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MOTORINDIA

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NUMBER 6

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MOTORINDIA

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CONTENTS

	Page
Editorial	5
Nuclear Power vs Oil—(Exclusive)	7
Assam Oil—Exclusive	9
Hindustan Ambassador	13
New Soviet Motorcycles by S. Fisher...	17
Cats Eyes	20
Universals	22
Pity the Poor Motorist by V. Vikentiev	24
Aluminium on Automobiles...	26
Batteries	27
Tyre News	30
Your Car	33
Motor Parts Dealers Association	34
Upper India Jubilee	35
Industrial Revival in Japan	36
Fairs & Exhibitions	37
Aviation	38
MOTORINDIA News Section	41
Models & Their Prices	44

INDEX TO ADVERTISERS

	Page
Auto Sales Co.	36
Basha A.	25
Bawa Motors	19
Bharat Motors	21
Bower Battery Manufacturing Co. Private Ltd.	36
Burmah-shell Oil Storage and Distributing Co. of India Ltd.	1
Chimanlal Desai & Co.	16 & 41
Enfield India Ltd.	10
Firestone Tyre & Rubber Co. Ltd.	8
Glass & Miniature Bulb Industries	16
Grover D. V.	15
Himco Batteries (M) Private Ltd.	14
Hindustan Motors Ltd.	12
Hyderabad Allwyn Metal Works Ltd...	2
India Pistons Private Ltd.	4
Indian Engineering & Trading Co.	11
Kasi and Sethu	11
Motor Industries Co. Ltd.	14
Narayanan M. P.	18
Nishat Trading Co.	11
Premier Automobiles Ltd.	Third cover
Senior Auto Diesel Store	43
Standard Batteries Ltd.	Back cover
Standard Vacuum Oil Co.	6
Sundram Iyengar & Sons. T. V.	Second cover
Vijay Trading Co.	16
Waxpol Industries Ltd.	3

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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.

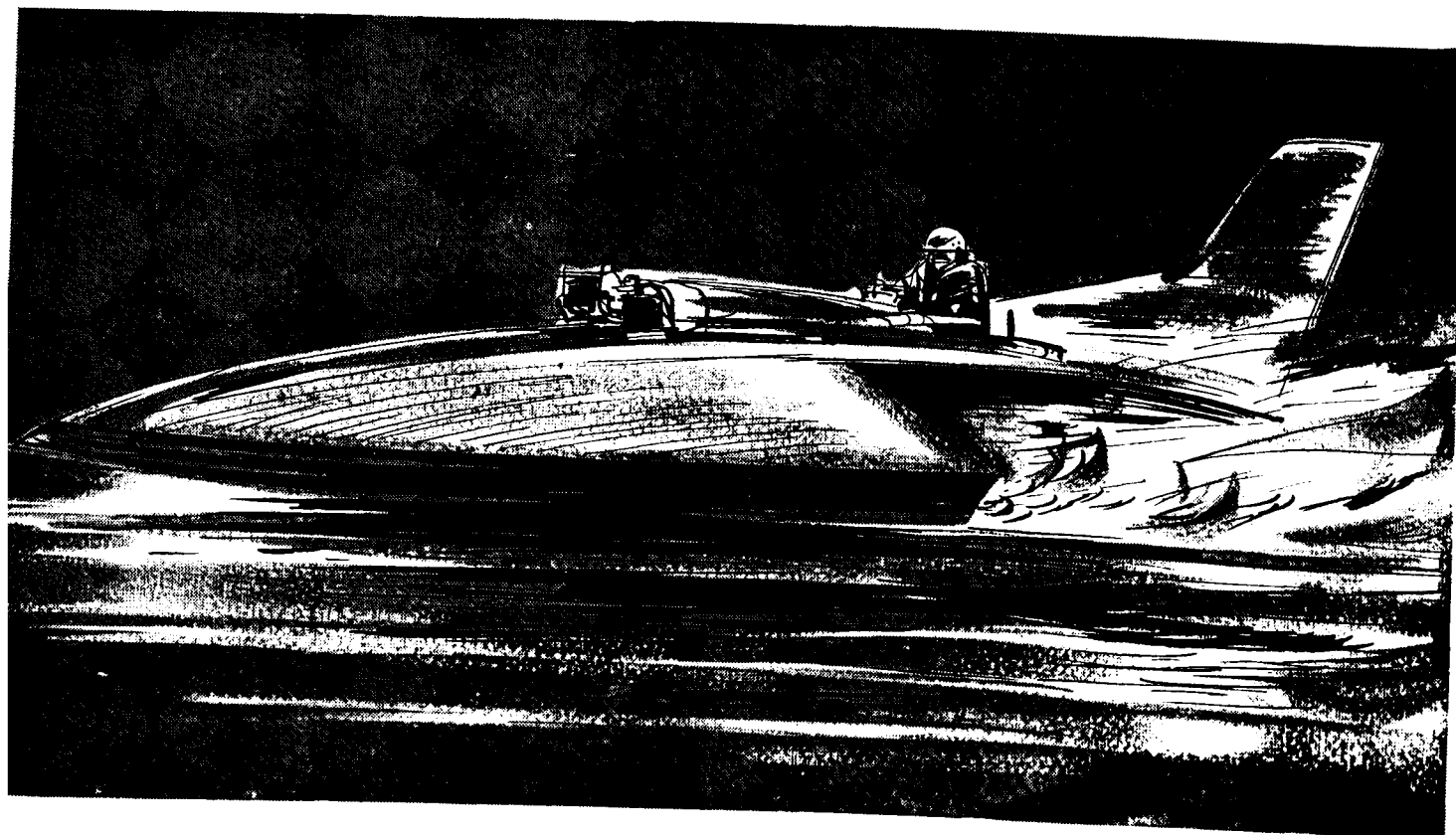
The success of the 5-year Plans that we are now in the midst of, will depend more or less to the degree of saving that individuals and organisations are able to accrue during this period. And the fact remains that the average income of the middle and the upper-middle classes being what it is today, and 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.

CAMPBELL SETS NEW WORLD WATER RECORD USING MOBIL PRODUCTS

ON NOVEMBER 7th, Donald Campbell sent his jet-propelled hydroplane, Bluebird II, streaking across Lake Coniston. He broke his own world record of 216.2 m.p.h. with an amazing average speed of 239.07 m.p.h. Campbell actually touched the fantastic speed of 260.10 m.p.h. on his outward run. Once again he chose MOBIL products, as he did when he became the first man to smash through the deadly 'water barrier'. For maximum speed, Campbell used specially-developed MOBIL Gas-Turbine Fuel; and MOBIL OIL gave the Bluebird's screaming jet engine the maximum protection.



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MOTORINDIA

January 1958

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.

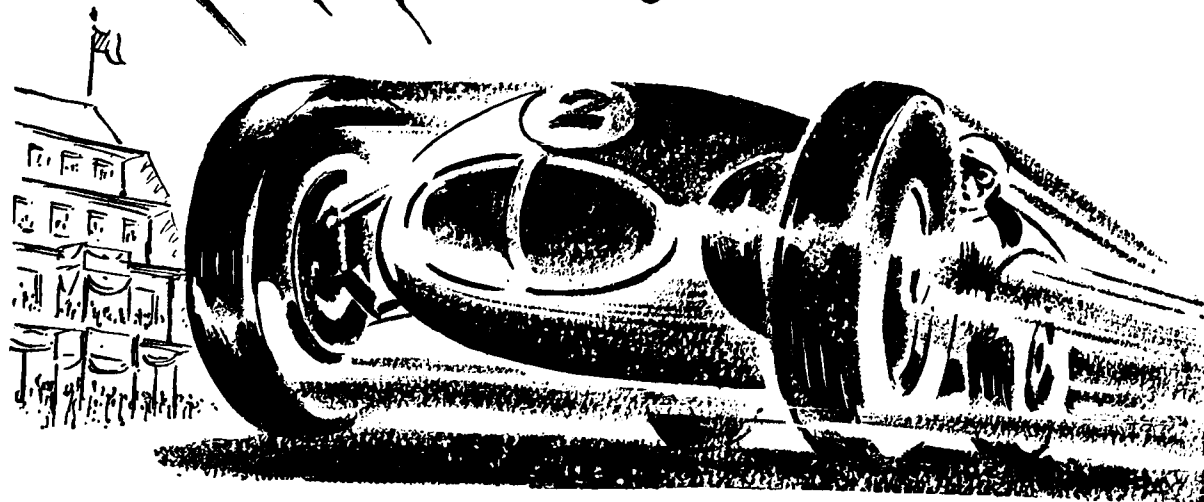
In respect of nuclear power stations this problem is aggravated by the fact that in the present state of technical development no reactors of proven reliability and capable of producing electricity at economic rates are available with output in the range of 10 to 50 megawatts. Nor are they likely to 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.

