of group activities, prevention of overlapping, and an examination of traffic, engineering and accounting practices to secure such economies as are practicable without adversely affecting efficiency.

The whole of Scotland, with the exception of the very thinly populated area north-west of the Caledonian Canal, is covered by a network of group stage services. Where contact is made between services operated by different companies, co-ordination arrangements exist by way of joint operation on common sections or by provision of connectional facilities.

Catering for tourists

Superimposed on the stage services are a small number of long-distance express and limited-stop services to meet the requirements of through traffic. These services are largely seasonal and tourist in character. Outstanding in British



The organization of the various companies associated with Scottish Omnibuses Ltd.

long-distance services are those run by the group between Edinburgh and Glassgow and London. The one-day services are operated both day and night during the summer and overnight during the remainder of the year. During the summer there are also two and three-day tourist services between Edinburgh and London. Comprehensive and attractive programmes of day and extended tours are operated from the principal towns. They cover all the outstanding tourist routes and places of interest and carry over one million passengers during the season, including many visitors from overseas.

Extended tours varying from three to 16 days' duration are operated from London as well as from the principal points in Scotland. Very extensive private hire operations are carried out by the group. Last year five million passengers were carried. Private hire meets the individual and varying requirements of parties as to route, destination and duration of hire. In recent years, developments have included the provision of catering and hotel facilities.

Passenger transport is a personal service. Further, it is an essential part of the daily life of the community in which the operator ought to be regarded as quite indispensable. As many phases of transport operation are carried out in the public eye, it is not surprising that any shortcoming—real or imagined—in the standard of service are quickly observed and commented upon. Relations between operators and passengers, while dependent primarily on the standard of service provided, can be main-

tained at a satisfactory level only through close contact with the public, either personally or through official bodies.

The confidence of the public in the operator—public goodwill—can be obtained solely by continuous attention not only to the practical details of operation but also by a continuous study of opinions and preferences. Public goodwill, therefore, while basically dependent on the standard of service provided, contains a less tangible but no less important element generated over a long period by confidence and trust in the operator. The complete confidence of the public will not be enjoyed unless there is intelligent and sympathetic investigation of all suggestions and complaints. While goodwill can be built up only over a fairly long period, it can be very quickly and easily lost. Any suggestion of distant or impersonal control will quickly engender the feeling that the operator considers local matters relatively unimportant. The safeguard must largely lie in the intelligent delegation of such authority to local officials as will, subject to adequate direction from company headquarters, enable them to meet rather more than the day-to-day problems of each individual community.

While it can be simply stated that the standard of service must be maintained at the highest level, this must be consistent with the necessity to cover the cost of providing the service afer having ensured all possible operating economies. Assuming that no further savings can be effected, there are only two ways by which increasing costs can be met—by lowering the general standard, including the withdrawal of facilities from unremunerative routes, or by increasing charges to meet the increased costs.

The first alternative could include a lowering of the appearance and comfort of vehicles by inferior seating, painting and heating; by an excess of advertising matter on or in them; by a lowering in standards of cleanliness and disinfection; or even by a reduction in the margin of safety now allowed for. This reversion to near-austerity could be accompanied by reductions in frequencies and a withdrawal of facilities which, though they may be socially desirable and necessary, are provided at a loss. I refuse to believe that these expedients would be other than completely retrograde. The first and foremost resolution for the future must be to maintain and even to improve the standard of service. I have no doubt that, given the alternative and some assurance of efficiency and economic handling of the organization, the public would choose to pay whatever reasonable charges may become necessary.

There are many reasons why road passenger transport should attract the best type of worker. There is reasonable security in employment and good wages and conditions; operating conditions in modern vehicles are comfortable; first-class equipment is supplied; the work carries a degree of individual responsibility; there is direct contact with the public, and consequently the work should not be lacking in variety, especially when mixed types of services are run and embodied in the cycle of duties.

Conversely, the unusual hours of work and also the necessity for week-end duty must be considered. Even taking this into account, there is every reason why the work should prove congenial to a keen, energetic person. Nevertheless, while in general the sense of individual responsibility is at a high level, we have to face the fact that there are exceptions which, unfortunately, usually form the basis upon which a very wrong impression of the character of the staff as a whole is created in the minds of the public.

In many areas there is a turnover of staff of such dimensions as to necessitate a continuous and unduly high proportion of new or partially trained staff, lowering the general efficiency of the depot or company concerned. A considerable part of this turnover may well be due to faulty selection in the first place. There is no doubt that it is preferable to put up with a temporary shortage rather than waste time in endeavouring to train unsuitable staff. Selection calls for a high degree of understanding, skill and experience. It must be entrusted to a responsible staff member and carried out in an unhurried and deliberate manner. Planned rather than last-minute recruitment is essential, for in a rush unsuitable applicants will inevitably be accepted for no better reason than that they happen to be available.

A very few unsuitable employees can quickly lower the standard of the whole and cause dissatisfaction out of all proportion to their number. Training should cover two essential purposes: to teach the mechanics of the job, and to eliminate any unsuitable applicants who may have been selected. The period of training must form the first step towards instilling the spirit of public service. The curriculum must be so designed as to allow adequate time for training in the school and in actual operating conditions.

Improving training methods

There is no doubt that training properly carried out will represent a substantial cost, but in view of the importance in obtaining a high level of service and, conversely, of the difficulties and loss which can arise through any neglect in giving new staff a thorough preparation, the cost may well be justified. Many schemes for the further training of existing staffs have been in operation with satisfactory results. If, however, the industry—as it must—is to take full advantage of proved abilities and service of outstanding employees, it is necessary that special training schemes in all aspects of operation should be provided for promising men within the industry to widen their knowledge, both in

theoretical and practical matters. These schemes should have the real blessing of the management and be planned in such a manner as to provide an incentive and show the road to promotion to men who above all are qualified, and have shown a genuine willingness to accept additional responsibility.

Present conditions make it imperative that in every possible way we overcome the legacy of mutual distrust, and that management and staff alike apply the maximum of their knowledge and experience to the benefit of the undertaking. We must dispel the idea that what is desired by one side must necessarily be to the detriment of the other. Are the actions and outlook of the staff and the trade unions still limited by consideration of cash payments and little else, or are we able to discern in practice a broader outlook in which the practical operating and economic difficulties are as much the concern of the staff individually and collectively as of the management? If the latter is not the case, to what degree can the lack of co-operation and effort be ascribed to failure by the management to ensure their point of view is honestly and clearly put? The application of discipline in its best sense —that is, mutual respect and acceptance of responsibilities—is essential in any organization, especially where a large proportion of duties are carried out without direct supervision. Employees of all grades must realize their responsibilities and should be trained to act in all circumstances as if they were—as in fact they are—free and responsible members of a team. We will not succeed in destroying the old atmosphere without a new and enlightened effort by employees and management and a willingness by both to contribute ideas and suggestions to the maximum effort, coupled with the ability and desire of both sides to understand all aspects of operation. We will remain on "opposite sides of the table" rather than be complementary parts of an entity with a common purpose of service to the community.

In the Scottish group companies unremunerative routes represent no less than 20 per cent of the total mileage operated. They earn approximately 2d per mile less than the average cost of operation. The yearly cost is £300,000. As actual operating costs of many services are considerably higher than average costs, the true loss may be even greater. The temptation is to cut these services and the fact that suggestions to do so are raised at increased fares enquiries are understandable. Nevertheless, from the point of view of the industry, no less than the economy of the country, it would be completely retrograde to deny rural areas the amenities made possible only by provision of reasonable transport facilities. The willing acceptance of these responsibilities must therefore be continued, except in most extreme cases.

All the arguments about rural services appear to boil down to the question as to the extent to which those services should be considered on an economic basis or whether, irrespective of all other considerations, they should be treated as a social service. If, as is the case in Scotland, economic justification for transport over an area is to be the criterion and the Traffic Commissioners make a thorough investigation into the merits of each case and view this in the light of the economic position of each operator, this standard of judgment has a great deal to commend it. Instances are bound to arise where no regular service can be justified, however inconvenient this may be to isolated individuals. The fact that a railway line may have been operated in the past is in itself no justification for an alternative road service. I have observed on more than one occasion that the most vociferous applicants for increased rural services are the very people who, by using and encouraging the use of private cars, afford such competition as to make the continued operation of services increasingly difficult.

Operating costs show a continuous upward trend, now being in the region of 21d per vehicle-mile. To cover costs on this level requires average loads of approximately 20 passengers per vehicle-mile. The potential traffic on most rural routes is only a fraction of this, and the increasing use of private transport tends to reduce the very small traffic available. The obvious endeavour is to reduce as far as possible the average costs of operation on the particular routes. It follows that the vehicle used must combine the lowest possible capital and operating costs, and that its seating capacity must take cognizance of the peak traffic which may occur on one day a week or at a particular time of the day. While on a normal route a weekly average of over 1,000 loaded miles is common, mileages of only 300 to 500 are obtained on many rural services.

One-man vehicles

Consideration of the operation of one-man vehicles would appear to be now more urgent, although this would be at best a partial solution to the problem. Crew costs average between 8d and 9d per mile, of which conductors account for approximately 4d. There must be some flexibility in relating the driver-conductor wages and conditions to the work being carried out and an enlightened outlook by the unions must be obtained.

Further detailed research is necessary in the adaptation of vehicles to carry both passengers and goods where the operation of a bus service could be a part-time job combined with some other activity. No increase in the percentage of unremunerative services is reasonably possible on the present operating cost level. Spectacular and revolutionary developments in costs of operation may again occur in the future, but meanwhile savings and increased efficiency can be obtained only as a result of profound thought and ever-increasing vigilance. I have repeatedly found that the cost of a detailed investigation is placed against the probability of effecting savings, and there appears a tendency to accept total figures in any examination. In an exmination of receipts, while the totals of cash and rate per vehicle-mile may be religiously scrutinized weekly or over longer periods and compared with corresponding periods, only in cases of obviously unfavourable results is the matter taken further. Day-by-day comparisons are taken on comparatively rare occasions, if at all, and journey-by-journey comparisons practically never.

Similar practices are discernible in items of expenditure. In wages, which account for over half the total cost, we are often too content with comparisons of the cost per vehicle-mile between companies or with results obtained elsewhere. If these are reasonably satisfactory we are disinclined to undertake a detailed and searching analysis into utilization of staff and of the relationship between productive and non-productive hours paid.

In fuel consumption there is often a failure to take the analysis to its logical conclusion and to be content with fleet or type totals without any regular systematic examination vehicle by vehicle. In present conditions when any possible saving is of paramount importance, I suggest we should divest ourselves of any preconceived ideas of what a particular cost should be, and by making a comprehensive study we should endeavour to arrive at and give effect to the lowest possible cost of every part of operation.

Efficiency tests

Is there such close co-ordination between traffic and maintenance departments as to ensure the availability of the maximum number of vehicles at peak times? Is there a close and continuous scrutiny of all mileage returns so as to check additional mileage and eliminate all unnecessary mileage? In particular, is prompt attention paid to all day-to-day seasonal fluctuations to avoid waste? Are time-tables frequently and regularly reviewed, not only for frequency of operation but also regarding speeds, lay-overs, and so on? Is all possible done by the education of staff to reduce accidents, their cost, and the loss of vehicles entailed? Do we agree that uncollected fares is mainly a problem of training an alert and conscientious staff, as well as supplying the best available equipment and allowing staff to be unhindered by regulations which prevent their maximum attention to their principal function of fares collection? Have we sufficiently impressed upon drivers the urgent necessity of fuel economy? Have we made a genuine check on the varying results obtained by different drivers?

The level of fares must be fixed having regard to the inescapable fact that the total cost of the service must be borne by the user. It follows that if any class of traffic is charged at fares which are too low, the ordinary farepaying passenger must make up the difference. These points are important in considering the classes of fare which should be offered in their relation to each other. There should be only three classes of fare—single, return and limited-journey tickets, the latter two classes giving a concession based on the approved single fare. It is right and proper in fixing single fares first of all to determine a reasonable minimum rate per passenger-mile, having regard to the level of operating costs. This minimum rate will apply to those routes where operating conditions are such as to ensure that results at least cover the total costs. On less favourable routes, however, higher costs would be justified either to secure that operating costs would be met or to reduce the margin of loss.

I do not agree with the principle of a uniform rate per mile which could only be provided by raising the minimum rate. There is nothing unreasonable in charging, within limits, higher rates on the less remunerative or unremunerative routes while accepting that on many routes it is necessary to continue to provide a service where even with higher rates losses would be incurred.

The existence of return tickets is largely historical, and their discontinuance would be much resented by the public. As a facility they are convenient and assist to some degree in the collection of fares. While I am not prepared to recommend their abolition, there should be a close review of the relation of return fares to single fares. The misapplication of return fares lies not in their existence but in the amount of reduction allowed, and this must vary in accordance with local conditions and the class of traffic.

Limited-journey tickets should be the only other fares concession and should be made available to all classes of the community who make the same journey regularly and frequently. They should cover five or six consecutive days. The practice of issuing workers' daily concession tickets should be completely abolished, as also should any type of period ticket which permits of unlimited travel to other than school children. Ten- or 12-journey tickets and 24-journey tickets appear to be adequate. The price of the 10- and 12-journey tickets should be based on the summation of the appropriate single fares and should be made to taper. Discounts of 10 to 15 per cent on the lower fares, rising to 25 to 30 per cent on the higher fares, would appear to be not unreasonable at the present time.

