

MOTORINDIA

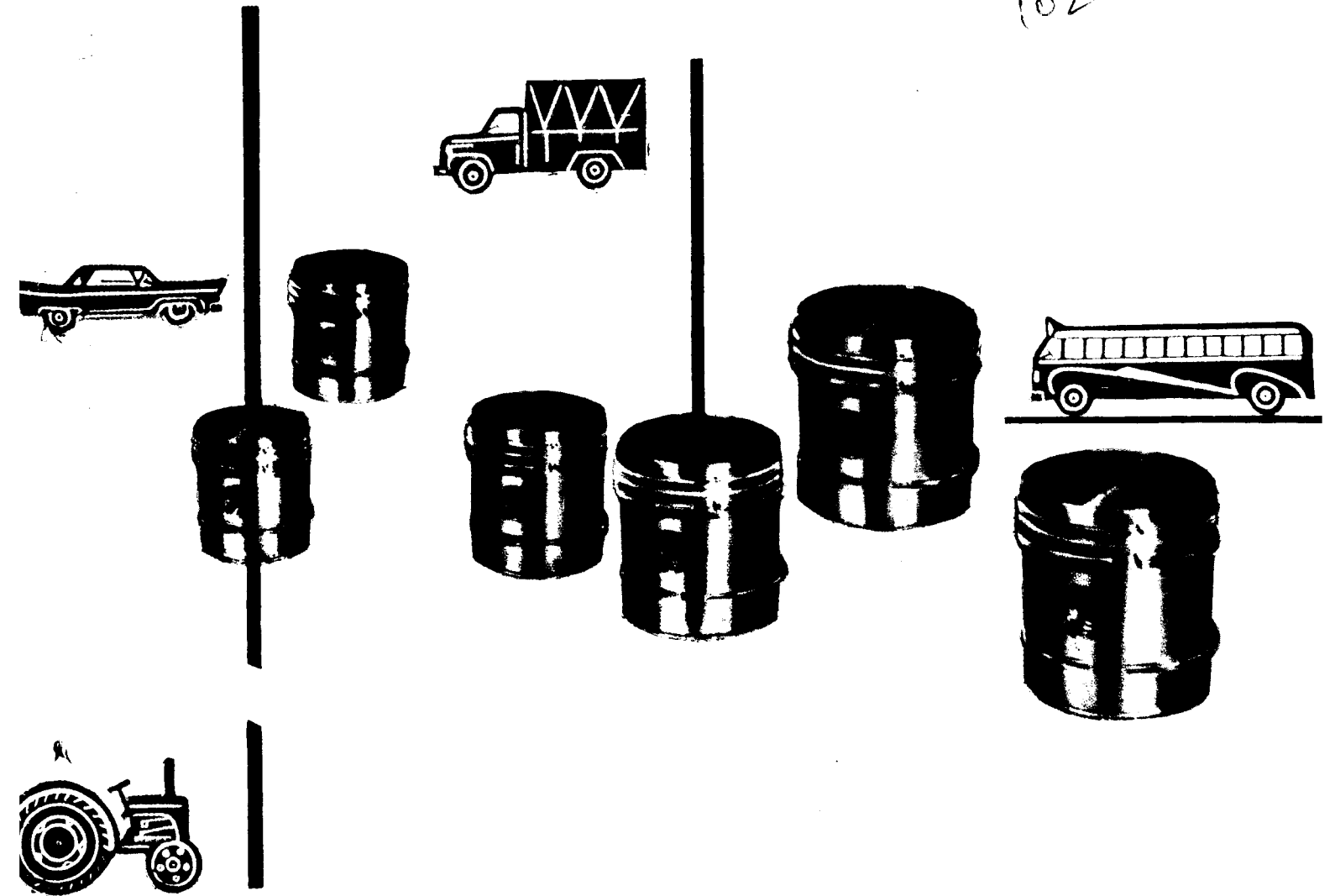
Vol. 6 : No. 8

Price : 50 nP.

21st Nov. 1961

FORTNIGHTLY

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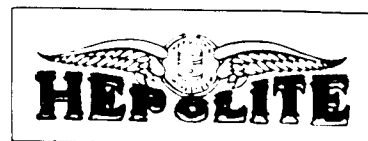


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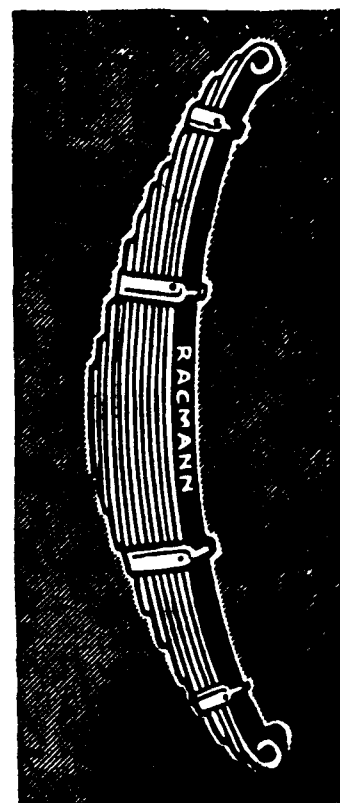




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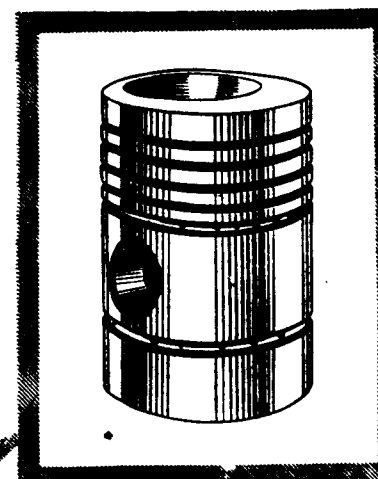
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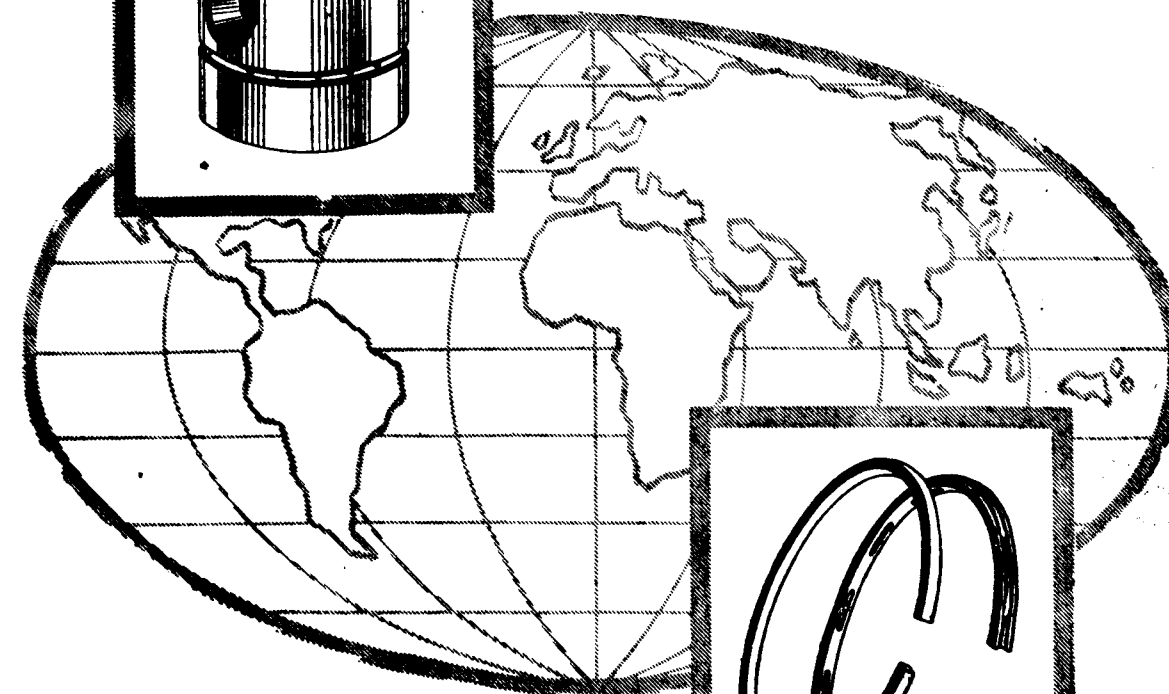
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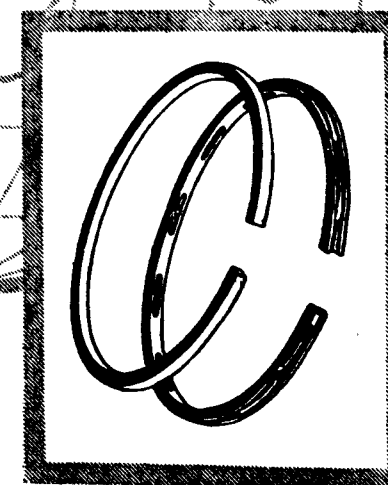
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21-11-61

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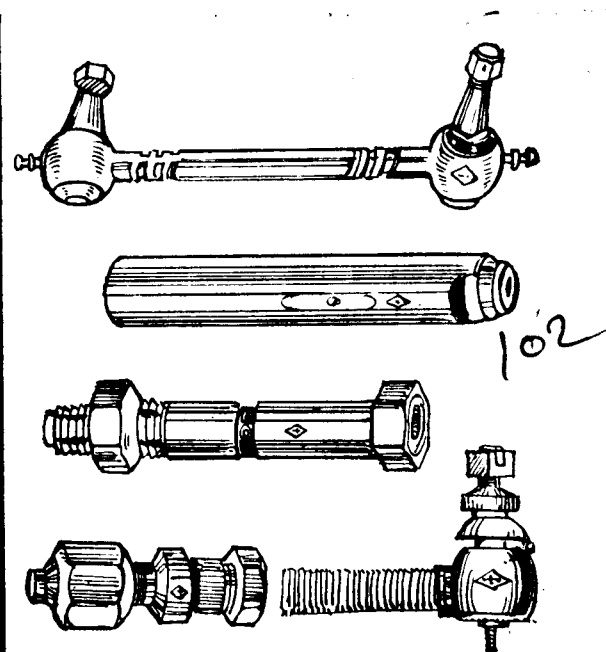
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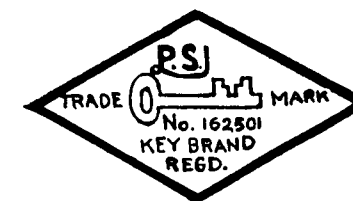
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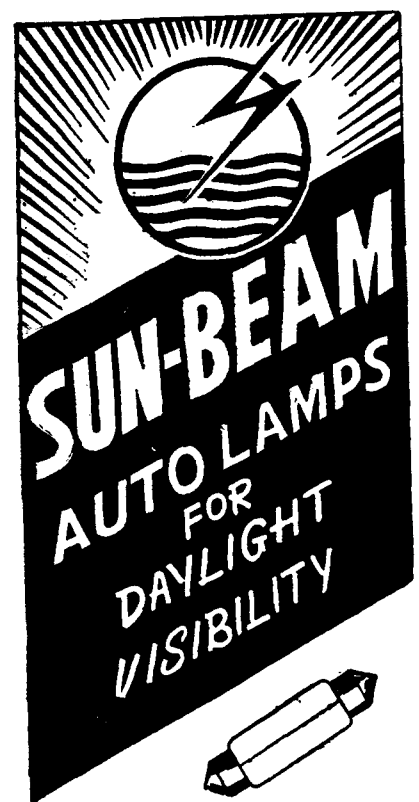


