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Motor India

pl-2

NO-6.to.8

January, February, March - 1968



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# MOTORINDIA

VOLUME 2

JANUARY 1958

NUMBER 6



343



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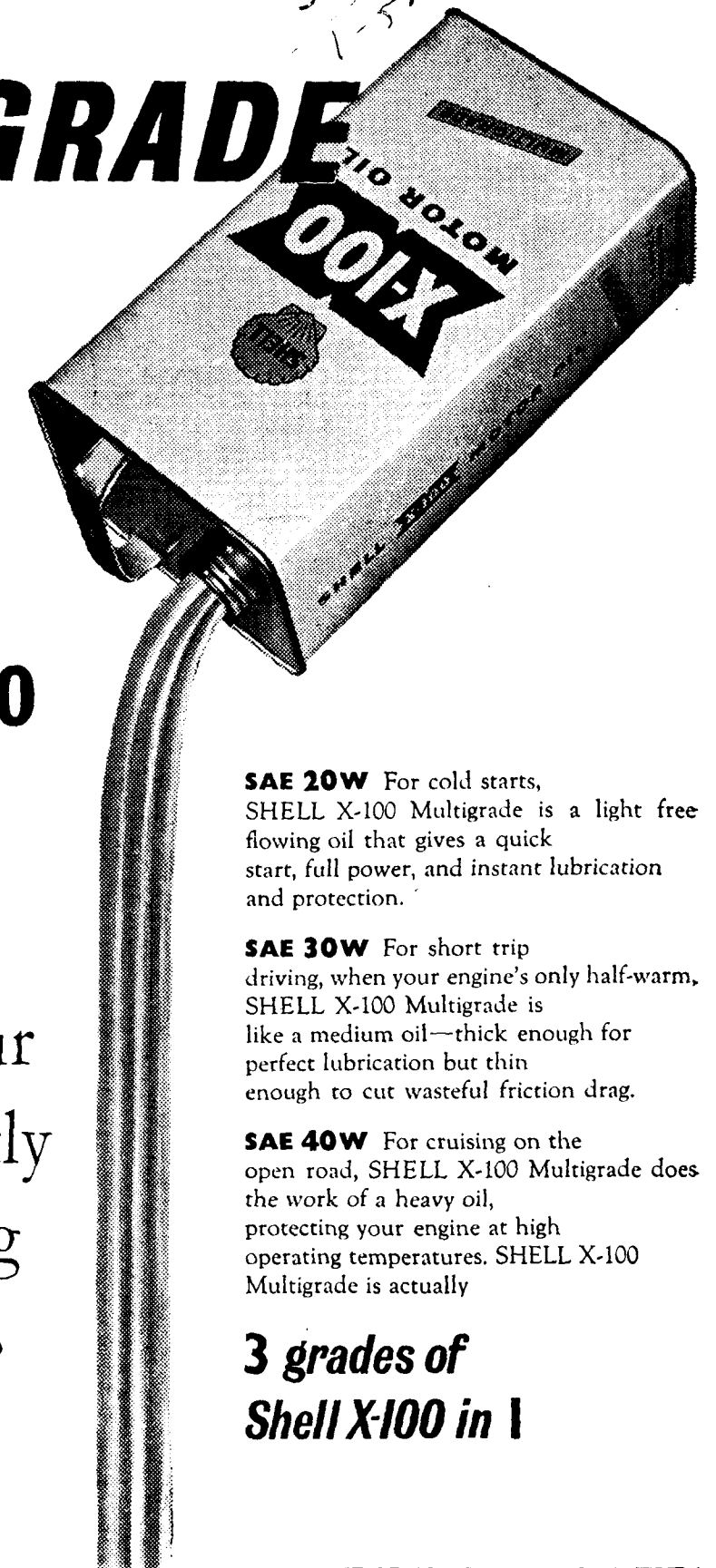
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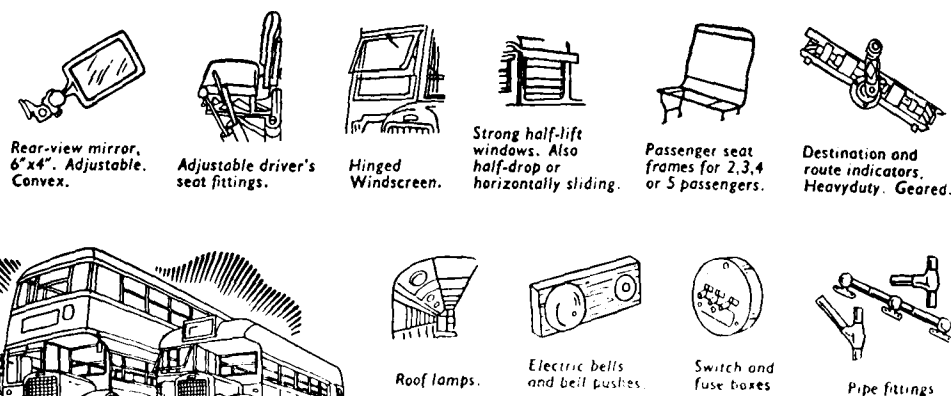


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# MOTORINDIA

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JANUARY 1958

No. 6

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# editorial

## BETTER LATE THAN NEVER

Perhaps the most welcome news that has reached the Indian motorist in the recent decades was given out during the last week of 1957 at Bombay by the Hon'ble Mr. Manubhai Shaw, Union Minister of Industries.

Inaugurating an Exhibition on Automobile and Ancillary Products organised by the Automobile & Ancillary Industries Association (which has recently been formed) Mr. Shaw revealed that it was the ultimate aim of the Government to help the industry produce cheap cars in this country, priced within easy reach of the average middle class family. In fact, he emphasized that all the assistance and protection that is being given to the automobile industry in this country today was done only with such a goal in view. He even went to the extent of hoping that manufacture of cars priced at not more than about Rs. 4,000 would be possible during the next decade or so.

It can be said without fear of contradiction that the Minister when he said the above words, was only expressing what thousands of motorists have been wishing and expressing perhaps in private conversations and in their own hearts. Though it would appear almost fantastic that the Government should expect any industry to bring down its prices almost to one-third of the prevailing rates, judging on current prices, at the same time it cannot be denied that such a steep reduction in the cost of automobiles in this country is not only desirable but is now overdue.

The success of the 5-year Plans that we are now in the midst of, will depend more or less to the degree of saving that individuals and organisations are able to accrue during this period. And the fact remains that the average income of the middle and the upper-middle classes being what it is today, and the rich and the top-rich classes undergoing a very fast process of gradual and sometimes voluntary liquidation in a road roller economy that is completely changing the face of national progress, practically every one who finds it necessary to buy and maintain a car to move about has to do it at the sacrifice of money which would otherwise go to augment his savings or the country's resources.

Another aspect of the question to be remembered in dealing with automobile prices, is the fact that though automobile prices in India today are very nearly  $3\frac{1}{2}$  to 4 times the prewar rates (in so far as medium size cars are concerned), a study of automobile prices in other countries will go to show that inspite of the general upward trend of prices and living since the end of the war, the industry in those countries have been able to gradually compete with one another not only in improving the efficiency of the vehicles, but also in bringing down the cost to the consumer. We wonder whether the existing system of monopolistic approach and protection will lead to competition and enthusiasm among the automobile manufacturers in this country and whether such manufacturers would think of a long range plan with the ultimate object of making the automobile within easy reach of at least the middle classes. Such a goal is not only desirable, but is also absolutely necessary, if not in the immediate future, atleast during the period following the current Five-year Plan.

It is to be hoped, therefore, that the views expressed by the Honourable Mr. Shaw will be translated into action by the automobile industry by economising on costs of production and by the Governments at the Centre and the States by reducing the incidence of taxation on automobile and automobile products.

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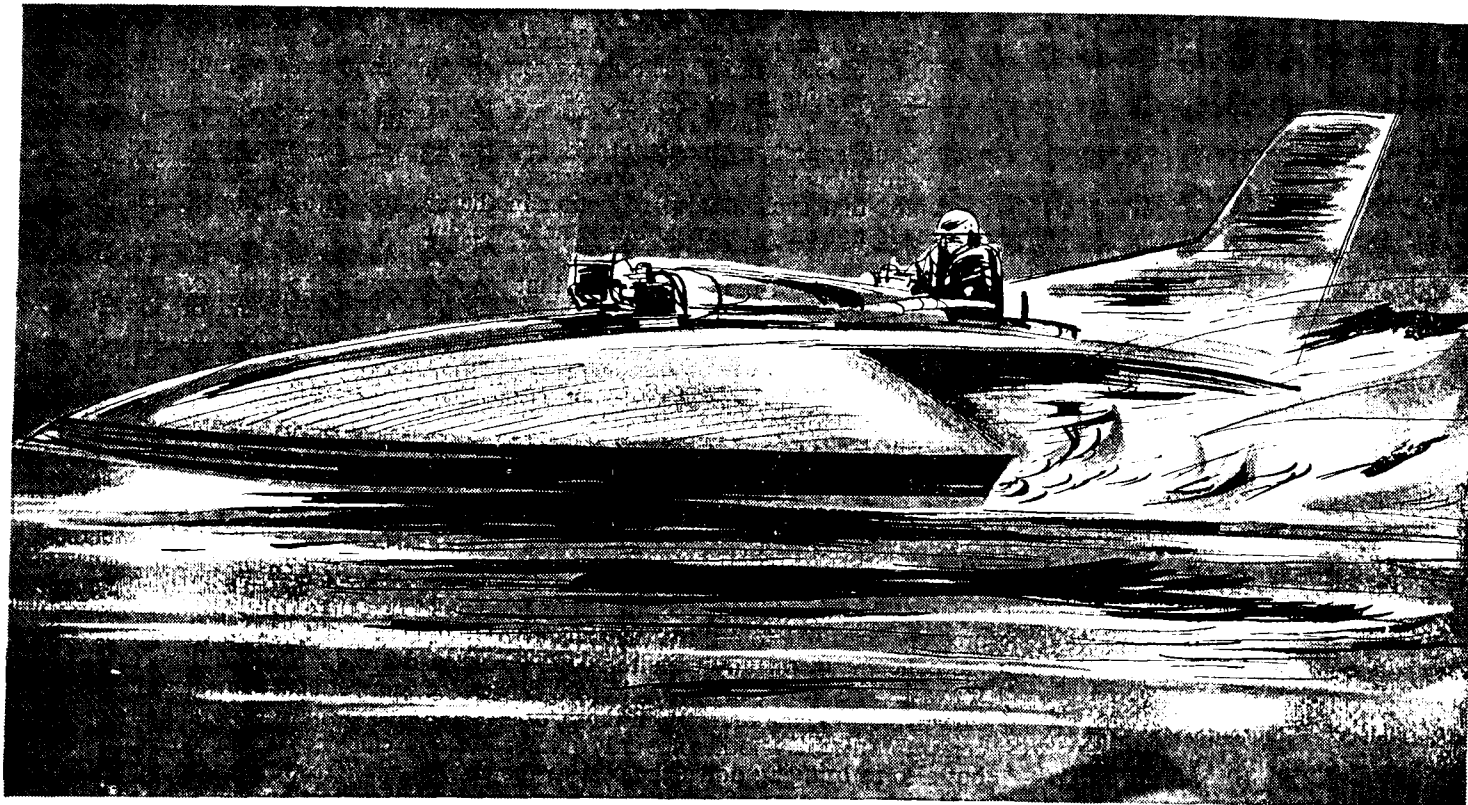
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## NUCLEAR POWER vs. OIL IN UNDER DEVELOPED AREAS

FOR A COUNTRY IN THE PROCESS OF DEVELOPMENT, ONE OF THE FIRST CONSIDERATIONS MUST BE THE PROVISION OF ADEQUATE SUPPLIES OF ELECTRICAL POWER. NO MATTER WHAT PATTERN OF ENERGY REQUIREMENTS FINALLY EMERGES AS BEST SUITED TO A COUNTRY'S NEEDS AND POSSIBILITIES, ELECTRICITY WILL CERTAINLY PLAY A LEADING ROLE AND WILL BE OF PARAMOUNT IMPORTANCE IN HELPING TO FORWARD WHATEVER DEGREE OF INDUSTRIALIZATION IS FEASIBLE.

A comparison of the different types of power station that might be suitable for a country in the early stages of development was included in a recent paper by J. A. Jukes, Economic Adviser to the United Kingdom Atomic Energy Authority. His conclusion, that nuclear energy may not be the most economical way of producing electricity during these early stages is a timely corrective to beliefs held currently in many quarters—not least in the countries most closely concerned, who may be attracted against their better judgment by the glamour of this new industry.

Obviously, the most important considerations affecting the choice of generating plant are the relative costs of building and operation, which differ widely for the various types of power station. In considering the capital construction costs of the different types of power station, Mr. Jukes estimates that the price of a 50 M.W. reactor (the largest that an underdeveloped country could conceivably need) of the natural uranium type, would be about £10 million, or about £200 per installed kilowatt. It is true that the cost of the nuclear power stations being built at the present time in the U.K. is only about £140 per kW. and that the cost of the second group to be constructed is expected to be 15 per cent lower. But these figures are for 300 MW. stations, and in the present state of technological development capital costs per unit of capacity rise sharply as the size of the plant decreases. By comparison, a reasonable figure for the cost of a hydro-electric scheme might be

between £90 and £110 per kW. Against this, Mr. Jukes estimates that a coal-fired station in an underdeveloped country would cost something over £65 per kW. and a diesel generating plant as little as £36 per installed kW. When it is remembered that in a young country rates of interest will invariably be higher than in more advanced countries because of the scarcity of capital, it becomes evident that capital cost will be a very influential factor in deciding which kind of power station to build.

The high capital construction cost of a nuclear power station will be partly offset by low operating costs because day-to-day fuel costs in the conventional sense will be almost non-existent. On the other hand, there will be a big outlay for the initial uranium charge—at £15,000 to £20,000 a ton this would be about £1½ million for a 50 MW. reactor, or more if enriched fuel were used—which would rank as a capital cost, and renewal of the charge at intervals would be in the nature of a capital replacement. In the first plants in the U.K., the fuel elements will remain in the reactor until about 3,000 megawatt days of heat have been produced from each ton of uranium and should last for several years. The relative capital cost of the fuel will fall, of course, as the thermal efficiency of nuclear power stations rises. Those being built at the moment in the U.K. are not likely to exceed 27 per cent efficiency, but this figure is expected to reach 35 to 40 per cent as higher reactor temperatures become possible. It

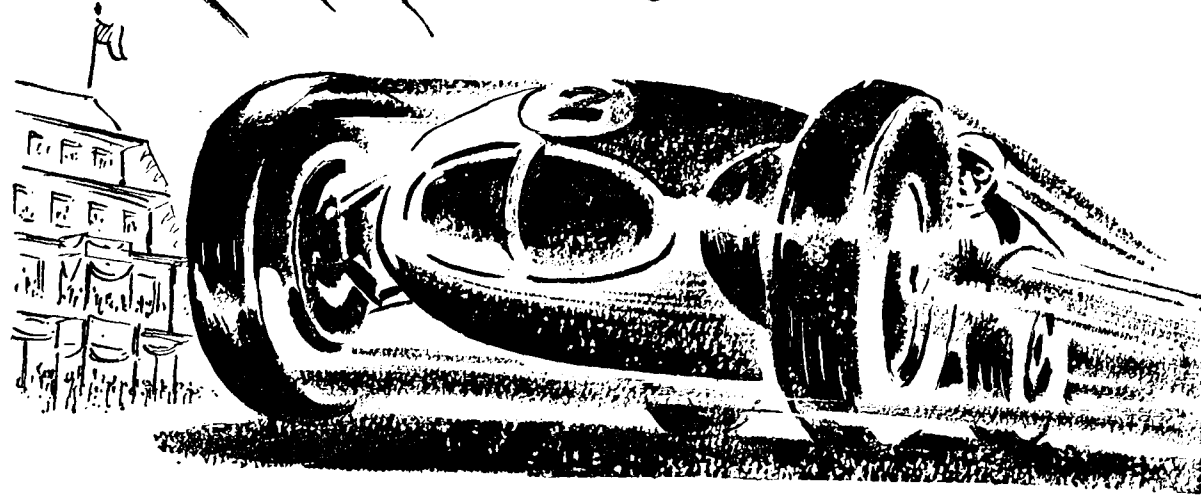
should be noted that a credit will accrue from the use of atomic fuel, in the form of the by-product plutonium, which may have a market value in the region of 15 per cent of the original price of the uranium.

Since it should be possible to obtain even in the early stages at least 10,000 times as much heat from one ton of uranium as from one ton of coal, fuel transport costs lose their importance, and the economics of nuclear power become independent of the location of the power station in relation to deposits of fuel and fuel processing plants. This last fact is of special importance to an underdeveloped country, for the relatively small quantities of nuclear fuel which it would consume at the outset would not make a local fuel processing plant a sound economic proposition.

The cost of generating electricity is also largely determined by the load factor, i.e., total output of electricity in a year expressed as a percentage of the maximum potential production of the plant. An average load factor in an advanced industrial economy might be in the region of 45-50 per cent—55 per cent in the U.S.A.—but in a low income country it is more likely to be about 25 per cent. Concentration of demand into peak periods, combined with the low absolute demand which one would expect to find in a backward country, will result in a much higher price per unit produced than is usual in countries where demand is high and spread more evenly over time.

In respect of nuclear power stations this problem is aggravated by the fact that in the present state of technical development no reactors of proven reliability and capable of producing electricity at economic rates are available with output in the range of 10 to 50 megawatts. Nor are they likely to be available within the next ten years. The price per unit of electricity produced by a 300 MW. nuclear station running permanently below full capacity would be prohibitive. Even in a country like the United Kingdom where conditions are very much in its favour, the nuclear power station is not likely ever to displace other kinds of generating completely. Such units as oil fired

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plants, which can operate more economically at partial capacity, will continue to supply the peak load.

A hydro-electric power station has, perhaps, the greatest number of advantages to offer the under-developed country. Other things being equal, it will appeal to those responsible for economic planning in a young country on the ground that its construction, though demanding a high outlay of capital, may also be linked with drainage or irrigation schemes and will provide employment for large numbers of unskilled workmen. Also, once built, its running costs will probably be lower than for any other type of power station. But the possibility of building such a station depends entirely on the existence of suitable local conditions.

If, however, on the grounds of cost, the possibility of a nuclear power station is also ruled out, the choice will lie between coal and oil firing. In this connection it is worth remembering that the prices of conventional fuels in some places may be relatively low. Coal, for instance, which sells at £7 a ton in Western Europe, costs only seven shillings a ton on the South African Rand; and a country in, say, the Middle East or South America which planned to build a power station would be wise to consider the advantageous local price of diesel oil. Also, it must be borne in mind that the price of coal anywhere in the world is likely to rise relatively to other prices as extraction becomes more and more difficult, but this is not likely to occur to the same extent, if at all, in the case of oil.

A chart shown by Mr. Jukes conveniently indicates the approximate "frontiers of choice" between a diesel and a small hypothetical nuclear plant. Although the capital costs of diesel and nuclear power stations will obviously vary for a number of different reasons, the final choice will be largely determined by the load factor and the price of diesel oil. From the chart it was seen that at a national load factor of, say 25 per cent, a 10 MW. reactor would not be an economic substitute for oil firing until the price of diesel fuel reached £27

a ton. Also, it showed that oil fired stations are cheaper where load factors and oil prices are low, and that the nuclear station is only economic if a high load factor exists along with a high price for oil.

The sober conclusion is, therefore, that the nuclear power station is certainly not yet and may not be for a very long time the still developing country's answer to the problem of meeting its growing demand for electricity.

## ASSAM OIL

Agreement has now been reached between the Government of India and the Assam Oil Co. (Burmah Oil) for the exploitation of the three new oil areas discovered by this company.

The Nahorkatiya area, 18 miles west of the old-established Digboi field, was discovered in 1953, and subsequent discoveries were made at Hugrijan, adjacent to Nahorkatiya, and at Moran, 25 miles to the south-west. After much discussion and delay extending over two years, final accord has now been reached whereby the three areas, which are estimated to be able to produce 2½ million tons a year for 20 years, will be developed by a new rupee company whose equity capital will be provided as to two-thirds by Burmah Oil and one-third by the Indian Government.

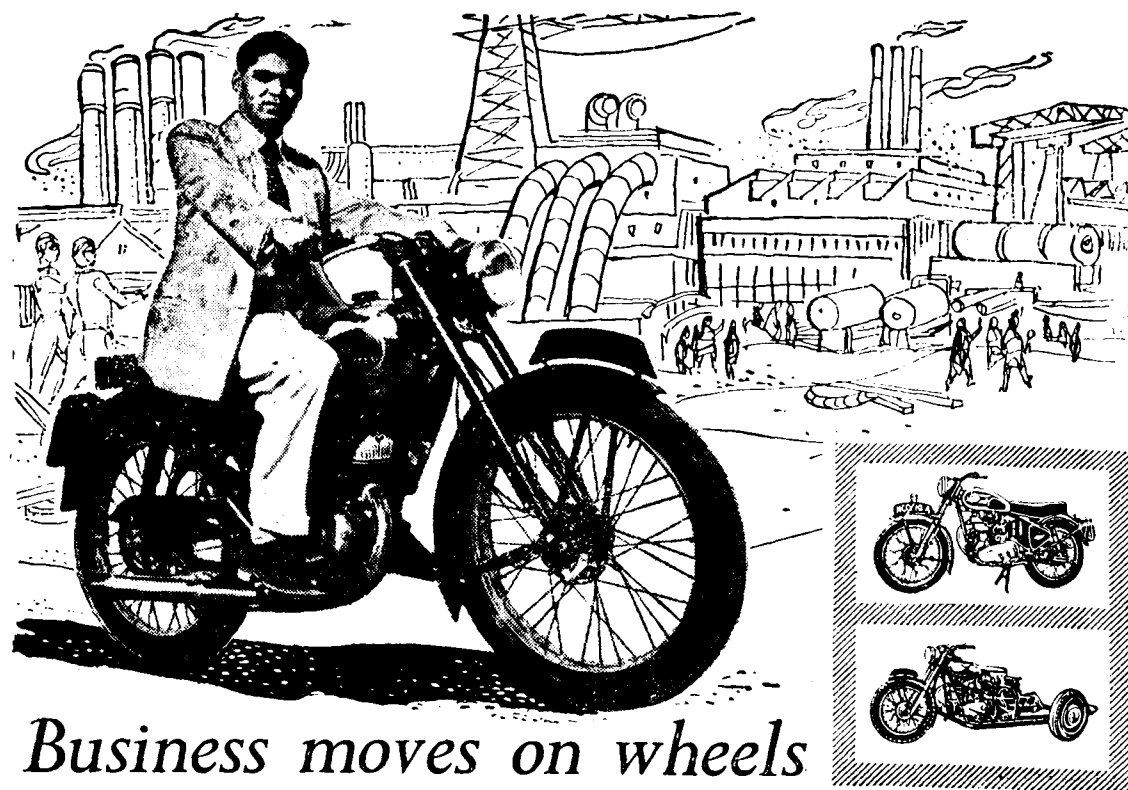
*The potential of the fields is far beyond purely local needs and pipelines and refinery facilities must be provided. The new company will arrange for the construction and operation of a pipeline from the fields to a refinery in Assam but the two refineries needed will be constructed and owned by the Indian Government.*

One will be at Barauni, inland in the state of Bihar, and about 600 miles distant from Nahorkatiya,

keeping within Indian territory; the other will be in Assam, at a point between the fields and Barauni. The company had proposed a refinery at Calcutta but the Government has decided the plants should be inland. Burmah Oil will make a loan of £10 million sterling to the new joint company to meet the foreign exchange cost of the pipeline from Nahorkatiya-Moran to the refinery in Assam; this plant is expected to be completed in about three years with a capacity of about 1 million tons. Financing for the extension of the pipeline to the Bihar refinery, capacity 1½ million tons, will have to be arranged by the new joint company. The Government has appointed consultant to study the route of the pipeline and the refinery projects.

Crude produced by the joint company will be sold to the state refineries at a delivered price equal either to the lowest price delivered at Calcutta at which such crude oil can be secured by the refinery from any alternative source, or to the cost incurred by the company, together with a reasonable commercial return, whichever is less. The price will be fixed by the company with approval of the Government after examination of costs, and subject to review every half year. Presumably, the output of the state-owned refineries will be sold through the established marketing companies.

There are at present four refineries in India: that of Burmah-Shell at Bombay, capacity 2½ million tons a year; another at Bombay belonging to Standard Vacuum, whose capacity is being increased to 1.6 million tons this year; the new Caltex refinery at Visakhapatnam in Andhra 675,000 tons, and Assam Oil's in Assam which treated in 1957 about



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430,000 tons from the Digboi-Nahorkatiya area. Their total capacity is thus nearly 5½ million tons, which is equal to India's present consumption, but demand is expected to exceed 7 million tons in three years' time.

*A significant feature of this new agreement is that the Indian Government, already engaged in oil exploration itself and also in partnership, now acquires a partnership in oil production and directly enters the field of oil refining.*

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## Location of New Oil Refinery

The Government of India took a decision some time ago that a project study for the location of a refinery at Barauni should be pre-

pared and submitted to Government as early as possible to enable them to consider this problem in detail. The Assam Government have been of the view that it would be preferable to have the refinery located at Gauhati.

With a view to discussing this matter with the Government of India, Ministers of Assam Government have been in Delhi for the last few days. They have had full discussions on this subject with the Government of India. In the course of these discussions, many aspects were considered in relation both to the location of the refinery and to transportation schemes. In the light of these discussions with the Assam Ministers, the Government of India have decided to obtain a project study for the Gauhati location also so that a proper economic study for the two sites may be avail-

able and final decisions may be taken.

Assam as a frontier State deserves special consideration. The Government of India are anxious to help in every feasible way in the development of this State, both industrially and otherwise.

The Ministry of Railways have initiated helpful measures to strengthen the existing rail link and to increase the carrying capacity.

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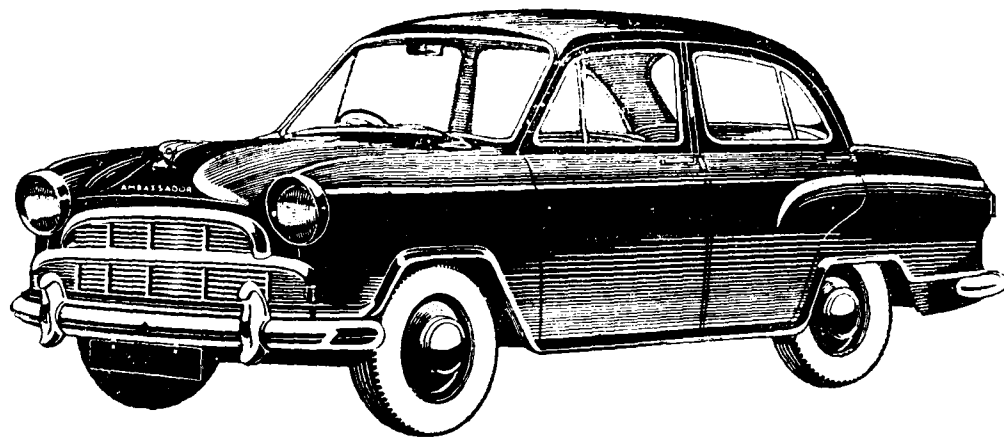
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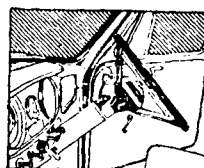


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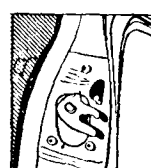
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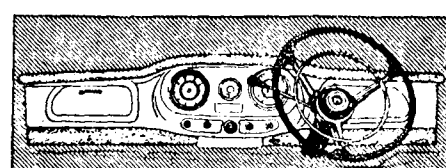
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## THE HINDUSTAN AMBASSADOR

The Hindustan Ambassador which was recently introduced in various centres in India, and about which earlier editions of *Motorindia* have contained interesting details, is a captivating combination of modern motoring qualities.

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Some of the prominent features of the Ambassador are—

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The overhaul dimensions of the Ambassador are as follows :

|                       |     |     |            |
|-----------------------|-----|-----|------------|
| Length                | ... | ... | 171"       |
| Height                | ... | ... | 63"        |
| Width                 | ... | ... | 65"        |
| W.B.                  | ... | ... | 97"        |
| Track-F               | ... | ... | 53½"       |
| Track-R               | ... | ... | 53"        |
| Turning circle        | ... | ... | 35' 6"     |
| Ground clearance      | ... | ... | 6¼"        |
| Luggage Boot Capacity | ... | ... | 16 cu. ft. |
| Fuel Tank Capacity    | ... | ... | 12 glns.   |
| Unladen wt.           | ... | ... | 2408 lbs.  |

January 1958

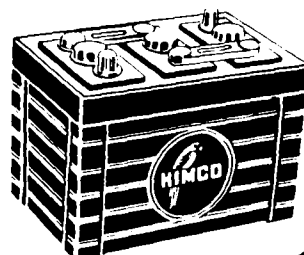
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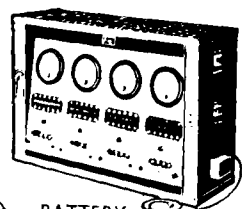
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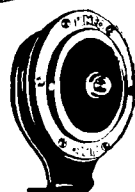
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7. Marikar (Motors) Ltd., TRIVANDRUM.
8. S. M. Abdul Haq Sahib & Bros., Rangayyappa Rao Street, VIJAYAWADA.
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10. United Trading Corporation & Workshop Ltd., Attawar, Nandigudde Road, MANGALORE.
11. Patny & Co., Private Ltd., 87, Sarojini Devi Road, SECUNDERABAD.
12. R. Garnier & Co., "Len Entrepots Francais" 4, Rue Saint Laurant, PONDICHERRY.
13. United Motors Ltd., 80-100, Hyde Corner, COLOMBO (CEYLON).



Mr. V. Thein Nyun, Secretary, Ministry of Relief, Resettlement and National Solidarity, Union of Burma and Madam Nawng photographed at the Engine Testing Section of Hindustan Motors, Calcutta. Mr. M. Sanjeeva Rao, Deputy Sales Manager is also seen in the picture

## MINISTER SHAH ADVOCATES CHEAP CAR

*Inaugurating the Exhibition of Indian automobile and ancillary products organised by the Automobile Ancillary Industries Association, Mr. Manubhai Shah, Union Minister of Industries revealed that it was the ultimate aim of the Government to help the industry produce cheap cars in India which would be priced within easy reach of the average middle class family. All the possible assistance that they were now giving to the indigenous automobile industry was done only with this end in view.*

The Minister said there was a growing demand for baby cars in the country, but the automobile industry was not yet stabilised. He doubted whether it would be possible to produce such baby cars. Within the next decade or so it should be possible for the country

to manufacture cars priced at not more than about Rs. 4,000 as by that time the indigenous ancillary industry would be progressed as to meet the requirements of the automobile industry as a whole.

The Government expected that during the coming 10 years the automobile industry would develop so that they may think of reducing manufacturing costs. He also com-

*A special feature on the exhibition will appear in our next issue.*

plimented the automobile industry on the great strides it had made during the last few years which was unparalleled compared to other industries in the country.

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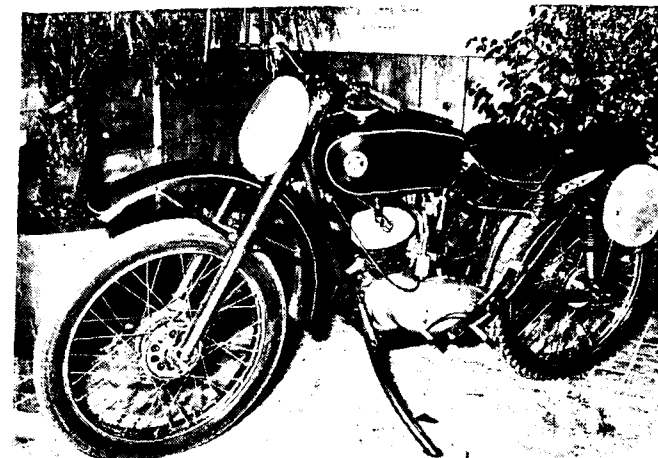
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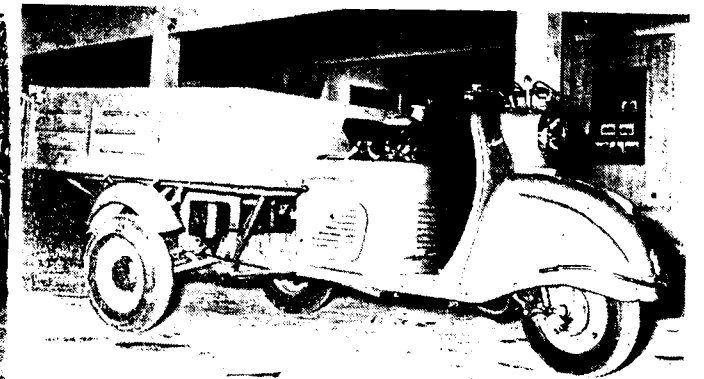
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Tula, the three-wheel cargo motorcycle

## NEW SOVIET MOTORCYCLES

By S. Fisher, Deputy Chief Special Designing Office

THE SPECIAL DESIGNING OFFICE HEADED BY DOCENT A. MODZALEVSKY, M. TECH. SC., BUILT LAST YEAR A NUMBER OF NEW SPORTS AND ROAD MODELS OF MOTORCYCLES. SOME OF THEM HAVE ALREADY BEEN PUT INTO PRODUCTION, OTHERS ARE IN THE BLUE-PRINT AND TESTING STAGES.

The new transport motorcycles IZH-GM and IZH-GMS have won general approval. These are three-wheel freight vehicles carrying a payload of 400 kilograms, and attaining a speed of 40-50 km. p.h. The rear 10-inch drive wheels are rotated by the rear axle, which has a differential mechanism and reverse transmission. The short length of the car (2 metres) and reverse drive make for high manoeuvrability.

The motorcycle is a multi-purpose vehicle. We built for intra-factory requirements 10 dump motorcycles which are very convenient for carting forges and castings. Besides, the IZH-GMS can be used as a van, a truck with swinging sideboards, a car with raised platform for carrying mail, food products, etc.

The motorcycle has good practicability even on the worst roads. Its motor, cooled by a fan, is covered

with a hood which enhances its outer appearance. A large seat and front shields provide driving comfort and dependable protection against dust and dirt.

This plan calls for the manufacture of 100 of these freight vehicles for intra-factory use.

In connection with its preparations for the production of a new model, the IZH-58, which has to be put into mass production in the second half of 1958, the designing office still has a number of big problems to solve. This motorcycle will have an entirely new twin-cylinder motor whose design is already being elaborated. The first experimental models, stepped up to 19-20 h.p. showed very good results. The motor is of unique design, consisting of separate cylinders whose crankshafts are connected by means of an outer flywheel. It is also equipped with a more convenient gearbox and an improved system of oiling the ball bearings.

The designers have already launched work on their next model of a road motorcycle.

Considerable success has been achieved in designing new sports models. Last year alone the production of three new model has been launched, namely, the IZH-57, the IZH-57K and IZH-54A.

This first one, which is designated for multiday races, is powered with a single cylinder motor of over 18 h.p. Its capacity was stepped up by using a new type of cylinder. The motorcycle has good operational qualities. It weighs 140 kilograms. The design of the tubular welded frame has made it possible to increase road clearance up to 200 mm., while lowering the driver's seat. This made the motorcycle more stable. The big strokes of the rear suspension (150.) and of the forward telescopic fork (180 mm.) provide high driving comfort along roadless countryside. The sports drivers take pretty big ruts and hollows in their stride, almost, without decreasing speed.

Considerable changes have been introduced in the saddle, the brake drums and many other things that make the motorcycle stronger, more dependable and easier to drive. It has been equipped with a number of additional devices to facilitate its operation during multiday races : another kit of spare parts, balloons with compressed air for pumping up the tyres, blocked cables, additional sockets for bulbs, spark plugs, etc. An AC generator powers the ignition system.

It scored good results during road tests.

The new motorcycle IZH-54A has won high praise from sports drivers. This is a special racing vehicle intended only for highway contests. It is powered with a motor of almost 20 h.p. But with thorough individual readjustment

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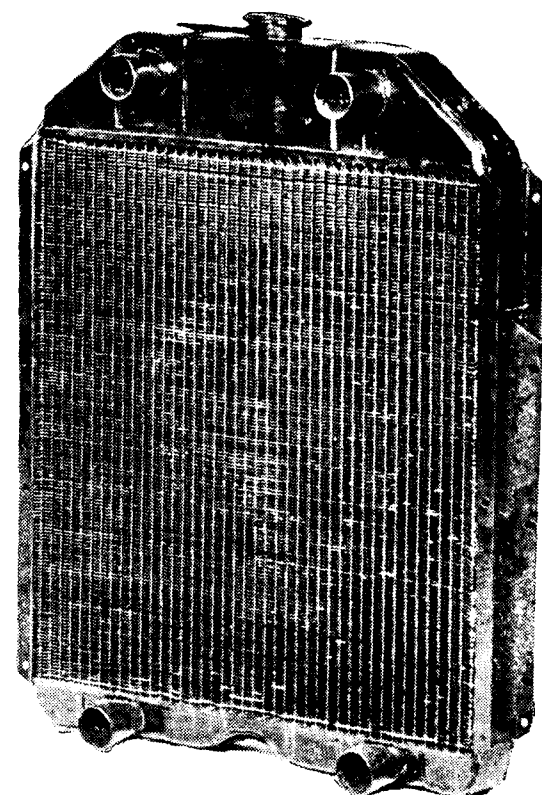
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in setting up two carburetors it may be stepped up to 24-25 h.p. Its present speed is 150-160 k.m. p.h. Another distinction of this motorcycle is its low weight: 110 kg. Powerful brakes on both the front and rear wheels ensure quick stoppage. It has a low centre of gravity, and is well sprung due to the firm but light front fork and rear pendulum suspension.

To obtain a lower sitting position for the driver, a 16-inch rear wheel is used. The capacity of the gasoline tank (28 litres) makes it possible to cover the entire distance without additional refuelling. This model will be greatly improved by the installation of a twin-cylinder motor.

The designers are now busy on new types of mufflers, filters, suspensions and other units to considerably raise the quality of their motorcycles.

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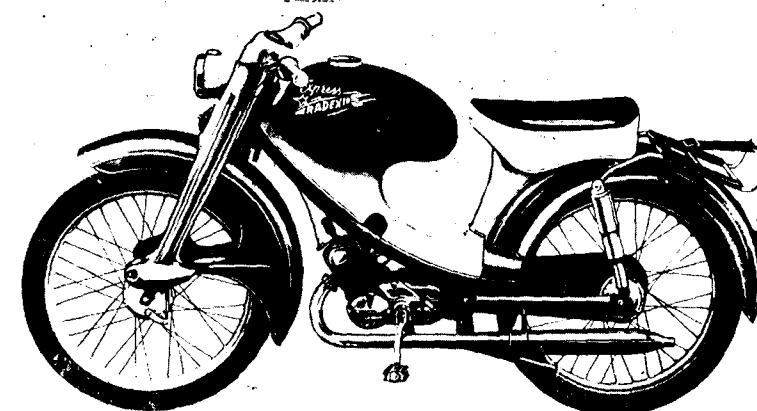
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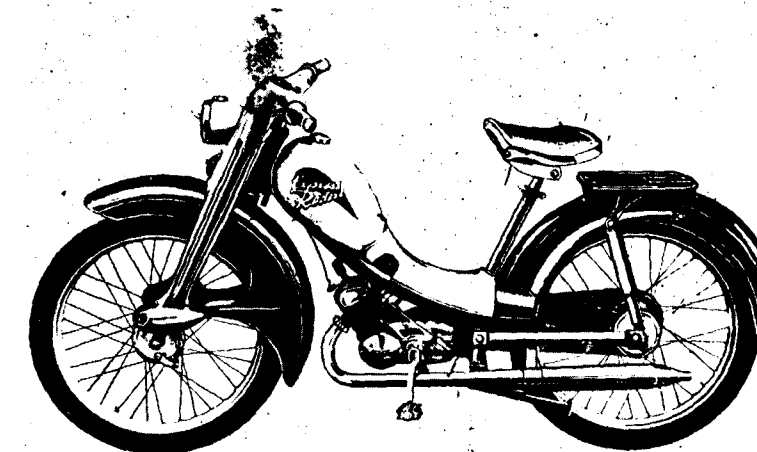
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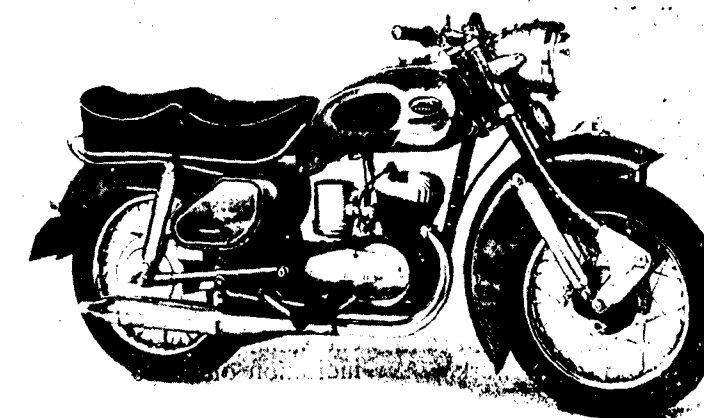
**Motorcycles from the continent**



Radexi III Sports Model



Radexi III Standard Model



Another new German model motorcycle

# "CATS EYES"

for safer motoring

## Motorists need "Cats Eyes" in Fog

The use of "Cats eyes" or reflective studs along the centre line of all tarred national roads which pass through areas where fog is likely to occur has been urged by the Automobile Association of South Africa. At a special meeting of the A.A.'s General Committee held recently it was resolved that the National Transport Commission of South Africa be asked to adopt this practice as a standard rule wherever it is indicated.

Although the use of "Cats eyes" is an indispensable road safety measure which has probably saved the lives of many people, very few roads in South Africa have them, according to the A.A. Travellers from Johannesburg to Durban are familiar with them on the roads near Pietermaritzburg where they are of inestimable value to motorists driving through the dense mists which are common to that area. They are also invaluable at night as a means of giving advance warning of sharp curves and bends, to prevent cars from driving off the road and generally to guide drivers safely on the correct side of the road.

Since the installation of "Cats eyes" is comparatively inexpensive says the A.A., there would appear to be no good reason why they should not be generally adopted wherever possible.

The attitude of the Automobile Association of South Africa is similar to that now being adopted throughout the British Commonwealth and in many other countries where responsible bodies are planning to make roads safer.

Thousands of miles of highway in all parts of the world are being laid with these famous reflecting road-studs and more and more highway authorities are specifying them for future projects. Behind this news of a successful British expert lies the story of a man with an idea and determination to make it work.



Cats eye under the shoe makes pedestrians safe for approaching cars from the rear

The now familiar Catseye Road-studs owe their origin to Mr. Percy Shaw of Halifax, England. His business, in the thirties, necessitated much night driving and returning home in the small hours he was often met by fog and had trouble in finding his way until he reached the tramlines in the town after which he had no difficulty in proceeding. He was impressed by the fact that whilst the use of headlamps in fog created the effect of a white blanket, the slight reflection from the tramlines actually enabled him to find his way safely. Realising that he could not expect Highway Authorities to lay down tramlines on all roads, he decided to try to provide an alternative.

Everybody has seen the eye of a cat shining in the dark—a clear indication of its possessor's where-

abouts. Such infallible luminance on the roads was what Mr. Shaw sought to achieve.

Problems he had in plenty. First how to achieve the luminosity, secondly how to ensure its infallibility under all conditions. Thirdly, how to install it and fourthly how to ensure that the passage of traffic could not damage it. One by one these problems were solved and the now famous CATSEYE ROAD-STUDS were perfected.

ROAD STUDS containing a reflecting medium have been tried out in various parts of the world. Most of the Studs have been metal to protect the glass reflecting medium by sheer strength of material whilst providing no mechanical means whereby the reflectors could be kept clean.

In CATSEYE STUDS highly efficient reflecting lenses are housed in a highly resilient bridge-shaped rubber pad which clips into a box-shaped metal base provided with ramps to protect the pad. This base is paved in the carriageway.

Pneumatic-tired vehicles trafficking the stud depress the rubber pad containing the lenses and in the process of depression and re-bounce the lenses come into contact with a stationary wiper and are cleaned of dirt and mud.

Other types of traffic including Army Tanks and Snow-clearing Apparatus are carried over the stud without detrimental effect.

The base lasts indefinitely and the durability of the rubber pad with reflector inserted varies with climate and traffic conditions. A life of from five to ten years can be expected from the latest model and a replacement rubber pad is easily and quickly fitted into the existing base.

Catseyes are used principally to denote road centres, traffic-lane divisions and danger points. They are usually spaced twelve yards apart. To emphasize curves and danger points, a reduced spacing, usually four yards, is employed. These spacings are the most effective, but may be varied to suit national road marking practice.

The Main advantages of CATSEYES are :—

1. The direction of travel is clearly marked.
2. Changes in colour of road surface, patchy street lighting, entry of side roads, etc., no longer confuse the night driver.
3. Fog—when everything else fails, "CATSEYES" are there to guide the motorist.
4. Blinding by dazzle of on-coming headlamps is overcome.

By the light of dipped headlamps sufficient "CATSEYES" are visible to show direction.

5. Horizontal curves and the contour of the curve ahead are visible well in advance, enabling easy adjustment of speed of travel.
6. Vertical curves are marked vividly and rendered safe.
7. Traffic can be regimented or laned. Other hazards of the road such as Y-shaped junctions, halt lines, traffic pens, can be clearly marked.

The first models of the Catseye Road Studs were produced in 1934 and they were assembled in the Stables of Mr. Shaw's house. As the demand quickly increased a workshop was erected in the Mansion Yard, but this was soon inadequate and large premises were acquired.

To-day everything required for CATSEYES is made under one roof.

The fame of CATSEYES quickly spread as on the roads of the world their long friendly ribbons of light began to appear, making dark tortuous highways in Europe and throughout the British Commonwealth as safe for driving as a well-lit suburban street. Army Authorities recognised their possibilities on roads used for the transport of Military Traffic in remote training areas and gave the project approval. Road Authorities throughout the world made dangerous bends and bridges more easy to negotiate and at last driving at night became as safe as by day.

Thus, in the comparatively short space of twenty years, a minor revolution in Road Safety was achieved, and Mr. Shaw's idea has now given eyes to the highways of the world, reliable, friendly eyes to guide the modern traveller swiftly on his way at home and abroad.



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# UNIVERSALS

*If you watch the rear wheels of a car moving ahead of you, you will notice that they seem to be jumping up and down all the time, even when the road is smooth.*

*And yet you know that the chassis and engine of the car are not moving about correspondingly.*

If you think about it, you must ask: how, then, is the engine connected to the driving wheels so that they can move about independently.

The answer lies in the universal joint or joints.

If the engine and rear axles were connected by a rigid tailshaft up-and-down movement of the wheels would be impossible unless either the whole engine and chassis moved too, or unless the tailshaft could bend.

If the engine, weighing several hundred pounds, was allowed to dance about in unison with the back wheels, the car would probably rattle to pieces in a few weeks. And no tailshaft would last long if it had to bend with every bounce.

**UNIVERSAL JOINTS SOLVE THIS PROBLEM BY GIVING FLEXIBILITY TO THE TAIL-SHAFT.**

THE PRINCIPLE OF THE UNIVERSAL WAS FIRST RECORDED IN THE 13TH CENTURY; THEN, EARLY IN THE 1500s, A MAN NAMED CARDAN DEVELOPED A SYSTEM WHICH IS STILL IN COMMON USE AND WHICH BEARS HIS NAME.

A HUNDRED YEARS LATER ROBERT HOOKE TOOK OUT A PATENT FOR A UNIVERSAL JOINT INCORPORATING THE NOW POPULAR CROSS MECHANISM.

But don't jump to the conclusion that the early cars used Cardan or Hooke universal joints, just because these were already in existence.

The early belt or chain-driven vehicles did not need universals. The chain was so mounted that it could compensate for relative movement between the frame and wheels.

However, chains were unreliable they stretched and often broke or came off the sprockets—and an alternative method had to be found. The system adopted was the shaft drive, in which a hollow tube or tailshaft ran from the gearbox to the rear axle case.

A drive shaft is now used in all but a few experimental turbine and oil-drive models and electrically driven vehicles.

## FLEXIBLE FABRIC JOINT

With the introduction of the drive shaft came the first applied universal—the fabric disc. Made mostly of rubber-bonded canvas, the unit gave surprisingly good service.

Each end of the drive shaft had a "spider" fitting with three fingers. The universals, with six holes each, were bolted between the spiders. This gave a certain amount of flexibility.

If the drive from the gearbox to the differential was in a reasonably straight line, this system was effective. It overcame the early problems of lubricating metal joints, and was cheap and easy to install or replace. If the drive was staggered, however, the strain on the joints was too great and they had an extremely short life.

AFTER THE MIDDLE TWENTIES THIS SYSTEM WAS GRADUALLY SUPERSEDED BY THE METAL UNIVERSAL JOINT WHICH IS USED TODAY.

## CROSS-AND-YOKE

The most commonly used unit nowadays is the cross-and-yoke type of universal, of which the popular spicer version is a classical example.

Centrepiece of the design is a member shaped like a square cross.

At the end of each arm of the cross are bearings, and at each end of the drive shafts—from the gearbox, on each end of the propeller or tailshaft, and on the pinion drive leading to the differential gears—are "Y" shaped yoke members.

The tips of the Y's fit on to the bearings at the opposite ends of the cross piece. This permits movement sideways and up or down, without requiring the rigid shaft to bend. The unit has reached an advanced standard of design. Many versions use roller bearings on the journals and are equipped with effective sealing devices which keep lubricant in and dirt out of the bearing surfaces.

## TWO TYPES OR DRIVE

**POWER FROM THE BACK WHEELS IS TRANSMITTED TO THE CAR BY TWO POPULAR METHODS—THE HOTCHKISS DRIVE AND THE TORQUE TUBE DRIVE.**

The Hotchkiss drive uses an open propeller shaft with a universal at each end. In this system the driving power of the rear wheels is applied to the car through the front ends of the rear springs. The universal at the rear end of the shaft is required to compensate for the considerable tilting of the axle case, and the pinion shaft, connected to it, when power is applied.

In the torque tube drive the propeller shaft is enclosed in a steel tube which does not rotate with the shaft. This system requires only one universal, at the forward end of the shaft.

In this case, the driving power of the rear wheels is applied to the rear end of the torque tube, and through it to the gearbox and the frame of the car.

## TROUBLES AND CARE

With the fabric type joint there was little trouble. When the flexible discs, compounded of an extremely strong mixture of canvas with rubber, wore and began to come apart, new discs were fitted. Apart from this they needed no attention. Unfortunately, this usually meant that the first indication of trouble came when a universal broke down

altogether and left the motorist stranded.

With the metallic universal joints the problem is more complex. They are costly and troublesome to replace, so more care is needed. **THE MAIN TROUBLE USUALLY LIES IN LUBRICATION.**

One of the big worries with lubrication is that many different methods are used. Previously all universal joints were lubricated with normal grease guns, and the manufacturers recommended that chassis grease be used every 500 or 1,000 miles.

However, it was found that the use of high-pressure garage lubrication systems often blew out the cork seals intended to keep out dust and grit. The result was that foreign matter entered the universal joints and wear increased rapidly. So some manufacturers installed permanently lubricated joints.

Now, even though there are still many cars which have universal joints that require lubrication, they are often overlooked—the garageman takes it for granted that they are of the permanently lubricated type and does not bother to check.

Even the permanently lubricated types require dismantling every 20,000 miles and repacking with grease. A third type of lubrication is found on Buick and Chevrolet, for example, where the universal joints are lubricated through the torque tube from the transmission.

**SQUEAKS AND RATTLES WHEN TRAVELLING OVER ROUGH ROADS ARE THE FIRST SIGNS THAT LUBRICATION IS NEEDED. THE JOINTS SHOULD BE CHECKED FOR SEAL CONDITION AND GENERAL LOOSENESS.**

In the open-shaft type the shaft should be moved and checked for extra movement—normally there should be only a few thousandths of an inch free movement.

Where a nipple is fitted lubrication is only a matter of using a grease

gun. With the sealed types, however, it is first necessary to remove both ends of the propeller shaft. With the open shaft this is not difficult, but with the torque tube type, it is essential to move the rear axle and tube back to slip the sliding joint off the shaft.

Although there are many variations of the basic type of joint, the usual one is still the simple cross-and-yoke type. These are usually anchored in position by snap rings and are easily taken to pieces. They should be thoroughly washed and cleaned, then carefully checked for wear or damage.

When checking, look for chipped or flattened bearings and general wear in any of the parts. Care should be taken to ensure that all the needles are replaced and, in fact, that they were there in the first place. Thoroughly lubricate and reassemble.

**WHEN RE-INSTALLING THE SHAFT YOU SHOULD MAKE SURE THAT THE TWO ARROWS (ONE ENGRAVED ON THE DRIVE SHAFT, ONE ON THE SLIP JOINT) ARE IN LINE. THIS IS TO PRESERVE THE BALANCE OF THE WHOLE SHAFT ASSEMBLY.**

Excessive wear in the universals can be checked by slowly moving the car forward and bringing it to a gradual stop. Then engage reverse and listen for the play being taken up as the direction is reversed. On the open type shafts a hand-check can be made by rotating the shafts and watching for free movement. If it is found that the joints are at fault, the trouble is generally worn parts—usually bearings.

Inspection will show if this is so, and it may be necessary to replace either the bearings or the whole unit, depending on the amount of wear and where it is located.

To sum up the main troubles with universal joints are caused by faulty lubrication. Unless this is rectified in time, the only remedy is replacement of part or whole of the universal.

## WHAT OF THE FUTURE?

To do away with universal joints we would first have to do away with the present system of transmission. There are several ways in which this could be done.

Interesting experiments have been made overseas with a type of turbine unit replacing gearbox, drive shaft and differential. The principle was that the engine drove an oil pump, which forced oil to a central turbine unit mounted in place of the differential. This in turn was connected to the two rear axles by the turbine, similar in a way to the Daimler fluid drive. This provided differential action, as neither of the two back wheels had a positive drive, and automatic gearing was obtained by the oil turbine. But these experiments have not yet resulted in any production models.