With the 24-journey ticket, which is the successor to the unlimited-journey ticket, it has been the practice—I think wrongly—of allowing discounts in excess of those allowed on 12-journey tickets. A perfectly good case could be made for the elimination of 24-journey tickets altogether on the grounds that the reduction allowed on the 10- and 12-journey tickets should be adequate discount for regular travel. At the present time in Scotland 24-journey tickets are charged at 60 per cent above the 12-journey rate. This, we feel, is too low. Failing their complete abolition, they should be priced at not less than 75 per cent more than the 12-journey ticket.

Fare Collection in Passenger Transports

The Part Ticket-Issuing Machines Can Play

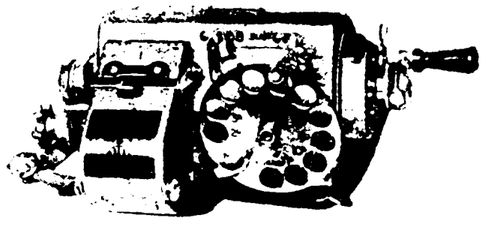
By C. P. PAIGE, *M.Inst.T., general manager and engineer, Oldham Corporation transport dept.*

A great advance has been made in fares collection methods and equipment since the days when passengers placed fares in the slot of an elongated metal box and tickets were not used. This method of fares collection appears to have been short-lived and the use of tickets soon became universal practice on road passenger transport. Looking back over the last 50 years, it seems remarkable how well the pre-printed ticket system has held its own for only now is there widespread acceptance of ticket-issuing machines. On closer examination, though, it is not so very surprising for it must be admitted that, despite its few shortcomings, the orthodox pre-printed ticket system is still a good method of ensuring that not only are fares collected but the passenger can see at a glance that he has been given the right ticket for the money he has paid.

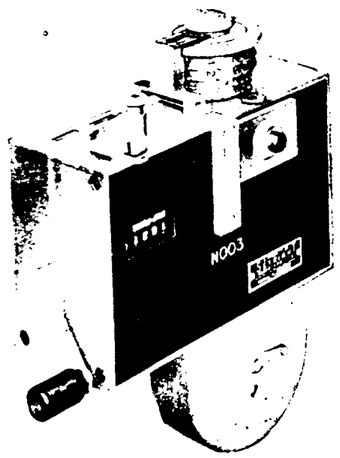
With the pre-printed ticket it is possible to obtain an abundance of accurate statistical information, such as the denomination and number of tickets sold and, with an efficient waybill, where and when they were sold, revealing at what points traffic is thickest. Statistics play a big part in the passenger transport industry and in relation to fares collection the orthodox pre-printed ticket method gives an immense amount of information. Some of us, though, may wonder just how valuable these statistics really are. There can be little doubt that too much time and money has been spent in the past in daily preparing statistics which have proved to be of value only when they are used to support applications to the Traffic Commissioners for increased fares or time-table modifications. The necessary data for these applications can usually be assessed just as well by test checks or censuses.

An examination of various operators' fares tables shows that a standard fares structure is either impracticable or undesirable. With jointly operated services differing conditions are found in each operating area; in one section of the route it may be found possible and desirable to have a straightforward fares structure based on a given approximate yardage per stage whilst elsewhere on the same route this would be uneconomic, due to such circumstances as a sparsely populated district and long distances between picking up points. In such cases fares tables of irregular structure are unavoidable, but a regular structure is used wherever economically possible.

When examining the subject of fares and methods of collection it is easy to decide what is desirable but it is often quite another matter to put it into operation. This may not always be a bad thing as the operator's difficulties often induce public interest in passenger transport operation. What operators do want are well constructed fares tables, which are basically standard, easy for conductors to memorize and which will produce the necessary revenue to operate efficiently both from the operator's and the passenger's viewpoint, and efficient employees to act as our salesmen—men or women



The T.I.M. 15 ticket-issuing machine, designed for use by undertakings which because of inter-running operations, have to record ticket issues and cash taken in two areas, is one of a series of self-printing designs.



(Left) All dials on the Setright roll-paper model are placed on top of tse machine. Normally there and three counters—for shillings, for pence and for total issues.

who have a flair for public service and who will take a real interest in their work.

A ticket machine is needed which will cover the whole range of ticket values and classes. Everyone will agree that the work of a conductor and his machine would be easier if we had an ideal policy of having single fares only. As it is, however, necessary, sometimes on historical grounds, sometimes on political grounds, and sometimes as good commercial practice, to have a variety of fares in most undertakings, a machine capable of dealing with all classes of fare is desirable.

Where joint operation is practised, various methods of revenue distribution are in use, such as allocating receipts to each operator's area or pooling on a mileage or percentage basis. The area receipts method is simple with the pre-printed ticket system because separate tickets can be used in each area, but with this system the conductor's difficulties on a thickly populated route covering three or more areas are manifest, involving as such a service does the use of more than one complete set of tickets and waybills. The percentage and mileage methods of allocating receipts are simple matters with one set of tickets or with all types of ticket machine but some machines are at a disadvantage where the area receipts method is applied.

Why machines have come

The cost of pre-printed tickets, in common with that of other commodities, has increased. In the search for economy in ticket expenditure, in the prevention of missed fares by speedier collection and in the interests of added efficiency in general, the use of ticket machines of one kind or another has now become common practice amongst undertakings of any size, whether company or municipal. The main exception to this trend is in the case of the smallest type of operator, but even here many are adopting machines as far as possible. All operators who have abandoned the orthodox pre-printed system seem to have had different detailed reasons for doing so. Just as diverse are the reasons for adopting a particular machine. Therefore it would be difficult to recommend any specific make without a full knowledge of the requirements of the particular undertaking either as a whole or for a specific area. Some operators, in fact, have found that more than one make of machine is necessary to meet their requirements because of the different characteristics of various parts of their operations. The claims made by the manufacturers with regard to their own machines are sound, but it is safe to say none would claim to have the perfect model, though great advances have been made in recent years and will no doubt continue to be made.

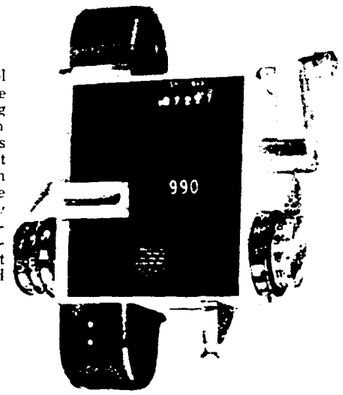
The advantages of the ticket machine over the orthodox pre-printed ticket system are many: speedier ticket issue; fewer missed fares; simplified conductors' waybills; reduced ticket office staff; cheaper tickets; and reduced stocks of tickets. Furthermore, ticket-issuing machines are generally preferred by conductors to the original pre-printed ticket system, largely because their work is simplified.

One of the most widely used of the roll-paper type of machines is the T.I.M., which has been in use for more than 25 years and is very adaptable, as is proved by the range of models available. The machine, on which fares are selected by a dial not unlike those found on telephones, prints, issues and records the tickets in one operation. It uses a plain roll of paper which can be put into the machine in a few seconds so that the resultant cost of the ticket used is much less than the pre-printed or partially pre-printed kind. There are two main versions of the machine, the statistical and the cash recording, each with a number of different types. Normally each ticket bears the date of issue, fare paid, class of ticket, route number, stage boarded or time of issue, as well as the operator's name and any special figures that may be wanted. The printing of the machine number on the ticket makes it an easy matter to trace the conductor concerned if necessary. A total counter tallying with the printed serial number is also fitted. Supplementary counters, varying according to the particular type, give details of the cash that has been taken. While the T.I.M. is largely used on local services for which its speed of operation makes it attractive, it is also in a different version employed for long-distance workings.

Another well-known roll paper machine is the Setright, which uses a thicker paper than the T.I.M. and issues a smaller ticket. A large number of

these machines are in use for both long-distance and short-stage town services. Exact records are shown on the machine in the form of five figure-counters, of the total cash taken, the number of tickets sold and the number of return of special tickets cancelled. Again because all particulars are printed by the machine any enquiries regarding a particular ticket can be speedily dealt with. Like the other types mentioned in this article, the Setright is designed to eliminate fradulent operation, being sealed with the cover plates completely "boxed" to prevent all unauthorized access to the internal mechanism. Robust in design and construction, it renders reasonable protection against severe damage as a result of carelessness or accident.

Some operators favour a different type of Setright machine. This is the insert model, using partially pre-printed tickets of orthodox style and size. Selecting, for example, an ordinary ticket on which the operator's name and standard conditions are already printed in addition to the serial number



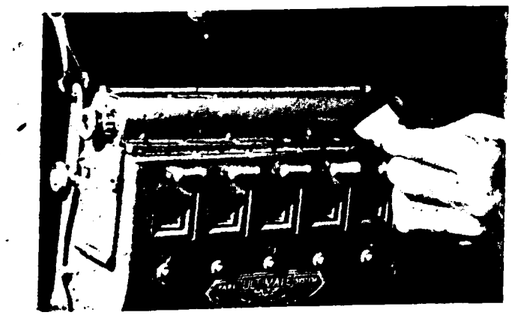
The insert model Setright machine with a cancelling punch mounted on top. The shillings counter on the front is supplemented on the back by a pence counter. A partially printed ticket is endorsed in the machine with amount of fare paid and other data.

the conductor places the ticket in a slot and after setting dials on the machine prints on such data as date of issue, machine number, stage boarded, fare paid and journey number. Total cash taken is recorded in shillings and pence units. Special tickets are used for ½d values. A cancelling punch is used when necessary.

The Bell Punch Ultimate is one of the simplest of all ticket-issuing machines and is designed to meet the requirements of both stage and limited-stop services, although generally favoured for heavily loaded own and city routes. It provides a simple and economic ticket office and ticket accounting procedure, greatly reducing the number of ticket office staff needed compared with some other systems. As with the orthodox pre-printed ticket system, each ticket issued can be accounted for, and there is the advantage of distinctive colours being available. The machine contains rolls of partly pre-printed tickets, models being available for one, two, five and six units of different values. Each unit contains 500 tickets. Each ticket measures 1⅛in. by ⅝ in. To overcome the limited range which necessarily exists even with the six-unit model, a simple device enables a double ticket to be issued when twice the face value of one ticket is paid, the serial number of the second ticket being deleted. Tickets are ejected from each unit at a touch on a front lever and torn off against a serrated edge, the whole operation being one smooth instantaneous movement performed by thumb and finger, leaving the other hand free. In the process of ejecting the ticket the machine prints the stage number in a position which indicates the class of ticket. The machine is light for its size, the six-unit model weighting only 6lb 2oz complete with tickets and harness.

Bell Punch also produces the Bellgraphic machine utilizing consecutively numbered tickets and duplicates of special design supplied in zigzag formation packs which, when loaded into the machine, are inaccessible to the conductor. At the time of issue various particulars, including the fare and stages concerned, are written on the ticket, usually in pencil, although the actual writing instrument is not important as at the same time a carbon ribbon records the details on the back of the ticket as well as on the duplicate which remains in the machine. Upon completion of the conductor's duty, rapid analysis of the duplicates can be obtained by a special analysing machine. The current model accommodates over 500 tickets, and reloading to capacity before the stock is exhausted simply necessitiates the joining on of sufficient tickets from the bulk supply. The machine, which measures 7½in by 5¾in by 2½in, weighs 4½lb when fully loaded.

As with all ticket machines, it is impossible to do justice to the Willebrew system in a few words. First introduced in 1930, it is a machine of proved efficiency, especially on long-distance and limited-stop services, including those jointly operated and involving the "receipts in own area" allocation of revenue. It is not of the ticket-issuing type but is one with which pre-printed tickets are used. There are therefore no intricate mechanical devices to get out of order and no means by which the user can wilfully put the machine out of action. It consists mainly of a cutting device, a staging and directional device, and a container which stores cut portions of ticket in numerical order. The tickets are printed according to the operator's fares structure and the type of service operated. Instead of tickets being of one denomination, they may represent as many as 42 values. If the passenger requires, say, a 6d single ticket, the conductor takes off the first ticket from his bundle, inserts it in the machine—serial number first—up to the division marking the price directly above 6d. He presses the side lever and the machine cuts off that part of the ticket bearing the serial number and all prices on that side of the ticket, up to but not including the price paid by the passenger. The severed part of the ticket is retained in the machine. In the process of cutting, the number of the stage and direction of travel are

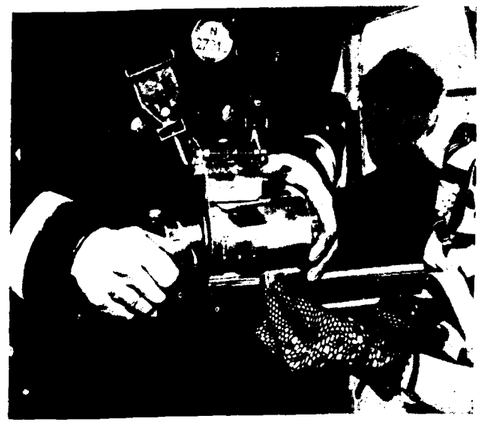


The five-unit version of the Ultimate machine, with a ticket being torn off. Tickets are issued by depressing the knobs located between the ticket apertures and the dials recording the number of issues.

marked in the ticket by a special device which prints and embosses the figures. The stage number having been set when passing from one stage into the next, the ticket is prepared simply by inserting it into the machine and pressing a side lever. The ticket serial number is duplicated on the portion given to the passenger.