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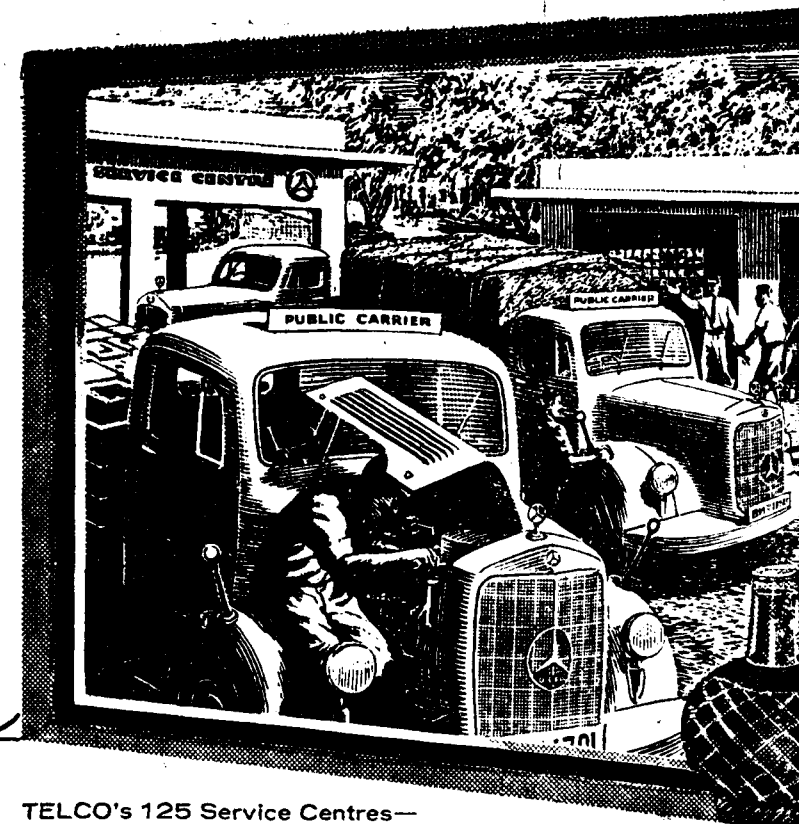
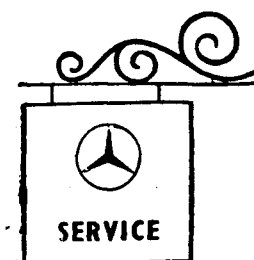
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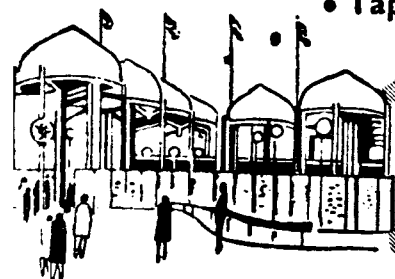
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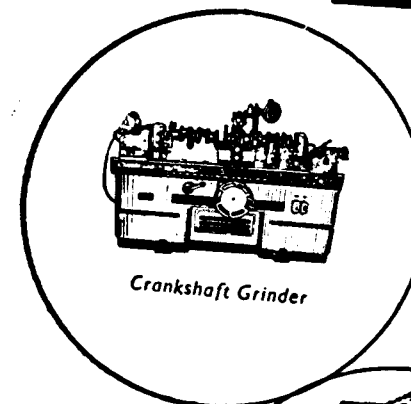
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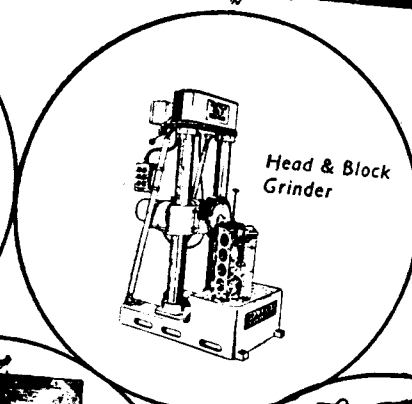
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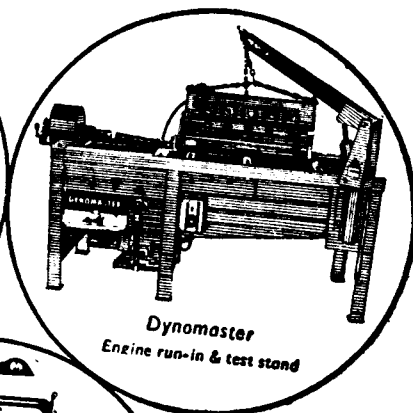
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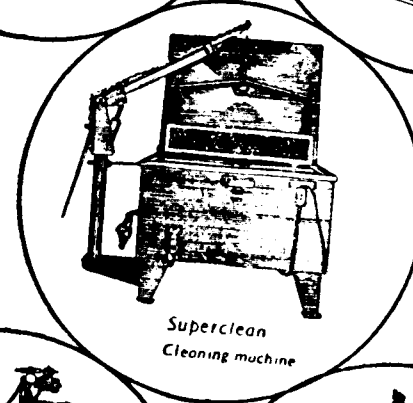
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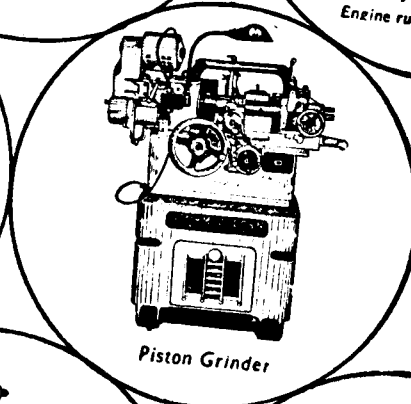
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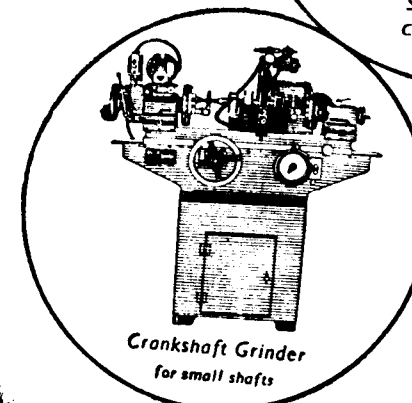
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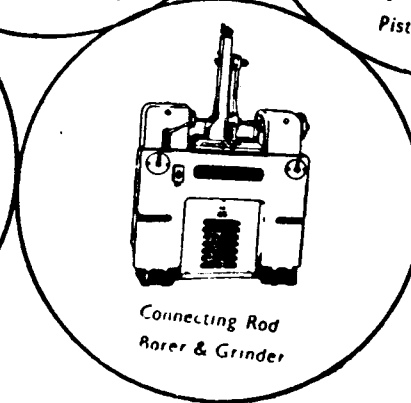
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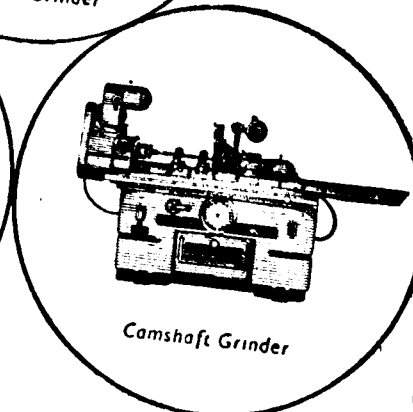
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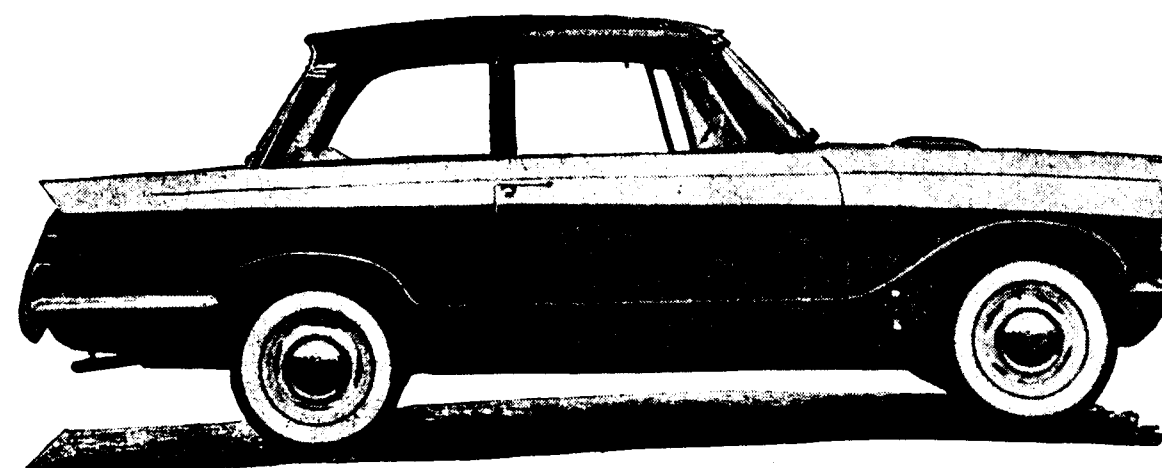
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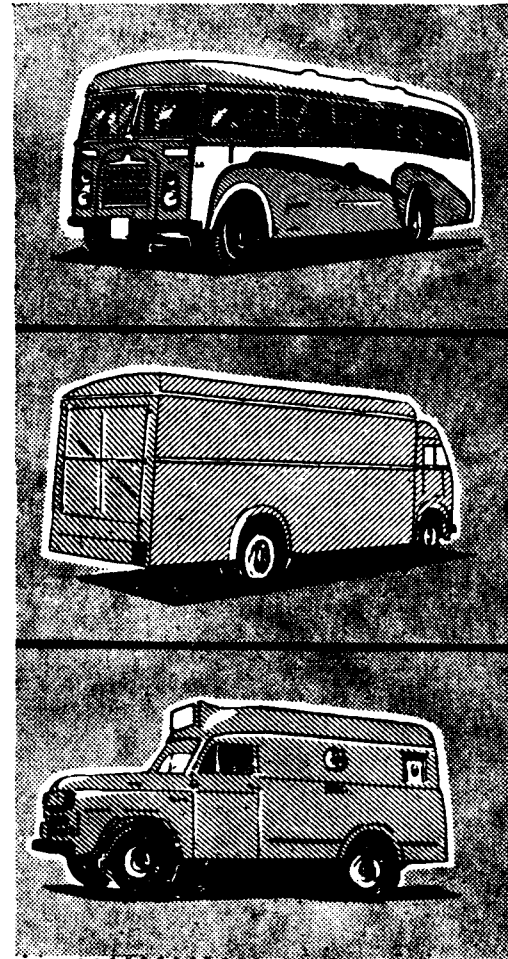


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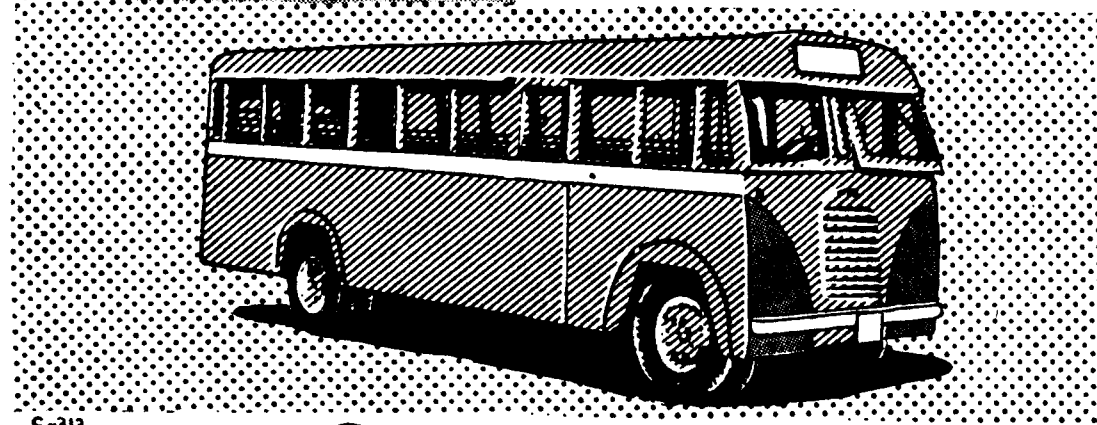


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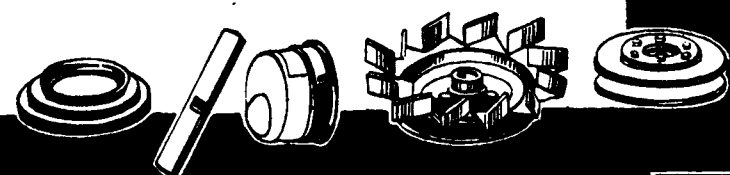
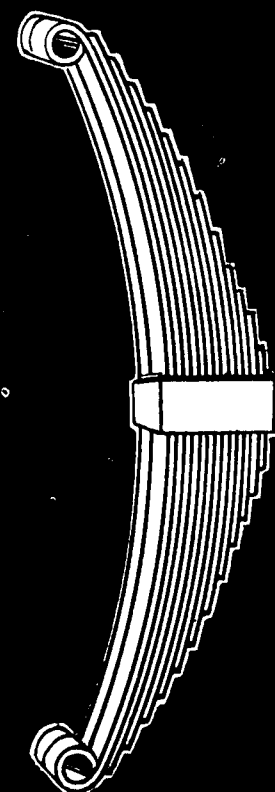
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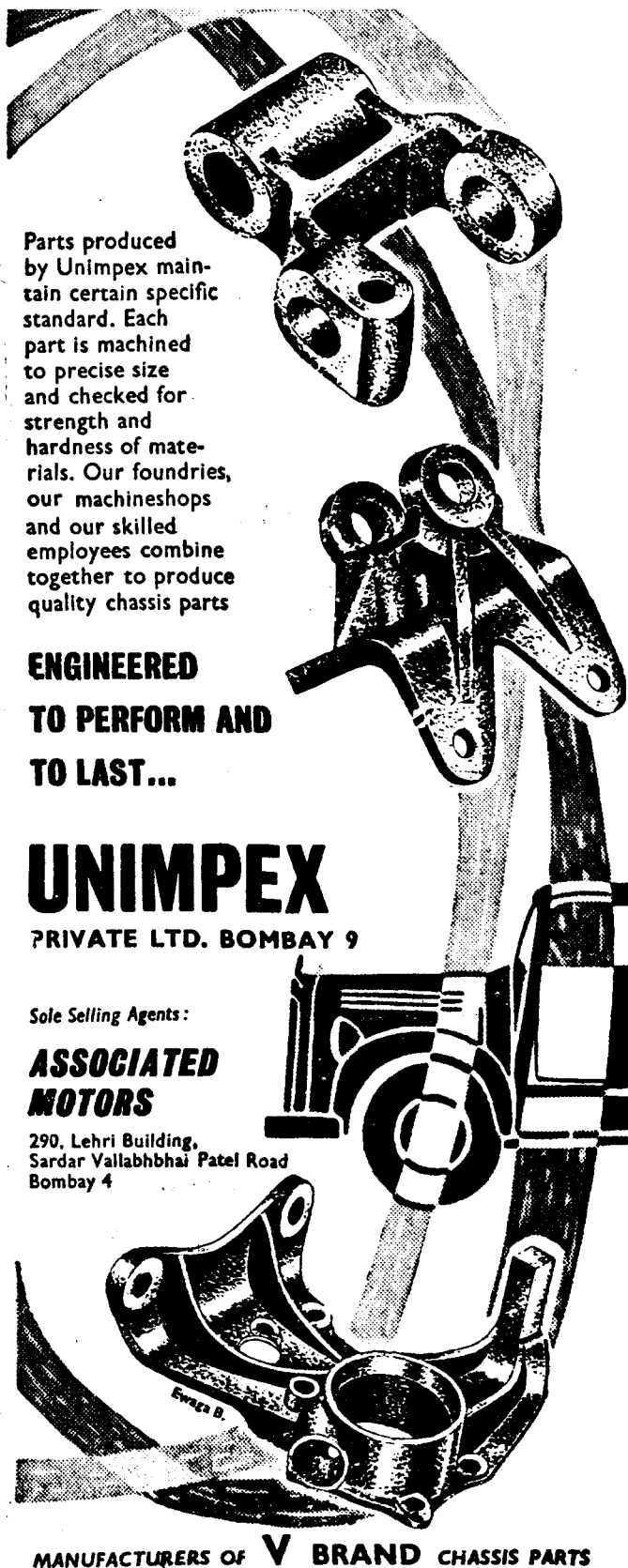
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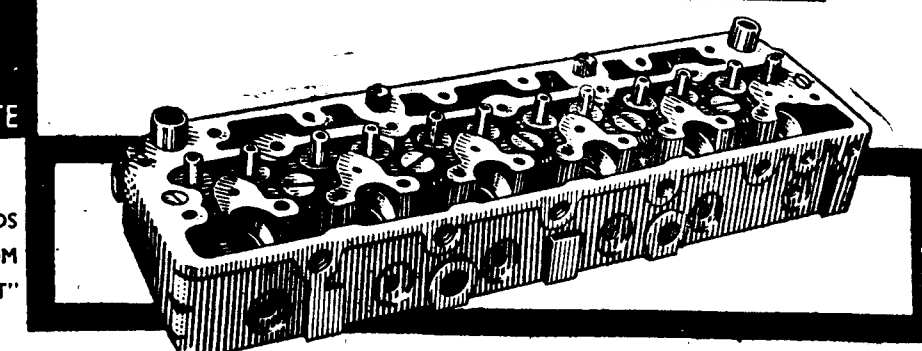
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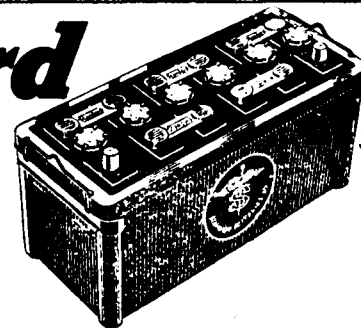
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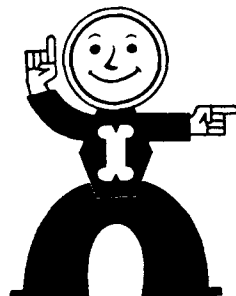
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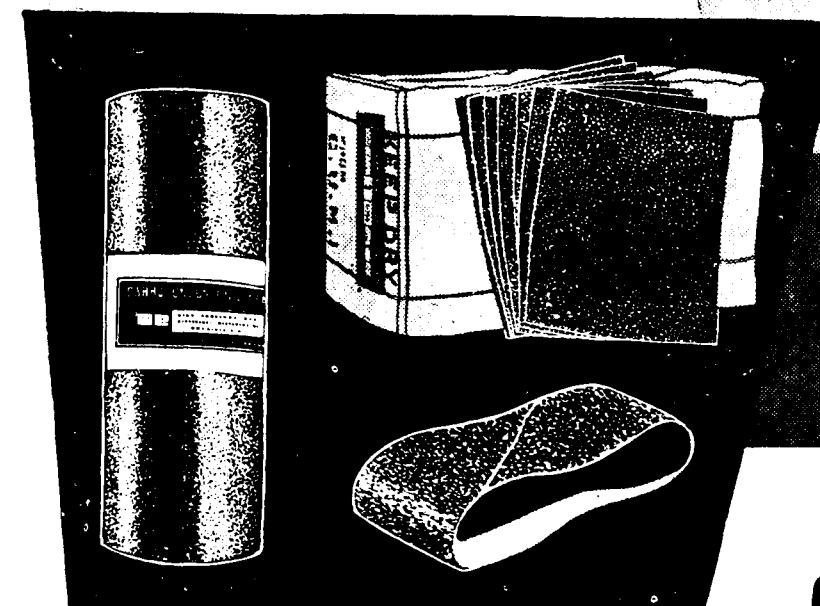


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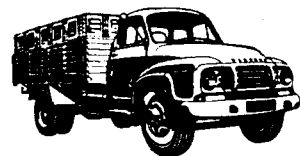


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editorial

MINISTERIAL OPINIONS

Every now and then, Union Ministers go to a lot of trouble to convince themselves and the public that road transport development is vital to the planned economic growth of the nation. It would appear that this is done under pressure from the public.