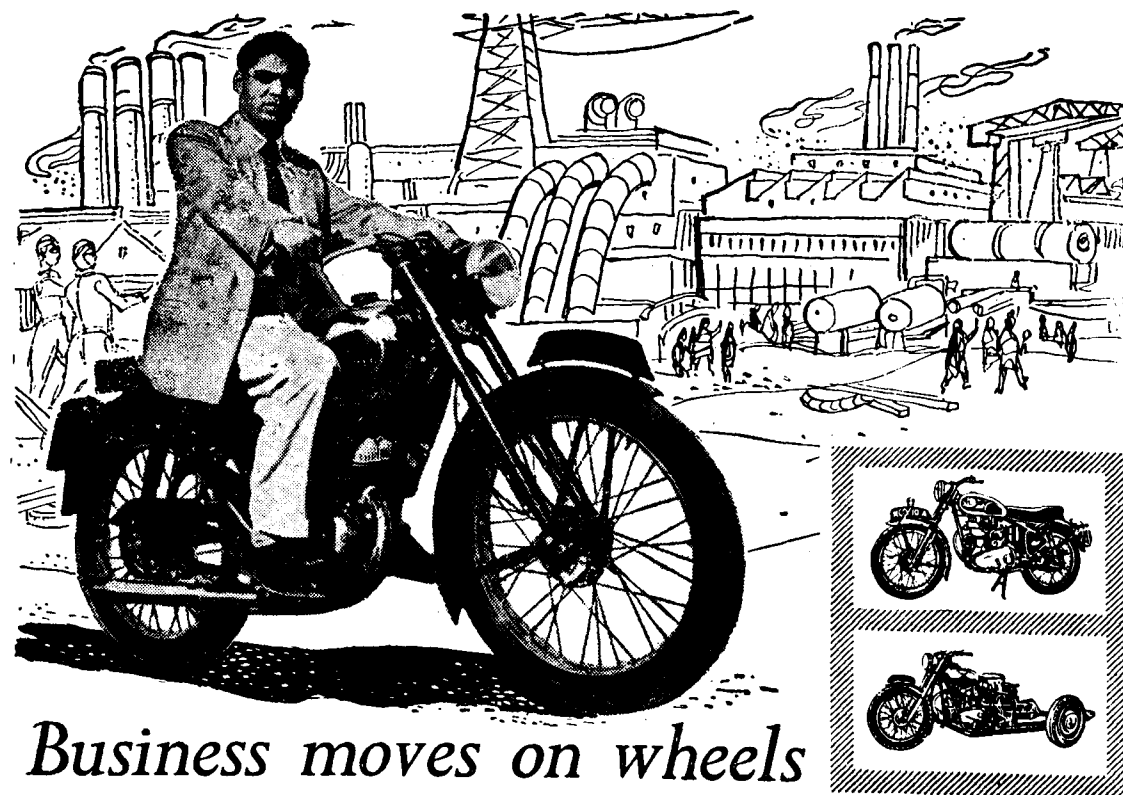
The potential of the fields is far beyond purely local needs and pipelines and refinery facilities must be provided. The new company will arrange for the construction and operation of a pipeline from the fields to a refinery in Assam but the two refineries needed will be constructed and owned by the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

—Copyright P.P.S.

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-

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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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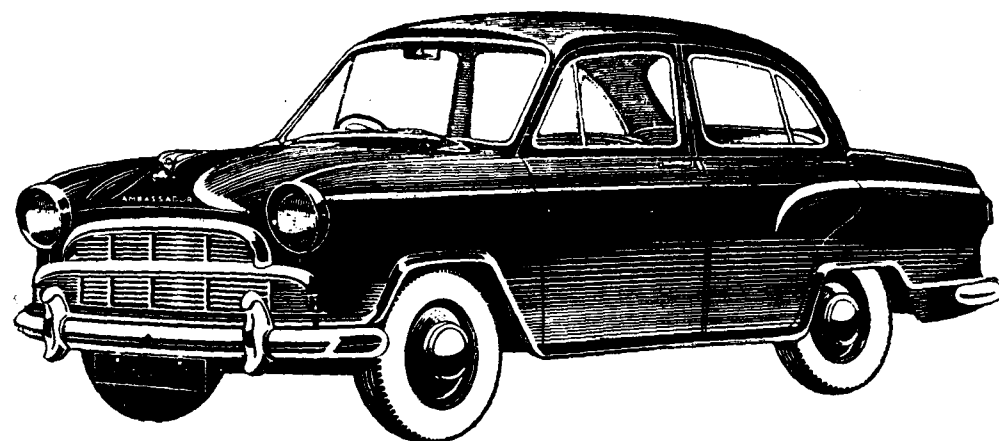
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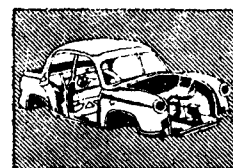
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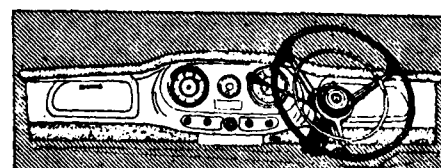
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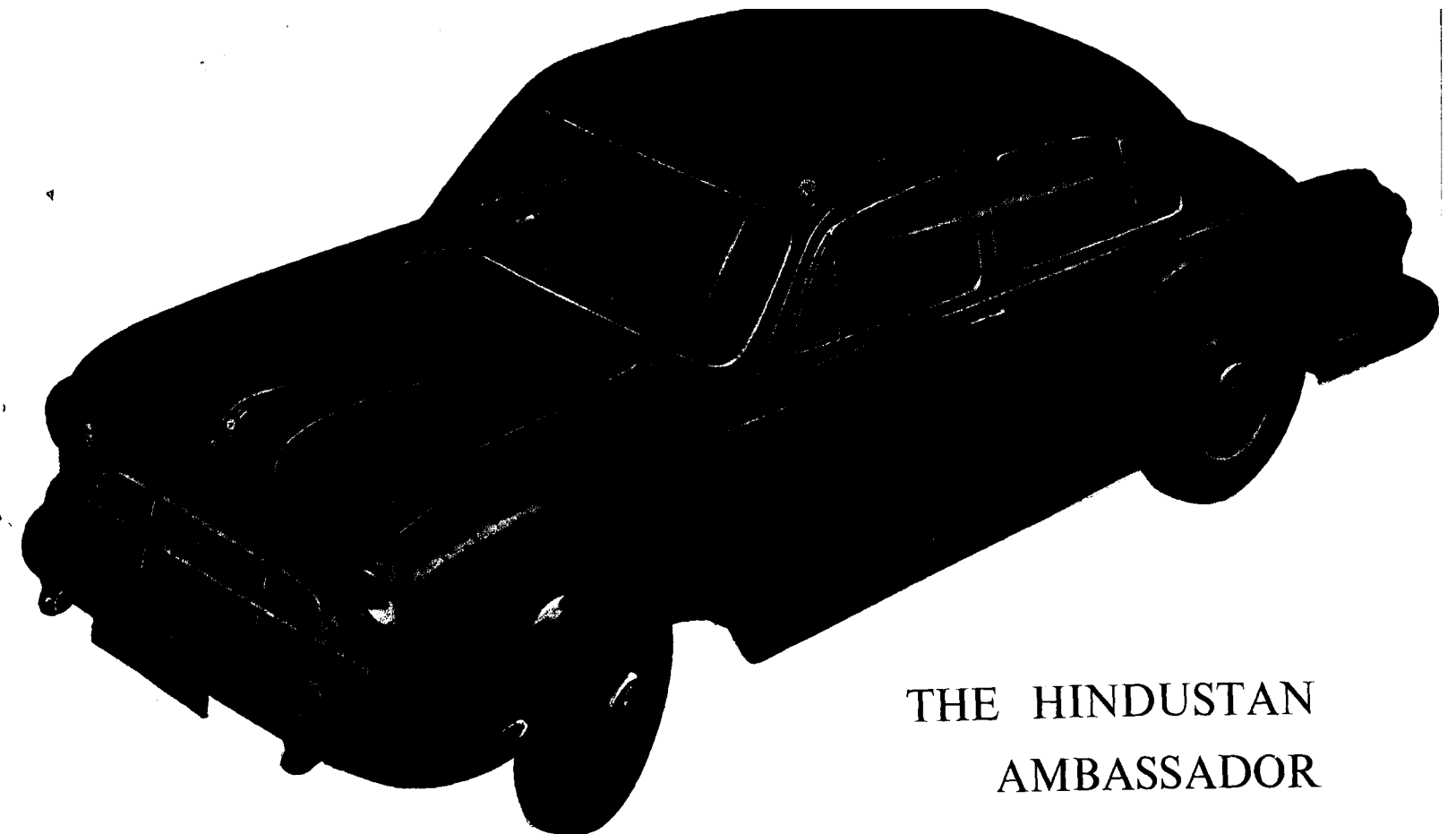


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THE HINDUSTAN AMBASSADOR

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.