In another method the main engine drives four electric motors—one mounted on each wheel, eliminating the drive shaft. This system was used in buses in England for many years before the war—Birmingham, for example, had buses of this type.

It had many advantages; not only were all forms of gearbox, drive shafts and universals done away with, but the main diesel or petrol engine revolved at a constant speed, and engine life was greatly increased. However, there was apparently some snag in it as well, for the system never became popular.

*Our previous mention of turbine transmissions must not be taken as referring to turbine engines, with which so many car firms are experimenting at present.*

Power from these is transmitted to the wheels by an ordinary propeller shaft, so that if they are ever marketed in their present form the need for universal joints will not be eliminated. Rather, it will mean that the joints will need to be improved still further to cope with the higher speeds of which turbine cars will be capable. (Copyright).

## PITY THE POOR MOTORIST!

(This appeal by V. Vikentiev who, clearly, drives a car appeared recently in the Soviet magazine, "Ogonyok.")

There are some people whom nobody likes at close quarters—in fact, the treatment they get depends on just how far they are from you. You know whom I mean—motorists.

Everything's fine when they're a long way off, but they have only to approach a street crossing for everybody to show their displeasure by turning their backs, walking across the road at a provocatively show pace, and then—more likely than not—speed them on their way with a flood of barely intelligible but highly effective abuse.

A great deal has changed since the days when Ilf and Petrov\* launched the slogan "Love pedestrians, creators of all values on our planet."

The time has come to teach love for motorists, too.

However hard this may appear to be, somehow or other we really have got to do it.

Honestly, motorists are just as useful members of society as pedestrians.

Among them you will find just as many humble and intelligent people, builders of towns and stadiums, fathers of families and votaries of the arts, trade union plenipotentiaries and other charming and kind-hearted people.

Moreover, the motorist is an impeccable taxpayer and an honoured depositor in the savings bank, where he lovingly accumulated the money to buy his car—only to find them that Fortune had abandoned him, with tragic results.

To begin with, there is little colour in a motorist's life. Indeed out of the whole spectrum he is left with only three: red, yellow and green—

\*Ilf and Petrov, outstanding Soviet satirists, collaborated in writing a number of books, well known in English in their "Little Golden America."

the colours of the motoring age.

The motorist's face itself provides a perfect illustration of this. In silent anguish it turns first red (when the man on point duty stops and reprimands him) then yellow (when he is fined) and lastly green (when his driving licence is suspended).

And his face turns all three colours at once when the traffic control officer takes his clippers out of his pocket and—in an instant—punches a hole in the unmarked driving licence.†

In this terrifying moment the motorist experiences acute physical pain, just as if his own body were branded.

Just look at the motorists at any cross-road, when with a repulsive ingratiating smile they mumble their pitiful disconnected explanations to the officer, monumentally impassive.

Then shyly and submissively, not daring to blink an eyelid, they listen to the tyrannically long and devastatingly polite admonitions. After which there remains nothing for them except to turn the car round, taking their agitated passenger and all his luggage back to the flat—because, at the moment when the guardian of justice was reaching the heights of his eloquence, the train undoubtedly pulled out of the station.

It is the motorist again who trustingly approaches welcoming green traffic lights and then finds his driving licence suspended for six months because, contrary to all the laws of nature, they have become red.

†The traffic control officer in the U. S. S. R. has the right to record minor infringements of the regulations by clipping holes in the driver's licence. If the driver acquires a specified number of holes, he loses his licence. If, however, he has a clean record for a specified period after the clipping he can apply for a new—unperforated—licence.

When the weather is bad, our motorist tosses about in his bed, he cannot fall asleep. It is hard to describe the moral torment which undermines the motorist's health if his car is left without protection out in the courtyard.

He wouldn't hesitate a moment to stay out in the cold street himself and let his car enjoy the warmth and comfort of his home—if that were possible.

But the conventions of life do not allow it, and so the long-suffering motorist just tosses in his bed.

And what rest can he have when he is being tortured by the thought of what those neighbouring kids are certainly doing.

Most small boys acquire their first introduction to the fine arts by drawing (with a piece of chalk, a nail or a lump of coal) pictures of foxes and rabbits on the polished enamel of the body.

Meanwhile, the older children go over the bodywork with the hand of the skilled artist, correcting the imperfections of the youngster's style.

Or again, see those shame-faced motorists being towed down the street, able to see nothing except the towing-rope, the back of the lorry in front, and the ironical smiles of the passers-by.

Nobody shows the slightest concern for them, as the motorists uncomplainingly place themselves in the hands of enterprising motor mechanics and fitters, some of whom are always screwing something up tight, while others are just as busy unscrewing something else.

And these motorists, already deprived of many of the joys of life and who frankly, are generally disliked, are left to fend for themselves, resolutely cold-shouldered by all the city authorities.

Putting it simply, by becoming a motorist, they have lost their right to peace and quiet.

It is these motorists whom you see at the roadside, painstakingly

blowing through all the jets of their carburettor and petrol feed pipes.

You know—though they never seem to—that in fact no petrol is reaching their engine because the tank has run dry, and there is no petrol station—built or planned—within a 60-mile radius.

It is these motorists who, the sweat pouring off them in the noonday heat, persist in pumping air initial inner tube riddled with punctures. Need I say it? There is no garage—built or planned—within a 60-mile radius.

The inveterate motorist can easily be recognised in the street by that feverish glint in his eyes.

At home, however, he is unrecognised. His dull gaze is fixed on a point beyond the screen of the television he is wrapped in his own thoughts, going over, in his memory the injuries he has suffered that day at the hands of motor mechanics and fitters, traffic controllers and highway patrols, passers-by and their dear little children.

Motorists have been given cars, but deprived of everything else. The only consolation remaining to them is to blow their horns. But in our town now even that has been banned, so motorists are left with only the gift of speech.

It is our duty gradually to restore to motorists their rights; the right to enjoy the respect of traffic controllers and pedestrians, the right to sleep, the right to the repair of vehicles and to safe parking.

For a start, it would not be a bad idea to unify the street traffic regulations for the city, co-ordinating

and simplifying them somewhat, and depriving the patrols of their clippers. Let's beat these weapons of theirs into plough-shares!

### GOODWILL NEEDED

If it is true that motorists can be punished, it is also possible not to punish them; and it is much better not to punish them but, with good will, to explain matters to them sensibly and briefly.

Let us start with that, and then think seriously of the provision of public garages, of a wide network of repair shops.

With the help of the schools and parents, let us set about bringing up the rising generation in the spirit of peaceful co-existence with the defenceless cars parked in courtyards and in the streets.

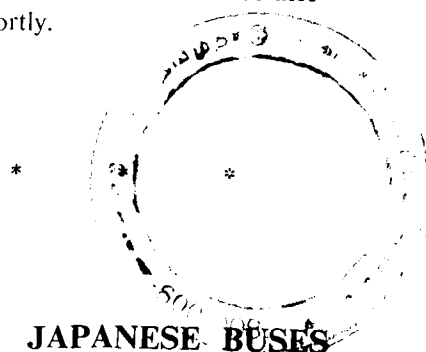
Let us also endeavour to establish good relations between pedestrians and drivers, relations which were ruined. Heaven knows when, as a result of some misunderstanding which everyone has forgotten.

The city authorities should give thought to all citizens, including motorists. We are speaking out in defence of these poor, so unlucky citizens. They're not really such bad people, when all's said and done!

## MADRAS

### TAXI DRIVERS' UNION

At a meeting of the Madras Taxi Drivers' Union held recently under the presidency of Mr. M. A. David, President, an idea was mooted for organising taxis in the city in fleets of 20 to 50 per unit with a view to giving better service to the public. It is learnt that the scheme is being worked out by the President and that he will lead a deputation to the Transport Minister in this connection shortly.



### FOR SANTIAGO

One hundred and seventeen Japan made buses have reached Santiago for use by the public transport system in that State.

The consignment is part of a 300 bus deal with the Mitsubishi-Fuso Corporation of Tokyo by the Chilean State-controlled Transport Department.

The Leading Radiator Assemblers & Service Experts in India.

**A. BASHA**  
RADIATOR SPECIALISTS

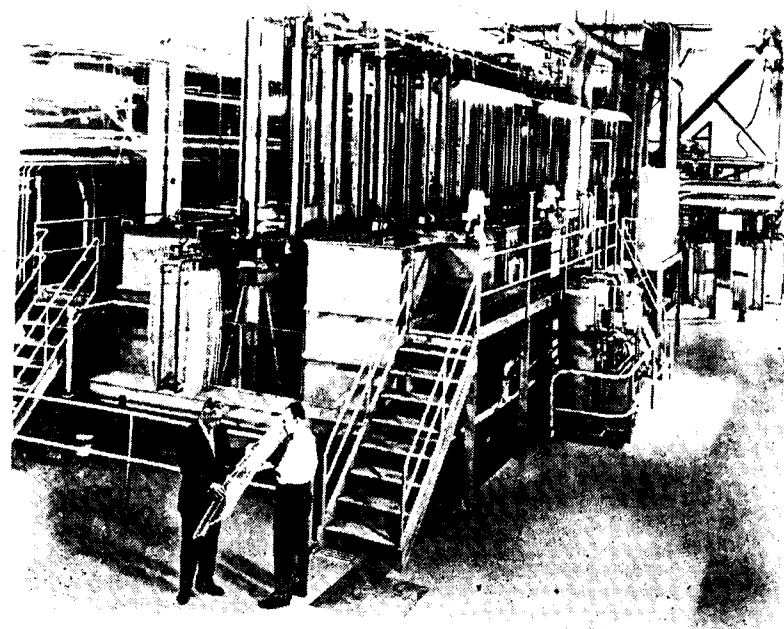
ASSEMBLY PLANT:  
2, HARRIS ROAD, MADRAS-2

BRANCH:  
AZEEMA BUILDING  
ALBERT VICTOR ROAD  
BANGALORE-2

Radiators for CARS, TRUCKS, TRACTORS



## anodized aluminium on Automobiles



L. G. Campbell, President, Firestone Steel Products Co., left, examines the first test run of colour anodized aluminium drills now in production at the above giant factory which can permanently dye aluminium any colour

### New Machine to Dye Aluminium Any Colour

A GIANT, HEAVY DUTY MACHINE WHICH CAN PERMANENTLY DYE ALUMINIUM ANY COLOUR, BEGAN PRODUCTION RECENTLY ON 1958 AUTOMOBILE GRILLS AND BODY TRIM AT THE FIRESTONE STEEL PRODUCTS COMPANY, AKRON, OHIO, U.S.A.

The new anodizing section at Firestone occupies 10,000 square feet of floor space and can treat 5,000 square feet of aluminium an hour.

Anodized aluminium can be etched brushed, buffed or treated in a variety of ways to create an almost unlimited number of textures and colours. It can be dulled to a matt finish or chemically brightened to resemble chrome.

L. J. Campbell, President of the Firestone Steel Products Company, sees a new and colourful era of aluminium products beginning. "Home appliances as well as automotive darts will use an increasing amount of aluminium", he said. "They will eventually be processed in a full rainbow of colours."

The newly installed anodizing

machine at Firestone contains 21 different sequence solutions. Aluminium to be processed is automatically immersed in each solution the correct length of time. Six different finishes can be turned out simultaneously.

While Firestone's anodizing equipment is capable of processing an unlimited number of different finishes current production is for passenger car grills and panel trim in colour for popular models in high production. Firestone has manufactured grills of steel with chrome plating since 1951.

"Several automotive manufacturers introduced colour anodized aluminium trim on their 1957 models," Mr. Campbell said, "and this type of decorative trim is expected to increase in popularity during the next few years."

### Electroplating

#### New Simple, Cheap, Process Developed

New Delhi : A new simpler and cheaper process of electroplating aluminium with various metals has recently been developed at the National Metallurgical Laboratory, Jamshedpur. It also gives a better plated-finish to the articles. The cost of plating comes to about 19 nP. per square feet.

Plated aluminium articles possess several advantages over plated brass or steel articles. They are light, easily workable and corrosion-resistant. Imaginative decorative designs can also be made on them. Plated aluminium can be used for garment accessories, costume, jewellery, novelties, aircraft accessories, bathroom fixtures and household utensils.

On account of large resources of aluminium and limited resources of copper in this country, plated aluminium can also be used for many purposes for which copper, brass or steel has been employed hitherto.

This new process is more advantageous than the zinc immersion method now being widely used in some Western countries. In the Indian method now perfected, an immersion iron layer is utilised for electroplating. That reduces the number of pre-plating steps and gives a better plated-finish with good adhesion to the base metal at a much lower cost.

The plated articles can be polished mechanically and, if desired, they can be electroplated with other metals like chromium, gold, silver, etc., in the usual manner. The articles plated by this process have withstood drastic adhesion tests.

The process is now available for commercial exploitation.

## The Battery with the Tubular Positive Plates

### P-g Removes the most important cause of Battery Failure

#### NOW MADE IN INDIA

ONE OF INDIA'S VITAL INDUSTRIES HAS RECEIVED WHAT WILL PROVE TO BE A CONSIDERABLE FILLIP WITH THE INTRODUCTION OF THE 'Pg' BATTERY—THE BIGGEST BATTERY DEVELOPMENT IN RECENT YEARS.

The 'Pg' Battery comes to the country's battery industry through the efforts of the largest national battery manufacturers, Standard Batteries Limited, who have obtained this world-famous patent from their technical collaborators, Messrs. A. B. Tudor of Sweden.

Not so long ago, India had to spend huge sums every year in foreign exchange to import special purpose batteries—without which transport, communications and many essential services of the nation would come to a standstill.

At the same time, world research was still trying to produce a battery having the highest power capacity, the lowest weight, and a reasonably long life.

In this development the greatest problem was the shedding of the important active material from the positive plate of the battery during operation.

#### THE ANSWER :

Then one of the world's most renowned battery-making firms, Messrs A. B. Tudor of Sweden, finally found the answer : it came



A view of the Pg Battery Section. The positive plates are provided with grit protectors attached by rubber strings

up with the greatest advance in battery manufacture, the Pg. Tubular Positive Plate, which is the only method that effectively overcomes the problem.

Today the 'Pg' battery is under production in Sweden, Norway, Denmark, Germany, the U.S.A., the U.K. and now in India, too—and is

protected by patents throughout the world.

The 'Pg' Battery comes to India through the efforts of Standard Batteries Limited ; they have obtained the 'Pg' patent from Messrs. A. B. Tudor, who are their technical collaborators, for the benefit of the Indian battery market.

#### EXCLUSIVELY IN INDIA :

Standard Batteries Limited use the 'Pg' patent *exclusively* in India for a very wide range of special purpose batteries : 'Standard' RPg Railway Batteries for train-lighting, fans, air-conditioning and signalling ; 'Standard' SPg. Stationary Batteries for stand by power for telephones, telegraphs and carrier systems, powerhouses and receiving stations, switchgear controls, ships, fishing boats, lightships, and emergency lighting for hospitals, light-houses and laboratories ; 'Standard' TPg. Traction Batteries for buses, trucks, tractors, flat trucks, fork-lift trucks, industrial and marine locomotives and electric cars.

#### What the 'Pg' technique does

The 'Standard' Pg Tubular Positive Plate consists of a row of Pg tubes, so called because they're made of perforated Plastic with Glasswool lining. This patented construction effectively prevents shedding of the active material—the most important cause of battery failure. It thus greatly increases the service life of the battery, and means lower battery costs per annum.

Also, the Pg tube has very thin walls, allowing room for *more* active material—which means *more* power capacity for the 'Standard' Pg Battery.

Thanks to Standard Batteries Limited, India not only manufactures her own special-purpose batteries, but also is abreast of the world in the *quality* of battery production.



Mr. K. C. Jain, recently elected President of the Automobile Traders Association of New Delhi

AT THE ANNUAL GENERAL MEETING OF THE AUTOMOBILE TRADERS ASSOCIATION, NEW DELHI, HELD IN SCINDIA HOUSE, NEW DELHI, RECENTLY MR. K. C. JAIN, MANAGING DIRECTOR OF NEW INDIA MOTORS PRIVATE LTD., WAS UNANIMOUSLY ELECTED PRESIDENT.

To mark the Annual Day of the Association a Cocktail Party was held in the same evening at the Delhi Gymkhana Club, with the Chief Commissioner of Delhi Shri A. D. Pandit as the Chief Guest.

Besides the Heads of all important automobile firms of Delhi, there were present at the party many senior officials of the Delhi State Administration and also of the Transport Ministry.

*The Association stands for a reduction in the import duties and sales taxes on automobiles with a view to making motor cars and commercial vehicles cheaper and more popular. It holds that unless the internal demand increases considerably, the indigenous manufacture of automobiles will not become economical.*

MOTORINDIA

January 1958.



The intercell connecting wires are fitted and the Pg cell is now complete

### K. C. Jain Elected President

## Permanent, Acid-tight, Vibration-proof Batteries

### TWO NEW EXIDES

Chloride and Exide Batteries (Eastern) Private Ltd., have just introduced two new starter batteries in their popular Silver Exide range.

#### FLUSH CONNECTOR CAR BATTERY

TYPE 6XNCF7R IS OF THE NEW FLUSH CONNECTOR DESIGN, AND IS AN IDEAL REPLACEMENT FOR THE FIAT 1100 AND FOR OTHER VEHICLES WHICH TAKE A 12 VOLT 7 PLATE ASSEMBLY.

This new battery incorporates many new features which have been made possible by the adoption of new manufacturing techniques and improved materials which are now available. The battery has been further improved and modernised by radical changes in the design of the lids and by shortening the intercell connections. The connectors bridge over the intercell partitions so as to lie flush with the tops of the lids and a novel form of gasket seal between the terminal posts on the cell lid is incorporated in the design. THE SEALING ARRANGEMENTS PROVIDE A PERMANENT ACID TIGHT AND VIBRATION-PROOF JOINT.

The flush connector design makes cleaning of the batteries extremely simple as they may be easily wiped down to remove any dirt or splashed liquid. Special care has also been



A flush connector car battery

taken to ensure that the intercell connectors are accessible to facilitate taking voltage and high rate discharge readings. Repairs and replatings of the new batteries are just as simple as with the types having the conventional design of intercell connection.

The new battery, of course, retains the now well-established Silver Exide features of hard rubber container,

improved paste mixes, C.B. 95 alloy plate grids and Porvic separator.

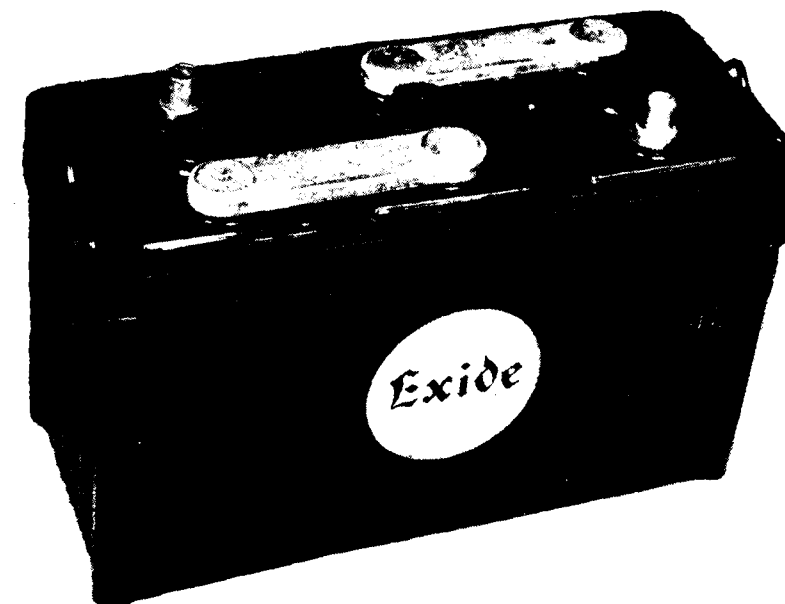
This battery has a capacity of 47 Ampere hours at the 20 hour rate and will deliver 57 Amperes for 20 minutes. The approximate overall dimensions are : Length (top) 9.7/8" ; Length (bottom) 9 1/2" ; Width 6.11/16". The overall height is 8.7/16".

#### HEAVY DUTY BATTERY

TYPE 3XHD21L IS A HEAVY DUTY BATTERY, WHICH HAS BEEN PRODUCED TO MEET THE NEED FOR A LARGE CAPACITY ASSEMBLY ON HEAVY COMMERCIAL AND PUBLIC SERVICE VEHICLES.

A robust hard rubber container with retractable metal lifting handle is provided to assist in handling this rather heavy assembly. The battery of course, retains the now well-established XHD features of thick reinforced positive plates and special Porvic separators.

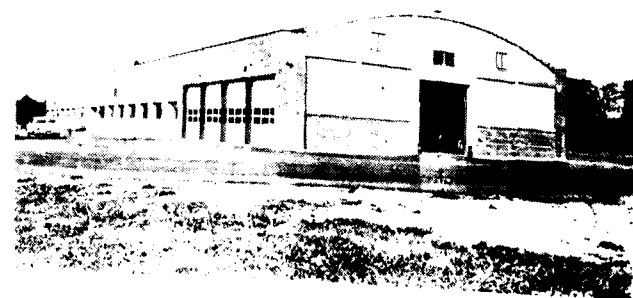
It has a capacity of 162 Ampere hours at the 20 hour rate and will deliver 218 Amperes for 20 minutes. The approximate overall dimensions are : Length top (over handles) 15.5/8" ; Length bottom 15.1/16" ; Width top (over handles) 7.1/8" ; Width bottom 6.7/8". The overall height is 9 3/4".



The heavy duty Exide Battery



P. K. Coe, Goodyear Vice-President in-charge of Original Equipment Sales, (Left) point out advantages of the Captive-Air Safety tyres to L. I. Woolson, President of the DeSoto Division of Chrysler Corporation



A view of the experimental garage for testing of tyres recently opened by Goodyear Tyre & Rubber Co., in Akron

## Goodyear Builds Tyre Testing Garage

A \$300,000 EXPERIMENTAL GARAGE, SPECIFICALLY DESIGNED FOR THE TESTING OF TYRES, HAS BEEN OPENED BY THE GOODYEAR TYRE & RUBBER COMPANY IN AKRON, OHIO.

The building, a steel-framed structure of brick, glass and concrete block, houses complete facilities for the testing of experimental tyres, as well as the maintenance of vehicles used by the company in its extensive tyre development programme.

The experimental garage is 250 feet long, 75 feet wide and contains 18,750 square feet of floor space. The garage and its facilities permit immediate, close-at-hand checks of all experimental tyres and special projects in the development stage in Akron.

Adjacent to the new structure is the company's 800-foot straight-away black-topped test road and 160-foot turn circles where many of Goodyear's tyre innovations have been tested and proved.

In addition to the experimental garage, test road, and a complete tyre test laboratory located in Akron, Goodyear maintains an extensive test fleet at San Angelo, Texas, for round-the-clock endurance test purposes.

## NO NEED FOR FIFTH WHEEL

AN ESSENTIAL ACCESSORY SINCE THE BIRTH OF THE AUTOMOBILE, THE TIME-HONOURED SPARE TYRE, OR FIFTH WHEEL, IS STARTING TO DISAPPEAR AS AN ITEM OF MOTOR CAR EQUIPMENT. INSTEAD, CARS ARE BEING EQUIPPED WITH THE REVOLUTIONARY CAPTIVE-AIR SAFETY TYRES BY GOODYEAR. THE DUAL-COMPARTMENT TYRES THAT CARRY THEIR OWN BUILT-IN SPARE.

The new safety tyre, introduced last year by The Goodyear Tyre & Rubber Company, Akron, Ohio, is already in use as original equipment on some of the 1957 model automobiles. DeSoto Division of Chrysler Corporation introduced the 1957 DeSoto Fire-Flyte and Fire-Sweep Station Wagons with Captive-Air Safety tyres as standard equipment. They do not have a spare tyre or wheel. In addition, the Chrysler New Yorker Station Wagon is offered to the public with Captive-Air tyres as optional equipment.

Automobile manufacturers have long sought a tyre development wherein the spare tyre and wheel could be eliminated. This would result not only in a saving which automobile manufacturers could

pass on to the consumer, but would also facilitate design and model changes. No longer would the manufacturer be concerned with placement of the bulky spare tyre and wheel when designing a revolutionary body change in new models.

The new two-in-one tyre was inspired by Goodyear's famous double-air chamber Life-Guard tube, backed by twenty years and millions of miles of safety performance. However, where the Life-Guard enabled the motorist to come to a safe stop after a sudden tyre failure, the Captive-Air Safety tyre enables him to keep going without stopping, or even slowing his speed, until he reaches a convenient place for service.

Hailed as the most progressive development since the invention of the pneumatic tyre, motorists using the Captive-Air Safety tyre with the built-in spare retain complete control of the car after a blowout or puncture. The danger of swerving into approaching traffic or going off the road is reduced to a minimum. Also eliminated is the equally dangerous, costly and time-consuming need to stop on high speed thoroughfares for emergency road side repairs or tyre changes.

## CONTINUED PROGRESS BY DUNLOPS

### Asia's Largest Rubber Factory Comes of Age

Calcutta : India's rubber manufacturing industry is destined to play a key part in fulfilling the country's Five-Year Plans. Not only in motor transport, but in industry generally and for the supply of consumer goods, the rubber manufacturing industry is today called on to play a responsible part as one of India's basic industries.

IT IS A MATTER FOR SATISFACTION, THEREFORE, THAT THE RANGE OF RUBBER PRODUCTS MANUFACTURED IN INDIA IS CONTINUALLY WIDENING AND THUS HELPING THE INDUSTRY TO MEET THE VITAL REQUIREMENTS OF NUMEROUS BRANCHES OF THE COUNTRY'S ECONOMY.

The growth of this infant industry has been truly remarkable. Barely 20 years ago, India imported the bulk of her requirements of manufactured rubber goods. In 1935-36, these imports were to the value of Rs. 2 crores ; by 1950-51, they had dropped to a mere Rs. 33 lakhs and in the same year, goods to the value of Rs. 1.66 crores were exported. The Government of India has permitted the import of tyres and tubes to meet the recent shortages arising out of the greatly increased demand for these products. It is expected, however, that the expansion programmes now underway will help to correct this position in the not too distant a future.

The tempo of economic activity in the country is rising at a rate not known before. This development is very largely due to the growth of heavy industries, power transmission and agriculture, all of which are making increasing demands for rubber products such as rubber

covered cables, transmission and vee-belts, conveyor belting and hoses. But the tyre manufacturing section of the industry will have to face the heaviest demand. IT IS ESTIMATED THAT A FLEET OF 160,000 TRUCKS WILL BE NECESSARY BY THE END OF THE SECOND PLAN PERIOD TO HANDLE THE GROWING GOODS TRAFFIC BY ROAD. THE PRODUCTION OF MOTOR VEHICLES AND BICYCLES WILL ALSO INCREASE. BY 1960, 57,000 CARS AND TRUCKS, 12,000 MOTORCYCLES AND SCOOTERS AND 1,250,000 BICYCLES WILL BE MANUFACTURED IN INDIA PER ANNUM. The tyre industry will be required to meet the original equipment and replacement requirements, and it is estimated that by 1960, the demand for automobile tyres will be 1,600,000 and for bicycle tyres 11,000,000 as against the actual production in 1956 of 938,400 and 6,320,400 respectively. Besides tyres and tubes, the industry supplies a large number of vital components required for the modern automobile such as fan belts, radiator hoses, adhesives for body building, latex foam cushioning, etc.

The first rubber factory in India was established almost 32 years after that venerable figure John Boyd Dunlop, invented the first practicable pneumatic tyre. India is the only country in the world where the rubber manufacturing industry is largely fed with indigenous natural rubber. As a result, the industry has firmly taken root within a short period of two decades. The tyre manufacturing section is the mainstay of the industry and large scale tyre manufacture in the country was pioneered by Dunlop in 1936 when they set up a factory in Sahaganj near Calcutta which comes of age this year. The factory was officially opened by Sir John Anderson, then Governor of Bengal, on the 28th November 1936. Since then, new plant and machinery have been added from time to time to expand the volume and range of products. THIS FACTORY IS NOW THE LARGEST RUBBER

### MANUFACTURING ENTERPRISE IN ASIA.

During the Second World War, the Dunlop Sahaganj factory gave a creditable account of itself and apart from the rapid expansion in the production of tyres and tubes for cars and trucks, aero tyres and tubes were added to the range. The first major post-war development at Sahaganj was the production of quality cycle rims which was of particular significance in view of the setting up of the many new bicycle factories soon after.

Production of Dunlopillo Latex Foam cushioning commenced in 1951 and in course of the last five years output has gone up four-fold. The increasing use of this material in transport, Assembly Houses, cinemas, hotels, hospitals as well as in the home, promises a great future for this product.

The recent extensions to the Sahaganj factory are of particular interest in relation to the Five-Year Plans. The belting and hose plants were officially opened by Dr. B. C. Roy, Chief Minister of West Bengal, in December 1952, and it is now turning out conveyor and elevator belting, transmission and industrial vee-belts of the best quality which were mostly imported until recently. Long length braided hose by the lead press moulded process, and a number of special types of hoses, hitherto imported, have been added to the range. Recently, Dunlop initiated an anti-corrosion and abrasion resistant rubber lining service which has already enabled the Railways and other enterprises to save valuable foreign exchange.

In the first Five-Year Plan period Sahaganj undertook the manufacture, for the first time in India, of tyres for jet aircraft. Another important project now under way is the installation of plant for the production of large earthmover tyres. Numerous expansion schemes are being implemented at Sahaganj to meet the growing demand and a considerable increase in the output of truck

and bus tyres, cycle tyres, cycle rims, industrial rubber products and Dunlopillo is planned.

TWENTY-ONE YEARS AFTER THE FOUNDING OF INDIA'S FIRST TYRE FACTORY, DUNLOP ARE PUTTING UP ANOTHER AT AMBATTUR NEAR MADRAS WHICH IS EXPECTED TO GO INTO PRODUCTION BY THE END OF 1958. TRUCK, BUS AND CYCLE TYRES WILL BE PRODUCED HERE PRIMARILY FOR THE NEEDS OF THE SOUTH INDIAN MARKET.

## AIR-SPRINGED CARS OFFER FLOATING RIDE

*Air suspension—hailed as the biggest contribution to passenger comfort in 50 years—is featured on most 1958 model cars currently rolling off Detroit production lines.*

*"Airide by Firestone," the original air spring, in development more than 25 years, is offered as optional equipment by most automobile manufacturers.*

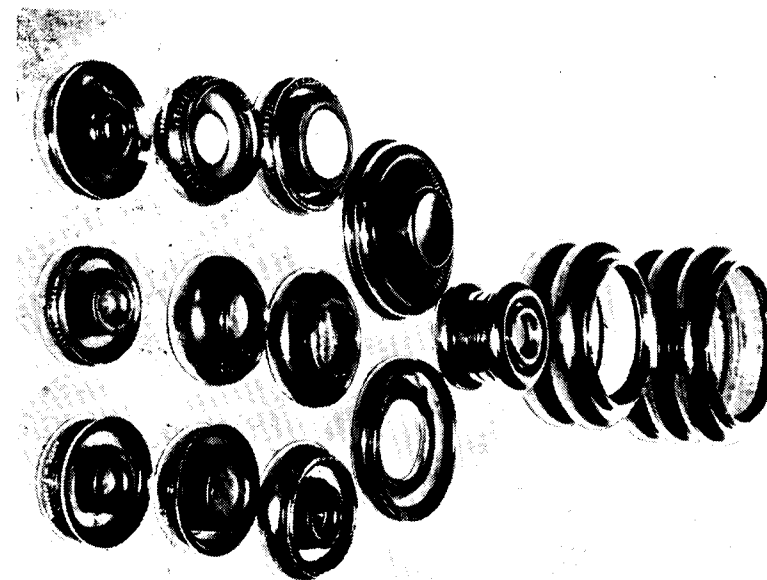
The move to air suspension began about 10 years ago in the truck, bus and railroad industries. New 1958 model cars will mark full acceptance of the soft riding suspension system.

Airide springs are being manufactured at Firestone's factory at Noblesville, Indiana, U.S.A. Approximately 15 types of rubber bellows are in production for different model cars.

The rubber firm's Indiana factory is the only one in the industry

## AIR SUSPENSION ON MOST 1958 MODELS

**FIRESTONE'S ANSWER TO BREAKING SPRING LEAVES**



Air springs for 14 makes of automobiles, trucks and buses are manufactured by Firestone's Airide Factory in U.S.A. Thousands of rubber springs are turned out daily at this factory

constructed solely for the production of air spring bellows.

Air suspension, as it is known today, is a product of more than 25 years of research and development by Firestone engineers. First successful installation was made in Akron in 1935.

Since the mid-thirties, air suspension has been used on airplane landing gear, trucks, buses, trains and industrial machinery.

GENERAL MOTORS CORPORATION BEGAN TESTS ON THE SUSPENSION SYSTEM IN 1944

FOR BUSES. IN 1953, THEY UNVEILED THE FIRST AIR SPRING EQUIPPED BUSES IN THE INDUSTRY.

Other installations were made on pullmen cars and trucks.

More than 300,000,000 miles have been logged by a major trans-continental bus company. Repair costs were so low compared to steel springs that maintenance records were scrapped.

AIR SPRINGS ON TRUCKS HAVE HELD UP FOR FIVE



Mr. P. P. Crisp, President of the Firestone Industrial Products Co., points to an airide spring used in automobile suspension systems. The unit appears on 1958 model American automobiles

TIMES THE MILEAGE RECORDED WITH STEEL SPRINGS WITHOUT SHOWING EVIDENCE OF WEAR. SIX TO SEVEN HUNDRED THOUSAND MILES IS COMMON.

Passengers in air spring-equipped automobiles will experience a "floating" ride. Special leveling valves adjust automatically for the smooth pavement of a turnpike or the rough bumps of a railroad crossing.

Rubber-nylon bellows produced by Firestone have been perfected to such a point they will outlast the automobile itself. Engineers predict the bellows will hold up for more than 2,000,000 miles.

Characteristic ability of air springs to adjust automatically for any load gives engineers more latitude in car design.

**WHY NOT  
SUBSCRIBE  
TO  
MOTORINDIA ?**

January 1958

## YOUR CAR

**BREAK-IN-CARE TOO!**

*By Eugene Milmoie*

Since most of the "do and don't" cautions on new car break-in concern the engine, few owners realize the importance of babying new brakes. The same holds true for new linings, if they've just been installed. Permanent damage often results because brakes are mishandled before they are safely past the critical "wear-in" period.

During the first few hundred miles or so, make every effort to anticipate stops and slowdowns so that you can brake gradually with short, gentle pedal applications. Moderate speeds and other sensible driving habits help here, too.

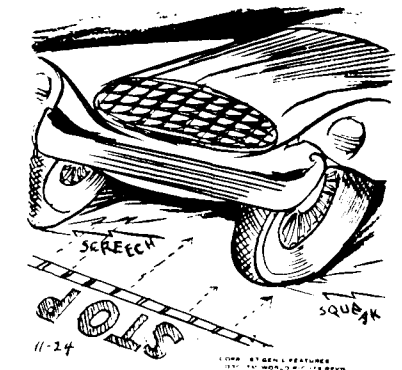
EXCEPT IN EMERGENCIES, AVOID SUDDEN, SEVERE, VIOLENT BRAKING.....OR CONSTANT PEDAL RIDING. THESE PRACTICES, POOR ONES AT ANY TIME, ARE ALMOST CERTAIN TO DOOM BRAKE LININGS AND DRUMS.

\* \* \*

*C.V. writes: "There's an exhaust noise, and fumes are escaping somewhere from my 1953 sedan. The muffler is new and I've examined every inch of the tail pipe and the exhaust pipe for holes or cracks."*

(A) Check for a loose exhaust pipe connection or a blown gasket at the manifold end.

*From B.T.: "As long as my engine idles or runs slowly, water temperature remains normal, but in turnpike driving I soon have an overheating problem. There's no loss of water, no head gasket leaks. The fan belt has been changed the thermostat works easily and the pressure cap was tested. Twice I have had a thorough carburetion and ignition tuneup. Can you solve this riddle? It's the*



*first real trouble I've had with this 1953 model."*

(A) At high speeds, suction will cause a weak radiator hose to collapse, thus impeding water circulation. Try replacing the lower hose first.

*D.D. asks: "A rubbing sound which has annoyed me for weeks was finally diagnosed as a dragging right rear brake. Only three months ago I had a rebuilt master brake cylinder installed. Could a defect in it cause this trouble?"*

(A) If all four brakes were affected the master cylinder might be to blame—but not when only one brake is dragging. The most likely causes, in your particular case, include: an oil-soaked lining, poor shoe adjustment, binding wheel cylinder, clogged brake hose.

*H.C. writes: "I had my 1955 car greased and tuned up recently, but it hasn't done much to improve gas mileage. The mechanic now tells me that my battery has seen better days and a new one should help save on gas. Is this reasonable?"*

(A) A weak battery wastes gas because it prevents prompt starting. Gas mileage is further penalized if a weak battery causes missing at idle and low speeds.

**SAFETY IS NO ACCIDENT**

Be careful about your driving—Be sure about your car. (Copyright G.F.C.)

MOTORINDIA

33

# The Madras Motor Parts Dealers Association

## STOCK POOL

The following items notified as available for disposal with members. Parties interested are requested to deal direct :—

M/s. Rayala Corporation (Madras) Pvt. Ltd., 1/155, Mount Road, Madras-2—International Parts—(List available with Secretary.)

M/s. M. M. Kasim Bros., 14 and 15, Harris Road, Madras-2—1942/47 Ford Front Spring rear bracket Cut Type Part No. COIT-5340.

## BUILDING COMMITTEE

The following are the changes in the constitution of the Building Committee.

Mr. Indersain—Convener ; Mr. V. Kunjitapadam, Mr. S. M. Subramaniam, Mr. S. Natarajan and Mr. S. S. Kalyanpur—Members.

## MADRAS CUSTOMS NOTIFICATION

Brake Cylinder washers, cups and boots made of rubber are assessable to duty, being parts of brake cylinders under item 75 (11) of the I.C.T. The Board's earlier orders contained in its letter 25/184/52 Cus 1, dated November 25, 1952, on the subject should accordingly be deemed to have been cancelled.

The following have been enlisted as members of the Association and you are requested to extend your co-operation and membership privilege to them: M/s. Motor Insurance Co. Ltd., 1/155, Mount Road, Madras-2. M/s. Laxmi Traders., 15, Stringer St., Madras-1.

We have received a communication from Messrs. Payen-Talbro Pvt. Ltd., 71/3, Najaggarah Industrial Area, New-Delhi-15, that Payen gaskets manufactured by them in India bear the Trade name "PAYEN TALBROS."

## LIST OF THE HOLIDAYS FOR THE YEAR 1958

The following holidays besides Sundays have been fixed by the Managing Committee for the year 1958 and members are requested to observe the same.

Vaikunta Ekadasi—1st January ;

Pongal—14th January ;

Republic Day—26th January ;

Tamil New Year's Day—14th April ;

Independence Day—15th August ;

Avani Avittam—29th August ;

Vinayaka Chaturthi—16th September.

Mahalaya Amavasai—12th October

Ayudha Puja—21st October ;

Deepavali—10th November ;

## LEAF SPRINGS

The Tariff Commission has submitted its Report on the continuance of protection to the Automobile Leaf Spring Industry on the basis of an inquiry undertaken by it under Sections 11 (e) and 13 of the Tariff Commission Act, 1951. Its recommendations are as follows :—(1) Protection to the Automobile Leaf Spring Industry should be continued upto 31st December, 1959 and the standard rate of protective duty should be retained at the existing level of 50 per cent AD VALOREM.

(2) The Development Commission—er, Small Scale Industries, should take early steps to provide the small scale manufacturers with necessary technical assistance and, wherever possible, common facilities for testing of springs and raw materials with a view to improving the quality of leaf springs produced by them.

(3) The Iron and Steel Controller should take necessary steps to help the automobile leaf spring industry to obtain regular supplies of spring steel flats to meet its essential requirements.

(4) All the units in the industry should introduce a proper system of costing before the end of June, 1958 and report to the Commission.

(5) The manufacturers of leaf springs and spring leaves should immediately effect a reduction in their selling prices and maintain them at levels in fair relation to their costs of Production.

(6) All manufacturers of leaf springs and leaves should periodically publish and arrange to display

at the premises of the dealers list of prices of all varieties indicating the price for each item.

Government accept recommendation (1) and the necessary legislation will be undertaken in due course.

Government have taken note of recommendations (2) and (3) and will consider suitable action to the extent possible.

The attention of the industry is drawn to recommendations (4), (5) and (6).

## MOTOR VEHICLE PARTS IMPORT POLICY APPENDIX XXVI LIST III

From K. L. ANAND

Ex-President, Bombay Motor Merchants' Association Ltd.

It is not understood why several items in this list though restricted are allowed only to quota holders on 100% to 125% basis, but those who started new business during the last few years or may begin further, are debarred to import can deal in these for ever.

It is said that all are equally entitled to trade as one feels interested ; then why preference to a few only as monopolists. Everyone knows that by paying certain percentage over C.I.F. value, any item can be imported through licence holders, which means many licence holders themselves are not interested to import for their own regular and routine business and profit that they get is royalty only.

List II items are allowed to be imported 3% and now 4% out of general licences and if List III items are also allowed 10% or so and licences of quota holders of List III reduced from 100/125% to 50% or so, it will not be necessary for many to import through anybody but on own licence in due course and Government also will save exchange and the imports of these items will remain restricted.

# UPPER INDIA CELEBRATES

## To Manufacture Auto Parts

PLANS FOR ENTERING THE MANUFACTURING LINE OF AUTO PARTS WERE REVEALED BY THE UPPER INDIA TRADING COMPANY PRIVATE LTD., WHO HAVE BEEN DEALING IN AUTOMOBILE PARTS IN VARIOUS PARTS OF THIS COUNTRY EVER SINCE 1920.

The occasion was the celebration of the Silver Jubilee of the Madras office of this firm on December 29 last under the presidency of the Hon. Mr. R. Venkataraman, Minister for Labour and Industry, Government of Madras. The celebrations were held at the quadrangle behind Upper India's office in Bharat Buildings, Mount Road, and was attended by a very large number of automobile and allied interests. After refreshments, the guests and the Hon. Minister were welcomed by Mr. Indu Chandok of Upper India, Madras.

Mr. T. S. Santhanam of M/s. Sundaram Motors said it was a pleasant thing to know that Upper India had successfully completed 25 years of useful existence in Madras and he offered congratulations and best wishes for the firm on that happy occasion.

Mr. Lala Devidayal, Chairman of the firm traced the history of UPPER INDIA from the time when he started a stationery mart in Kashmere, paid a glowing tribute to the efforts of Mr. Indersain and said that it would not be an exaggeration if he said that the Company owed much of its present position to the efforts of Mr. Indersain who opened branches at Bombay, Delhi and Calcutta. He finally came down to Madras, at a time when many people did not like to come to Madras, and took charge of their Madras Branch.

Lala Devidayal stated that in the beginning the Company had to face many odds and the present Director Mr. Indersain was started



The Chairman and Directors of Messrs. Upper India are seen with Mr. Venkataraman, Minister for Labour and Industries, extreme right

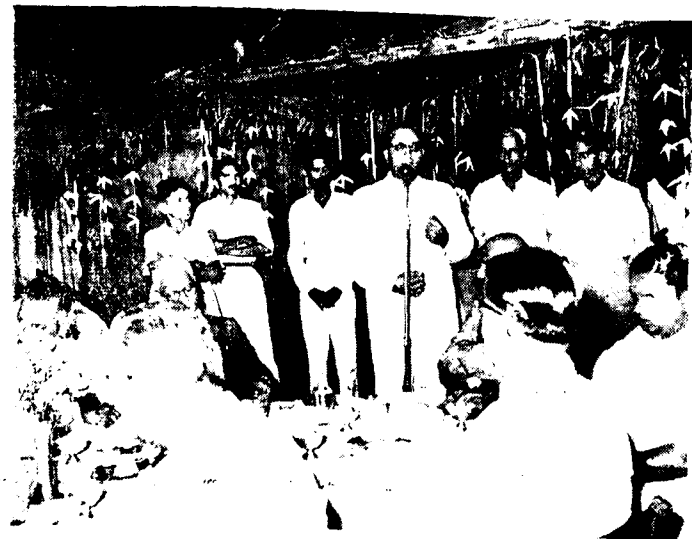
at a very low scale of Rs. 2 per month. The Company was steadily built up to the present position and that when everybody looking towards Indian manufactured goods, the Company was preparing grounds for the manufacture of certain products in India.

The Hon. Mr. Venkataraman paid a tribute to the perseverance of the Punjabis and particularly those in Upper India. He also

commended their plans to go into manufacture and wished them all success in this new venture. In the modern trend of industries in India, he said it was not possible for all big industries to cater to the requirements of the country and therefore it was absolutely necessary for small-scale industries to set-up to feed bigger units. He recalled his recent visit to Ludhiana where he could find workshops making cycle and automobile components on every



Mr. R. Venkataraman, Minister, addressing the gathering, on the occasion of the Silver Jubilee of Messrs. Upper India



Mr. Kul Bhushan, the Director, of Upper India is seen before the mike proposing a vote of thanks.

road. He appreciated the spirit with which they were being manufactured even on a small scale.

Mr. Kul Bhushan, Director of Upper India, Bombay, proposed a vote of thanks.

## INDUSTRIAL REVIVAL IN JAPAN

If Indian Industry, particularly the Automobile Industry which is in its infant stage requires any idea that will help its building itself up in a manner that will be worthy of the nation, the clue for the same comes from the state of the Aircraft Industry in another eastern country, viz., Japan.

The Japanese Aircraft Industry, it may be recalled, which about the year 1941 was producing fighters, bombers and air transports at the rate of 10,000 units a year was totally demolished at the outbreak of the Pacific war. This shattered industry could not function till 1952 when the Japanese firms were allowed by the United States to assemble, overhaul and repair U.S. Air force aircraft. Since then, it is gratifying to note that the Japanese aircraft industry has rallied forth with the result that the country's self-defence force today has fighters and jet trainers assembled by Japanese Aircraft manufacturers. Last March, plans were considered by the Civil Aviation Council of Japan for building medium-sized jet transport planes. The Government gave the fullest encouragement to the Council and sanctioned nearly 11 billion yen for parts and equipments with which the manufacturers may embark on the project. It is now expected that during the next year a prototype will be constructed and all ground and air borne tests will be completed before 1962. When this is done, not only modern

Japanese Jet fighters will be produced in numbers, but jet passengers and transport aircraft will be mass produced for international consumption from the year 1962. The most impressive part of the project and the revival of the aircraft industry in that country is a story of sincere and all out effort not only of the business planners, but also on the part of workers of that nation.

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## FAIRS & EXHIBITIONS

### "GREATEST WORLD EVENT OF 1958"

#### International Exhibition at Brussels

*The wonders of the Universal and International Exhibition, to be held at Brussels from April 17 through October 19, 1958, are described in the January issue of Oil Progress quarterly Caltex Publication.*

"The Brussels Universal and International Exhibition may well be, as its tireless planners have proclaimed, 'The greatest world event of 1958.' It will hold up 'a balance-sheet of the world, for a more peaceful world.' In doing this, Belgium will have made a significant and far-reaching contribution towards international understanding and good will," the magazine states.

"Fifty-one nations, and seven international organizations, are participating in this vast 'stock-taking' enterprise, with budgets ranging from tiny Liechtenstein's £15,000 to Soviet Russia's £50 million.

"Exhibition building designs are startling in concept," Oil Progress continues, "marked by a soaring freedom from architectural restraint, and, dominating them all, is the theme structure called the 'Atomium' concept of Andre Waterkeyn, a Brussels engineer. Constructed of steel, aluminium and clear plastic, the Atomium represents a unit cell of the body-centered cubic crystal of elemental alpha iron. Chosen because it is the simplest of the fourteen crystal lattice forms to reproduce as a stable structure, the concept yet carries an accidental symbolism. Iron is probably the oldest metal wrought for man's service, linking the pre-historic past with the latest discoveries in nuclear physics, and bridging all the scientific achievements of the ages," the article continues.

"Fair officials expect 175,000 visitors a day, and on week-ends perhaps 750,000 a day. Total for the six months is expected to be from 35 to 50 million. No factor has been overlooked that might make the visitor's stay both rewarding and memorable. At the Fair itself, there will be 200 uniformed girl guides, specially trained in history and the arts, and able to converse in several languages, who will direct tourists and explain the exhibits.

"Logexpo, a non-profit organization, has been set up to assist visitors in obtaining accommodations and will have the most advanced electronic and tele-communication equipment at its disposal. Less than two miles from the grounds, Logexpo has constructed the largest motel in the world, having 2,000 double rooms. The charge for these, including Continental breakfast, is a modest five dollars per day. Also under this group's management are 8,000 rooms in private homes and 3,000 hotel rooms. Universities and youth hostels will take in foreign students and a specially prepared trailer camp and 'tent city' nearby will accommodate 17,000. If Logexpo can help it, no one will be turned away.

"From the centre of Brussels, 50-mile-an-hour trolleys and buses will leave every few seconds for the Fair grounds. Special railroad coaches, carrying up to 10,000 visitors, will shuttle between Brussels parking areas and the Fair. And for those wishing to include the more venerable attractions of France, Germany and Holland in their itineraries, daily helicopter shuttle service will be provided by Sabena, the world-famed Belgian airline."

### THE BRAZIL FAIR

Well over 40,000 visitors are expected to visit the Brazil's 1958 world fair every day. This expected rush of visitors has been foreseen by the authorities in Brazil who started facing the question some months ago. As it is, the main problem is the question of accommodation for foreign visitors during the Fair.

*Brazil is already normally short of hotel accommodation and so a scheme has been approved and motels to accommodate 40,000 fair goers every night are being constructed on the outskirts of the city.*

*These motels built on a rural site will still be within a mile from the fair grounds and will be reserved for the use of motorists providing them the space in double rooms for nearly 5,000 persons at a time. Parking space will also be provided, but the stay of each visitor will be limited to just three nights.*

The Brazilian Fair, it may be recalled, is a top foreign exchange earner for that country.

### BOMBAY EXHIBITION IN MARCH

The Second Auto-Technic and Equipment Exhibition to be organised under the auspices of the Redex Car Club will be held this year at the Jehangir Art Gallery, Bombay on March 1 and 2.

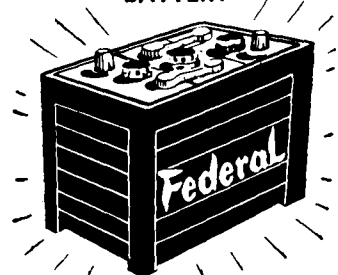
The Exhibition will be free and open to all motorists. The object of the Exhibition is to bring to the notice of the motorist the different components, parts and accessories that go to make the car and also to acquaint him with such facts as will enable him to obtain the most efficient working and economical maintenance of his vehicle, there will be a display of the equipments, charts, models, photographs etc.

A number of leading Workshops and Garages have willingly extended the Exhibition their co-operation, by permitting invitation to motorists to check some of the mechanisms of their cars, such as brakes, wheel alignment, compressions, vacuum, etc., free of charge on 2nd March 1958.

Display and publicity of products of interest to motorists will be arranged for a nominal charge space. Further particulars can be had from the Redex Car Club, Commerce House, Ballard Estate, Bombay-1.

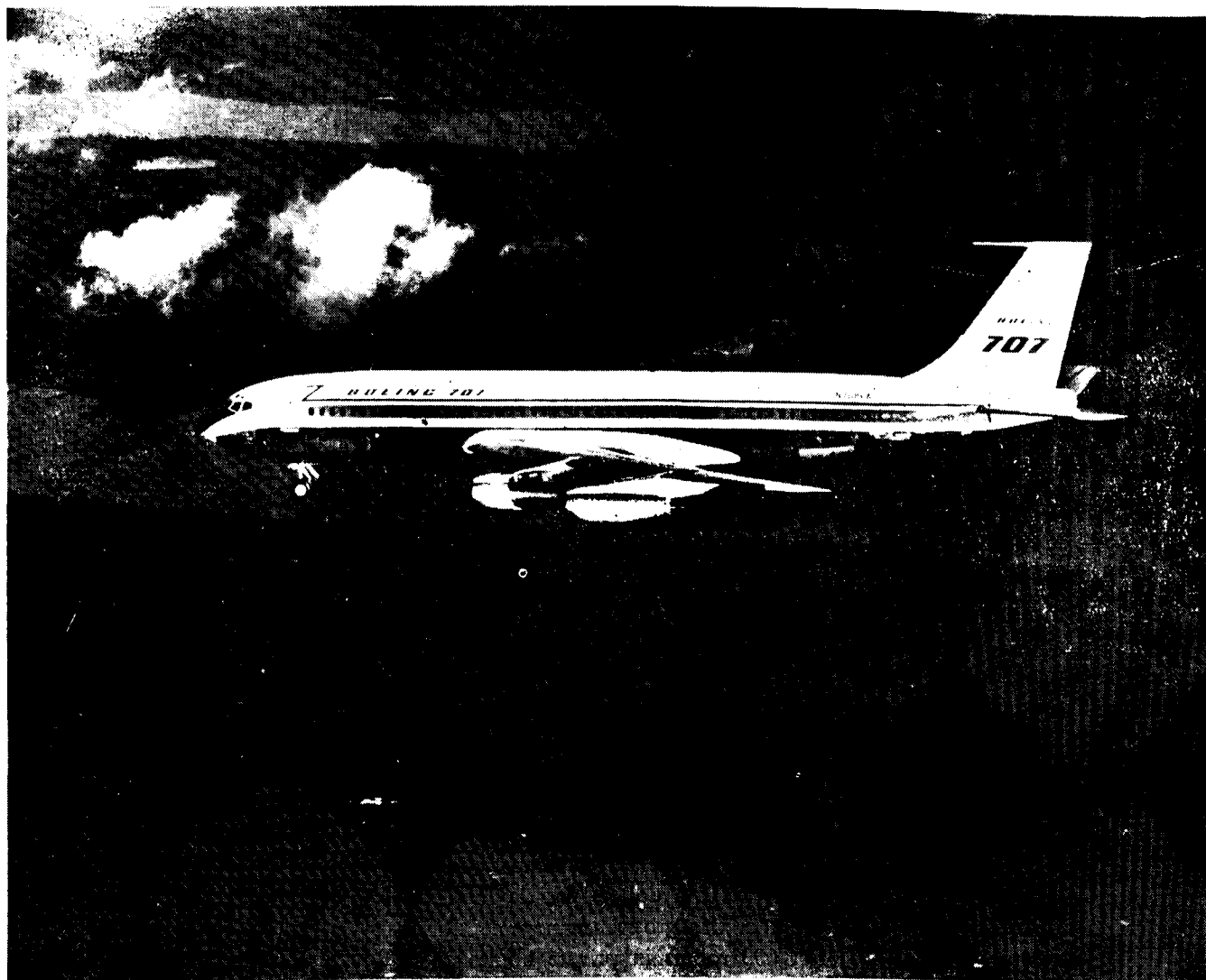


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The Boeing 707 Stratoliner, America's first jet transport, which completed its maiden flight from Renton Municipal Airport, Washington, to Boeing Field, Seattle, in a driving rainstorm, is shown aloft on its second flight on the same day.