Return tickets are similarly issued, but in addition the date is cut out with hand nippers. On the return journey the conductor cancels the ticket in the time section. Alternatively, return tickets can be used which are surrendered on the return journey for an exchange ticket. At the end of the conductor's duty the seals on the machine are broken by a clerk, the machine opened and the cut-off portions of tickets removed and secured by a rubber band. They are then checked on adding machines to find the amount of cash due from the conductor.

The Gibson machine, which is used extensively by London Transport, and was invented by a former superintendent of its own ticket punch works, is of the roll-paper type. It provides 14 fare values, which are selected on a left-hand side wheel. A right hand button varies the setting for the type of ticket and fare stage printers. Tickets 4½in. long by 1⅛in. wide are issued by turning a handle on the right-hand side in the machine. With London Transport each ticket shows the fare paid, the class of ticket, stage number, route number, machine number and issue serial number.



London Transport makes extensive use of the Gibson machine which, employing blank rolls of paper, is able to record up to 14 different fares values. The values are selected by a left-hand side wheel, issues being made by a turn of a right-hand handle.

How the Oldham Corporation ticket boxes are attached and locked to the rack.

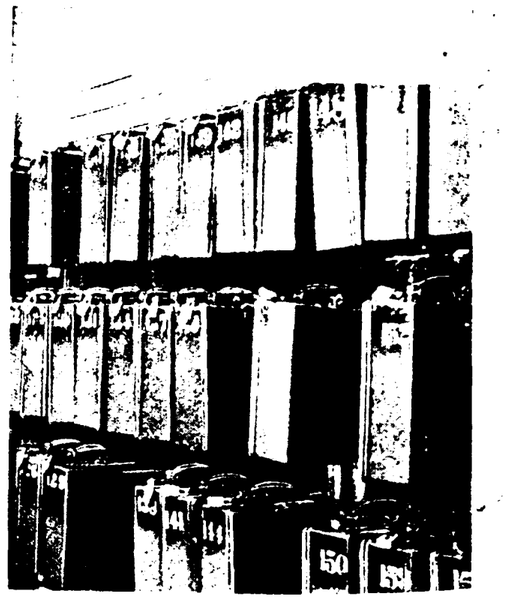
Personal machine

Although not essential, it is an excellent idea for each conductor to have his or her own machine. This is the practice with Oldham, my own undertaking, which issues to each conductor special metal boxes containing the machine and spare rolls of tickets and fitted with combination locks. When not in use the boxes are hung complete on specially designed hangers in the conductors office, the combination lock serving to secure the box lid and at the same time fasten the box to its hanger. The lock combination is known to two persons only—the conductor and the chief ticket clerk. "Raid" checks are made on the boxes by the chief ticket clerk from time to time, and when this is done a note is left in the boxes informing the conductor what has happened. After several years' experience this system continues to prove very satisfactory to both employee and emloyer.

A serious problem to-day is the recruiting and retention of suitable conductors—unless they are really interested in their work they are a liability.

Losses due to missed fares are serious, and special steps are adopted to prevent these losses such as clear and specific instructions to conductors, more intensive checking by inspectors, improved methods of fares collection and requesting the public to tender the correct fare. Another problem is the prevalence of passengers to over-ride the stage to which they have paid. Cures for this practice, of course, are vigilant conductors and subsequent prosecution of those found wilfully over-riding; in this matter the Press can be very he'pful in giving plenty of publicity to the proceedings in magistrates' courts.

With constantly increasing costs and consequent higher fares, passenger resistance is experienced and will increase as fares go up. It is general for most undertakings to operate unremunerative services: sometimes there are so many services in this category that they outnumber those which are profitable, and the time has come in some districts when these unremunerative services will have to be pruned and perhaps withdrawn. The successful operation of one-man buses will doubtless increase but this practice, which is not new, is limited and will never become general practice in large towns and cities. The double-decker bus will be the only practicable type for heavy traffic demands for a long time hence. The new legislation allowing two-axle 30ft-long double-deckers will bring about fresh ideas in body design and at the same time in the method of fares collection. It may be that the new method will be similar to one already in use on some high-capacity single-deckers, involving a large rear loading-platform and seated conductor. The new length double-decker also gives scope for changes in design of stairways to and from the upper deck and the provision of a fixed compartment for the conductor adjacent to a large rear loading platform.



Clear marking of the identity number of each conductor's box at Oldham ensures that even with a full rack no time is lost by crews in collecting their equipment from the specially designed hangers.

A Bellgraphic machine in use. After writing in the required details on the ticket, issues are made by depressing a lever on the front base of the machine. In this particular case the condutress' cash bag is supplemented by a coin holder made by Sayers Leather Goods Ltd.

At present there is a good case against doors on double-decker buses but this may not always be the case: in years to come their compulsory adoption might be brought about on safety grounds.

Most operators are rightly opposed to vehicles with front and rear staircases with separate doors for entry and exit but the future may see these in common use. Double-decker buses 30 ft. long and 8 ft. wide with separate entrance and exit, power-operated doors controlled by the driver, a one-way stairway to the upper deck and a one-way stairway down to a front exit may become commonplace in time. Passengers would board a rear loading platform where they would pass a conductor, seated in a small compartment and equipped with a ticket issuing and change-giving machine. The doors would be power-operated in such a manner that no passenger could board or alight when the bus was in motion. This would eliminate losses due to missed fares and simplify fares collection though the thieves would remain in the passengers who wilfully over-ride and these are best dealt with by prosecution and publicity. It is fully realized that many objections can be raised against this suggested bus of the future but there is much truth in the old adage "there is nothing new under the sun."

—By special arrangement with 'Bus & Coach'

STANDEE BUSES

IN BRITAIN

An extended front overhang enables a 3ft-wide entrance-exit to be provided.

LIGHTWEIGHT 61-PASSENGER SINGLE-DECKERS

A recent addition to those comparatively few British bus undertakings operating high-standing-capacity single-deckers is the Mexborough and Swinton Traction Co. Ltd., a company operating both motor buses and trolley buses. This company has recently taken into service two standee buses as a means of alleviating peak-hour difficulties on a new 5½-mile service linking two housing estates with Mexborough, Denaby, Conisborough and Conaby. The service runs through a well-populated coal-mining area and, as certain journeys are routed to Manvers Main Colliery where there is a low bridge, the operation of double-deckers is precluded.

With bodies built by Weymann's Ltd., the new single-deckers carry seats for 32 passengers and provide space for 29 additional standees on the basis of at least 300 sq. in. of floor area per passenger. The vehicles are based on Leyland Tiger Cub chassis into which a number of modifications have been introduced to render the buses more suitable for carrying the larger-than-usual complement of 61 passengers.

An important difference between this modified chassis and the standard chassis concerns the power unit. The horizontal Leyland diesel engine employed is a larger-bore version of the normal 0/350 unit, its capacity being thus increased from 5.76 to 6.1 litres, so raising the maximum output to 110 b.h.p. at 2,400 r.p.m. A heavier front axle of the type employed in overseas versions of the chassis, together with 12-ply tyres on the front wheels, is fitted to deal with the greater loading. For the same reason stronger rear springs are used. A further alteration made is to increase the forward overhang by 4in. so as to allow the provision of a wider—3ft. —door at the front, a single entrance-exit being employed notwithstanding the large number of passengers which may be carried.

The final drive is through an Eaton two-speed axle affording alternative ratios of 5.62 and 7.81 to 1. As an additional refinement the vehicles are equipped with the Tecalemit Syndromic automatic chassis lubrication system. In other respects the B.E.T. Federation specification for the Leyland PSUC 1/1 chassis is followed in the main.

M.C.W. Mark VI metal construction is used for the body, the pillars being of tubular-section steel and the waist-rails and other longitudinal members of aluminium alloy. Ahead of the front wheel arches, and behind those at the rear, the under-

frame cross-members are of deep channel-section steel rigidly attached both to the chassis frame and the body sides. Beam-section steel members 2in. deep form the intermediate cross-members and have pivoted end brackets for attachment to the pillars, so introducing a limited degree of flexibility at these points. The framework of the roof is made up of Z-section light-alloy hoop-sticks and longitudinal members.

Being slightly ramped at the front end, the flooring is of resin-bonded plywood $\frac{9}{16}$ in. thick, covered with $\frac{1}{8}$in. thick brown linoleum. Between the seats and along the gangway protection is given to the floor covering by slats of aluminium-cased Gandy material. The wheel arches are of chequered aluminium sheet, and cove panels of 20-gauge aluminimum are fitted between the body sides and and the floor.

Externally, the sides and the roof are panelled with 18-gauge aluminium sheets except in the case of the front and rear corner panels, which are of resin-bonded glass-fibre plastics. The panels are secured by Pop rivets and longitudinal mouldings. Heavier-gauge aluminium alloy is employed for the detachable side valances, while the guard-rails are of timber.

All seats face forward and are in pairs except for six single seats between the wheel arches on the nearside and two forward of the offside front wheel arch. This arrangement provides the required standing room area and keeps it free from the feet of the seated passengers. The seats themselves have Beta lightweight frames with Dunlopillo cushions and Hairlok squabs trimmed with moquette and leather. To assist standing passengers there are six floor-to-roof stanchions on the nearside adjacent to the single seats; since the vehicles were completed, two horizontal poles each with eight hand straps have been added inside the roof. A lightweight parcels rack fitted on the offside of the saloon carries a locker for the conductor at its forward end.

A Chapman adjustable seat is provided for the driver and behind it there is a full-depth partition having a large fixed window. The driver controls the opening and closing of glider-type doors through Deans air-operated gear. Clayton-Dewandre demisting and heating units are employed. Two heating units are mounted under seats on the offside of the saloon. Three Airvac ventilators are fitted in the roof and a Weathershields pivoted ventilator is mounted above the nearside windscreen. Five Famco double-sliding windows are fitted on both sides.

Interior illumination is provided by 11 open reflector lamps—six under the parcels rack and five in the nearside roof cove panels—and five circular lamps with plastic shades located along the centre-line of the ceiling. The batteries are housed in containers beneath the rear seats.

In its unladen condition each bus weighs 5 tons 17 cwt., of which about 3 tons 18 cwt. is absorbed by the chassis.

P.M.A.T.

Road Transport and Tourism

Mr. M. R. MASANI'S RECOMMENDATIONS IN LOK SABHA

Welcoming the amendments to the Motor Vehicles Act and the separation of the Transport and the Railway Ministries, Mr. Masani, M.P., a former President of the Indian Road Transport Department Association, speaking in the Lok Sabha on 3rd August, suggested various measures for the promotion of road transport and tourism in the context of our Plan and economic development.

The following is the text of Mr. Masani's speech :—

"I wish to speak in support of two cut motions that I have tabled, dealing respectively with the development of road transport in India and with the development of tourism. My purpose in making these observations is not to suggest any reduction in the expenditure on either of these services or to criticise the administration of this Ministry. I believe that it will help the functioning of the Ministry and its advocacy of the cause which has been entrusted to it if there is enlightened public opinion behind the Ministry and also the support and understanding of the House. If I raise the discussion on these two aspects of its work, it is in order that the good work that the Ministry is doing should have the active support of members of this House.

"In recent times there have been certain developments that one should welcome. One is the separation of the Transport and the Railway Ministries. I have always felt that the joining of the Transport Ministry with the Railways was inimical to the development of transport in this country. When a public monopoly is also put in charge of the development of its rivals, one can expect only a step-motherly attitude. I am now free from the incubus of the Railway Administration whose only objective seemed to be to protect its own inefficiency by retarding the development of alternative forms of transport.

"I welcome the amendments to the Motor Vehicles Act. I also welcome the State Bank Amendment Act giving credit facilities that will enable road operators to purchase on credit motor vehicles.

"A few days ago, when the Railway Minister replied to the debate on the railway's estimates, we heard from him an abject confession of defeat. He admitted not only that there was overcrowding in the trains; he said that it would not be lessened; he even threatened that it would get worse. He also said that he was reducing the speed of our trains, the number of dining cars and air-conditioned coaches. If any businessman or industrialist in this country or any other country of the world to make such a confession of defeat, he would be subjected to the explosion of an angry public, but because this is a State monopoly we have to tolerate the progress backwards that our railways have been allowed to show.

"However, the situation leaves a vacuum which somebody else has to fill. Since the railways themselves have admitted that they cannot fill it, this position arises. It has been estimated that by 1960-61, with the growing volume of passenger and freight transport our economic development and our population will lead to, our present facilities would result in a shortfall of 33 million tons of freight per annum and a shortfall of 1.4 lakhs of passengers per day, which shortfall will be in excess of the the facilities that are available by 1960-61. Since the railways cannot meet this challenge a great deal of the burden will fall on road transport.

"If our Plan has to be carried out and our economic development is not to be retarded, the burden of moving the goods and the people will fall on the shoulders of road operators and transport facilities. I believe the roads can meet this challenge if the Government does its job and the Road Ministry is given the support it needs. I believe that the roads of India and those who operate on those roads can take the burden and the steps that I would now suggest are designed to help our road development and road transport to meet the challenge in the face of which the railways have surrendered.