Eleven months ago, at the Congress of road transport operators held at Indore, the delegates heard our Union Transport Minister, Dr. P. Subbarayan, declare that the future of the country depended on the development of road transport since the railways could not, for geographical reasons, serve all the villages in the country; nor could they effect door-to-door deliveries. He admitted that these functions came solely within the bailiwick of road transport, which could develop without detriment to the railways. But at the recent meeting of the Delhi Transport Advisory Council on 25-10-61, gone was the Transport Minister's bland, old bluster about 'peaceful co-existence' for road transport and the railways. The Transport Minister argued for the supremacy of the state-owned railways, which is tantamount to denouncing the operational freedom of bus and lorry operators.

The reasons for the Transport Minister's abrupt volte-face are not easily understood. In championing the cause of the railways at the expense of road transport, the Minister is indeed skating on thin ice. The railways are unable to meet the country's demands for the haulage of passengers and goods. The Minister for Railways admitted recently that, owing to the chronic shortage of wagons, coal, cement and other raw materials could not be delivered to essential industries which required them urgently. In spite of the fact that the railways are unable to "deliver the goods", they continue to enjoy the "most-favoured-son-in-law" treatment from the Government, vis-a-vis road transport.

The road transport industry delivers the goods at three times the speed of the railways. Its contribution to the nation's exchequer is four times that of the railways, even though road transport is permitted to carry only one-eighth of the goods carried by the railways. Yet it is constrained to eke out a miserable existence under an oppressive regime of unreasonable rules and regulations imposed on it to favour the railways.

How long is road transport to live in the shadow of the railways, while the nation's goods, raw materials, products and passengers remain unmoved for lack of adequate transport facilities? Road transport operators can deliver the goods far more efficiently, far more promptly, and with greater despatch than the railways, in spite of the crippling effect of taxation. Road transport always takes care of passengers whose needs are not met by the railways and goods for which the railways do not care. The development of road transport is the result of customer-preference and this is bound to grow in India, as in other parts of the world. Hence, what transport interests demand is the freedom to exercise their fundamental, constitutional right to ply their vehicles on all the nation's roads from Kanya Kumari to the Himalayas without let or hindrance.



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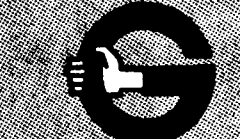
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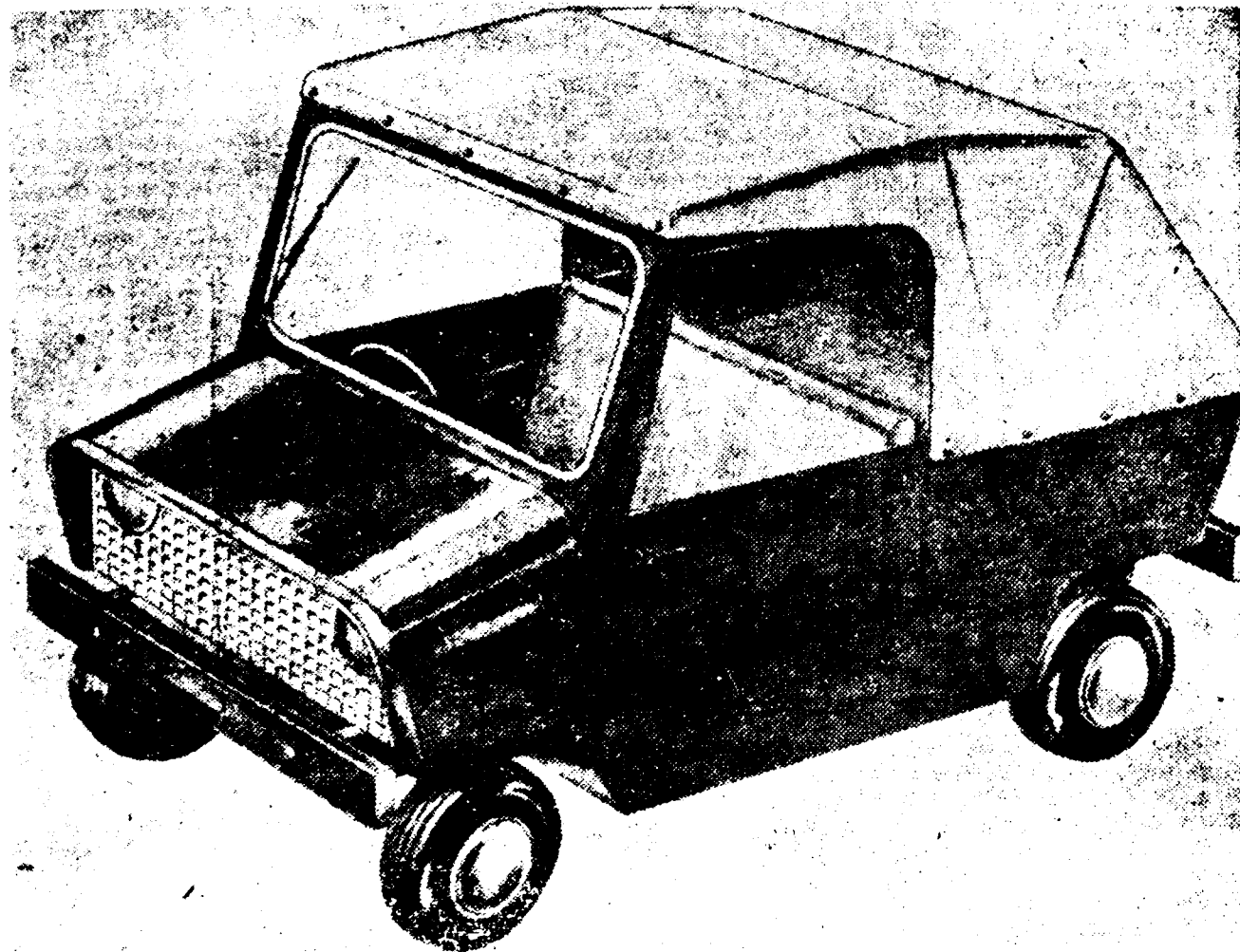
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PROTOTYPE OF THE "MINIMUM CAR"

"MINIMUM AUTO" FOR INDIA (For Rs. 2,000) move to help indian student put nation on wheels

By Ray Vines

Formation of a new corporation in Wichita to design and develop a "minimum" automobile of four to nine horse power for mass production in India and other industrially developing countries was announced recently by company officials.

Tom Salter, Chairman of the board of directors of Pyco Inc., and former vice president of Cessna Aircraft Co., announced that prototypes of the auto already are being built and the first running model will be completed within 60 days.

He said the firm is designing a

simple, basic automobile—just a step above a bicycle—which an average office-goer in India can afford to buy.

If the market tests out as favorably as is anticipated, the minimum auto will be mass-produced to sell for about Rs. 2,000.

This type of car is the brain-child of Balbir Singh Mathur, New Delhi, India, a graduate student in business administration at Wichita University and president and general manager of the new corporation.

Go-Kart Gives Idea

While visiting one of the department stores here, he saw on display a go-kart racing vehicle, simple in construction, which he envisioned as a minimum automobile that people in his country could use to great advantage.

"My country has 450 million people and right now there is one car for every 1,739.7 of them," he said. "If we can reach even a modest goal of one car for every 450 persons, it would mean sales of one million automobiles." By contrast, one in

three persons in the United States drives a car.

Mathur said Pyco also plans to develop several products to be manufactured in India and other selected countries with a growing industrial society.

The firm already has plans for production of agricultural and industrial petro-chemicals needed in India and elsewhere.

Salter indicated that, although Pyco has a firm profit motive, any products developed by the new corporation will be those which are essential to the economy of growing countries and will provide new employment for their people.

Enlists Aid

Mathur recognized the need for a low-cost automobile and other new products in India and elsewhere and was successful in bringing together a group of experienced Wichita area businessmen with extensive backgrounds in international trade.

Other members of the board are Philip W. Blake, analyst in the new product development engineering section of the Boeing Co., vice president; Michael G. Neuburger, vice president-export sales at Beech Aircraft Co., Norman Kraus, president of Kraus Corp., Hutchinson, Kan.; Charles H. Todd, president of R. W. Rine Drilling Co.; George C. Christopher II, of Geo. C. Christopher and Son Iron Works; J. R. Humphries, Boeing preliminary design engineer; and Curtis D. Terflinger, attorney and professor of business law at Wichita University.

All are from Wichita except Kraus. Secretary-treasurer of the firm is Kenneth R. Holmes, accountant.

Pyco selected the minimum auto as its first project because of the prime importance of basic transportation to a growing country, Salter said.

Mathur informed Manubhai Shah, Minister of Industry in India, of the project and was notified that that country now has a severe steel shortage.

"This is no great obstacle,"

Mathur said. "We can use wood or aluminum to build the car. India has one of the world's largest known iron ore reserves, and steel production in that country can be expected to grow rapidly."

Pyco is incorporated for \$250,000 capital stock. Its finance schedule calls for expenditure of \$50,000 to \$80,000 for research, development of prototypes and promotion prior to production of automobiles.

After prototypes are perfected they will be franchised to private companies in foreign countries for manufacture.

As soon as the automobile is operative, Mathur and other Pyco representatives will travel to India

and countries in East Africa and South America which have expressed interest in forming franchise operations with the firm here. Production in India is planned in 1963 with 5,000 cars the first year to test the market.

Pyco will assist in arranging credit programs for each country in which the cars are manufactured.

A unique feature of the minimum car is a design for production with a maximum amount of manual labor and minimum of tooling in lesser developed countries. The car's body is designed without any complex curves. This is necessary because of a lack of tooling facilities and to keep the cost at a minimum.

DAWN OF NEW ERA IN AUTOWORLD

GURMUKH SINGH & SONS (REGD)
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LUDHIANA, (INDIA)

The car also will be built on a modular design so that a defective motor transmission or other assembly can be replaced simply by removing four bolts.

Designers said the United States auto industry does not use this system, but the aircraft industry does.

Specification :

The small auto will weigh 350 to 400 pounds empty, seat two persons comfortably and provide baggage space.

Dimensions are length eight feet, width four feet and height 4 feet, 6 inches.

It will have a maximum speed of 30 miles an hour and operate on gasoline or kerosene, with three-gallon fuel capacity. The rear-mounted two-cylinder engine is air-cooled. Wheel diameter is 10 inches. Front and rear lamps operate on a six-volt system.

Sees Good Market

Nenburger predicts a promising future for the minimum car in view of Pyco's plan to market it in countries where there is need for basic transportation and where its price range meets existing purchasing power.

India is a large agricultural nation which suddenly is placing emphasis on industrialisation. The change-over creates a demand for reliable transportation for a large number of people.

Steel capacities are being increased in most countries with time and



NEW ENTERPRISE—Designers of Pyco's new automobile inspect a basic frame for one of the prototypes of the car which soon will be completed for road tests in Wichita. They are Philip Blake (left), vice president of Pyco and engineering analyst at the Boeing Co., and J. R. Humphries, Boeing design engineer.

should be available for auto production.

Nenburger said there is little market for the small car in highly industrialised countries, but "it is adaptable wherever there is need for such a vehicle, particularly since its components can be fabricated without elaborate tooling."

This aviation executive, whose department has sold \$100 million worth of airplanes in foreign coun-

tries the past 11 years, predicts an excellent market for the car in many countries of Asia, Africa and Latin America where there exists the need for low-cost transportation.

"If we can produce a car to sell for \$400, then it makes sense, because it meets the purchasing power of people who have been riding scooters or motorbikes. Now it will place them in the automobile," he said.

A SOCIOLOGICAL APPROACH TO TRAFFIC CONTROL

Dr. F. P. Antia, Director of the Cement Marketing Company of India Limited, Bombay, and a member of the Governing Council of the Indian Institute of Road Transport, recently delivered this speech at the Police Science Congress. In the context of the rapidly increasing density of traffic on our roads, Dr. Antia focusses the spotlight on a much-neglected aspect of Traffic Control.

"I am deeply conscious of the honour you have done me in inviting me to be in your midst. It gives me great pleasure to associate myself with your deliberations on "Traffic Control". It affects a 100 horse-power Ferrari or a pedestrian walking on his two feet. I shall try to place before you, as a layman, certain aspects of this vital problem, not pertaining to your detailed day to day work, which I am sure, all of you can very competently tackle. With the responsibilities you carry on your shoulders as Custodians of Law and Order in the country, it is likely that time does not permit of your active association with several other agencies whose actions either unconscious, or dictated by extraneous circumstances, may be, at least partly, the real cause of the traffic control problems that you, Gentlemen, are called upon to tackle. Nevertheless, unless you bring the weight of your opinion to bear in such quarters, really effective solutions to traffic problems may not be reached. In the short space and time available, I would like to highlight a few of these.

Traffic Control Problems

Broadly stated, traffic control problems could be divided into two main categories; firstly those of the inadequacy of the roadway to meet the needs of the vehicle user, of their numbers, or of the desired flexibility in their movement; secondly those of the failure of road

users in discharging their obligations and respecting the rights of others.

Again, the problems of the first category get sub-divided by their nature into (i) problems of highly congested urban areas and (ii) those of the through inter-urban highway.

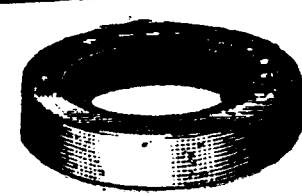
Problems of the urban areas:

The net-work of roads in any urban area comprises of different classes of roads varying in functions from local residential streets whose aim is to service the abutting property, to the arterial highways whose function is primarily that of through movement. In between these two classes are the collector streets and main thoroughfares which collect and regulate the traffic entering the arterial highways. In a properly planned town with its network of roads the function of each of these four classes of roads is very definite. Depending on the level of economic development of the town these roads, with a given width and given frequency of intersections, can function efficiently by accommodating the traffic generated by the community of an optimum size for which the town was planned. When the rural population starts drifting to such a town attracted either by opportunities for employment or by urban amenities the whole aspect changes. To accommodate such population the surrounding area starts getting built upon. When the peripheral expansion of such an originally well-planned town is unregulated and uncontrolled and the abutting and adjoining areas are allowed to be commercially exploited by being permitted to depart from their originally defined land use, or in the intensity of their development - as has unfortunately been happening not only in India but all over Asia and indeed all over the world—the service characteristics of the four classes of roads mentioned above change. These

roads are then pressed into and are called upon to do a totally different job for which they were never planned and designed. An example in Bombay is the use to which Hughes and Peddar Roads are currently being put. They were never designed to carry the traffic they are made to carry today. This results in congestion and misuse of the road facilities leading ultimately to the deterioration of all human, social and ethical values in such areas. This has been the bitter experience of most old western cities where the impact of industrial expansion and later of the motor vehicle took place earlier and progressed more rapidly than in our country. The unrestricted and unplanned growth of population both in the town itself and on its periphery is a severe handicap on all economic and social advancement. Unsatisfactory uncontrollable traffic condition is only one, and if I might add, but a minor hazard resulting from such unplanned accretion to the population of the town and the consequent unregulated addition to its area.

The question arises how shall we deal with the problem?

Firstly in regard to cities which are already bloated up to or above their planned size and population, it has been suggested that Expressways should be built through the heart of the city so as to give relief to the clogged traffic. In several West European and American cities such Expressways have been built by tearing down valuable urban property in perfectly sound condition. They have cost millions of dollars a mile. But have they solved the problem? They have only postponed the evil day. What with the new traffic generated by the town and the undoubted capacity of the Expressways to attract existing traffic away from other parallel roads the Expressways themselves get clogged at the ordinary city streets. It is only a matter of time. It is hardly worth-



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while therefore for our going in for this expensive remedy in Indian cities. Much the better way would be to divide the overgrown city into so many neighbourhood units or sectors of a half-a-million population each and to relocate the activities in each sector. This of course cannot be done too rigidly in regard to down-town and industrial areas. However for all other areas this should be possible if some amount of imagination is used. Each neighbourhood unit would have its own residential area, its own factories, industries, shopping, educational and recreational facilities. This would itself bring down the daily commuter traffic to a much smaller number and reduce the whole problem of traffic to solvable proportions.