Its crisp purposeful look is claimed to be the logical result of good design and its end to end elegance and fresh functional beauty contribute to handsome profile.

The interior offers outstanding roominess and comfort and the high efficiency responds brilliantly to the power demands at an economical rate. Many of the new and advanced features included in the Ambassador are claimed to bring about family safety. The new strong, deep-sunk-centre steering wheel, the

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The extra safety performance and economy achieved by "Mono-construction."

The overhaul dimensions of the Ambassador are as follows:

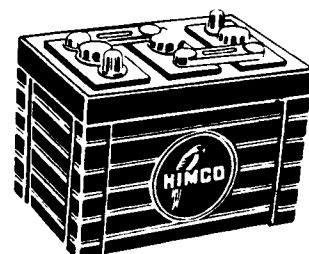
Length	...	...	171"
Height	...	...	63"
Width	...	...	65"
W.B.	...	...	97"
Track-F	...	...	53½"
Track-R	...	...	53"
Turning circle	...	...	35' 6"
Ground clearance	...	...	6¼"
Luggage Boot Capacity	...	...	16 cu. ft.
Fuel Tank Capacity	...	...	12 glns.
Unladen wt.	...	...	2408 lbs.

MOTORINDIA

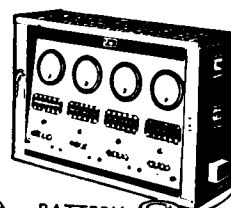
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Mr. V. Thein Nyun, Secretary, Ministry of Relief, Resettlement and National Solidarity, Union of Burma and Madam Nawng photographed at the Engine Testing Section of Hindustan Motors, Calcutta. Mr. M. Sanjeeva Rao, Deputy Sales Manager is also seen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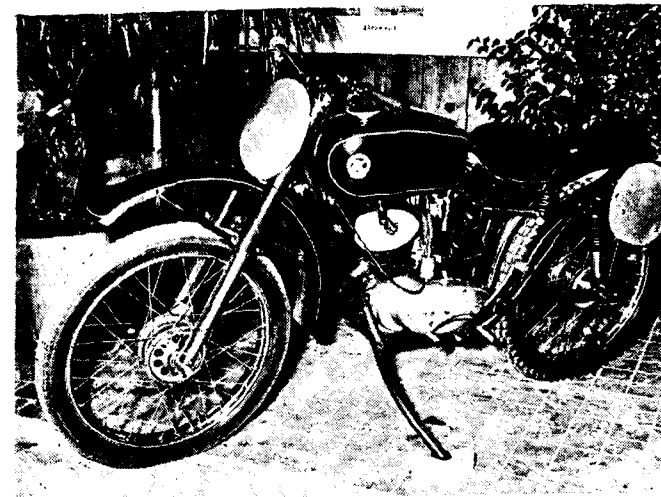
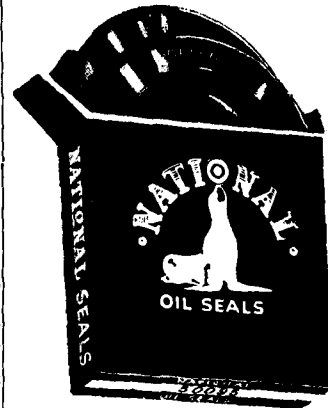
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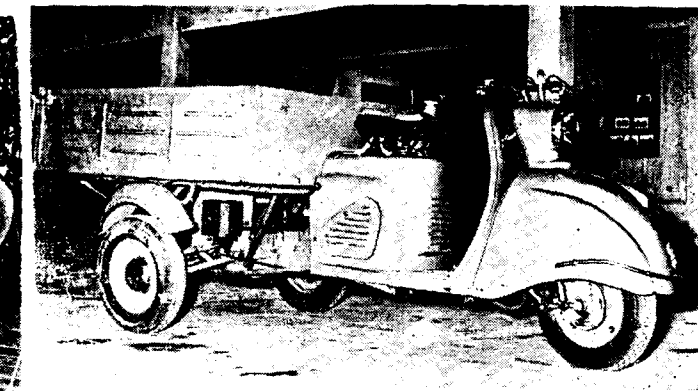
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Tula, the three-wheel cargo motorcycle

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.

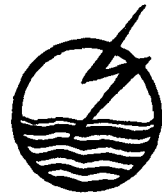
It scored good results during road tests.

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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MOTORINDIA

January 1958

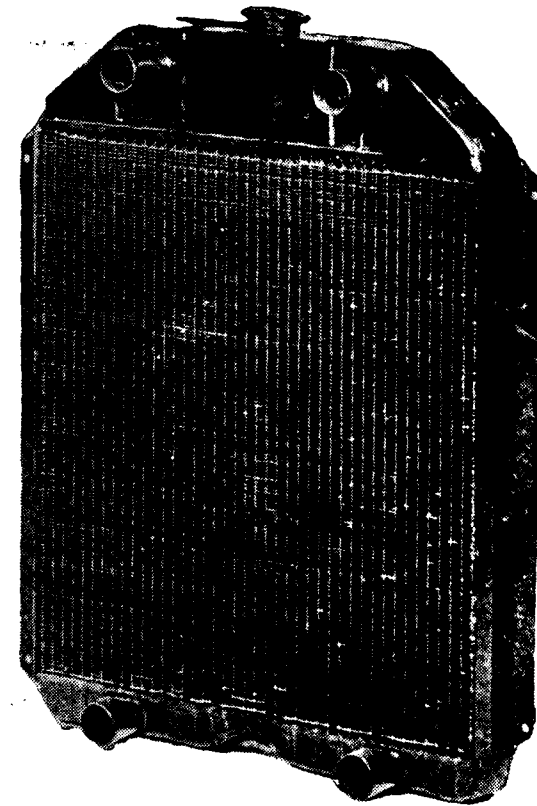
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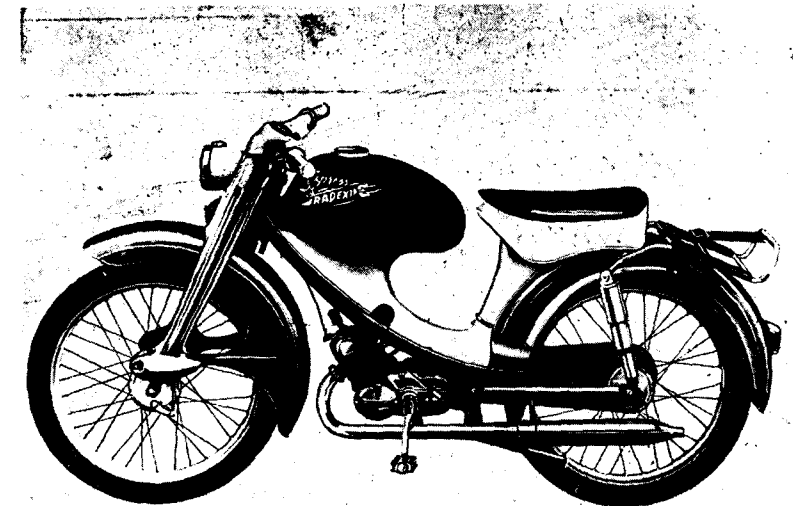
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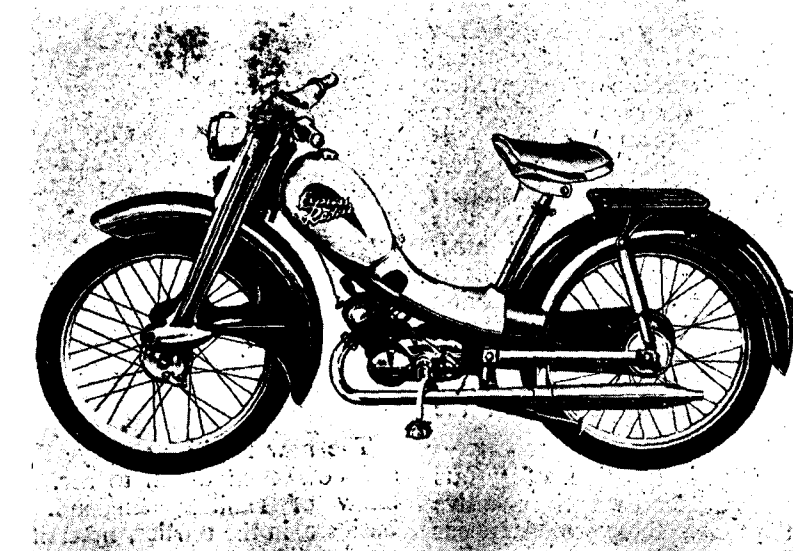
in setting up two carburetors it may be stepped up to 24-25 h.p. Its present speed is 150-160 k.m. p.h. Another distinction of this motorcycle is its low weight: 110 kg. Powerful brakes on both the front and rear wheels ensure quick stoppage. It has a low centre of gravity, and is well sprung due to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