"The first line of approach is quicker construction of roads. It has been said by those who can speak about this subject that we pay for our roads whether we have them or not and we pay more for them if we do not have them. It is a very wise observation. The investment in our road construction contemplated is not adequate. The Second Plan postulated an expenditure of Rs. 82 crores on road development for the Plan period—an average of Rs. 16.40 crores per year. The Budget estimates of 1957-58, however, only provide for Rs. 13.14 crores—less than the provision made in the Plan. It is just adequate to meet our existing commitments. It does not provide for the kind of expansion of the road system that is required by the needs of our Plan and our country. I would urge the Transport Ministry to

press for larger allocations which are so badly needed.

"The second line of development is to increase the number of motor vehicles on the roads that exist. The Planning Commission has fixed a target of 40,000 vehicles to be produced every year during the period between now and 1960-61. That seems to be an inadequate target and this view has been supported both by the Tariff Commission and by the Estimates Committee of this House.

"Let me illustrate this point. In 1950-51, there were 1.2 lakhs of commercial vehicles registered in this country. The life of these vehicles can be estimated at seven or eight years, but we may stretch up to ten years. It means that by 1960-61, 1.2 lakhs of commercial vehicles have to be renewed or replaced on the roads. At the rate of 40,000 a year as envisaged by the Planning Commission it would mean three whole years' production. If the production of vehicles in this country will only go to replace the existing vehicles, where is the hope of putting more vehicles on roads to carry greater traffic which our plans of economic development demand? Obviously the rate of 40,000 vehicles a year is quite inadequate and has to be upgraded.

"The third line of approach is to ensure economic cost of operation on the roads. This can be broken up into two or three heads. The first is the carrying capacity of our vehicles. Under the Motor Vehicles Act of 1939, the maximum laden weight of a medium truck has been prescribed at 14,500 lbs. and later 18,000 lbs. We have now sanctioned production in this country of vehicles which can carry up to 27,000 lbs. gross laden weight. It is necessary that this limit of 18,000 lbs. should be raised to 27,000 lbs. to enable a large volume of traffic to be carried by these trucks. On the contrary, one finds that the State of Madras reduced the weight from 20,000 lbs. to 18,000 lbs. on the national highways—a step backward.

"But there is a way in which the weakness of our road can be met and this is the use of trailers. Instead of piling up additional load on the same axles or the same wheels and thereby on the same portion of the road which cannot stand the strain, what you do is to attach another car—a trailer—with four other wheels and axles so that the burden on the road is distributed in a way that the roads can support. One would have thought that this was an obvious thing which we would all welcome. The cost of a trailer is 30 per cent of that of a truck because it has no engine, but it can carry 80 per cent of the truck load. This means that the trailer-truck combination costs only 1.3 times as much as a truck but does the work of 1.8 trucks, effecting an economy of 28 per cent. Similarly the running cost of a trailer-truck is 1.4 times for a payload of 1.8, giving an economy of 23 per cent.

"Yet, in spite of this obvious solution, it is sad to see that in many States the Governments are obstructing and impeding the use of trailer-truck combinations, which is obviously a solution for the roads of our country. I am raising it here, because I know the initiative of the Transport Ministry can do a great deal to break down this reactionary and conservative opposition to what is an obvious solution to our problem.

"Another aspect is speed. You can only have speedy long-distance transport in this country if you have through communications. This is impeded by either missing bridges or weak bridges which we come across on many of our highroads.

"Finally, the element of taxation. In my budget speech on 16th May, I had occasion to protest against the increase of taxation on fuel oils and road transport. Every committee that the Government has appointed in the last few years to examine this problem has recommended that road taxation is too high and should be reduced. The Study Group on Transport Planning recommended a reduction of 20 per cent. Yet we find in the present Budget that the burden on the roads has been increased by an increase proposed in the duty on petroleum, motor oils and diesel oils. I wish the Transport Ministry would exert itself against the Finance Ministry and other sections of Government which are in this way doing injustice to the needs of our roads and their developments.

"I shall now turn, in the last few minutes of my speech, to tourism. Tourism, sir, is a very important earner of foreign exchange, and it has now been dinned into our ears that our foreign exchange position is weak, that it is one of the biggest weakness in our planning and everything should be done to put it right.

"In 1951 tourism brought this country Rs. 2.5 crores worth of foreign exchange. In 1955 the figure rose to Rs. 10.5 crores, and for 1956, in the first half, of the year for which figures are available, the income in foreign exchange was Rs. 7.4 crores, from which we may conclude that the total earnings of foreign exchange in 1956 will be about Rs. 15 crores to Rs. 16 crores.

"In the Second Plan period, it has been estimated that we shall get Rs. 57 crores foreign exchange by tourism. I myself believe that this is a gross underestimate and, given a little encouragement, we can get much more.

"Even so, accepting the figure, it gives us 2.5 per cent of our total exports, 2.5 per cent of our total exports is what our tourism gets us already. The possibilities are almost unlimited. In the United Kingdom, tourism has jumped up to be the fifth largest earner of foreign exchange in Britain. It gets for Britain as much foreign exchange as the export of motor cars or of films. In Italy today, tourism is the largest single foreign exchange earner. It shows what can be done.

"But it is found in our country that what we do for tourism is extremely niggardly. The Planning Commission made a total provision of Rs. 333 lakhs for five years; not much, but not bad. But what happens? In the first two years of the period in the last two Budget allocations—only Rs. 29 lakhs were allocated out of Rs. 333 lakhs. And still worse, out of these Rs. 29 lakhs allocated, only Rs. 2 lakhs have been spent. I must say that this is a sad story and that it calls for a little rethinking on the part of all concerned.

"The result naturally is that facilities for tourism in this country are inadequate and are not keeping pace with the traffic. There is an increasing wish among people in different parts of the world to come to India, see our country and learn a little of our culture. Many go back dissatisfied. I have myself heard bitter complaints from people who come to India full of love and affection for this country and, after the kind of handling they received, going back thoroughly fed up and disappointed that, after all that they heard of the traditions of hospitality in India, they did not find so much evidence of it.

"Hotels are lacking outside Delhi. Rest houses are lacking in a great number of places. Rest houses are missing at many places where they are required. Even where they exist, tourists are bitter in their complaints that letters and telegrams sent to those who control these rest houses quite often get no reply. One is reminded of the old complaint about the Madras Government, 'Apply, apply, no reply.' That seems to be the fate of many tourists who come to this country. They want to visit some of our monuments, some of our great archaeological places and find that no opportunities are given to them to do so. Even when they are given permission to come, when they arrive, they find sometimes that local officials are occupying the space promised to them and they are turned away.

"Then, again, there is difficulty with regard to transport. Neither air nor road transport in this country gives the kind of service that tourism requires. The Indian Airlines Corporation have no services to many of the spots in this country which people wish to visit. There is no I.A.C. service to Udaipur, Khajuraho or anything near it, Mandu, Mysore, Madurai, Tanjore and places like that. One can multiply this over and over again. There is none to Ranchi, my own constituency. Even the service to Aurangabad goes on intermittently, being renewed and cancelled every few months. The road transport is even worse. People who want to go to D.V.C., unless they are V.I.Ps. and are looked after by Government, can find neither a taxi nor a bus at Asansol railway junction. I am told that an ordinary tourist or citizen who is not known to Government and is not looked after must hire a taxi in Calcutta and motor 120 miles to see our great achievement. This is not the way to sell either our projects or our development.

"To go from Delhi to Agra you have to pass through various State boundaries. I am told there are two check-posts at which if you hire an ordinary taxi you are stopped and delayed. In the whole of Delhi there are only 40 taxis which are licensed to enter Uttar Pradesh, and if you are not lucky enough to find one of these 40 taxis, you must either get a special permit before you start or put up with harassment and delay on the way just because you want to see the Taj Mahal or Fatehpur Sikri.

"These are only examples. I know that the Minister himself and the Ministry would know of many others. What is necessary, therefore, is to recognise the great importance of tourism. Even if we forget about our hospitality and international friendship, let us at least remember our foreign exchange requirements. Let us be materialistic, if you like, even if our materialistic requirements demand a greater awareness of the importance of transport and tourism.

"Then better co-ordination is required. Today, we have in the Transport Ministry, I understand, a section for tourism with one Deputy Secretary and two Under-Secretaries. Can this be considered adequate for tourism in a country of the size of India? As far back as January 1956, the Government announced the establishment of a Directorate-General of Tourism. I remember reading that in the press and feeling glad that at last somebody had thought of doing the right thing. Almost all countries of the world have separate directorates or organisations for attending to tourism. Even the smallest country has it. Although this was announced in January 1956, and although provision was made in our last budget to the tune of Rs. 1 lakh for a Directorate-General and this provision was passed by Parliament, a year or more has passed and no Directorate-General is still to be found.

"The Estimates Committee considered this matter in December 1956, and in the 34th Report of the Estimates Committee, which went into this matter very thoroughly, we find a very interesting discussion of this problem. The Estimates Committee suggested a slightly different formula. It suggested a separate Corporation being set up in India for developing tourism, with managing directors who would be responsible personally to the Minister of Transport. Whether we have a Directorate-General or a separate corporation is a matter of machinery and detail. I have not gone deeply enough in this matter to make up my mind, but it does appear to me, as the Estimates Committee pointed out, that running tourism from the Secretariat is no solution. There must be an autonomous Directorate-General or something of that kind which can run tourism, not like the Civil Service, but in the way that tourism requires to be run. As I said, most countries have separate Directorates for this purpose. I hope that although over a year has been wasted, the Ministry will now proceed with creating a separate organisation which is so necessary if tourism is to find its proper place in the scheme of things.

"Along with such a Directorate, I would also like to recommend the establishment of a Tourist Development Council with official and non-official members interested in the subject with the Minister of Transport himself as the Chairman of that Council. These are some of the suggestions both in regard to road transport and tourism that I would urge earnestly on the attention of the Transport Minister and Government, and I hope that they will receive consideration."

ABOUT YOUR

By 'Robot'

Have you ever checked the compression of your engine? I know, that most of the motorists will reply in the negative. This is due to the fact that they do not realise the tremendous importance of the compressions of their engine. In one of my previous articles (*Motorindia*, June 1957) I had stressed the importance of accurate tuning. However, it is equally important to state that it is practically impossible to tune an engine which is unbalanced.

Most of the motorists waste a good amount of petrol due to low compressions and improper tuning. When a car comes out of the factory, the compressions on all the cylinders are equal. But this equilibrium is not maintained for long. Although much progress has been made by way of improved quality of oils and fuels, the fact remains, that after the car has run for about 3,000 miles or so, carbons and other deposits do accumulate in the cumbustion chamber over the rings. These deposits, gradually, immobilise the proper functioning of rings, valves, etc. and results in poor compressions. If you take the compressions of ten cars, I should be surprised even if one of them has the normal compressions it must have. The normal compression for each car and model vary and this can be ascertained from the Hand Book of that particular model.

In simple language, compression represents the power delivered by each piston. Imagine a carriage drawn by four horses, each horse running at different speeds! This is exactly what happens in your car if the compressions are not equal on all the cylinders. Low compressions may be due to rings having stuck up in their grooves, or worn out rings or poor lubrication. It costs you good money to open the engine and find out whether the rings or worn or broken. But there is a simpler and cheaper method of finding this out by the process of elimination.

This is what you may do. Take the compressions of each cylinder when the engine is hot. If the compressions are not normal, pour about 2 to 3 ounces of Redex oil into each plug hole (while the engine is still hot) and let it stand for about 20 to 30 minutes; turn the engine by the starting handle twice or thrice during this period. Simultaneously, drain out the engine sump and fill it up with Redex oil for flushing. Operate the starter so that surplus Redex in the plug holes is ejected. Replace the spark plugs and start the engine. Run the engine for about half an hour. This will enable the lubrication system to be completely cleaned. During this period of running, slowly feed

NOW IT'S ABOUT ENGINE COMPRESSION

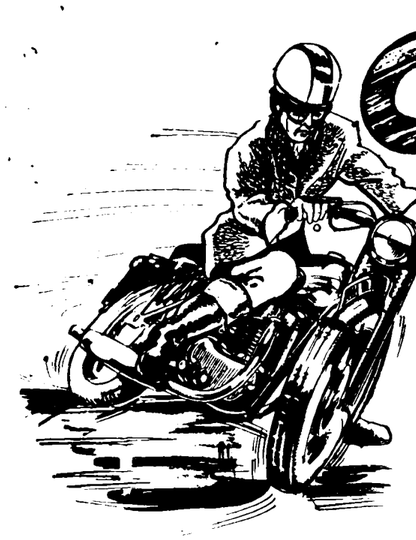
through carburettor air intake. This will clean the valves and tappets of any gummy deposits. After flushing, drain the sump and fill it up with the usual grade of engine oil to which 25 per cent of Redex oil may be added for continued better performance. If you take the compressions now, it will be quite different from what it was before this treatment. But in order to make sure that the improvement is maintained, check the compressions again after about a week's running. If the compressions are more or less equal and higher than before, it may be concluded that the rings have been freed and cleaned. If, however, the compressions show a drop, it will indicate that the loss of compression is due to wear of piston rings.

Although the above process will cost you some money, it is worth it instead of opening the engine without knowing what the fault is. Even very small gains in compressions would mean quite a lot in terms of fuel economy and power. For instance, in the case of petrol engines, if you gain 20 lbs. in compression in a 4" piston, it gives you *an additional* 1,000 lbs. power on each power stroke.