Then the question arises what to do with the drift of the new rural population to cities in search of employment or urban amenities? The answer is, plan and lay out new towns for them. The size of population for which these towns are planned should be governed directly by resources such as water-supply, power, food, man-power, etc. that they can attract from a reasonable hinterland. Such towns would be deliberately planned from the earliest stages, not just be permitted to grow anyhow, and strict zoning laws would be applied to them defining clearly the land use and the densities of population in each area. Unplanned, peripheral expansion would not be permitted. The streets in such a town would perform exactly the function

for which they were designed and planned.

It is a misfortune that whilst we are in the midst of intensive planning for economic development of this country, this very aspect which has such a vital bearing on the welfare of the citizens of India is given scant attention. In all large cities of India—Bombay, Calcutta, Delhi, Madras etc.—as though they did not have enough people to populate them fresh employment opportunities are being created, thus attracting larger and larger number to these towns, and bringing about a position where a larger concentration of vehicles and pedestrians are thrown on the streets.

The development of slum life, of housing congestion, absence of privacy and of contact with the refreshing and recreating forces of nature, the weight of cramped living accommodation, all provide fertile soil for the growth of crime. You, Gentlemen, may consider presumptuous on my part to speak to experts like you on the subject of crime. I shall venture however to make one proposition to you and that is this: Modern city conditions as they are developing today deny to the average citizen the happy life and the good life that the industrial revolution promised to provide. The economic development of our country will have no meaning for the average citizens if all he has to look forward to is the humdrum life of a slum dweller.

Another problem of the urban areas in this country is the variety

of vehicles which compete for road space and adopt certain undesirable practices pressed by the need for higher money return on their vehicles, and partly also by reason of their inadequate sense of responsibility to other users of the road. This I shall elaborate a little later.

Problem of rural highways

Distinct from the urban areas, traffic control on the highways poses certain special problems. Firstly they do not lend themselves to enforcement as easily as in urban areas where enforcement of manpower is usually concentrated. Our highways themselves are grossly inadequate for the task they are called upon to perform, viz. to provide an additional agency of transport, not only for feeder and short distance traffic to Railways as in the old days, but also the new one of carrying inter-state long distance traffic. I shall not elaborate on the numerous inadequacies of our roads in regard to width, surface, geometric design, gradients, sight distances, curvatures, width of curves and pavements, medians, shoulders, provision for traffic interchange, poor alignment and other physical handicaps like narrow culverts, etc. These are constant hazards to speedy traffic movement. It is difficult to manoeuvre heavy vehicles at relatively high speeds on narrow roads (even of our national highways, 13,000 out of 15,000 miles are one-lane) and naturally such vehicles press their claim to the centre of the road causing great

hazard to passing and overtaking traffic. Except for casual checks on overloading practices and speeding, seldom does enforcement effort on the highway go towards improving driving habits so as to avoid accidents. Enforcement officials are concerned only with spotting the offender involved in the accident. Beyond collecting enough evidence for prosecution, no further use of the data collected is made for correcting the cause of the accident. It is very necessary to investigate such situations with the assistance of qualified engineers with a view to ascertain if any engineering improvement would obviate a recurrence of such accidents, and if so to press for such improvements to be made immediately by the authorities concerned, such as the P.W.D. Organisations like the Indian Roads Congress, giving due weightage to safety and control aspects, have evolved correct engineering standards. It is high time that these are adhered to and proper priorities and improvement programmes are urged for by all concerned, and especially by the police.

Road User Behaviour: Training for Drivers

An important point for serious consideration in this field is in the matter of driver training, as many problems of traffic control get simplified by proper road user behaviour. At present, most of the driver licensing tests concentrate on the ability for mechanical manoeuvring of the vehicle and a superficial knowledge of compliance with laws pertaining to driving. In some states, I believe, even literacy is not a requisite. Very little attention is paid to ensure whether the driver-to-be can conform with moral laws of daily social usage or courtesy and consideration for his fellow road user. Possibly in a highly evolved society, the award of a license may be tantamount to the acknowledgment of a proper understanding of these simple requirements and an honest resolution on the part of the licensee to abide by them. More than an ordinary effort however would be needed to attain this in our country. Careful scrutiny of the background of the commercial

vehicle driver, who has such a mighty agent for destruction at his command as a bus or a truck, with a view to ascertain his sense of legal and moral responsibility to other users of the road, is most essential. In most western countries the private vehicles outnumber the commercial vehicles, as against almost equal numbers of both types in India. This makes close scrutiny of the commercial vehicles drivers' moral credentials indispensable in this country. The Editor of "Traffic Quarterly" Col. Robert Goetz of ENO Foundation for Highway Traffic Control, commenting on "Where to begin" to improve public driving states as follows:

"Through the provisions of the licensing bureaus, vehicles are divided according to their use as commercial or pleasure. This affords a general division of drivers: commercial and pleasure combined with business or family chores. Each has its full share of poor drivers. Enterprising concerns, particularly truck-fleet managers, have been quick to sense the advantage of schooled, well-trained drivers. They are especially conscious of its favourable impression on the public. It is easy to spot them on the road and not unusual to hear other drivers praise them.

Aside from efficient management, those responsible deserve the recognition and gratitude of the public for their contribution to better driving."

This should then be the goal. In India with commercial drivers being drafted from a socially less responsible section of the country this task assumes greater importance and urgency.

Motor Driving Schools.

One point over which attention might fruitfully be focussed is the motor driving schools which are springing up like mushrooms all over the country. It would be necessary to ensure that the type of men run these schools and that the men they recruit are training as commercial drivers, whether for

trucks, buses or taxi cabs are conscious of their legal and moral responsibility towards other users of road. In other words they should not be "toughs". They should have the requisite background, educational and otherwise. In addition to teaching good driving and road laws, enough time should be devoted to teaching them good road courtesy. Unless some effective control towards improving these driving institutions is instituted the situation in regard to improvement in the attitude of mind of the commercial driver appears very bleak. Such control should be exercised by well-trained and highly placed officers so that corrupt practices are not encouraged.

Commercial Vehicles' Drivers

There is another aspect of control of commercial drivers, which is particularly confined to urge to utilise the vehicles to the greatest extent each day so as to earn more money, they flout both the legal and moral codes of good road conduct. It is understood that organised resistance, sometimes backed by political interests is created to make the efforts of the enforcement officials ineffective. The sooner the seriousness of this situation is recognised and more drastic action planned, the better it will be for the well being of the highway traffic.

Enforcement of Traffic Regulations

All these tendencies indicate that the enforcement of traffic regulations on a uniform basis for different classes of traffic is well nigh impossible. Different approaches will have to be made in dealing with different classes of drivers.

I acknowledge that in all aspects that I have touched the Police authorities would not have a direct responsibility. But unless they press for corrective measures in right places, and also associate more vigorously and willingly with allied professions of planning and traffic engineering, the problem of traffic control on the city street and the highway cannot easily be resolved."

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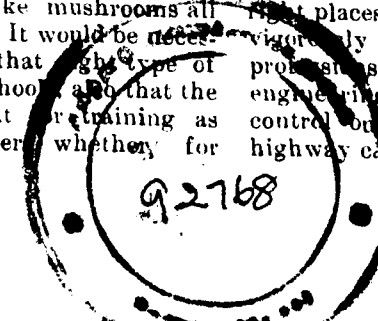
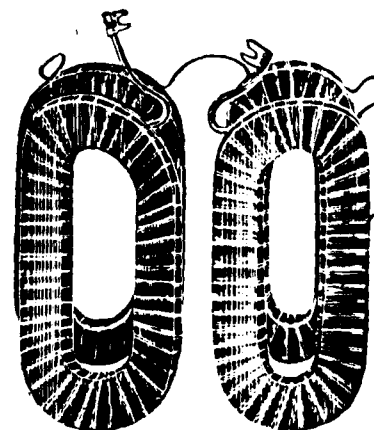
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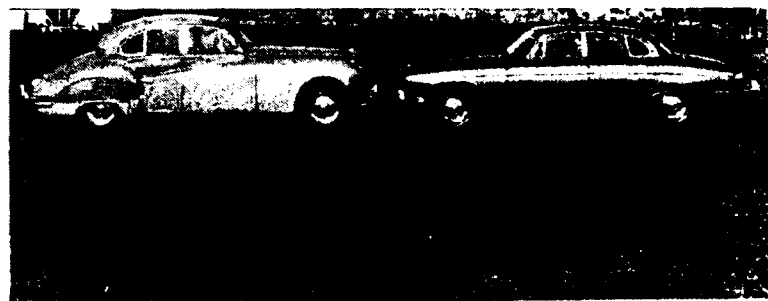
LONDON SHOW

The Jaguar Mark X, Handsome New Five-seater Saloon with 3.8 engine, all-independent suspension and disc brakes.

No matter which way you look at it, the new big Jaguar is a handsome car; one of the best that Jaguar have ever built. It has a long low shape with speed in every line but it gets its effect purely by the subtle balance of line and form, for there is no applied decoration whatever. It is one more triumph for the Jaguar design team, led by Sir William Lyons himself, who supervises the evolution of every new body style, having his ideas translated not into sketches and scale models but direct into full-scale metal panels.

Known as the Mark X it is a replacement for the line of saloons which evolved through Marks VII and VIII into Mark IX. Beside its predecessor, the new model looks almost tiny because it is so much lower, but it gives far more room for passengers by better space utilisation. Using the same 10 ft wheelbase, it is 5½ in. longer and 3.5/16 in. wider, but overall height is down by 8½ in. for a loss of only one inch in ground clearance. The all-steel unit structure is entirely new, but many of the mechanical parts are derived from the highly successful E-Type, including the XK-S' type 3.8 litre engine delivering 265 b. h. p. and the independent rear suspension with twin coil springs at each side. The body is a luxuriously finished 5-seater with a very big trunk, transmission is through the usual four-speed Jaguar gearbox with the option of a De Normanville overdrive or the Borg Warner automatic transmission. Braking is by Dunlop discs on all four wheels with a bellows type servo acting directly on the pedal. There are two master cylinders controlling separate fluid circuits for front and rear brakes and two fluid reservoirs each with site lectrical level indicator.

The main stiffness of the structure is obtained from the body sills of



The Jaguar Mark X.

double box section joined by a deep scuttle arch and cross members under the front seats, under the rear seat pan and behind the rear back rest. Box extensions alongside the front wheel boxes support engine and radiator. Rear wheel boxes are joined to boxes inside the rear wing which carry the two rear fuel tanks. This leaves the whole centre section free for 27 cu. ft of luggage besides spare wheel, jack and a full tool kit in a rubber-lined case. The roof is not used as a main structural member and is supported on very slim pillars giving unobstructed all-round vision. The four doors are particularly wide; coil springs push them open when the latches are released and they are held open by strong check rods. The slim chromium window frames are lined with special nylon covered rubber channels to ensure easy window movement.

The wide counterbalanced bonnet tilts forward with the radiator grille and inner pair of headlamps giving very free access to engine and accessories. It is fully lined with sound damping material. The trunk lid is also counterbalanced and the trunk is illuminated at night.

The interior furnishings are extremely fine using the traditional materials of leather and butt walnut in a thoroughly modern way. The two front seats are separate arm chairs flanking a broad centre

console which houses radio set and heater controls. Speedometer and tachometer are in front of the driver; other dials are ranged across the centre above a neat row of switches which are clearly identified by day or night. Adjustable instrument lighting, two speed wipers, electric windscreen washer, map reading light, illuminated lockable glove box and three powerful roof lamps are standard equipment. So is a comprehensive new heater-ventilation system controlled by three buttons marked simply Off, Cold, Hot. Fresh air from a scuttle intake passes direct to the interior or through the heater matrix assisted by two electric blowers. The air valves are vacuum operated. Besides the feed to the windscreen, there are adjustable outlets for face or feet beside each front seat and further ducts pass along the centre tunnel to adjustable outlets by the rear seats. Three people can ride comfortably on the rear seat; two are extremely comfortable with the centre arm rest in use. A separate loud speaker is provided in the rear parcel shelf. Built into the backs of the front seats are folding picnic tables with vanity mirrors and ash trays.

All seats have foam rubber overlays on deep spring cases, there are pile carpets on the floors with leather to protect the body sills and the roof lining is new washable sound-deadening cloth applied

directly to a layer of insulating material on the roof panel.

The 3.8 litre twin camshaft six-cylinder engine has three S. U. carburettors with automatic starting control. Compression ratio is 9 to 1 and it delivers 265 b. h. p. at 5,500 r. p. m. with maximum torque of 260 lb. ft. at 4,000 r. p. m. The straight port cylinder head of aluminium alloy carries valves operating at an included angle of 70° in hemispherical combustion chambers and there are two separate exhaust systems with silencers under the tail as on the E-type. Normal axle ratio is 3.54 to 1 with the option of 3.77 to 1 when the manual gearbox is used in conjunction with overdrive.

Front suspension is by semi-trailing wishbones and coil springs with telescopic dampers and an anti-roll bar. Steering pivots are ball joints. At the rear, the differential, inboard disc brakes and independent suspension systems are mounted in a steel sub-frame insulated by rubber from the main body structure. The rear wheels are located transversely by the drive shafts, universally jointed at both ends and supplemented by tubular links below them, joined to the aluminium wheel carriers. Fore and aft location is by single arms projecting forward to rubber pivots on the body frame. Suspension is by twin coil springs at each side enclosing telescopic dampers.

Steering is the Burman Recirculating ball type assisted by a hydraulic ram built into the steering box. Hydraulic pressure is applied by an eccentric pump on the rear end of dynamo. Included in the circuit are an oil reservoir and cooler. Rubber joints in the steering column damp out road noise and vibration and permit adjustment of steering wheel position. Front suspension and steering gear are mounted on a forged steel I beam attached to the main structure by rubber V mountings and sandwich mountings.

Fuel is carried in twin petrol tanks in the rear wings with a total capacity of 20 Imp. gal. Each tank has submerged electric pump and a separate filler, a change over switch on the instrument panel, selects the

tanks and shows its contents on the fuel gauge.

Specification

Engine: Six cylinder twin overhead camshaft 3.8 litre XK Jaguar 'S' type engine 87 x 106mm 3781 c. c. Compression 9 to 1 (8 to 1 optional.) Power output 265 b. h. p. at 5,500 r. p. m. Torque 260 lb.ft. at 4,000 r. p. m.

Transmission

Manual gearbox. Ratios 1st and reverse 11.95, 2nd 6.58 3rd 4.54 4th 3.54.

Overdrive model. Laycock de Normanville overdrive. 1st and reverse 12.75, 2nd 7.01, 3rd 4.84 Top 3.77 Overdrive 2.93.

Automatic transmission model Borg Warner automatic transmission system with driver controlled intermediate gearhold. Gear ratios Low 17.6--8.16 intermediate 10.95-5.08. Direct top 3.54.

Dimensions

Wheelbase 10ft. Track front 4ft 10 in. Track rear 4ft 10.

Width 6ft 4 5/16 in. Height 4ft 6½ in.

Turning circle 37ft. Ground clearance 6½ in.

Fuel tanks, one in each rear wing—20 gallons.

Lucas 12 volt battery.

Dunlop disc brakes to all four wheels.

Tyres: Dunlop Road speed tyres 7.50 x 14 in.

Price £ 1640. With tax £2,39-18-1.