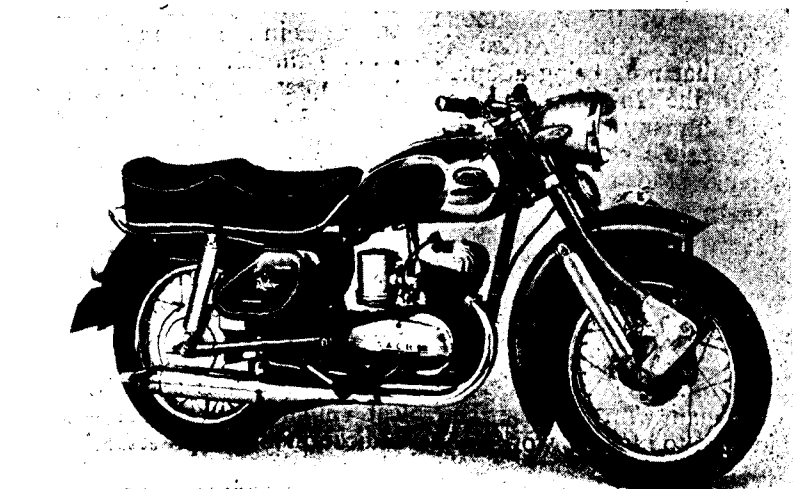
The designers are now busy on new types of mufflers, filters, suspensions and other units to considerably raise the quality of their motorcycles.



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"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-bound 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.

* * *

JAPANESE BUSES

FOR SANTIAGO

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

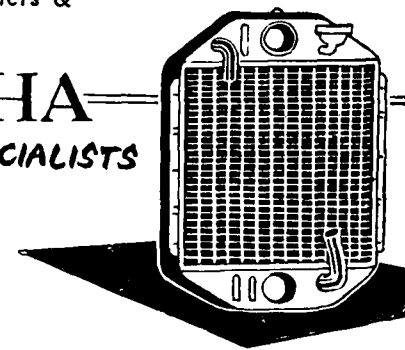
The consignment is part of a 300 bus deal with the Mitsubishi-Fuso Corporation of Tokyo by the Chilean State-controlled Transport Department.

The Leading Radiator Assemblers & Service Experts in India.

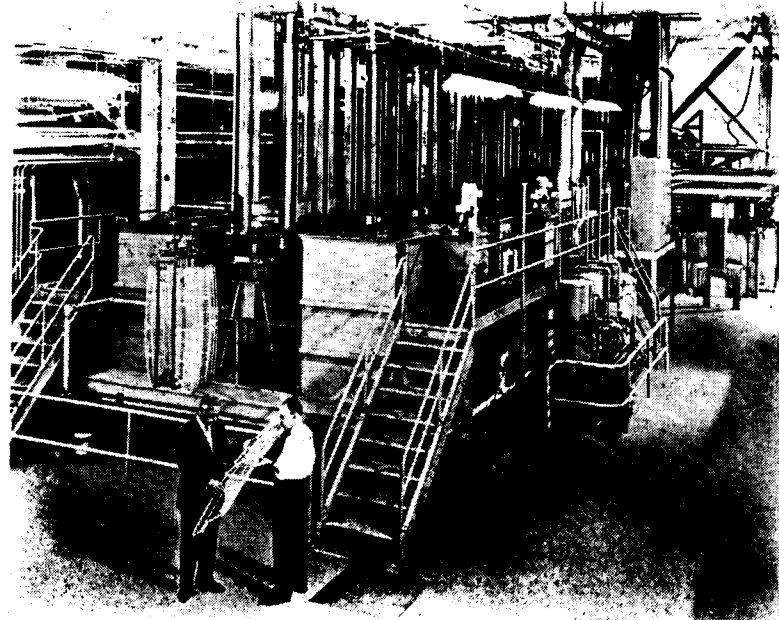
A. BASHA
RADIATOR SPECIALISTS

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

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.

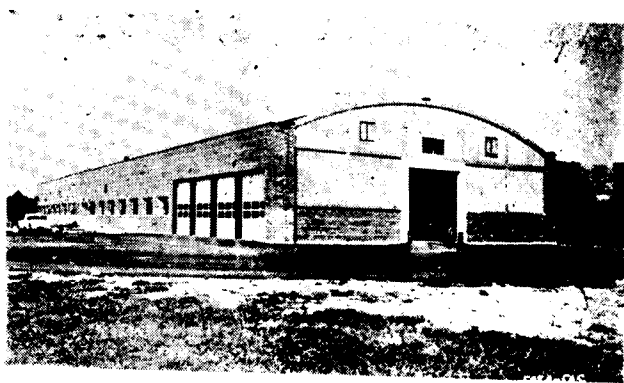
The new safety tyre, introduced last year by The Goodyear Tyre & Rubber Company, Akron, Ohio, is already in use as original equipment on some of the 1957 model automobiles. DeSoto Division of Chrysler Corporation introduced the 1957 DeSoto Fire-Flyte and Fire-Sweep Station Wagons with Captive-Air Safety 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.



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.

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.

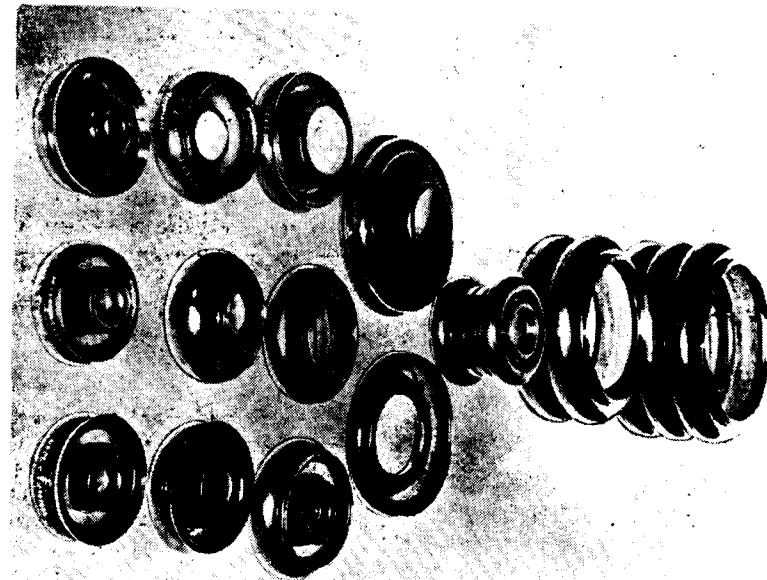
The move to air suspension began about 10 years ago in the truck, bus and railroad industries. New 1958 model cars will mark full acceptance of the soft riding suspension system.

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 transcontinental 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 Milmo

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.

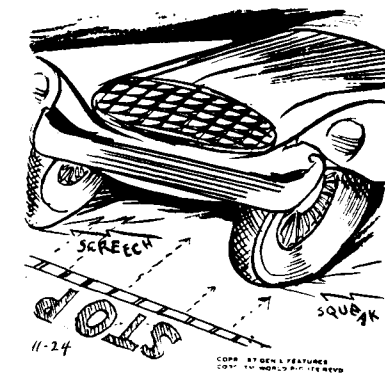
EXCEPT IN EMERGENCIES, AVOID SUDDEN, SEVERE, VIOLENT BRAKING.....OR CONSTANT PEDAL RIDING. THESE PRACTICES, POOR ONES AT ANY TIME, ARE ALMOST CERTAIN TO DOOM BRAKE LININGS AND DRUMS.

* * *

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's 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. Every-one 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

SILVER JUBILEE



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.