Sometimes, it is found that a particular cylinder shows an abnormally high compression. Usually, this is due to heavy carbon deposits and gummed up rings. Although the cylinder delivers more compression it suffers an excessive wear. This, again can be known only by taking the compressions of all the cylinders. The loss of compression is very very gradual and no motorist is ever able to know this until he has covered several thousands of miles. It is therefore good to check the compressions of your car every two or three months. It is very simple and easy to take the compressions of the engine at your service station. Your service agent might do this for you either free of cost or for a very nominal charge.

In most of the advanced countries in Europe and America, garagemen have been using the compression gauge as automatically as they use a tyre pressure gauge or battery tester. It is most essential for any decent service station to possess a compression gauge and know how to use it with advantage, to themselves as well as their customers.

'ROBOT' will be glad to answer in these columns from the Readers of this Magazine, any questions pertaining to their motoring problems. Questions may be addressed to 'ROBOT', C/o 'MOTOR INDIA', MADRAS-6.



SKIDDING

Methods of Dealing with Both Front and Rear Wheel Skids on Motor Cycles and CARS

(Being the first of a new series of exclusive articles of interest to the Motorist)

By FREDERICK JACE

Now first let it be said that skidding is not by any means the most common or serious danger on the road; and, second, that those who allow themselves to be obsessed by the fear of it will not only be more liable to skid, but will never make good drivers, for they cannot devote sufficient attention to the other far more important dangers. Confidence and a fairly high speed are well known as the best preventives of skidding.

Frame Alignment on Motor Cycles

Skidding—at any rate, back-wheel skidding—does not worry the average fairly expert rider, given a correctly aligned machine, and therein lies his expertness, for he is able to devote full attention to the state of the road, correct driving, giving signals, watching for sudden movements of pedestrians and animals, and enjoying a care-free ride.

Front-wheel Skids

It may be as well here to explain that front-wheel skids must be placed in a class by themselves. They certainly are hard to correct, though it can be done if taken in time, by pressing down on that side of the handlebars to which the wheel is slipping and pulling up on the other side. But they are very rare, and provided the weight is placed well forwards, practically non-existent on motor cycles.

But the ordinary back-wheel sliding on a greasy or icy road should worry no one; it is simply a matter of learning to correct it. This is best accomplished as follows:—

How to Correct Motor Cycle Skids

Choose a deserted road, surfaced with tar and covered with sand (a sand blown sea-front is excellent). Riding slowly in bottom gear, declutch, and lock the back wheel with the brake, at the same time canting the machine over slightly. In other words, provoke an artificial skid. As the back-wheel slides to one side, turn the bars that way, keeping feet on rests, and balance will at once be regained; let in the clutch again and proceed. After a little practice it will be possible to skid right round through 180 degs. and continue riding, without moving the feet from the rests.

Equipped with this knowledge, it is possible to ride fearlessly over wet roads at high speeds without ever thinking of skids; the correction of one, if it should occur, is automatic.

On wet days it is advisable slightly to deflate the tyres, as this will provide a greater contact area and help to prevent skids.

Car Skids

Again, you should deliberately try to skid, so that you can obtain practice in correcting it, and doing so with the minimum possible delay. To be able to control a skid almost before the car has started to slide is an accomplish-

ment worth having when the skid occurs in a crowded thoroughfare.

Of course, a suitable practice ground must be found. It is essential that there is no traffic about and no obstacles such as lamp-posts, etc. A likely spot may be found on a new building estate, where only the roads have been constructed. Such a place has the additional advantage that usually there are no kerbs and only the grass fields border the roadway.

But even if you cannot find the time or place to practice, it is as well to acquaint yourself thoroughly with the procedure of correcting a car skid.

Rear-wheel Skid

As the front wheels are turned into a righthand bend, the rear wheels begin to slide outward; that is, towards the nearside kerb. This action throws the car at an angle across the road facing the offside kerb. The natural tendency, and fortunately the right one, is to swing the front wheels over into a left-hand lock; that is steering into the direction of the skid. This immediately counters the skid and the car is once more in a straight ahead position, ready to proceed along its normal course. But it is not quite as easy as it appears. The fault of many drivers is a tendency to over-correct, thus setting the rear wheels into an opposite skid, towards the offside kerb. So once again this second skid must be corrected by steering into it on a right-hand lock.

The experienced driver who learned to skid will correct it at the first sign of sliding. This means that he has to make only a slight deviation of the front wheels. The average driver, whose reaction times in this sort of emergency are naturally slow, allows the rear wheels to get a good deal of "way" on them before attempting to correct. This means that the steering wheel has to be spun faster and the wheels turned through a greater angle. This movement has naturally to be made very hurriedly, with the result that the driver over-corrects and throws the car into a second skid in the reverse direction.

This method of correction has been given for a car rounding a right-hand bend, but it applies equally on the straight or on a left-hand turn. However, a skid on a left-hand bend is a rare occurrence as the camber of the road forms a banking which enables the car to corner. On a right-hand bend, however, the camber forms an "opposite" banking down which the rear wheels tend to slide.

When a skid is experienced it must be remembered not to act suddenly. To touch the brakes is to ask for trouble. If the brakes are on, as is usually the case, when a car skids, they should be eased gently. As a matter of fact, it is best when approaching a corner to change down and take the bend with the engine pulling. It is, in fact, that an "accelerating" skid is more easy to control than a braking skid.

Front-wheel skid is experienced when the wheels have been turned to take, say, a corner. The first intimation of it is that, though the wheels are turned the car still continues its original course. Once again, to use the brakes is of no use whatsoever. The best plan is to give a slight jab on the accelerator, in the hope of putting the car into a rear-wheel skid which can be much more easily corrected. The same effect can be obtained by using the hand-brake, but only if it operates solely on the rear wheels.

Causes of skidding must receive attention. Injudicious braking is one cause, and road camber another. Road surface, too, have an important bearing on skids.

Weight Distribution

The way in which a car is loaded will affect skidding. A heavy trunk on the luggage grid makes a car particularly prone to rear-wheel skids. Similarly, it is unwise to load a car unevenly, so that it has a definite "list," especially if the majority of the weight is on the nearside of the vehicle.

Tyre condition is another big factor. Old, worn tyres are certain to aid a skid when the roads are wet and greasy. The safest plan is to discard a "smooth" tyre and purchase a new one, or to have the old type regrooved if there is a good thickness of rubber left. See that the tyre pressures are equal.

Although the brakes should not be used when skidding it is often due to braking that skids are caused. Uneven braking is almost certain to produce a skid. Therefore it is wise to check the brake assembly and adjust so that all four brakes come on with equal power.

Attention to the springs and shock absorbers is worth while as on the efficiency of these depends the road-holding capabilities of the car. The tyres should be given every chance of maintaining their contact with the road surface. This can only be effected by supple springs and well-regulated shock absorbers.

More and More into Eastern Hemisphere

U.S. OIL COMPANIES IN PAKISTAN

U.S. oil concerns, large and small, are venturing more and more into the Eastern Hemisphere. As countries have opened their lists, *e.g.*, Turkey, Persia and Libya, the entrants include many other than the larger concerns usually denoted as "international." Now the Sun Oil Company (of Philadelphia) is following Hunt into Pakistan. Sun has already a number of concessions outside the U.S., in south and central America as well as in Canada and, now, the Government of Pakistan has granted the company exploration rights over 10,000 square miles (6,400,000 acres), divided into five concessions, all in the southern and south-western portion of West Pakistan. The agreement is identical in terms with that made in 1955 with Hunt, and in 1954 with Standard Vacuum: the Government will share exploratory and development expenses up to 25 per cent and will be entitled to receive 25 per cent of any oil found; profits derived from production will be shared 50/50 with the Government. The agreement provides for the training of Pakistan nationals in all phases of oil exploration. Geological surveys will begin shortly, and be followed by geophysical work.

Hunt is now drilling its third well in Pakistan, near Sari Singh in the district of Dadu, 45 miles north-east of Karachi (West Pakistan). The first two wells, 2 miles apart, on the Mekran coast near Dhak, 80 miles west of Karachi, were abandoned as dry holes at 8,404 ft. and 14,614 ft.—the latter being the deepest well ever drilled on the sub-continent. Hunt has spent during the past year more than $3 million on search in Pakistan; as already indicated one-fourth of this has been borne by the Government.

Standard-Vacuum holds two 10,000 square mile concessions—one in each part of Pakistan. It has drilled one dry hole in West Pakistan, Digh No. 1, abandoned at nearly 11,000 ft., in the Indus Valley north-east of Karachi, and is now drilling a second well, Mari No. 1, about 200 miles to the north, and will begin a third this year, and also a first well in East Pakistan.

Pakistan Shell, in which a 75 per cent interest is held by the Royal Dutch/Shell group, and 25 per cent by Petroleum Development of Pakistan, representing Pakistani capital, has similarly two 10,000 sq. mile concessions, acquired last year, one inland in West Pakistan and one mainly covering marine areas in East Pakistan. The company has been doing geological and geophysical work—including an offshore gravity survey from a flying boat in the Bay of Bengal—and expects to be able to start drilling early next year.

Pakistan Petroleum (70 per cent Burmah Oil and the rest Pakistani capital, mostly Government) is spending the equivalent of £1½ million on exploration in both parts of Pakistan this year. In 1956 the company began two test wells in West Pakistan: one near Karachi is still drilling, and the other, at Khairpur, found poor quality natural gas in considerable quantity but of no commercial value. Preparations are now beginning to drill this autumn at Bannh, in the Kalat district of Baluchistan, about 70 miles south-east of Quetta. In East Pakistan the company is preparing to drill its sixth well, at Lalmai near Comilla, 60 miles south-east of Dacca. No oil was found by the company's drillings at Sylhet but the existence of a useful natural gas field has been confirmed, and Sylhet No. 3 is now drilling in the first stage of development, while utilization of the gas is under consideration with the Government. Pakistan Petroleum has also been drilling a test at Adhi, 40 miles from the Balkassar oilfield, which ran into mechanical trouble; this was drilled jointly with Pakistan Oilfields (70 per cent Attock Oil Company and the remainder Pakistani capital, with some government participation), and the latter company is also drilling at Kallah Kahar and elsewhere in the Potwar Basin.

Though Pakistan's oil production remains of the order of 300,000 tons a year from an old established region in the northern Punjab, in the course of searching for oil in recent years two valuable gas fields (Sui and Sylhet in the west and east respectively) have been found. Satisfaction can certainly be felt at the very active search now going on in various parts of the country, which in all cases is done either with the participation of the Government itself or of private Pakistani capital.

The Caltex Refinery now in Full Operation

The Caltex Oil Refinery at Visakhapatnam is now in full operation. Since the last unit went on stream on July 14, tests confirm that the entire refinery is operating satisfactorily and will be able to maintain its designed capacity.

Costing Rs. 15 crores, the Caltex Refinery, an offspring of India's Second Five Year Plan, took approximately two years to build. It is situated on a site of 515 acres leased from the Visakhapatnam Port.

At the peak of construction there were 9,000 Indians on the job. There are now about 500 employees on the operating staff.

The Caltex Refinery's yearly output of quality products is 74,000,000 gallons of petrol, 21,257,000 gallons of superior kerosene, 8,177,300 gallons of inferior kerosene, 31,631,000 gallons of diesel oils and 26,495,000 gallons of fuel oils.

Reduce Motor Tax by 20%

MADRAS I.R.D.A. REQUEST TO GOVERNMENT

An appeal to the Government to reduce vehicle taxes by at least 20 per cent. to remove double taxation of vehicles operating on inter-State routes, and to issue permits to goods vehicles on the basis of a limit of eight tons per axle, was made by the Madras Branch of the Indian Roads and Transport Development Association at a Press Conference recently.

The urgent need to develop road transport in the country for the successful implementation of the Second Five Year Plan was emphasised by Mr. M. V. Venkataraman, Chairman of the Branch, and several speakers.

"One of the biggest problems that the Union and State Governments will have to face in the immediate future in connection with the Second Five Year Plan," they said, "is to find ways and means to expand the country's transport facilities at a speed sufficiently rapid to cope with the expanding production under the Plan. The total volume of goods requiring long-distance transport facilities by the end of the Second Plan will exceed 200 million tons. Of this, the railways may carry at the most 162 million tons and water transport about 8-10 million tons, leaving a deficit of roughly 30 million tons to be carried by road. The entire success of the Plan will depend upon road transport being so developed as to carry 30 million tons of long-distance freight in addition to the short distance or feeder traffic hauled by it in the past."

Radical Measures Needed

It was stated that the country has about one lakh of trucks on the road today. To cope with the increasing transport demands, the number of vehicles will have to

Mr. M. V. Venkataraman.

be increased by 20 per cent every year so that by 1960-50, we may have 180,000 trucks on the road, apart from buses, cars, motor cycles, etc. A number of private capital to bring about such a swift very radical measures will have to be undertaken for private capital to bring about such a swift expansion. The Government of India, aware of this situation, have recently taken the first step in mitigating and in some cases altogether removing some of the difficulties put in the path of development of road transport by the Motor Vehicles Act of 1939. The Act has now been amended and the ban put on trucks plying on long-distance routes has been removed. Under the amended Act on Inter-State Transport Commission to develop, co-ordinate and regulate Inter-State transport is also to be set up.

Legislation in itself though definitely offering an inducement, could not expand the road transport industry with the required speed, they said.