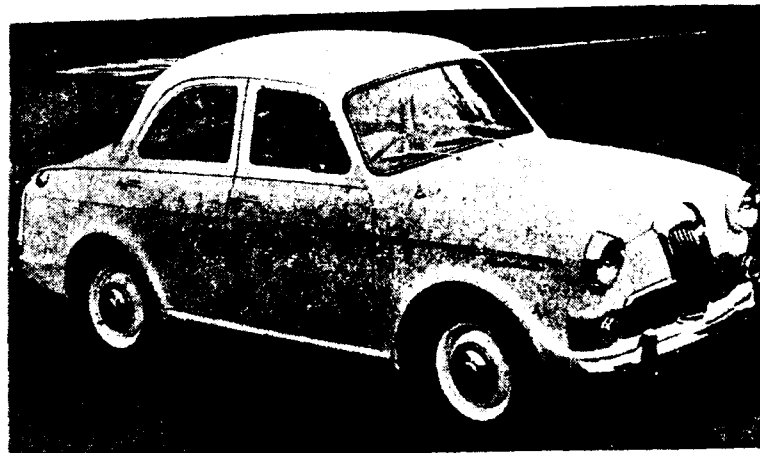
Change of Name

Messrs. G. M. AUTOMOBILES, 41 General Patters Road, Madras-2 have changed their name to M. L. AUTOMOBILES from the 9th November 1961, but continue to function and conduct the same business at the same place as hitherto done by G. M. AUTOMOBILES with Mr. Madanlal as its proprietor.

Perkins' M. D. in Madras



Mr. M. L. Prichard, M.C., Managing Director, Messrs. F. Perkins Ltd., Peterborough, arrived in Madras recently for business discussions with Simpson and Company Limited, Manufacturers of Perkins Diesels in India. He was received at the airport by Mr. S. Anantharamakrishnan, Chairman, Simpson and Company Limited, and other Executives of Simpsons.



The 1962 Riley One-Point-Five

B. M. C. CARS FOR 1962

More powerful engines. Increase in wheelbase and track minor styling changes.

Prominent among the many changes made to B. M. C. cars for 1962 are:—

Larger engine of 1622 c.c. for 1½ litre models with extended wheelbase and track and higher axle ratios.

Increased engine power for six-cylinder models and extended wheelbase. Same for Austin A. 40.

Two further versions of the Mini, the Riley Elf and Wolseley Hornet.

All cars have built in anchorage points for safety harness, colour schemes are new and the new small Borg Warner automatic transmission is optional on 1.5 models.

All former 1½ litre saloons now have the 1622 c.c. engine with larger bore (76.2 x 88.9 mm) al-

ready used in the MGA. As fitted in the cars now known as the Austin A—60, Morris Oxford VI and Wolseley 16/60, with 8.3 to 1 compression and single S. U. carburetter, it gives 61 b. h. p. nett at 4,600 r. p. m. and torque of 90 lb. ft. at 2,100 r. p. m. with two S. U. carburetters for M.G. Magnette IV and Riley 4/72, it delivers 68 b. h. p. nett at 5,000 r. p. m. and torque of 89 lb. ft. at 2,500 r. p. m. Single carburetter cars now have an axle ratio of 4.3 to 1, the same as on the twin carburetter models, instead of the previous 4.55 to 1. Station wagons have 4.55 instead of 4.875 to 1. Stability is improved and passenger space increased by an increase of 1 in. in wheelbase, 2 in. in front track and 1½ in. in rear track. Wheel arches are smaller and further back, making room for a wider rear seat. Instrument panels on Austin and Morris are in imitation walnut—unaffected by tropical climates. Seats and doors have a new style

trim, radiator grilles on Austin and Morris are extended to include side lamps. On single carburetter cars, tail fins have been reduced and rear lamp clusters are new. This plus revised front bumper mountings has brought overall length down by 4 in. despite the increase in wheelbase. Gearboxes can have centre or column levers. A new front bench seat has ball bearing slides instead of rollers and a centre tube and height adjustment is possible by alternative mounting holes. Front suspensions have anti-roll bars and new, more flexible rear springs have reduced negative camber to prevent the rear end dropping too far. Stabiliser bars are added at the rear, new exhaust systems have additional rear silencers, steering gears have greater reduction to reduce driver effort. M. G. and Riley retain their tail fins.

The 3-litre Sixes now known as

Austin A/110, Wolseley 6/110 and Vanden Plas Princess Mark II have the power of their 2912 c.c. engines increased to 120 b. h. p. nett at 4750 r. p. m., a gain of 12 b. h. p. and they now easily exceed 100 m.p.h. Maximum torque rises to 165 lb. ft at 2,500 r. p. m. Changes include new cylinder head, revised induction system, high-lift camshaft, with wider overlap, stronger valve springs, twin paper element air cleaner, improved distributor. Twin exhaust systems are now used, and extra heat projection is dealt with by raising cooling system pressure to 10 lb. sq. in. and using a cowlled fan. The three-speed all-synchromesh gearbox now has a central lever.

Front seat slides are improved and an increase of 2 in. in wheelbase gives more room in the rear seats. Anti-roll bars are used at front and rear. Rear springs are softer, and a telescopic hydraulic shock absorber is mounted between axle and body as an anti-sway measure.

The two new Minis, Riley Elf and Wolseley Hornet have typical Riley and Wolseley radiator grilles plus extended tails and rear wings as on the beach car. Lift up boot lids give access to trunks trimmed with carpet. Seats are upholstered in leather and leather cloth on foam rubber overlays. The Wolseley has an oval instrument panel as on the Cooper Minis, the Riley has a rec-



The Wolseley 16/60 Saloon

tangular wooden panel. Both cars use the standard engine of 848 c.c. giving 37 b. h. p. gross. Overall length is increased to 10 ft 8½ in.

Riley 1.5 and Wolseley 1500 saloons are lowered approximately one half an inch by changes to suspension. New seats and trim give extra head and leg room (Jacking brackets are improved.)

The Austin A-40 Mark II is an improved version of the first B.M.C. car to appear with Pininfarina styling in September 1958. Output

of the 948 c.c. engine is increased by 3 b. h. p. to 40 gross at 5,500 r. p. m. An S. U. carburetter is now used on a new manifold with a paper element air cleaner. The fuel pump is now electric and a larger fuel tank holds 7 Imp gal (32 litres). Front suspension has an anti-roll bar and telescopic dampers replace the piston type at the rear. An increase of nearly 4 in. in wheelbase to 87 1/16 in. provides extra rear legroom. Seat cushions are deeper, and the instrument panel is new with an enclosed glove box. A steering column lever works the turn indicators and there is a central ash tray. The car is identified by a new full-width grille in aluminium alloy. Both saloon and station wagon are available as before.

Morris Miniminors like all other versions, now have a plated instead of painted grille and the quieter 16-blade fan. Heavier gauge wheels are fitted as a result of competition experience and a fresh air heater is available as an alternative to the recirculating type.

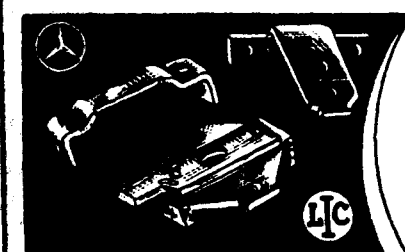
The Morris Minor 1000, the first and so far the only British car to reach a sale of one million, has new interior trim. Lids have been removed from the glove boxes and a screen washer is now provided on the deluxe.



The Riley Elf

21st November 1961

8



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Mr. K. L. Kelly

Mr. K. L. KELLY IN MADRAS

Secretary-General of A. A.



Mrs. Kelly, who is accompanying her husband on a tour of world A. As.

Mr. K. L. Kelly (Secretary-General of the Automobile Association of Great Britain) and Mrs. Kelly arrived in Madras on 19th November, 1961 as part of their World Tour to study the various Automobile Associations and Clubs in different parts of the Commonwealth. As the Executive head of a vast organisation with over 2,500,000 members, he has vast

experience in traffic matters and is an expert on the problems facing motorists.

On the outbreak of the last War, Mr. Kelly enlisted in the Royal Army Ordnance Corps and saw service in 1939 and 1940, and in the Middle East from 1943-45, where he held the rank of Colonel and was Acting Dy. Director of Ordnance Services for the Middle East Command.

Returning to the A.A., his only civil career since his school days, he became Head of the Highways and Traffic Department and an Assistant Secretary of the Standing Joint Committee of the Royal Automobile Club, the Automobile Association and the Royal Scottish Automobile Club, which had been formed in 1944 to give unity of aim and unity of voice to organised motoring in Great Britain. In this capacity he was closely connected with the successful campaign for the abolition of petrol rationing. He became Deputy Secretary of the A.A. in January, 1952, at the age of thirty-eight.

Mr. Kelly is a Member of the Institute of the Motor Industry, a Fellow of the Royal Society of Arts, an Associate of the Institution of Highway Engineers, and an Associate of the Institute of Transport. The author of a number of papers on British roads, international motoring routes and traffic engineer-

ing from the driver's viewpoint, he has also taken part in many sound and television broadcasts on motoring topics. He has served on the Ministry of Transport's Committees on Road Safety and Landscape Treatment of Roads, and is a Member of the Council for the Preservation of Rural England.

Mr. & Mrs. Kelly are the guests of the Automobile Association of Southern India during their visit to the City, and the Association is arranging a series of functions in their honour. They will spend 4 days in Madras.

NEW PRODUCTS & TECHNIQUES

A Handy Winch

An electric winch that bolts onto the front bumper of a car or truck and is powered by the vehicle's battery is being marketed by Bellevue Manufacturing Co of Portland, Oregon, U. S. A. The 105-pound winch works off a 6-volt or a 12-volt battery. It can pull loads up to 6,000 pounds. The winch can be operated by one man from inside the car, or from the front, to haul cars from ditches, clear obstacles from roadways, etc. The lift, which can be installed on any vehicle in about two hours at a cost of Rs. 125, sells for Rs. 1300.

MOTORINDIA



Some of the guests at the Reception for Mr. Greaves.



Mr. B. Greaves of M/s. Leonard Wadsworth & Co., speaking at the Reception held for him at Kvality, Madras.

MR. B. GREAVES VISITS MADRAS

Mr. Viswas L. Paul, Proprietor of Hague and Schule, Agents and Indentors, threw a tea-party at Kvality, Madras, on 25th October 1961, to meet Mr. B. Greaves, the personable Vehicles Parts Manager of M/s. Leonard Wadsworth and Co. Ltd., of London. The function was well attended by prominent representatives of the motor industry in Madras.

Welcoming Mr. Greaves on this his second visit to Madras, Mr. Paul explained that the visitor was closely associated with the Parts Business, having served as the Export Manager of Specialoid Limited, the well-known Piston Manufacturers, and for the past five years with Leonard Wadsworth and Co. Ltd. Leonard Wadsworth's are a well established organisation specialising in exports as well as imports of various commodities. They handle the export activities of Charles Weston & Co. Ltd. and several factories manufacturing Pistons, Piston Rings, Liners, Chassis parts and Tractor parts.

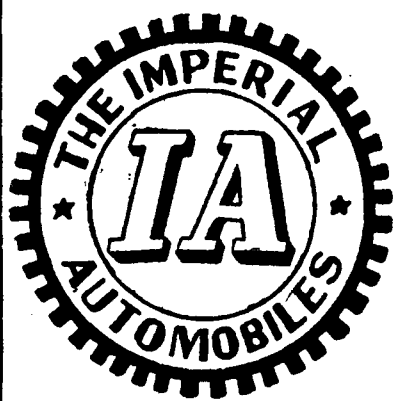
Replying to the host's address, Mr. Greaves remarked that he was very much impressed by the rapid progress of industrial development in Madras during the last 18 months, particularly in the Industrial Estate at Guindy.

He added that Madras State was very much alive to the problems of

its industrial growth and that he would very much appreciate it if our industrialists would regard him as a potential customer in the near future. In conclusion, Mr. Greaves

thanked his host, Mr. Paul, for giving him the opportunity to meet the trade.

Mr. P. Chandriah proposed a hearty vote of thanks.



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21st November 1961

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Madras & Kerala*

**THE MADRAS MERCANTILE
AGENCIES PRIVATE LTD**
1/18 MOUNT ROAD
MADRAS 2

MADRAS RUBBERS--MANSFIELD COLLABORATION



Messrs. M. L. Bayer & R. E. Schiffer with their wives, who arrived in Madras on 30-10-1961, were received at the aerodrome by the Directors of Madras Rubber Factory Ltd. They are from Mansfield Tire & Rubber Co., Ohio, U.S.A. who are collaborating with Madras Rubbers for setting up their automobile tyre factory at Madras.

The expansion work of the Madras Rubber Factory to produce truck and car tyres in collaboration with the Mansfield Tyre and Rubber Company of the U. S. has started. Construction of the new factory building is progressing.

A batch of technicians from the collaborators has arrived for investigation and planning and a group of Indian engineers and chemists has left for the United States for higher training at the Mansfield Factory. Another batch will leave for the U. S. A. shortly.

Licences have been obtained for the import of plant and machinery and orders have been placed and confirmed in Europe and America. Trial production is expected to start shortly and the factory is expected to go into full production in June 1962.

Mr. K. M. Philip and Mr. K. M. Mammen Mappillay, Directors have just returned from the United States after consultations with Mansfields.

NEW BRANCH AT MADRAS

Mr. G. Sreenivasa Iyer recently opened the Madras Branch of Messrs. R. Somanathan and Co. at No. 1 Patullo's Road, Madras-2. The firm deals in Exid Batteries, Tyres and Benz Parts. The firm was originally started in 1949 at Tuticorin, and later a branch was established at Nagercoil in 1954. The addition of their new branch at Madras is welcomed.



Left to Right: Mr. R. Vaithianathan, Senior Partner, Mr. G. Sreenivasa Iyer, Businessman, Mr. R. Somanathan, Partner, at the opening of the Madras Branch of Messrs. R. Somanathan and Co. at No. 1, Patullo's Road.

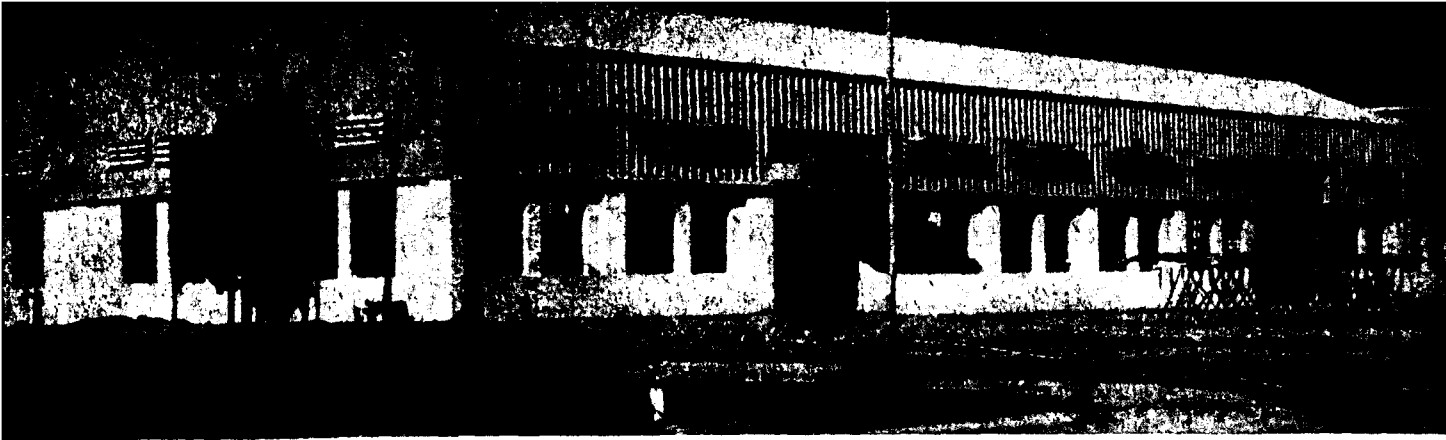
NEWS FROM DEALERS FLOOD RELIEF DONATIONS

On the 28th October 1961, Messrs. Raman and Raman (Private) Ltd., Fleet Owners of Buses and Lorries, of Kumbakonam sent a cheque for Rs. 1,180/- to Shri K. Kamaraj, Chief Minister of Madras. The amount is intended to be utilised solely for alleviating the distress of victims of the recent floods in Tanjore District. Donations were received from the following :-

- | | |
|--|------------|
| 1. Sri Ramadas Motor Transport Private Limited, Kakinada. | Rs. 500-00 |
| 2. Mr. Abdul Rahim, 14-A, General Pat- ters Road, Mount Road, Madras ... | 101-00 |
| 3. M/s Srinivasa Tim- ber Depot, Sy- denhams Road, Madras ... | 101-00 |
| 4. M/s Springman Pri- | |

vate Ltd., New Delhi ...	101-00
5. M/s Motor and General Trading Company Madras.	100-00
6. M/s A. K. Ismail and Co., Sembu- doss St., Madras ...	100-00
7. M/s Upper India Trading Co., Madras ...	51-00
8. M/s Automobile and Agricultural Indus- tries Corporation, Bombay ...	51-00
9. M/s S. Dhanesakaran and Co., Madras...	50-00
10. Shri V. Narayanan, Sales Manager, The Goodyear Tyre and Rubber Co., Calcutta ...	25-00
Total ...	1,180-00

MOTORINDIA



A view of the Wheels India factory at Padi, near Madras.