## Air India to Employ these Boeings Soon

### BOEING 707 JET STRATOLINER

RENTON, WASH: The world's first long-range turbojet airliner—the Boeing 707—took off recently on its initial flight from the Renton Municipal Airport, adjacent to the Transport Division plant of Boeing Airplane Company.

First of more than 160 Boeing jetliners on order, the big 707 used only a little more than half the 5,400-foot (1647-meter) runway for takeoff.

The Boeing 707 remained in the air for only seven minutes going directly to Boeing field five miles away because of unfavourable weather.

“As we expected, the airplane performed beautifully throughout the flight ‘A.m. Tex’ Johnston, Boeing chief of flight test and pilot of the 707 on its initial flight, said after landing: Co-pilot for the flight was J. R. Gannett, 707 Senior Project Pilot.

The Boeing 707 will be based at the Boeing Flight Centre in Seattle for company flight tests and Civil Aeronautics Administration certification flights.

The Second Boeing 707 is nearing completion in the Boeing Airplane Company Transport Division Factory and was expected to be moved out of the factory some time this

month wearing the colours of Pan American World Airways.

BOEING 707's ARE CAPABLE OF FLYING 4,000 MILES (7400 KILOMETRES) NONSTOP WITH FULL PASSENGER PAYLOAD OF 150 PERSONS IN TOURIST CLASS ACCOMMODATIONS. TOP SPEED IS MORE THAN 600 MPH. (965 K.M.H.).

It may be mentioned here that Air India International are to employ Boeing planes for their flights beginning possibly next year, when Bombay to London may be done in 8 hours only.

## Progress of Civil Aviation in India

### Increased Passenger Traffic

#### AIR INDIA INTERNATIONAL :

Air India International flew on its scheduled services 3,081,556 miles carrying 41,582 passengers, 1,773,024 lbs. of cargo and 732,836 lbs. of mail during the first half of 1957, as against 2,933,400 miles flown, 39,974 passengers and 1,593,575 lbs. of cargo and 672,110 lbs. of mail carried during the preceding six months. The capacity ton-miles operated recorded an increase from 21,564,506 during the preceding half year to 23,013,329 during the first half of 1957. There was, however, a small decline in the overall load factor, from 65.7 per cent during the second half of 1956 to 64.3 per cent during the period under review.

THE FREQUENCY OF THE INDIA-U.K. SERVICES OPERATED BY AIR-INDIA INTERNATIONAL WAS INCREASED FROM SIX TO SEVEN FLIGHTS A WEEK. Cairo, which had been omitted from the route due to disturbed conditions in West Asia since November, 1956, was again included from April, 1957. On the India-Japan route, Super-Constellations were introduced in place of the Constellations.

#### INDIAN AIRLINES CORPORATION :

DURING THE FIRST SIX MONTHS OF 1957, INDIAN AIRLINES CORPORATION FLEW 8,506,373 MILES, CARRYING 267,466 PASSENGERS, 40,612,080 LBS. OF CARGO AND 5,748,104 LBS. OF MAIL. The respective figures for the preceding six months were 8,929,211 miles, 242,602 passengers, 47,077,105 lbs. of cargo and 5,921,985 lbs. of mail. The overall load factor showed a further increase from 69.2 per cent during the second half of 1956 to 70.0 per cent during the first half of 1957. The capacity ton-miles operated was 25,618,441 during the first half of 1957 as against 25,641,780 in the preceding six-month period.

Chandigarh, the new capital of the Punjab, was put on the air map of India, when the Delhi-Srinagar air service operated by Indian Air-

New Delhi.—Increased passenger traffic marks the progress of civil aviation in India in the first half of 1957, it is now revealed.

The Air India International and the Indian Airline Corporation between them carried 309,048 passengers and flew 11,587,929 miles during the half year ended June 30, 1957. There were no accidents to the Indian scheduled air services during the period.

lines Corporation introduced a scheduled weekly halt there with effect from May 1, 1957.

A new scheduled service with a daily frequency was introduced on the Calcutta - Mohanbari - Gauhati route.

#### NIGHT AIRMAIL SERVICES :

During the first half of 1957, the Night Airmail Services carried 31,967 passengers, 1,406,529 lbs. of cargo and 2,113,967 lbs. of mail, as against 27,886 passengers, 1,545,555 lbs. of cargo and 2,098,908 lbs. of mail carried during the second half of 1956. The daily average thus achieved was 177 passengers, 7,771 lbs. of cargo and 11,679 lbs. of mail, as against 152 passengers, 8,400 lbs. of cargo and 11,407 lbs. of mail for the preceding six months.

#### NON-SCHEDULED SERVICES :

In addition to the two Corporations, and the twelve Flying Clubs, six other transport companies held current permits for the operation of non-scheduled services on June 30, 1957. Two operators held permits for giving only joy rides. Indian Airlines Corporation were permitted to undertake charter flights between India and Jeddah for the carriage of ‘Haj’ pilgrims. Other non-scheduled flights were also undertaken to foreign countries during the period under review. Airways (India) started operating an air service to Port Blair from Calcutta from April 23, 1957.

On non-scheduled services operated by Indian air-carriers, 3,146,580 miles were flown and 74,728 passengers and 56,826,083 lbs. of cargo were carried during the half year ended June 30, 1957. The corresponding figures for the previous six

months were 3,348,127 miles, 56,166 passengers and 58,829,661 lbs. of cargo.

#### AERODROMES :

The construction of the runways at Kandla and Udaipur (Dabok) aerodrome has been completed. The work of constructing four new aerodromes at Raxaul, Jogbani, Malda and Tulihal has been taken up. The aerodrome at Satna was taken over by the Civil Aviation Department. The total number of aerodromes maintained by the Department at the end of June, 1957, rose to eighty-four.

The work of extending the east-west runway to 8,200 feet at Bombay (Santa Cruz) airport has been completed. A cargo shed and an apron have been provided at Agartala aerodrome. The work of extending the apron at Gauhati aerodrome has been completed. The work of construction of the terminal buildings at Rupsi and Kumbhirgram aerodromes has been taken in hand.

For ensuring safety of night operations, 23 new aerodrome beacons have been procured for installation at the various aerodromes in the country. The number of such beacons which are already in operation is thirty-two.

The aerodromes at Gauhati, Bagdogra and Agartala are being equipped with new ground lighting

equipment. The aerodromes at Bombay (Santa Cruz), Calcutta (Dum Dum), Delhi (Safdarjung), Nagpur and Lucknow (Amausi) already have such equipment in use.

AN AUTOMATIC TAPE-RECORDING DEVICE HAS BEEN PROVIDED IN THE AIR TRAFFIC CONTROL CENTRE AT MADRAS. A RADIO TELETYPE CIRCUIT HAS BEEN INTRODUCED BETWEEN CALCUTTA AND RANGOON FOR DUPLEX OPERATION. LAND-LINE TELE-PRINTER CIRCUITS HAVE BEEN INTRODUCED BETWEEN DELHI AND LUCKNOW AND MADRAS AND BANGALORE.

#### AIRCRAFT AND PILOTS :

The number of aircraft holding current certificates of Registration at the end of June, 1957 was 533 of which 199 held current certificates of Airworthiness. The number of persons holding current Pilot's 'A' licences increased from 523 at the end of December, 1956 to 715 at the end of June, 1957. There was, however, no change in the number of 'B' Pilots holding current licences which stood at 586. The number of Aircraft Maintenance Engineers holding Indian licences increased from 870 in December, 1956 to 903 in June, 1957.

#### ACCIDENTS :

There were sixteen major accidents to Indian registered aircraft during the period under review. In addition, three Gliders were also involved in accidents.

None of the accidents related to aircraft engaged in scheduled operations.

Four of the accidents proved fatal and resulted in the loss of eight

lives (five crew and three others). There was no fatal accident involving a glider. Eleven of the air-craft involved in major accidents were engaged on instructional flights, two in non-scheduled freighter service, one in non-scheduled passenger flight and the remaining two on private flights.

#### CIVIL AVIATION TRAINING CENTRE :

At the Civil Aviation Training Centre, Allahabad, 21 trainees completed the Dakota Conversion Course, two All-through Flying Course, eight Second Class Navigator's Course, ten Aerodrome Officers' Refresher Course, 46 Aerodrome Operators' Course, 35 Crash Fire Rescue Course, 20 Radio Technicians Advanced Refresher Course, 18 Specialist Course and 17 Radio Operators Long-range Course. Three Nepalese nationals were provided training at the Centre under the Colombo Plan. At the end of June, 1957, there were 182 trainees undergoing training in the various courses at the Centre.

#### FLYING CLUBS :

One hundred and forty-one trainees obtained Pilot's 'A' licences and 28 Pilot's 'B' licences through the twelve Flying Clubs in the country during the period under review. The clubs logged a total of 12,809 hours of flying.

In addition, the three departmentally run Gliding Centres at Poona, Allahabad and Bangalore and the Delhi Gliding Club trained 31 Glider pilots and logged 719 hours of flying.

In order to promote air-mindedness among the youth of the country, it was decided to award 50 Free Flying Training Scholarships during the first half of 1957.

#### AIR TRANSPORT AGREEMENTS :

*India-Lebanon :* A civil Air Transport Agreement for the operation of air services between India and the Lebanon was initialled at New Delhi on March 22, 1957, as a result of discussions which were held in New Delhi. Shri L. C. Jain, Director-General of Civil Aviation, initialled the Agreement on behalf of the Government of India and Mr. Fouad Chader, Director of Civil Aviation of Lebanon, on behalf of the Government of the Republic of Lebanon. The Agreement will come into force as soon as it receives approval from the respective Governments.

Under the Agreement, the designated airlines of the two countries will have fair and equal opportunity for the operation of air services on the routes specified in the Agreement.

#### RESEARCH AND DEVELOPMENT :

Another mile-stone in making the country self-sufficient in the manufacture of Gliders was reached during the period under review, when the first prototype of the Advanced Sail-plane AS-1, constructed by the Technical Centre of the Civil Aviation Department, with predominantly indigenous material, was demonstrated and put through the various aerobatic manoeuvre's successfully at Delhi (Safdarjung) Airport in January, 1957. The glider is now in regular use by the Delhi Gliding Club to which it has been allotted for soaring flights.

The Technical Centre has also taken up the design and construction of a two-seater Advanced Training Glider Model TS-2.

# MOTORINDIA NEWS SECTION

(BY OUR SPECIAL CORRESPONDENTS)

## Brazil to have integrated Auto Industry

A \$ 200 million integrated automobile industry is to be established in Brazil within the next two years. Plans of various companies in this respect have been approved by the Government and work is already proceeding on new plants and on expansion of existing plants in the country.

Under this integrated scheme for production of automobiles in Brazil, FORDS will build 3 types of trucks to the tune of 30,000 a year ; a GENERAL MOTORS \$ 10 million plant will produce 29,460 trucks every year, the \$ 5 million WILLYS plant will produce 15,000 jeeps a year ; VERNAG, a local company will make about 10,000 utility wagons and a cheap type of car besides 3 cylinder 40 h.p. passenger cars resembling the English Fords : VOLKSWAGEN will produce 9,000 utility wagons a year ; a local Government-controlled firm FABRICA NACIONAL DE MOTORS will make some 7,200 diesel trucks per year ; MERCEDES BENZ who are forging their own engine blocks in Brazil will produce 9,200 diesel trucks annually ; the INTERNATIONAL HARVESTER under a \$ 6 million plant will produce 6,000 trucks per year and FABRAL will concentrate on the production of passenger cars.

Besides the above, there are also plans for the manufacture of trucks by MACKS and by KRUPPS, passenger cars by FORDS, VOLKSWAGEN and FIAT.

It may be recalled here that the automobile industry in Brazil ever since 1919 has been one of local assembly. But in 1952, Brazil, as we in India today, faced a shortage of foreign exchange with which the Government had to tackle the situation and enforce rigid import restrictions. This brought down the figures for the assembling of cars to nearly a third of over 60,000 units whereas the demand for new cars and the need for maintenance of existing vehicles nearly doubled. It is in such a situation that the Brazilian Government started on a bold programme of local manufacture of automobiles, though in conjunction with foreign manufacturers.

THE MAIN POINT OF INTEREST FOR THE INDIAN AUTOMOBILE INDUSTRY IN THE GROWTH OF THE BRAZILIAN INDUSTRY IS THE FACT THAT NEARLY A DOZEN FOREIGN FIRMS WILL BE ASSISTING IN THE INDIGENOUS MANUFACTURE OF AUTOMOBILE IN

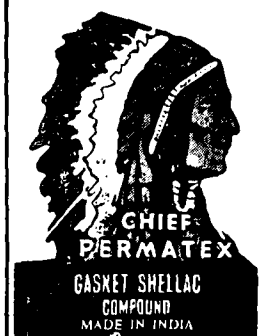
THAT COUNTRY ON A CONTRACT BASIS.

The plan now under execution envisages that by July 1960, 90% of all truck components will be manufactured indigenously in Brazil itself. A similar graded increase in the matter of indigenous parts is also outlined in jeep type vehicles as also passenger cars.

A FORD ORGANIZATION IN GERMANY, THE FORDWERKE A. G. OF COLOGNE-NICHL IS TO RAISE ITS DAILY PRODUCTION OF AUTOMOBILES IN WEST GERMANY TO 400 UNITS PER DAY DURING THE YEAR 1958.

It may be recalled that the German Ford company recently introduced (details and illustrations published in earlier issues of MOTORINDIA), the Taunus 17 m. This car, which is considered favourably priced, accelerates from stand-still position to 50 miles an hour within less than 15 seconds and is greatly attracting purchasers. In 1956 Fords turned out over 86,000 vehicles and this figure was exceeded during 1957.

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**GASKET SHELLAC COMPOUND**  
*Under the Exclusive Licence & Formula Granted by*  
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**CHIMANLAL DESAI & CO.**  
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*Branches in India*  
 DELHI CALCUTTA MADRAS



## SPAIN ATTRACTS TOURISTS BEST

WHILE EVERY COUNTRY IN EUROPE OR ASIA IS TRYING ITS BEST TO ATTRACT FOREIGN TOURISTS TO THE COUNTRY NOT ONLY WITH A VIEW TO INCREASING FRIENDLY RELATIONSHIP BETWEEN NATIONS, BUT ALSO TO FINANCIALLY BENEFIT FROM THE FOREIGN EXCHANGE THAT THE TOURIST MAY BRING IN, PERHAPS THE BEST SCHEME TO ATTRACT TOURISTS COMES FROM SPAIN WHICH IS NOW IN THE MIDST OF A BIGGEST TOURIST BOOM IN ITS HISTORY.

According to conservative estimates, foreign visitors are expected to spend in Spain during the year atleast \$ 100 million. Last year the tourist invasion almost reached a peak, thanks to the low prices prevailing in the country. The main thing that attracts tourists, therefore, is first and foremost the low prices for indigenous products and consumer goods as also facilities for travel and service. A new and the most important thing is proper facilities for foreigners to go about visiting countries and information about spots of attraction to tourists.

According to authentic figures 1.5 million persons visited Spain during 1952 and the figure rose to 3 million foreign visitors during 1957. Spain has a ministry of tourism and the foreign exchange earning as a result of the tourist department and its activities is nearly 15% of Spain's import total.

Another country which beats Spain even for the present attractive figures, is Italy, where half the nation's import is made up by foreign exchange earned from tourists.

IN 1956, ITALY ATTRACTED NEARLY 13 MILLION TOURISTS INTO THE COUNTRY.

## Peak Hour Problem in Brussels

The Municipal Police and traffic authorities in Madras who are now faced with the problem of tackling peak hour congestion in areas like Round Tana, Mount Road can take a clue from the news from Brussels where a similar situation has been facing the authorities for some time.

In an effort to solve this urgent traffic problem, Brussels is now building an unusual complex of vehicular tunnels at the intersection of Boulevard de Waterloo and Avenue Louise. At this intersection 30,000 cars normally try to get past each other creating a problem for the traffic people. To solve this, therefore, a plan was sanctioned and construction work under this has started. *Under this scheme the contractors are now driving two tunnels beneath the intersection one of them passing below another. What is considered a unique feature of this project is a connecting ram between the two tunnels to permit right turns from one into the other. Work started only a few months ago is expected to be completed within the next two months.*

## COLUMBIAN TEA FOR JAP CARS

Following the recent visit of the Japanese Economic Mission to Columbia, talks have recently been held at Bogota between the Directors of the Panal Co., Assemblers of Nash & Toyota vehicles and the Finance Minister of Columbia. It is learnt that as a result of these talks a barter system will be agreed upon under which Japan will be offered Colombian tea in return for Japanese Toyota and unassembled jeep parts which will be assembled by the Panal Co. in Columbia itself.

The proposal also envisages 40% of the total value of cars assembled as such being used within the country for stepping up agricultural products.

## SELF VULCANIZER

A repair kit containing self-vulcanising rubber patches has been designed and introduced into the market by Automatic Vulcanisers Corporation of 16, Hudson Street, New York City.

It is learnt that the kit contains patches of Pang, a novel material that automatically vulcanises any natural or synthetic rubber by means of chemical action. The kit contains besides, some vulcanising solution, a piece of abrasive and instructions on its use.

## BUILT HER OWN CAR!

A 20-year old dress designer who could not find the money to buy a little sports car has after all made one from automobile parts purchased from the scrapyards at a cost just 15% of the ruling car prices, it is reported.

Buying a broken down Austin 7, she started buying most of the parts from scrap dealers and with a glass fibre body purchased for £80, she was able to assemble a sleek sports model at less than £150, which included cost of many books on motor mechanics she had to read before starting on the work.

## OVER 3M. CYCLES

Japan's utility production of bicycles during this year is expected to pass three million mark, according to sources close to the bicycles exporters association. It may be of interest to know that half of these bicycles are exported mostly to countries in the South-east Asia region. Nearly 5,000 bicycles are to be exported to America as a start.

## SWISS CAR IMPORTS

Switzerland imported 13,583 cars during the last quarter, a number which is less than the figure for the corresponding part of the last year by nearly 3,000. The supplying countries were West Germany, U.K., France, U.S. and Italy.

## "Road Transport in Chaos"

The view that the road transport industry in India was now in a chaotic state and that it required drastic reorganisation was held by Mr. Raj Bahadur, Union Minister for Transport and Shipping.

Addressing the third session of the All-India Transport Users Conference recently, Mr. Raj Bahadur said that individual operators on whom the industry was mostly based now ran helter-skelter, charging the maximum and got indulged in all sorts of malpractices thus making this important industry most unreliable.

*He suggested that it must be made compulsory for all road transport operators to join recognised unions or co-operative societies and that initiative for such must come from the operators themselves and that Government should give all the help in this respect. He was also of the view that there was room for new units to come into operation on long distances and inter-state transports. Such units will get the maximum possible assistance from Government sources in the matter of getting loan facilities etc.*

The Conference earlier urged the Union and State Governments to remove the handicaps for the development of road transport by simplifying State Transport rules and procedures and by reducing the heavy tax burden on motor transport service as a result of the present multiple taxation policies.

Another resolution referred to the condition of State-owned buses in various parts of the country and suggested that whenever any transport was nationalised the management of the same should be entrusted to an independent statutory corporation.

## FOREIGN EXCHANGE SPENT ON LUBRICATING OILS

Shri K. D. Malaviya, Union Minister for Mines and Oil gave out recently the figures of foreign exchange involved in India's annual import of lubricating oils for each of the last three years. The Minister was replying to a question by Shri

V. P. Nayar in the Lok Sabha today.

The figures which were based on extracts from the Publication "Accounts relating to the foreign (Sea, Air and Land) Trade and Navigation of India" were :—

| Year | U. S. A.<br>Rs. | U. K.<br>Rs. | Other Countries<br>Rs. |
|------|-----------------|--------------|------------------------|
| 1954 | 3,69,61,072     | 2,01,47,665  | 2,51,73,746            |
| 1955 | 3,03,34,378     | 2,56,29,225  | 2,23,12,913            |
| 1956 | 2,85,39,077     | 3,44,47,613  | 2,52,00,242            |

## U.S. CAR IMPORTS UP

While export of modern passenger cars lagged behind the previous year in U. S. during 1957, the import of passenger cars reached almost a record level. Final figures are not yet available, but even according to conservative estimates, the volume of passenger car imports of United States increased to well over 100% during 1957.

\* \* \*

Main imports are from the United Kingdom, Germany and France, not to speak of Spain and Italy who are the latest entrants into the American automobile market.

Motor manufacturers in the United States are busy stepping up production of 1958 models output, for practically every manufacturer has been gaining momentum during the last quarter of 1957. PLYMOUTH is nearly doubling its volume. FORDS are making steady progress and are busy with their model changeover while CHEVROLET has started their 1958 model output.

Most of the 1958 models were expected to be introduced just before the New Year and some are likely to be shown early this year.

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(H. M.) DIESEL CONVERSION KITS COMPLETE  
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**THE SENIOR AUTO DIESEL STORE**  
2/6 Wallers Road Madras 2

Grams : ECHEMKIT



# MODELS AND THEIR Prices

## CARS

|                                                                                             | Rs.    | nP. |
|---------------------------------------------------------------------------------------------|--------|-----|
| Plymouth Cars, (Sundaram Motors Private Ltd.) Ex-Premier Automobiles Factory, Kurla         | 20,270 | 00  |
| Plymouth Suburban (Sundaram Motors, Ltd.)                                                   | 22,646 | 00  |
| Hindustan Ambassador 1957 (Southern Automotive Corporation Private Ltd.) ex-plant Uttarpara | 11,161 | 00  |
| Dodge kingsway sedan (Rane (Madras), Ltd.)                                                  | 20,371 | 00  |
| Dodge Suburban (Rane (Madras), Ltd.) ex-Bombay                                              | 22,899 | 00  |
| Vanguard Phase III (Union Co. (Motors) Ltd.)                                                | 14,700 | 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 ex-plant Bombay                                               | 12,160 | 00  |
| Willys Model Station Wagon ex-plant Bombay                                                  | 18,150 | 00  |
| Jeep 1 ton truck                                                                            | 13,046 | 00  |

## MOTOR CYCLES

|                                                                        |       |    |
|------------------------------------------------------------------------|-------|----|
| Royal Enfield (The Madras Motors (Private) Ltd.)—                      |       |    |
| “150 Ensign” (anywhere in India)                                       | 1,890 | 00 |
| “350 Bullet” with spring frame (anywhere in India)                     | 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 |

## SCOOTERS

Lambretta, manufactured by Automobile Products of India Ltd. Distributors, South India Automotive Corporation Private Ltd., Madras.

(At Visakhapatnam—Western Automobiles Ltd.) Prices are ex-Factory, Bhandup, Bombay.  
48 c.c. Scooterette ... 827 00  
150 c.c. 'LD' Model Deluxe Scooter ... 1,795 00

## VANS

Standard Delivery Van. (Union Co. (Motors) Private Ltd.) on the road ... 10,628 56  
Hindustan Traveller, price on the road (Reliance Motor Co.) ... 14,700 00

## TRUCKS & COMMERCIAL CHASSIS

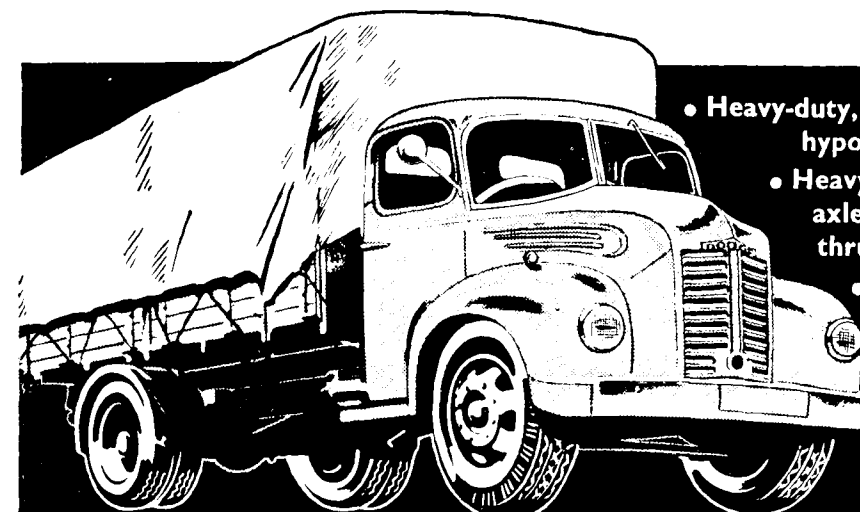
Sundaram Motors (P) Ltd.  
Leyland Comet “203” WB Passenger Diesel Chassis including S.T. & dely. charges ... 36,000 00  
Leyland ECPO 2/2R-176 WB full forward control Passenger Chassis S.T. & dely. charges ... 35,500 00  
Leyland ECOS 2/1R-163 WB goods chassis including S.T. & dely. charges ... 34,700 00  
Leyland ECOS 2/2R-118 full forward Tipper chassis including S.T. & dely. charges ... 34,500 00  
(V.S.T. Motors Private Ltd.)

Tata-Mercedes-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 Rane (Madras) Ltd.) Prices duty paid ex-factory Premier Automobiles Ltd., Kurla, Bombay.  
C3D6-116” (4) 7.00×16—6 Ply ... 11,615 00  
C4D6-126” (4) 7.00×16—6 Ply ... 12,662 00  
C3PW6-126” (4) 9.00×16—10 P.W. Ply ... 17,974 00  
C4G6-153” (6) 34×7—10 Ply ... 16,391 00  
C4G6-153” (6) 32×6—10 Ply ... 16,062 00

|                                     | Rs.    | nP. |
|-------------------------------------|--------|-----|
| C4H6-153” (6) 34×7—10 Ply           | 17,710 | 00  |
| C4H6-153” (6) 34×7—12 Ply           | 17,979 | 00  |
| C4H6-193” (6) 34×7—10 Ply           | 18,116 | 00  |
| C4H6-193” (6) 34×7—12 Ply           | 18,385 | 00  |
| C4H6-193” (6) 34×7—10 Ply           | 18,479 | 00  |
| C4H6-193” (6) 34×7—12 Ply           | 18,748 | 00  |
| K6D200-116” (4) 7.00×16—6 Ply       | 12,896 | 00  |
| K6D200-116” (4) 7.00×16—8 Ply       | 12,961 | 00  |
| K6D300-126” (4) 7.00×16—6 Ply       | 12,900 | 00  |
| K6D300-126” (4) 7.00×16—8 Ply       | 12,965 | 00  |
| K6W300-126” (4) 9.00×16—10 P.W. Ply | 18,950 | 00  |
| K6D400-129” (6) 34×7—10 Ply         | 16,372 | 00  |
| K6D400-153” (6) 32×6—10 Ply         | 16,186 | 00  |
| K6D400-153” (6) 34×7—10 Ply         | 16,531 | 00  |
| K6D400-171” (6) 34×7—10 Ply         | 17,008 | 00  |
| K6D500-129” (6) 34×7—10 Ply         | 18,092 | 00  |
| K6D500-129” (6) 34×7—12 Ply         | 18,388 | 00  |
| K6D500-153” (6) 34×7—10 Ply         | 18,331 | 00  |
| K6D500-153” (6) 34×7—12 Ply         | 18,628 | 00  |
| K6D500-171” (6) 34×7—10 Ply         | 18,606 | 00  |
| K6D500-171” (6) 34×7—12 Ply         | 18,904 | 00  |
| <b>PICKUP</b>                       |        |     |
| C3D6-116” (4) 7.00×16—6 Ply         | 15,012 | 00  |
| C4D6-126” (4) 7.00×16—6 Ply         | 16,058 | 00  |
| K6D200-116” (4) 7.00×16—6 Ply       | 16,293 | 00  |
| K6D200-116” (4) 7.00×16—8 Ply       | 16,358 | 00  |
| <b>DIESEL CONVERSION</b>            |        |     |
| C4H6-153” (6) 34×7—10 w.b. Ply      | 22,668 | 00  |
| C4H6-153” (6) 34×7—12 w.b. Ply      | 22,937 | 00  |
| C4H6-171” (6) 34×7—10 w.b. Ply      | 22,903 | 00  |
| C4H6-171” (6) 34×7—12 w.b. Ply      | 23,172 | 00  |
| K6D500-153” (6) 34×7—10 w.b. Ply    | 20,997 | 00  |
| K6D400-171” (6) 34×7—10 w.b. Ply    | 21,303 | 00  |
| K6D500-153” (6) 34×7—12 w.b. Ply    | 22,930 | 00  |
| K6D500-153” (6) 34×7—10 w.b. Ply    | 22,632 | 00  |
| K6D500-171” (6) 34×7—12 w.b. Ply    | 23,414 | 00  |
| K6D500-171” (6) 34×7—10 w.b. Ply    | 23,116 | 00  |

The prices and specifications are subject to change without notice.



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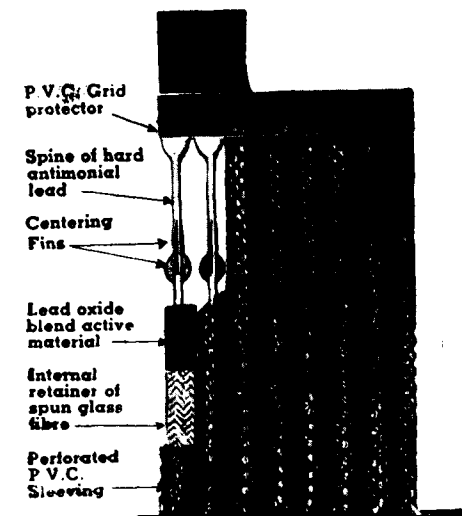
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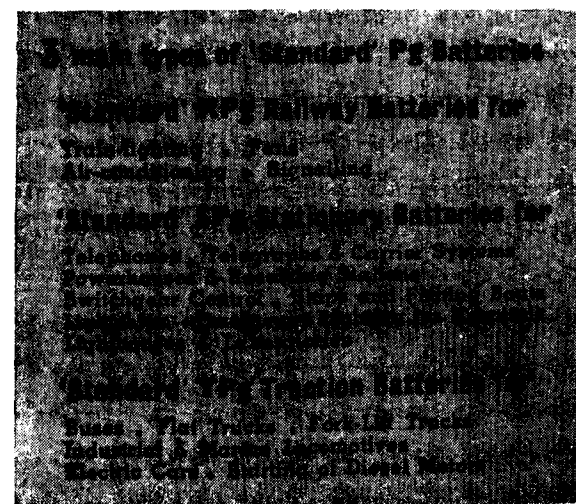
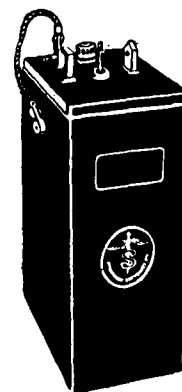


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- 11 **Lower battery costs per annum**



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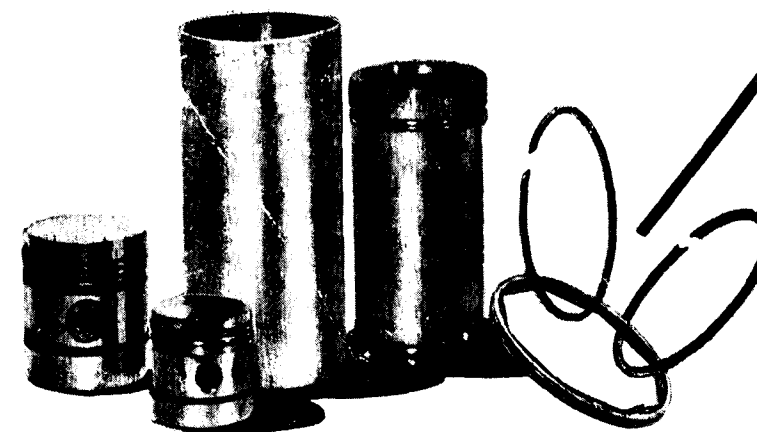
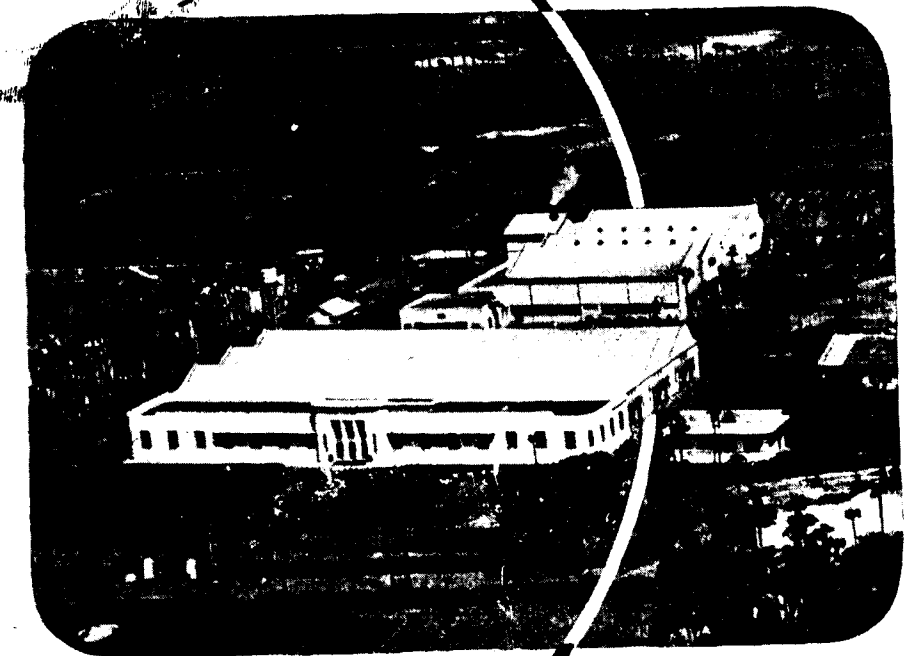
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FEBRUARY 1958

**NUMBER 7**

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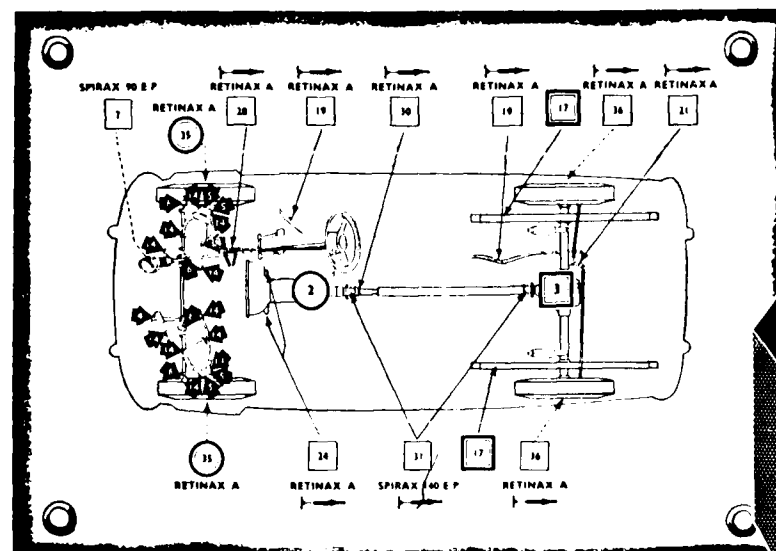


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Vol. 2 FEBRUARY 1958 No. 7

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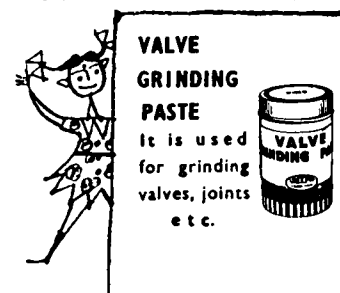
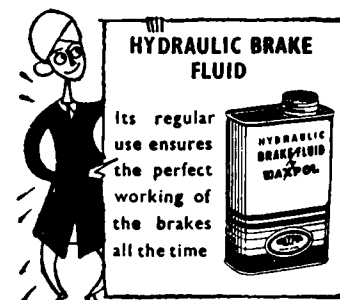
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| Lucas Indian Service Private Ltd.                       | 45           |
| Madras Rubber Factory                                   | 34           |
| Modern Automobiles                                      | 20           |
| Modern Distributing Co.                                 | 26           |
| Motor Industries Co. Ltd.                               | 20           |
| Nishat Trading Co.                                      | 24           |
| Overseas Manufacturers Sales Co                         | 45           |
| Payen-Talbro Private Ltd.                               | 21           |
| Popular Manufacturing Co.                               | 27           |
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| United Automobiles                                      | 36           |
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## editorial

### A CASE FOR MORE ROADS

Road congestion now cost Britain over £450 million a year and this cost is rising as fast as the growth of motor traffic, viz., by over 14% per year. It has been estimated that over £36 million would be saved every year if the average speed of traffic could be raised by as little as one mile per hour. In Birmingham alone—a City of over one million people and with 28,000 commercial vehicles—it is reckoned that an increase of one mile an hour in the average speed would save the industries concerned £2 million a year, apart from the saving to private motorists and bus services.

In this connection, it may be noted that in Britain, compared with the spending on road vehicles, the expenditure on the roads themselves in the post-war period has been pitifully small. In the year 1955, for example, the estimated gross investment in road vehicles of all kinds was £420 million, whilst the total spending on new roads and major improvements was just £13 million. Although this figure has since risen to £30 million during 1957 and projected investment in roads in Britain for the next four or five years has been increased to an annual average of about £70 million, it is considered still very low according to European standards. Of course, Britain's Minister of Transport has recently assured that there is no question of any cut in the road expenditure in the coming years.

In this connection, interesting details are available as a result of a survey which bears out the contention that improvements to a relatively small proportion of the road system benefit a high proportion of road users. According to this survey, one percent of Britain's total mileage carries 25% of all the traffic and that 10% of the system carries 60% of the traffic. Experts, however, consider that it is extremely difficult, if not impossible, under the system operated in Great Britain, where local authorities are responsible for much of the road work to plan a satisfactory development as may be desirable.

We give these figures to show how important road development is going to be in a vast country like India. It is true in Madras we have reached a fairly high level of efficiency in regard to road development compared to various other States. But the fact still remains that even the very meagre targets fixed under the Nagpur Plan several years ago still remain to be reached by the various States of this republic. Of course, we are in such an infant state in our road system that we can now learn from the mistakes that have been made in Great Britain or the United States or some of the thickly populated European countries. These and other figures will show that the development of roads have a direct bearing on the development of road transport and, in fact, any increased amount invested on the improvement of roads in this country is bound to result in a saving which will be much more than the amount involved in road development. The saving will be in the matter of reduction of costs of running motor vehicles which is already very high. While attempts should be made on the one hand to manufacture vehicle parts at reduced cost, it is equally important on the other hand that the road system, should be improved in such a way that replacements will be brought down to the minimum.

It is to be hoped that the Government at the Centre and in the States will give serious thought to this problem of road development especially as it will save a lot of foreign exchange which is now consumed by replacement parts for motor vehicles, particularly trucks and buses.

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## NEW CAR SALES INCREASE IN U.S.A.

The motor car has long been recognized as the outstanding symbol of American prosperity. Present doubts about the course of the national economy in the immediate future have, therefore, heightened interest in the automobile market as a possible barometer of general business activity. While the investment boom is undoubtedly weakening it is reassuring to find that car sales in the U.S.A. have recently developed favourably, and that stocks in dealers' hands have gone down from nearly 750,000 at mid-year to less than 500,000 last November. It is already evident that factory sales of new cars last year somewhat exceed previous year's figure of 5,816,000 though remaining well below the 1955 peak of 7,920,000 units. Sales of commercial vehicles were much the same as the previous year, when they totalled 1,104,000 units.

The economic significance of a large turnover of motor vehicles can be gauged, *inter alia*, from the high steel and rubber consumption of the U.S. motor industry; this accounted in 1956 for 18 per cent and 61 per cent, respectively, of total U.S. consumption of these two basic commodities.\* The all-important oil industry plays homage to the motorist as the consumer of its most remunerative product, while some 10 million U.S. citizens depend for their living directly on the automobile, as drivers, salesmen, service station hands, motor industry workers, road workers, etc.

It is estimated that as much as 9.4 per cent of the private income available in the U.S.A. was spent last year on the purchase, servicing and operation of cars, other than business cars.

The number of motor vehicles registered in the U.S.A. has more than doubled since World War II, rising from 31 million at end 1945 to 65.2 million at end 1956, and to about 67.2 million now. Since there were, early last year, about 103 million

\*The statistical information contained in this article is based mainly on *Automobile Facts and Figures*, 37th Edition 1957, published by Automobile Manufacturers' Association, Detroit, U.S.A.

motor vehicles in all countries, the U.S.A. accounts for nearly two-thirds of the world total. On average there is to-day about one motor vehicle for every 2.6 inhabitants in the U.S.A. compared with one for every 4 persons in Canada, Australia and New Zealand and one for every 8½ persons in Sweden, which has the best figure for any European country. California alone had 6,523,000 motor vehicles for its 13 million inhabitants, as against 5,544,000 vehicles in the U.K. (with a population of over 51 million), 5,004,000 in France (with a population of 43 million), and lower totals for all other countries outside the U.S.A.

The overwhelming majority of the adult population of the U.S.A. can drive a motor vehicle, the number of licence holders having risen from 74,686,000 in 1955 to 77,869,000 in 1956. Three-quarters of all American families are car owners, while 13 families out of every hundred own two or more cars—and the number of such families is rapidly growing. Dividing the population into five equal groups according to income, it has been established that in the highest income group car ownership is almost universal, with 36 per cent of all the families owning two or more cars and 59 per cent owning one car. Only in the bottom group is car ownership confined to a minority, namely, 39 per cent, including two per cent of the total having more than one car. For each income group, the number of motorists is below average in the big cities, where communal transport systems are comparatively well-developed and where traffic congestion is often an impediment to motoring. In New York City, for instance, the number of cars relatively to the size of the population is only about half that in the U.S.A. as a whole.

### LOW PETROL PRICES

LARGELY OWING TO THE LOW PRICE OF GASOLINE, MOTOR VEHICLES IN THE U.S.A. ARE INTENSIVELY USED THE AVERAGE ANNUAL MILEAGE FOR CARS BEING OVER 9,300 AND FOR TRUCKS NEARLY 11,000.

Unfortunately, the accident rate from motoring remains high, the number of deaths on the road last year reaching a record figure of about 40,000. In the U.K., with about one-tenth the number of vehicles and less than one-third the number of inhabitants, but with a less well-developed road system, there were last year 5,370 fatal accidents.

For the supply of new vehicles, the American public depends, of course, primarily on the output of its own motor industry—by far the largest in the world. Production of passenger cars in the U.S.A. fluctuated widely in the early 1950's, between a low of 4.3 million in 1952 and a high of 7.9 million in 1955. In the past two years, however, the output of the industry has been fairly stable, amounting to close on 6 million cars and between 1.1 and 1.2 million trucks and buses annually; in the absence of a severe recession, a similar rate of output may well be maintained for the next year or two. The accompanying table shows broadly, that car production in recent years has sufficed to cover a replacement demand of the order of 4 million a year and to permit a net expansion of 2 million units annually. The recent rate of growth in the number of registrations is consistent with the steep population increase (of about 1.7 per cent annually), the growing demand for second or even third family cars, and the normal expansion of business activity. Pre-war cars have by now almost disappeared from U.S. roads, but large numbers of post-war models will no doubt be scrapped in the near future: the average life of motor vehicles dropped from about 13.2 years in 1954 to an estimated 12.3 years in 1955. In this respect, present trends are a reversal of the previous long-term trend towards an extension of the average useful life of motor vehicles. (In 1930, the average age was only 7 years, and in 1941 10 years). THE ORIGINAL OWNERS DISCARD THEIR CARS, ON AVERAGE, AFTER ABOUT THREE YEARS, and sales of second-hand cars totalled last year 8.9 million, a figure which

U.S.A.: MOTOR VEHICLES (In Thousand Units)

|          | Total Registered (a) |               | Production |               | Home Sales of U.S. produced new vehicles (b) |               | Foreign Market Sales of U.S. produced new vehicles (c) |               | Imports | Estimated Numbers Scrapped |               |
|----------|----------------------|---------------|------------|---------------|----------------------------------------------|---------------|--------------------------------------------------------|---------------|---------|----------------------------|---------------|
|          | Cars                 | Trucks, Buses | Cars       | Trucks, Buses | Cars                                         | Trucks, Buses | Cars                                                   | Trucks, Buses |         | Cars                       | Trucks, Buses |
| 1946 ... | 28,213               | 6,160         | 2,149      | 941           | 2,003                                        | 744           | 144                                                    | 187           | 1       | 590                        | 219           |
| 1947 ... | 30,845               | 6,996         | 3,558      | 1,239         | 3,290                                        | 976           | 261                                                    | 251           | 1       | 1,374                      | 437           |
| 1948 ... | 33,351               | 7,735         | 3,909      | 1,376         | 3,669                                        | 1,157         | 233                                                    | 203           | 28      | 1,780                      | 495           |
| 1949 ... | 36,453               | 8,237         | 5,119      | 1,134         | 4,956                                        | 985           | 156                                                    | 132           | 8       | 2,616                      | 535           |
| 1950 ... | 40,334               | 8,862         | 6,666      | 1,337         | 6,504                                        | 1,145         | 153                                                    | 151           | 21      | 2,598                      | 636           |
| 1951 ... | 42,683               | 9,266         | 5,338      | 1,427         | 5,068                                        | 1,057         | 247                                                    | 223           | 24      | 3,122                      | 652           |
| 1952 ... | 43,818               | 9,484         | 4,321      | 1,218         | 4,149                                        | 874           | 167                                                    | 163           | 33      | 3,163                      | 604           |
| 1953 ... | 46,460               | 9,853         | 6,117      | 1,206         | 5,926                                        | 938           | 186                                                    | 139           | 30      | 3,465                      | 588           |
| 1954 ... | 48,499               | 10,097        | 5,599      | 1,042         | 5,350                                        | 802           | 207                                                    | 195           | 35      | 3,833                      | 546           |
| 1955 ... | 52,135               | 10,592        | 7,920      | 1,249         | 7,661                                        | 1,024         | 254                                                    | 193           | 57      | 3,732                      | 623           |
| 1956 ... | 54,332               | 10,909        | 5,816      | 1,104         | 5,610                                        | 864           | 193                                                    | 205           | 108     | 4,000                      | 600           |
| 1957 (e) | 56,101               | 11,130        | ...        | ...           | ...                                          | ...           | ...                                                    | ...           | ...     | ...                        | ...           |

(a) At end of year ; excluding military vehicles.

(b) Sales to U.S. Federal government agencies are excluded.

(c) Not identical with exports. According to U.S. Department of Commerce, 1956 exports were : cars 175,000, trucks and buses 197,000.

(d) Imports of trucks and buses totalled 3,000 in 1956.

(e) Estimated.

Source : *Automobile Facts and Figures*.

is 64 per cent larger than that for new cars.

### SMALL CAR BOOM

A noteworthy feature of the U.S. car market at the present time is the boom in small economy cars of European origin, and the consequent steep rise in car imports, to over 100,000 last year and about 200,000 this year. This rapid expansion is largely due to the remarkable success of the German *Volkswagen*, but many other Continental and British makes have also secured a footing in the U.S. market. Of some 137,000 cars—almost exclusively low-h.p. cars—which were imported in January-July this year, about 54,000 came from Germany, 51,000 from the U.K., 20,000 from France, and most of the others from Sweden (6,500) and Italy (3,700). While small in relation to the internal demand, these shipments—which have

had the surprising effect of turning the United States into a net importer of cars—play an important part in the export trade of the dollar-hungry countries of Western Europe. None of the three leading U.S. producers (General Motors, Ford and Chrysler), which together account for over 95 per cent of all local sales, have so far started to produce small cars in the U.S.A. The first two are, however, now importing cars produced by their European subsidiaries, and two relatively small models (Rambler and Studebaker Scotsman) are being produced by smaller U.S. manufacturers. *Volkswagen seems to have abandoned its plan to open a car factory in the U.S.A. no doubt in view of the high labour costs in North America.*

Various explanations have been given for the sudden popularity of small cars among people who normally pride themselves of having

the biggest and best cars in the world. Nearly half the owners questioned in a recent *Fortune* survey gave economy in use as the main attraction. Low initial cost and ease in manoeuvring and parking were other important reasons. American manufacturers argue (somewhat sourly) that buyers are willing to accept lower standards of comfort in a foreign car than they would ever tolerate in one produced in their own country partly because, in certain circles, it is considered fashionable to own a foreign car. At all events, "more and more Americans are coming to regard the small car as neither a fad, nor a desperate recourse to bare utility, but rather as a practical and enjoyable automobile." Economy cars are, of course, eminently suitable as second and third family cars, and the *Fortune* survey showed that nearly 60 per cent of them are,

in fact, being sold to car-owning families.

While importing small cars from Europe, the U.S.A. remains the world's largest exporter of commercial vehicles. Nearly one-fifth of the U.S. output of trucks and buses is normally shipped abroad, total exports now being of the order of 200,000 annually. Exports of cars, however, are very small in relation to production, amounting to 175,000 in 1956 (3.3 per cent of production) and even less in 1957. The U.S.A. now occupies fourth place among the world's car exporters, after Germany, the U.K. and France. U.S. exporters are, of course, hampered by the dollar shortage in many important markets, and—while U.S. commercial vehicles are sold in a wider range of markets—about two-thirds of all car exports went last year to six countries, namely (in that order), Canada, Belgium, Venezuela, Mexico, South Africa and Cuba.

The domestic sale of motor vehicles on their present scale, is greatly facilitated in the U.S.A. by the extension of liberal credit facilities. For several years now, over 60 per cent of all purchases of passenger cars, both new and second-hand, have been financed with the aid of instalment credit or other forms of borrowing. Last year, despite official discouragement, a total of £15,533 million of instalment credit was granted to buyers of motor vehicles, and the volume of credit outstanding at the end of the year totalled £14,436 million. Similar forms of financing have, of course, been adopted in other countries, though nowhere on the same massive scale. In the U.K., for instance, new hire-purchase credit granted on motor vehicles during 1956—a year of credit restriction—was £126 million, while the total outstanding at the year-end was £107 million. ABOUT ONE-FIFTH OF THE NEW CARS SOLD THIS YEAR AND A LARGER PROPORTION OF SECOND-HAND VEHICLES WERE THE SUBJECT OF HIRE-PURCHASE AGREEMENTS. Such arrangements have, no doubt, come to stay in the modern economy as a means of enabling durable consumer goods to be acquired by people with

adequate earning capacity but with insufficient liquid assets. It often serves as a useful stimulant to economic activity, but—as with all stimulants—its uncontrolled use has widely recognized dangers.

## 56,101,000 Cars in U.S.

DETROIT—Passenger automobiles in the United States now total 56,101,000 almost double the number of 10 years ago, the Automobile Manufacturers Association (AMA) has reported.

The Association said there are 67,231,000 motor vehicles, including 10,875,000 trucks and 225,000 buses, in the nation. This compares with a total of 37,841,498 including 30,845,351 cars in 1947.

The number of licensed drivers climbed to a new peak, an estimated 80 million last year, the Association reported, and they drove a record 650,000 million miles, 21,000 million miles more than in 1956.

The Association estimated that retail automobile sales reached about £55,000 million in 1957, or 10 per cent more than the previous year.

Evidence of the pace of automation in the auto industry was pointed out by the Association. The industry employed 652,000 production workers in vehicle manufacture in making 7,220,000 units in 1957. In 1947, there were 648,800, or just 3,200 fewer, employed to make only 4,797,621 units.

Citing wage increases in the industry, AMA said in 1947 the production workers' payroll was \$1,938,225,000 against \$3,330,000,000 last year and \$3,213,000,000 in 1956.

Costs for plant and equipment were almost three times as great in 1957 as in 1947, AMA said.

## Daimler-Benz in 1957

The total turnover of the Daimler-Benz AG in 1957 amounted to approximately 1,785 million D-Mark (1956: 1,640 million DM). Exports amounted to 733 million D-Mark (620 million DM).

In 1957, the total production of the Daimler-Benz AG rose to approximately 124,000 (1956: 108,000) units, comprising 81,000 (69,000) passenger cars and 43,000 (38,400) commercial vehicles. Production of Mercedes-Benz passenger cars has thus increased by 16% as compared with an average of 13% for the total passenger car production in the Federal Republic.

Truck and bus production has risen by 11% to approximately 37,000 units. In this sector, the average Federal increase amounts to 5%. Nearly 6,000 UNIMOG have been produced, 19% more than the previous year. Production of stationary and industrial engines rose by 110% to 6,300 units (3,010).

In Germany, the share of Mercedes-Benz Products in the passenger car sales of the over 7,000 D-Mark class has increased from 59% to over 62%. On the bus market it rose from last year's 35.6% to nearly 47% and for the medium-sized buses to 66%. In spite of the difficulties on the commercial vehicle market in Germany Daimler-Benz was able to hold its 1956 results.

The export turnover of 733 million D-Mark increased by 18% as compared with 1956. As compared with total turnover the export share rose from 37.6% to nearly 42%, while the number of the units exported amounts today to 50% of the total production.

The share of the Daimler-Benz AG in overall German automobile exports amounts in the passenger car class over 1 lit. to approximately 10%, in the passenger car class over 2 litrs. to 40%, among trucks and buses with over 1 ton payload to 50% and among trucks with more than 3 tons payload to approximately 70%.

# Japan exports more Auto Parts than before

## Modernized equipment and standardized qualities

By TOYOTARO NODA

(Secretary-General, Japan Automotive Exporters Association and President of Taiyo Shokai Co. Ltd).