"One of the most important reasons for the failure of the road transport industry to expand is motor transport. In no country the high level of taxation on in the world is road transport taxed so heavily as here. The Central and State Governments all combine to tax it, with the result that the tax is not only heavy but chaotic. All this must go if road transport is to prosper. Neither private individuals nor Government would invest money in an industry which does not give a sufficient return. But it is argued that Government would invest money in an industry which does not give a sufficient return. But it is argued that Government, with the Second Plan on hand, cannot afford to lessen any of its existing sources of revenue. This line of thought is superficial because there is no need to fear of revenue from an expanding industry. The number of vehicles on the road must, as already stated, expand by 20 per cent every year, in order to meet the increasing transport needs. That means that if vehicle taxation is reduced by 20 per cent there will be no reduction in the actual revenue for the first year and there will be an actual expansion of income in later years. The Study Group of the Ministry of Transport recommended in 1955 a reduction of 20 per cent and even if this is granted it will provide an incentive to expansion of road transport. Today the taxation on read transport is so abnormal that the tax alone, per ton-mile equals, and in many cases exceeds the average freight charge of the railways.

Cost of Transport

"Even with a 20 per cent reduction in taxes the cost of transport

"Permit Trucks to Carry Heavier Loads"

would still be high in comparison with that of railways. We must therefore take other measures to reduce it. An important way to do so would be to permit our trucks to carry heavier loads than they are allowed today. Most of our trunk roads can carry loads of upto 27,000 lbs. on two axles and therefore the permissible laden weight should be raised to this level except on section where the bridges are not sufficiently strong. This will not only reduce the cost of transport but also help to get over the transport deficit from which we have been suffering all these years. Along with this step, Government must also take immediate steps to strengthen the bridges which cannot carry the standard weight.

"Madras has a good road system, thanks to our Highways Department, and one would have expected the vehicle weight regulations here to be more liberal than in other parts of India. Ironically enough the reverse is the case. Many States issue permits for gross vehicle weights of 22,000 to 27,000 lbs., i.e., 10 to 12 tons—but in Madras the limit has recently been fixed, for the issue of permits, at eight tons, thereby, enhancing the ton-mile cost of carriage. In the past the permits issued in Madras were valid for the gross weights mentioned in the certificates of registration of vehicles and many trucks had a registered weight of 1,98,000 lbs." If the Second Five Year Plan is to succeed, we have to cancel the present eight-ton limit without delay, they pleaded.

Trailer-Trucks

"Yet another measure for reducing the cost of road transport would be to permit trucks to carry trailers, whether articulated or otherwise. Such a combination calls for an additional capital investments of just one-third while it can carry an additional load of 75 to 80 per cent of the conventional truck. The cost of vehicles today is high and the Tariff Commission has reported that there is no room for further reduction in the near future. Any thing that will reduce the cost should, therefore, be welcome and the employment of truck-trailer combinations and articulated vehicles offers the best scope for economy in the capital investment. We have to encourage these combinations by basing vehicle weights on the number of axles as done by other countries. A three-axled or four-axled vehicle distributes its weight over a wider area of the road or bridge surface and although its gross weight is greater, it causes no additional damage to the road system. The general minimum limit in other countries is an axle weight of 8/9 tons, involving a gross vehicle weight of over 12/14 tons for two-axles vehicles, 20[24 tons for three-axles vehicles and so on. Road permits issued in Madras, on the other hand, enforce a gross vehicle weight of eight tons even for articulated vehicles with three axles. This is a restriction which cannot bear examination and has to be cancelled if road transport is to expand."

Double Taxation

Pointing out the double taxation of vehicles engaged in Inter-State services, it was mentioned that some time ago the Transport Advisory Council laid down the principle that a vehicle should be taxed only in the State in which it was registered; yet vehicles plying between Madras and Mysore and between Madras and Kerala are called upon to pay full taxes to both Governments. There is an arrangement between

Madras and Andhra whereby a vehicle plying in these two States pay a total of 1116 of the Madras tax. Even this reciprocal arrangement does not obtain with other neighbouring States. Recently, with the inclusion of Malabar in Kerala, vehicles plying from Madras State to that district are held up at the new State border and made to pay the Kerala tax before they can proceed to Malabar. This legitimate grievance of the operators requires prompt and sympathetic consideration.

The Madras Motor Parts Dealers Association

The Secretary of the Madras Motor Parts Dealers Association informs Members in a circular that the Ministry of Commerce and Industry has issued a Notification regarding conversion of import licences.

According to the Notification, conversion of Licences are confined to lists published by the Ministry and will be considered accordingly by the licencing authorities who have issued licences.

Conversion will be considered in respect of all currently valid licences except licences granted to actual users and certain other categories, provided that the period of validity of such licences was adequate to permit shipments being arranged within the normal period of their validity. In no case will the validity of licences be extended.

The Notification further says that conversion will only be allowed for the available value of licence after deducting the value of the Letters of Credit already opened. Conversion however will not be allowed to items banned or highly restricted in the Red Book for January-June 1957. The Notification gives details of items in respect of which conversion will be allowed and descriptions of items for which conversion will not be allowed. The detailed full list can be perused at the office of the Association, says the Secretary Mr. V. Narayanaswamy.

CENTRAL SALES TAX

He also draws the attention of the Members to a Notification that the Central Sales Tax Act would not apply to business carried on with Pondicherry State. Sales from and to Pondicherry will be deemed as sales in the course of Import and Export out of the territory of India.

INCOME TAX

The attention of the Members are drawn to the fact that sending cheques on the due date to Income-tax Officers is not a proper discharge of the liabilities of the Assessees and that Income-tax payments should be made at the Reserve Bank or at the Treasuries in respect of the areas.

Motor Parts Dealers Celebrate Independence Day

V. K. Calls for austere living to help the plan

The Madras Motor Parts Dealers Association, whose Members are second to none in their traditional celebration of Indian Independence Day, assembled at the quadrangle of the Bharat Buildings, Mount Road, on the morning of the Independence Day this year.

Over a hundred members attended the function inspite of the inclement weather. After puja, the National Flag was hoisted by Mr. Inder Sain of M/s. Upper India Trading Co.

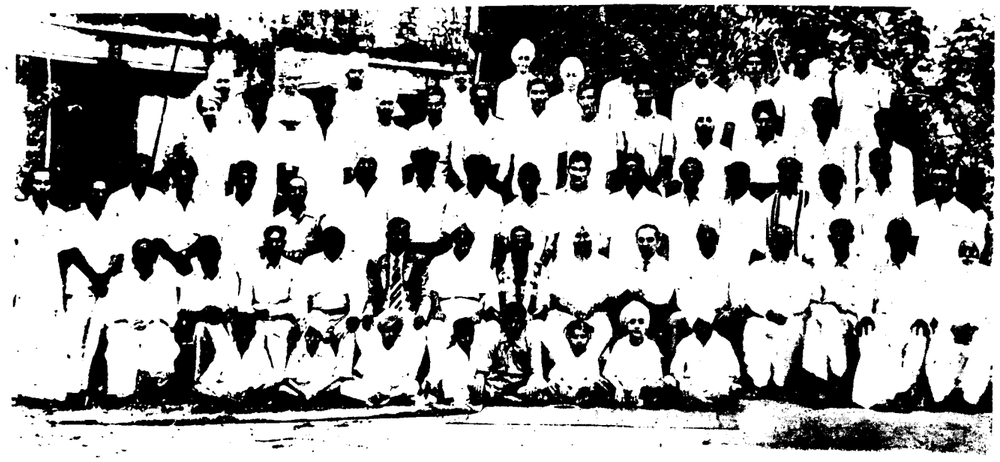
Mr. V. Kunjitapadam, President of the Association in a short speech referred to the Second Five Year Plan and the great task of industrialising this great country. This Plan demanded a huge capital expenditure and this had created inflation and suffering particularly to the middle class.

If inflation was to be prevented, everyone of them must curtail expenses and pay all taxes that were due to Government. Because the fundamental duty of everyone now in the country was to reduce expenses and save. That was a simple duty which they owed to their country, to themselves and to posterity.

If necessary, they should even be prepared to live on war time restrictions and austerity. Unless that was done, the Plan cannot function which would mean the economic prosperity of the nation would be in peril. He hoped that Members of the Association would all willingly and joyously partake in such a sacrifice and remember what the country had achieved in the last 10 years which was something astounding in world history.

"With that confidence, a sense of sacrifice and an urge to do our duty to our motherland, let us face the 11th year of our freedom," concluded Mr. V. Kunjitapadam.

ANDHRA MOTOR DEALERS & MERCHANTS CELEBRATE INDEPENDENCE DAY



The 10th Independence Day and the Independence Centeneray celebrations were celebrated by the Andhra State Motor Dealers and Allied Merchants Association at Vijayawada, when the National Flag was unferled by Sri M. Chitty, M.L.A., and speeches were made on the occasion. Photograph above includes, Mr. Chitty; Mr. N. S. Murthy, Director and General Manager of Sri Ramadas Motor Transport Private Ltd.; Sri D. S. Prakash Rao, its Manager; Sri D. V. K. Sarma; Sri Harbans Singh, Secretary of the Association; and Sri Y. Ramabrahmam, Secretary, Andhra Pradesh Motor Unions Congress.

Madras Motor Sports Club Film Show

Under the auspices of the Madras Motor Sports Club, a meeting was held at 29, Mount Road on August 14, when an interesting programme of information to Members was gone through. Two film shows were exhibited on motor car racing and motorcycle racing, by the kind courtesy of M/s. C. C. Wakefield & Co. Ltd. Tea and refreshments were also served for the Members and guests.

Prizes for the winners in the recent Poondy Rally and for the Paper Chase held in June last were also presented.

The Poondy Rally, which was over 36 miles from the War Memorial to the Poondy Reservoir, was held on July 22, and was attended by a large number of members with their motorcycles and cars. The top prizes of the day were won by cars, though the number of motorcycles entered for the race outnumbered that of motor cars. It was stated that the results showed that it was not speed alone that counted, but the check of one's control of the machine especially in an event which required every entrant to keep the scheduled speed of 30 miles per hour for the entire distance.

The Rally had its own lessons to teach, because points were being deducted for coming too early or too late.

Din Mahomed Khan's riding was noteworthy and so that of Mr. T. S. Srinivasan on his Royal Enfield. Mr. Srinivasan was the only rider who negotiated the treacherous course without a foot stoppage, an effort which earned him second place in the rally.

The winners were :

W. Lobo, who drove a Hillman Minx, First,
T. S. Srinivasan, Second, and
Raja D. V. Appa Rao who drove a Dodge, third.

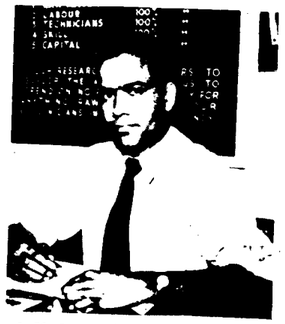
Mr. Srinivasan, whose photograph is seen above told *Motorindia* that he used Redex Additive with engine oil and petrol. He had always used this for increasing the performance of his machine. It may be remembered that Mr. Srinivasan stood fourth in a race held by the Madras Motor Sports Club some time ago at Sholavaram riding a B.M.W. 1.25 c.c.

Himcos Celebrate Independence Day

FUNCTION AT ALANDUR FACTORY

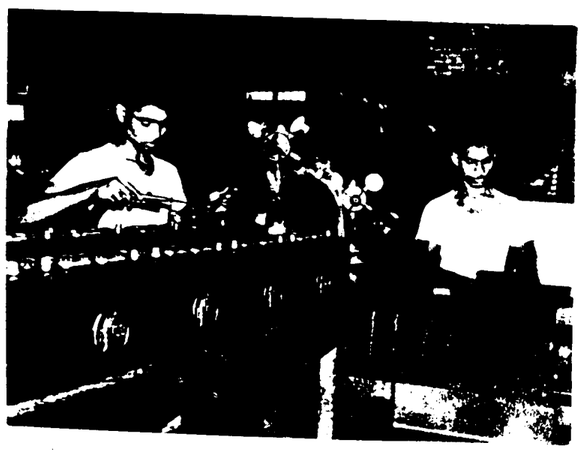
Photo taken on the occasion of the celebration of Independence Day by Himco India Private Ltd. at their Alandur Factory shows, L to R (Sitting): Mr. N. K. R. Swami; Directors, Mr. V. Kunjidapadam, Mr. N. Ramachandra Iyer; Mr. I. C. Anand; Himcos Manager at Madras Mr. I. K. Luv and Mr.. Babu Pandurang.

Photo shows I. K. Luv, Madras Manager of Himcos being presented with a five year's loyal service award in cash by the Director Mr. I. C. Anand.



Mr. I. K. Luv, who has taken charge as Manager of Himcos at Mount Road, Madras after over 5 years service with the firm in other centres.

The plates formation section of Himco at Alandur.



The Generator room of Himcos at their

Society Wedding in Madras

Vimala—Govindan

The pink of the automobile industry and trade and their families were present at the huge pandal at Abbotsbury, Teynampet. Mount Road, Madras on the morning of Independence Day to witness what may be termed a Society Wedding in the automobile circles. The occasion was the marriage of Vimala. daughter of Mr. P. Veeraraghavalu (and sister of Mr. P. Chandriah, Partner of M s. Modern Automobiles and Modern Distributing Company). with Sri G. Govardan of Bharath Electronics Private Ltd.. Bangalore. Included among the thousand guests who responded to the marriage invitation were Judges, Ministers and other high officials of Government.

The music performance in the evening was equally well attended.