WHEELS INDIA FACTORY GOES INTO PRODUCTION

T.V.S.---Dunlop's Fruitful Partnership

After five decades of pioneering experience in the automobile and road transport industries, T.V. Sun- daram Iyengar & Sons (P) Ltd., made their debut in the manu- facture of automotive components. Located at Padi, seven miles from Madras, the Wheels India factory will manufacture truck wheels for Indian-built commercial vehicles. This is the first factory of its kind

in India and very soon every truck and bus manufactured in this coun- try will be rolling on wheels pro- duced by Wheels India. The open- ing of this factory on 11th Novem- ber 1961 heralds yet another mile-

stone in India's progress towards independence in the manufacture of commercial transport vehicles.

In his welcome address, Chairman T. S. Rajam thanked the Union and



Sri K. C. Reddy speaking at the inauguration of the Wheels India Factory. Seated on the dais are Chairman of the Board of Directors, Sri T. S. Rajam, and Chief Minister Kamaraj, who presided over the function.



Sri T. S. Rajam, Chairman of the Board of Directors of Wheels India, introducing Chief Minister Kamaraj to Mr. G. D. Beharrell, General Manager, Dunlop Rim & Wheel Co. Ltd., Coventry. Looking on are, from left to right, Messrs. T. S. Srinivasan, Managing Director of Wheels India; T. S. Santhanam, Director; Cecil Stack, Overseas General Manager, Dunlop Rubber Co., Ltd., London and Director of Wheels India; and John Luckham, Managing Director of Dunlop Rubber Co. (India) Ltd.

State Governments for their co-operation in expediting the establishment of the Wheels India factory. He said, "We are indeed happy to have with us our popular Chief Minister, Shri Kamaraj. His keen interest in the welfare of the people of this State is well-known. He has taken a lively and deep interest in fostering new industries. Besides, he has always taken a keen interest in road transport, automobile and allied industries. For over two decades, his wise counsel has been of great help and encouragement to us. We are grateful to him, to his colleagues and the Government of Madras for their sustained interest in this venture and for the help they had extended to us in establishing this factory, by, amongst other things, easing the process and time taken in land acquisition, power supply and other factors that had gone into the raising of this factory."

Shri K. C. Reddy needs no introduction to a Madras audience. He was the Chief Minister of Mysore State and as such played a large part in industrialising that State. His stewardship of that State and his background and knowledge of industry and commerce are, I am sure, of great help to the nation and its industry in this important portfolio, which he holds. Under his able guidance, various industries of our land are bound to register progress and expansion.

We keenly miss the presence of Shri R. Venkataraman, Minister for Industries and Labour, Government of Madras, who is now away in the United States of America attending the sessions of the United Nations. He is popular both with the employer and the employee. Such popularity is a unique achievement. His energy and drive have contributed to the impressive progress in industrialisation that has taken place in this State.

It is with deep feelings of emotion that I address you today. It is a significant date in the history of T.V.S. Nearly fifty years ago my father, Shri T.V. Sundaram Iyengar, started the business in a modest way. As you are all aware, T.V.S. has grown over these years. Today the activities of our organization



The singing of the "Prayer" at the commencement of the function. Standing left to right are Messrs. John Luckham, Managing Director of Dunlop Rubber Company (India) Ltd., Cecil Stack, Overseas General Manager, Dunlop Rubber Co., Ltd., England and Director of Wheels India; T. S. Rajam, Chairman of the Board of Directors of Wheels India; Chief Minister Kamaraj, and Union Minister K. C. Reddy, who opened the factory.

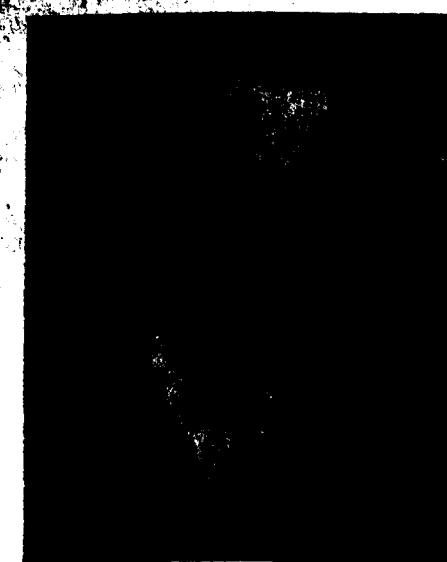
cover distribution of motor vehicles, spare parts, body building, tyre retreading, reconditioning of spares, passenger and goods transport, insurance and finance. In spite of our progress and achievement in our chosen field, we had all along hesitated to enter the industrial manufacturing field. As such, we have now made what to us is a significant and, I hope, an auspicious departure. Wheels India is our first major venture in the manufacturing field and, in a manner of speaking, I may say that our years of experience has gone into the shaping of this project. We will always have as our objective, to manufacture and market a product, which will meet the most exacting standards of the automobile industry.

Messrs Dunlop Rim and Wheel Company of England, who are providing the technical know-how are a subsidiary of the Dunlop Rubber Co. Ltd., our collaborators. They are one of the oldest manufacturers of rims and wheels in the world. Dunlop is a name known throughout the world. We are proud of our association with them in this venture. It is one of the oldest rubber com-

panies in the world and a leader in its field. Dunlop was the first in 1936, to start manufacturing operations in India of tyres and rubber components for automobiles. It is a happy coincidence that Wheels India are commencing production at the time of the Silver Jubilee celebrations of Dunlop in India. TVS association with Dunlop goes back to fifty years. In 1912 my father imported solid tyres and tyre equipment from the Dunlop Rubber Co. Ltd., England. This occasion is, so to say, a culmination of the fifty years of close association of TVS with them. We have received from them unstinted co-operation in the setting up of this project, without which work on this project could not have been carried out with promptness, efficiency and thoroughness.

Our country has adopted planned economic and social development as its goal. One of the major means of achieving this goal, it is widely acknowledged, is rapid industrialisation. Several new industries, during the period of the Second Plan have sprung up, of some of which there was hardly a thought two decades

MOTORINDIA



Mr. Cecil Stack, Formerly Managing Director, Dunlop Rubber Co. (India) Ltd. Now Overseas General Manager, Dunlop Rubber Co. Ltd., London; Director, Wheels India Limited.

ago, and industrial development is moving forward at an accelerated pace. For example, take the automobile industry. India started assembly of motor vehicles in 1920 with imported components. It was only in 1953 the Government of India decided to have a full-fledged automobile industry in our land. Despite the late start, the automobile and ancillary industries have been placed on a firm footing and are progressing rapidly.

The automobile ancillary industry which was nearly non-existent in 1947, is now vast and well-developed; the value of these products manufactured per year now exceeds Rs. 10 crores. It is not merely in value but also in variety and range, the automobile ancillary industry has developed fast during the last ten years. It is to the credit of this industry that today it is manufacturing a majority of the components of a motor vehicle for original equipment and for the maintenance of the motor vehicles on our roads. The automobile ancillary industry makes a vital contribution to the sum total of industrial production in India. It is one of the few industries that provide a wide range of employment from the unskilled to the highly skilled personnel. With the increasing demand from the auto-

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mobile industry and the currently operating motor vehicles of our land, the scope for saving foreign exchange by the ancillary industry is very large. Wheels India is another step in the onward march of the few factories which will manufacture the complete product without the import of any component. The factory is so designed that the entire demand of the automobile industry for truck wheels during the Third Plan period can be met.

Since we have decided to venture into the manufacture field, we have been turning over in our minds the possibilities of establishing other manufacturing units in the same field. Some propositions are now engaging our attention and are now in various stages of negotiation and finalisation with foreign manufacturers of repute. Sustained by the goodwill of and interest shown by the people of the State and its Government in our venture to serve them in the transport field, we are hoping to be able to contribute a substantial quota to the industrialisation of the State and ergo to the prosperity of the country.

I would like once again to express our great pleasure and gratification at the presence here today of our Chief Minister and the Union Minister for Commerce and Industry



Mr. G. D. Beharrel, General Manager, Dunlop Rim & Wheel Co. Ltd., Coventry.

and all of you. Such a gathering is indeed an indication of your goodwill towards this venture and I hope also towards our own firm. May I request your blessings for this venture and also for our future efforts in the direction of the industrialisation of the State. I now request Shri Kamaraj to take the Chair."

Inaugurating the Wheels India



The guests of honour being shown round the factory by Wheels India Directors, Messrs. T. S. Santhanam, Director (extreme left), T. S. Rajam, Chairman of the Board of Directors (second from left), and T. S. Srinivasan, Managing Director (extreme right)

factory, Union Minister K. C. Reddy stressed the vital importance of the vehicular transport industries in the planned economic development of the country. He added: "It is a great pleasure for me to be amidst you today and I am thankful to the Board of Directors and to Shri T. S. Rajam, Chairman, Board of Directors of Wheels India Ltd. for inviting me to inaugurate this Rim and Wheel factory."

T. V. S. & Sons are well known for their activities in varied fields and particularly for the excellent work they are doing in the service of the automobile and transport industries in the country. It is gratifying to note that Wheels India Ltd. is a happy development of the close association of the T. V. S. & Sons with Dunlops over the years and that in this new venture again T. V. S. & Sons will be having the cooperation and technical know-how from one of the oldest and largest manufacturers of Automobile Rims and Wheels in the world viz., the Dunlop Rim & Wheel Co. Ltd., of U. K.

The demand for transport facilities in the country has been growing fast with the increasing tempo of planned economy particularly the expansion of industry and agriculture. In this connection

naturally, vehicular road transport has assumed great importance and it has a specific contribution to make along with Railways, Waterways, Airways and other modes of transport to ensure an adequate and satisfactory transport system. The volume of goods traffic that will be required to be carried by means of vehicular transport during the Third Five Year Plan points to the imperative need for the rapid expansion of this industry as well as the indigenous automobile industry on a sound footing.

The Government of India are keenly aware of the need for a rapid expansion of the indigenous automobile and the automobile ancillary industries. The automobile industry in India till 1953 consisted of about a dozen units for assembly of motor vehicles working largely with imported components only. Today there are six main vehicle manufacturers with phased manufacturing programmes producing vehicles with an indigenous content ranging between 50 per cent to 80 per cent. In 1956, at the commencement of the Second Five Year Plan, there were, apart from the six main vehicle manufacturers, one motor cycle and scooter manufacturers each, two automotive diesel engine manufacturers and



Mr. T. S. Rajam, Chairman, T. V. Sundaram Iyengar & Sons Private Limited; Chairman, Wheels India Limited.

about six manufacturers in the field of manufacture of ancillary equipments. In the case of Motor Cycles, Scooters and 3-Wheelers, three more firms have since come into the field. As regards ancillary industry, over 100 units covering a large number of ancillary items have come into the field, although in a few cases production has yet to be established. The major ancillary items now covered are electrical equipments, wheels and rims and instruments. The progress the industry has made during the last five years has been appreciable. The number of commercial vehicles, jeeps and cars to be produced in 1961 will be about twice those produced in 1956. The estimated value of ancillary items produced in 1961 will be about Rs. 12.5 crores whereas in 1956 the value of ancillary items produced was only Rs. 2.3 crores. The industry deserves to be congratulated for this creditable performance and it is hoped that it would maintain its tempo and progressively reduce the foreign exchange expenditure both on maintenance and capital accounts.

Under the Second Five Year Plan the estimated demand for motor vehicles by 1960-61 was put at 65,000 numbers. The actual production has been about 63,000 numbers, in spite of the fact

that the automobile industry had to bear the share of the foreign exchange difficulties for the last four years. It may be noted that the foreign exchange allocation to the vehicle and engine manufacturers from year to year for the import of components have been substantial. While in 1956, the foreign exchange allocation on this account was of the order of Rs. 29 crores, for the 12 months' period October 1960 to September 1961, it was of the order of Rs. 31 crores. In addition, foreign exchange is also being allotted to the industry as well as to the established importers for the import of spare parts which is of the order of about Rs. 10 crores per year, apart from the import of steel and other raw materials and above all the capital goods for which large sums have to be provided.

For the manufacture of motor vehicles during the Third Five Year Plan, the targets of capacity are:—

	... 60,000	numbers
Jeeps	... 10,000	numbers
Cars	... 30,000	numbers
Motor Cycles, Scooters and three-wheelers	... about one	lakh

As for the development of the ancillary industries, Government propose to give the greatest attention to it during the Third Five Year Plan.

It will be seen from what I have said that the automobile industry is one of the largest consumers of foreign exchange and every step that goes to result in reducing the foreign exchange expenditure would be most welcome. In this perspective, the establishment of any new unit for the manufacture of automobile ancillary items is really heartening and worthy of all support. The Sundaram Industries, therefore deserve to be congratulated for embarking on this new venture and establishing the Wheels India Ltd. for the manufacture of wheels and rims for automobiles. At present, there are only two other firms licensed for the manufacture of wheels in the country and there is a proposal

before Government to merge those units into one. I am glad to note that T.V.S. will soon be taking up the manufacture of automobile electrical equipment and are also planning the manufacture of complete brake system and Exhausters, Servos and Hydrovacs for automotive and non-automotive units in collaboration with reputed firms of U. K. In this connection I am aware that Messrs. T. V. Sundaram Iyengar & Sons are engaged in the Automobile spare parts business. At present we are importing considerable quantities of spare parts either through the fleet owners, established importers or actual users. Your company in conjunction with other spare parts dealers are responsible for taking over the business of spare parts that was done by Messrs. Fords and General Motors before they closed down their operations in this country. In view of the present foreign exchange position any reduction in import of spare parts and manufacture of these items in the country would be of considerable assistance to the automobile industry. There have been persistent complaints that a number of vehicles on the road are not able to function effectively and efficiently for want of spare parts at reasonable prices. Steady and sustained efforts should, therefore, be made to manufacture spare parts on a sufficient scale. Endeavour should also be made to assist small-scale industrialists to set up ancillary industries for the manufacture of parts that could easily be manufactured by them with requisite technical guidance and, may be, with financial assistance also. If this could be done it would not only assist the industry but also better our foreign exchange position.

I wish Sundram Industries all success in their new venture. I look forward to this factory becoming an efficient unit producing high quality goods at competitive prices thereby contributing to the economic strength of the country."

Mr. Cecil Stack, the Overseas General Manager of Dunlop Rubber Company Limited, complimented T. V. S. on their foresight, drive, determination and above all, the integrity of their organisation. Continuing, he said:

"When we were approached by T. V. Sundaram Iyengar & Sons to join them as partners and technical collaborators in this Rim and Wheel project, we had no hesitation in saying yes. In fact we were very pleased to do so, because our relations with them, which have existed ever since the late Sri T. V. Sundaram Iyengar started up business fifty years ago, have always been very close and happy."

In common with their many other friends, we have watched and admired the remarkable way their organisation has grown from what was a very small and humble beginning. Determination, drive, and perhaps above all integrity, were the qualities that inspired and supported this growth. Their tremendous success has been a fitting reward for the foresight of "T. V. S." and his sons.