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 MOTORES 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

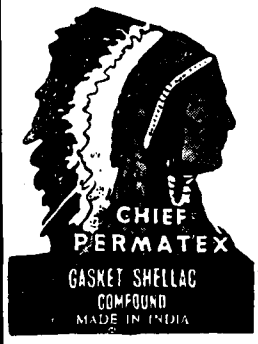
THAT COUNTRY ON A CONTRACT BASIS.

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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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 conjection 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 Columbian 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.

January 1958

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. Rs.	U. K. Rs.	Other Countries 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	3,41,47,613	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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MOTORINDIA

43

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 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. Scooterete ... 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. 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" (6) 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" (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.

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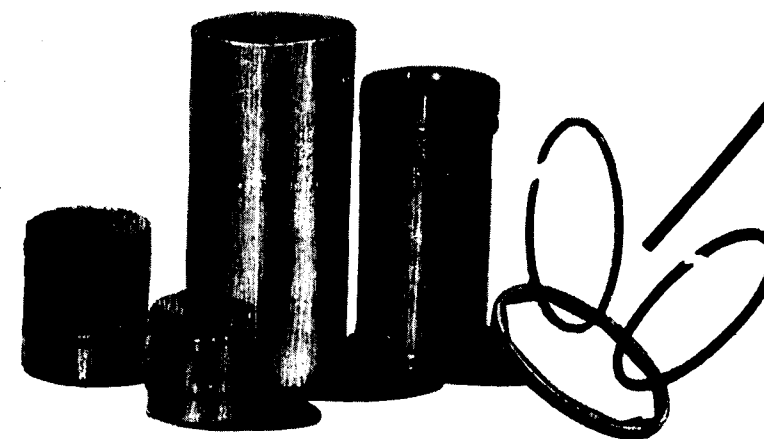
MOTORINDIA

VOLUME 2

FEBRUARY 1958

NUMBER 7

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Our 9th
YEAR



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- 1952 PISTONS
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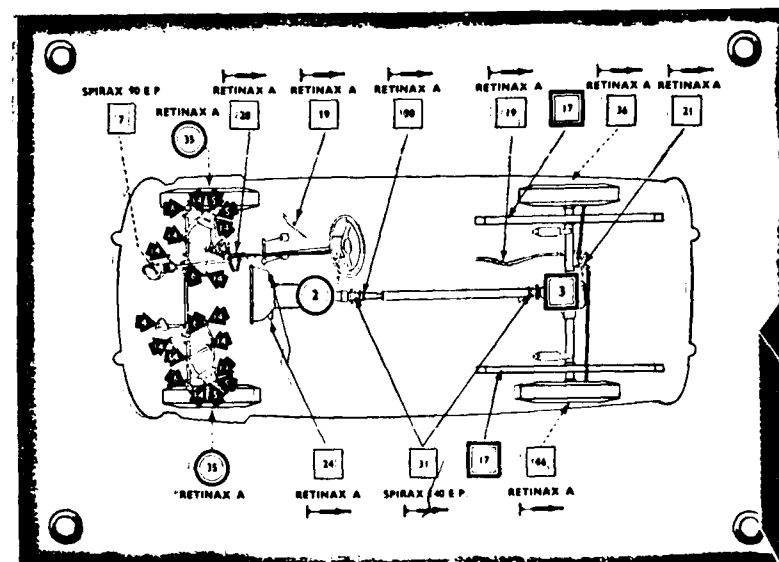
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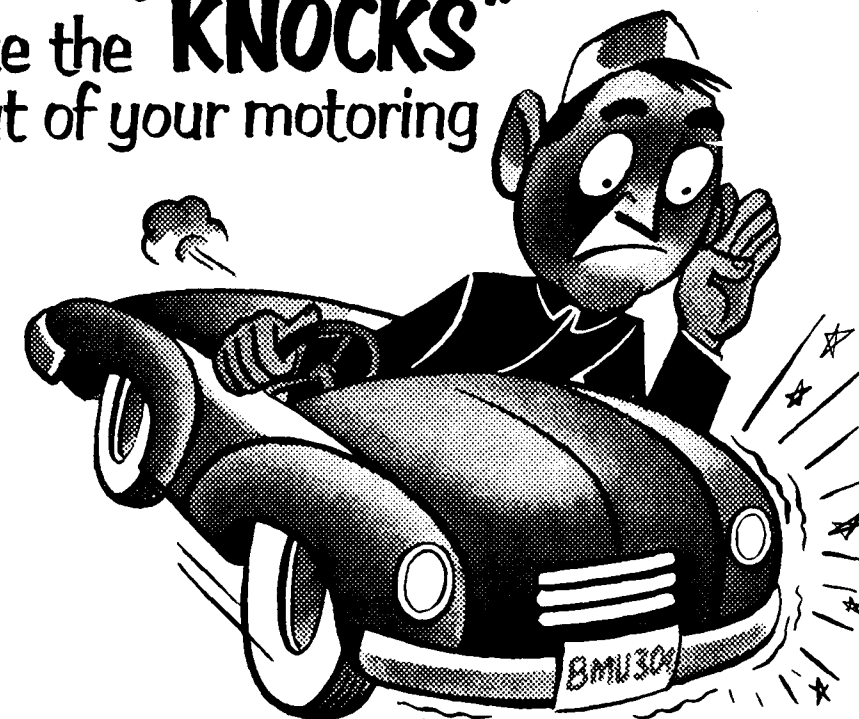
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remember these common causes. An engine
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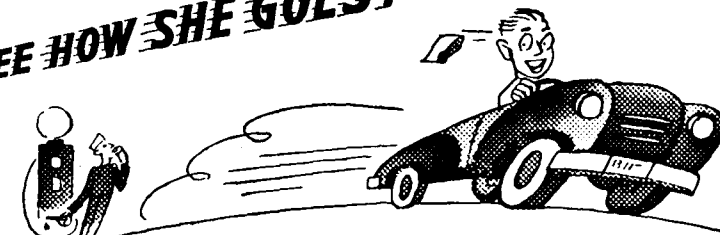
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February 1958

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CONTENTS

	PAGE
Index to Advertisers	5
Editorial	7
Car Sales increase in U.S. (Exclusive)	9
Japanese Auto Parts Progress by T. Noda (Exclusive)	12
The Invasion of America by Gordon Wilkins	14
Indian Auto Products Exhibition (Special Feature)	17
About Your Car by Eugene Milmo	33
Asiatic Tyres	35
News for Lorry Operators	36
Madras Motor Parts Dealers Association	37
Motor Vehicles & Allied Merchants Association	38
A.A.S.I. News	39
Tourist News	41
Air News	43
Statement about Ownership	43
Oil News	44
Book Review	47
Models and their prices	48

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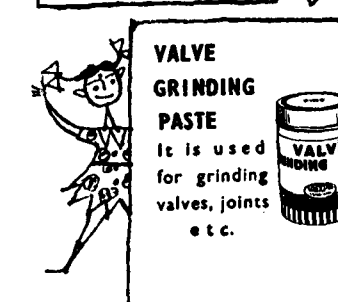
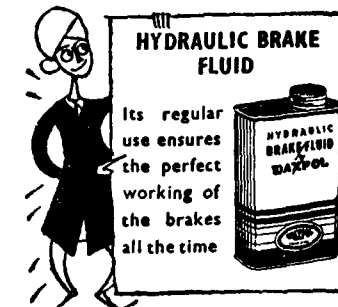
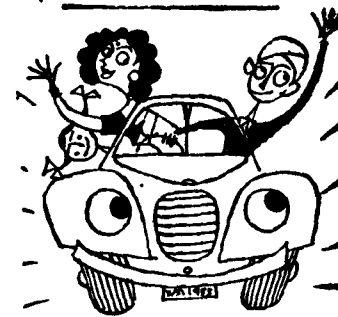
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MOTORINDIA

INDEX TO ADVERTISERS

	PAGE
A. Basha	44
Ashok Leyland Ltd.	22
Asiatic Tyres	34
Automotive Manufacturers Private Ltd	32
Bharat Motors	38
Bower Battery Manufacturing Co. Private Ltd.	44
Burmah-Shell Oil Storage & Distributing Co. of (I) Ltd.	Second cover
Caltex (India) Ltd.	1
Chimanlal Desai & Co.	13 & 24
Firestone Tyre & Rubber Co. of (I) Private Ltd.	2
Glass & Miniature Bulb Industries	26
Goodyear Tyre & Rubber Co. of (I) Ltd.	8
Himco Batteries (M) Private Ltd.	24
Indian Airlines Corporation	42
India Pistons (Private) Ltd.	Front cover
Kasi & Sethu	13
Kumar Motor Stores	37
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's Private Ltd.	21
Popular Manufacturing Co.	27
Popular Trading Co.	36
Premier Automobiles Ltd.	Third cover
Shrimankar & Co.	33
Senior Auto Diesel Store	31
Simpson & Co. Ltd.	18
Standard Batteries Ltd.	Back cover
Standard Vacuum Oil Co.	6
Sundram Iyengar & Sons Private Ltd., T. V.	4
United Automobiles	36
Waxpol Industries Ltd.	5



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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

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

*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.