* * *

Vimala, sister of Mr. P. Chandriah of Messrs. Modern Automobiles, with her bridegroom Sri G. Govardan of Bharath Ellectronics Private Ltd., of Bangalore.

A section of the guests at the marriage showing Mr. R. Ratnam of T.V.S. Organisation and a number of leading operators of South India.

Guests at the Marriage included many top-ranking officials as may be seen from the photograph which includes, the Chief Justise of Madras, his father Mr. P. Venkataramana Rao, Retired Chief Justice and others.

Motor Vehicles and Allied Merchants Association

Members of the Motor Vehicles and Allied Merchants Association are informed by their Secretary that according to a Government Notification the increased levy of General Sales Tax from 1.9 16 per cent to 2 per cent has come into force on August 1 by virtue of the Madras General Sales Tax, and sales of motor spirit taxation (Amendment) Act. 1957.

* * *

The Secretary also informs Members that the provisions relating to the Constitution of State and Regional Transport authorities under the Motor Vehicle Amendment Act of 1957 have been brought into force from 1st August 1957. The provisions relating to the licencing of tax have also been brought into force with effect from the same date.

* * *

The Madras Legislative Assembly has recently approved of an Amendment moved by the Minister for Electricity to Schedule II of the Madras Motor Vehicles Taxation Act. The Amendment proposed that trailers should be taxed separately on the basis of their laden weight and at half rates applicable to self-propelled goods vehicles of the same capacity. Under the existing system it was felt that it was quite possible that many of the trailers might not pay tax, even though they may be used in conjunction with the vehicles occasionally or frequently for transport of goods or personal effects.

* * *

Following the Memorandum submitted by the Motor Vehicles and Allied Merchants Association to the Special Officer investigating the Sales Tax structure in Madras State Dr. P. S. Lokanathan, the Secretary of the Association recently had a personal discussion with the Special Officer on the lines of the Memorandum. During this discussion, the impossibility and the total absence of evasion of the tax in the case of motor vehicles, the claim for special concessional rate of tax for public carriers who are a necessary compliment to the Railway, elimination of the tax for materials purchased for work contracts by auto dealers and makers, the elimination of harassment by the assessing officers who sometimes asked books to be produced before them at their distant camps or headquarters, and the need for replacing multipoint tax by single point tax etc., were referred to. The Special Officer gave a patient hearing and was appreciative of the very useful and helpful suggestions made by the Association.

Andhra Merchants Protest

A resolution passed unanimously by the Managing Committee of the Association on 4th August 1957, states:

"As the nationalisation of the Passenger Transport Services in the State at this crucial and hard times of financial position of the State, would not only render considerable losses and heavy incidence of new investment burdens to the revenues of the State, but would result also in unemployment to a few hundreds of Small auto-traders and skilled and unskilled labourers engaged in passenger Transport services under private enterprise, this committee would suggest to the State Government to appoint a high level committee to study and report on the suitable future set up of the motor passenger transport services in the State."

Madras State Lorry Owners Association

Representation to Dy. Commissioner

The Madras State Lorry Owners' Association in a communication to the Deputy Commissioner of Police (Traffic & Licensing) Madras points out that whenever a lorry was suspected of overloading, instead of disposing it of immediately, the police unnecessarily make it wait till they collect several cases for the day and while checking the correctness of the load later they actually find only two out of 30 cases are really overloaded. The inconvenience caused under such circumstances was great and the loss to the lorry owners very serious. It was also pointed out that on account of the time and strict restrictions, some times a lorry scheduled to arrive at 11 for unloading at a Godown get stranded on the street for the whole day. The Association points out the example of States like Bombay where weighting machines are kept at trunk roads so that whenever there is any suspicion of overloading the lorries are immediately checked and released on the spot if found not guilty, of any offence. The Association, therefore, pleads for the introduction of this system in Madras as well. If this is done all the lorry owners of the Association will be extremely grateful to the Deputy Commissioner because such a step will be of great help to the lorry owners.

ARRIVALS AND DEPARTURES — GLOBAL

Madras Businessmen for Japan

TO DEVELOP BUS RADIOS

Planning a four weeks visit to Japan shortly are Mr. Sardar Singh Aneja, Managing Partner of Singh Trading Co., Madras, and Aneja Radios, Delhi and Bombay and Director of Electronic Industries, Madras, and Mr. Suleman Ibrahim Sait of M/s. Mahomed Ibrahim & Co., Madras.

Electronic Industries, Madras are already fully set for the manufacture of radio components, amplifiers and other public radio equipments as also car radios, bus radios, transisterized radios etc. With such a huge programme of manufacture ahead, it is not surprising that the two energetic businessmen are starting on this trip. They will be reaching Japan during the lrst week of October, according to present plans, after visiting Rangoon and Bangkong en route.

During their three weeks stay in Japan, Mr. Singh hopes to contact leading radio and allied component manufacturers of Japan in order to tie up with such firms and to make special study of their methods etc., for implementation in their factory at Mount Road. Mr. Singh's idea is to develop bus, car and transisterized radios on a mass scale so that it may be possible for the common man in this country to think of possessing a radio which will be available within his means. His determination and his technical background is such that the industry is bound to benefit immensely and the country to a very large extent in the matter of savings of foreign exchange for such products in the near future. Mr. Singh Aneja's interest in Japan will not be confined however to electrical goods relating to radios. For, he told *Motorindia* in a chat on the eve of his departure that his firm is very much interested in developing manufacture of electrical and other motor vehicle components as well to serve the needs of the expanding industry in its infant stages in this country. He is therefore

Mr. S. S. Aneja

looking forward to meeting prominent manufacturers of automobile components and automobile electrical components particularly, in Japan with a view to discussing and arriving at schemes for the manufacture of those components in this country.

Jayantilal Desai felicitated

"Asset, to Auto Indutry"

Sri Jayantilal C. Desai, Director of Messrs. Bower Battery Manufacturing Co. (P) Ltd. was the Guest of Honour at a brilliant function held at the Radio Club, Bombay on July 28 to mark the welcome home of Mr. Desai from his trip to America, where he had specialized technical education recently.

The function was attended by scores of leading lights of the automobile and allied industries in Bombay.

Sri J. C. Desai had studied while in United States in the Ohio State University and in the Case Institute of Technology, also at Ohio.

Mr. B. M. Shaw, President of the Bombay Motor Merchants Association welcoming the Chief Guest hoped that his wide technical experience would be a further asset not only to Messrs. Bower Batteries, but also to Messrs. Chimanlal Desai & Company in particular.

Speeches were also made by other Directors of the Company and others.

GRATITUDE TO CHIMANLAL

Mr. J. C. Desai expressed his gratitude for his elder brother Mr. Chimanlal Desai, but for whose solicitude and generosity his present education and specialization in the United States would not have been possible.

He told the gathering that he also served as a trainee in plastics and paint industries for about two years, and had also visited factories of paint, carbon brushes, and chemicals in the U.K., France, Belgium, and Germany. He assured everyone that he would contribute his utmost to the cause of the industry in India.

Mr. T. M. Parikh, Director of Bower Battery, addressing the guests.

New Associations

Enfield Enthusiasts Form Club

Mr. S. Sankaran Elected President

A new name has been added to the list of Clubs in Madras. This is "The Enfield Club," recently formed at 36-C, Mount Road, at a meeting of motorcycle enthusiasts mostly owners of Enfield motorcycles.

At a meeting under the Presidentship of Mr. S. Sankaran, Managing Director of M/s. Enfield India Ltd., the objects of the Club were explained. It includes, the promotion of interest in motorcycling and to grow and foster a feeling of friendship among such users; gather information and literature regarding their vehicles and the experiences of motorcyclists elsewhere; to organize seasonal outings, motorcycle sports etc.; and to cooperate with similar Clubs and partake in their activities. After a discussion, the rules of the Club were approved and election of office-bearers was held.

Mr. S. Sankaran was elected President, Messrs. N. V. Krishna Rao and M. Venkataraman, Vice-Presidents; Sri S. R. Subramaniam, Secretary; and Sri R. Swaminathan, Treasurer.

An Executive Committee was also formed with the following members :

Messrs. M. G. Dass, Nagaraj, Lobo, S. K. Tawker, R. V. M. Surya Rao, C. A. Jagannatha Rao and K. K. Dass.

Automobile Anciliary Association

Pranlal Patel's efforts at Formation

A new Association called the All India Automobile Ancilliary Industries Association is being formed with headquarters in Bombay and the Convener of the same is Mr. Pranlal Patel of M/s. Automobile and Agricultural Industries Corporation. Mr. Patel has sent a detailed circular to various industrial units engaged in the manufacture of automobile and automobile parts regarding the formation of the Association as a first step towards organizing the industry scattered over the length and breadth of this country.

The Circular refers to the interesting recommendations and discussions the members of the Tariff Commission had with the automobile industry last year and the fact that the Government of India was extremely anxious to organize such an Association to promote the growth of the ancilliary industries.

The Circular states that many pioneer manufacturers in the industry have agreed to participate in such a scheme and to begin with it was recommended that an exhibition should be organized at Bombay to exhibit parts and components of ancilliary industries. Those who are interested in the formation of such an Association are requested to give details of their firm to the Convener, C/o Brabourne Stadium, 87 Vir Nariman Road, Bombay-1.

MOTORINDIA NEWS SECTION

(BY OUR SPECIAL CORRESPONDENTS)

INTERNATIONAL ROAD TRAVEL MORE POPULAR

A.I.T's. ASIAN ZONE REPORT FOR 1956

"International travel by road is fast becoming popular. There has been a regular stream of tourists on the Indo-Europe Highway in both directions. Reports are current that an enterprising agency will introduce a regular motor transport service between Europe and India in the near future. The A.I.T.'s second Ganeva-Bombay Motor Rally received good publicity and further stimulated interest in the Highway", so states the report for 1956 of the working of the A.I.T.'s Asian Zone Secretariat attached to the W.I.A.A. in Bombay.

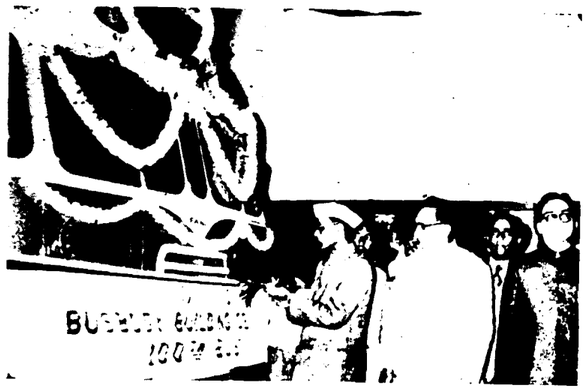
An important activity of the Secretariat during the year was the compilation of touring information files for Singapore, Malaya, Japan, Iran and Burma. The task was by no means easy as it involved constant correspondence with various official and non-official agencies over several months but it was worth the trouble as Automobile and Touring Associations and Clubs throughout the world are now supplied with up-to-date touring information on these countries in a handy form to which they can make reference when needed.

The Secretariat was equally active in working for the improvement of international highways. It urged the Government of Iran to give immediate attention to the Tehran - Isfahan - Yezd-Karman-Zahedan section which was in a bad condition. The Government of Afghanistan was requested to improve and resurface the herat-Farah - Kandahar-Ghazni-Kabul road so that visitors to India by road might make use of it in place of the Quetta route which is longer by 300 miles. Similarly the possibility of reviving the overland route between India and Burma and its extensions to countries like China, Thailand, Laos, etc. were examined and information collected on the latest condition of the frontier route.

As regards the National Highways, the Secretariat took special interest in the Government of India's scheme for a West-Coast National Highway linking Bombay and Cape Comorin along the coast. Three-fourths of this road including many missing links were expected to be completed during the Second Five Year Plan. The Secretariat, in a communication to the State Governments concerned, has requested them to expedite the construction of the missing links and to provide rest houses on the way, to travellers.

The report also mentions the efforts made by the Secretariat to get the international conventions i.e. the Convention on Road and Motor Transport, 1949, and the Convention on Customs Formalities for the Temporary Importation of Motor Vehicles and for Tourism ratified by as many Asian countries as possible. At the instance of the Secretariat, the Government of India, although they have not adhered to the 1949 Convention, decided to take some interim measures for the benefit of tourists visiting India from countries which have ratified the Convention. According to these steps the authorities will henceforth accept the International Driving Permits issued under the 1949 Convention and also the National Registration Certificate of motor vehicles of countries which have adhered to the Convention as equivalent to the International Certificate for motor vehicles.

Mr. Martin Sachs of Willys Overland Export Corporation who was on a short visit to Messrs. Mahindra & Mahindra Ltd., Bombay in connection with their Jeep manufacturing programme left for the States by Air India International. He was seen off by Mr. K. C. Mahindra, Director and Messrs. S. K. Swaminadhan, B. R. Sule, T. V. S. Mani of Messrs. Mahindra & Mahindra Ltd. and Mr. Maxwell and Mr. Briggs of Willys Overland.



Shri T. Mariappa, Finance Minister, Government of Mysore launching the 100th Bus built by their Body Building Section, on a Fargo Chassis. Left to Right are Shri Mariappa, Shri C. M. Poonacha, Minister for Transport, Shri E. N. Seshadri, Deputy General Manager and Shri Laxman Rau, General Manager.

100th BUS BUILT IN MYSORE

BANGALORE : 27th July 1957 was a proud day in the eight-year old history of the Mysore Government Road Transport Department when the 100th Bus body built on a Fargo Chassis, rolled out of their Body Building Section.