I have known the family for the past 36 years, ever since I first arrived in Madras in 1925. My relationship with Rajam and his brothers has always been a very close one, so that this new association between our two firms gives me particular pleasure.

This Rim and Wheel factory is their first major venture in the field of industry. Its management will be entirely in their hands and Dunlop will provide the plant and equipment, the technical know-how and the training of their technicians at our Coventry factory in England. This is a joint venture where the responsibilities are sensibly shared. We have every confidence in its success and that it will prove to be a factory of which India will be justly proud."

Presiding over the function, Chief Minister Kamaraj claimed that private enterprise could play a major role in the industrial growth of the country. He exhorted industrialists to emulate T.V.S. in embarking on ventures for which they had had the necessary experience. The Chief Minister presented mementos to the architect, contractors, engineers, and representatives of firms associated with the establishment of the Wheels India factory. Managing Director T. S. Srinivasan proposed the vote of thanks.



The distinguished visitors at the entrance of the factory with the heads of Wheels India and Dunlops. (Left to Right) Messrs. T. S. Santhanam, T. S. Rajam, Union Minister K. C. Reddy, Cecil Stack, Minister M. Bakthavatsalam, Chief Minister Kamaraj, T. S. Krishna, G. D. Beharrell, T. S. Srinivasan and John Luckham.

21st November 1961

10.

AROUND THE WHEELS INDIA FACTORY

By Our Staff Reporter

Looming up out of 25 acres of verdant, age-old, paddy fields at Padi, seven miles out of Madras, on the Avadi Road, the Wheels India factory throbs about its business.

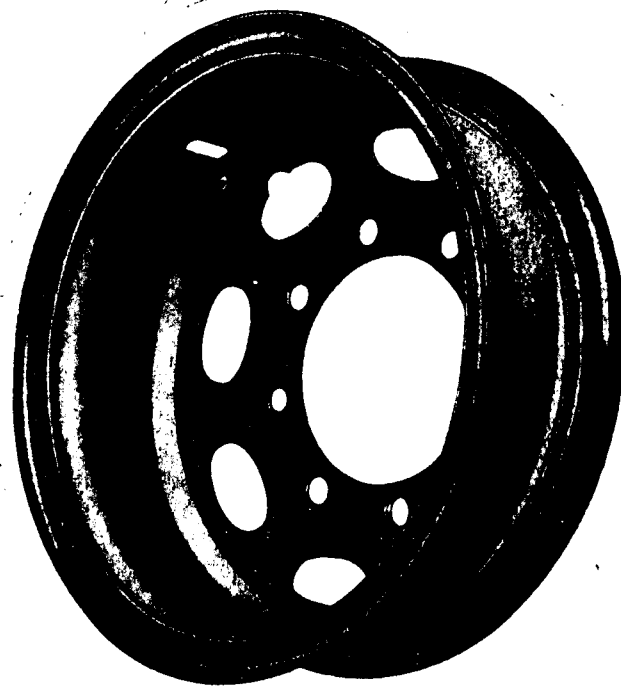
The factory has a covered, floor space of 80,000 sq. ft., which will be doubled by 1965. The factory represents a capital investment of Rs. 1.5 crores—T. V. S.'s share is 55%, Dunlop's 45%. The latter's contribution is in the shape of machinery and equipment and technical know-how, in addition to the provision of training facilities for technicians in their Coventry factory.

Machinery

The most modern machinery costing nearly Rs. 55 lakhs has been installed to produce heavy duty truck wheels in the factory. Special features are the continuous jetting trichlor ethylene degreasing plant—the largest of its kind in India, and the carbon dioxide automatic welding plant, which permits increase in the production rate and yields a superior product.



Mr. T. S. Srinivasan, Director, T. V. Sundaram Iyengar & Sons Private Limited; Managing Director, Wheels India Limited.



A fully welded, heavy duty wheel for Bedford, Dodge, Fargo, Tata-Benz, Leyland trucks.

Installed Capacity

The factory has an initial installed capacity of 180,000 truck wheels per annum on a single shift basis, and 210,000 on the double shift basis. By duplicating only 20 per cent of the equipment, the production can be raised to 400,000 truck wheels by 1965.

Product

The truck wheels will be the fully welded type, where the entire circumference of the disc portion is welded to the rims, which are wide-based in keeping with the latest trends in design. The wheels will be manufactured in two rim sizes, 6-0" x 20" suitable for Bedford vehicles, and 6-5" x 20", for Dodge/Fargo, Tata-Benz, and Leyland vehicles. The production cost of each truck wheel is estimated at Rs. 95/- ex-plant, approximately.

The saving in foreign exchange is computed at Rs. 50/- per wheel or Rs. 90 lakhs in the first year of production.

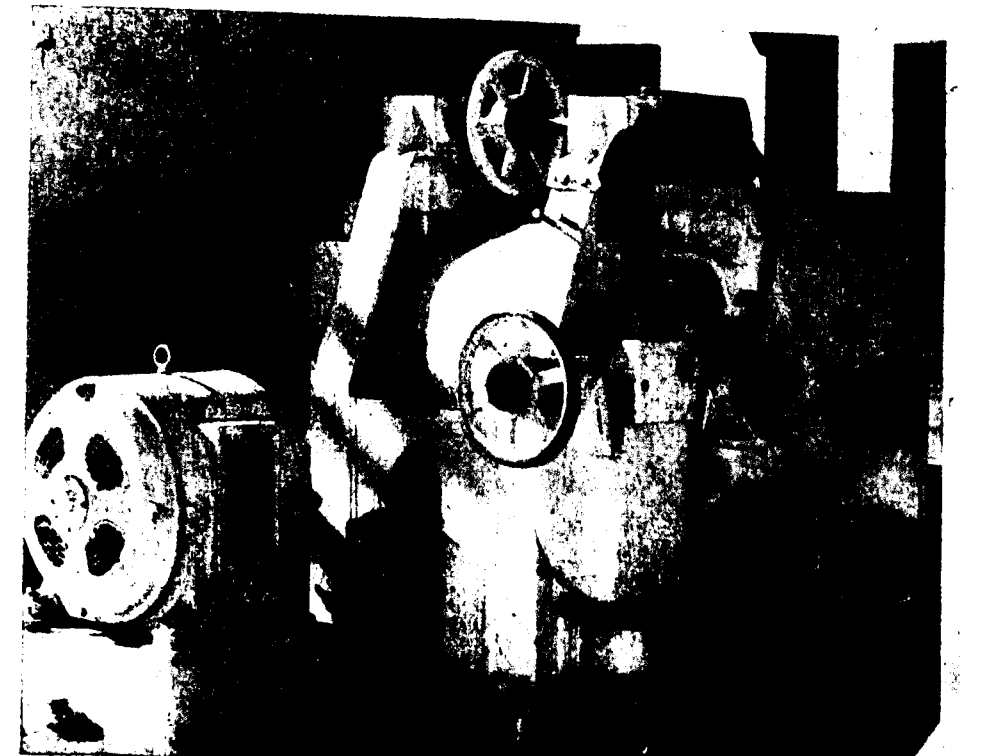


Mr. V. R. Sivaraman, General Manager, Wheels India Ltd.



1000 Amps. Arc Welder filled with Carbon-dioxide equipment.

"Scriven" Circler.



Continued from last issue

PLACES OF INTEREST IN SOUTH ARCOT DT.

Pondicherry

This former French Settlement has occupied an important place in the history of the Indian Freedom struggle. It gave refuge to leaders like Subramanya Barathiar, Aurobindo Ghose, V. V. S. Iyer and others. Now it is Centrally-administered awaiting the de jure transfer. It has changed hands many a time and it has a rich past. Pondicherry as it was then known was during the first two centuries A.D., one of the big towns of India. It is an important port of call on the sea route for silk from China to Rome. The best sea shore on the Coromandel coast was Pondicherry because it was the only port on the calm sea during many months of the year.

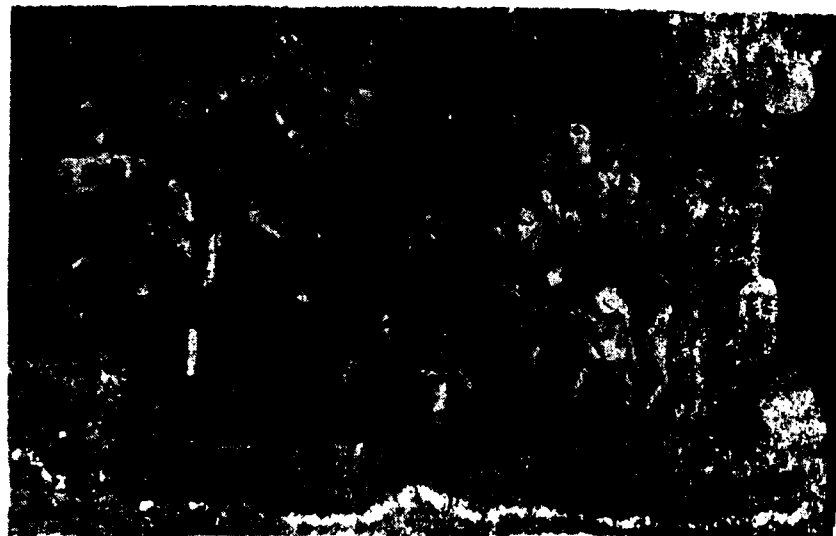
Recent excavations at Arrikamedu in Ariyankuppam Commune four miles south of Pondicherry have thrown some light on the existence of a textile factory the industry for which India was famous in foreign markets in early centuries.

Excavations at the village of Madagadipattu about 5 miles west of Pondicherry reveal the existence of a temple, one of the little gems of Chola architecture. In Bahome Commune, 12 miles south of Pondicherry, a Sanskrit College was reported to have been functioning during the Pallava period. There is also a temple of Srimulanadhar built during the middle of the tenth century A.D.

The statues of Joan of Arc the valiant heroine, of Dupleix, the General who commanded the destinies of the French army are worth seeing. There is a Ganesa temple which commanded respect from the French citizens—the deity is known as Manakkela Vinayagar.

Despite the French rule here, Indians have continued to enrich Indian art and culture. Sri Subramania Bharathi composed his most stirring songs here. Sri V. V. S. Iyer performed many a physical and mental feat. Sri Aurobindo laid the foundations of an enduring spiritual greatness. There is an ashram in Pondicherry which commands international repute.

Paradise for Tourists



Places of Interest in Tanjore District

The Tanjore district, the granary of the south, the home of Bharatanatya, lies on the east coast of Madras State. It is bounded on the north by the districts of North Arcot and Tiruchirappalli, on the west by the district of Tiruchirappalli, on the south by the district of Ramanathapuram and the Palk Strait and on the east by the Bay of Bengal.

The district owes its riches in so small measure to its physical characteristics. That nature makes man is nowhere displayed more truly than in Tanjore where the Cauvery delta has for centuries produced food crops in abundance and fixed in it the seat of culture and civilisation.

The Cauvery

The Cauvery which rises in the Coorg mountains, bifurcates about 9 miles west of Tiruchirappalli into two branches of which the northern takes the name of Coleroon and the southern retains the name of Cauvery. The Cauvery has dominated the life and thought of succes-

sive generations of Tamils. Its fertilising waters carried through a number of rivers, streams and canals irrigate thousands of acres of rice producing land.

The Cauvery is the world's most useful and beneficial river because it is the only river in the world which has established a unique record of 95 per cent of her flow fully utilised as against 60 per cent of the waters of Egyptian Nile which comes out the second best.

The coast of the district is studded with no less than eleven ports of which only a few are open to foreign trade. They are Tirumullai-vasal, Tranquebar, Nagappattinam, Velanganni, Topputturai, Point Calimere, Muthupet, Adirampattanam, Kodiyampalayam, Kattinmavadi and Nagore.

The sea on the Tanjore coast is said to have a tendency to encroach gradually on the land. It is said to have buried completely several feet underground the famous port of Kaveri-pumpattinam which was flourishing in the days of the Chola Kings.

The Tanjore country was for more than a thousand years the home of the Cholas. Later it changed hands to the Nayaks, the Maharastras and finally to the British. Tanjore district is studded with temples some of them are very big in size with towering gopurams on the four sides. The district is famous for its art works and handicrafts. Tanjore ornamental gardens and garlands of spices, richly engraved plates, pith works, toys etc. cannot fail to evoke the admiration of connoisseurs of art. Musical instruments made here such as the Veena and Thambura are of very high quality.

IN AND AROUND TANJORE

"The Grandest Temple"

Tanjore is the cultural centre of the Cauvery delta. It was the capital of the mighty Chola Empire which flourished between the 10th and 14th centuries. From the architectural point of view it is famous for the imposing tower of Brihadiswarar Temple. It is a magnificent monument to the power and glory of the Cholas. This was conceived by Raja Raja Chola (895-1016 AD) and built by his master architects.

This temple is the finest specimen of Tamil architecture. Remarkable alike for its stupendous proportions and for its bold simplicity of design



The Great Temple, Tanjore.

it is to this day a "thing of beauty and a joy for ever."

The main shrine stands rather at the western end of the courtyard and all around it are scattered mantapams and smaller shrines. Above it rises to a height of about 200 feet a most striking tower which is finely decorated with pillars and statues of various sizes. The basement of the structure which supports the tower is 96 feet square and the erection is capped by a single

block of granite estimated to weigh about 60 tons and believed to have been conveyed to the top up an inclined plane commencing from the village of Sarapallam four miles away.

This temple has excited the admiration of all archaeologists.

Ferguson remarked that "In nine cases out of ten, Dravidian temples were a fortuitous aggregation of parts arranged without a plan as accident dictated at the time of their erection and that the one great exception to this rule was to be found at Tanjore where the temple was commenced on a well-defined and stately plan which was preserved until its completion."

Of the smaller works inside the temple, the Subramanya temple and the colossal monolith figure of the bull Nandhi are particularly worthy of notice. The height of the Nandhi is over twelve feet, its length nineteen and a half and its breadth eight and a quarter feet. This bull chiselled out of a single rock is the second biggest in the country. This weighs about 25 tons.

The Sivalinga of Sri Brihadeswara the presiding deity, is probably the grandest and the biggest in existence. The Avudayar, the lower portion is 54 feet in circumference.



The Great Bull in Tanjore Temple.



Subramanya Swami Temple

and six feet in height and the "Banam" (upper portion) is 23 feet in circumference and 9 feet in height.

The Chola fresco paintings in this temple were discovered by Mr. S. K. Govindaswami of Annamalai University within the circum-bulatory corridor of the Arthaman-dapam. This discovery is an event of considerable importance in the history of South Indian painting.

On either side of the front entrance stand huge Dwarapalakas 18 feet high and 8 feet broad.

The Palace

The Palace at Tanjore which has seen a succession of dynasties and the Sangita Mahal built by Sarabhoji Maharaja are other attractions. The old palace is a very large and rambling collection of buildings suppos-

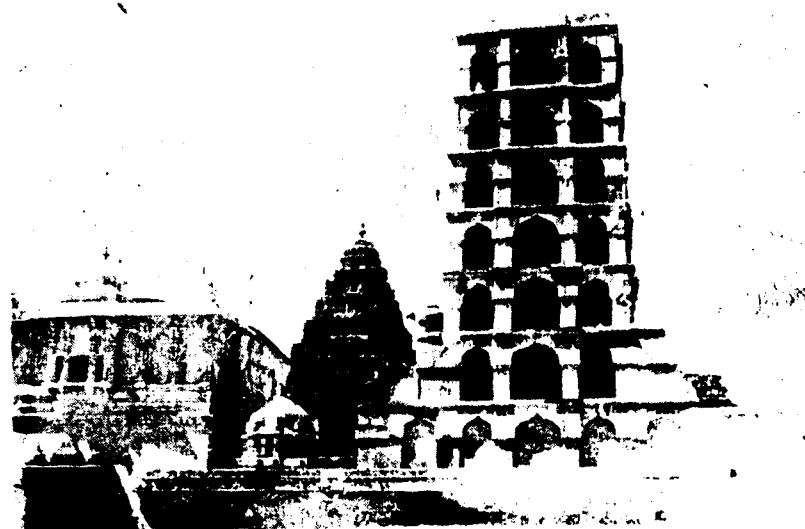
"THE GRANDEST TEMPLE"

According to the "Encyclopaedia Britannica Brihadiswarar temple is the "grandest temple" in India. This is the work of the master architects of Raja Raja Chola."