THE PRODUCTIVE CAPACITY OF THE JAPANESE AUTO PARTS INDUSTRY HAS REGISTERED A SUDDEN INCREASE AFTER THE WAR ALONG WITH THE RAPID DEVELOPMENT OF JAPANESE AUTOMOTIVE INDUSTRY. THE AUTO PARTS MANUFACTURERS HAVE NOW COMPLETELY GOT RID OF THE HANDICRAFT STAGE. THOUGH THEIR SCALE OF PRODUCTION IS NOT NECESSARILY LARGE, THEY HAVE MODERNIZED THEIR EQUIPMENTS AND HAVE MADE EFFORTS TO IMPROVE AND STANDARDIZE THE QUALITY OF THEIR PRODUCTS. THEY HAVE NOT ONLY COMPLETELY FILLED THE DOMESTIC DEMAND BUT ALSO SEE BRIGHT PROSPECTS IN THE FIELD OF EXPORT.

There are 500 companies making auto parts in Japan. The number is large because of the specialization of auto parts production. Each maker has not large production facilities but this has a big advantage, too. That is, the manufacturers can switch from one kind of product to another quickly so that they can readily accept small foreign orders for parts of different types of cars. This is one of the reasons why the Japanese auto parts manufacturers can deliver the products in a comparatively short period after their acceptance of orders—a big feature of Japan's auto parts export.

*The auto parts manufacturers devote themselves to the improvement of their products. Few of them directly engage in export. As a rule, they have exporters to export their products.*

Japan began exporting auto parts to South-East Asia around 1931. After the war the export has rapidly spread to all parts of the world. Today auto parts have a fairly high position among Japan's export industries.

*Increase in the number of automobiles in the world is one of the big reasons for the rapid increase of Japan's auto parts export, but equally conducive to it are the facts that parts of any automobile in the world are available and that they are reasonably priced and delivered in a short period.*

Whereas Japanese importers of auto parts have to wait 10



to 12 months after the issuance of a letter of credit before they actually receive the parts from a foreign country, it is customary for Japanese exporters of auto parts to deliver the goods to the buyers abroad in two to three months after they are ordered.

One of the reasons why Japanese auto parts are so popular abroad is the excellence of their quality. The Japanese auto parts manufacturers are making constant effort for the improvement of quality, while the Japanese Government gives necessary aid and guidance for the attainment of their purpose. For instance, the Government has

established the superior auto parts designation system and the Japan Industrial Standard. It also gives necessary aid for the improvement of production facilities on the basis of the Machinery Promotion Law.

It must not be forgotten, meanwhile, that the Japanese auto parts manufacturers were subjected to a strict inspection about standards and quality when they filled a great demand for auto parts to be used for the repair of military vehicles of the American Forces stationed in Japan after World War II. Japan-made auto parts completely filled the demand in connection with the American military vehicles used in the Far East including the Korean front. Production of auto parts by order of the U.S. Forces went a long way toward improving the quality of Japanese auto parts.

The Japan Automotive Exporters Association consists of wholesalers and exporters of principal auto parts, accessories, tools, automobile repairing machines and garage equipments. Some of its members are auto parts makers.

All the members have close contacts with the abovementioned 500 auto parts manufacturers and are ready to reply immediately to any inquiry from abroad at any moment.

They are always eager to supply high quality goods at reasonable prices. So, please buy Japanese

auto parts through members of the association.

Members' List of Japan Automotive Exporters Association

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Anzen Motor Car Co. Ltd., 24, Mitejima Naka 1-chome, Nishiyodogawa-ku, Osaka. Business Line: (Automobile Machines & Tools, Garage Equipments, Auto Parts).

Banzai Trading Co. Ltd., Osaka Branch, 10, 1-chome Awaza-Shimo-dori, Nishi-ku, Osaka. (Automobile Repairing Machinery, Tools, Accessories and Garage Equipments).

The Central Automobile Industry Co. Ltd., 44, Soze-cho, Kita-ku, Osaka, Tokyo Branch: 1, Fukuyoshi-cho, Akasaka, Minato-ku, Tokyo. (Auto Parts, Accessories and Tools).

The Daido Enterprising Co. Ltd., 6, Tosabori-dori Nichome, Nishi-ku, Osaka (Auto Parts, Accessories and Tools).

Dowa Automobiles Co. Ltd., 40, Kamifukushima Minami 3-chome, Fukushima-ku, Osaka. (Auto Parts).

Hikari Automobile Co. Ltd., 195, Kita 3-chome Kamifukushima, Fukushima-ku, Osaka. (Auto Parts).

Iwayama & Co. Ltd., 172, Minami, 1-chome Kamifukushima-ku, Osaka. (Auto Parts, Accessories and Tools).

Iyasaka Kogyo Co. Ltd., Osaka Branch, 10, Minami Kyuhoji-machi 5-chome, Higashi-ku, Osaka. (Auto Machines, Tools and Testers).

Keyster Precision Works Ltd., 19, Umeda-cho, Kita-ku, Osaka. (Carburettor Fuel Pump Assy. and Parts, Auto Parts and Accessories).

Miyaco Jidosha Kogyo Kaisha, Ltd., 2-chome, Shiba-Minami-Sakuma-cho, Minato-ku, Tokyo. (Hydraulic Brake and Parts, Brake Hose and Service Parts).

Naniwa Kogyo Co. Ltd., 80, 3-chome, Naka, Kamifukushima, Fukushima-ku, Osaka. (Auto Electric Parts, Accessories and Tools).

New Kansai Motors Co. Ltd., 118, Minami 3-chome Kamifukushima, Fukushima-ku, Osaka. (Auto Parts, Accessories and Tools).

Nikkosha Co. Ltd., Shiokoji Karasuma Nishi-iru, Shimokyo-ku, Kyoto. (Auto Parts, Accessories and Tools).

Nisshin Automobile Co. Ltd., 37-38, Eiraku-cho, Kita-ku, Osaka. (Auto Parts, Accessories and Tools).

J. Osawa & Co. Ltd., Osaka Branch, 36, 5-chome, Bakuro-machi, Higashi-ku, Osaka (Auto Parts and Accessories).

The Shinko Automobile Co. Ltd., 21, Kamifukushima Minami 2-chome, Fukushima-ku, Osaka. (Auto Parts, Accessories and Tools).

Showa Automobile Ind. Co. Ltd., 21, Minami 2-chome Kamifukushima, Fukushima-ku, Osaka. (Auto Parts, Accessories and Tools).

Taiyo Shokai Co. Ltd., 10, Hiramatsuchio, Fukushima-ku, Osaka. (Auto Parts, Accessories and Tools).

Toseisha Motors Inc., 3, Kofukacho, Kitaku, Osaka. (Auto Parts, Accessories and Tools).

Yamato Motor Co. Ltd., 35, Kita 2-chome Kamifukushima, Fukushima-ku, Osaka. (Automotive Bearings, Auto Parts and Accessories).

Yasuda Motor Co. Ltd., 21-1, Edobori Kita-dori 4-chome, Nishi-ku, Osaka. (Auto Parts, Accessories and Tools).

### Tokyo

Anzen Motor Car Co. Ltd., (Anzen Jidosha K.K.), 31, Akasaka Tameike, Minato-ku, Tokyo. (Garage Equipments, Machines, Tools, Byc. Motor).

Banzai Trading Co. Ltd., (Banzai Jidosha K.K.), 1-6, Nihonbashi-tori, Chuo-ku, Tokyo. (Auto Service Equipments, Accessories, Tools and Garage Equipments).

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Meiji Sangyo Co., 2-2, Shiba Tamura-cho, Minato-ku, Tokyo. (Auto Parts, Accessories and Tools).

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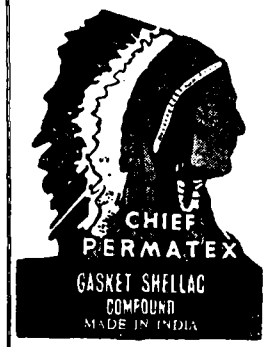
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# THE INVASION OF AMERICA

## Imported Cars Rocket to Success on United States Market

(From Gordon Wilkins, our European Editor)

ON ALL PAST EXPERIENCE, SELLING REFRIGERATORS TO ESKIMOS LOOKED AN EASY JOB BESIDE SELLING IMPORTED CARS TO AMERICANS, BUT AFTER THE WAR A FEW ENTERPRISING COMPANIES, DRIVEN BY THE NEED FOR NEW MARKETS, MADE THE ATTEMPT.

Sports cars quickly caught on, with M.G. and Jaguar leading the field, and soon an imported roadster was almost essential equipment for a film star or a comic strip hero. But with small family cars the going was tougher. Austin, for one, spent millions (the A40 Devon was presented in New York before England had seen it) but they did not catch on and the sales organisation was disbanded. Inadequate supplies of spares, a get-rich-quick policy by a proportion of dealers, and unsuitable designs also told against imported cars. But a steady trickle of service men went home from Europe sold on the economy, easy handling and easy parking they had enjoyed with European cars, more of the reliable dealers took an interest in imported cars as a second line, and rising living standards set more families looking for an economical model as a second car. American motors scored a success with their Austin-built Metropolitan, and then suddenly, Volkswagen hit the jackpot. In two years only a few hundreds of the German car had been sold, but after drastic overhaul of their sales organisation, they sold 50,000 cars in the U.S. in 1956, and were all set to top this in 1957. Suddenly foreign cars were news. Big national magazines began running features about them, and the thing snowballed. Renault moved in with their Dauphine, hacked by a full sales and service

organisation; by July last year they had sold 10,000 and were out-selling Volkswagen in ten states.

The Morris Minor had been handicapped for years by inadequate engines, geared to run too fast, but with the coming of the "1000" with its 950 cc. engine, word quickly got around that this was something much more serious. American sales multiplied eight times over during 1957, and the factory went on overtime to meet the demand. This with the strong demand for the M.G.A. and steady sales of the Austin-Healey were major factors in boosting the BMC's dollar exports to 75 millions in 11 months. Rootes were selling as many as 5,000 Hillman Minxes a month, plus a lot of Husky station wagons, Jaguar reported American orders for 1958 amounting to 32 million dollars, twice the previous year's total, and Standard, with 10 million dollars' worth of orders in hand for Triumph TR3 sports cars, launched the Standard Super Ten and Companion station wagon with Triumph name plates in America to win a share of the family car market.

Simca from France found sales of the Aronde expanding fast, Fiat started sending over a thousand cars at a time from Italy in their own ship and Mercedes-Benz assured themselves of a fulldealer network by their tie-up with Studebaker-Packard.

It seemed that nothing was too small to find buyers. The old American fear of being bumped from behind in the race from the traffic lights, or run down by heavy trucks dwindled away as small cars became a familiar sight on the streets. Heinkels, Messerschmitts, Isettas and Goggomobils have sold in thousands and for the first time the desires of American motorists have begun to take a primary place in the thinking of European designers

From dismissing the imported car as a thing of no importance, American manufacturers have been obliged to assess its future impact seriously. There is no question of them making small cars themselves yet (Edward N. Cole, boss of G.M.'s Chevrolet estimates there would have to be a steady demand for 500,000 units a year before they could contemplate entering the market) and indeed the two biggest groups need be in no hurry, while they have their European subsidiaries. Harlow Cur-tice, General Motors President, who only a short while before had been saying a second-hand American car was the best bet for economical transportation, changed course sufficiently to allow Pontiac to sell Vauxhall Victors imported from England, at the rate of 1,000 a month, and soon had Buick selling similar quantities of Opel Rekords from the German G.M. plant.

Ford, which had been handling imported English Fords for years

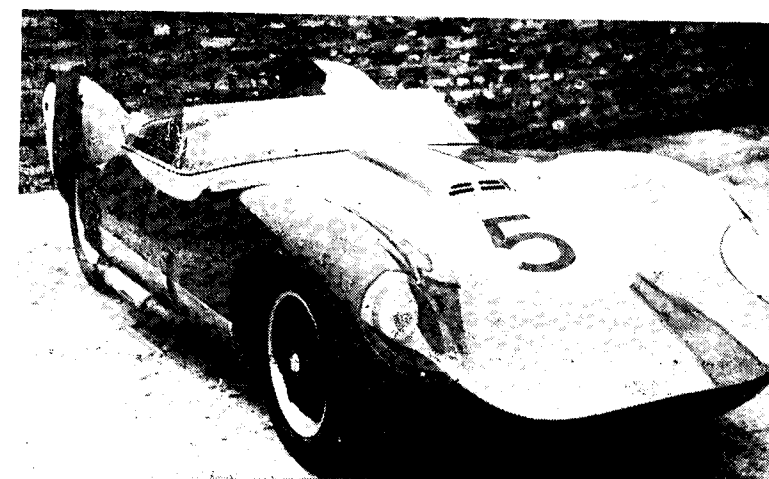
stepped up the pace and by November had passed the 1957 target of 20,000, while Ford Chairman Ernest Breech was denouncing the smaller car as a reduction in the American standard of living in automobiles.

Chrysler, with no European subsidiary, sent Vice-President Jim Zeder to Europe to observe and report, and imported a special Goggomobil prototype for engineering investigation.

Only American manufacturer actively to take up the challenge on American soil is American Motors. They have a real interest in doing so, for imported cars have been outselling them and Studebaker-Packard combined. President George Romeny sees imported cars capturing 4.5 per cent of the American market, and to meet the challenge he has thrown the big Nash and Hudson on the scrap heap. The Rambler is retained, and early in 1958 comes a revival of the smaller, 100-inch wheelbase car in modernised form, under the name of Rambler American. Meanwhile, the British built Metropolitan continues as their smallest model.

Booming demand has banished one bugbear; depreciation. Popular foreign models keep their value better than American Cars. Another question now being watched with interest is whether American buyers prefer small cars with an American flavour, like Vauxhall, Opel and Metropolitan, or whether they want the snob appeal of a foreign styling.

SOME OBSERVERS BELIEVE A LONG-TERM EFFECT WILL BE A REDUCTION IN THE SIZE OF AMERICA'S POPULAR CARS WHICH NOW TAKE UP SPACE NEEDLESSLY ON CROWDED HIGHWAYS WITH THEIR FLAMBOYANT SHAPES, BUT NO ONE IS PREPARED TO START THE MOVEMENT AFTER CHRYS-



WILLMENT: Sweeping sharp edged lines of the Willment give it a characteristic appearance. Front end and tail panels form complete units which are hinged for easy access to chassis. Wheels have Borrani rims on bolt-on magnesium alloy centres.

## GAINS PLACE IN FIRST RACE

At the Brands Hatch circuit near London on December 26th, Jack Brabham won the Formula Librerace and established a new lap record in a Cooper Formula 1 with climax engine of 2.2 litres but in third place was a new sports car of 1500 cc. competing for the first time. This was the Willment-Climax driven by Stuart Lewis-Evans, and it was built by John Willment, son of the director of a large firm of civil engineers in England.

The car is low built and well proportioned, powered by 1500 cc. Climax engine with twin overhead camshafts. Chassis is of lightweight tubes and four-wheel independent suspension is by unequal length wishbones, with coil springs and Armstrong telescopic dampers. Steering is rack and pinion and brakes are lockheed with 11 in x 2½ in (27.9 x 5.7 c.m.) drums. The drums are in magnesium with radial fins for cooling. The oil tank is mounted to the offside of the driver's legs and the 6½ gallon

(30 lit) fuel tank balances it on the other side. The battery is behind the rear brakes, which are mounted beside the differential, and there is enough space at the back for a spare wheel and eventually for a supplementary fuel tank.

Transmission is by Borg and Beck twin clutch and five-speed gearbox made by Willment specially for racing. The pinions are straight cut and those for the four faster speeds are in constant mesh. There is no synchromesh. The differential also made by Willment is enclosed in a magnesium housing and the bolt-on wheels are also in magnesium.

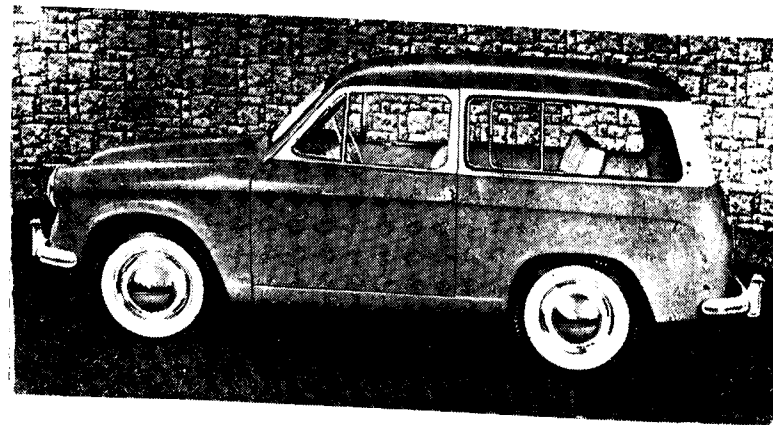
The price of the car without tax will be £2,450. I hear a formula 2 single seater is also under consideration with 5-speed box at the back, in unit with the differential.

LER'S DISASTROUS ATTEMPT TO SHOW THE WAY FOUR YEARS AGO. SO AT PRESENT THE SKY'S THE LIMIT FOR IMPORTED CARS, AND THERE IS ROOM FOR EVERYONE.

## NEW HILLMAN HUSKY LARGER, MORE POWER- FUL, BETTER LOOKING

*The Hillman Husky, the compact business and pleasure car of the Rootes group has been completely transformed, with larger, more powerful engine and longer, roomier body. Frontal appearance and basic style now conform with that of the Minx, but the wheelbase, although increased slightly, is still shorter than that of the Minx.*

An increase of 2 in. 5 c.m. on the wheelbase permits more legroom for rear passengers, and although the height is slightly reduced, headroom has been increased by the new unit structure with step-down interior. The longer tail provides a larger luggage platform, and it is claimed that carrying capacity is increased by 110 lb. 50 kg. separate tip-up front seats give access through the two side doors to the bench-type rear seat. With four adults on board, there is space for 300 lb. 136 kg. of luggage on a flat platform 7½ in. 19 cm. longer than before. The rear seat folds flat in a single movement, giving a flat cargo platform which offers 41.5 cu. ft. 1-1-175 m<sup>3</sup> of freight space. Manufacturers claim carrying capacity of 600 lb.



The New Hillman Husky.

272 kg. with two adults in the car, or 672 lb. 300 kg. with driver only.

This larger, roomier Husky weighs about 120 lb. 55 kg. more than the previous one, and the side-valve engine has therefore been scrapped in favour of the larger overhead valve Minx unit. The new high-torque camshaft is fitted, but the compression ratio is lower than on Minx (7.0 : 1) to permit use of normal grade fuels. Power output is 43 bhp. against 37.5 for the old Husky, an increase of nearly 15 per cent and a maximum speed of 70 mph. 112 kmh. is said to be allied to exceptional fuel economy.

In its role as economical family car, the Husky benefits from sleek new styling, with the same frontal appearance as the Jubilee Minx,

longer, slightly lower lines, sliding windows in rear quarters in addition to winding windows in the doors, and washable head lining. Body, bonnet and wings are all rust-proofed and there is a big selection of single and dual colour schemes.

For the commercial user, a wider, higher rear door permits loading of bulkier objects. The instrument panel, placed centrally over a large parcel shelf, includes a speedometer with trip and total, distance recorders, fuel gauge and usual warning lights. Thermometer radio and heater are optional extras. Four-speed gearbox has central shift lever. There is no change in gear ratios or tyre sizes, and brakes are Lockheed hydraulic as on the latest Minx, with 8-inch cm. 20 drums and 92 sq. in. 594 cm<sup>2</sup> of lining area. Basic price in England is £465, an increase of £35 over the previous model. Purchase Tax raises price for British home buyers to £698 7s.

### Hillman Husky technical details

Engine 4. Cyl. ohv. 3 × 3 in. (76.2 × 76.2 mm) 85 cu. in. (1390 cm<sup>3</sup>) 7.0 : 1 compression 43 bhp. at 4,000 rpm.

Transmission. Single plate clutch and four-speed gearbox with central lever. Spiral bevel axle. Overall ratios 17.045 11.807, 7.126, 4.778 to 1. Reverse 22.726 to 1.

Dimensions. Wheelbase 86 in. 218.4 cm. Track front 49 in. 124.5 cm. Track rear 48.5 in. 123.2 cm. Length 149.5 in. 379.7 cm. Width 60.5 in. 153.7 cm. Height 60.75 in. 154.3 cm. Kerb weight 2,080 lb. 943 kg. Dry weight 2,020 lb. 916 kg.



Sri Morarji Desai, at the Hindustan Motors Factory near Calcutta. On the right of the Minister is Sri B. M. Birla.



An exclusive colour picture of the recent Exhibition of Indian made Automobile Products at Bombay.

## FIRST EXHIBITION OF INDIAN MADE AUTOMOBILE PRODUCTS

### A. I. A. A. I. A's Commendable Effort At Bombay

The Indian Automobile Products Exhibition sponsored by The All-India Automobile Ancillary Industries Association, was held at the Victoria Jubilee Technical Institute, Matunga, Bombay from December 29 to January 4 last. The Exhibition was attended by a record crowd during this period when visitors were able to see the progress that is being made on all fronts by the manufacturers of automobile and ancillary products in this country. The credit for organising this Exhibition goes to Sri Pranlal Patel whose efforts in organising the All-India Automobile Ancillary Industries Association will not be new to the readers of MOTORINDIA.

In connection with the Exhibition, a Symposium on the Automobile Industry of India was also held at which the speakers included, Messrs Lalchand Hirachand, Pranlal Patel, B. Sengupta, V. M. Meswani, N. D. Daftary and M. K. Raju. The important speeches made at

the Symposium will be published as articles in the coming issues of MOTORINDIA. In this issue, however, we give a complete illustrated description of the Exhibition and activities connected thereto.

On the opening day, December 29, the Exhibition was fully crowded with the elite of the automobile and allied trades of Bombay and from other parts of India. After a short speech by the Chairman of the Reception Committee, the gathering was addressed by Shri Lalchand Hirachand, Chairman of the Exhibition Committee. Shri Lalchand said in the course of his speech :

This Exhibition is a unique feature in the history of this country because I do not think a similar Exhibition was organized in the past.

The idea of manufacturing automobiles in this country began to take shape just before the Second World War. The idea gained ground steadily, and by 1947, two auto-

mobile manufacturing firms had come into existence and steadily they made progress. The problem of giving assistance to these two beginners was referred to the Tariff Commission in 1952, who recommended to the Government to offer full assistance to this industry by closing down mere assembly plants, thereby diverting the available small business to those who were prepared to undertake manufacture automobiles in this country. The principal of local manufacture was accepted and immediately implemented. Five concerns were recognised as manufacturers and subsequently another was allowed to join the group. Today there are six recognized automobile manufacturers whose progress has been gradual and varied according to the limitations imposed on them by a variety of factors.

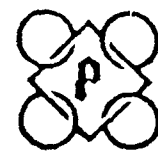
The second enquiry of the Tariff Commission in 1955 consolidated the position of the first enquiry. The Commission have definitely

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A view of the Exhibition showing the stalls of Malleable Iron & Steel Casting, Tatas, etc.



Another view of the Exhibition with Premier Automobiles, Hindustan Motors and other stalls.

## "PROGRESS COULD HAVE BEEN BETTER"

recommended to the Government that a Ten Year Period of protection should be given to this industry. They have also made various other recommendations some of which have been accepted while others are being considered.

The Government have, from time to time, carefully studied the progress of the individual units and of the industry as a whole. I feel that had the Government taken this industry a little more kindly and looked into the problems that the various manufacturing units had to contend with, the progress would have been still better and would have helped the country's cause to a larger extent. All the same, I do believe that the support the Government have given to this industry has gone a long way in achieving present results which very few expected would be possible.

While the Government have checked from time to time that the automobile manufacturers made progress and carried out their promises, they have also lent their support actively in establishing auxiliary and ancillary industries. When you visit the

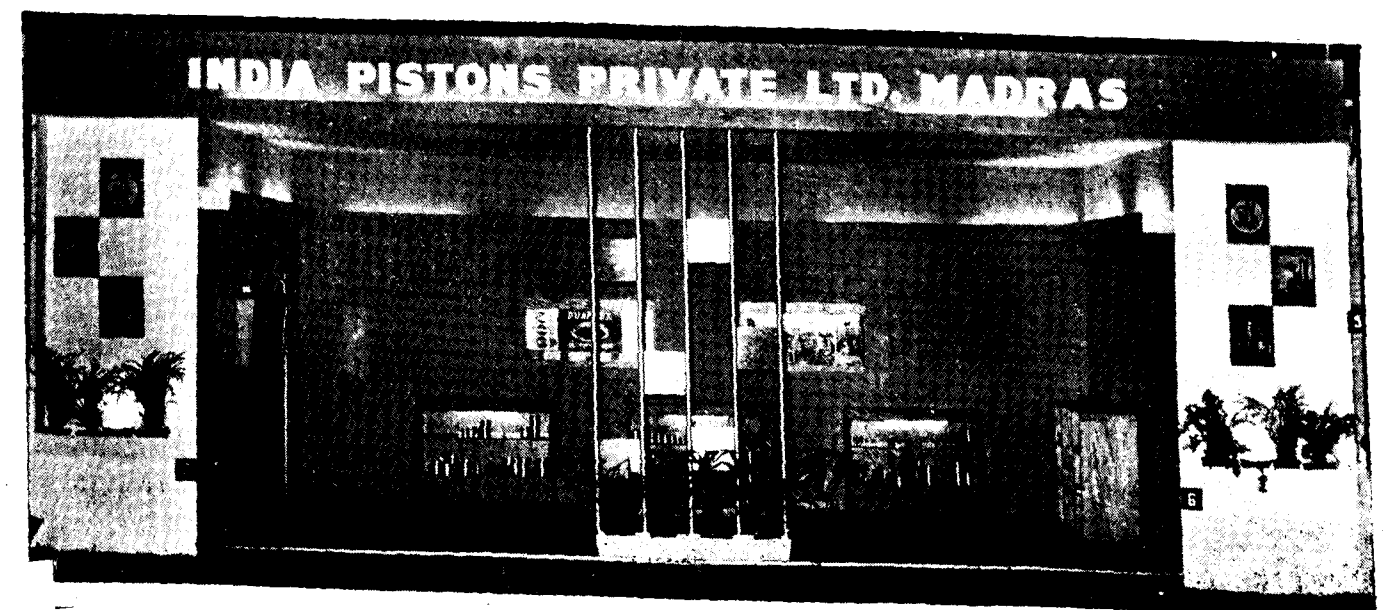
Exhibition, you will have a clear picture of the various parts and components that are being produced within the country. Some of them may be produced by the automobile manufacturer but a large number of them are being produced by the auxiliary and the ancillary producers. I am sure, the number of these auxiliary and ancillary producers will gradually expand to support the main industry and will also help to establish new industries which are very much allied to the automobile industry. The auxiliary and the ancillary industries are the back-bone of the country's industrial structure. Their growth and proper development is a barometer of the industrial development of the country. It accelerates the pace of progress of the major industries and I am confident that the role assigned to these industries will be to the advantage of all concerned.

WHILE I SAY THIS, LET ME SAY A WORD OF CAUTION. THE AUXILIARY AND ANCILLARY INDUSTRIES, BARRING THE OIL AND TYRE INDUSTRY, ARE BOUND TO BE SMALL UNITS IN THE BEGINNING.

THEIR EQUIPMENT MAY NOT BE PERFECT. THEIR QUALITY IS LIKELY TO BE SUBNORMAL. IT IS AGAINST THIS THAT WE HAVE TO BE VIGILANT. IN A PRODUCT LIKE THE AUTOMOBILE, EVEN A SMALL PART CAN CREATE FRIGHTFUL CONFUSION AND LOSS OF PRESTIGE. AUTOMOBILE COMPONENTS ARE PRODUCED FROM A LARGE VARIETY OF STEEL AND OTHER RAW MATERIALS WHICH MUST BE PRODUCED TO THEIR PROPER SPECIFICATION AND STANDARDS. EVEN A LITTLE NEGLIGENCE RESULTS IN GREAT HANDICAPS TO THE USERS. EVEN REPUTABLE FIRMS HAVE FAILED TO PRODUCE PRODUCTS TO THE REQUIRED STANDARDS. THE MORE WE ARE CAREFUL THE GREATER WILL BE THE ACHIEVEMENT IN THE LONG RUN. IN SAYING THIS, I TRUST, I WILL NOT BE MISUNDERSTOOD.

With regard to the manufacture of parts and components, I need hardly mention here that the bulk of the steel required has to be

The Stall of India Pistons displayed many Products



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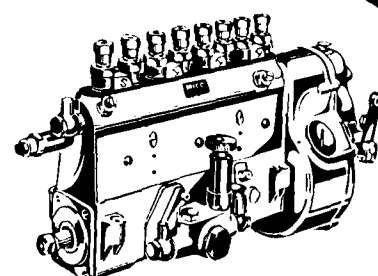
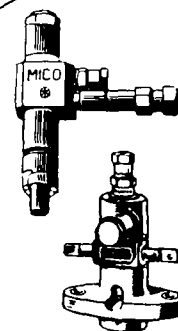


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imported from abroad. Ban on imports of mild steel which has a very wide definition has caused a lot of difficulty in this respect. I believe representations have already been made to the Government and I hope that the various difficulties will be resolved without delay and the automobile industry will get its requirements of steel and other raw materials as needed by them.

There have been prejudices against local manufacture. They still persist to a large extent. It is against this that the Tariff Commission recommended higher import duties on important components. The Government have lagged behind in implementing this recommendation for reasons unknown to the public. All the same, I must say that this recommendation is the foundation of the economics of the protective policy recommended by the Tariff Commission. I do hope that the Government will implement the

same and give still more active support to this industry.

### PRICES HIGH, INDEED

In spite of the drawbacks of a new industry, the performance of the automobile industry has been remarkable. There have been a number of critics, who have grudged the protection and even the idea of local manufacture of automobiles in this country. Their main contention has been that the prices of automobiles in this country are very high. IT CANNOT BE DENIED THAT THE PRICES HAVE BEEN HIGH AND THE CONSUMER HAS SUFFERED A GREAT DEAL. IF YOU ANALYSE THE COSTS, HOWEVER, YOU WILL FIND THAT THE MANUFACTURER IS HARDLY TO BLAME FOR HIGH PRICES. ITS MAIN CAUSE IS THAT THE AUTOMOBILE IS SO HEAVILY LADEN WITH TAXATION. The first impact of

taxes comes at the Customs barrier. On an average 40% duty is levied when the vehicle enters the country. No doubt, this is intended for protecting the manufacturers, but I would ask the critics to show me any important country in the world including the United States and Great Britain, where such duties do not exist to the extent of 30 to 40%. They may not be protective duties and may be called revenue duties. The nomenclature makes little difference. Every rupee collected in the shape of Customs duty in this country is taken to the General Revenues and nothing is utilised for giving any specific advantage, such as subsidy etc., to this industry. It is, therefore, at present, a revenue duty in fact like the one in other countries.

THE SECOND STAGE OF TAXES COMES IN THE FORM OF SALES TAX ON RAW MATERIALS, SEMI-FINISHED AND

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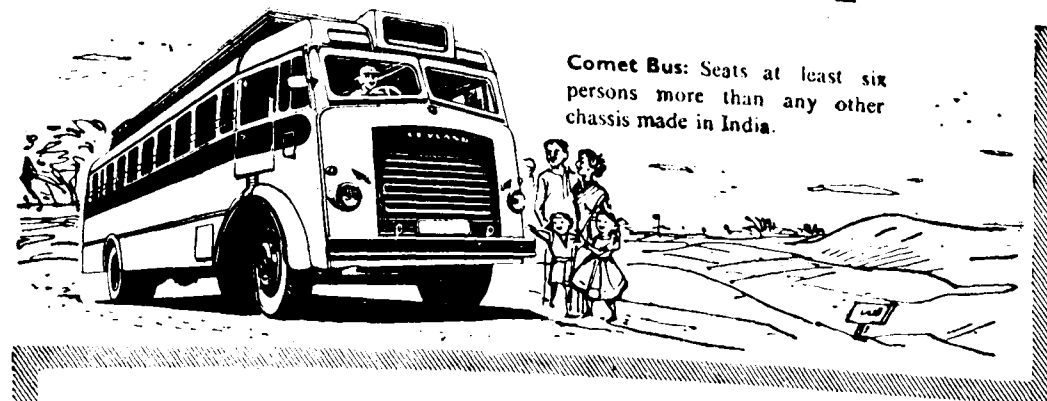
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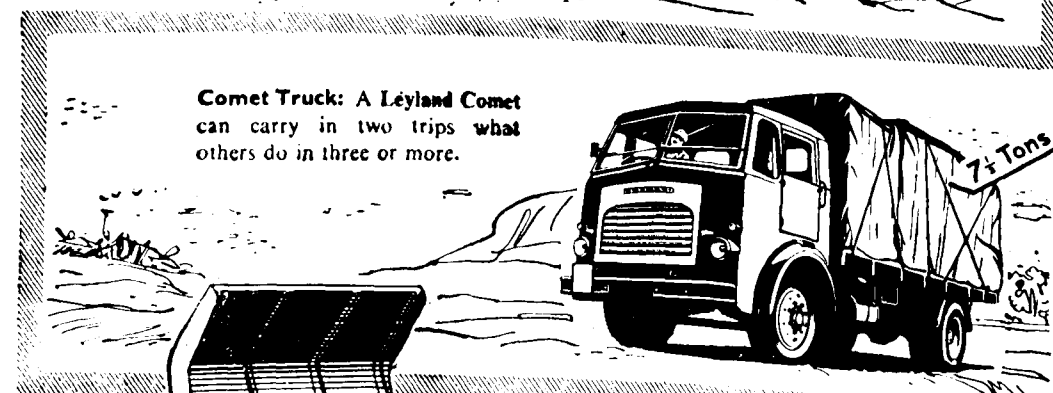
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## THE TAX LOAD

FINISHED COMPONENTS OBTAINED FROM INDIAN SOURCES. ON TOP OF THIS SALES TAX IS TO BE PAID ON THE ASSEMBLED VEHICLE WHEN IT IS PUT IN THE MARKET FOR SALE

Besides the sales tax, there are certain types of vehicles, which have to bear an excise duty as high as 3,000 rupees per vehicle. If all these taxes make the vehicle expensive, it is no fault of the manufacturer. He has tried to keep the cost as low as possible. There is internal competition too to safeguard the consumer. *There are other varieties of taxes that are levied on the use of the automobiles in this country, into which I will not go in detail but will only say this much: that the taxation on motor vehicles in this country is unparalleled in any part of the world. It is no wonder the consumer feels so unhappy under such heavy taxation.*

### CRITICISMS ON QUALITY

Another important source of criticism against the industry is the quality of the automobile. Straightaway, I would like to assure the public that the automobile manufacturer takes good care of his product before presenting it to the market.

THE COMPLICATED NATURE OF THE INDUSTRY, HOWEVER, PUTS A NUMBER OF RESTRICTIONS AND HANDICAPS IN HIS WAY. LACK OF EXPERIENCE IS ONE OF THESE CAUSES. THAT EXPERIENCE CAN ONLY COME IF THE INDUSTRY IS



Mr. A. E. L. Collins of Ashok Leylands and Mr. M. M. Shah going round the stalls at the Exhibition.

### ESTABLISHED IN THIS COUNTRY.

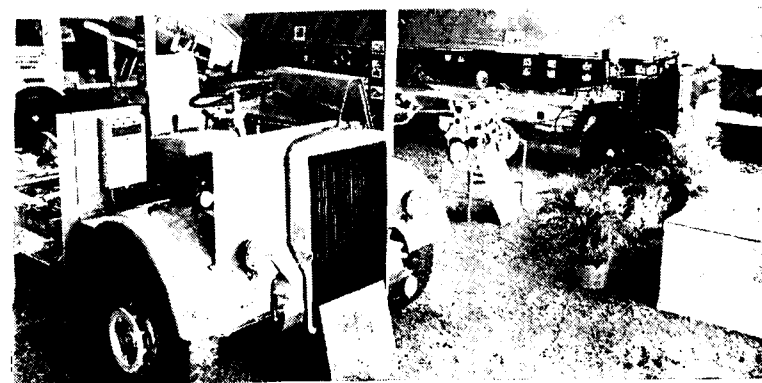
All the same since the indigenous industry is associated with foreign manufacturers and operations are conducted under their supervision and approval, the quality has to be maintained at a fairly high level. Periodically, lapses do occur but don't these lapses occur in vehicles directly imported from abroad? You will perhaps be astonished if I mention here that a very large percentage of complaints that we receive on our vehicles have their origin in defects in the components coming from abroad and which are not yet produced in this country. No doubt, with some experience and training of labour, these defects will be reduced to the minimum but to expect a vehicle absolutely perfect would be unfair and unreasonable at this stage.

### SUBSTANTIAL CONTRIBUTION

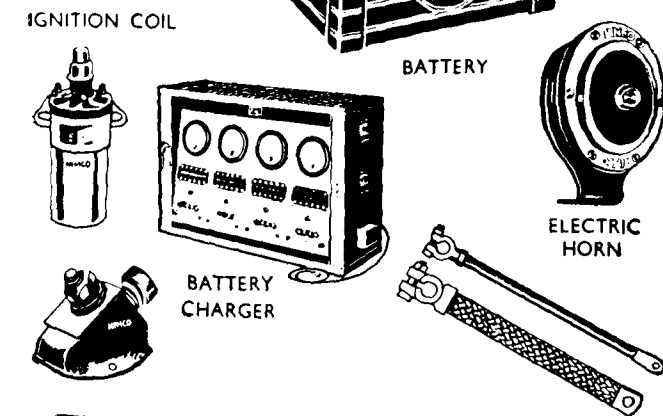
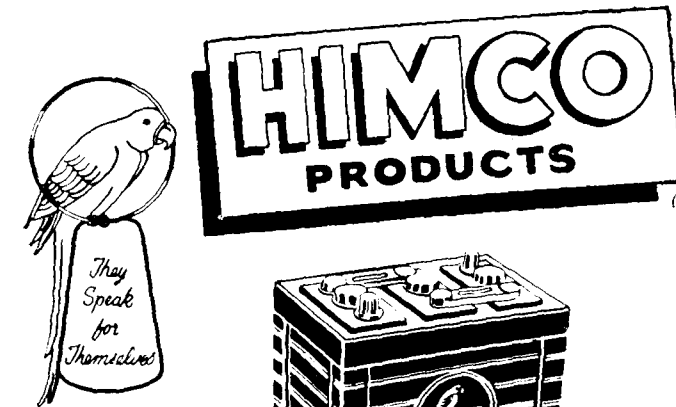
On the other hand, if we look to the other side of the picture, the industry has made substantial contribution to the economic development in this country. A large number of workers and technicians have been absorbed by this industry. The number employed in the automobile industry on the manufacturing side of it can be safely put at 50,000 persons, a thing that did not exist before. The industry has been able to impart such technical skill and knowledge that did not exist before. It is an industry of a basic nature and a large number of small and big industries have grown up round it.

I trust this fact alone will justify the existence of this industry even if a little sacrifice is to be made. It wouldn't be an exaggeration to state here that the Indian manufactured vehicle, at present containing 40—50 % indigenous material, is sold almost at the same price it would cost if the vehicle were imported completely knocked down with all components from abroad. Critics, therefore, are trying to mislead the public when they raise the bogey of high prices. I have every hope that in the near future, the prices will tend to show a downward trend if the prices of raw materials and labour do not go high.

Another equally important factor which needs the careful attention of the Government is the develop-



A view of the Ashok Leyland stall shows in the foreground, the Leyland Titan chassis, manufacture of which is to commence this year.



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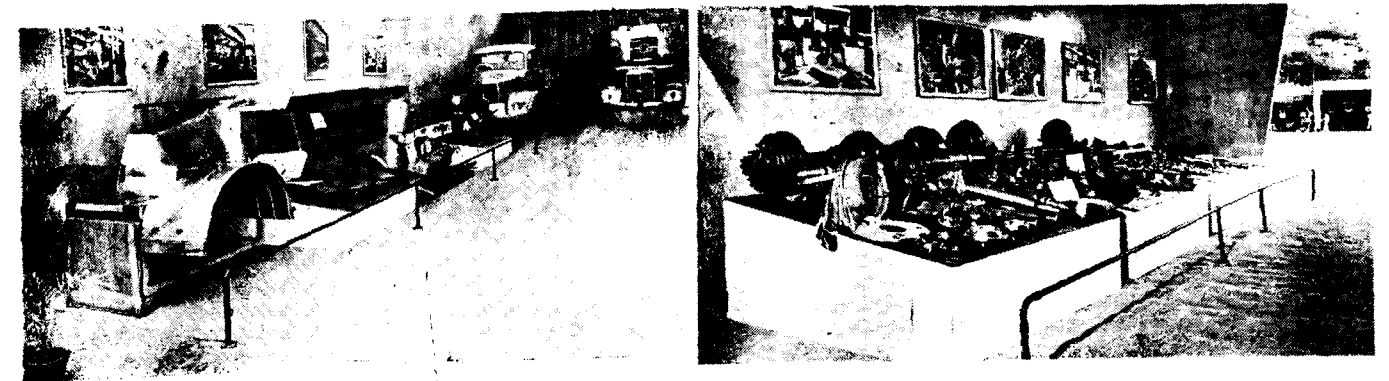
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Inside views of the Tata Mercedes Benz stall at the All India Automobile Products Exhibition showing the frame components, axles, heat metal parts etc. presently manufactured at the Telco workshop at Jamshedpur.

## M. M. SHAH INAUGURATES EXHIBITION

ment of Indian roads and road transport. Whilst one appreciates the importance given to the expansion of Indian Railways, in the First and Second Five-Year Plans, one would like to emphasize that it is equally important that the development of Indian roads and road transport should receive adequate attention in the Five-Year Plan programme. Good roads will greatly assist the country's economic development.

I believe I have touched practically all the points. The Exhibition, as I mentioned before, is unique because the manufacturing of automobile parts and components has been unique. With such low volume of production, there are at least six units which have come forward to do the job for the benefit of the country. We are doing it with the hope of making profits. Some of them hardly made any profits in the first few years and probably are not making any profit even now. Yet the endeavours of these people to pull the chariot of progress of this country forward must be admired. Those that didn't have any interests went away thinking that such a proposition must result in heavy loss. But the pioneers have through their tenacity, perseverance and patriotism, shown in a very convincing manner that the automobile industry can be established on sound economical footing and given proper support and guidance, it can achieve spectacular results. The industry by its progress

has justified the confidence put on it by the Government.

The Exhibition was then inaugurated amidst cheers, by the Hon. Shri Manubhai M. Shah, Union Minister for Industry. In the course of his speech, Shri Shah said *inter alia*:

FRIENDS,

I congratulate you for having organized such a fine Exhibition which gives an opportunity to everyone of us to get a physical conception of the progress that has been made in the automobile ancillary industry.

I would like several such exhibitions being held at various centres of

business in our country on different industries.

The importance of the automobile industry in the national economy of our country to augment rail transport, to stimulate light engineering and consumer industries, and to increase the employment potential needs hardly to be stressed. In all countries where the industry has been successfully developed its pattern, in principle, has been the same for best results. This pattern is as:—

(a) An activity essentially engaged in the manufacture of major

Mr. Manubhai Shah, who opened the Exhibition is seen in this picture below, explaining the features of a Telco pictorial album to Mr. S. G. Sariah of the Bombay State Transport Corporation.



MOTORINDIA

February 1958

## SPARE PARTS

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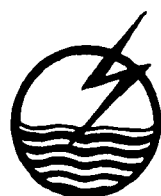
*Perkins*

AND FOR ALL POPULAR CARS AND TRUCKS

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**'SUN-BEAM'**

AUTO

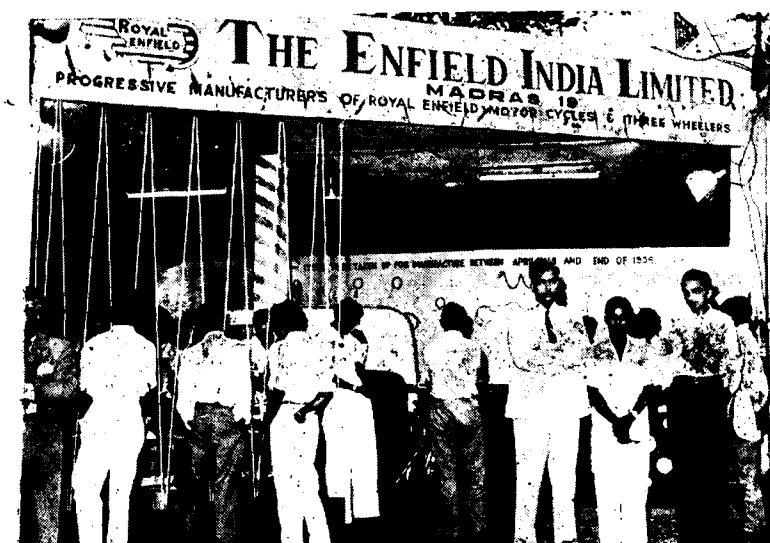


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B. E. GOPAL DASS, Jindal Trust Building, 8-B, Ajmere Gate Extn., New Delhi. (For Delhi Only).



Visitors to the Exhibition showed keen interest in the products displayed by M/S Enfield India Ltd.

components and assembly of the automobile itself.

(b) An activity engaged in the manufacture of several special components used exclusively on automobiles, but as original equipment and replacement parts in the market as a feeder industry to (a), and

(c) An activity which is not only to supply certain other components to (a), but also for use in other than automobile industry.

The demarcation between these three groups is thin and might even overlap ; but on the whole, it may be said that there is an equal contribution of these three groups to the development of the Automobile Industry.

### AUTOMOBILE INDUSTRY

Historically speaking, the importance of establishing an automobile industry in the country was recognised by the Government of India in 1945.

In 1955, the Tariff Commission examined at length the manner in which the automobile industry should

develop to meet the country's requirement and made the following recommendations in this connection :—

(a) To give priority to the manufacture of commercial vehicles rather than passenger cars.

(b) In the case of commercial vehicles as the maximum demand would be for diesel vehicles, instead of trying to discourage this trend, every effort should be made to meet the demand.

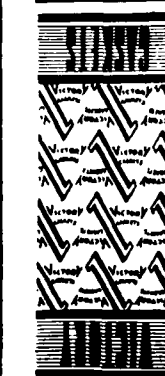
(c) It would be definitely undesirable to introduce any more passenger cars for manufacture in the country, and

(d) Additional capacity required for commercial vehicles should be installed in existing units rather than new ones.

*Quick and rapid growth of automobile industry in any country really depends on the tempo of motorisation that spreads in the national economy. Therefore, the volume, price and quality of the vehicles and cars manufactured in a country are the most important factors to be constantly*

borne in mind. As is well known, all our policies have therefore been framed and implemented with this objective of rapid motorisation and expansion of transport facilities. The import duties on the component whose early manufacture is of special importance (for example engines, transmission, rear axle, suspension and chassis frames) has also raised to 70% *ad valorem* in order to provide sufficient incentive for the manufacture of these components in India while the duty on other components of which there was no early prospect of manufacture in India have been lowered to 25% and 10% *ad valorem*. Recently the Parliament has already approved to grant protection to automobile industry for a period of 10 years though the rates of duties will be revised from time to time in the light of progress made in the manufacturing programme. It is also the intention of the Government that in the grant of import licences for components, special weightage should be given to firms which show the maximum progress in indigenous manufacture and in rapid growth of indigenous components while firms which lag behind the programme will be given a less favourable treatment.

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## Need for Reduced Car Prices

It has also been recognised that the demand for automobiles has increased and is increasing and that the development of this industry can be fostered on sound lines only by canalising this demand into as few a number of types or makes of vehicles as possible. This alone will enable lowering the cost of production and ensuring more reasonable return on their capital investment. Unless the price to the consumer is reduced substantially, the capacity of the middle-class to use passenger cars will be greatly limited to the detriment of the desired rapid expansion of the automobile industry. The need for giving greater weightage to commercial vehicles so as to meet the increasing demand of transport industry during the Second Five-Year Plan is also accepted.

It is a matter of gratification that the automobile industry has progressed very well. As a result of the wise and far-sighted policy followed by the Government and the industry for the development of the automobile industry, the production of cars, jeeps and commercial vehicles has gone up considerably in the last several years. Whereas the production of cars, jeeps and commercial vehicles in 1950 was 8,278, 367 and 8,715 respectively, making a total of 17,360 (more or less assembly of C.K.D.) the corresponding figures for 1957 are estimated at 12,500, 4,500, 14,650 i.e., about 32,000 Nos.

Photo below shows Mr. K. R. Anand of Himco explaining the company's progress to the distinguished visitors including Mr. Lalchand Hirachand.



MOTORINDIA



Minister Shah is seen signing a register at one of the stalls at the Exhibition.

with a very large percentage of indigenous components.

Coming to particular makes of vehicles, whereas the production figures of Hindustan Landmaster (now Amabassador). Fiat, Dodge truck and Leyland trucks in 1950 were 1,311, 131, 2195 and 835 respectively, the corresponding figures for 1957 are estimated at 4,435, 4,687, 4,936, 1,030 respectively. Not only the production in terms of values and numbers has gone up, but also the degree of indigenous content.

WHEREAS IN 1948, THERE

WAS HARDLY ANY MANUFACTURE, APART FROM THE ASSEMBLY FROM IMPORTED COMPONENTS INCORPORATING THE INDIGENOUS TYRE, TUBE, BATTERY AND UPHOLSTERY MATERIAL, THE PRESENT POSITION IS THAT IN THE HINDUSTAN AMBASSADOR THE INDIGENOUS CONTENT IS WELL ABOVE 56%, IN FIAT ABOUT 38%, STANDARD TEN 30%, STANDARD VANGUARD 33%, JEEP 46% AND MERCEDES BENZ TRUCKS 43% AND DODGE TRUCKS 49% RESPECTIVELY.

This is a very big development and it is hoped that at the end of

Mr. M. M. Shah seen examining an exhibit at the Himco stall.



February 1958

the Second Five-Year Plan, the indigenous contents of the vehicles and cars would be raised to about 75% to 80% on the average. The target of production at the end of the Second Five-Year Plan is also expected to rise to 65,000 Nos. representing four times the production level of 1950. Perhaps this figure also may be exceeded. The authorised capital of the six automobile firms is Rs. 41.5 crores and the paid up capital is Rs. 18.5 crores. The investment in plant and machinery and buildings is Rs. 13 crores. The industry today is manufacturing Rs. 50 crores worth of cars and vehicles annually.

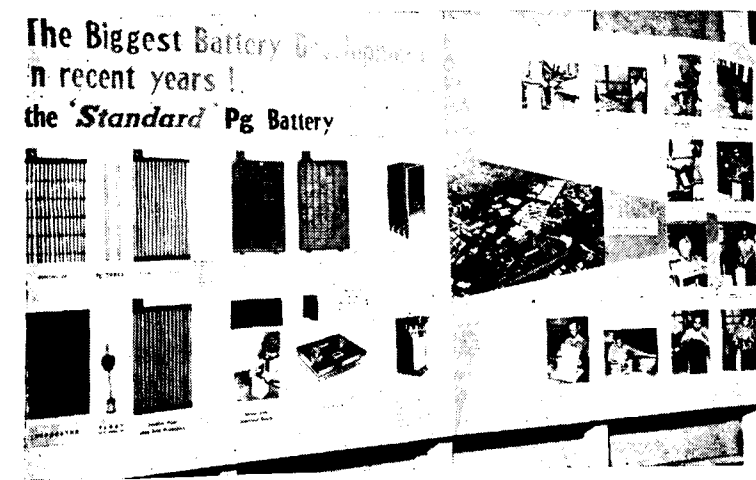
Every car and commercial vehicles under development is also developing their own petrol or diesel engines, besides the two vehicular types of diesel engines, which are being developed as alternate power unit for commercial vehicles originally offered with petrol engines. It can safely be assumed that at the end of the Second Five-Year Plan, the engine requirements of cars and commercial vehicles, would be met in adequate quantities from the indigenous sources.

### ANCILLARY INDUSTRIES

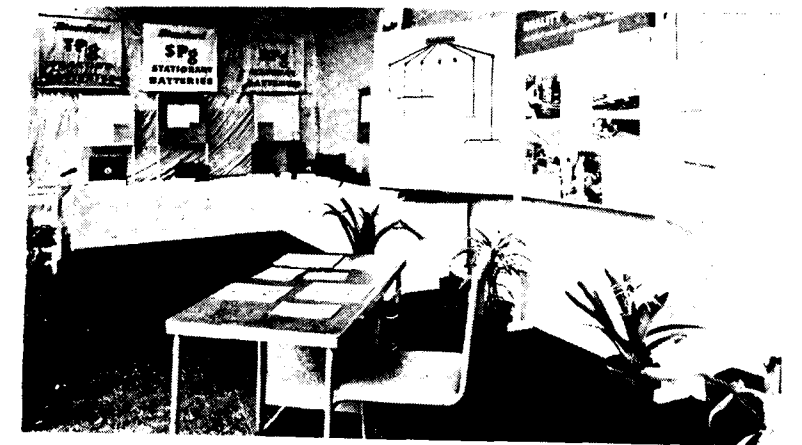
It may be recalled that the Tariff Commission made the following important recommendations in respect of the automobile ancillary industries.

- (1) The automobile manufacturers should purchase the products of ancillary industries in India for use as original equipment.

Photo below shows the large display stand explaining the manufacturing processes of Pg Batteries by Standard Batteries in India.



February 1958



A section of the Standard Batteries stall shows a chart of quality control followed by the Standard factory.

- (2) Steps should be taken to prevent haphazard and unregulated growth of ancillary industries.
- (3) Ancillary industries requiring protection of assistance should be asked to apply for it according to the usual procedure.

The Government have been encouraging the ancillary industry along with the main automobile industry. Protection and encouragement to the ancillary industry is afforded through various means by the Government such as import control, levy of protective duty, preference to the purchase of indigenous goods by Government and semi-Government departments. The assistance given to this industry has been utilised so very well that the progress made by this industry within the last

four years may be regarded as phenomenal.