Shri T. Mariappa, Finance Minister, Government of Mysore, launched the 100th Bus on the road, while Shri C. M. Poonacha, Minister for Home & Transport, Government of Mysore, presided over the function.

All the 100 bodies were built on either DODGE or FARGO chassis supplied by the Premier Automobiles.

Welcoming the guests, Shri N. Laxman Rau, I.A.S., General Manager of the Road Transport, traced the history of the Body Building Section and said that the bodies built there were considered far superior, both in matter of workmanship and material used, to those constructed elsewhere. The Mysore Government Road Transport Department was started in 1948 while the bus body building section was started in 1955.

The function was attended by a large number of guests including Shri R. J. Rebello, Home Secretary and Shri P. J. Fernandez, General Manager—designate.

MAHINDRA EDUCATIONAL TRUST

Awards for the year 1957

Pursuant to the announcement which appeared in the month of February, for the award of financial assistance to Indian Nationals, the following eight candidates have been awarded Scholarships by the Trustees, to go abroad for higher studies.

Mr. Ajit Nanda Kumar will be joining the College of Aeronautics, Cranfield, U.K. in October for a post-graduate diploma course in Aeronautical Engineering.

Mr. Shenoy will proceed to U.S.A. to join the Michigan University for a course leading to M.S.E. in Chemical and Metallurgical Engineering.

Mr. Madhusudan Bhattacharya has been selected to pursue a post-graduate course in Mechanical Engineering at the Manchester College of Science and Technology, U.K.

The following five candidates have been awarded part Scholarships :—

Mr. Youdhishthir Prasad Gupta. He has been offered a research assistantship by the Massachusetts Institute of Technology, U.S.A., for higher studies in Metallurgy leading to Ph.D.

Mr. P. B. Krishnaswamy. He has been also offered assistantship by the Princeton University, U.S.A., for higher studies in Electrical Engineering (Servomechanism).

A meeting of Hindustan Motors' Dealers was called recently in Calcutta to discuss the new Hire-Purchase facilities to be offered to customers of the company's products: Left to Right are: Mr. B. T. Thakur Chairman, Hindusthan Motor Corporation Ltd., which will handle the hire-purchase financing; Mr. B. M. Birla, Chairman, Hindustan Motors Ltd.; and Mr. S. L. Jhunjhunwala, Sales Manager, Hindustan Motors Ltd.

Automobile Association of South India

Membership Increase to 10,128

According to the Annual Report of the Automobile Association of Southern India, which was presented to the Association by the Secretary at its Annual General Body Meeting on August 30, the membership of the Automobile Association had grown up tremendously from just over a thousand in 1934 to 10,128 at present.

The Association had branches and members in practically all the important districts of the State and in Kerala, Mysore, Andhra etc. The growth of membership was steady and 1853 new members were enrolled during the last year.

During the year under report free break down service of the Association was made available throughout the year at Madras, Bangalore and at other branch offices. A large percentage of Members made use of this free service, making contacts with the office by telephone, by personal requests or through bus drivers or messengers.

Thus, 2071 vehicles were attended to on the road, of which 1566 were in the neighbourhood of Madras. In addition to the above, more than 500 vehicles had minor check up or adjustments attended to by mechanics at the Madras office. The causes of break down were mainly the same as in previous years, namely, punctures, dirty carburettors or weak batteries. Mechanics of the Association were on patrol duty every day to locate stranded cars of members.

The Association issued during the year 4643 *itineraries mostly in Madras to the Madras-London road drawing particular interest of more than* 340 *members some of whom enquiried about bus services and hotels in the Middle East countries.* 204 *members obtained International Driving Permits to enable them drive cars in foreign countries during their visits. Two members took their vehicles to foreign countries during the year.*

The Committee had many discussions about traffic problems. Representations were made to the Central Government and the State Governments regarding Motor Vehicles Act and rules framed thereunder. Many of the suggestions were accepted by the Traffic and local authorities in regard to No Parking, one way traffic, silence zone etc.

The financial position of the Association was satisfactory. The Association was represented on the advisery Committee of the Tourist Information Bureau at Madras by Mr. S. V. B. Row, Vice-Chairman of the Association to assist the Bureau in all matters regarding the development of tourist traffic.

The analysis of the breakdown cases in Madras City relating to vehicles of members of the Automobile Association of Southern India during 1956 shows that

Wheal flat accounted for	20.8	per cent
Carburetter failure	20.8	,,
Fuel pump failure	20.8	,,
Faulty Ignition	18.9	,,
Battery failure	2.3	,,
Defective clutch	3.3	,,
Electrical failure	3.4	,,
Starter motor Jammed	1.2	,,
Defective fan belt	1.4	,,
Brakes jammed	2.3	,,
Gears defective	1.4	,,
Petrol shortage	0.7	,,
And other causes	2.7	,,

Office Bearers Elected

The 45th Annual General Meeting of the Automobile Association of Southern India held on August 31 re-elected Sir Mohamed Usman President of the Association.

The meeting also elected the following office-bearers: Mr. H. I. Cormack: Vice-President; Mr. M. A. Chidambaram, Chairman; Mr. S. V. B. Row, Vice-Chairman; Mr. V. S. Subramaniam, Honorary Treasurer; and Mr. J. A. Devasahayam, Secretary. The following were elected members of the executive committee; Messrs. Allan Taylor, P. M. Balasubramaniam, V. Emberumanar Chetty, K. Eswaran and K. Hariharan, Md. Kazim Khaleeli, Lt.-Col. C. R. Krishnaswamy, Mr. Sulaiman Zacharia Sait, Mr. E. Solomon, and Lt.-Col. N. Vasudeva Rao. Messrs. Fraser and Ross were appointed auditors.

The Annual Report and the audited statement of accounts for the year ended December 31, 1956, were earlier adopted at the meeting.

Shri .S Nijalingappa (centre), Chief Minister of Mysore, on a recent visit to the Standard Batteries factory, Bombay, inspecting the assembly of RPg. train-lighting and special heavy-duty batteries.

MODELS AND THEIR Prices

CARS

	Rs. nP.
Plymouth Car, (Sundaram Motors Private Ltd.) Ex. Premier Automobiles Factory, Kurla ...	20,270 00
Plymouth Suburban ...	22,646 00
Hindustan Landmaster 1957 (Southern Automative Corporation Private Ltd.) ex plant Uttarpara ...	11,161 62
Dodge kingsway sedan ...	20,371 00
Dodge Suburban (Addison & Co. (P) Ltd.) ex Bombay ...	22,899 00
Baby Hindustan 1956 (Addison & Co. (P) Ltd.) ex Madras including S.T. & Import charges ...	9,550 00
Standard Super Ten Saloon (Union Co. (Motors) Private Ltd.) on the road ...	10,022 12
Standard Estate Car (Union Co. (Motors) Private Ltd.) on the road ...	14,889 12
Studebaker 'Parkview' station Wagon 1956 model [Reliance Motors Ltd.] ex plant Calcutta ...	20,280 00
Studebaker 1956 Commander (V.S.T. Motors Private Ltd.) Including S.T. & Delivery Charges ...	22,239 86
Studebaker 1956 President Classic [V.S.T. Motors Private Ltd.] ...	24,499 78
The Fiat 1100 The Elegant [Sundaram Motors Private Ltd.] Ex Factory ...	9,755 00
Willys C.J. 3B Universal Jeep [Sundaram Motors Private Ltd.] ex plant Bombay ...	12,160 00
Willys Model 4 × 4—75 Station Wagon [Sundaram Motors Private Ltd.] ex plant Bombay ...	18,150 00
Jeep 1 ton truck ...	13,046 00

MOTOR CYCLES

	Rs. nP.
Royal Enfield [The Madras Motors (Private) Ltd.]—	
"150 Ensign" ...	1,890 00
"350 Bullet" with spring frame ...	3,430 00
499 c.c. Model 'j2' ...	3,500 00
"500 Bullet" with spring frame ...	3,950 00
"500 Twin" with spring frame and with Magdyno or coil ignition ...	4,450 00
"700 Super Meteor" with spring frame and with Magdyno or coil ignition ...	4,650 00
Matchless 350 c.c. with rear suspension [Addison & Co. (P) Ltd.] ex Madras ...	3,675 00
Triumph Terrier [Addison & Co. (P) Ltd.] ex Madras ...	2,175 00
Triumph Tiger Club [Addison & Co. (P) Ltd.] ex Madras ...	2,325 00
The New Bina Peugeot 48 c.c. [The Union Co. (Motors) Private Ltd.] on the road.	970 19
B.S.A. Motor cycles. [The Union Co. (Motors) Private Ltd.]	
125 c.c. Bantam on the road ...	1,880 25
150 c.c. Bantam Major on the road ...	2,212 00
250 c.c. Model C. 11. G. on the road ...	2,736 50
350 c.c. Model B. 31. on the road ...	3,978 69
650 c.c. Plunger type on the road ...	4,629 81
50 Swinging Arm on the road ...	4,892 50
Jawa (S.P. Ratnam & Sons) 2.5 H.P. with spring frame, dual seat, with unique kick starter and gear change lever in one	2,660 00

SCOOTERS

	Rs. nP.
Lambretta, manufactured by Automobile Products of India Ltd. Distributors, South India Automative Corporation Private Ltd., Madras. (At Vishakapatnam—Western Automobiles Ltd.) Prices are ex-Factory, Bhandup, Bombay.	
48 c.c. Scootterete ...	827 00
150 c.c. 'D' Model Standard Scooter ...	1500 00
150 c.c. 'LD' Model Deluxe Scooter ...	1795 00

VANS

	Rs. nP.
Standard Delivery Van. [Union Co. (Motors) Private Ltd.] on the road ...	10,628 56

TRUCKS & COMMERCIAL CHASSIS

	Rs. nP.
[George Oakes Ltd.]	
Leyland Comet "203" WB Passenger Diesel Chassis including S.T. & dely. charges. ...	36,000 00
Leyland ECPO 2/2R-176 WB full forward control Passenger Chassis S.T. & dely. charges ...	35,500 00
Leyland ECOS 2/1R-163 WB goods chassis including S.T. & dely. charges	34,700 00
Leyland ECOS 2/2R-118 full forward Tipper chassis including S.T. & dely. charges ...	34,500 00
[Rane (Madras) Ltd.] Studebaker 1956 Diesel Truck Chassis.	
2E 38B-155 W.B. Chassis with Diesel Engine ex plant Calcutta ...	21,317 00
2E 38B-155 W.B. E.H.D. Chassis ex plant Calcutta.	16,208 00
Willys Model 4-75 Wheel Drive one ton truck chassis 118" W.B.	
[Sundaram Motors Private Ltd.] ex plant Bombay ...	13,935 00
Jeep Trailer ex plant Poona or Madras ...	1,800 00
[V.S.T. Motors Private Ltd.] Tata-Mercedez-Benz. Diesel Truck and Bus Chassis L 312/42 165" W.B. 5-Ton Truck Chassis ex Works Jamshedpur ...	26,340 00
LP 312/42 165" W.B. Full Forward Control Truck Bus Chassis ex Works Jamshedpur ...	27,295 00
LP 312/48 190" W.B. Full Forward Control Bus Chassis ex Works Jamshedpur ...	28,085 00
L 312/36 142" W.B. 5-Ton Truck Chassis ex Works Jamshedpur ...	25,995 00
LK 312/36 142" W.B. 5-Ton Truck Chassis ex Works Jamshedpur ...	29,475 00
Fargo (at Sundaram Motors Private Ltd) Dodge (at Addison & Co (Private) Ltd) prices ex-factory Premier Automobiles Ltd., Kurla, Bombay :	

DODGE/FARGO PETROL TRUCKS

		Rs. nP.
C3D6-116"	WB ...	11,615 00
C4D6-126"	WB ...	12,662 00
C3PW6-126"	WB ...	17,974 00
C4G6-155"	WB ...	16,391 00
C4G6-153"	WB ...	16,062 00
C4G6-171"	WB ...	17,008 00
C4H6-153"	WB ...	17,710 00
C4H6-153"	WB ...	17,979 00
C4H6-171"	WB ...	18,805 00
C4H6-193"	WB F/F ...	18,116 00
C4H6-193"	WB F/F ...	18,385 00
C4H6-193"	WB W/S ...	18,479 00
C4H6-193"	WB W/S ...	18,748 00

PETROL TRUCK WITH CAB AND PICKUP

		Rs. nP.
C3D6-116"	WB ...	15,012 00

DIESEL CONVERSION

		Rs. nP.
C4H6-153"	WB ...	22,668 00
C4H6-153"	WB ...	22,937 00
C4H6-171"	WB ...	22,903 00
C4H6-171"	WB ...	23,172 00
C4H6-193"	WB F/F ...	22,992 00
C4H6-193"	WB F/F ...	23,261 00
C4H6-193"	WB W/S ...	23,298 00
C4H6-193"	WB W/S ...	23,567 00

DIESEL TRUCKS

		Rs. nP.
105P6-165"	WB ...	22,018 00
105P6-165"	WB ...	22,287 00
105AP6-165"	WB ...	22,820 00
105AP6-165"	WB ...	23,089 00
87P6-190"	WB ...	23,962 00
87P6-190"	WB ...	23,617 00
87AP6-190"	WB ...	24,410 00
87AP6-190"	WB ...	24,752 00

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