Nayaks and Maharastras. A fine statue of Sarabhoji can be seen in the former hall. In the Maharastra darbar hall there are large pictures of all Maharastra Kings beginning with Shahji. The Darbar wall and the surrounding portion of the palace buildings now house the Tanjore Art Gallery which was inaugurated in 1951. It contains 150 specimens of sculptural art in bronze and stone which are arranged in an artistic manner. It has been recognised by the Government as the Regional Museum.

Saraswathi Mahal Library

A large collection of rare manuscripts and books had been made by the Nayaks and Maharastra Kings. These are now kept in the Raja Sarabhoji Maharaja Saraswathi Mahal Library. The manuscripts are in Sanskrit, Marathi, Tamil and Telugu and relate to various subjects. The library is administered as a public trust by a committee appointed to have been erected by the Nayaks. Its chief sights are two darbar halls called respectively after



The famous Palace Tower.



The Palace. The statue is that of Sarabhoji Maharaja.

ted by Government. It has brought out several publications recently.

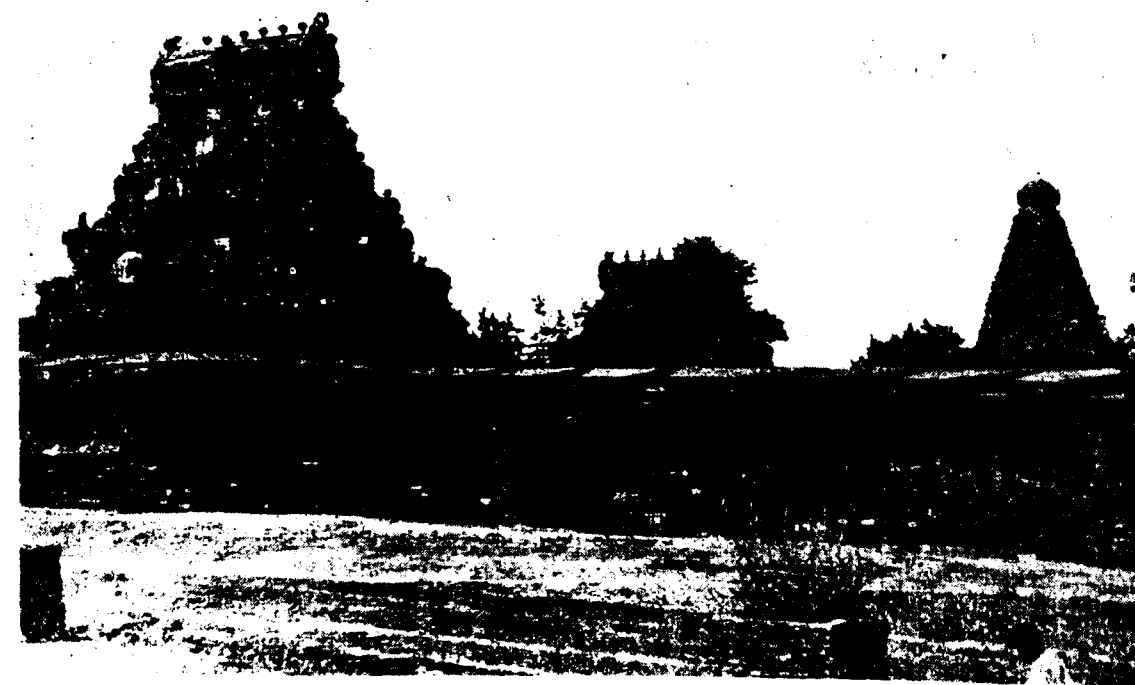
The origin of the library is worth mentioning here. Sarabhoji's most remarkable achievement was this

library. The bulk of it was built by him. He was not satisfied merely with existing works. He sent for other works, sometimes from very distant lands. He knew English, French, German and today

many valuable European first editions can be found in the library. Oriental languages like Persian are also represented by various books. But the greatest treasure in this library, whose resources have not yet been exhausted after more than 50 years of research, is its collection of manuscripts in Indian languages, like Tamil, Telugu, Marathi and Sanskrit.

The library contains more than 30,000 of these manuscripts, some of them very precious works and a few written in the rare, Tanjore script called "Modi" which was used by the members of the Maharatta royal household in keeping their accounts.

In the second-half of the 19th century the inventory of the library's manuscripts was begun. This work was carried intermittently for over 40 years. Today the catalogue is complete but a great deal still remains to be done in the way of collection, comparison and transcription. In 1918 Saraswathi Mahal became a Public Trust. In many a volume the royal signature is there to prove that Sarabhoji read most of the books he brought together and in odd marginal places one can see the comments in the royal hand.



Tanjore Temple Main Gate. The Fort and the moat can also be seen.

MODELS AND THEIR Prices

CARS

Hindustan Ambassador (South India Automotive Corporation Private Ltd. Madras, Khivraj Motors (P) Ltd., Madras, Reliance Motor Co. Private Ltd. Madras) and Associated Accessories Private Ltd. Kurnool, ex-plant Uttarpara ...	12,554 00
Standard Super Ten Saloon...	10,036 00
Standard Herald (Union Co. (Motors) Private Ltd.) ...	10,040 00
The Fiat 1100 Select (Sundaram Motors Private Ltd.) Ex-Factory ...	10,586 00
Willys C.J. 3B Universal Jeep ex-plant Bombay ...	12,621 00
Willys Model Station Wagon ex-plant Bombay ...	18,628 00
Willys 4-75 4 W.D. 118" Truck Chassis ...	13,108 00

MOTOR CYCLES

Royal Enfield (The Madras Motors (Private) Ltd.) -	
"150 Prince" (any dealer point in India) ...	2,078 00
"350 Bullet" with spring frame (any dealer point in India) ...	3,733 00
Royal Enfield three wheeler chassis ...	4,670 00

SCOOTERS

Lambretta, manufactured by Automobile Products of India Ltd. Distributors, South India Automotive Corporation Private Ltd., Madras. Prices are ex-Factory, Bhandup, Bombay.	
48 c.c. Scooterette ...	827 00
150 c.c. 'LD' Model Deluxe Scooter ...	1,800 00
New Vespa 150 cc Scooter (sold in Madras by Sundaram Motors Private Limited) explant Bombay ...	1,954 00

VANS

TEMPO Three wheeler Vans (Manufactured by Bachraj Trading Corporation Private Ltd. Bombay and sold by M/s T. V. Sundram Iyengar & Sons, Madras at Madras and Stanluc Services at Bangalore). Prices are ex-plant Bombay. Hansent ...	6,129 00
Delivery Van ...	8,118 00
Fricket Van ...	7,776 00

TRUCKS & COMMERCIAL CHASSIS

CHEVROLET

(Assembled at Hindustan Motors Ltd., Calcutta and sold at Madras by Rane (Madras) Private Ltd. and Reliance Motor Coy. (Private) Ltd. at Kumbakonam by Kasi & Sethu and at Madurai by S. G. Jayaraj Nadar & Sons). Prices are ex-plant Calcutta for Petrol Chassis.	
132 1/2" W.B. ...	20,563 00
156 1/2" W.B. ...	20,800 00
174 1/2" W.B. ...	21,300 00
196 1/2" W.B. Diesel ...	27,300 00

BEDFORD

(Assembled at Hindustan Motors Ltd., Calcutta and sold at Madras by Rane (Madras) Private Ltd., Reliance Motor Coy. (Private) Ltd. and Khivraj Motors (P) Ltd. Madras: at Kumbakonam by Kasi & Sethu, at Madurai by S. G. Jayaraj Nadar & Sons and at Kurnool by Associated Accessories Private Ltd.)	
167" W.B. Petrol Chassis ...	17,880 00
167" W.B. Diesel Chassis ...	23,842 00
216" W.B. Full Forward Petrol Chassis ...	19,430 00

LEYLAND

The ex-plant prices are:	
Leyland ECPO 2/1R-203" WB full forward control Passenger Chassis ...	35,690 00
Leyland COMET ECOP 2/2R-176" WB Full Forward Passenger chassis ...	35,260 00
Leyland Comet ECOS 2/2R 163" WB full forward goods chassis ...	34,400 00
Leyland "Comet" ECOS 2/2R 118" WB full forward Tipper chassis ...	34,185 00

TATA BENZ

(V.S.T. Motors Private Ltd. and Pandyan Automobiles Ltd.) Tata-Mercedes-Benz. Diesel Truck and Bus Chassis L 312/42 165" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ...	26,380 00
L.P. 312/42 165" W.B. Full Forward Control Truck Bus Chassis ex-Works, Jamshedpur ...	27,350 00
L.P. 312-48 190" W.B. Full Forward Control Bus Chassis ex-Works, Jamshedpur ...	28,140 00
L 312, 36 142" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ...	26,045 00
LK 312/32 126" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ...	29,630 00

FARGO

Fargo (at Sundaram Motors Private Ltd.) Prices duty paid ex-factory Premier Automobiles Ltd., Kurla, Bombay.	
Fiat 1100 (5) 5.20x14-4 Ply Select BSW ...	10,586 00

DODGE FARGO PETROL TRUCK CHASSIS:

M & P series D200 - 116" (4) 7.00x 16 - 8 Ply ...	15,955 00
do do (4) 7.50x 16 8 Ply ...	16,194 00
do D300 - 126" (4) .00x 16 - 8 7 Ply ...	15,966 00
do do (4) 7.50x 16 - 8 Ply ...	16,205 00
do W300 - 126" Power Wagon chassis (4) 9.00x 16 - 10 Ply ...	22,569 00
KEW105 & 109PA6 - 165" w.b. load chassis (6) 8.25x 20 - 12 Ply ...	22,003 00

DODGE FARGO KEW DIESEL TRUCK CHASSIS:

105 & 109P6 - 165" (6) 8.25x 20 - 12 Ply ...	28,648 75
105 & 109M4 - 165" do ...	29,131 75

DODGE FARGO KEW DIESEL BUS CHASSIS:

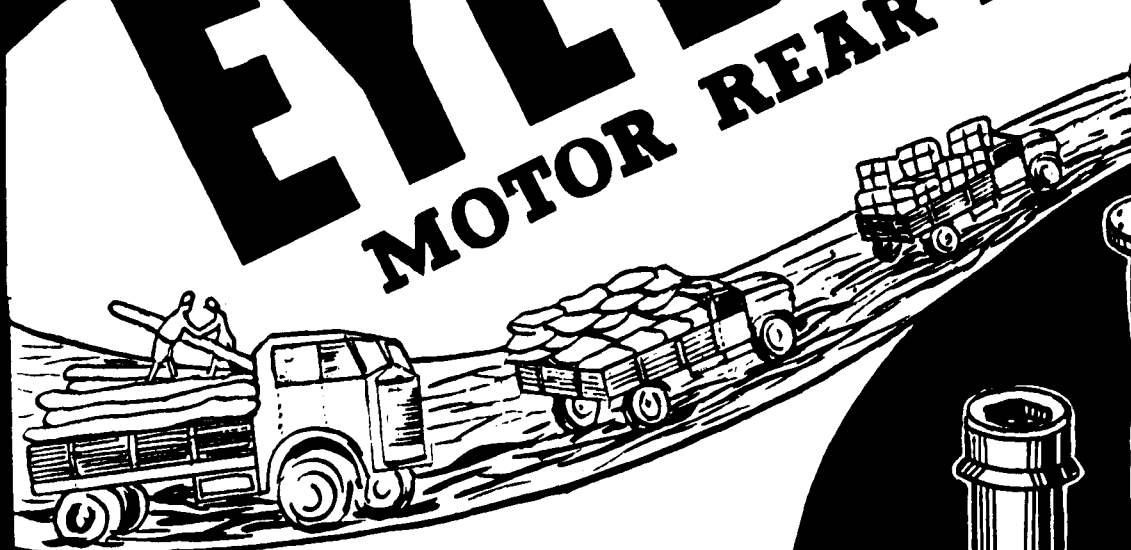
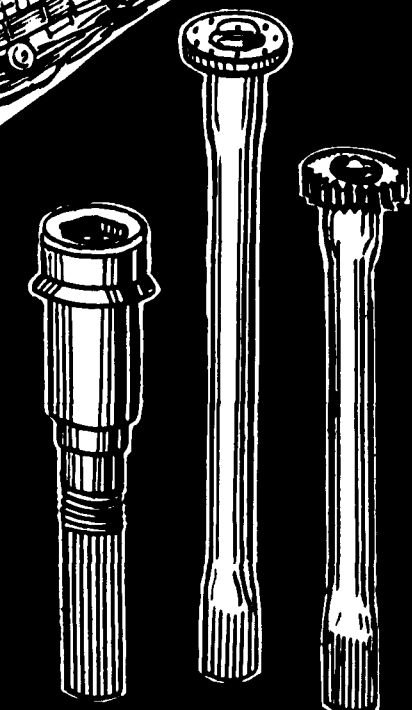
87 & 89 P6 - 190" (6) 8.25x 20 - 12 Ply ...	29,792 75
87 & 89 P6 - 142" (6) 8.25x 20 - 12 Ply ...	29,036 75
87 & 89 Deutz 190" (6) 8.25x 20 - 12 Ply ...	30,088 75
87 & 89 M4 - 190" (6) 8.25x 20 - 12 Ply ...	29,366 75
89 P6 - 206" (6) 8.25x 20 - 12 Ply ...	29,535 75
89 M4 - 206" (6) 8.25x 30 - 12 Ply ...	29,983 75

The prices and specifications are exclusive of taxes and are subject to change without notice.



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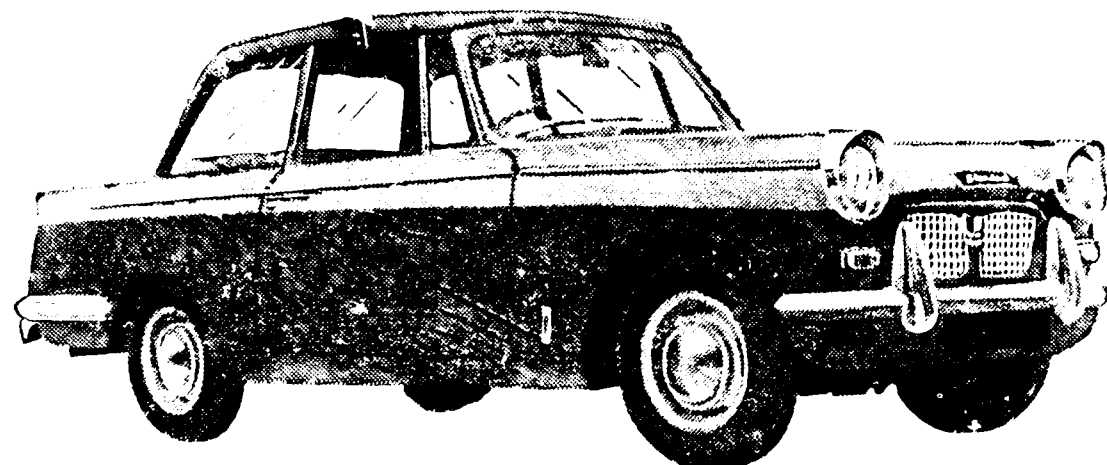
FACTORY AT BUNDALA, JULLUNDUR DIST.

SALES OFFICE: GORAYA, JULLUNDUR DIST.

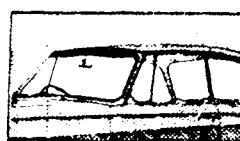
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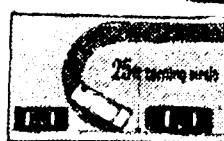
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