### PRODUCTION PROGRESS

The production of important components of the ancillary industry in 1951 and 1957 had been as under :

|                                                | 1951<br>Rs. in<br>lakhs | 1957<br>(Estimated)<br>Rs. in<br>lakhs |
|------------------------------------------------|-------------------------|----------------------------------------|
| Piston assembly and parts thereof ...          | 9.77                    | 62.25                                  |
| Cylinder Liners ...                            | Nil                     | 9.30                                   |
| Thin-wall bearings ...                         | Nil                     | 3.36                                   |
| Fuel Injection Equipment and parts thereof ... | Nil                     | 89.42                                  |
| Oil, Fuel and Air filters ...                  | Nil                     | 0.67                                   |
| Radiators ...                                  | 1.87                    | 18.98                                  |
| Brake Linings ...                              | Nil                     | 22.50                                  |
| Clutch facings ...                             | Nil                     | 1.30                                   |
| Shock Absorbers ...                            | Nil                     | 3.60                                   |
| Leaf Springs ...                               | 29.50                   | 58.50                                  |
| Spark Plugs ...                                | Nil                     | 9.40                                   |
| Storage Batteries ...                          | 1.17                    | 2.10                                   |
|                                                | Nos. (lakhs)            | Nos. (lakhs)                           |
| Tyres ...                                      | 8.69                    | 10.25                                  |
| Tubes ...                                      | 8.21                    | 9.54                                   |

Whereas the value of production of the ancillary firms had been to the extent of only Rs. 15.2 lakhs in 1951, the corresponding figure for 1957 was Rs. 303.0 lakhs. These are exclusive of the production of numerous small firms, who are also producing many automobile components, but their activities do not come under the provisions of the

MOTORINDIA



Mr. Poulas Mathen of Automobile Products of India Ltd seen receiving the Hon. Minister for Industries at the Exhibition.



Mr. M. M. Soah at the A. P. I. Stall. Also in the picture is Dr. J. M. Rane.

## NEED FOR LOCAL MANUFACTURE STRESSED

Industries (Development and Regulation) Act, 1951, and hence proper production statistics are not available. Schemes proposing to manufacture valve assemblies, brake and clutch assemblies, electric horns, gaskets, oil seals, wheels and rims, propeller shafts, etc., have been approved and are expected to go into production during the Second Five-Year Plan period itself. Significant gaps in the pattern of development are the absence of satisfactory schemes to produce electrical equipment, dash board instruments, carburettors, petrol pumps, tapered and roller bearings. Installed capacities are also inadequate for some important items like valves, pistons, wheels and rims and oil seals.

*Notwithstanding the laudable performance of the ancillary industry, however there is no ground for complacency because the import of ancillary items in our country from the U.S.A alone during the year 1956 exceeds Rs. 5 crores; this shows that considerable gap has yet to be covered from indigenous production.*

From the employment angle, the importance of the above industries will be evident from the fact that whereas the total employment figure in the automobile and connected industries stood at 9,061 in 1954, the same was 18,360 as on September, 1957. It may also be noted that these figures relate only to the direct employment in the industries referred

to; and if the indirect employment is also taken into account, viz., for distribution, operation and maintenance, it would be no exaggeration to say that the figure would be 5 or 6 times the figures indicated above.

### SATISFACTORY GROWTH

Thus it is clear that the growth and development of automobile industry and its ancillary industries has been very satisfactory. When I say this I am fully aware of the feelings in the public mind regarding the need to reduce prices and to

improve quality. Of course, it must be said to the credit of the automobile industry that on the whole the quality has steadily improved both in trucks and passenger cars. The main manufacturers and the ancillary producers should bear both these aspects constantly in mind and with the full help from the Government which will be always forthcoming they should bring about quicker results in this direction.

When I say this I must urge the public also to judge this industry in a more charitable way. Unless line methods of production and

The distinguished visitors enjoying a joke at the A. P. I. Stall at the Exhibition.



MOTORINDIA

February 1958



Picture above shows the crowd of visitors that thronged the Simpsons stall where the Madras manufactured Perkins Diesel Engines were on display.

## SOUND AUTO POLICY EVOLVED

mass methods of production are introduced in the manufacturing units, it will never be fully possible to maintain and raise quality standards and to substantially reduce the prices. Very large volume of production per unit is needed before the overhead costs can be substantially lowered in order to make an effective impression on the price structure. Thus a large degree of sympathetic and patient approach is needed on the part of all concerned namely, the consuming public, the industry and the Government.

We can say with confidence that a sound automobile policy has now been evolved with only one unit in jeeps and heavy trucks, namely, Mahindra and Mahindra and Ashok Leyland, with only two units for diesel commercial vehicles and practically one unit for petrol commercial vehicles and three units for one model of passenger cars each excepting two for standard. **GOVERNMENT DOES NOT INTEND TO INCREASE ANY NEW MODELS UNTIL AND UNLESS THE PRESENT UNITS AND MODELS BECOME FULLY SATISFACTORY. NO NEW UNITS ARE GOING TO BE ALLOWED FOR MANUFACTURE.**

I would also urge the need for ancillary units being attached to the main manufacturing units which should gradually convert themselves to assembly units. This can be done by the bigger units farming out their requirements of components to smaller manufacturers. On

a rough estimate we have found that it should be possible for about 50 to 100 small industrial units being started with the co-operation and fostering care of the large factories. This would on the one hand give employment and develop small industries and on the other will help to reduce the capital cost of the larger units.

Today we are seeing in this Exhibition the ancillary equipments and components produced in our country. May it be the inspirer to the industrialists large and small—of our country to speed up the establishment of a very large number of new units so that not only the indigenous content of our vehicles and cars reaches to the figure of 80 to 85% indigenous in the shortest possible time, but also to increase considerably the volume of production in order to serve the needs of the country.

The tempo of construction of National Highways, State Highways, District roads and rural areas is opening up a new vista for the transport industry and nothing can fill this growing need for industry and commence of this country than the automobile industry.

The vote of thanks was proposed

by Mr. Akbar N. Chinoy, Sales Manager of M/s Simpson & Co. Ltd.

### TRIBUTE TO MINISTER'S FORESIGHT

Mr. Chinoy said that they were fortunate in having amongst them a Minister reputed for his sense of realism and practical approach to the numerous problems of development under which India was labouring.

He continued: "Sir, we remember only too well that, as the Minister for Industry in Saurashtra, it was you who successfully organised the nuclei of specialised small-scale industries. It was also you who gave the lead for the establishment of the Heavy Electrical Plant at Bhopal and the Hindustan Machine Tool Factory at Bangalore, both of which are outstanding examples of foresight and perspective planning for the economic development of the nation. It is thus heartening to see that the development of the automobile industry has been placed in capable hands.

*I need not perhaps emphasize the obvious that the ancillary industries constitute the backbone of the automobile industry and that therefore a sound development of the ancillary industry is a pre-condition for a sound development of the automobile industry. This Exhibition, you are witnessing today, is our first step directed towards organising the industry.*

The All-India Automobile Ancillary Industries Association, which has sponsored and organised this Exhibition is a baby which is only three months old. I am sure, you will agree with me that, given the right nourishment of co-operation from the industry and governmental support, this baby, which has already shown great promise in organising an Exhibition of this magnitude, will in due time grow into manhood to play its assigned role in the industrial development of the nation.

We thank you, once again, for

WE MANUFACTURE (H. M.) CONVERSION KITS  
COMPLETE FOR THE FAMOUS PERKINS P6 DIESEL  
**THE SENIOR AUTO DIESEL STORE**  
2/6 Wallers Road Madras 2

Grams: ECHEMKIT



MOTORINDIA

February 1958

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sparing so much of your valuable time to participate in this function.

## THE EXHIBITION

One of the most impressive stalls at the Exhibition that was specially worth a visit was the one set up by Standard Batteries Ltd. Their eye-catching, ultra-modern stall contained some of India's finest batteries the only ones of their kind to be produced in the country.

### ULTRA-MODERN BATTERIES

Easily the most impressive exhibits were the Standard Pg Batteries, incorporating the world famous Pg. technique—the greatest battery development in recent years. Standard Batteries Limited are the exclusive users of the Pg. patent in India and produce Pg. Batteries for traction, train-lighting, stationary and other special purposes.

Also on view were the Standard 'Instant Power' Battery and the Standard 'Reduced Charge' Battery with improvements never before available in India.

### ACCENT ON QUALITY

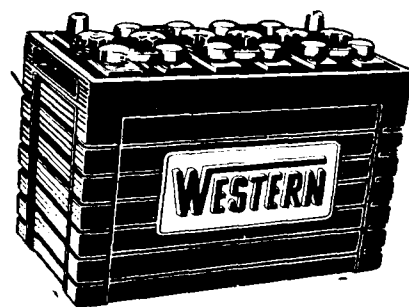
Large displays inside the stall were as informative as they were attractive. One large chart showed by means of specimen parts and



Mr. Akbar N. Chinoy of Simpsons, seen proposing a vote of thanks at the inaugural function of the Exhibition. Hon. Minister Shah, Premiers' Lalchand Hirachand, Himcos' Anand are also seen in the picture.

photographs the various stages of manufacture of Pg. batteries in the Standard Factory: another chart indicated the strict quality control exercised at every stage of manufacture of every raw material component, and finished battery,

to ensure uniform quality. One left the stall with plenty of free literature and with the impression that Standard Batteries Limited produce a comprehensive range of quality automotive and Special Purpose Batteries.



With ample  
POWER RESERVES.  
O-U-T-L-A-S-T-S  
any other  
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in its class

Manufacturers :

## WESTERN BATTERY CORPORATION

(Prop : AUTOMOTIVE MFRS. PRIVATE LTD.)

108 Bazaar Ward

Kurla

BOMBAY 37

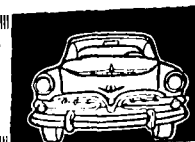
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Damji Jethabhai & Bros. Ltd., Bhuj (Kutch)  
Western Automobiles, Poona  
Katara Motor Co., Bombay 4  
New Sion Automobiles, Bombay 22  
J. V. Mehta & Co., Bombay

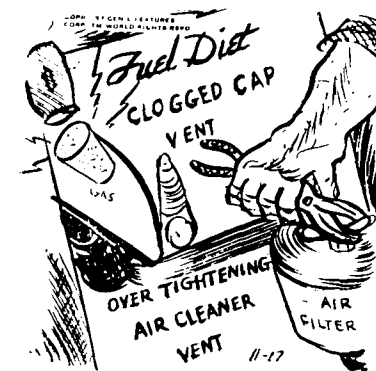
Ashok Battery Service Station, Bombay  
R. Ramanlal & Co., Ahmedabad 2  
Nataraja Pillai & Co., Madurai  
National Motors, Jodhpur & Kotah  
British Motor & Cycle Mart, Ambala Cantt  
G. T. Kamath, Nagpur 2  
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and many other leading Automobile dealers

## ABOUT YOUR



Much nail biting over fuel troubles might be avoided if some of the simple (or less likely) causes were checked out first. The driver who can't figure out why his engine always seems so fuel-starved may



spare time and temper by inspecting the fuel tank cap. If the vent is clogged or otherwise restricted, the fuel pump can't work properly.

Don't start pricing a new fuel pump or carburettor overhaul because fuel flow isn't strong and steady enough at driving speeds. A slight air leak at the pump filter bowl could be the only real trouble—with a little tightening up or a new gasket the needed cure.

It is also surprising how many fuel systems are handicapped by a clogged air cleaner, by one which has been overtightened and is cramping choke valve action, or by one which is incorrectly mounted after cleaning so that the front is facing the fan.

D.E. asks : "Whenever I press the gas pedal hard and try for quick acceleration, there is a noticeable miss or hesitation. My garageman says the carburettor isn't working properly and needs servicing. Is his diagnosis correct?"

## LITTLE THINGS CAN UPSET FUEL DIET

BY

EUGENE MILMOE

(A) It's logical enough. A faulty carburettor accelerating pump can cause this trouble.

A.O. writes :—"Perhaps you can pass this suggestion along to the right people. Why can't they make a set of ignition points with the spark gap already set—in other words, ready to install so that there's no need of aligning or adjusting."

amount of fuel is distributed and burned. No unburned or half-burned fuel escapes through the exhaust to contaminate the air as smog.

Mrs. T. N. writes :—"We recently had what was described as 'differential trouble' because the lubricant ran low. This may be quite elementary, but what does the differential do during car operation?"

(A) Some of the big name companies have been selling this for some time. It's installed as a fully assembled part.

From S.G.:—"I have read that fuel injection systems will eventually be used on all cars when the cost factor is licked. When this happens they claim the results will be welcomed by health experts. What effect has fuel injection on good health?"

(A) This prediction probably refers to a decrease in air pollution. With fuel injection, only the needed

(A) The differential is a gear assembly located in the rear axle housing. It provides the needed difference in rotating speeds of the outer and inner wheels when a turn is made. In other words, when the car is turning a corner, the differential comes into play, permitting the outer wheel to turn faster since it must travel a greater distance around than the inner wheel.

### SAFETY IS NO ACCIDENT

Be careful about your driving. Be sure about your car.

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Phone: 4352 & 4357

**Factory & Works :**

**Thiruvethiyur, Madras 19**

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709  
258  
151-A**



Photo taken at the opening of the Mount Road factory of Asiatic Tyres shows among others, Fr. George Kurian, Mr. K. Venkataraman, Advertisement Manager of MOTORINDIA, Mr. L. L. Narayan of Rane (Madras) Ltd., Mr. P. M. Ittoop and Mr. P. M. Jacob.

### ASIATIC TYRES OPENS NEW FACTORY AT MOUNT ROAD

The New Factory of Asiatic Tyres, one of the leading Tyre Retreading Factories in the South was declared open before a large gathering by Mr. L. Lakshmi Narayan of M/s. Rane Madras Ltd., Madras. Mr. Narayan in his opening speech said that Rubber & Oil of late, have assumed international importance so much so these two things have been mainly responsible for the last world wars. It was highly gratifying to see that two young enterprising friends M/s. Ittoop and Jacob has established a Retreading Factory which they were running very satisfactorily and they come from a place, i.e., Kerala which produces the major portion of the Rubber in India today. Tyre retreading industry was of very great importance today in India's development plans because it saves a great amount of foreign exchange for the country very much required for her Second Five-Year Plan. He wished them all success.

Mr. P. M. Ittoop, Managing Partner proposed a vote of thanks. The large gathering was entertained to tea in the spacious Factory premises which is located in the Mackey's Garden, Mount Road.

### ASIATIC TYRES

Asiatic Tyres whose sole work is retreading worn out car and truck tyres was started in Madras in 1953 as a result of the joint venture of the



With the new German ultra-modern mould at the left, photo shows a section of the large gathering of automobile and allied interests at tea at the inaugural function.

**AND NOW**

**LEAVE YOUR CAR  
FOR TYRE RETREAD!**

two brothers Mr. P. M. Ittoop and Mr. P. M. Jacob. They started with one Full Circle Mould and they were retreading on an average 100 tyres a month. Later on they added one more Full Mould and their present turnover is 250 tyres a month which include car and truck tyres. **RECENTLY THEY HAVE INSTALLED A GERMAN REPAIR MOULD THE MOST MODERN OF ITS KIND.** Formerly a tyre was condemned as useless if there was a cut or so, but now with the help of this latest modern machine it can be repaired

and it could very well run miles and miles again.

Now they have set up their new factory in Mackey's Garden in Thousand Lights and it is fully equipped with all modern fittings wherein buffing, cementing, pressurising etc., are now being completely done by machines. Because of this they are able to double the production. *Further, at the new factory premises they are providing garage facilities as well so that they can remove the tyres, retread them and put them back again all within a short period of 24 hours.*

Photo below shows, Mr. L. L. Narayan being garlanded by Mr. P. M. Ittoop of Asiatic Tyres. Also seen in the picture are, Mr. K. M. Mammen Mappillai of Madras Rubber Factory, Mr. David, V. George of DV Advertising, Mr. A. E. Abraham and Mr. P. M. Jacob.



**MOTORINDIA**

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# LADEN WEIGHT INCREASED TO 9 TONS

## Good News for Lorry Operators

Lorry owners in the State of Madras should be grateful to the authorities, particularly the Hon. Minister for Transport, Mr. V. Ramiah, for the latest Government Order that has been issued following representations made by associations interested in road transport development. The new order, which will be universally welcomed by the operators, permits the increase of the maximum laden weight of vehicles from 8 tons to 9 tons. This action on the part of Government is expected to help the operators economically and also at the same time reduce waste of carrying capacity besides augmenting revenues to Government.

One important fact that should be observed from the text of the Order given below is that there still exist in some parts of the State weak structures like bridges and culverts which cannot permit the passage of this increased maximum laden weight. It is therefore advisable that lorries before starting on their route make a choice either between routes without such weak bridges or culverts or in the alternative just to adjust in such a way that they will not be trespassing any of the rules in respect of laden weights, when they pass through routes with bridges and culverts in a weak condition. The following is the text of the Government Order on the subject :

"It has been represented that the present restrictions, on the maximum laden weight specified in the permits granted to Goods Vehicle, make operation of goods transport uneconomical and that this maximum permissible load (permit laden weight) should be reassessed taking into consideration the present conditions. This question was examined in consultation with the Transport Commissioner and the Chief Engineer (Highways), Madras. In view of the general improvement in the standard of the roads in this State, Government consider that this maximum laden weight should be as high as possible so as to avoid

waste of carrying capacity and loss of revenue to Government. Therefore, they direct that the maximum laden weight specified in the permits granted to Goods Vehicles should be 9 tons. They also direct that the maximum laden weight specified in the permits granted in respect of the existing Goods Vehicles should be revised to this limit. This maximum limit should be permitted only if the registered laden weight, as shown in the Registration Certificates of a Goods Vehicle, is capable of carrying this maximum load.

2. The Transport Commissioner is requested to issue urgently necessary instructions to the Regional Transport Authorities to take action with reference to the Orders in Para. 1 above.

3. The Government also observes that some roads, bridges, and culverts are not capable of carrying the maximum weight specified in Para. 1 above. The obvious course to be adopted in such cases is to indicate the weight that can be permitted on such weak roads, bridges, culverts and other structures by a Notice Board erected under Rule 46 of the Madras Traffic Rules. The Chief Engineer (Highways) is requested to issue necessary instructions to the authorities subordinate to him to erect the necessary Notice Boards in this regard indicating the maximum safety load that can be carried over such weak structures. The Commissioner of Municipalities and the Commissioner, Corporation of Madras are requested to take necessary action in respect of such weak roads, bridges, culverts and other structures under their control. The Inspector of Municipal Council and Local Boards is requested to issue necessary instructions to Panchayats in respect of such structures under their control.

He is also requested to instruct the authorities erecting such Notice Boards to send a list of weak structures prepared with the details

of restrictions to the Transport Commissioner before 31-3-1958 for communicating these restrictions to the Regional Transport authorities concerned."

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 Etc. Etc.

# The Madras Motor Parts Dealers Association

FROM V. NARAYANASWAMI, SECRETARY

## Import of Shock Absorber Links

I understand from Messrs. Upper India Trading Co. Private Ltd., Mount Road, Madras, that their consignment of shock absorber links imported under Motor Parts Licences Part IV, 293, 295, 297 has been allowed clearance with a note of warning by the local Customs. Against this they applied to the Chief Controller of Imports, New Delhi, seeking clarification on the issue and I reproduce below the true copy of their correspondence for the benefit of our members.

FROM UPPER INDIA TRADING CO. PVT. LTD.

"We enclose herewith certified true copies of two letters one from the Joint Chief Controller of Imports & Exports, Calcutta. Ref. No. JCCI/POI 293, 295, 297 (IV), dated 16th July, 1956, and the other from the Asst. Collector of Customs, Appraising Department, Madras. Ref. No. S. 9. 311/57 AP, dated 14-11-1957 addressed to us regarding the import of shock absorbers links. We also enclose herewith a leaflet on shock absorbers links.

We beg to submit that the shock absorber links are not part of shock absorbers, but they are motor SPARE PARTS required to connect the shock absorber with the chassis. Our Bombay office has cleared these shock absorbers at Bombay Port under licences issued for Motor Vehicle Parts (Consolidated quota). The Joint Chief Controller of Imports & Exports, Calcutta, has given clear classification that these can be cleared under licences issued for Motor Vehicle Parts (Consolidated

quota). Since the Asst. Collector of Customs, Appraising Department, Madras, holds a different view with regard to the classification, we request you to please give us a ruling regarding the correct classification of shock absorbers links."

FROM THE OFFICE OF THE CHIEF CONTROLLER OF IMPORTS & EXPORTS :

"With reference to your letter No. 8268/57, dated the 11th December 1957, I write to say that Shock Absorber Links are not component part of Shock absorber unit and they vary from vehicle to vehicle. As such, they are to be treated as general spare parts of motor vehicle and can be imported and allowed clearance under quota licences for motor vehicle parts in general terms."

## Basic Period for Air-Cleaners

I reproduce below the true copy of the letter received from the Joint Chief Controller of Imports & Exports, regarding the above.

"With reference to your letter No. 5/57-58, dated 24-10-1957 on the above subject, I write to say

that the basic period for 'Air Cleaners' falling under serial No. 30-(f) (ii)/II has been extended to include 1956/57 as per List 'E' of Appendix IX to the current Red Book. This item has figured in List 'D' of Appendix IX by mistake."

**THE INDIAN TARIFF (SECOND AMENDMENT) ACT, 1957 No. 60 of 1957, dated 27-12-1957.**

(1) increases Customs duty for copper pipes, etc. (I.C.T. No. 64) from 37-4/5 p.c. and 25-1/5 p.c. to 40 p.c. and 30 p.c. *ad valorem* for non-British and British manufacture, respectively :

(2) divides I.C.T. No. 75 (18) into two sections (a) and (b) as under :—75 (18) (a) Single cylinder fuel injection pumps for stationary diesel engines and component parts of such pumps—60 p.c. *ad valorem*.

75 (18) (b) Nozzleholders with a clamping capacity upto one inch clamping diameter for nozzles (atomisers) for use on stationary or automobile diesel engines and nozzles therefor ; and component parts of such nozzles and nozzleholders—60 p.c. *ad valorem*.

There is no preferential rate of duty on the above items for British manufacture.

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## MOTOR VEHICLES AND ALLIED MERCHANTS ASSOCIATION

**Import policy for bicycle tyres and cycle rickshaw tyres during October 1957—March 1958 Licensing period.**

Public Notice No. 88-ITC (PN)/57, dated 21-12-1957 issued by the Government of India in the Ministry of Commerce and Industry, New Delhi on the above subject says:

"Attention of the importers is invited to the entries against S. No. 41 (ii)/V of the I.T.C. Schedule in the Red Book for October 1957—March, 1958, which regulate the import policy for "Giant, motor, motor cycle, bicycle tyres and tubes and flaps and solid tyres, but excluding tractor and of the road tyres and tubes" for the current licensing period.

As a result of certain representations, the position in regard to bicycle tyres and cycle rickshaw tyres has been reviewed and it has been decided that supplementary licences will, on application, be granted to Established Importers of S. No. 41 (ii)/V, which will be valid only for import of bicycle tyres and cycle rickshaw tyres. The supplementary licences would be granted to the Established Importers for a value equal to 25% of the face value of quota licences for S. No. 41 (ii)/V issued to them in respect of the October 1957—March 1958 licensing period.

Applications for supplementary licences may be made in the prescribed form and manner to the licensing authorities at the ports and the last date for receipt of applications will be 31-1-1958.

### EXPORT—I.T.C. CIRCULAR

Public Notice No. (80—ITC9Pn)/57, dated 16-12-1957, issued by the Government of India, in the Ministry of Commerce and Industry, New Delhi says:

Attention is invited to para. 6 of Appendix XXIII to the Red Book for October 1957—March 1958 period, according to which licences issued under the Export Promotion Scheme (whether to Established

Exporters or Prospective Exporters) will be subject to the condition that the importer will within six months of the importation of licensed articles export the processed/finished goods of a value to be worked out according to the percentage prescribed in Col. 5 of the annexure to the said Appendix XXIII.

In the said para. 6 of Appendix XXIII it has been further provided that in order to ensure compliance of the above conditions, the importers will be required to execute a bond in the prescribed form with the Import Trade Controller concerned at the time of clearance of the goods from the Customs, and that in the case of established exporters who have already effected exports, the bond would not be taken. This waiver of the requirement of bond in the case of established exporters has given rise to an impression that the Import Licence is granted to them as a subsidy for the past performance and that it is not incumbent on them to export the finished goods to the required extent in pursuance of the condition mentioned in para. 1 above.

To avoid all possible misunderstandings it is hereby notified that the licences granted under the Export Promotion Scheme for import of materials to be used in the manufacture/processing of finished goods are meant to boost exports and it would be essential to tie up imports with exports even in the case of Established Exporters. It has, therefore, been decided that the established Exporters will also be required to execute a bond at the time of clearance of goods in the form annexed to Appendix XXIII. However, the licensing authorities may in their discretion do away with Bank Guarantee or surety while taking bonds from the Established Exporters who are of good standing and whose past performance has been satisfactory.

## Automobile Association of Southern India

### News

#### Road Information

**Krishna Barrage Bridge:** The Krishna Barrage Bridge was opened to all traffic up to 50 tons from the 24th December 1957. This is a vital road bridge on the National Highway on the East Coast connecting Madras and Calcutta.

**Nagarjuna Sagar Bridge:** The road bridge behind the Nagarjuna Sagar Dam at Nandikonda is open to all traffic up to 30 tons. Motorists proceeding to Hyderabad and Secunderabad from places south of Ongole can use this bridge and save about 65 miles. However, the road surface in the neighbourhood of the dam is poor, owing to heavy lorry traffic, for constructions of the dam.

**Coleroon Bridge:** Motorists travelling from Madras to Mayavaram, Nagapatnam and their neighbourhood can travel along the shortest road via Pondicherry and Chidambaram and Sirkali (Shiyali). Toll for each car Re. 1 for the new bridge. Municipal toll for entering Pondicherry Rs. 0.50 for each car.

**Cauvery Bridge:** Motorists travelling from Salem to Madurai can travel along the shortest route via Namakkal, Karur, Vedsandur and Dindigul by using the bridge across the Cauvery, at Pugalur north of Karur. This road is now part of the National Highway to Cape Comorin. The streams across the road between Karur and Dindigul have been provided with causeways and except during the heavy rainy days, this road is motorable throughout the year.

**Godavari Anicut Road:** The anicut road across the Godavari at Dowleshwaram is now open for

motor traffic; and it is expected to remain open till the onset of the South-West Monsoon in early, June.

### MOTOR SPORTS AT HYDERABAD

The Hyderabad-Secunderabad Branch of the Automobile Association of Southern India conducted its third Annual Motor Sports on Sunday the 12th January 1958 at the Parade Grounds, Secunderabad before a large and distinguished gathering. Lt.-Col. D. A. Mehta presided over the function in the absence of Group Captain R. Atmaram while Mrs. Mehta gave away the prizes to the winners who participated in various sports events.

As many as ten events were gone through in which ladies and gentlemen enthusiastically took part. The entire programme of sports events evoked keen interest and excitement among the spectators. The delightful running commentary of Mr. Muthukumaraswamy kept the audience in good spirits.

After the conclusion of the Sports Mr. S. B. Kotak, Hon. Secretary in his annual report pointed that the Branch of the Association was started in Secunderabad in the year 1951 and now the membership consists of nearly 900 members.

In conclusion he expressed his deep appreciation of people who gave their unstinted co-operation of making the day's function a success. He also thanked Col. & Mrs. Mehta for presiding over the function at such a short notice.

#### Prizes

Reliability and Endurance Tests : Motor Cars—  
(1) Mr. Minoo Pestonji. (2)

Mr. Daddy Sohrabji. (3) Mr. Jal Bengali.

Reliability and Endurance Tests : Motor Cycles—

(1) Mr. G. W. Bhawani. (2) Mr. B. A. N. Raju.

Reliability and Endurance Tests : Scooters—

Mr. Francis Isaac.

Consolation Prize—

Mr. A. K. Phalnikar.

Wheel Changing Race—

(1) Mr. M. S. Kotak. (2) Mr. S. K. Lakshman.

Scavenge Hunt—

(1) Mr. Minoo Pestonji. (2) Mr. Sreerama Rao.

Three Legged Race : Motor Cars—

(1) Mr. M. H. Chenoy and Partner. (2) Mr. Fazluddin Khan and Partner.

Three Legged Race : Motor Cycles—

Mr. Jal Bengali and Partner.

Three Legged Race : Scooters—

Mr. A. K. Phalnikar and Partner.

Balancing Tumbler on Car Bonnet Race—

(1) Mr. M. H. Chenoy. (2) Mr. Parakh.

Ziz Zag Race—

(1) Miss Lakshmidevi Raj. (2) Mrs. Kharas. (3) Miss Bengali.

Reverse Test—

Mr. Bomman Nakra.

Musical Chairs : Motor Cars—

Mr. Banaji and Partner.

Musical Chairs : Motor Cycles—

Mr. M. S. Kotak and Partner.

Thread and Needle Race : Motor Cars—

Mr. Banaji and Partner.

Thread and Needle Race : Motor Cycles—

Mr. M. S. Kotak and Partner.

**MOTORINDIA**

February 1958

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# TRANSPORT IN INDIA: NEED FOR INTEGRATED SYSTEM

\* "Judged by the indices of transport development, India stands very low compared to other countries.

## Population for mile of railway :

|          |     |        |
|----------|-----|--------|
| U.S.A.   | ... | 377    |
| France   | ... | 775    |
| U.K.     | ... | 967    |
| Japan    | ... | 7,108  |
| Ceylon   | ... | 8,452  |
| Thailand | ... | 8,615  |
| India    | ... | 10,576 |

## Population for mile of highways :

|             |     |       |
|-------------|-----|-------|
| U.S.A.      | ... | 50    |
| France      | ... | 91    |
| U.K.        | ... | 270   |
| Burma       | ... | 771   |
| Japan       | ... | 1,008 |
| Malaya      | ... | 1,086 |
| Philippines | ... | 1,312 |
| India       | ... | 1,486 |

(We do not have enough roads).

## Motor vehicles per thousand inhabitants :

|        |     |      |
|--------|-----|------|
| U.S.A. | ... | 351  |
| U.K.   | ... | 106  |
| France | ... | 109  |
| Malaya | ... | 17.2 |
| Japan  | ... | 9.1  |
| Ceylon | ... | 8.6  |
| India  | ... | 1.8  |

(We do not have enough vehicles).

## Road utilisation : (Number of motor vehicles for mile of road) :

|             |     |     |
|-------------|-----|-----|
| France      | ... | 16  |
| U.S.A.      | ... | 13  |
| Ceylon      | ... | 12  |
| Thailand    | ... | 9.6 |
| Japan       | ... | 8.9 |
| Philippines | ... | 7.1 |
| Indonesia   | ... | 4.8 |
| India       | ... | 1.6 |

(Our roadways are not sufficiently utilised).

\* Extracts from the welcome address of Mr. Babubhai M. Chinai at the Transport Conference convened by the Federation of Indian Chambers of Commerce and Industry, in New Delhi in December 1957.

These figures go to show the great leeway we have to make. Except, perhaps, in regard to railways, we do not stand comparison even with our neighbouring countries. The position is not in any way more encouraging if we take the position of our shipping and shipbuilding with the result that only a meagre six percent of our overseas trade is carried in Indian bottoms. Our ports, few in number, lack many modern facilities. Berths are inadequate; handling capacity insufficient, resulting in frequent congestion and constant threats of surcharges on freight rates. Our river systems can be real arteries of trade. The great foreign river systems—the Danube, the Rhine, the Volga, the Elbe, the Missouri, the Mississippi—these still retain their traditional importance and usefulness in spite of the phenomenal development in other modes of transport in those countries.

It is important that we should look at our transport problems in an integrated way. The division of responsibilities as between the Centre and the States, necessitated by our federal political structure, extends to transport also. By and large the farmers of our Constitution have drawn upon the 1935 Act. The position has substantially changed. In a planned economy, where the resources of the country are taken as a whole, and development envisaged on a national basis, division of subjects into compartments becomes rather unrealistic. This is already evident in the fiscal and financial sphere where the autonomy of the States is more a matter of form than of substance—at least in respect of resources. Coming to transport, the division of subjects is broadly this. Railways, national highways, shipping, navigation on inland waterways declared to be national waterways, lighthouses, ports, aircraft, airports, air navigation, carriage of goods and passengers by railways, sea or air or by national waterways and the regulation and development of inter-State rivers come under the Central list. Roads, bridges, ferries, inland waterways, vehicles other than mechanically operated

vehicles, tax on goods entering a local area, tax on passengers and goods carried by roads, and tax on vehicles whether mechanically operated or not, fall under the State list. Further, mechanically operated vehicles including principles on which taxes are to be levied, shipping and navigation on inland waterways as regards mechanically operated vehicles, come in the Concurrent list. The result is that whereas in regard to railways, shipping, ports, air navigation, inter-State rivers, etc., it is possible to evolve a co-ordinated policy it is a matter of regret that in regard to roadways, mechanically operated vehicles, tax on goods and passengers carried by road, etc., it is a problem, even to attempt a policy of co-ordination.

If an integrated transport policy is to be evolved, the Centre should have real co-ordinating powers. It is time, therefore, that we set up a national agency, responsible for an integrated transport policy and it will be in the interests of the States themselves to give their wholehearted support in this national effort."

The views of Mr. Chinai well reflects the views of the Automobile Association of Southern India who, as early as 1950, made representations to the Government of India and to the Motor Vehicles Taxation Enquiry Committee to co-ordinate the different agencies dealing with motor vehicles and create a central agency to enable the country to have more and quicker road transport. The Association in its interview with the Committee pleaded also for simplification of the process of collecting motor vehicles tax and suggested a simple fuel tax in place of the different kinds of tax—customs duty, excise duty, M.V. tax, sales tax, octrois, tools, etc. We hope that the subject of motor vehicles will become a central subject eliminating the many vexatious rules and processes and will give a great stimulus to the rapid growth of road transport and tourism in our country.

# MOVE TO STEP UP TOURIST TRAFFIC

New Delhi.—A high-level Tourist Promotion Committee has been constituted by the Government of India to consider ways and means for increasing tourist traffic to India from abroad. In particular, the Committee will consider suggestions made by various non-official and other agencies and ensure expeditious implementation of the suggestions that are found acceptable.

The Cabinet Secretary is the Chairman of the Tourist Promotion Committee and its members consist of Home Secretary, Secretary, Revenue Department, Ministry of Finance; Transport Secretary; Member (Transportation) Railway Board; Secretary, I. & B. Ministry; Secretary Ministry of Finance (Department of Economic Affairs); Joint Secretary, Ministry of External Affairs; Joint Secretary, Ministry of Finance (Communications Division); Director-General of Foreign Trade, Ministry of Commerce and Industry; Chairman, Indian Airlines Corporation; Director-General of Civil Aviation; and Director-General of Archaeology. The Head of the Tourist Organisation, Department of Transport, is the Member-Secretary.

At its first meeting held with Shri N. R. Pillai, Secretary-General, External Affairs Ministry, presiding, the Tourist Promotion Committee discussed the question of tourist promotion both in the present context of earning more foreign exchange and the general context of creating goodwill. The Committee felt that steps should be taken to expand Indian tourist publicity abroad.

It was agreed that steps should be taken to improve the amenities available at the international airports of Bombay, Calcutta and Delhi, in particular for transit passengers.

It was decided that India should join the other South Asian countries in conducting a joint tourist publicity campaign for attracting tourists to this region as a whole. In order

to step up tourist publicity in the Pacific region, it was also agreed that India might participate in the publicity campaigns conducted by the Pacific Area Tourist Association.

To ensure better management of the Rest Houses situated near well known monuments and tourist centres, it was decided that State Governments be asked to appoint wholtime managers at about 15 selected Rest Houses and that the Central Government should agree to pay 50 per cent of the pay of the managers.

## MADRAS COMMITTEE'S RECOMMENDATIONS

Madras.—The Regional Tourist Traffic Advisory Committee met here on February 5 under the Chairmanship of Shrimati Tara Cherian and made a number of recommendations on matters relating to the development of beauty spots around Madras City, training of guides, publicity programme for 1958, provision of lunch to the tourists at Mahabalipuram, etc.

The Committee approved the recommendations of the sub-committee of seven members which was constituted in the last meeting to visit places of tourist interest around Madras City and make on-the-spot survey regarding their development. The sub-committee had recommended that Kanchipuram, Mahabalipuram, Thirukalikundrum, Thiruvottiur, Ennore, Pulicat and Vedanthangal are the places to be visited by tourists.

The Committee felt that the number of trained guides available at present was very limited. As such it was resolved to recommend to the Ministry of Transport to have a second guide training course for the training of more guides.

A sub-committee was constituted to go into the matter relating to publicity for 1958. The members of the sub-committee have been asked to explore the possibilities of placing publicity materials in the

train compartments and buses. In order to bring home to the people the importance of tourism and to give them information about the tourist offices, it was suggested that cinema houses should be approached for showing slides about these and that more publicity materials should be distributed to the tourists through hotels and travel agents.

It was resolved to recommend to Government of Madras that arrangements for providing lunch to the tourists be made in Mahabalipuram Guest House. At present there is no arrangement for the tourists to have lunch there. Only boarders can get their meals at present and this puts the tourists, especially foreign tourists who go to Mahabalipuram for a few hours, to great inconvenience, as there are no decent restaurants.

In order to encourage tourism it was also resolved to approach the State Transport Department for the introduction of the city sight-seeing coach in Madras. This arrangement will be very convenient to the tourists with limited means who cannot afford to spend big amounts on taxis.

To help the country in earning foreign exchange it was further recommended that emporia and the aerodrome authorities be contacted to explore the possibilities of having curio shops at the airport, so that the tourists are able to make last minute purchases there.

The Committee also recommended that Mahabalipuram should be free of beggars and that the Collector of Chingleput be approached for providing drinking water taps there.

## FACILITIES IN GERMANY

As of January 1, 1958, the Federal Republic has done away with the troublesome carnets or tryptiques required for border crossing. The Finance Ministry said that an informal check of licence numbers will now be the only control on cars entering West Germany. Germany thus becomes the second nation in Europe to simplify tourist car travel by such a measure, Austria being the first. All travellers on the Continent will hope that this idea will rapidly be extended.

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--320 miles an hour!**



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The Viscount will fly on the Delhi/Calcutta, Calcutta/Rangoon, Bombay/Delhi, Bombay/Karachi, Bombay/Calcutta, Delhi/Karachi, Bombay/Colombo via Madras, Delhi/Madras via Hyderabad and Madras/Calcutta routes.

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**INDIAN AIRLINES  
CORPORATION**

# AIR NEWS

## ADVISORY COMMITTEES FOR AIR CORPORATIONS

**New Delhi.**—The Central Government have decided, in consultation with the Indian Airlines Corporation and the Air-India International Corporation, to appoint two Advisory Committees, one for each of the Corporations, consisting of the following :—

### INDIAN AIRLINES CORPORATION ADVISORY COMMITTEE

The Chairman of the Indian Airlines Corporation (Chairman) and Shri Radha Raman, M.P., Shri Upen-dranath Burman, M.P., Sri A. Ramaswami Mudaliar, M.P., Sri Liladhar Katoky, M.P. (nominated by the Government of Assam), Begum B. H. Zaidi, Shri R. V. Dongre, Shri G. N. Noel-Tod, Chairman Madras Chamber of Commerce (nominated by the Government of Madras), Shri M. D. Dalmia, President, Delhi Factory Owners' Federation (nominated by the Delhi Administration), A representative of the Indian Merchants Chamber Bombay (to be nominated by the Government of Bombay), A representative of the Chambers of Commerce in West Bengal (to be nominated by the Government of West Bengal), Shri C. Seshachalam (nominated by the Air Passengers Association of India, Madras); A representative of the Travel Agents Association of India Ltd., Bombay; The Director-General of Posts and Telegraphs (or his representative) and The Director-General of Civil Aviation (or his representative) as members.

### AIR-INDIA INTERNATIONAL CORPORATION ADVISORY COMMITTEE

The General Manager of the Air-India International Corporation—(Chairman); and Shri H. C. Mathur, M.P.; Shri Joachim Alva, M.P.; Shri M. Valiulla, M.P.; Shri S. S. Ali, Calcutta; Shri Somanathan Chettiar, Hereditary Member, Rameswaram Devasthanam Committee; Maj. Genl. Himatsinghi; Shri M. A. Chidambaram (nominated by

the Government of Madras); Shri F. C. Bodhwar, Chairman, Punjab and Delhi Chamber of Commerce (nominated by the Delhi Administration); A representative of the All India Manufacturers' Organization, Bombay (to be nominated by the Government of Bombay); A representative of the Chambers of Commerce in West Bengal (to be nominated by the Government of West Bengal); Shri A. M. M. Arunachalam (nominated by the Air Passengers Association of India, Madras); A representative of the Travel Agents Association of India Ltd., Bombay; The Director-General of Posts and Telegraphs (or his representative) and The Director-General of Civil Aviation (or his representative) as members.

In addition to such matters as may be referred to these Committees by the Corporations, they may also advise the Corporations in respect of provision of amenities for air travellers; improvement of services and facilities provided by the Corporations; time-tables of air services; extensions or improvements of the existing projects; proposals relating to opening of new air stations; and any other matter of general public interest or public convenience.

### DO YOU KNOW? CIVIL AVIATION IN INDIA

1. The Air-India International and the Indian Airlines Corporation between them carried 309,048 passengers and flew 11,587,929 miles during the half year ending on June 30, 1957.

2. Air-India International alone flew on its scheduled services 3,081,556 miles carrying 41,582 passengers, 1,773,024 lbs. of cargo and 732,836 lbs. of mail during the first half of 1957, as against 2,933,400 miles flown, 39,974 passengers and 1,593,575 lbs. of cargo and 672,110 lbs. of mail carried during the preceding six months.

3. During the period under review Indian Airlines Corporation flew 8,506,373 miles, carrying 267,466

passengers, 40,612,080 lbs. of cargo and 5,748,104 lbs. of mail. The respective figures for the preceding six months were 8,929,211 miles, 242,602 passengers, 47,077,105 lbs. of cargo and 5,921,985 lbs. of mail.

4. During this period, the Night Airmail Services carried 31,967 passengers, 1,406,529 lbs. of cargo and 2,113,967 lbs. of mail.

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K. Venkataraman 10 Motilal Street T. Nagar Madras 17

I, M. Rajagopalan, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dated 28-2-1958 M. RAJAGOPALAN  
Publisher

**MOTORINDIA**

February 1958

## Oil India Private Limited

*New Delhi.*—The first step towards the formation of the Rupee Company to explore for and exploit oil resources in the Nahorkatiya, Hugrijan and Moran areas of Upper Assam was taken here by the signing of an agreement between the Government of India and the Burmah Oil and Assam Oil Companies.

The agreement was signed by Shri K. K. Sahni, Joint Secretary, Ministry of Steel, Mines and Fuel on behalf of the Government of India and Mr. R. P. Smith, Managing Director of the Burmah Oil Company on behalf of the B.O.C. and A.O.C.

The new company, to be named Oil India Private Ltd., will be incorporated and registered in the State of Assam with an authorised capital of Rs. 50 crores divided into 5,00,000 shares of Rs. 1,000 each. Two-thirds of the capital will be provided by the Burmah Oil Company Ltd. (of which the Assam Oil Company Ltd., is a wholly-owned subsidiary) and one-third by the Government of India.

*The new company will take over the assets of the Assam Oil Company in the newly discovered oil areas of the Brahmaputra Valley, where 36 deep wells, most of them good producers of oil, have already been completed.*

The broad features of the agreement as announced by Sardar Swaran Singh, Minister of Steel, Mines and Fuel, in the Lok Sabha recently, are :

The Rupee Company will undertake production of oil and will also arrange for the construction in two stages, and operation of a pipeline or such other related facilities as may be considered necessary for the transport of the crude oil upto Barauni. During the first stage

the pipeline or other related facilities will be laid up to an intermediate locality to be approved by the Government of India and the Burmah Oil Company and during the second stage the extension of the pipeline or other facilities from such intermediate locality to Barauni will be taken in hand. The timing of the commencement of each of the two stages shall be determined by the Government of India.

The oil produced by the Rupee Company will be sold to two refineries sponsored by the Government of India and to be established in the public sector. The delivered price of crude oil payable by each such refinery shall be either the lowest price delivered at Calcutta at which such crude oil can be secured by the refinery from any alternative source or the cost incurred by the company together with a reasonable commercial return, whichever is less, such price being fixed by the company with the approval of the Government of India after examination of costs and subject to review every half year.

### B.O.C.'s £10 MILLION LOAN

The Burma Oil Company have offered to advance a sterling loan to the extent of 10 million pounds in the Rupee Company to meet the foreign exchange content of the cost of the first stage of construction of the pipeline and other related facilities. It is proposed to have a refinery located at the intermediate

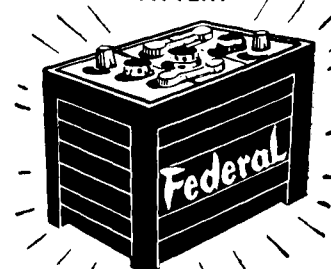
stage between the oilfields and Barauni in addition to having a refinery at Barauni in Bihar.

Oil India Private Ltd., will employ Indian nationals in preference to non-Indians wherever possible, and in addition to the training programme which the Assam Oil Company is already carrying out, a further programme of training Indian personnel will be arranged between the Government of India and Oil India Ltd.



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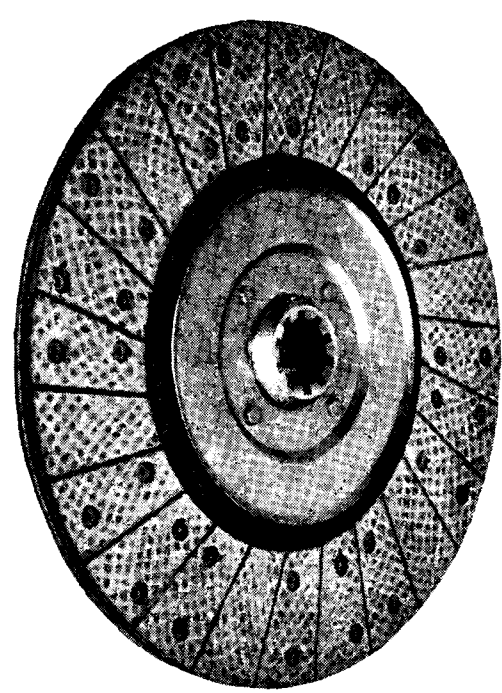
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MOTORINDIA

February 1958



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## THE SEARCH FOR OIL AND HOW IT IS DONE

Oil today is the largest single source of energy that keeps the wheels of progress moving and if India could only have more of it, our gigantic plans could easily be speeded up. Till now only the State of Assam has struck oil. There is the famous oil-field at Digboi and the one at Naharkatiya in Upper Assam which was struck in 1953. These provide only ten per cent of India's needs.

And so throughout the length and breadth of the country, search for this liquid energy goes on relentlessly. One latest success was in 1956, again in Assam, 80 miles from Digboi in the tea district of Moran. But we are still far from the target we have to achieve.

Prospecting for oil and its commercial exploitation has all the ingredients of a tense and long drawn out drama.

The first step is to map the ground and this is usually done by an aerial photographic survey. From these surveys a carefully traced and comprehensive geological map is prepared. To ascertain geological conditions at depth in the shortest possible time an aeromagnetic survey is conducted based on these aerial photographic survey and maps. This survey is made with the aid of a magnetometer from a fixed height from aircraft. The magnetometer records the magnetic variations of the earth's crust and these reveal the depth of the basement rocks at various places.

In places where the rocks are exposed to the surface the field geologists take over the job. The geologist's job is to study the rock formation and this is done by selecting samples from various rocks. From the study of these fossils they are able to tell the age of the rocks which helps to plot the course of the various strata below the earth's surface.

### DENSER ROCKS

Thereafter it is the turn of the geophysicists who with the aid of an instrument called Gravimeter obtain clearer and more comprehensive picture of the underground rock

formations. From observations made with this instrument, the geophysicists are able to estimate the varying depths of the denser rocks, the familiar strata that guards the approaches of the oil fields.

Now the search for oil with all these data obtained reaches a decisive phase. After years of patient research and labour, scientists and technicians have been able to concentrate all data into a single map. But still one cannot be too sure of the presence of oil and so the only way to be certain is to drill.

On this process of drilling millions might be lost or won. But the gamble has to be made if a country is to move forward faster.

Drilling is a tedious process and may go on for months. If one well fails, test drilling may be started on another. The chances of striking oil is one to twenty, sometimes less, sometimes more. And suddenly one day analysing these mud deposits, one comes upon the hidden treasure glistening in the mud—the liquid energy that is used for a thousand purposes.

### WASTING ASSET

But this liquid gold like all minerals in a wasting asset and so no oil field is permanent. Therefore, the search for oil must always go on ceaselessly and courageously particularly in our own sub-continent which still now has to rely almost entirely on the oil fields of other lands.

This then in short is the story of oil—the hidden treasure for which India is anxiously searching.

### GEOLOGISTS FACE MANY CHALLENGES

"Even in the face of steadily rising world energy needs it is apparent that there is no immediate threat of an oil shortage," according to an article in *Oil Progress*.

"But," the magazine continues, "it is equally apparent that, if appreciable additions to known reserves are to be found, new equipment, new production techniques and a sharpened resourcefulness on the part of the oil geologist must be brought into play, and the geologist pursues a quest that grows more challenging with each passing year."

"Today the pools of oil, trapped millions of years ago, lie deep in the earth's crust, forming the world's great oil reserves, both discovered and undiscovered," the article declares.

"To spot potential oil pool sites, the geologist must reach below the surface and map the structural characteristics of strata deep in the earth's crust."

"In making this map, he makes use of the exposed rock either in the immediate area or surrounding region—its age, its type and its structural position. He may also use existing water wells, ditches, pits or cores from borings to seek his primary clues. By fitting all available surface geologic data together the geologist is ready to extrapolate from the known to the unknown."

"When the geologist finds that well logs and the indications of surface geological studies do not serve for his map-making, that the clues he seeks lie deeper yet, he turns to the tools of the geophysicist. The most effective of which is the triggering of miniature earthquakes by firing charges of dynamite in shallow drill holes. The shock waves echoed from formations of varying elasticity deep in the earth are recorded electronically by portable seismographs. The data is analyzed by seismologists applying highly specialized techniques, to obtain sites favourable for drilling." *Oil Progress* continues.

"Gradually, the geologist's underground structural contour map takes shape. Studying it, he is led to suspect that oil lies here, where a fault cuts vertically through the horizontal strata; or here, where a great salt dome rises through sedimentary rock to form traps along its sides; or here, where the sedimentary strata arch high over a potential pool. Drill here and here, and here, he will say—but he gives no written guarantee. The day has not yet arrived when a skilled oil geologist can exactly pinpoint a pool of oil. The best he can do—and that best is truly a marvel of skill and science—is to tell the driller where oil is most likely to be found."

February 1958

# BOOK REVIEW

**MOTOR VEHICLES ACT:** Edited by Mr. S. N. Ramasami, Published by Sundaram Industries Private Ltd., Madras-6. Price Rs. 25.

Though there are hundreds of thousands of persons operating or driving motor cars or other transport vehicles throughout the country, today, it is doubtful if even a fraction of them are aware of the rules and regulations that govern the possession and running of such vehicles on the roads of India today. This is because the various legislations, Central as well as in the States, are not only cumbersome and extensive, but they have also been undergoing changes from time to time in accordance with the needs of the changing period. Further, there has not been available so far in this country a publication which comprises within its pages an analysis of all the aspects of the motor vehicle and the rules and regulations governing its operations.

It is, therefore, gratifying that a leading transport organisation like the T.V.S. Group should think of compiling and publishing this 742 page book with details, definitions and commentaries on the various Acts enforced from time to time, making the publication up-to-date in every respect. Even more important is the fact that the effort in producing this excellent reference book should have been edited by Sri S. N. Ramasami, a "Walking Dictionary" so far as the Motor Vehicles and allied matters are concerned. The Editor has no doubt brought to bear the extensive and intensive personal knowledge and experience that he possesses in compiling this volume which is a

must for every transport operator in this country and which is bound to be very useful for thousands of car owners and even to the numerous members of the legal profession who will find it a ready reference volume in relation to the Motor Transport in general and rules governing the same in this country. Perhaps a reduced cost for the book would have brought it within reach of all those who would like to possess the publication, but the increasing cost of printing materials and the fact that the publication itself has a business aspect, has evidently made the Publishers fix the price as they have. All those who have known the great contribution that the late Mr. T. V. Sundram Iyengar has done to the development of road transport in this country will agree that there can be no greater dedication to his memory than the presence of this volume in the offices and on the tables of thousands of persons associated with road transport in the country.

**TRANSPORT ANNUAL NUMBER 1957:** Edited and Published by K. H. Rao, Noble Chambers, Parsee Bazaar Street, Bombay-1. Price Rs. 2.

The 1957 Annual Number of *TRANSPORT*, which has just been published, is something that should make any publisher really proud of. Trade and Technical publications are gradually coming into existence in this country especially during the last 10 years and they have been, in their own way, filling a gap that has been in existence for quite a long time. Our present development and planning will give full scope for more and more of such publications devoted to particular

trades and industries to come into the field. But, irrespective of the number of such publications, what is really important is the existence of class publications like the *TRANSPORT*. Its 1957 Annual is an indication of the vast strides that are being made by at least some of the numerous publications in this country. The get-up of the Annual is perhaps second to none and the contents of the magazine include, exclusive articles on Transport in the Second Plan; Road Development in India; Road Transport Legislation; Overseas, Shipping; Port Development and allied matters, besides a lot of tourist interest material. The Annual is tastefully illustrated and the get-up is as good as the paper that is used, namely, real art.

### FACTS ABOUT GERMANY:

Author, Prof. Helmut Arntz. Published by the Press & Information Office of the Federal German Government.

For those who have business connections with the Federal German Government and such of those businessmen who are likely to visit that country at some time or other in the near future, a perusal of this book will be of immense benefit in assessing the rapid development that has come about in the various sectors of industry in that country today. The remarkable progress that the Germans have been able to make ever since the end of the last war and the proud place they now occupy among the industrially advanced nations of the world is described in detail in this 200 page volume. The publication is fully illustrated and the production itself is a tribute to the high place that the Federal Republic occupies today among the comity of nations.