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	206	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 ltr. to approximately 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 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



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

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

auto parts through members of the association.

Members' List of Japan Automotive Exporters Association

Osaka

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, Hiramatsu-cho, 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).

Empire Motor Co. Ltd., 2-2, Nihonbashi-tori, Chuo-ku, Tokyo. (Automotive Parts and Accessories and Service Equipments).

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Kokusai Jidosha Kogyo Co. Ltd., 2-1, Nihonbashi, Kayaba-cho, Chuo-ku, Tokyo. (Automotive Spare Parts, Accessories, Service Tools and Equipments).

Kokusai Kogyo Co. Ltd., 3, 6-chome, Yaesu, Chuo-ku, Tokyo. (Auto Parts, Accessories and Tools).

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

Sankyu Shokai Ltd., 18, Matsutomi-cho, Kanda, Chiyoda-ku, Tokyo. (Automotive Parts and Accessories).

Taiyo Jidosha Kogyo Co. Ltd., 13, 1-chome, Hatago-cho, Kanda, Chiyoda-ku, Tokyo. (Auto Parts and Accessories).

Toho Industrial Co. Ltd., 2, 3-chome Yotsuya, Shinjuku-ku, Tokyo. (Automotive Spare Parts and Accessories).

Toko Trading Co. Ltd., 3, 2-chome, Yaesu, Chuo-ku, Tokyo. (Auto Parts, Accessories, Bearings, etc.)

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MOTORINDIA

13

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 Curtice, 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

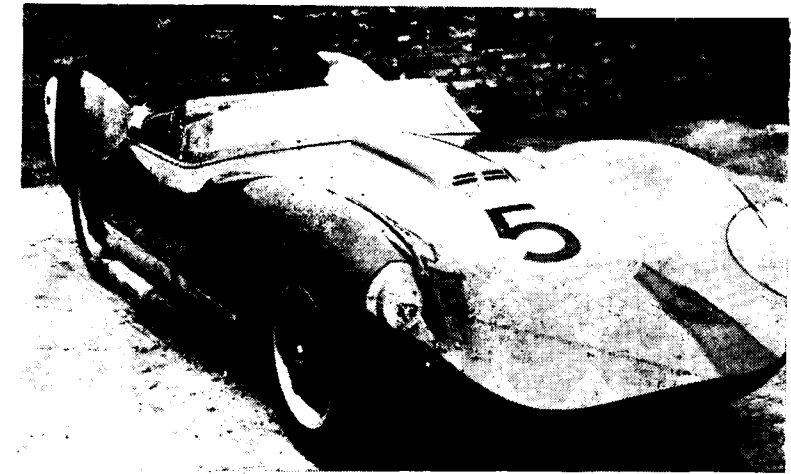
stepped up the pace and by November had passed the 1957 target of 20,000, while Ford Chairman Ernest Breech was denouncing the smaller car as a reduction in the American standard of living in automobiles.

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 $\times$ 2 $\frac{1}{4}$ in (27.9 $\times$ 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 6 $\frac{1}{2}$ 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.

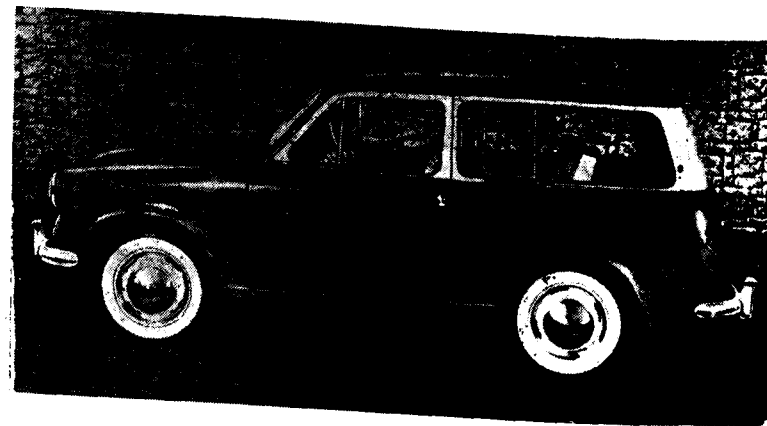
Transmission is by Borg and Beck twin clutch and five-speed gearbox made by Willment specially for racing. The pinions are straight cut and those for the four faster speeds are in constant mesh. There is no synchromesh. The differential also made by Willment is enclosed in a magnesium housing and the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



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 scraped 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.

An increase of 2 in. 5 cm. 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 m³ of freight space. Manufacturers claim carrying capacity of 600 lb.

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 recorder, 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 cm² 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 cm³) 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.

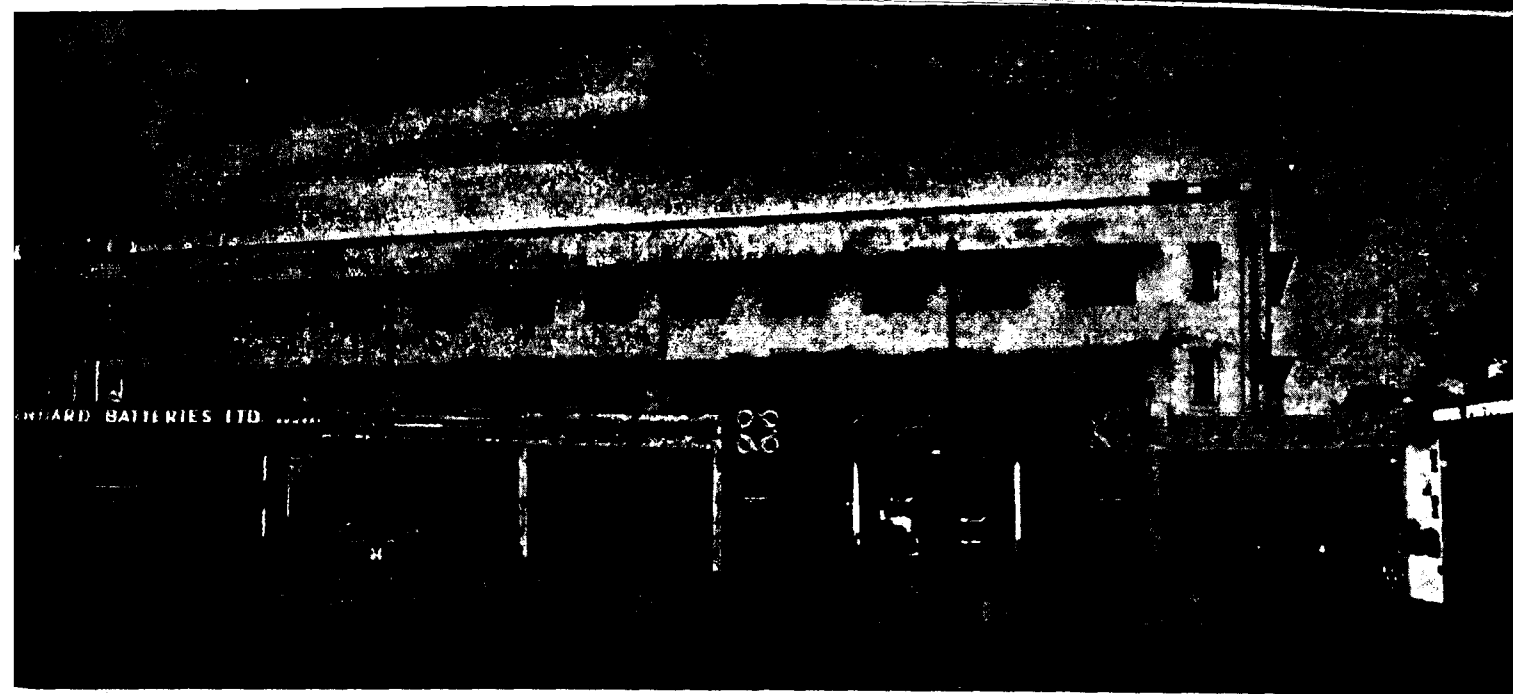
Dimensions. Wheelbase 86 in. 218.4 cm. Track front 49 in. 124.5 cm. Track rear 48.5 in. 123.2 cm. Length 149.5 in. 379.7 cm. Width 60.5 in. 153.7 cm. Height 60.75 in. 154.3 cm. Kerb weight 2080 lb. 943 kg. Dry weight 2020 lb. 916 kg.