MOTORINDIA

February 1958

MOTORINDIA

# MODELS AND THEIR Prices

## CARS

|                                                                                             | Rs. nP.   |
|---------------------------------------------------------------------------------------------|-----------|
| Plymouth Cars, (Sundaram Motors Private Ltd.) Ex-Premier Automobiles Factory, Kurla         | 20,270 00 |
| Plymouth Suburban (Sundaram Motors, Ltd.)                                                   | 22,646 00 |
| Hindustan Ambassador 1957 (Southern Automotive Corporation Private Ltd.) ex-plant Uttarpara | 11,161 00 |
| Dodge Kingsway sedan (Rane (Madras), Ltd.)                                                  | 20,371 00 |
| Dodge Suburban (Rane (Madras), Ltd.) ex-Bombay                                              | 22,899 00 |
| Vanguard Phase III (Union Co. (Motors) Ltd.)                                                | 14,700 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 ex-plant Bombay                                               | 12,160 00 |
| Willys Model Station Wagon ex-plant Bombay                                                  | 18,150 00 |
| Jeep 1 ton truck                                                                            | 13,046 00 |

## MOTOR CYCLES

|                                                                        |          |
|------------------------------------------------------------------------|----------|
| Royal Enfield (The Madras Motors (Private) Ltd.)—                      |          |
| "150 Ensign" (anywhere India)                                          | 1,890 00 |
| "350 Bullet" with spring frame (anywhere in India)                     | 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 |

## SCOOTERS:

Lambretta, manufactured by Automobils Products of India Ltd. Distributors, South India Automotive Corporation Private Ltd., Madras.

(At Visakhapatnam—Western Automobiles Ltd.) Prices are ex-Factory, Bhandup, Bombay.

## VANS

Standard Delivery Van. (Union Co. (Motors) Private Ltd.) on the road 10,628 56  
Hindustan Traveller, price on the road (Reliance Motor) Co. 14,700 00

## TRUCKS & COMMERCIAL CHASSIS

Sundaram Motors (P) 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

(V.S.T. Motors Private Ltd.)

Tata-Mercedes-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 Rane (Madras) Ltd.) Prices duty paid ex-Factory Premier Automobiles Ltd., Kurla, Bombay.

|                                      |           |
|--------------------------------------|-----------|
| C3D6-116" (4) 7.00 x 16-6 Ply        | 11,615 00 |
| C4D6-126" (4) 7.00 x 16-6 Ply        | 12,662 00 |
| C3PW6-126" (4) 9.00 x 16-10 P.W. Ply | 17,974 00 |
| C4G6-153" (6) 34 x 7-10 Ply          | 16,391 00 |
| C4G6-153" (6) 32 x 6-10 Ply          | 16,062 00 |

|                                       | Rs. nP.   |
|---------------------------------------|-----------|
| C4H6-153" (6) 34 x 7-10 Ply           | 17,710 00 |
| C4H6-153" (6) 34 x 7-12 Ply           | 17,979 00 |
| C4H6-193" (6) 34 x 7-10 Ply           | 18,116 00 |
| C4H6-193" (5) 34 x 7-12 Ply           | 18,385 00 |
| C4H6-193" (6) 34 x 7-10 Ply           | 18,479 00 |
| C4H6-193" (6) 34 x 7-12 Ply           | 18,748 00 |
| K6D200-116" (4) 7.00 x 16-6 Ply       | 12,896 00 |
| K6D200-116" (4) 7.00 x 16-8 Ply       | 12,961 00 |
| K6D300-126" (4) 7.00 x 16-6 Ply       | 12,900 00 |
| K6D300-126" (4) 7.00 x 16-8 Ply       | 12,965 00 |
| K6W300-126" (4) 9.00 x 16-10 P.W. Ply | 18,950 00 |
| K6D400-129" (6) 34 x 7-10 Ply         | 16,372 00 |
| K6D400-153" (6) 32 x 6-10 Ply         | 16,186 00 |
| K6D400-153" (6) 34 x 7-10 Ply         | 16,531 00 |
| K6D400-171" (6) 34 x 7-10 Ply         | 17,008 00 |
| K6D500-129" (6) 34 x 7-10 Ply         | 18,092 00 |
| K6D500-129" (6) 34 x 7-12 Ply         | 18,388 00 |
| K6D500-153" (6) 34 x 7-10 Ply         | 18,331 00 |
| K6D500-153" (6) 34 x 7-12 Ply         | 18,628 00 |
| K6D500-171" (6) 34 x 7-10 Ply         | 18,606 00 |
| K6D500-171" (6) 34 x 7-12 Ply         | 18,904 00 |

## PICKUP

|                                 |           |
|---------------------------------|-----------|
| C3D6-116" (4) 7.00 x 16-6 Ply   | 15,012 00 |
| C4D6-126" (4) 7.00 x 16-6 Ply   | 16,058 00 |
| K6D200-116" (4) 7.00 x 16-6 Ply | 16,293 00 |
| K6D200-116" (4) 7.00 x 16-8 Ply | 16,358 00 |

## DIESEL CONVERSION

|                                    |           |
|------------------------------------|-----------|
| C4H6-153" w.b. (6) 34 x 7-10 Ply   | 22,668 00 |
| C4H6-153" w.b. (6) 34 x 7-12 Ply   | 22,937 00 |
| C4H6-171" w.b. (6) 34 x 7-10 Ply   | 22,903 00 |
| C4H6-171" w.b. (6) 34 x 7-12 Ply   | 23,172 00 |
| K6D500-153" w.b. (6) 34 x 7-10 Ply | 20,997 00 |
| K6D400-171" w.b. (6) 34 x 7-10 Ply | 21,303 00 |
| K6D500-153" w.b. (6) 34 x 7-12 Ply | 22,930 00 |
| K6D500-153" w.b. (6) 34 x 7-10 Ply | 22,632 00 |
| K6D500-171" w.b. (6) 34 x 7-12 Ply | 23,414 00 |
| K6D500-171" w.b. (6) 34 x 7-10 Ply | 23,116 00 |

The prices and specifications are subject to change without notice.

# 380 MOTORINDIA

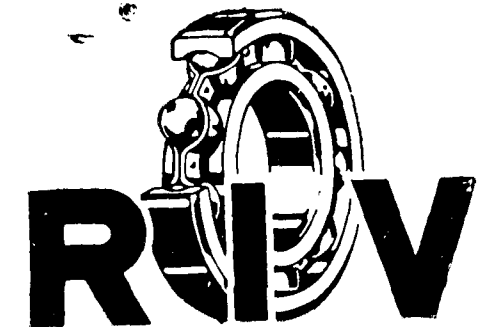
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MARCH 1958

NUMBER 8

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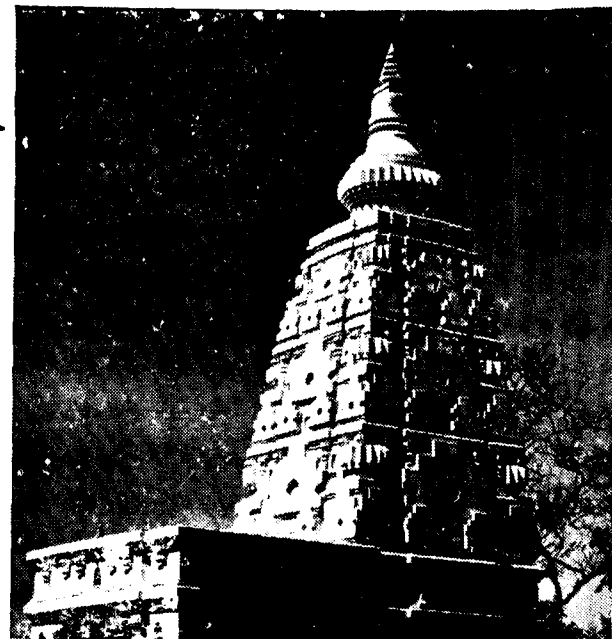
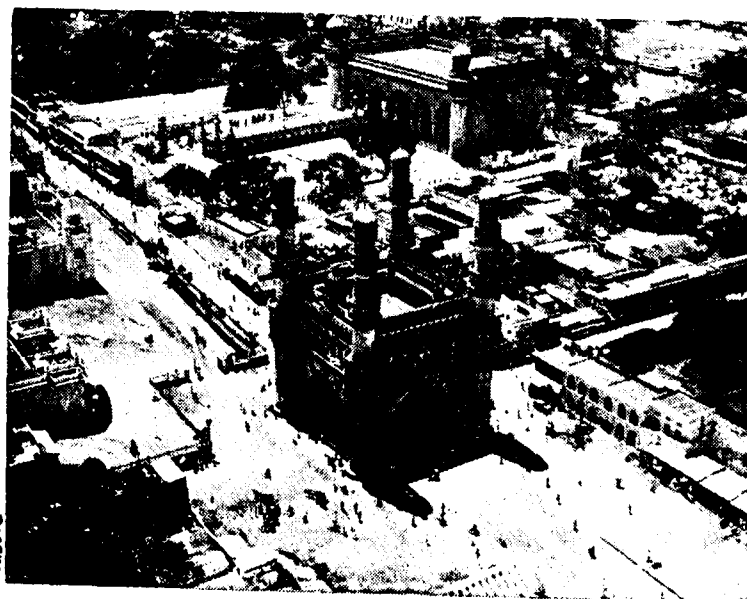
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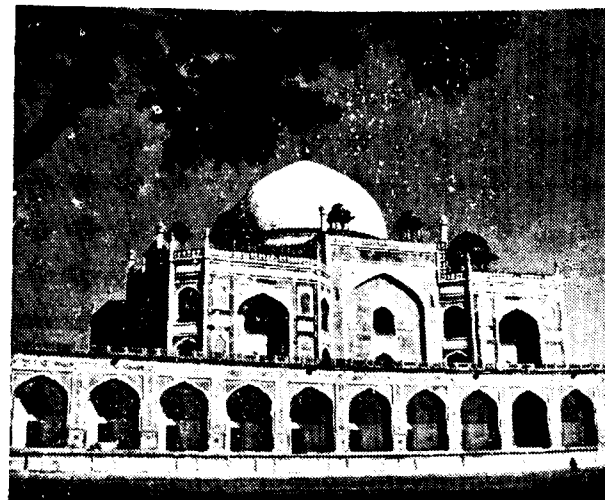
However much you have travelled, there is still so much to see and experience in this vast land of varied attractions



**TOURIST DIVISION**  
Ministry of Transport and  
Communications, New Delhi



A Shrine at Bodhi Gaya, Bihar



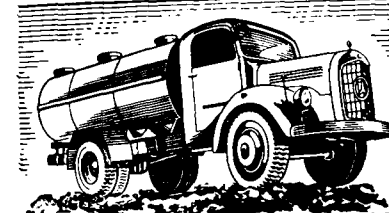
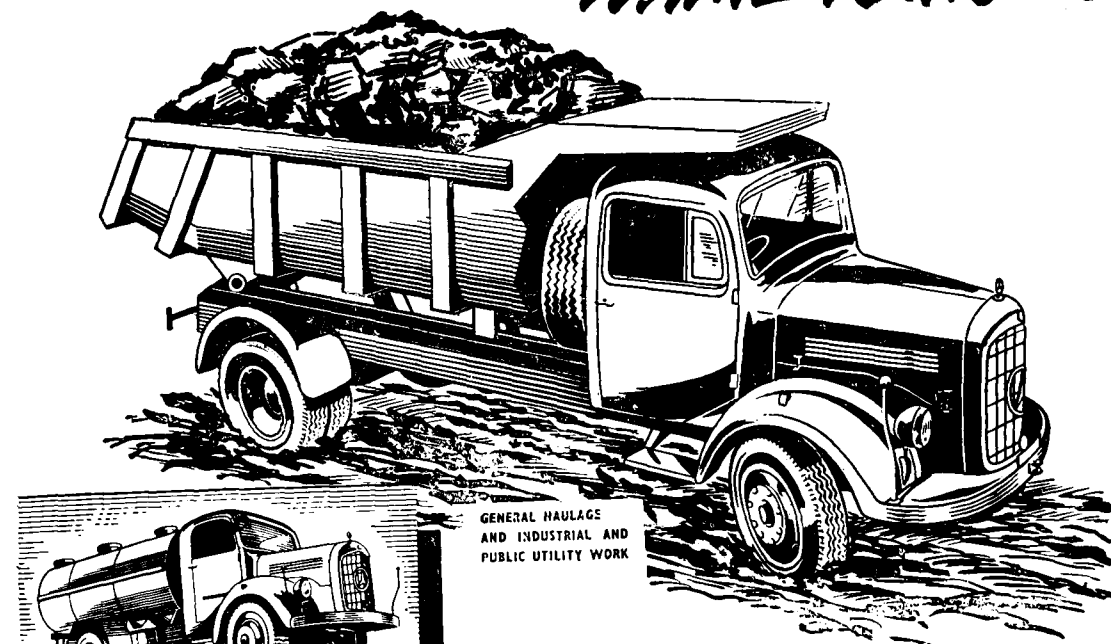
Humayun's Tomb, Delhi

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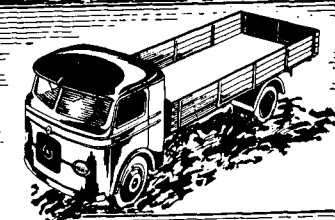


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PUBLIC UTILITY WORK

OIL TANKER

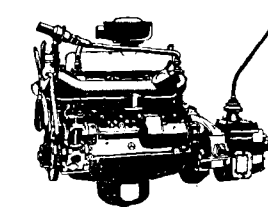
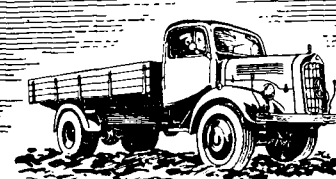


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CONTROL BUS



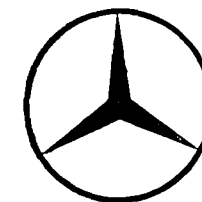
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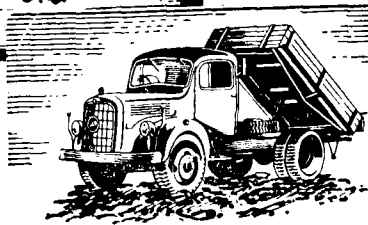


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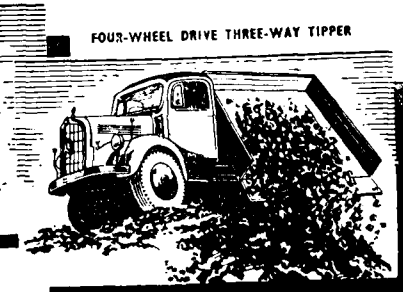
The OM 312 diesel engine, which powers Tata-Mercedes-Benz vehicles, is a recognised winner. Long, trouble-free life, maximum economy in fuel consumption, speed, responsiveness, quiet operation—the OM 312 gives you all this and more.



TELCO 57.8A.



REAR WHEEL DRIVE THREE-WAY TIPPER



FOUR-WHEEL DRIVE THREE-WAY TIPPER

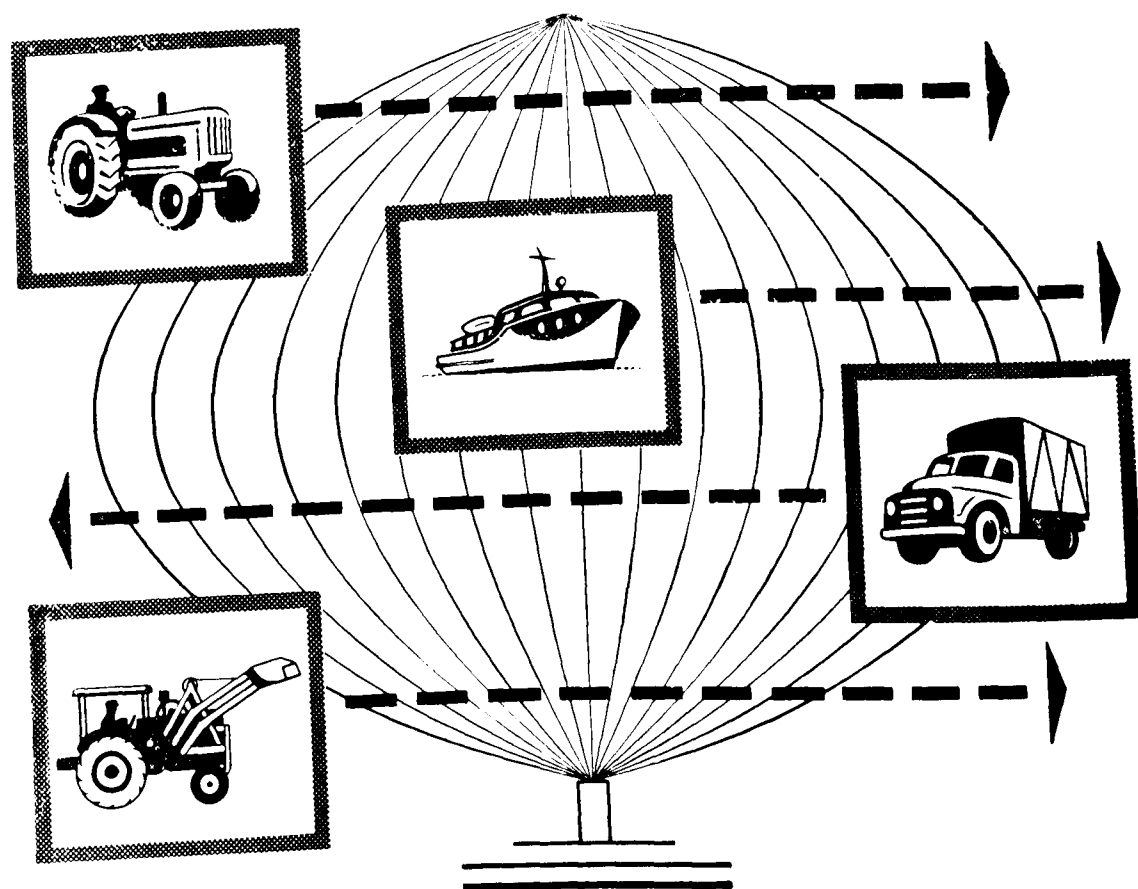
## TATA-MERCEDES-BENZ

  
TATA LOCOMOTIVE & ENGINEERING CO LTD.

March 1958

MOTORINDIA

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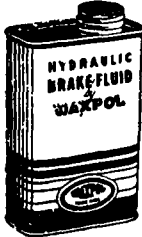
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MOTORINDIA

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MARCH 1958

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## The Coach with the Body Beautiful

*Coach Builders  
to the Nation*



At the "Concours, D'Elegance" 1957—Beauty Parade of vehicles organised by India's premier Automobile Association, the W. I. A. A.,—an Allwyn-built luxury coach belonging to the B. E. S. & T. Undertaking and built to its specifications, carried the prize in the coach section, scoring over its foreign rival.

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## editorial

### GOETZE STARTS PRODUCTION

In an age of progressive industrialisation, as we are witnessing today in this country, it is but natural that factories are started from place to place practically every week. Each and every one of these factories will play a definite role in increasing the industrial production of the country, which in the end is likely to help the eradication of poverty from this country. But the very number of such new factories coming up, should not minimise the importance of factories like the Goetze Piston Rings Factory which was inaugurated at Bahadurgarh near Patiala recently. The Goetze Piston Ring Factory is a unique industry devoted to the task of manufacturing a highly precision automobile part and we are extremely glad to note that M/s. Goetze (India) Private Ltd., have been fortunate in getting the technical collaboration of the famous Goetze Manufacturers of Germany. The Factory has gone into production in recent weeks and it is gratifying to note that the Goetze Bahadurgarh Factory is capable of meeting substantially not only the Indian demand for Piston Rings for almost all engines, but will be in a position to serve the neighbouring countries of Asia not far from now. A word of tribute is due in this connection to the great business acumen and initiative of the enterprising industrialist, Mr. H. B. Nanda, who is the Governing Director of this important factory in the production of automobile components. We wish them all success and god-speed.

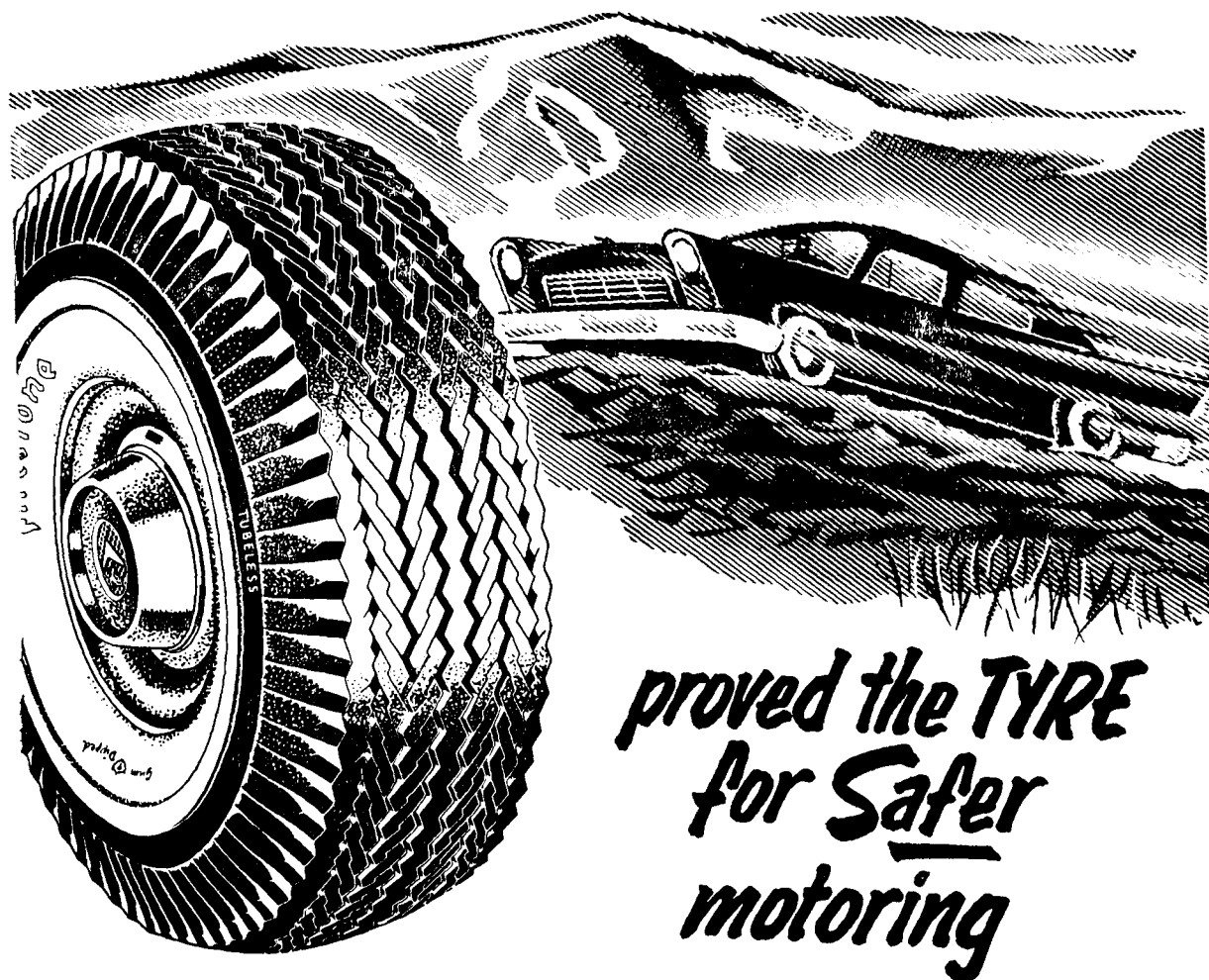
### Auto Racing in Madras

The growing interest of the public, particularly the motorists and the motorcyclists in motor racing was witnessed recently in the South judged by the huge crowd at the Bangalore Motor Rally and the Madras Rally organised near the Sholavaram airstrip. Not only that those two rallies have engaged the spectators with an amount of thrill that is most welcome in the busy world of today, but in the process, such racing events go to show the extent to which we can depend upon the modern motor car and the motorcycle or scooter for our various daily runs. The rallies are no doubt an education and an instruction in themselves and we welcome many such events, particularly in this part of India. It is, therefore, very gratifying to note that the Automobile Association of Southern India, whose membership reached a record of over 11,000 only last month, should also come in to organise a motor rally in the City. We understand that plans are being worked out to find a very tough and interesting route which will prove the strength and durability of motor vehicles today. We trust that all motor-minded people will not only participate in the rally, but will give it all the encouragement by witnessing the events at the announced date.

### New Office-bearers

Presidents and Office-bearers have been elected during the past few weeks in a number of Associations allied to the automobile and allied industries. To name just a few, The Andhra Motor Vehicles & Allied Merchants Association, the Mysore Automobile Parts & Allied Merchants Association, the Motor Vehicles & Allied Merchants Association at Madras and the Calcutta Motor Dealers Association, have recently had their Annual General Body meetings at which new Presidents and Office-bearers have been elected. We offer them all our humble congratulations and best wishes for the coming year. We also trust that the year 1958 will considerably improve the situation and that the consumer of motor vehicles and motor parts will be benefited by such improvements.

## The hairpin bends of Pikes Peak Mountain Climb



For the 29th consecutive race, Firestone tyres were on the winning cars in the Pikes Peak climb, where cars battle on dirt and gravel tracks around hairpin bends. The manufacturing skill and quality control that built these tyres ensure the same extra safety and dependability in the Firestone tyres for your car.

# Firestone

**New DeLuxe Champion • Tubeless or with Tube**  
the tyre with BUILT-IN PEACE OF MIND

## CHEV and BEDFORD for India

*300 Vehicles to be Assembled Monthly?*

**FIRST RESULTS OF RECENT U.S. LOAN**

(FROM OUR SPECIAL CORRESPONDENT)

New Delhi: The present position of industries, including the Automobile Industry of India, were reviewed at a recent meeting of the Standing Committee of the Central Advisory Council of Industries at New Delhi under the presidency of the Minister for Commerce and Industry, Mr. Morarji Desai.

During the discussions, particularly about the Automobile Industry and its working, the question of raw materials for the Industry was considered and it was assured that in procuring these raw materials, procedural and other difficulties would be resolved to the satisfaction of the Industry by the Government departments.

The question of manufacture of small cars was also discussed at this Committee where it was pointed out that the Industry must concentrate on the present types of cars and that diversification in production was not desirable at this stage. The best use of available foreign exchange as well as of the installed capacity, it was pointed out, could not be made if Industry's energies were spent on multiplying the makes of cars.

MOTORINDIA, however, understands from a very reliable source that more American type trucks will be on the roads of India, not far from now. Under the recent agreement relating to the American loan for India from the Development loan for financing American imports into

this country, it is learnt, a sum of 25 million dollars have been set apart for the import of automobile components to be assembled by plants in this country into trucks, buses or jeeps. It is understood that the Government and the Industry will shortly go into the details of this question and decide on the types of trucks or buses to be progressively assembled and repaired in this country. Under this loan amount, it is expected that very nearly 16,000 vehicles can be assembled in India during the coming years.

It is further learnt that Chevrolet and Bedford trucks will be coming into India very soon in C.K.D. condition and the assembly of these chassis will be undertaken at a rate of 150 units for each type per month. The assembly and its success will to a large extent decide a later programme of progressive manufacture of such vehicles in this country. It is learnt that the benefit of the American Loan so far as the automobile industry is concerned will mainly be felt in Calcutta where those vehicles are expected to be assembled, though the finished product may be seen in the various parts of the country.

An interesting point, however, is the fact that already 85% of chassis that is being sold in India today are said to be on the h.p. system and in most cases with not much of a down payment for reliable parties. This being so, it is really puzzling where the purchasing power is to be found for the extra vehicles for which no doubt there is an absolute need in so far as transport requirements of the country are concerned.

It is expected that the very substantial shortage of transport capacity which is now facing the country will, to a great extent, be relieved by the proposed assembly of 16,000 vehicles under the American loan.

### SOVIET TRACTORS TOO

It is further learnt that India's efforts in increasing the transport capacity of the country will be aided not only by the American loan coming from the leading democracy in the world, but similar help will also be forthcoming shortly from the Soviet Union as well. A significant factor in this connection is the recent discussions held here between agents of agricultural machines of the Soviet Union convened by the Trade representatives of the U.S.S.R. through the efforts of Mr. V. P. Migunov and Mr. A. A. Pogossoff.

Following these discussions, MOTORINDIA understands that since tractors manufactured in the Soviet Union have already found a good market in this country, the conference decided that spares and technical assistance should be made available to this country about tractors on very moderate charges. The Soviet Union is expected to supply India shortly some 2,000 tractors a year under a barter system. They will also set-up a plant in this country through the good offices of the Trade Representatives of the U.S.S.R., for the assembly and manufacture of such tractors here itself.

March 1958

MOTORINDIA

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supreme  
car  
finish*



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IGC-467

MOTORINDIA

March 1958

## Automatic Transmission Demands Special Know-How

*By Eugene Milmo*

The wise car owner takes his automatic transmission headaches to a shop which specializes in maintenance and repair of his particular system. There he can be sure it will be put through the proper testing procedures for tracking down and remedying various troubles.

Many automatic transmission complaints are traced right back to driver neglect. Insufficient fluid, for example, can bring on erratic shifting, slippage, roughness, noise—and is one of the more common troublemakers. That's why inspection of the transmission fluid level at 1,000-mile intervals is so strongly urged.

Idle speed should be watched, too. Faulty adjustments cause excessive creeping; violent transmission engagement in low, drive, or reverse; jolting downshifts; clashing.

*A.G. asks:* "In reading your article about generator troubles, this question came to my mind. Suppose a defective regulator prevents the generator from charging the battery while I am on the road at night. Is it safe to disconnect the regulator temporarily?"

*(A)* Yes, it is, as long as you drive at low speeds. Otherwise, the

uncontrolled generator can overload and damage the electrical system.

*T.Y. writes:* "I had a wheel alignment check recently and the mechanic said he had to correct the front wheel camber. Can you give me a simple non-technical definition of camber?"

*(A)* Camber refers to the outward tilt of the front wheels at the top. In other words, the wheels are angled so that they are farther apart at the top than at the bottom.

*From L.W.:* "My 1956 engine now overheats, but not because it is losing water. If the fan belt, radiator, water pump hoses, thermostat, carburettor and ignition timing are not to blame—as my garage insists—then what could be the reason?"

*(A)* Dents, bends and dirt clogging in the exhaust pipe or muffler will cause overheating. Transmission slippage and brake drag are also possibilities.

*S.U. writes:* "I bought a used 1955 Sedan and the day I went over to pick it up one of the service shopmen was instructed to drive it out of the garage for me. As he tried to start it, the engine kicked back and broke the starter. They put in a new starter and I claimed the car two days later. This was four months ago. I haven't any complaints about the car but keep worrying if an engine defect of some kind caused the trouble on that first day."

### HAVE YOU AN INDIAN CAR?

Motorists who have bought INDIAN MADE CARS are requested to write to us about their Car problems and peculiarities so that our technical department may give free advice. Tech. Editor Motorindia, 5/141, Mount Road, Madras-6.

March 1958  
M-3

## ABOUT YOUR CAR



*(A)* Engine kickback occurs when the ignition timing is too advanced. This was evidently corrected.

### Safety is no accident

Be careful about your driving—  
Be sure about your car.

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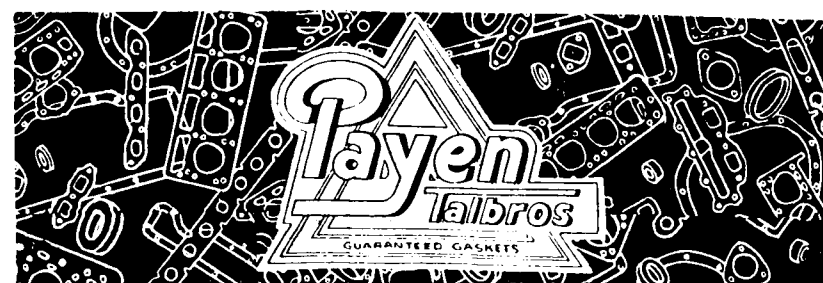
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- AIRCRAFT
- MARINE
- STEAM & BOILER
- INDUSTRIAL DIESELS

New Sunbeam Rapier has  
1½ litre engine

More power, larger brakes,  
re-styled bodywork

Convertible now available  
in addition to Two-door  
Hardtop

*From Gordon Wilkins*

The Sunbeam Rapier has been extensively re-styled, and fitted with larger engine of 1494 cc. 90.7 cu. in. Front brakes are also increased in size, and a convertible body is available for the first time as alternative to the two-door hardtop.

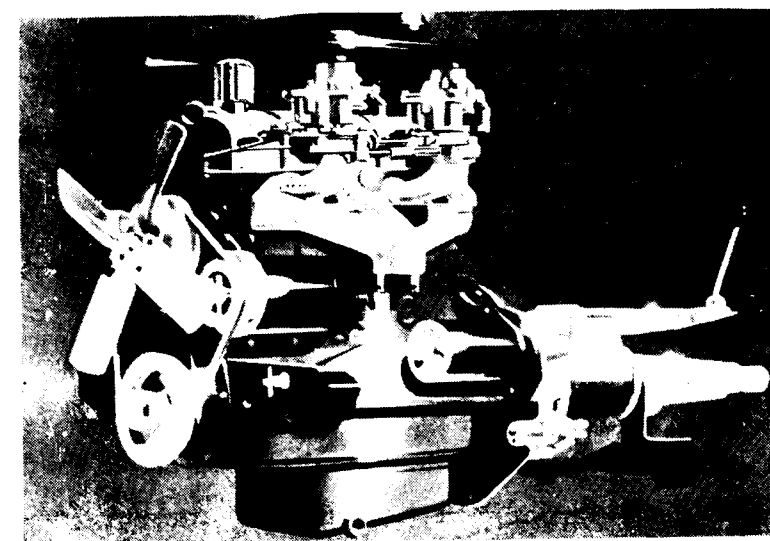
Known as the Rallymaster, the enlarged engine has a compression ratio of 8.5 : 1 against 8.0 : 1 for the previous model, and develops 73 bhp. at 5,200 rpm. This represents an increase of 6 bhp. and it is obtained at lower revolutions than before. Maximum torque is raised to 81.2 lb. ft. at 3,000 rpm., a rise of nearly 10 per cent.

Rallymaster engine is developed from existing Rapier engine, with bore increased from 3 in to 3.11 in. In view of the extra power and torque overdrive is no longer considered

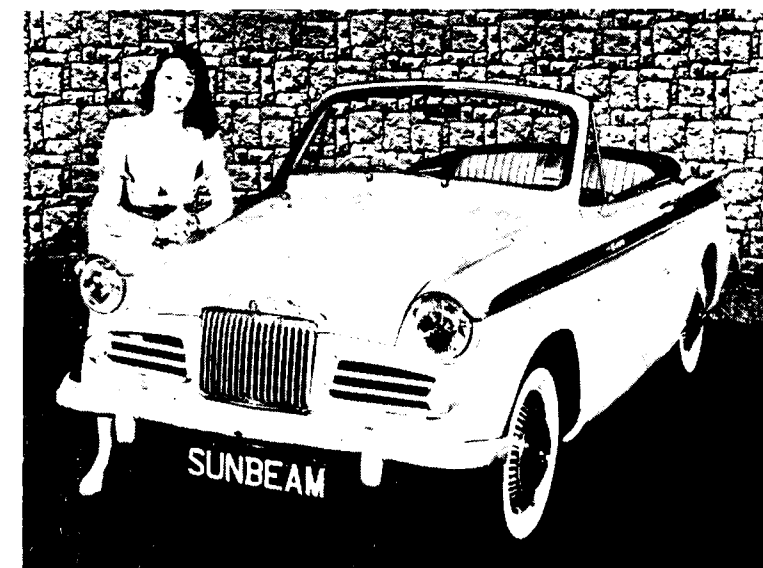
essential. It has therefore been made an optional extra and standard axle ratio becomes 4.55 : 1 instead of 5.22 : 1. Propeller shaft diameter has been increased because of the extra length entailed by omission of overdrive. A maximum speed of over 90 mph. (145 kmh.) is claimed.

Styling now features a new front end, with a modernised version of the traditional Sunbeam-Talbot radiator grille, and new tail treatment with slim outward-curving fins. The

The new 1½ litre Sunbeam Rapier Engine



March 1958



Sunbeam Rapier series II Coupe

car thus becomes something more than a luxury two-door souped-up Minx. In fact its styling now recalls the Studebakers of the Hawk series in some respects.

The new engine was first tried out in the Mille Miglia of 1957 and has been extensively tested since then. With it come larger front brakes with wider drums and lining area increased by 20 per cent. In response to demand from sports car enthusiasts, a short central remote control stick shift is now used, and steering is by a new recirculating ball unit said to give lighter and more precise control. To handle the Rapier's greater power and speed, new higher-rated coil springs and new large capacity telescopic dampers are now used on the front suspension.

The new body lines are accentuated by more prominent hoods over the headlamps, and by chromium mouldings extending along the sides to cap the fins. Luxurious interior features separate bucket front seats, folding back-seat armrest, fitted carpets and a wide range of instruments, some grouped in front of the driver, the rest in a horizontal centre group. In front of the passenger is a large lockable glove box.

MOTORINDIA

11

# Comfort

## FOR THE V. I. P.

The fair is over. The car speeds smoothly as if it is conscious of the sleeping child in the rear seat.

Father at the wheel marvels at the way it almost anticipates his every move. "I bought it the year I got married - and that's nearly 7 years ago!" he reflects proudly. "Its paint doesn't gleam, the lines are definitely out of date; but I wouldn't exchange it for the latest limousine."

A car is more than a beautiful vehicle; it is a

bundle of sweet memories, happy associations. It is a matter of pride to us, therefore, that those who buy a car from us believe that with our servicing it will run merrily, long after its companions have joined the junkyard. It is this customer confidence that sustains our progress.

Today, TVS, with its several units, meets the increasing demands of the automotive industry in all its aspects in South India.

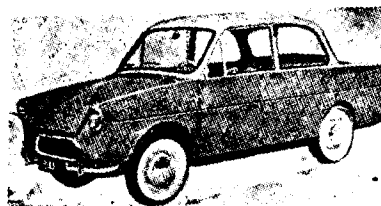


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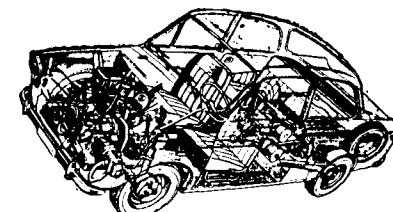
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**T. V. SUNDARAM IYENGAR & SONS PRIVATE LIMITED, MADURAI**



# DAF 600

## New Dutch Small Car with Automatic Transmission



[From Gordon Wilkins]

Great interest was aroused at the Amsterdam Motor Show by the new Dutch small car, the DAF 600 which combines a most original mechanical specification with a very attractive external appearance. The car, which is the product of the Van Doorne brothers, well-known Dutch truck manufacturers, exists at present in prototype form, but production is expected to begin at the end of the year. It is a two-door all-steel saloon of unit construction with four full sized seats and a flat twin air-cooled ohv. 600 c.c. four-stroke engine at the front and a fully automatic transmission.

Easily the most interesting feature is the Variometric automatic transmission utilising belt drive. There is no clutch pedal as a centrifugal clutch using fabric lined shoes inside a drum is provided for starting and stopping and there are no gears to shift. The belt drive gives infinite variations of ratio between 20:1 and 4.4:1. From the clutch the drive passes through an enclosed propeller shaft to a pinion engaged with two crown wheels under the rear seat. A splined sleeve moving transversely locks one crown wheel to the transverse drive shaft and frees the other, thus providing forward or reverse motion. Final drive is through two belts, one to each rear wheel with the driving pulleys on the ends of the transverse drive shaft. Driving and driven pulleys have conical faces which can be brought together or moved apart to vary their effective-diameter. Diameter of the driving pulleys varies in response to speed and load. Centrifugal force acting on revolving bob weights tends to force the driving cones closer together as the speed rises, thus raising the effective gear ratio, and one flange of each pulley is connected to a vacuum cylinder enclosing a piston bolted on to the end of the shaft with a connection to the inlet manifold, in such a way that the transmission always tends to give the highest possible ratio

on a closed throttle. Flanges of the driven pulleys are simply spring loaded to maintain belt tension when the drive ratio varies.

When the car starts, the driving pulley flanges are far apart and the driven flanges are close together giving the lowest possible gear ratio but as the speed rises the bob weights force the driving flanges closer together, giving a higher gear. Modern belt drives are, of course, very efficient; transmissions similar in principle to this has been in production for some time on the DKW Hobby scooter, a similar arrangement is used to drive the McCulloch supercharger on Studebaker and Packard cars and the A. C. Petite, 3-wheeler has used belt drive for some years, but this is the first attempt in recent times to drive a full four-seater car by belt and the DAF is the first European small car to have a fully automatic transmission.

One disadvantage of the transmission is the inability to obtain full engine braking down hill as it changes automatically to the highest gear under light load but this need not be a serious disadvantage in a flat country like Holland. The transmission does function as a non-slip differential, for if one wheel loses adhesion full torque is still applied to the other wheel and pulley diameters are automatically adjusted to compensate for the effects of cornering.

There are no universal joints in the transmission. Each rear wheel is mounted on a single wishbone pivoted at a slight angle to the car's centre line. Rigidly mounted on the wishbone is a tube containing the drive shaft on the inner end of which is a small casing housing a reduction gear on which is mounted the driven pulley. Angular deflection of the drive shaft caused by a

suspension movement are simply accommodated by twist in the belt.

Another remarkable feature of the design is a front suspension which uses telescopic dampers as the king pins and steering swivels. The lower end of each damper is shackled to a transverse leaf spring and the top is attached to a pin on a bracket under the front wing, giving a remarkably light and simple front suspension with a high roll centre. Because of this and the use of rubber bushes for the rear wishbones no chassis lubrication is required. Steering is by rack and pinion.

The two-door body has slim pillars giving excellent all-round vision and the sloping bonnet made possible by the flat-twin engines gives an excellent forward view. Wide doors give easy entry and the luggage locker is exceptionally large.

The driver has a drop-centre safety wheel and speedometer together with warning lamps for oil pressure, dynamo charge, main headlamps beam and flashing indicators are grouped under a cowl in front of him. There is a pull-up handbrake between the separate front seats, alongside the small lever which selects Forward or Reverse motion.

Crankcase and cylinder heads are of aluminium and engine bearings are copper-lead. All moving parts are pressure lubricated.

Retail price in Holland is expected to be equivalent to £420 or about £150 less than that of imported British small cars.

### Specification

Engine 2-cyl ohv 76 x 65 590 c.c. Compression ratio 7:1 22 bhp at 4,000 rpm. Brakes Hydraulic Drums 7 in diameter. Electrical system 6 volt 56 AH Dimensions: Wheelbase 81 in Track 47 in Length 142 in. Width 56 in Height (laden) 54 in Ground clearance 7 in. Interior width (front) 47 in. rear 49 in. Weight unladen 1268 lb Weight distribution unladen 50/50 Maximum speed 57 mph. Fuel tank 6½ imp. gal. Tyres 5.20-12 in.

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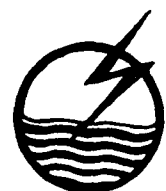
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## FORDS OUTSELL ALL OTHER MAKES

*Detroit, Michigan:* Ford outsold all other makes in 1957, according to final and official registration figures released here Thursday, February 15, by R.L. Polk and Company, the automobile industry's statistical agency.

The figures show that not only did the nation's Ford dealers sell more new Ford cars in 1957, but they also sold more new cars and trucks combined than any other manufacturer.

The figures, which cover sale of both the 1957 and 1958 Ford models, show Ford obtained a 37,329 unit lead in cars and a lead of 23,670 when cars and trucks are combined.

A total of 1,493,617 Ford cars were registered in 1957 compared to 1,456,288 cars registered by Ford's closest competitor. Combining cars and trucks, the figures show a total of 1,770,918 Fords were registered in the year, compared to 1,747,248 for Ford's nearest competitor.

Polk reported a total of 5,982,342 new car registrations were entered in 1957. Ford's share of this is 25 per cent.

Ford's percentage of the total automobile market has increased over the past ten years—from 14 per cent in 1948 to 25 per cent in 1957. Not only has Ford captured an increasingly large share of the market but the growing percentage has been in an expanding auto market which has nearly doubled since 1948. Registrations in 1948, for example, totalled only 3,490,952.

During 1957, Ford also continued its long-time dominance of the station wagon and convertible field, producing more than one-third of all station wagons and convertibles built in the United States.

The retractable hardtop, which Ford calls the Skyliner, accounted for 22,647 sales, or nearly one-fourth of all Ford convertibles. This model introduced a year ago, is the only fully retractable steel-top convertible in the industry.

A total of 15,173 Thunderbirds were sold in 1957, last year of production of the two-passenger model. Ford dealers currently are introducing a new luxury version of the Thunderbird that seats four persons.

Ford also maintained its V-8 leadership by selling more V-8 models than any other make.

## Cadillacs with Perkins Engines

Perkins-Maroc, F. Perkins Ltd.'s distributors in Casablanca, recently gave a cocktail party attended by leaders of the motor trade in Morocco to display cars fitted with Perkins diesel engines.

On view were a Cadillac fitted with a Perkins P6 (C) conversion engine, and a Plymouth with a P4 (C) power unit as offered by Chrysler as optional first equipment.

Perkins-Maroc also displayed a Fargo, J. and International 180 trucks fitted with Perkins R6 (V) diesel engines.

The company specialises in converting petrol engines in American cars with Perkins diesel engines.

## DAIMLER BENZ IN 1957

The total turnover of the Daimler-Benz AG in 1957 amounted to approx. 1,785 million D-mark (1956 : 1,640 million D.M.) Exports amounted to 733 million D-mark (620 million DM).

In 1957, the total production of the Daimler-Benz AG rose to approx. 124,000 (1956 : 108,000) units, comprising 81,000 (69,000) passenger cars and 43,000 (38,400) commercial vehicles. Production of Mercedes-Benz passenger cars has thus increased by 16% as compared with an average of 13% for the total passenger car production in the Federal Republic.

Truck and bus production has risen by 11% to approx. 37,000 units. In this sector, the average Federal increase amounts to 5%. Nearly 6,000 UNIMOG have been produced, 19% more than the previous year. Production of stationary and industrial engines rose by 110% to 6,300 units (3,010).

In Germany, the share of Mercedes-Benz Products in the passenger car sales of the over 7,000 D-Mark class has increased from 59% to over 62%. On the bus market it rose from last year's 35.6% to nearly 47% and for the medium-sized buses to 66%. In spite of the difficulties on the commercial vehicle market in Germany Daimler-Benz was able to hold its 1956 results.

The export turnover of 733 million D-Mark increased by 18% as compared with 1956. As compared with total turnover the export share rose from 37.6% to nearly 42%, while the number of the units exported amounts today to 50% of the total production.

The share of the Daimler-Benz AG in overall German automobile exports amounts in the passenger car class over 1 ltr. to approx. 10%, in the passenger car class over 2 ltrs. to 40%, among trucks and buses with over 1 ton payload to 50% and among trucks with more than 3 tons payload to approx. 70%.

In the five works and 32 branches of the company in Germany, the number of the personnel was raised by 3,000 members to a total of 53,000 in 1957.



Shaving excess weight off truck rims is being done by Firestone Steel Products Company by employing the most modern manufacturing process. Photo shows sparks flying during an automatic welding operation on a truck rim, called the Challenger, which enables increase of truck's payload.

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## FUEL ECONOMICS OF LONDON BUSES

(Exclusive to Motorindia)

Operators of public transport and fuel suppliers will find much of interest in a recent paper given to the Economics and Operations group of the Institute of Petroleum, London, by Mr. A. T. Wilford, concerning the experiences of London Transport in the field of fuel economics. For London Transport, fuel costs amount to nearly £6 million a year and represent 13.1 per cent of total working costs. The mean fuel consumption of the fleet of buses is 9.5 miles per Imperial gallon, consumption on different routes varying, however, by as much as 45 per cent, from 7.3 m.p.g. to 11.6 m.p.g.

When, thirty years ago, London Transport began adopting compression ignition in place of spark ignition engines, an economy in fuel consumption approaching 50 per cent was achieved. Later, a further 10 per cent saving was realized by the introduction of direct fuel injection. Despite the development of high octane gasolines and high compression spark ignition engines, the greater robustness, reliability, and lower running costs of the high speed diesel engine soon compensate for its greater initial cost compared with a gasoline unit of similar power. At an annual mileage as low as 15,000 miles, the running costs (in the U.K.) of a six-ton diesel lorry are at least £100 less per year than for a similar gasoline-driven vehicle.

The fluid flywheels and pre-selector gear boxes used on London Transport buses are estimated to raise fuel consumption by at least five per cent, but there is a compensating factor in lower maintenance costs. The use of an overdrive would lead to a significant saving of fuel on routes where vehicles were able to travel in top gear for considerable distances, but it is obviously not suitable for London conditions. Likewise, rear axle ratios could be varied to suit particular routes, but this procedure is not practicable where full interchange-

ability of vehicles between routes is desired. The increasing use of light alloys in vehicle construction is resulting in either a lower fuel consumption or, alternatively, the possibility of a higher pay load.

Bus operating conditions, most of which are outside the control of the operator, have important effects on fuel consumption. The most important of these is the frequency with which a bus is required to stop. Assuming an average journey speed of 11 miles per hour, a bus on a route with an average of two stops per mile may achieve over 14 m.p.g., but consumption rises by 65 per cent (less than 9 m.p.g.) when the number of stops is increased to seven in the mile. A momentary stop from 25 miles per hour costs 0.6d. in excess fuel consumption, while an unscheduled stop of 10 seconds' duration costs 0.8d. These figures become significant when it is remembered that on London roads public service vehicles account for only seven per cent of the traffic, and that the volume of other traffic is steadily rising. It has been estimated that the growth in the volume of traffic is costing London Transport an additional £60,000 each year in fuel costs alone. Total additions to costs from this cause are much greater. A further effect of the increasing volume of traffic is an unavoidable irregularity of service, which, in turn, causes loss of revenue because people no longer find it convenient to "hop on a bus." Variations in the vehicle's load also affect fuel consumption, which, for London buses, has been found to rise by 7.3 per cent for each additional ton load, and *vice versa*. In this case, however, the increase in consumption is offset by higher revenues.

Weather also affects fuel consumption. A fall of one degree Fahrenheit in the mean atmospheric temperature for a given period increases fuel consumption of London's buses by 0.035 gallon per hundred miles. The only operating condition which

is more or less under the control of the operator is driving technique, and here an efficient training scheme will pay dividends in terms of fuel saved.

The choice of lubricants, by reducing engine friction losses, is another factor affecting fuel consumption. London Transport achieved a 3½ per cent saving by using SAE 20 W oil in place of SAE 30 which for long had been the grade used for the diesel-engined fleet. A latter change to SAE 10 W as an all-the-year-round oil brought about a further fuel saving of 2½ per cent. Thus, the use of oil viscosity oil has resulted in a saving of fuel amounting to about £350,000 a year. There is a small offset due to an increase of 15 per cent in lubricant consumption but the life of engines between overhauls has been increased and batteries are lasting longer. The advantages of lower viscosity oils may be less, however, for goods vehicles which run for longer periods at full load. As far as rear axle lubricants are concerned, lower viscosity does not lead directly to better fuel consumption.

Lastly, Mr. Wilford touched on the well-worn theme of fuel characteristics. London Transport uses automotive gas oil of 0.848 specific gravity, and a full scale experiment with 0.830 s.g. fuel which raised consumption by 2 per cent confirmed this choice. In the U.S.A., fuels with a specific gravity as low as 0.800 are commonly used for city bus services, but such light fuels would raise London Transport's costs by £350,000 per annum without providing any compensating advantages.

Instinctively, fleet operators dislike fuels with a high sulphur content, but within the range of currently marketed fuels in the U.K., London Transport has not found evidence of adverse effects from this cause.

**SPRINGS BREAK :** My 1937 Wolseley 14/56 keeps snapping main leaves in the front springs. Various thicknesses of leaves have been tried, and the shock absorbers tested several times but found in good order. The springs are kept dry and free of grease, and the U-bolts are dead tight. Average life of a main leaf is about three months. The springs on this model are very short and stiff. Can you help me? (K.R.)

\* We think that you would gain better results with a more flexible (i.e., a completely redesigned) front spring and different shock absorbers. There are many various makes on the market today, but it is important to ensure that you fit double-acting shockers if the springs are made more flexible. Basically, the idea is to make the shockers do most of the work, leaving the spring to act as a tie for the front axle and a suspension medium for carrying the car's weight.

**TAPPET RATTLE :** My 1938 Chevrolet has a rattle in No. 6 exhaust rocket which sounds like a loose tappet. I have had the car to three garages, but no one can find what is causing the rattle. I took the head off and the valves, valve guides and seats were found to be in good order. The only thing I have noticed is that the bottom end of No. 6 exhaust push-rod is not polished like the other rods. It looks as if it has been grinding on something, although I've had it in (new) for only three weeks. No matter how tight I set the tappet, the rattle is still there. What is it? (M.C.M.)

\* There is not much doubt that you have some trouble with the cam follower or the cam itself. The follower should be removed for examination of the parts mentioned. Possibly the hardening is worn through, in which case you would certainly have a continuous rattle and also find it difficult to maintain adjustment.

**ENGINE KNOCKS :** I recently bought an MG P model which is in excellent condition except for an engine knock, loudest when the engine is under load. It disappears when I take my foot off the accelerator or when running free downhill.



The knock occurs once per revolution. The engine has been re-sleeved and had new bearings fitted—big ends at least, though I'm not sure. I've taken off each plug lead in turn, but the noise persists. What say you? (A.T.N.)

\* Your trouble may be coming from main bearings, and it may be accentuated by crankshaft and float, which could explain the "coming and going" effect when on drive and overdrive. A competent motor engineer should be able to diagnose the noise by a practical check.

**TUNE-UP PLANS :** Here is a problem which I hope you can help me with: I have a 1947 Vauxhall, 12 h.p., which fully re-conditioned a couple of years ago, and which has done 13,000 miles since. I would like to raise the compression ration, but first I must explain the set-up.

The motor has 1951 pistons and head; C.R. for a 12 h.p. up to 1950 is quoted as 6.8 to 1, but the 1950 figure is 6.4 to 1; what compression ratio would mine be? How much would I have to take off the head to raise C.R. to 7.5 to 1, and would you consider this too much for the engine? (K.P.)