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

MOTORINDIA

February 1958



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

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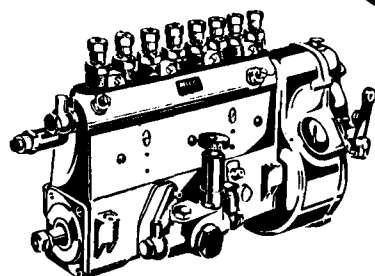
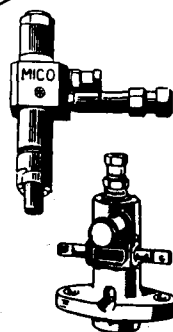
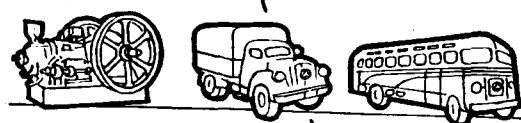


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MOTORINDIA

February 1958

"Prices High Indeed, but"

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 HASSUFFEREDA 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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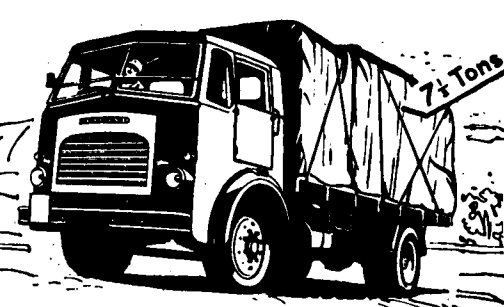
MOTORINDIA

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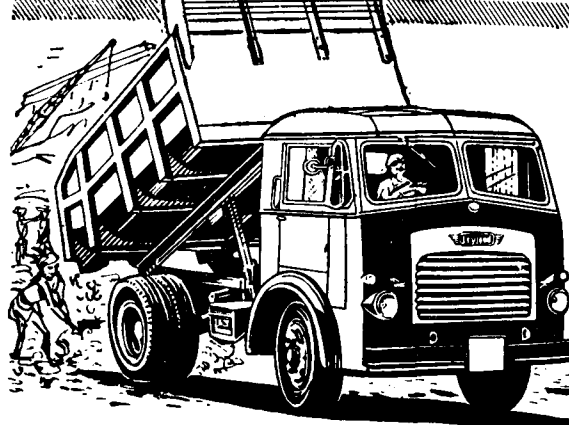
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THE TAX LOAD

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.

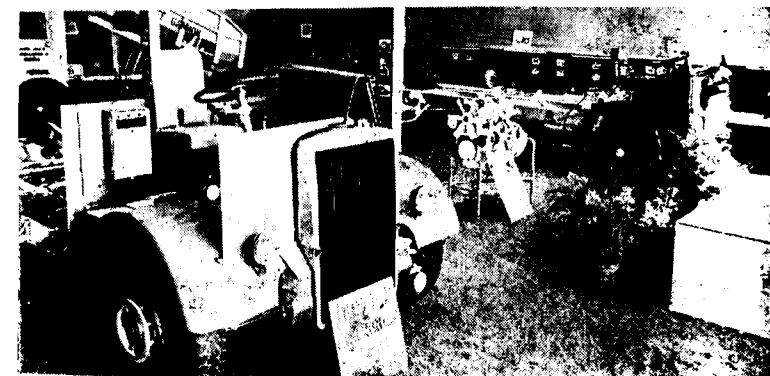
All the same since the indigenous industry is associated with foreign manufacturers and operations are conducted under their supervision and approval, the quality has to be maintained at a fairly high level. Periodically, lapses do occur but don't these lapses occur in vehicles directly imported from 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

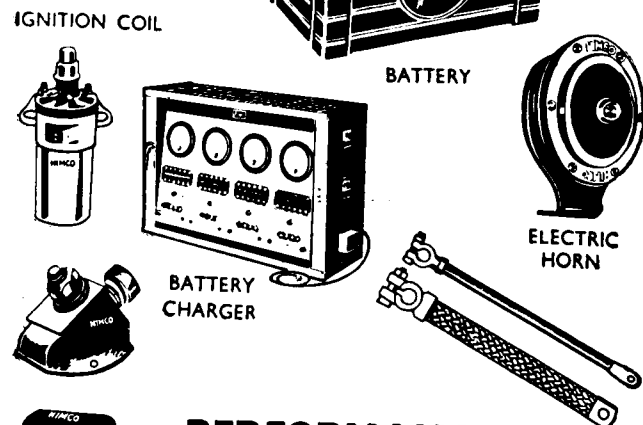
On the other hand, if we look to the other side of the picture, the industry has made substantial contribution to the economic development in this country. A large number of workers and technicians have been absorbed by this industry. The number employed in the automobile industry on the manufacturing 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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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.



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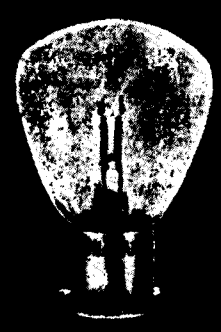
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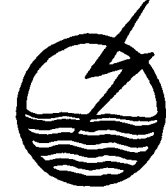
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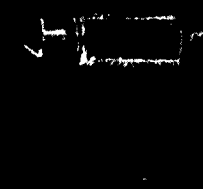


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Visitors to the Exhibition showed keen interest in the products displayed by M/S Enfield India Ltd.

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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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.



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.



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.

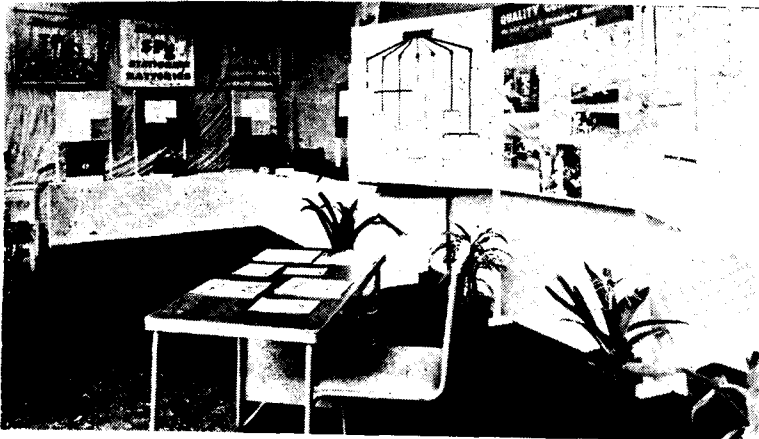
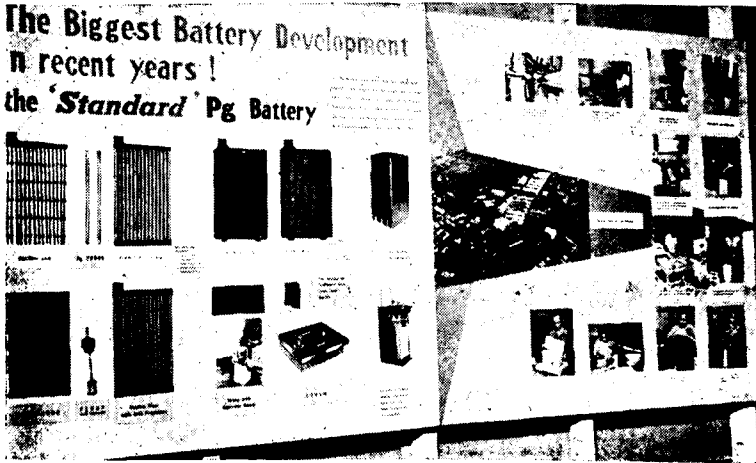
Every car and commercial vehicles under development is also developing their own petrol or diesel engines, besides the two vehicular types of diesel engines, which are being developed as alternate power unit for commercial vehicles originally offered with petrol engines. It can safely be assumed that 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.