\* From the fact that you have fully reconditioned the engine, we assume the job included a rebore. If so, we don't know your present ratio. You could measure it by placing one piston on t.d.c. compression, then carefully measuring (from a c.c. graduated tube) the quantity of S.A.E. 10 oil, mixed with equal parts of kerosene, needed to fill the combustion space up to the bottom of the plug threads. Then move the piston down to bottom dead centre (after you've removed the exhaust push-rod) and add more oil until it is full once more. The ratio is then a matter of simple division. A suitable syringe (or perhaps a syphoning tube) will help you to remove the oil. If you can give us the ratio, we will tell you exactly how many c.c.'s reduction

is needed to raise the ratio to 7.5 to 1.

**USING OIL :** The engine of my 1938 Vauxhall was rebored about 20,000 miles back, and soon afterwards started to use oil. I took it to a garage, where they fitted new rings, ground the valves and fitted new exhaust valves. I ran her for three months, and she was using still more oil than before. I took her back to the garage and they put in expansion rings, but these were no improvement. At last the garage advised Cord rings, and these were fitted, but she is still using three pints of oil every 100 miles.

The garage people say the oil is definitely not getting past the rings and is not being lost around the valve stems, but when the motor is revved up a cloud of smoke comes from the exhaust. Apart from excessive oil consumption the car is running well. What do you suggest? (R.S.)

\* You could pin point your oil consumption in the following way. Undo the oil pipe union leading to the rocker gear, to ensure that no oil can get down the valve guides, temporarily starving the valve assembly of oil. If you're no further advanced the trouble is most likely in the crankshaft bearings. If these are very bad, it is obvious that no oil rings—not even Cords—will be able to stop your oil loss.

Incidentally, oversize rings are not used to take up cylinder wear; they are only for cylinders which are machined oversize. In other words, if a block is bored .030 inch oversize, you can use only this size ring even after further wear occurs.

**FOUR-LUNGER :** About 500 miles ago I fitted new rings and ground in the valves of the family car (a Dodge 1938), and decoked and cleaned the engine out thoroughly, being most particular with all the work. She now goes beautifully on four cylinders; the front two are dead when idling but under loads she runs okay. I've fitted new plugs and new distributor cap, the contact points are good, wiring good, and I get a nice fat spark; but she's still hitting on four.

Compression test showed 105 on all cylinders. Have had head off twice and installed another new gasket in place of the other new one, and looked over it thoroughly each time with a strong magnifying glass for cracks. The manifold gaskets are new, and I have tested the joints with petrol, but could find no air leaks. Valve clearance is right. The D ticked over nicely before I started, but used oil. Now she uses no oil, but . . . (T.V.)

\* The fact that both front cylinders are affected leads us to believe you have an air leak causing the trouble. Check for a wrapped inlet manifold or faulty manifold hot box. There may even be a crack in the inlet valve port feeding the two front cylinders.

**GEARBOX NOISE :** My 1953 Consul, with 10,000 miles up, has a grinding noise, apparently in the gearbox, which occurs when changing from low to second gear. With the car moved up to speed in low gear and the clutch depressed, the noise comes in while the gear lever is being moved from low to neutral, where it stops. It is much less noticeable if the lever is moved quickly. Any ideas? (W.B.)

\* When you get trouble like this, there is no alternative but to strip the gearbox down for examination. The trouble seems to be in the layshaft gear or in the first and reverse sliding gear. Only a full examination will disclose just what needs to be done to the gearbox.



Representatives of the Imported Motorcar Show in Los Angeles seen admiring the first Datsun after being unloaded at the port.

## Imported Car Show at California

**LOS ANGELES :** An estimated 125,000 Southern Californians and visitors from all the 48 states attended Los Angeles' first Imported Motor Car Show held in the big Shrine Auditorium recently.

On display were 51 different makes and more than 200 individual vehicles. They included family cars, sport cars, motor scooters and trucks and represented the automotive skill of eight nations. England led with 24 makes. There were 13 from Germany, five from France, three from Italy, two from Japan and one each from Sweden, Czechoslovakia and Austria.

An official of Ted Bentley Productions, which sponsored the exhibition, announced that because of the "unexpected response, the Show will be an annual event. We are now planning for an even bigger display of imported cars in 1959," he said.

Japanese-built autos attracted wide attention at the Show because they are the first ever to be exhibited in this country.

A display of two Datsun passenger cars and a Nissan truck arrived at the Port of Los Angeles aboard Nippon Yusen Kaisha Lines' SS ATAMI MARU just a few days

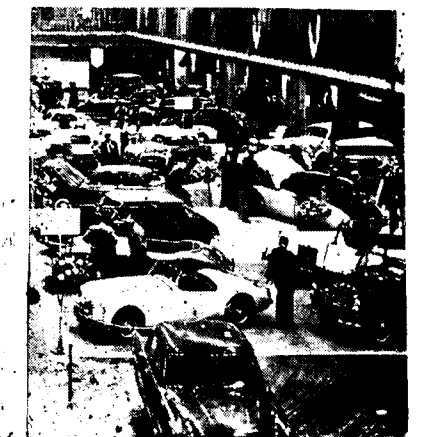
before the opening of the foreign car show. They were produced by the Nissan Motor Car Company of Yokohama.

Also on display at the exposition are three Toyopet passenger cars and one Toyopet jeep. The first monthly shipment of 100 Toyopets has reached Los Angeles Harbour.

Nissan Motor Co., latest overseas manufacturer to seek customers in the Southern California market, manufactures approximately 5,000 passenger cars, trucks, buses and jeeps monthly and also assembles the British Austin in Japan.

The auto firm exports its motor vehicles to Brazil, Argentina, Uruguay, Spain, India, Pakistan, Saudi Arabia and numerous countries in the Far East. The first Datsuns and Nissan truck were imported by Marubeni-Iida (America), Inc.

A view of the main exhibition hall of the Imported Motorcar Show at Los Angeles recently.



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# PROMOTING TOURIST TRAFFIC IN INDIA

## TOURIST DEVELOPMENT COUNCIL SET UP

*New Delhi :* Government of India have decided to set up a Tourist Development Council to achieve effective co-ordination and co-operation of all the interests, official and non-official, in the promotion of tourism.

The main function of the Council will be to recommend measures necessary for the promotion of tourists traffic to India from other countries and from one part of the country to the other. While recommendations of the Council will generally be in respect of matters concerning the country as a whole, it will not be debarred from making recommendations in respect of measures for the development of tourist traffic to a particular place. In such cases, however, it will take into account the views of the Tourist Advisory Committee of the State or the region in which the place is located.

The recommendations of the Council will be advisory in character, but in view of the high-level representation on the Council, its recommendations in so far as action on the part of Government is concerned, will not be rejected without reference to the Minister concerned.

The Council will have for its Chairman the Minister (Cabinet) in charge of Transport in the Union Government. The Minister of State or Deputy Minister, as the case may be, in charge of tourism in the Union Government will be the Vice-Chairman.

Other members of the Council will be : Secretary in-charge of Transport in the Government of India, Head of the tourist organisation of the Central Government ; one representative each of the Ministry of Railways, Ministry of Finance (CD), Department of Communications and the Planning Commission ; Director-General of Archaeology ; Minister in charge of tourism in each State Government ; one representative of the Himachal Pradesh Administration ; Chief Commissioner, Delhi ; five nominees of

the Indian Travel and Tourist Industry's Council representing the various branches of the travel trade excluding Indian Airlines Corporation and Air India International ; Mayors of the Corporations of Bombay, Delhi, Calcutta and Madras ; and six members of the public of whom not more than three shall be Members of Parliament and/or State Legislatures.

An official nominated by the Union Government will be the Secretary of the Council. The Council may appoint such committees as it may consider necessary from time to time to examine problems. The Council will meet atleast once a year at a place and on a date selected by the Chairman.

Government of India have also decided to abolish with immediate effect the Central Tourist Traffic Advisory Committee constituted in December, 1952.

## ROUND-THE-WORLD IN LIFEBOAT ?

Captain Walther Westborg, a Danish skipper on a round-the-world trip in a Danish lifeboat powered by a British diesel engine hopes to be the first man to sail single-handed around the world. Captain Westborg, has now reached Puntarenas, Costa Rica.

The 22 ft. Dana Rescuer weighs 9 tons and is steel built. The power unit is the well-known Perkins model L4 marine engine rated at 46 s.h.p. at 1500 r.p.m. The vessel, which is of unique design, was built in Denmark, and is claimed to be unsinkable. The diesel engine has now operated for 1829 hours, and Capt. Westborg states : " It has not given the slightest trouble, and has never given me a moment's anxiety."

The Captain set out on his epic cruise on July 14, 1956, from Esbjerg, Denmark, calling at ports in England, France, Spain, Portugal, then travelling to the Canary Islands, the jumping off point for the Atlantic crossing. The ocean crossing took 31 days and St. Thomas (American Virgin Islands), was sighted on schedule with 46 gallons of diesel fuel to spare.

## CALTEX FILM MAY MEAN MORE AMERICAN TOURISTS HERE

*New York :* A half hour film on India will be shown on 150 television stations in major cities of the United States during 1958.

Produced by Caltex, the film "The New India," will help promote tourism, advancement of trade, and a better understanding of India and her peoples.

"The New India" is one of the eleven prize-winning Caltex films to be televised weekly and publicized nationwide in a show which will be called 'Compass,' for T.V. Programming purposes.

The Caltex films in the series, devoted to the interpretation of the countries of Europe, Asia and Africa, are expected to reach an audience of 60,000,000 Americans.

All films in the series have been certified as educational by international agreement and will be shown by the T.V. stations without charge as a public service.

"The New India" recounts the story of a young Indian brother and sister who have been given a trip through their native land as a graduation present. On their return home, the young people describe many of their experiences to their parents, the folk dances they have seen, the horse guards in New Delhi, the great industrial plants and many other sights and ceremonies. All of these and much more of the life of India are shown in the film.

"The New India" is in 16mm colour with an original musical score. This, and all other films in colour in the series, is available on free loan in India through Caltex district offices at Bombay, Delhi, Calcutta and Madras.



Not only the contents displayed in the Museum, but the very architecture of the Trivandrum Museum is itself a sight for tourists.

## GOVERNMENT MUSEUM, TRIVANDRUM

The Government Museum, Trivandrum, celebrated its Centenary in January 1958. This brief article highlights some of the outstanding art collections in the Museum.

Among the art treasures at the Government Museum at Trivandrum perhaps the most significant collection is that of wood carving. The forests of the State are rich in different varieties of wood and wood carving in Kerala has a long tradition. For obvious reasons the wood objects on display at the Museum are not older than about four centuries.

A Mandapa (Pavillion) made out of fragments from an old ruined temple in the State, exhibited at the entrance to the Museum, exemplifies the great skill of Kerala artists in wood carving. Beautifully carved pillars, pendants at their top, the ceiling elaborately carved with lotus-bud motif and the pyramidal roof—all make it a beautifully designed work of art in wood. On this Mantapa is set an outstanding specimen of Nataraja (in bronze) as lord of cosmic dance with a votive lamp in front.

The Koothapalem (model of a dance hall) is another wood piece of high artistic quality in the Museum. "Koothu," a dance, is one of the oldest of theatrical dances peculiar to Kerala. In this dance, the "Chakyar" the actor, an expert in story telling, explains in details episodes from Puranas and epics,

locating them on the soil of Kerala as if every thing took place among the Malayalees of old. A model of this dance hall with its expertly arranged pillars (so as not to hide the view of the performances on the stage from any angle) and its conical roof has evoked considerable admiration among students of stage-craft.

Another impressive wood work on display is the temple car from Padmanabhapuram. It is about 300 years old and is in three storeys, 9 feet high, the lower being 13 feet long and 9 feet wide. Similar cars are even now used in temple processions. This monumental work of art in wood has carved on it the familiar figures of Hindu Gods and Goddesses and decorative animals and floral designs.

The Kerala idiom is seen at its most characteristic in the Pushpavimanam, illustrative of the Hindu pantheon. The kurmasana on which the whole pantheon is set, floral and animal designs and lotuses of different shape and foliage scrolls

ornamenting the pillars, and highly intricate carving in the domical roof combine to make it an outstanding work in wood carving. The ceiling is divided in nine circular compartments and in each a lotus is neatly carved out and into it are fitted carved images of divinities, with Brahma at the centre.

## Bronzes

Among the bronzes, the 'Vishnu' excavated from North Travancore is of special interest. The figure is impressive for its serenity and is devoid of all intricate ornamental details. It is an admirable specimen, 1,000 years old, and exemplifies the perfection reached by some early artists. Another Vishnu image of a much later date elaborately decorated indicates, however, a certain degeneration of taste in later centuries.

The figure 'Siva and Sathi' has caught the imagination of many a visitor to the Museum, for it is a unique piece with dead Sathi on the shoulders of Siva and a demon

with two long bugles announcing the death of Sathi.

There are at the Museum three versions of the classical figure of Nataraja surrounded by the corona of flame (prabha) and two more without the corona.

Another notable bronze figure is that of Gajathandava, different both in the leg posture and the resting of a foot on the head of an elephant instead of the customary demon. It is a work of art of a recent date, however.

The plaster cast of an 11th century dance pose from an old and ruined temple near Trivandrum (Trivikramangalam) fixed to the walls near the Museum entrance is worth careful study for the different poses of the dancers and also because of its antiquity. The principal figures of the scene are dancing women, three in the central group and one each on the sides, with attendants beating the drum and cymbals. A number of other plaster models of objects from various temples of the State, which are of a structural nature, are also on display in the Museum.

#### Kathakali Figures

Six miniature figures of Kathakali, the famous theatrical art of Kerala, are exhibited in wall cases near the Museum entrance. The characters and their eloquent gestures are exquisitely carved and painted. Colours like pachcha, kavi, red, etc., are given to the characters according to the part they impersonate.

Other objects of interest in the Museum include a large collection of bronze lamps, and ornaments for the neck, ears, nose and hands used three centuries back. Perhaps the most beautiful among the lamps of Travancore is the one designed as a stylised bird, the hollow head providing for the receptacle for the oil and the wick, and the tail providing the grip for carrying the lamp about. The lamp was formerly used to light the passage of the reigning sovereign to the interior of dark temples for ceremonies.

Ornaments of Kerala have a ritualistic significance. The palakai mothiram (ring made of the seed of the Pala tree) is worn in the belief

that it will secure the benign influence of Bhagavathi, the patron Goddess of the Malayalese, and Pala tree is supposed to be her favourite tree. Ornaments made of the claws of tigers are also worn in the belief that they will protect one from bad dreams and nightmares.

Numerous musical instruments: stringed, wind and percussion are tastefully displayed in the Museum galleries. A feature of one Thambura kept on display is that it is made of clay only and till recently, one is told, it used to give sweet and resonant musical sound. Instruments peculiar to Kerala to give out Panchavadyam—a combination of five sounds—exhibited in the Museum, add to the interest of this Section.

The Museum has on display various objects to illustrate religious dances of Java and Bali islands. Among them is a case containing the complete costume and ceremonial outfit of a Balinese Hindu priest, and a set of figures used in the Javanese shadow play (Wai-Yang).



Minister Shah seen cutting the tape to inaugurate the Goetze (India) Factory.



Rolf F. Goetze, President of the Goetzerwerke along with Mrs. Goetze seen garlanded at the inaugural function.

## Goetze Piston Rings Factory Inaugurated

### An Indigenous Enterprise to save Foreign Exchange

Near the 5th milestone on the Patiala-Rajpura Road, adjacent to the Bahadurgarh Farm, where, only a few years ago, there was no trace of any industrial activity, has gone up the Goetze Piston Ring Factory from which piston rings of the highest quality are rolling into the market. It is, so to say, a replica—of course, on a smaller scale of its famous German prototype and it is bound to have an eminent place amongst the most modern factories of the kind. More than Rs. 55 lakhs have gone into its construction and it can boast of many striking features, such as the dedusting device which will prevent dust, metal particles etc., from getting into machine tools and reducing their life and accuracy and maintain a clean atmosphere conducive to efficient work. Even though the factory is highly mechanized, no less than 300 workers are required to keep the plant in operation. The factory will produce piston rings from 2" to 6" in diameter and satisfy the demands for high quality rings for all types of internal combustion engines. It is capable of meeting substantially not only the demand in India for piston rings but also the demand in many neighbouring countries.

The factory has been put up by Messrs. Goetze (India) Private Ltd., with that businessman of vision and initiative, Mr. H. P. Nanda, as Governing Director, in collaboration with the Goetze organisation of Germany known throughout the

world for its superb piston rings, packings, gaskets, etc. To ensure that the same quality of workmanship, for which the German organisation has acquired and maintained in India, five Indian engineers were sent to Germany to receive the necessary training and learn the know-how. After completing the course, they returned to India and joined the factory. The erection of machines and equipment was supervised by German experts. Two highly qualified and experienced German engineers are working in the factory and advice regarding technical progress constantly flows in from the parent set-up to ensure that piston rings produced at Patiala will in no way be inferior to those manufactured in Germany.

It is interesting to recall here how Goetze has come to be accepted all over the world as a synonym for flawless work-pieces like piston rings, packings, gaskets, etc., all over the world. In the time of Fridrich Wilhelm Goetze, whose small workshop at Burschied was destined to become the nucleus of the present world-renowned Goetze concern, locomotives were at the initial stage of development. As a young technician of originality and enterprise, Goetze applied his mind to the problem of removing their defects and shortcomings and his successes became the stepping-stone for greater successes achieved in due course by his son Mr. Hermann Goetze and grandson Mr. Ralf Fridrich Goetze, who have been



A general view of the machine shop where 10,000 rings are machined and finished per single shift each day.

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running the famous German plant with great ability and distinction. The products of their factory piston rings, cylinder liners, brake rings, gaskets, oil seals etc., are greatly liked and valued in all markets of the world.

As the factory at Patiala has sprung up under the inspiration and guidance of the traditional German technique, which is esteemed everywhere, it may be safely claimed that it will present as high a standard of workmanship as is associated with the name of Goetze. This piston ring enterprise boasts of a most modern mechanised foundry equipped with a low induction electric furnaces, and reconditioning plant, conveyor system operating on the surface as well as underground and overhead for conveying sand and molten metal and flasks of loaded and empty piston rings. It also boasts of automatic moulding machines for ranking moulds and an up-to-date metallurgical and chemical laboratory. The factory has been provided with chromium and tin plating plants of the latest type and also an establishment for making tools for the manufacture of piston rings. Thus it has acquired the status of a self-sufficient unit.

The process of manufacture has been adopted with a view to producing piston rings of the highest quality. The rings are cast individually instead of being a cut off from sleeves. The special purpose machines in use ensure that the rings are perfectly round and give equal radial pressure in the cylinders.



The distinguished visitors seen at the Foundry.

Special grinding and honing processes guarantee their fine surface finish. Besides increasing engine efficiency they reduce cylinderwear and increase engine life. It is noteworthy that piston rings have to be produced to close tolerances, certain dimensions being kept within thousandth of a millimeter. The tensions of every ring has to be maintained within very close limits. This involves rigid quality control from casting up to packing.

The melting of metal is carried out in an electric furnace. Strict control of the metal is maintained by constant chemical and metallurgical analysis of the melt, and the cast rings in the laboratory

attached to the foundry. During machining, inspection is carried out after each operation. This includes control of dimensions with instruments in addition to visual examination for surface flaws. After completion of machining operation, every ring is to undergo the final inspection. This involves checking of surface finish and all dimensions and tension and light inspection in a control ring to ensure perfect roundness of the ring.

The Goetze Piston Ring Factory at Patiala uses indigenous raw material. It will obviously be instrumental in saving foreign exchange, in the case of an item which will require in increasing quantities with the growth of our automobile industry. It will not only save foreign exchange but also earn it for us by exporting rings to neighbouring countries like Nepal, Burmah, Ceylon, Malaya, Indonesia, etc. Its piston rings, already tested and found to be of the highest quality in every respect, are rolling into the market. In the near future the factory will not manufacture cylinder liners. The sole selling agents, Messrs. Escorts (Agents) Private Ltd., have established an extensive distribution network which will ensure the widest possible circulation of the factory's products.

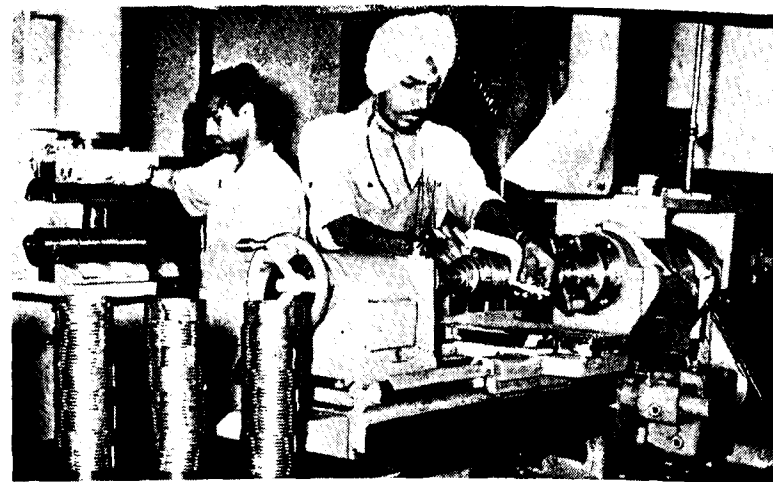


Photo shows the final turning operation of piston rings.

# ORIGINAL GOETZE PISTON RINGS

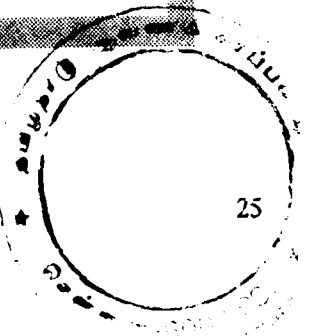
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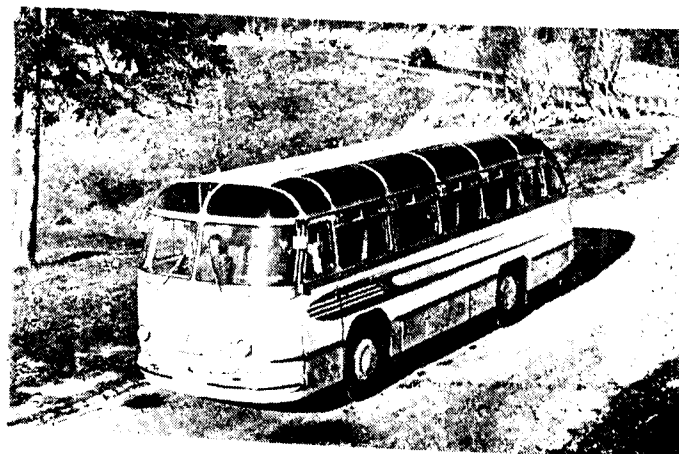
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Zis-112 shown above is a safety racing car exhibited at the Industrial Exhibition.



A bus with 35 comfortable, soft, high back seats intended for tourist trips. The bus is properly aired, not to mention the radio installation etc. within the bus.

## NEW SOVIET AUTOMOBILES

BY

SERGEI ZHARKOV

*Soviet automobile designers are building new models of passenger cars that combine simplicity and comfort. They are adjusted to travel on first class highways and rough roads, in heat and snow, big spring and autumn floods. The motor cars will at the same time be cheap, economical and with good speed.*

What new motorcars are being manufactured now and will be put out in the near future?

### AIRPLANE SPEED

Imagine an urgent trip to Lenin-grad. If it is 12 o'clock noon, it is a long time till the trains leave Moscow in the evening. You go to the route-taxi station therefore and take a taxi: within four hours the smart Limousine sets you down in Lenin-grad. The trip is quick and cheap, comfortable and reliable. **THE MOTORCAR COVERS 640 KM. IN FOUR HOURS.**

This excellent motorcar is the ZIL-111, which is the Russian abbreviation for the Likhachev Automobile Plant, and the number stands for model No. 111.

This car has not yet appeared in city streets. So far there are only models of this handsome motorcar with "Moskva" on its radiator. This is the name that has been given the ZIL-111.

The Moskva is a high-class six-passenger limousine with a 200-hp. motor, and can develop a speed of 160 km. per hour. The motorcar is equipped with all kinds of conveniences. The side windows close automatically when a button is pushed. There is an air conditioner that also purifies the air of dust. Without leaving his seat, the driver can fill the tyres by means of a special device.

The designers of the Moscow Likhachev Automobile Plant are now finishing off their job and in the near future production of the Moskva will be started.

What are the designers of the Molotov Automobile Plant in Gorky working on?

The Gorky workers recently began putting out the Volga, a first-class motorcar. It is of high stability, roadability and stands up to wear and tear. The designers are now working on a still more comfortable motorcar that has not a name as yet. It will be of the ZIM type with a 150-hp. motor and a speed of up to 150 km. per hour.

### CROSS-COUNTRY PASSENGER CAR

Imagine that you are in a remote part of the country. There has been a heavy rainfall; the country roads are muddy and the ruts are full of water. A Moksovich motor

car with four passengers in it goes tearing into the mud. Who would ever think of travelling by motorcar on such a water-logged road? A motor lorry would have to be dragged out by tractor, to say nothing of a passenger car.

**THE MOSKVICH ROCKS A BIT IN THE RUTS, SPLASHES THE MUD ABOUT, BUT CONTINUES ON ITS WAY.**

The designers have changed the Moskvich and made it a motorcar of high roadability, and put in a front-wheel drive. The outer appearance of the automobile has not been changed much. It has the same lines that give it an impetus and smooth appearance. True, the body sits a bit higher on the frame. The passengers of this small cross-country vehicle may be sure that they will always reach their destination no matter what the weather—neither rain nor snow storm will stop it.

The Moskvich cross-country car can climb a 30° grade, drive along a bank with a 20° incline, and ford a river 0.5—0.6 metres deep.

There is another model of the Moskvich which designers have adapted for passenger and small load transport. It has rather an unusual type of convertible body. If necessary the back seat may be removed into a special recess and the load put in its place.

Designers are working on a similar convertible model of the Volga passenger car.

### THE SMALLEST

The designers of the Moscow Low-Powered Automobile Plant are working on a new autocar of micro-capacity. It is to have a 20-hp. air-cooled motor, and a working volume of 0.5—0.6 litre; it will be able to develop a speed of 100 km. per hour.

This autocar is indispensable for a hunting or fishing trip, for a drive into the country or a tour. Four people—the driver and three passengers can lift and carry the autocar—it weighs no more than 550 kilograms. Its price will be reasonable one-fourth that of a Moksovich.

The Serpukhov Motorcycle Plant is preparing to manufacture a still smaller autocar. It will be very cheap and economical, calculated to serve the broad public. Two models are being designed—one with an open canvas top, and the other with a closed streamlined body.

The motor of the Malyutka (Tiny Tot) is air-cooled and suspended at the rear while the luggage compartment is in front. It has a 8-10 hp. motor and can develop a speed of

80 km. per hour. The Malyutka uses five litres of petrol per 100 kilometres, and has a tank that will hold enough petrol to make a 250 kilometre trip. The Malyutka weighs 380 kilograms.

Within a short time many new Soviet automobiles will be seen on the roads.

### AUTO NEWS FROM RUSSIA

**Moscow:** A new bridge crossing the Moskva River at the Lenin Hills near Moscow University and the Central Lenin Stadium will consist of prefabricated reinforced concrete structures. Weighing 30 thousand tons, the bridge will be about 2 kilometres long and 24 metres broad. This is the first time that such a big bridge has been built not of steel but of reinforced concrete.

The lower glazed tier of the bridge will carry the underground railway line, the upper tier—surface city transport. The underground station "Lenin Hills" will also be on the lower tier.

### MOSCOW UNDERGROUND IS UNEQUALLED IN WORLD

**Moscow:** The Moscow Underground services 2.5 million passengers daily. During its 22 years the subway has transported 12 billion people, 5 times more than the entire population of our planet.

The Moscow and Leningrad subways are equal to no other in the world as regards the quality of their construction, architecture, traffic safety and conveniences. "We know the underground systems in many countries, but believe that the Soviet subway is better than anything we have seen yet", reads the entry made by the members of the Committee charged with the study of European labour conditions by the United Nations Economic Commission. "It was a revelation for us that in building the underground you took into consideration not only the convenience, speed and complete safety of transportation, but tried to satisfy the aesthetic tastes of the passengers. This fully reflects your deep conviction that the working class should be provided with everything of the best quality."

The traffic capacity of the Moscow underground stations is considerably higher than that of the biggest underground junctions of London and Paris. Thus, the Komsomolskaya-Circuit station handles 94 million passengers a year, while the London-Piccadilli Station—45 million, the Paris-St. Lazare station—only 19 million.

The average speed of the underground trains exceeds 37 kilometres an hour and their annual capacity is 13.6 million people per kilometre. The corresponding figures for the New York subway are 32 and 5.7 million.

At present there are 67 kilometres of underground railways and 47 underground stations in the Soviet Union. At present work is proceeding full blast on the 5th section of the Moscow subway. Almost complete mechanization has cut the labour expenditure more than 4-fold per metre of the tunnel as compared with the first section.

### AUTOMATIC CONTROL OF TRACTORS

**Alma Ata:** A device for the automatic control of tractors has been invented by Ivan Loginov, a tractor driver from the Irtyshsky State Farm, Pavlodar region, Kazakh Republic. The tractor, fitted out with the Loginov device, moves along the furrow without a tractor driver. The maximum deviation is 1 or 2 centimetres and the ploughing is done excellently. Loginov's automatic device consists of a service mechanism, a slide valve chest, a turning mechanism, a valve, a press button system, copying devices and an electrical chain. The tractor is driven by pressing buttons. One tractor driver can operate several units fitted out with the Loginov device. In sowing and harvesting the tractor driver's job is done concurrently by the seeder or combine operator.

Pavel Nikolaev, Director of the Mechanization and Electrification of Agriculture Institute of the Academy of Agricultural Sciences of the Kazakh Republic, said to a TASS correspondent: Several automatic devices for driving tractors were suggested as early as the thirties in the United States. All of them were failures and could not be applied. The invention by Loginov has successfully solved the problem.



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# AUTO INDUSTRY IN ITALY

By

DR. FRANCO MATTEI

In an interesting analysis of the Post-war industry in Italy, Dr. Franco Mattei, Vice Secretary-General of the Italian Manufacturers' Confederation observes *inter alia* that thanks to the American, "European Recovery Programme," which has no precedent in history and which was introduced into the country after the War, they were now able to look towards the future from levels of economic progress that do not seem to have been affected in the least by the pernicious effects of the last war. Because in the World War II, Italian industry emerged from the conflict in disastrous conditions. Factories were damaged badly by air raids, by the removal of machinery and requisitions effected by occupation forces. The war damages suffered by Italy's industrial equipment, totalled some 450,000 million post-war lire. Further, such of the factories that had got through the war in tact were in a state of considerable deterioration. The reorganisation and reconstruction of Italian Industry's productive equipment were undertaken during the years 1945 to 1948.

## AUTOMOBILE AND TRANSPORT INDUSTRY

Referring to industries which have a bearing on the automobile and transport, Dr. Mattei says: The crude oil refining industry has also assumed really remarkable proportions in the last few years. With thirteen refineries, eleven of which are located in Central and Northern Italy, one in Naples and one at Bari, this industry had reached a processing capacity of 2,260,000 tons/year in 1938. When the war ended the outlook was far from rosy for this branch of industry: almost all the big refineries (except the one at Bari) were seriously damaged, the Fiume refinery had been ceded to Yugoslavia and the future of the Trieste refinery was as yet unknown. The work of reconstruction, which offered the opportunity of considerably enlarging the previously existing big refineries, was accompanied by the building of new refineries

located both in the North (we will mention those of Treviso in Piedmont of Rho, Mantua and Cremona in Lombardy; of Genoa, Trieste and Ravenna) and in the South (Naples and Augusta in Sicily). At present there are 35 refineries with a processing capacity of about 30 million tons/year.

This expansion is indeed exceptional and it is only right to mention that some concern is felt as to whether it is not somewhat excessive in respect of the demand of the Italian market and of export possibilities. In 1955, in fact, only about 62-65% of the refineries' capacity was used.

Big foreign groups (Esso Standard, Mobil-Oil, Standard of New Jersey, Caltex, Gulf-oil Anglo-Iranian, etc.) interested in the Italian, Central European and Mediterranean market, were called upon to contribute to a large extent to the work of reconstruction and enlargement of the existing refineries and to the building of the new ones. It should be observed that both private enterprise and the government-controlled enterprises had recourse to foreign capital. Enterprises set up by the government were already operating in the crude oil refining industry before the war and accounted for 46% of the total processing capacity in 1938. After the war it was mainly private enterprise which, with the help of foreign capital, undertook large-scale new initiatives in this sector as is proved by the fact that the processing capacity of the government-controlled enterprises only accounted for 21% of the total capacity in 1956.

## MOTORIZATION DRIVE

The motor-car industry has undoubtedly benefited from the so-called "motorization drive" which, thanks to the progressive improvement in the standard of living, has become manifest in several income groups in Italy since 1950, and also from the growing expansion of the motor transport of goods and passengers. The number of cars in circulation rose from 372,767 in 1938 to 1,24,965 in 1955, which means that their density rose from one car per 115 inhabitants in 1938 to one car

per 39 inhabitants in 1955. We are still far from the density of our neighbours on the other side of the Alps, but in view of the rapid progress made in these last few years (in 1950 the density was one car per 81 inhabitants) there is good reason to assume that before many years have passed the gap between the density of cars in Italy and their density in Germany, France, Switzerland, etc., will be still further reduced.

**ROAD-TRAFFIC HAS INCREASED ENORMOUSLY, HAVING RISEN FROM 9,000 MILLION PASSENGER/KMS. IN 1938 TO 64,000 MILLION IN 1955 AND FROM 4,500 MILLION TONS/KMS. IN 1938 TO 32,000 MILLION IN 1955.** Further evidence of the expansion of motor transport is afforded by the trend of cross-country public services which expanded from 116,000 kilometres served by 6,702 motor buses in 1938 to 425,000 kilometres served by 13,197 motor buses in 1955. This increase occurred despite a certain curbing of the competition of motor services for the transport of goods and passengers adopted in order to protect the railway services.

## AUTOMATION INTRODUCED

Since the War the Italian motor-car industry has made a great effort to renew its equipment by using new machine tools of traditional types, introducing automation in the true sense of the word (such as conveyor lines for the processing of cylinder barrels and heads, gear-boxes and the like, and multiple-tool manufacturing machines) and adopting new and improved devices in the assembly department. The high technical level reached has made it possible to turn out new models, especially of utilitarian cars, which are in great demand not only on the domestic market, but also on several foreign markets. Italian cars have in fact gained great popularity abroad, as is shown both by the increase in the incidence of our exports on the total national output from 10% in 1946 to 28% in 1955 and by the fact that several countries have set up mixed companies or drawn up technical co-

operation agreements for the direct manufacture abroad of Italian cars with such adjustment if any, as may be required. Whereas in some European and non-European countries the motor-car output is going through a period of stasis or even of recession, in Italy the favourable prospects regarding the immediate future are encouraging enterprises in this branch of industry to further enlarge their factories. Fiat—the firm which, with an output estimated to have amounted to 300,000 vehicles in 1956, accounts for about 90 per cent of Italy's motor-car output—is building a new assembly chain in Turin, starting work about the middle of 1956, when it will be added to the three existing chains which are considered to be among the most up-to-date in Europe. A factory for the manufacture of spare parts and the assembly of complete cars is also being built by the Fiat Company at Naples-Poggioreale. The Bianchi company which together with the Fiat Company will shortly be placing a new utilitarian model on the market—has recently built a new factory at Desio, near Milan.

## THE SCOOTER SUCCESS

One of the most famous post-war initiatives of Italian private industry, which has enjoyed an almost unprecedented success both at home and abroad, is the manufacture of motor-scooters. The pioneer of this enterprise, as is known, was Enrico Piaggio who thought of the motor-scooter before the war had even finished and started mass production as soon as the conflict ended, using a former aeronautical works at

Pontedera in Tuscany as factory. In April 1946 the "Vespa," the first Italian motor-scooter, was placed on the market and soon invaded Italy and Europe.

Before long other private enterprises followed Piaggio's example, launching similar and no less popular types of motor-scooters. Today, there are two million motor-scooters and motor-cycles circulating in Italy and 750,000 motorized bicycles, while in a number of foreign countries—France, the United Kingdom, Germany, Spain, etc.—the "Vespa" and the "Lambretta" are manufactured on a large scale with patent licences.\* The initiatives of Piaggio and of the other firms manufacturing motor-scooters are a brilliant example of the daring and efficiency of Italian private enterprise.

During the post-war period of plant renewal those innovations designed to simplify or reduce the role played by manpower in the cycle of production—now included by common agreement in the term automation—were introduced also in Italy. So far these innovations have only been introduced in a few branches of industry and, even in these branches, only in connection with some processes. The most noteworthy appliances of automation have been in the motor-car, motor-cycle and bicycle industries (assembly lines), in some branches of the Chemical Industry.

\*As is well known, "Lambrettas" are being progressively manufactured also in India.

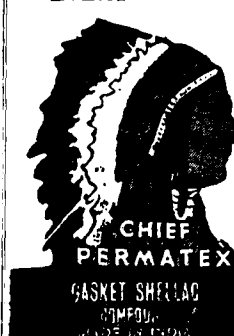
## THE WORLD'S MERCHANT SHIPS

The expansion of the world's mercantile marine, which has proceeded without interruption since the end of the war, made further headway during the past twelve months. And since only 8 per cent of all the ships are now fuelled by coal, this further expansion implies a similar increase in the number of potential buyers of bunker oils.

According to *Lloyd's Register of Shipping*, the merchant ships of the world (excluding sailing ships, and all vessels below 100 gross tons) totalled 33,804 in July last, with an aggregate gross tonnage of 110,246,000. This figure, which includes the U.S. reserve fleet (estimated at 12,750,000 gross tons), compares with a tonnage of 105,200,000 a year earlier and of rather less than 69,440,000 in 1939. Of the tonnage on the books last July, oil tankers accounted for 29,938,000 gross tons, against 28,211,000 a year earlier and no more than 11,586,000 gross tons in 1939. Since the tanker fleets of the world have grown much more rapidly than other kinds of merchant shipping, they now account for 27 per cent of all the steamships and motorships afloat, as compared with only 17 per cent before the war.

An analysis of the world's merchant fleet by method of propulsion shows that the tonnage of motorships rose by 9 per cent during the year ended last July to a figure of almost 41 million gross tons, or 37 per cent of the world total. Steamships rose by less than 3 per cent to just over 69 millions tons, of which vessels with reciprocating engines comprised almost 38 million and those equipped with turbines the remaining 31 million. The vast majority of the steamships now in service burn oil under their boilers, their gross tonnage having risen last year by 2,353,000 to 60,760,000. By contrast, the tonnage of coal-burning vessels registered a further decline of 559,000 to total a mere 8,533,000 gross tons.

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DELHI CALCUTTA MADRAS



# Motor Vehicles & Allied Merchants Association

The 31st Annual General Body Meeting of the Motor Vehicles and Allied Merchants Association, Madras, was held at the Association premises at Mount Road on February 21, last.

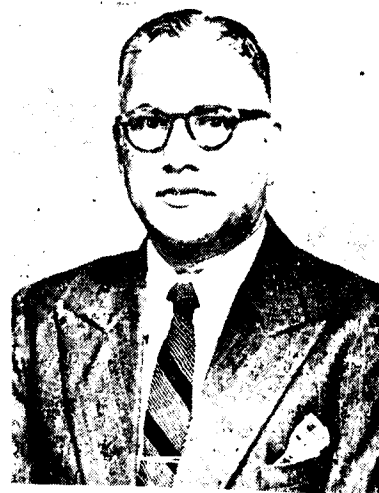
Addressing the meeting, Mr. L. L. Narayan, outgoing Chairman of the Association said :

WHEN ONE LOOKS BACK OVER THESE THREE DECADES, WE ARE LEFT WONDERING AS TO HOW WE MANAGED TO LIVE DESPITE ALL RESTRICTIONS, REGULATIONS AND TAXATION. THE FACT THAT WE LIVE AND MAINTAIN TOLERABLE PROSPERITY IS A TRIBUTE BOTH TO THE FISCAL POLICIES OF THE GOVERNMENT AND OUR CAPACITY FOR ENDURANCE. IT WILL BE AN INTERESTING STUDY OF HISTORICAL FACTS IF SOMEONE COULD DO SOME RESEARCH ON THE CONTRIBUTION OF OUR SECTOR TO STATE AND CENTRAL EXCHEQUER AND THE RETURNS WE WERE FORTUNATE ENOUGH TO HAVE.

It is not enough if we live in the past, but we have to project ourselves into the future. This projection is a challenge to our inherent capacity to adjust ourselves, and expression of our vitality and an expressed appreciation of the Governmental and other circumstances seemingly burdening us.

Today the challenge of the Second Plan is in Transport. Those who have studied the statistics available and projected concur that there is a transport deficiency for thirty-five million tons of goods. The tonmile for that traffic does not seem to be capable of evaluation. It is not merely enough that we leave this problem on the broad shoulders of the Government. It is up to us to suggest a workable schedule of solution for moving this huge traffic.

It is perhaps because of this awareness, Parliament has amended



Mr. K. Hariharan, Director and General Manager, George Oakes Private Ltd., Madras, who has been elected Chairman of the Motor Vehicles & Allied Merchants Association, Madras.

the Motor Vehicles Act. The amended Act is in force from February 1957. You are all aware of the salient features of the amendment and it is regrettable to note that the various State Governments and the Central Government have not yet formulated any policy in tune with the spirit of the amendment.

The Inter-State Transport Commission has not been established. Similarly there are various things that are pending action by the Government.

But, I cannot but express the feeling that all these things and very desirable rules would have become accomplished facts, if only the Government invited the co-operation of Associations like ourselves, and other non-officials who are in the business during the past decades. Our co-operation is always at the disposal of Government and when such co-operation is invited and welcomed, it is not necessary that every suggestion should be accepted ; but a free and frank discussion will certainly result in rounding off corners or edges.

It may be that I have started with emphasis on transport, but every one of us have to agree that road transport is not merely essential for the success of our Plans, but is the very bread and butter of our life.

By the end of March, that is, in roughly thirty-seven days, the import policy of the Government of India will be announced. We are already facing a severe cut in imports from 1st October 1957. It is our duty to co-operate with the Government in reducing the pressure on our foreign exchange requirements, but yet we will not be true to ourselves, if we do not stress that road transport is an essential service. It is either to be fed by the supply of new vehicles at acceptable cost or the old vehicles must be enabled to move and do their job with supply of spare parts at economic prices. Because of the change in the type of fuel, we are already faced with a heavy inventory of slow moving petrol engine spares. To shift stocking to compression ignition operation demands huge capital. It is at this time of transition that we are faced with severe restrictions. May be, the Government is not able to permit import of the required quantity of spare parts.

*But, at least restricted imports must be permitted to keep the vehicles on the road. It is also necessary that import of the required tools and equipment is allowed so that servicing can be efficiently carried out for the existing vehicles to yield the maximum life. Here and now, I strongly plead that we should not take advantage of scarcity conditions but play our part by the Nation.*

Since this is the time of budget, there are always prevalent the fever and excitement of budget. "May we appeal to the Government in the Centre and the States not to make the difficult position impossible, while at the same time assuring them that we are prepared to do of our best in the furtherance of the Plans by way of taxation. While that ambition is noble enough, we in the trade are daily reminded of

## MADRAS STATE LORRY OWNERS' ASSOCIATION

The Association has received a Memoranda from the Government of Madras in reply to their representations made in June and July last year stating that the relevant rules have been amended in the Motor Vehicles Rules in regard to permissible registered laden weight up to certain limits, according to the size of tyres. (Details of this increased laden weight permissibility have already been published in the February issue of MOTORINDIA).

As regards the issue of compulsory acknowledgments to lorry operators for receipt of records, etc., the Government have informed the

Association that such records may hereafter be sent by registered post acknowledgment due to the authorities.

With reference to the representation that letters signed by lorry owners should be accepted by checking authorities, the Order states that necessary instructions have been issued to the authorities concerned in this respect.

The Memoranda also says that in all the districts of the State, built up areas have been notified and special restrictions have been imposed in this respect. This is in answer to the representation for the demarcation of residential and non-residential areas in Cities and Towns to relieve congestion.

As regards the representation for the provision of suitable parking places with all facilities for lorries, the matter is still under consideration of Government.

The Government of Madras have considered the recommendations of the State Transport Advisory Committee that State-wide permits be granted to all public carriers in the State. The question having been examined with reference to administrative and other aspects involved in the matter, the Government have decided as follows :—

The State of Madras should be divided into zones as follows :

Areas comprising of City of Madras, Chingleput and North Arcot Districts ;

Areas comprising of Tiruchirappalli, Tanjore and South Arcot Districts ;

Areas comprising of Coimbatore, Nilgiris and Salem Districts ;

Areas comprising of Madurai, Ramanathapuram, Tirunelveli and Kanyakumari Districts.

Public carrier permits issued by any one of the Regional Transport Authorities in the zones cited, will be valid in the entire area forming that zone.

Besides, the above zonal operation, and operator of a public carrier may be given the long distance routes as hitherto granted by the State Transport Authority.

The area of operation of a public carrier permit granted to an operator by any one of the Regional Transport Authorities in the zones cited which is valid at present should be made valid throughout the area comprising the zone in which that Regional Transport Authority is situated.

Public carrier permits to be granted in future should be on the basis of items one and two above.

The Transport Commissioner, Madras, is requested to issue necessary instructions to all the Regional Transport Authorities in the State to implement immediately the decisions cited.

### K. HARIHARAN ELECTED PRESIDENT

the limitations of our capacity. So far as our State is concerned, we can proudly say that the motor vehicles and allied trade is cheerfully operating, paying a major portion of its income by way of various taxes, levies, etc."

### ANNUAL REPORT

The meeting adopted the Annual Report of the Association which showed that the number of members on the rolls was 129 as against 123 during the previous year, resulting in the increased earning of subscription from 11,600 to 12,250 in the year under report.

The Report referred to the threat of nationalisation of road transport and hoped that road transport and goods transport will be allowed to grow for atleast a decade to come in the hands of the private sector.

The meeting then proceeded with the election of office-bearers. Mr. K. Hariharan of M/s. George Oakes Private Ltd., was unanimously elected Chairman for the current year and Mr. T. S. Santhanam of Sundaram Motors as Vice-Chairman.

A Managing Committee consisting of Messrs. K. V. Srinivasan, V. Kunjitapadam, L. L. Narayan, N. Mahalingam, T. S. Narayana Rao and Hussan Marikkar was also elected.

March 1958

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March 1958

# Indian Institute of Road Transport

## Madras Meeting Elects A. E. L. Collins President

The First Annual General Body Meeting of the Indian Institute of Road Transport, Madras Branch, was held at the Committee Room of the Connemara Hotel with Mr. S. Anantharamakrishnan in the Chair.

The meeting adopted the Annual Report presented by the Honorary Secretary, Mr. K. V. Thadaney and the Auditor's Statement of Accounts presented by the Treasurer, Mr. S. Ramaswamy.

The Annual Report stated among other things that this Branch of the Institute was inaugurated on 3rd August 1956. The Membership of the Branch now stood at 31 including number of Supporting Members and Affiliated-Supporting Members. The Council hoped that more members, particularly Constituents and Associate Members as well as Constituent Members would be joining the Institute before long so that the organisation may be strengthened in their endeavour to provide technical knowledge about the road transport industry in general and the various engineering aspects in particular. Ten Council Meetings and 9 General Meetings were held during the year when prominent speakers from various parts of the country gave lectures on the subjects allied to road travel and transport.

The Meeting then elected unanimously Mr. A. E. L. Collins of Ashok Leyland Ltd as its Chairman for the coming year and Mr. K. V. Thadaney and Mr. S. Ramaswamy as Honorary Secretary and Treasurer respectively.

The following were elected members of the Governing Council for the coming year :—

Messrs. S. Anantharamakrishnan, E. O. Austin, N. Ramamurthy, T. S. Narayana Rao, C. L. Nayar, K. V. P. Rao, G. Chengal Rao, M. Rajagopalan, T. C. S. Pillai, Guru Pershad, G. Raghupathi Rao Naidu and T. S. Santhanam.

The General Body also constituted two Sub-Committees for the coming year :

Messrs. E. O. Austin, G. Chengal Rao and M. Rajagopalan were

elected to constitute the Membership Sub-Committee, and Messrs. T. S. Narayana Rao, C. L. Nayar and N. Ramamoorthy were elected to constitute the Programme Sub-Committee.

Mr. S. Anantharamakrishnan, the outgoing Chairman thanked the members for the kind co-operation and assistance in building up the Institute during his term of office as first Chairman.

Following the Annual General Body Meeting, the Annual Dinner was held and was attended by the leading members of the transport and allied industries, besides Mr. R. Venkataraman, Minister for Nationalised Transport, Government of Madras.

After dinner, Mr. Collins, welcoming Mr. Venkataraman in their midst, referred to the good work and programme before the Institute which represented a branch of the Engineering Industry that had a most important part to play in the development of India's progress. The extension of the road transport industry, he emphasised, was essen-

tial for the development of agriculture and was necessary for the achievement of various objectives of the Second Five-Year Plan. The success or failure of the Industry will depend not so much in their turn to build workshops or manufacture motor vehicles and equip them with plant and machinery necessary for such production. It would depend on their turn to create workmen and supervisors, who will be fully and cheerfully co-operative in reaching the common goal. Mr. Collins said that one of the objectives of the Institute was so to develop that members would automatically be recognised as men of experience, knowledge and authority in the field of road transport. Other objects of the Institute were to encourage in every possible way the development of road transport and to assist in the creation of a body of administrators and engineers who by their integrity and devotion to duty would set the highest possible standards of conduct for their integrity in the industry. The Institute will also try to help and guide young men educationally and otherwise to

Minister R. Venkataraman seen with Mr. A. E. L. Collins of M/s. Ashok Leylands and other members of the Indian Institute of Road Transport photographed on the Annual Day celebrations of the Institute at Madras recently. Mr. Collins was elected Chairman of the Institute for the current year.



MOTORINDIA

March 1958

become future leaders of the Industry.

Thanking Mr. Collins for the kind words said about him, Mr. R. Venkataraman, Minister for Nationalised Transport said that perhaps it was not often recognised that as head of the Nationalised Transport system, it was just nearing operation in Madras State. He naturally, therefore, felt strongly about the part played by road transport which was an important aspect of our economy today. They all knew how rail transport was not able to fulfil its obligations and the production and distribution of goods in this country needed road transport as an alternative. Therefore, the part played by road transport in relieving the transport bottleneck of the country was really great and he was extremely glad that those interested in that transport system had organised this Institute.

Expressing the urgent need for efficiency all round in the industry, Mr. Venkataraman referred to the way in which an American firm was found competing within itself improving products manufactured by them from time to time. This was due because of efficiency and reasearch which combined to go to make better and more useful products for that country. He hoped that the automobile industry would prosper and would be able to satisfy all the wants of the country by producing everything necessary within the country.

Institutes like that of the road transport should devote some thought and attention to the problem not only of efficiency, but also relating to the organisation and running of State Transport. He hoped that the Institute would be able to help Government and Industry in this as well as in similar questions like maintenance of vehicles, increasing their longevity, reduction in the consumption of fuel and methods of economic operations, etc.

Mr. K. V. Thadaney, Honorary Secretary of the Association, proposing a vote of thanks expressed the hope that technical employees of the Transport system would be encouraged to join the Institute in large numbers so that they may have the advantage of exchanging ideas and sharing benefits of experience with the members of the Institute.



Photo shows Mr. A. N. Daing, President of the Calcutta Motor Dealers Association with other leading members of the Association. Photo was taken during the Annul General Body.

## Calcutta Dealers Elect Office Bearers

Sri A. N. Daing, Presiding, the Calcutta Motor Dealer's Association elected the following members to the Managing Committee.

### Elected

Sri B. Mookerji (Central Motor Parts and Accessories Co. Private Ltd.), Sri S. N. Sen, Sri J. K. Agarwalla (Jesraj Jiwanram Private Ltd.), Sri D. P. Singhanian (National Automobiles), Sri N. Dave (Pandiya) (East India Automobiles), Sri R. N. Das (Das & Bhowmik), Sri P. M. Medora (Saraf Motor Co.), Sri P. Dass (Howrah Motor Accessories & Elec. Co.), Sri Sardar Singh Sahni (Hindusthan Sales Agency), Sri Karsandas Khimji (Oriental Motor Acc. Ag. (P) Ltd.), Sri Bankim Chandra Das (Oriental Automobile Stores), Sri Bishnusadan Bose (Bhowanipur Motor Acc. Ag. (P) Ltd.), Sri Gopaldas, S. M. (Bharat Motors), Sri Amulya Ratan Dass (Shyambazar Motor Acc. Agency), Sri D. Bhattacharji (B. Sidant & Co.), Sri G. S. Sahani (Chicago Trading Co.), Sri B. R. Berry (George Vint & Bhalla (I) Private Ltd.), Sri Ujagar Singh Sahni (Republican Automobiles), Sri Sujan Singh (Allied Auto Accessories), Sri Harnam Singh (Western Automobiles and Sri Sanmukh Singh (Universal Automobiles).

### Nominated

Sri P. K. Basu (Howrah Motor Accessories Agency Private Ltd.), Sri Sangat Singh (Sangat Motor Stores) and Sri K. R. Patel (Associated Export & Import Corpn.).

The new Executive Committee

elected the following office-bearers for the coming year.

MESSRS. B. MOOKERJEE AND SANGAT SINGH, VICE-PRESIDENTS; P. K. BASU, GENERAL SECRETARY; MESSRS. D. P. SINGHANIA AND SARDAR SINGH, JOINT SECRETARIES AND J. K. AGARWALLA, TREASURER.

The year 1957 was very much stringent, particularly so far as the automobile parts dealers of this country were concerned; a drastic cut which amounted to more than 75% of import licences was like a bolt from the blue for the thousands of auto parts dealers in this country.