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

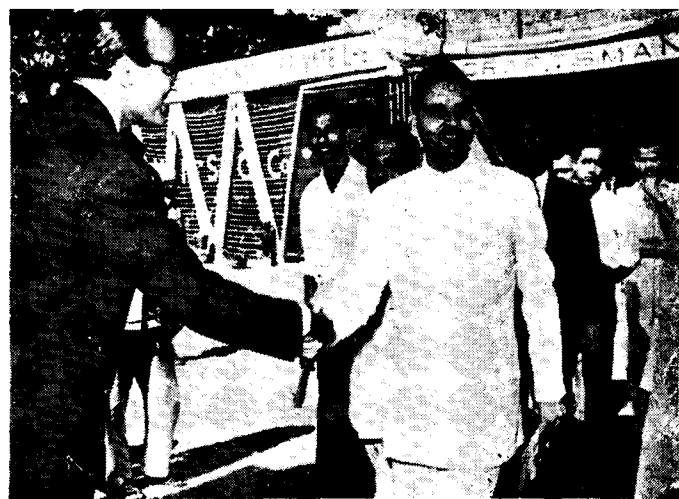
The production of important components of the ancillary industry in 1951 and 1957 had been as under :

	1951 Rs. in lakhs	1957 (Estimated) Rs. in 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

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





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

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



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



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 commerce of this country than the automobile industry.

The vote of thanks was proposed

by Mr. ARUN 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 Hindusthan 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 : ECHMKIT



MOTORINDIA

February 1958

31

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

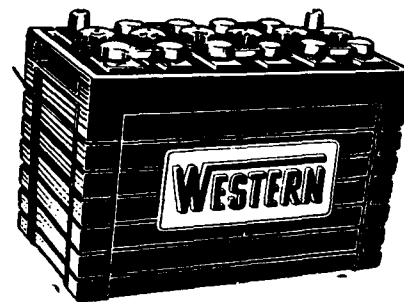


Mr. Akbar N. Chinoy of Simpsons, seen proposing a vote of thanks at the inaugural function of the Exhibition. Hon. Minister Shah, Premiers' Lalchand Hirachand, Himcos' Anand are also seen in the picture.

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 plen 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
BATTERY
in its class

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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
Associated Indian Enterprises (P) Ltd., Calcutta
Swatantra Electric and Motor Traders, Indore
M/s. Circars Automobiles, Guntur and Vijayawada

and many other leading Automobile dealers



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

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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.



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.

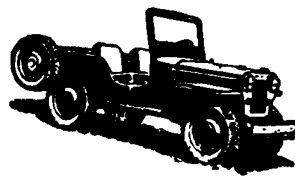
(1) increases Customs duty for copper pipes, etc. (I.C.T. No. 64) from 37-4/5 p.c. and 25-1/5 p.c. to 40 p.c. and 30 p.c. *ad valorem* for non-British and British manufacture, respectively :

(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, Hony. 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.

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 whole-hearted 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 wholetime 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 Cheria 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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**INDIAN AIRLINES
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MOTORINDIA

February 1958

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. Himatsinghji; 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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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

43

42

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

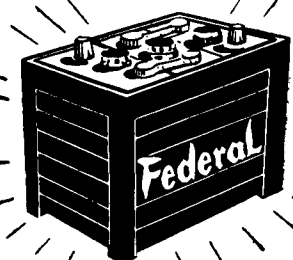
stage between the oilfields and Barauni in addition to having a refinery at Barauni in Bihar.

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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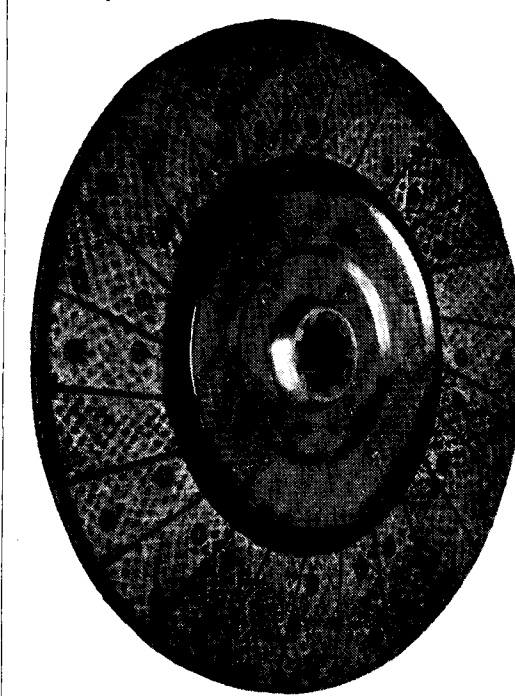
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THE SEARCH FOR OIL AND HOW IT IS DONE

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."

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.

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 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—8 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

PICKUP

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

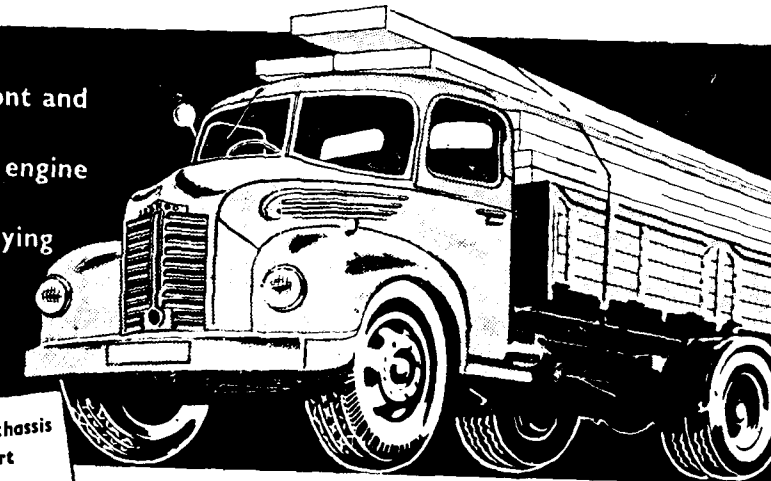
DIESEL CONVERSION

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.

FARGO DIESELS

- Heavy-duty front and rear axles
- Rubber "float" engine mountings
- More load-carrying capacity



165" wheelbase truck chassis for goods transport

- Full depth, sturdy frame
- Heavy-duty five-speed gear box
- Many passenger-safety features



190" wheelbase bus chassis for passenger transport

Contact
your
Nearest Dealer

Progressively manufactured by
THE PREMIER AUTOMOBILES LIMITED.
BOMBAY

Standard Batteries Limited announce another great battery development:

MITEX

RUBBER SEPARATOR

(Microporous Latex Rubber Separator with Glass-wool Mat Reinforcement)

Lasts even longer than the battery itself!

WE, who gave you your favourite 'Standard' motor car and Pg batteries, now bring you the 'MITEX' microporous rubber separator — proved the world over as giving even longer life than that of the battery itself!

'MITEX' prevents a basic cause of battery failure

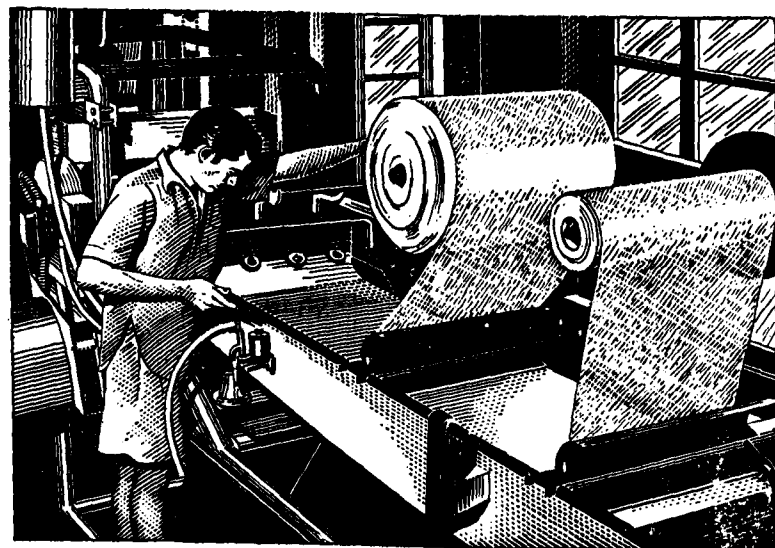
* Because of its constructional feature, the 'MITEX' offers far greater ability to withstand decomposition by acid and oxidation, which cause disintegration of separators — a basic cause of battery failure.

* 'MITEX' separators can withstand the effects of sulphuric acid up to 50% concentration at temperature up to 80°C.

* 'MITEX' separators have an extremely high porosity of the order of 80% of the volume.

Proved the world over!

Manufactured in India under the Swedish patent of our Swedish technical collaborators, 'MITEX' separators have proved themselves the world over under the most severe working conditions, such as in batteries for submarines and in the special batteries for the Defence Services.



One of the sections in the new MITEX plant in our factory

Standard
—the first in batteries

STANDARD BATTERIES LTD, Bombay 25