This view was expressed recently by Mr. A. N. Daing who was unanimously elected President of the Calcutta Motor Dealers Association at the 12th Annual General Meeting held on the 8th of last month. Mr. Daing, in his presidential address, referred to the Annual Report of the Association and its efforts during the previous year for the benefit of the members and added :

"With your kind permission, I take this opportunity to enlighten you on some of the points mentioned in this report. We all Motor Parts and Accessories Dealers know it very well the difficulties we have to face in the clearance of the consignments from the Customs authorities and therefore, at the very outset a Customs Sub-Committee was formed and it was through their

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exertion that many dealer friends were able to clear their consignments without any disadvantage. Similar Sub-Committees were formed to clarify the import policy of the Government of India and helping in the fixation of quota certificates and securing import licences. Similarly a complaint was formed and it helped to solve many disputes among the member dealers.

We cannot deny that the year, under review, was very stringent. For in the January/June, 1957, licensing period, there was drastic cut in the import licences, and a number of items were excluded from the serial number of the Motor Vehicle Parts. During this licensing period the quota was cut to 60% from 100% and also came the total stoppage of the newcomers' and *ad hoc* import licences. This drastic cut, which amounted to more than 75% came to us just like a bolt from the blue.

This stringency was augmented still more for in the months of July to September 1957 when there was no issue of import licences. In the month of October when the import policy of the Government of India came out, it was found to our surprise that the quota of motor vehicle parts had been still further reduced to 25% only along with cuts in many Part III items.

Representations for slight relaxations of import policy were submitted and it was pointed out with all emphasis that the shortage of spare parts consequent of this policy may result in steep-rise of prices and retard the growth of this particular mode of Transport which is not essential for the implementation of the Second Five-Year Plan as because of the scarcity, many vehicles may not be kept ready-worthy.

We made several representations to the Tariff Commission Enquiry

held in Bombay, to the Ministry of Commerce and Industry, New Delhi, and a number of Foreign Trade Delegation, etc. Our Association was invited to give evidence on the question of continuing protection to Piston and Rings beyond 31st December 1957. Before the Tariff Commission we vigorously pursued our contentions well explained in our memorandum. Our suggestions were appreciated and as a result, import of cast-iron Pistons was allowed for import against the balance of 75% of Piston Licences.

I take the liberty of sounding a warning to all member-dealers that at this grave moment we should be conscious of the fact of country's grave need and at no time we should take undue advantage by raising the prices to unfair levels. The time has come now that, Government of India should take due notice of the fact that if Import Policy is not relaxed, consequences would be, indeed, against the interest of the country. Once the damage is done it will take a long time to repair it. Besides, we dare suggest that the foreign exchange that is being allotted in the name of consumers to such as State Transports, etc., should be disbursed to the trade, who are better equipped to import the goods more economically and advantageously and disburse them properly.

We also take this opportunity to refer here that we not only kept ourselves within the bound of trades only, we associated ourselves to social works also and contributed to several organisations for suffering people.

I hope that with your active participation in its activities, the Association will march forward from success to success and be able to fulfil its objectives at a not too distant future.



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## MOTOR SPARES

### Import Restriction Justified?

#### MYSORE ASSOCIATION PRESIDENT'S POSER

The Third Annual General Body Meeting of the Mysore Automobile Parts & Allied Merchants Association was held on March 8, at the Mysore Chamber of Commerce premises when the following were elected office-bearers :

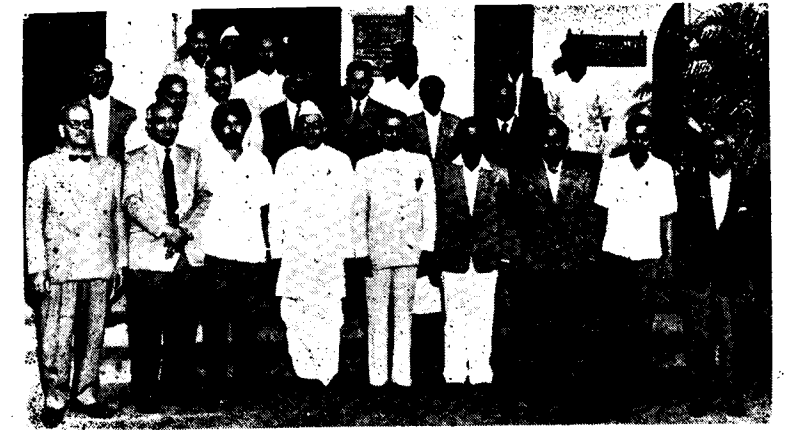
Mr. G. K. Iyengar (M/s. Reliable Motor Stores) President, Sardar Ujagar Singh (M/s. Bombay Automobiles), Vice-President, Mr. K. S. Chakrapani (M/s. Bharat Automobiles), Treasurer and Mr. P. Venkatasubba Rao, Secretary.

A Committee consisting of the following members was also elected : Messrs. F. D. Ahmed (Stan Luc Services) ; K. M. Nanjappa (Bangalore Stores) ; K. Narasimhachar (Raja Cycle & Motor Works) ; A. G. Ram (India Garage) and E. R. Rangaswami (Automotive & Allied Agencies).

Mr. F. D. Ahmed, the outgoing President of the Association, welcoming the Hon. Minister, Sri Vaikunta Baliga and members of the trade and other guests at the tea party held in connection with the Annual Day Celebrations, said :

Having been connected with this Association for the past three years as its President right from its inception, I would like to give you a few details of the activities of the Association, inasmuch as to what benefits the business community pertaining to Motor Car Parts and allied lines, has derived as a result of the efforts of the Association.

But before I go into these details, I have to show my appreciation of the love and affection with which I had the co-operation of the members of my Association throughout the tenure of my office as the President to be able to fulfil and justify my being in the chair. I am sure my successor Mr. G. K. Iyengar will also get a similar



Minister Vaikunta Baliga of Mysore seen with the President and members of the Mysore Automobile Parts & Allied Merchants Association at the Annual Day celebrations of the Association held in Bangalore recently.

co-operation in the interest of the Association. I wish him a very successful year.

We have now entered into the third year of the Second Five-Year Plan and with the added incentive given to Agriculture and Transport, besides other important projects covered by this Plan, in the not too distant a future our country should be economically strong and we should be able to cut down the existing gap in the Foreign Exchange, and for which purpose export must play a very important role in the years to come, for it is the exporting country that grows rich.

There is not the least doubt that the Government is making every effort to raise the level of the worker in this socialistic pattern of society. Of course, problems we have to face, and unless and until we as citizens of this country are prepared to make sacrifices, it will take a much longer time to improve conditions as can be seen. The training of Personnel to run the heavy and light Industries has been now taken into hand by the Government, and in this regard it is fair that the youth of our country steps up its enthusiasm and imbibes a certain amount of discipline as a pre-requisite.

As regards motor spares, are we in a position to say that import restrictions on Motor Vehicle Parts is justified? For with the necessary incentive given to Transport, the needs for Transport have to be handled in its right perspective. Particularly as regards the electrical

side of Motor Vehicles with which we are suffering and will suffer, there is no major indigenous manufacture of electrical parts in this country so far, although it seems the Central Government is desirous in the establishment of a Plant for this purpose.

Shall we say the private sector is suffering in a number of ways, for according to Mr. J. R. D. Tata, a leading Industrialist, mixed economy with a co-ordinated effort between the public and the private sector will yield better results. This is only possible if a chance is given to the private sector to build up. The contribution made by the private sector all these years cannot be forgotten hurriedly.

The taxation policy is another matter that has had its roots in India for a number of years. It is true that this cannot be rooted out, and although the business community is heavily taxed, the mode of taxation is what we are up against.

I would venture to say that the business community is always prepared to co-operate in the building up of the nation, but the business community feels hurt when it is suspected. The ways and means of collection of Sales Tax has become very cumbersome for a businessman, particularly as the rates of Sales Tax on different commodities, and the various Forms that have to be filled up, take away a lot of time and adds to labour. I would once again request the Hon'ble Minister to reconsider the whole issue which

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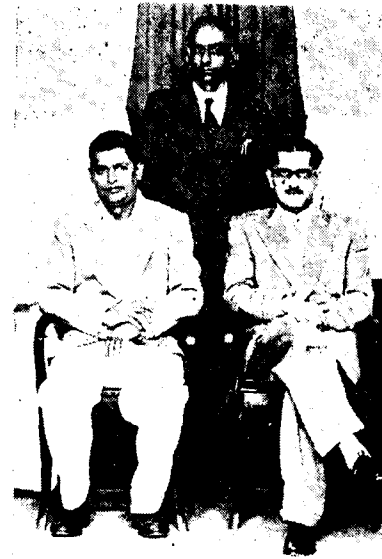
MOTORINDIA

March 1958

involves a certain amount of attention in the working of it. It was also suggested in the Memorandum that was submitted by us that it was most essential that a Seminar should be held to explain the provisions under this Sales Tax Act, for as a tradition, the poor businessman who is not so well educated finds it difficult to understand Government language.

The Central Government made a statement some time ago that it had brought in 16 items under the Central Excise, but till now 14 items have not been declared open, and we have already suggested through the Mysore Chamber of Commerce that Tyres and Batteries be included under Central Excise so as to bring uniformity of prices all over.

In the standardisation of prices of Batteries and Tyres, an effort was made by the Association to get together the dealers in these two lines of trade, in order to discuss this issue to create a healthy atmosphere in marketing conditions. I am certainly hopeful as to the success of this venture and I wish



Mr. G. K. Iyengar, the new President and Mr. F. D. Ahmed the Retiring President (sitting) seen with Mr. P. Venkatasubba Rao, Secretary of the Association, standing.

that more commodities are brought in, in the uniform structure of prices to create an atmosphere of confidence and security in the market. Progress of this nature will surely bring in its wake solidarity and

uniformity of principles, provided there is the spirit of co-operation.

Although the business community is suffering today, we hope to see a silver lining in the cloud in the not too distant future, and it is to be hoped that the Government will not make things as difficult as they are today in order to get the fullest co-operation from the business community in an atmosphere of cordiality.

#### HISTORY OF THE ASSOCIATION

A long-felt necessity for an organisation to voice forth grievances of the dealers of automobile parts in the Mysore State prompted the Conveners Messrs. G. K. Iyengar, K. S. Chakrapani, V. Balasubramaniam, Ujagar Singh and A. C. Ramaswami to convene a meeting of automobile parts dealers of Mysore under the presidency of Mr. P. Venkatasubba Rao on February 17, 1955. It was at that meeting the Association took its shape and the draft Memorandum and Articles for the Association were presented and the General

Body elected. Mr. F. D. Ahmed of Stan Luc Services was elected the first President and he continued to occupy the chair for three years until he transferred the same to his successor, Mr. G. K. Iyengar early this month. The Association started with 40 members and during the last three years, the Association has done all that was humanly possible for the benefit of the Trade and the Industry. During the very first year itself, the Association was affiliated to the Mysore Chamber of Commerce on whose Managing Committee, Mr. F. D. Ahmed represented the Association. During the three years of its existence, the Mysore Automobile Parts & Allied Merchants Association had sent circulars to member dealers about salient features of Government Trade Policies which were found very useful to the members. They have taken up with the authorities the rules relating to various taxes and other Government enactments and sought elucidation on them from time to time. Not the least important of the activities of the Association during these years was the arrangement for social



Minister Baliga addressing the Association Members after dinner.

gatherings on proper occasions when prominent members of the Trade and Industry were invited to participate.

Thanks to the keen interest evinced by Mr. V. Balasubramaniam, a leading member of the Association, they were able to collect and donate a sum of Rs. 1,051 to the Madras Chief Minister as a contribution to the South Indian Cyclone Relief Fund.

During the past year the Association made representations to proper authorities to give them representations on the Railway Users' Consultative Committee and the Road Transport Corporation as and when they were formed. Several representations were made to the Central as well as State Governments, and as a result one of these, the validity of import licences on Diesel engines was extended by a period of six months. At the request of the

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F. D. Ahmed, retiring President of the Association, seen garlanding the Minister Baliga

Association, the Mysore Government was kind enough to include Motor Spare Parts, Tyres and Batteries under a special schedule with a licence fee. This has been considered in place of the turnover tax which would eventually have become multipoint collectable at every stage of sale. Among the main achievements of the Association was the fixation of prices on tyres and batteries, an arrangement which would work very satisfactorily not only to the advantage of the trade, but is also appreciated



F. D. Ahmed of Stanluc Service, Bangalore, delivering the Presidential address at the Annual Day celebrations of the Automobile Parts & Allied Merchants Association, Mysore

very much as a fair deal by the customers.

The Annual Report presented by Mr. P. Venkatasubba Rao, placed on record the Committee's deep sense of gratitude to Mr. F. D. Ahmed, the retiring President, for his untiring zeal and enthusiasm in conducting the affairs of the Association for three years from its inception. His term as President had undoubtedly enhanced the pres-

tige of the Association. The Association was also grateful to Mr. Ahmed for having housed the Association in his premises for a period of two years and the Managing Committee also places on its record the services of Mr. T. N. C. Satagopan who had been a tower of strength right through and it was hoped that he will continue to safeguard the interests of the Association likewise in future.

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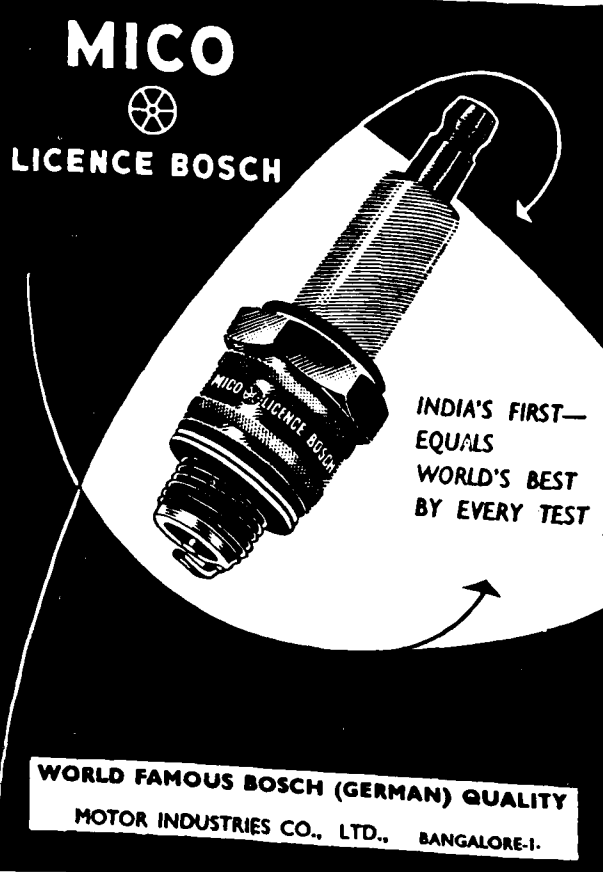
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## Andhra Association Office Bearers

The Andhra State Motor Dealers & Allied Merchants Association at its General Body meeting held recently at Vijayawada elected Sri S. Anjaneyulu Pantulu as Chairman for the Association for the current year. Mr. T. S. Krishnamurthy was elected Vice-Chairman, Mr. Ch. Kusal Rao as General Secretary, Mr. K. Arjuna Rao as Assistant Secretary and Mr. K. Gopalakrishnaiah as Treasurer.

A Managing Committee, consisting of the following members was also elected :

Messrs. M. Rama Murty, N. Suryanarayana, M. Suryanarayana, K. V. Subba Rao, G. Venkateswara Rao, Sardar Gulab Singh, Sardar Harban Singh, Sardar Sangath Singh, V. Seetharamaiah, Rachapudi Subba Rao and G. Harihara Rao.

## KRISHNA NATIONALI- SATION CHALLENGED

The Officiating Chief Justice, Mr. P. Chandra Reddi and Justice A. Srinivasachari of the Andhra Pradesh High Court have admitted a batch of seven writ petitions seeking to quash the Order of State Government to nationalise bus transport undertaking in the Krishna District from April this year and also questioning the validity of the Central Motor Vehicles (Amendment) Act.

These petitions came up before Mr. Justice P. Satyanarayana Raju when His Lordship referred same to the Division Bench on the ground that it involved a constitutional question. The petitions were filed by Mr. K. Gopalakrishnayya of

Vijayawada and 30 others before the High Court.

The petitioners *inter alia* stated that the Central Motor Vehicles (Amendment) Act of 1956 which inserted Chapter IV-A with Sections 68-A to 68-I, had sought to achieve to empower the State or a State controlled Corporation to acquire in effect a citizens undertaking in its entirety on payment of compensation only for a part thereof, namely, for the cancellation of the permit and no compensation for the rest of the undertaking. The petitioners submitted this amounted to acquisition of property without payment of proper compensation and this was a "fraud" on the Constitution. So, Articles 19 and 31 could not be abridged or abrogated by Parliament either directly or indirectly. The compensation that was now provided for by the Act was really illusory and was no compensation at all in the eyes of the law. The cancellation of the bus permits will leave the petitioners with the dead-weight of all the buses, equipment, workshop and staff comprising their undertaking.

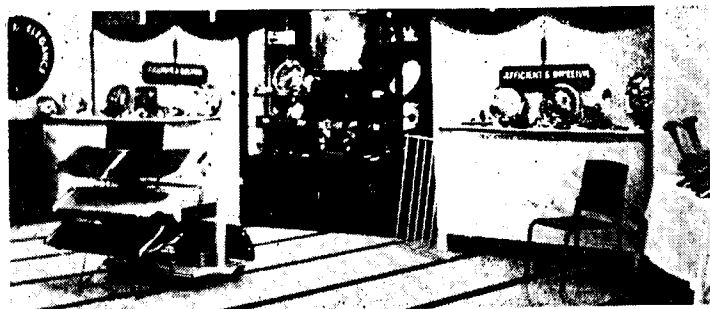
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A view of the stall of M/s American Auto Parts Co. at the recent Redex Exhibition in Bombay



A view of the stall of Amzel (Private) Ltd., at the Redex Exhibition

## THE REDeX AUTO TECH AND ACCESSORIES EXHIBITION

*Bombay: An Auto-Technic and Accessories Exhibition, organised by The REDeX car Club was held at the Jehangir Art Gallery, Bombay early this month. The Exhibition was declared open by Mr. V. C. Setalvad, President of the Western India Automobile Association.*

Mr. E. A. Nadirshah, President of the REDeX Car Club, welcoming Mr. Setalvad and the distinguished gathering, said that the Club will complete its third year on 31st March 1958 and it had at present about 520 members compared to about 320 last year. Mr. Nadirshah pointed out that the REDeX Car Club was perhaps the only organisation of its kind which helped the car owners to know more about their cars and its working. The Club arranges for the testing and tuning of the engine with the help of precision instruments and ways and means of obtaining more efficient and economical performance of the vehicle are suggested to the owner. The Club also supplies to the members, from time to time, by circulars,

Not an exhibit, Mascot or Accessory. But the youngest enthusiast and a keen future motorist seen at the Redex Exhibition.



technical and other useful informations which will be of interest to them in maintaining their cars in good trim. The Club also holds discussions, meetings and film shows pertaining to motoring. Requesting Mr. Setalvad to inaugurate the Exhibition, Mr. Nadirshah said that the REDeX Car Club was always adhered to its motto of "Service and Unity" and that he looked forward to the co-operation of other institutions such as the W.I.A.A. in the interest of the motorists.

Mr. V. C. Setalvad thanked the President and Members of the REDeX Car Club for giving him the honour of opening the Exhibition. He was all in praise of the service rendered by the Club, though in its infancy with limited resources. *Mr. Setalvad agreed with the views expressed by Mr. Nadirshah that the average motorist shows a colossal*

*ignorance in regard to the working principles of the motor car and minor defects that may arise now and then. He said that the motorist must learn to rectify minor defects so that he may not have to run to the repair workshop. This will also result in some saving in his maintenance costs which are now increasing day by day. Finally, Mr. Setalvad assured of his efforts to secure the co-operation of the W.I.A.A. so that the laudable aims of the REDeX Car Club could be spread as far and wide as possible.*

The Exhibition arrangements were excellent and many visitors and stall-holders felt that such exhibitions should, in future, be held for more number of days. There were, in addition to the usual parts and accessories, several new equipments and attractive fittings. **THE ITEMS THAT DREW THE UTMOST**

Mr. E. A. Nadirshah, President of the Redex Car Club is seen in this photograph addressing the gathering at the inauguration of the Redex Exhibition: Photo shows from (L to R) Messrs P. F. Lally, V. C. Setalvad, P. K. Master and G. Mascarenhas



MOTORINDIA

March 1958



Photo shows Mr. M. B. Legget of Tyresoles, General Manager, explaining the special process to the distinguished visitors to their stall.

INTEREST WERE THE CUT-AWAY MODELS OF THE ENGINE, GEAR BOX, BACK AXLE, HYDRAULIC BRAKE SYSTEM AND THE WORKING MODELS OF THE REFINERY. THESE MODELS WERE LOANED BY THE STANDARD VACUUM OIL CO.

Besides the above, the Technical and Book section displayed a large number of time and labour saving tools which are to be seen perhaps, for the first time in India. Keen interest was shown in these by several garagemen and motorists with an aptitude for 'mechanism.' Books, Leaflets and Diagrams of several articles were also on show as the equipments themselves could not be imported due to the present restrictions.

For such of those motorists, who may not have an idea about the REDeX Car Club and its activities, we give below the main objects of the Club, its functioning in various parts of the world.

The main object of the REDeX Car Club is to inculcate the spirit of better and safer motoring in all its aspects and to acquaint the motorist with the benefits and uses of modern scientific car care appliances, so as to get the best out of every car and maintain it economically.

The REDeX Car Club of Bombay completes its third year on 31st March this year. So far over 500 motorists have become members of this organisation and the activities of the club are fast expanding not only in Bombay, but is likely to expand in Madras and other leading Cities of this country as well.

The purpose of the Auto Technic and Accessories Exhibition is to stimulate the spirit of enquiry and foster enthusiasm to know more about the working of a car, as well as to study the various devices that go to improve its engine performance and minimise wear, thus affecting efficient but economical car maintenance.

Stalls were taken in the Exhibition by M/s. Auto Accessories (India) Private Ltd., Distributors for K.L.G. Plugs; American Auto Parts Co., well-known dealers in Accessories; Associated Corporation of Industries (India) Private Ltd., Specialists in Solex Carburettor; Ashland Oil Co. (India); Sole Distributors of Valvoline Oil and Duraboard raw materials; J. V. Mehta & Co., Specialists in Zenith Carburettors, K.L.G. Spark Plugs and Accessories, etc.; Amzel Private Ltd., manufacturers of Zelite Batteries; Tyresoles, one of the largest tyre re-conditioning organisations; Upper India Trading Co. (P) Ltd., Automobile spare parts dealers; Field Engineering Co. (P) Ltd., Manufacturers of Field-Rust, an ideal detergent for motor car radiators; Himco (India) Ltd., manufacturers of batteries and other electrical equipment for motor cars and, Premier Auto Electric Private Ltd., Distributors for Auto-Lite and Marelli parts.

Members of the REDeX Car Club get the following benefits:

Free Initial Engine Testing and Tuning by REDeX Instruments; Subsequent Testing and Tuning at concession rate; Free supply of REDeX Literature and Bulletins and Club Window Emblem; Free Use of Auto Library; Free Car Care Guidance; Free Training in Engine-Tune-Up; Hotel Rebate in the U.K., Europe and India; Concessional Entry Fees for Car Sports and Trials; Concessional Lubrication Service at Certain Stations; Concessional Rates for Books and Magazines and Breakdown Towing Service.

President, Nadirshah of the Redex Car Club and President Setalvad of W.I.A.A. seen examining the springs manufactured by Saurashtra Industries at their stall.

W.I.A.A. President Setalvad seen watching the lubrocharger about which Mr. Lally is explaining.

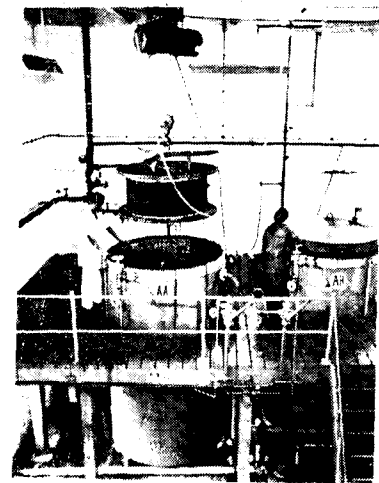


March 1958



MOTORINDIA

41



A view of the Mitex Plant. To vulcanise the material the bobbins are treated under high pressure steam.

## RUBBER SEPARATORS TO ENSURE MAXIMUM LIFE

### STANDARDS INTRODUCE MITEX IN INDIA

Pioneers in the field of battery manufacture in India, Standard Batteries Limited have always led the field in introducing new improvements. Now, with the introduction of 'Mitex' microporous latex rubber separators with glass-wool mat reinforcement, they bring to India an entirely new development in battery-making; one which will be of immense value to all battery users.

#### A VITAL ROLE

The separators in a battery have a vital part to play; they must prevent the positive and negative plates from coming into contact with each

other, thereby causing short circuits. And, at the same time, they must permit the free circulation of the electrolyte which charges the battery, i.e., they must be porous.

In the past, wet wooden separators were mainly used. These, however, have certain disadvantages. They cannot be completely dried, as this results in shrinkage and subsequent cracking; they are only acid and oxidation proof to a fairly limited extent; they are sensitive to high temperatures; and they have an uneven, rather moderate porosity, which results in variations in their electric resistance.

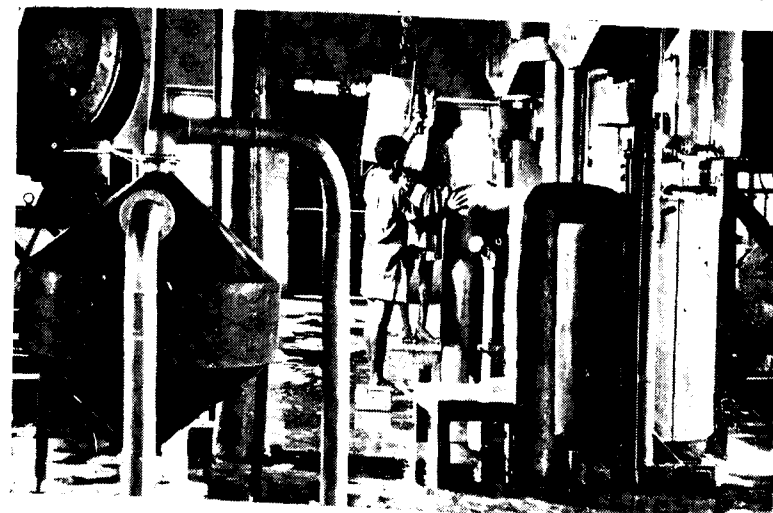
A number of improved type separators have been evolved, all of which belong to the 'dry type'; i.e., they do not contain water when stored. They fall generally into one of the following four groups:—Rubber separators, Plastic separators, Fibre glass separators, or Cellulose separators.

FOR MAXIMUM LIFE

ALL THE ABOVE HAVE A LONGER LIFE THAN WOODEN SEPARATORS, AND IN GENERAL HAVE LOWER RESISTANCE. PLASTIC AND CELLULOSE SEPARATORS, HOWEVER, ALSO HAVE CERTAIN DISADVANTAGES.

Standard Batteries Limited, who have tested various dry type separators, are now introducing the 'Mitex' rubber separator which has proved itself all over the world as giving maximum life—even longer than that of the battery itself!

Made of a special quality latex rubber, reinforced by glass-wool mats, the 'Mitex' separator is extremely porous and, while preventing any solid matter from passing, it allows the free passage of the



Mixing the ingredients for Mitex rubber separators in cooled mixers.

electrolyte. Due to its high porosity, the separator has a very low ohmic resistance, of the order of 0.10 to 0.20 ohms (0.015—0.030 ohms/sq. inch.) per square centimetre. And the very high quality of rubber used in the manufacture means that the separators can withstand the effects of sulphuric acid up to 50% concentration at temperatures up to 80°C.

#### USED THROUGHOUT THE WORLD

Standard Batteries Limited have a technical collaboration agreement with Messrs. A. B. Tudor of Sweden, the world-famous firm of battery manufacturers, and it is through this technical collaboration that they are now manufacturing the 'Mitex' separators in this country.

'Mitex' separators are in use all over the world, in the toughest conditions. They are, for example, used for submarine batteries, where the requirements are the highest in every way, and are in many countries chosen for special batteries for the Defence Services. Their manufacture in this country is an important development, in keeping with Standard's position as leaders in the field of national battery manufacture.

After a last cutting, the Mitex sheets are given a final inspection.



## AUTO RALLY IN APRIL

## A. A. S. I. TO ORGANISE AT MADRAS

The Automobile Association of Southern India added two members to its list of life members during the last month. 333 new members were also elected to the Association from various centres in South India.

As the Association has been receiving complaints of delay in getting duplicates of Registration Certificates, Renewal of Driving Licences, etc., members are requested to bring to the notice of the Association specific cases of delay so that the Association may take up the matter with the concerned authorities for redress.

Members are also reminded that motor vehicles tax licences will expire on 31st March 1958 and therefore licences are issued from the middle of March 1958.

From 1st April 1958, the State of Mysore also issues annual, half yearly and quarterly taxes as in other States of India. Members sending tax amounts should also forward their Registration Certificates, Insurance Certificates, etc., in order to get the tax discs.

All Automobile associations and clubs in the British Commonwealth, who are federated either with the Automobile Association of Great Britain or the Royal Automobile Club of Great Britain, have agreed to give free and full service to visiting members for six months. Members of the A.A.S.I., who visit any of the countries of the Commonwealth are therefore welcome to visit the office of any of the Commonwealth Associations and receive full and free service. If, however, they stay in that country for more than six months, they should become members of the local Automobile Association or Club.

### A.A.S.I. CAR AND MOTOR CYCLE RALLY

The Automobile Association of Southern India will be conducting a rally of Cars and Motor Cycles during the last week of April 1958. The Executive Committee has framed rules and regulations for

the conduct of the rally. The Committee will soon fix the date, time and nature of prizes, and make necessary arrangements.

The exact date and time will be published in the next issue. Full particulars with entry form and check cards will be published in a booklet form by the Association, after the arrangements are finalised.

Some of the important rules and regulations are given below as advance information to members.

#### Entries :

(a) The Rally is open to all members of the Automobile Association of Southern India and of the four sister Associations forming the Federation. Members of the Committee and of the staff of the A.A.S.I. are prohibited from participating in the Rally.

(b) There will be two kinds of entries:—

- (i) Individual
- (ii) Team, (open only for firm members).

(c) Groups and classes of vehicles :  
Group : (1) Motor cycles :

- (a) 150 c.c. and below
- (b) Between 150 c.c. and 350 c.c.
- (c) 350 c.c. and above.

Group : (ii) Motor Cycle combinations :

- (a) 350 c.c. and below.
- (b) Above 350 c.c.

Group : (iii) Motor cars :

- (a) 1,000 c.c. and below.
- (b) Between 1,060 c.c. and 2,590 c.c.
- (c) 2,500 c.c. and above.

Group : (iv) Veteran motor vehicles : (Registered before 1st January 1936)

- (a) Motor cycles
- (b) Cars below 1,500 c.c.
- (c) Cars with 1,500 c.c. and above.

(d) For any particular class, there must be at least six entrants.

(e) There is a fee for each entry.

#### Prizes :

The first three successful competitors in each class in each group will be given a prize.

Competitors who complete the course without loss of points will be given certificates.

In the case of ties on points in any class, such entrants will be subjected to special driving tests which will take place on a later specified date and time and place.

The following special prizes will be given for motor vehicles with best performance :

- Motor car
- Motor car driven by a lady.
- Motor cycle combination
- Solo Motor cycle
- Solo Motor cycle driven by a lady.

#### Rally Route (Course) :

The course of the Rally starts near the war memorial and passes through Adyar, Covelong, Mahabalipuram, Chingleput, and finishes at the A.A.S.I. Office (Madras-6). The distance of the course is about 100 miles.

#### Start :

The order of the start will be by lots.

The reporting time for each entry will be entered on the check card and sent to the competitor seven days earlier. Those who are late will lose one mark for every minute they are late in reporting.

The Rally will begin at 6 a.m. on the specified date.

Veteran vehicles will start first at an interval of 2 minutes.

After 15 minutes, after the last veteran vehicle, motor cycles will start at an interval of 2 minutes.

After 15 minutes after the last motor cycle, motor cycle combinations will start at an interval of 2 minutes.

After 15 minutes after the last motor cycle combinations, motor cars will start at an interval of 2 minutes.

Starting time for each vehicle will be entered on the check card.

All timings marked on the check card will be according to the official time of the A.A.S.I., as shown by synchronised chronometers carried by the Marshals of the Course.

#### Checks :

Check cards are issued to each competitor who should submit his card at each checking point and see that the arrival and departure timings are noted and initialled by the Marshal. The competitor, in turn, should sign the Marshal's sheet with the corresponding details. The card should be surrendered to the Marshal at the finishing point.

There are a number of check points. They will be marked on the printed sketch of the route. The exact position of the check points will be marked with large notice boards at the spots with a warning board "CHECK POINT AHEAD" 100 yards ahead.

**Insurance :** The Association does not accept any liability for any accident or injury or break-down to the competing vehicle, occurring during or in connection with the rally. Competitors should contact their insurers and make certain that the insurance policies for the vehicles cover also this rally. Competitors will be allowed to take part in the rally only after the production to the briefing marshal, one day earlier, a cover note from the insurance company against third party liability validated for the rally or a certificate to that effect.

**Veteran cars :** Any vehicle registered earlier to 1st January, 1936 will be considered a "Veteran" and will be given a handicap as follows :

|                       |                  |
|-----------------------|------------------|
| 1935 Registration ... | nil              |
| 1934 ..               | ... plus 1 mark  |
| 1933 ..               | ... plus 2 marks |

1932 Registration ... plus 3 marks  
1931 .. plus 4 marks  
and so on : for each year earlier one mark will be added.

The Rally Committee is the final body to which any appeal may be made, and the decision of the Committee will be final.

For complete set of rules please contact A.A.S.I. Head Office, Madras-6.

### KASI & SETHU

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Phone : 75 Gram : "RAMANRAMAN"

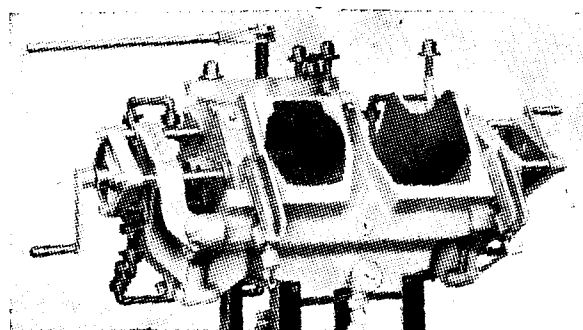
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## Social & Personal

### CHRYSLER'S EXPORT CHIEF HERE

Mr. Nicholas Kelley Jr., the President of Chrysler Export Division, as well as the Vice-President of Chrysler Corporation, America, have arrived in India from United States.

Accompanying Mr. Kelley is Mr. K. H. Kingsley, Vice-President, Chrysler Export Division (Manufacturing and Operations).

The visit of these top executives of the Chrysler Corporation which is one of the largest automobile manufacturers of the world, is primarily with the intention of discussing the manufacturing programme of their Indian Associates, the Premier Automobiles Ltd., who are manufacturing their Cars and Trucks in India. Mr. Kelley and Mr. Kingsley will also tour India visiting Premier's Dealers and studying the market potentialities for automobiles.

Mr. Kelley whose experience in the automotive field dates back to 1935, joined Chrysler Corporation in the Legal Department. His brilliant accomplishments soon took him through the positions of Resident Attorney, Secretary of Chrysler Corporation, Head of Central Staff Organisation, Vice-President and Dealers' Programme Co-ordinator.

He was born in New York in 1910 and was graduated from Exeter in 1927, and Harvard University in 1934. He has a sincere and natural interest in people, as shown by his active membership and participation in many important civic, educational and charitable organisations in United States and abroad.

Mr. K. H. Kingsley is mainly responsible for the contribution of technical assistance to the overseas associates of Chrysler Corporation.

March 1958

Mr. Sam Davis and Mrs. Lily Davis of M/s J. M. Wotherspon & Co., London were entertained at Hotel Oceanic recently by Mr. L. L. Narayan, Managing Director, Rane (Madras) Ltd. Photo shows the chief guests and other leading members of the automobile industry.

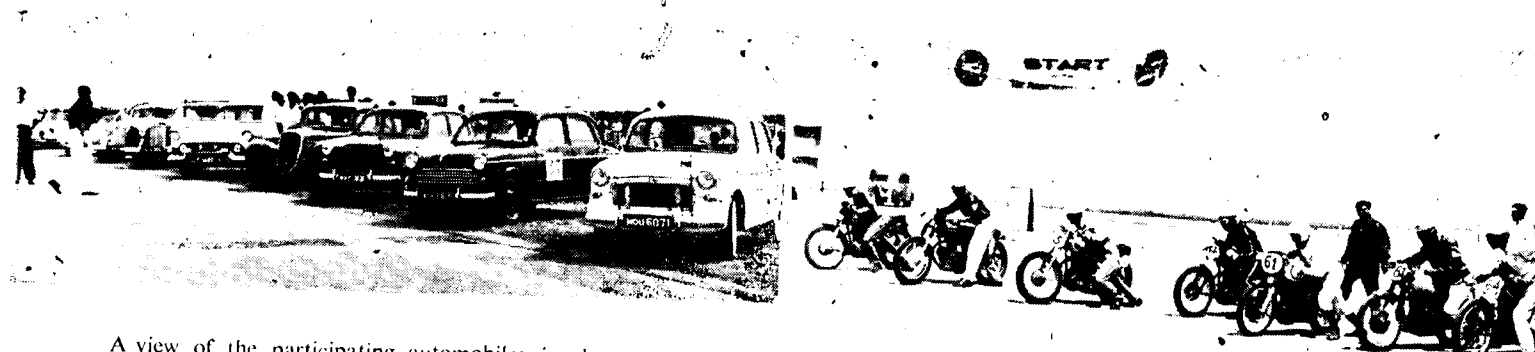


Mr. T. G. K. Raman, (extreme left) Director of M/s Rane (Madras) Ltd. enjoying a joke at the airport. Photo shows Mrs. Lily Davis in the centre.



Too late for inclusion in the MOTORINDIA feature of the Bombay Automobile & Ancillary Industries Exhibition, was this photograph of the staff of M/s. Bower Battery Manufacturing Co. Private Ltd., of Bombay. Photo shows left to right, Messrs. T. M. Parikh, Chimanlal Desai and C. M. Trivedi.

MOTORINDIA



A view of the participating automobiles in the recent motor racing organised by the Madras Motor Sports Club at Sholavaram.

The start of one of the motor cycle events.

## AUTO RACING IN TWO CENTRES: HUGE CROWDS

Motor Racing in two centres in South India went off successfully, since we published our last issue.

The first was at Bangalore where under the auspices of the Bangalore Motor Sports Club, an All-India Meet was arranged on the Yelahanka airstrip which was witnessed by a crowd of nearly 25,000 motor enthusiasts and others.

The main feature of the sports was the success of C. D'Costa and G. Ingleton, both of Ceylon who carried away the trophies in motorcycle events.

Among the many events for cars, P. S. Hariharan in a Jaguar stole the thunder with his daring driving. A thrilling event included the C.C. Wakefield Trophy, a handicap race for sports cars which was annexed by John Webb in his M.G. Following were the results:

**The Lambretta Cup.** (For motorcycles up to 175 c.c. scooters eligible) 6 miles G. Ingleton (Ceylon Motor Cycle Club) (M. V. Augusta 150 c.c.) 8m 4s 1; C. H. Doveton (Webbs Motor Scooter Mart, Bangalore) (Lambretta 150 c.c. 8m 44s. 2; J. W. Webb (Bangalore) (Lambretta 150 c.c.) 9m 4s. 3.

**Lightweight Trophy:** (For motorcycles up to 250 c.c.) 10 miles: G. Ingleton, 13m 17.4/5s. 1; (Only three participated. M. G. Gajendran of Madras Motor Sports Club dropped out in the very first lap.)

The Bangalore Motor Sports Club trophies (Motor cars of different cubic capacity, each class of the same cubic capacity racing against themselves to qualify two cars in each class for the Grand Prix), 12 miles.

Motor cars up to 750 c.c.: A. J. Loganathan (Fiat) 18m. 49s. A. J. Hanumanthan (Austin) 18m. 55s.

Motor cars up to 1,000 c.c.: V. No. Shanker (Standard) 17m. M. A. H. Harden (Standard) 17m. 2s.

Motor cars up to 1,200 c.c.: P. V.

Gajapathy Raj (Madras) (Fiat) 14m. 47s., B. Kapur (Fiat) 14m. 52s.

Motor cars up to 1,750 c.c.: S. C. S. Ubhayakar (Hindustan) 17m. 4s., G. D. Jayaram (Hindustan) 17m. 7s.

Motor cars unlimited c.c. K. S. Eswaran (Studebaker) 12m. 54s., Fred Webb (Jaguar M. K. VII) 12m. 55s.

**The L. M. O'Leary Cup** (Junior championship for motorcycles up to 350 c.c.) 20 miles. M. D. Khan, (Royal Enfield 350 c.c.) 22m. 11s. 1; Mani (Coimbatore Auto Sports Club) (B.S.A. 350 c.c.) 22m. 45s. 2; D. Srinivasan, (Madras Motor Sports Club) (Matchless 350 c.c.) 3. (Times not taken.)

**The C. C. Wakefield Shield** (Handicap race for sports cars) 12 miles: John Webb (M. G.) 13m. 43s. 1; P. S. Hariharan, (Jaguar XK 120) 13m. 44s. 2; A. D. Jayaram, (M.G.) 13m. 49s. 3.

**The R.M.D.C. Shield** (Senior championship for motorcycles up to 500 c.c.) 30 miles. C. D'Costa (Ceylon) (Norton "Manx") 29m. 35s. 1; W. B. Zedkar (Norton) 29m. 41s. 2; V. K. Gupta, (Royal Enfield) 30m. 52s. 3.

**The Addison Shield** (Bangalore Grand Prix for all sports cars and those qualified in the Bangalore Motor Sports Club trophies) 12 miles: A. A. Jayaram, (M.G.) 17m. 30s. 1; P. S. Hariharan, (Jaguar XK 120) 17m. 59s. 2; N. J. Duggan, (M.G.) 18m. 0.1s. 3.

**The Club President's Trophy** (for motorcycles) (Unlimited capacity) 8 miles, C. D'Costa 7m. 59s. 1; N. Krishnaswamy (Coimbatore Auto Sports Club).

*That Madras motorists are getting more and more sports-minded was revealed early this month when nearly a crowd of 6,000 persons assembled in the open air near Sholavaram airstrip, where the Madras Motor Sports Club organised the Second All-India Sports Meet.*

There were races for motorcycles upto 250 c.c., for stock scooters and scooterettes upto 200 c.c., for production cars, for juniors in motor-

cycles upto 350 c.c. and a senior race for cars etc.

A smart function was held at the Gymkhana Club the same evening when after a dinner, prizes were presented to the winners by Mrs. Sarkar, wife of Group Captain Sarkar, who presided over the function. Mr. M. K. Belgamwalla, President of the Madras Motor Sports Club welcomed the gathering at dinner and Mr. K. V. Srinivasan, Treasurer of the Club proposed the vote of thanks.

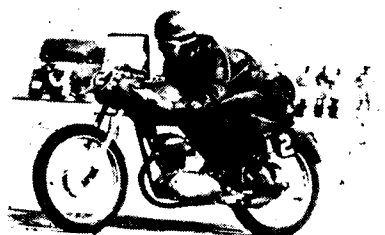
Following were the results:—

**The Mahendru Trophy** (a handicap race for motorcycles upto 250 c.c.) distance four laps: 1. G. Ingleton, (Ceylon Motor Cycle Club on a 123.5 c.c. M. V. Agusta), 2. M. C. Gajendran (Madras Motor Sports Club on a 200 c.c. N.S.U.), 3. Ashok Shah (Decan Motor Sports Club on a 250 c.c. Jawa) Time in order of winning: 13m. 18s., 14m. 55s. and 15m. 56.3s.

**The Uberoi Trophy** (a race for stock scooters and scooterettes upto 200 c.c. and handicapped according to class) distance two laps: 1. M. K. Nair, (Lambretta Club) Time: 7m. 9.7s; 2. Doveton. Time: 7m. 27.8s.

**The Enfield Trophy** (a clubmans handicap race for motorcycles, scooters and scooterettes—unlimited) distance four laps: 1. D. V. Runga Reddy (Madras Motor Sports Club on a Norton Dominator 500 c.c.), 2. Roshanali Currimbhoy (on a

G. Ingleton of Ceylon winning the Mahendru Trophy at Sholavaram.



F. Webb of the Bangalore Motor Sports Club seen addressing the gathering at the dinner held in connection with the Madras Motor Sports.

Norton Dominator), 3. H. Prithvi, (Madras Motor Sports Club on a Norton Dominator 500 c.c.). Time in order of winning: 11m. 52.2s: 12 m. 18.5s., 12m. 45.7s.

**The Rumeda's Trophy** (a handicap race for production cars—unlimited) distance four laps: 1. Soundararajan (Coimbatore Auto Sports Club on a Fiat 1089), 2. P. S. Hariharan (Bangalore Motor Sports Club on a Jaguar XK 120 and 3442 c.c.), 3. Palaniappa Chettiar (on a Cadillac).

**The Currimbhoy Trophy** (a junior open championship for motorcycles up to 350 c.c.) distance seven laps: 1. Ashok Shah (Decan Motor Sports Club on a Norton) 2. A. K. Tyrewalla (Decan Motor Sports Club on a Royal Enfield 350 c.c.), 3.

Mrs. Sarkar, wife of Group Captain Sarkar, presenting the prizes for a lady entrant.



March 1958



Winners of the various events in the Motor Sports seen with their cups and trophies.

Kishen Raute (Decan Motor Sports Club, on a Kishen Special). Time in order of winning: 20m. 38s: 22m. 58.6s: 23m. 36s.

**The Wakefield Trophy** (a handicap race for cars, handicapping on individual merit) distance four laps: 1. P. S. Hariharan (Bangalore Motor Sports Club on a Jaguar XK 120 and 3442 c.c.), 2. P. V. Gajapathi Raj (Madras Motor Sports Club on a Fiat 1089 c.c.), 3. K. Rajagopal, (Coimbatore Auto Sports Club on a Fiat 1089 c.c.). Time in order of winning: 11m. 45.3s: 13m. 6.4s: 13m. 15.0s.

**The Wakefield Trophy** (a senior open championship for motorcycles—unlimited) distance ten laps: 1. A. K. Tyrewalla (Decan Motor Sports Club on a Royal Enfield 500 c.c.), 2. C. Barucha (Decan Motor Sports Club on a Tristar), 3. Ashok Shah (Decan Motor Sports Club on a Norton Manx 500 c.c.). Time in order of winning: 24m. 1.2s: 26m. 40.3s: 28m. 14s.

**The Gurudass Trophy** (a handicap threefold combination relay race) was not run.

## Ancillary Industries Association

### Pranlal Patel Elected President

The first meeting of the Executive Committee of the All-India Automobile Ancillary Industries Association, held at Bombay on March 10, elected Mr. Pranlal J. Patel (M/s. Malleable Iron & Castings Co. Private Ltd.) as its President, Mr. Akbar N. Chinoy (Simpson & Co. Ltd.) as Vice-President and Mr. Harendra R. Aslot (Automobile and Agricultural Ind. Corporation) as Honorary Secretary of the Association.

A Committee consisting of the following eight members was also elected:—

Shri N. L. Gupta (M/s. Craftsman Electronic Corporation); Shri N. V. Modak (M/s. Modak Rubber Products Private Ltd.); Shri Bharat G. Doshi (M/s. Acme Manufacturing Co. Ltd.); Shri M. K. Raju (M/s. India Pistons Private Ltd.); Shri S. V. Kudva (M/s. Canara Workshops Ltd.); Shri K. R. Anand (M/s. Himco (India) Private Ltd.); Shri M. S. Shastri (M/s. Automobile Products of India Ltd.) and Shri P. Sharan Gupta (M/s. Auto Lamps Ltd.).

MOTORINDIA

# MODELS AND THEIR Prices

## CARS

|                                                                                             |           |
|---------------------------------------------------------------------------------------------|-----------|
| Plymouth Cars, (Sundaram Motors Private Ltd.) Ex-Factory, Kurla                             | 20,700 00 |
| Plymouth Suburban (Sundaram Motors, Ltd.)                                                   | 22,646 00 |
| Hindustan Ambassador 1957 (Southern Automotive Corporation Private Ltd.) ex-plant Uttarpara | 11,161 00 |
| Dodge Kingsway sedan (Rane (Madras), Ltd.)                                                  | 20,371 00 |
| Dodge Suburban (Rane (Madras), Ltd.) ex-Bombay                                              | 22,899 00 |
| Vanguard Phase III (Union Co. (Motors) Ltd.)                                                | 14,700 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 ex-plant Bombay                                               | 12,160 00 |
| Willys Model Station Wagon ex-plant Bombay                                                  | 18,150 00 |
| Jeep 1 ton truck                                                                            | 13,046 00 |

## MOTOR CYCLES

|                                                                        |          |
|------------------------------------------------------------------------|----------|
| Royal Enfield (The Madras Motors (Private) Ltd.)—                      |          |
| "150 Ensign" (any dealer point in India)                               | 1,890 00 |
| "350 Bullet" with spring frame (any dealer point in India)             | 3,430 00 |
| "19 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 |

## SCOOTERS

Lambretta, manufactured by Automobile Products of India Ltd. Distributors, South India Automotive Corporation Private Ltd., Madras.

(At Visakhapatnam—Western Automobiles Ltd.) Prices are ex-Factory, Bhandup, Bombay.  
48 c.c. Scooterette ... 827 00  
150 c.c. 'LD' Model Deluxe Scooter ... 1,795 00

## VANS

Standard Delivery Van. (Union Co. (Motors) Private Ltd.) on the road ... 10,628 56  
Hindustan Traveller, price on the road (Reliance Motor Co.) ... 14,700 00

## TRUCKS & COMMERCIAL CHASSIS

|                                                                                                                                            |           |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Sundaram Motors (P) 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 |
| (V.S.T. Motors Private Ltd.)                                                                                                               |           |
| Tata-Mercedes-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 Rane (Madras) Ltd.) Prices duty paid ex-Factory Premier Automobiles Ltd., Kurla, Bombay. |           |
| C3D6-116" (4) 7.00 x 16—6 Ply                                                                                                              | 11,615 00 |
| C4D6-126" (4) 7.00 x 16—6 Ply                                                                                                              | 12,662 00 |
| C3PW6-126" (4) 9.00 x 16—10 P.W.                                                                                                           | 17,974 00 |
| C4G6-153" (6) 34 x 7—10 Ply                                                                                                                | 16,391 00 |
| C4G6-153" (6) 32 x 6—10 Ply                                                                                                                | 16,062 00 |

|                          |                           | Rs.    | nP. |
|--------------------------|---------------------------|--------|-----|
| C4H6-153"                | (6) 34 x 7—10 Ply         | 17,710 | 00  |
| C4H6-153"                | (6) 34 x 7—12 Ply         | 17,979 | 00  |
| C4H6-193"                | (6) 34 x 7—10 F.F. Ply    | 18,116 | 00  |
| C4H6-193"                | (6) 34 x 7—12 F.F. Ply    | 18,385 | 00  |
| C4H6-193"                | (6) 34 x 7—10 W.S. Ply    | 18,479 | 00  |
| C4H6-193"                | (6) 34 x 7—12 W.S. Ply    | 18,748 | 00  |
| K6D200-116"              | (4) 7.00 x 16—6 Ply       | 12,896 | 00  |
| K6D200-116"              | (4) 7.00 x 16—8 Ply       | 12,961 | 00  |
| K6D300-126"              | (4) 7.00 x 16—6 Ply       | 12,900 | 00  |
| K6D300-126"              | (4) 7.00 x 16—8 Ply       | 12,965 | 00  |
| K6W300-126"              | (4) 9.00 x 16—10 P.W. Ply | 18,950 | 00  |
| K6D400-129"              | (6) 34 x 7—10 Ply         | 16,372 | 00  |
| K6D400-153"              | (6) 32 x 6—10 Ply         | 16,186 | 00  |
| K6D400-153"              | (6) 34 x 7—10 Ply         | 16,531 | 00  |
| K6D400-171"              | (6) 34 x 7—10 Ply         | 17,008 | 00  |
| K6D500-129"              | (6) 34 x 7—10 Ply         | 18,552 | 00  |
| K6D500-129"              | (6) 34 x 7—12 Ply         | 18,388 | 00  |
| K6D500-153"              | (6) 34 x 7—10 Ply         | 18,331 | 00  |
| K6D500-153"              | (6) 34 x 7—12 Ply         | 18,628 | 00  |
| K6D500-171"              | (6) 34 x 7—10 Ply         | 18,606 | 00  |
| K6D500-171"              | (6) 34 x 7—12 Ply         | 18,904 | 00  |
| <b>PICKUP</b>            |                           |        |     |
| C3D6-116"                | (4) 7.00 x 16—6 Ply       | 15,012 | 00  |
| C4D6-126"                | (4) 7.00 x 16—6 Ply       | 16,058 | 00  |
| K6D200-116"              | (4) 7.00 x 16—6 Ply       | 16,293 | 00  |
| K6D200-116"              | (4) 7.00 x 16—8 Ply       | 16,358 | 00  |
| <b>DIESEL CONVERSION</b> |                           |        |     |
| C4H6-153"                | (6) 34 x 7—10 w.b. Ply    | 22,668 | 00  |
| C4H6-153"                | (6) 34 x 7—12 w.b. Ply    | 22,937 | 00  |
| C4H6-171"                | (6) 34 x 7—10 w.b. Ply    | 22,903 | 00  |
| C4H6-171"                | (6) 34 x 7—12 w.b. Ply    | 23,172 | 00  |
| K6D500-153"              | (6) 34 x 7—10 w.b. Ply    | 20,997 | 00  |
| K6D400-171"              | (6) 34 x 7—10 w.b. Ply    | 21,303 | 00  |
| K6D500-153"              | (6) 34 x 7—12 w.b. Ply    | 22,930 | 00  |
| K6D500-153"              | (6) 34 x 7—10 w.b. Ply    | 22,632 | 00  |
| K6D500-171"              | (6) 34 x 7—12 w.b. Ply    | 23,414 | 00  |
| K6D500-171"              | (6) 34 x 7—10 w.b. Ply    | 23,116 | 00  |

The prices and specifications are subject to change without notice.