

Motor India
1960 - August
VOL - 5, NO - 11



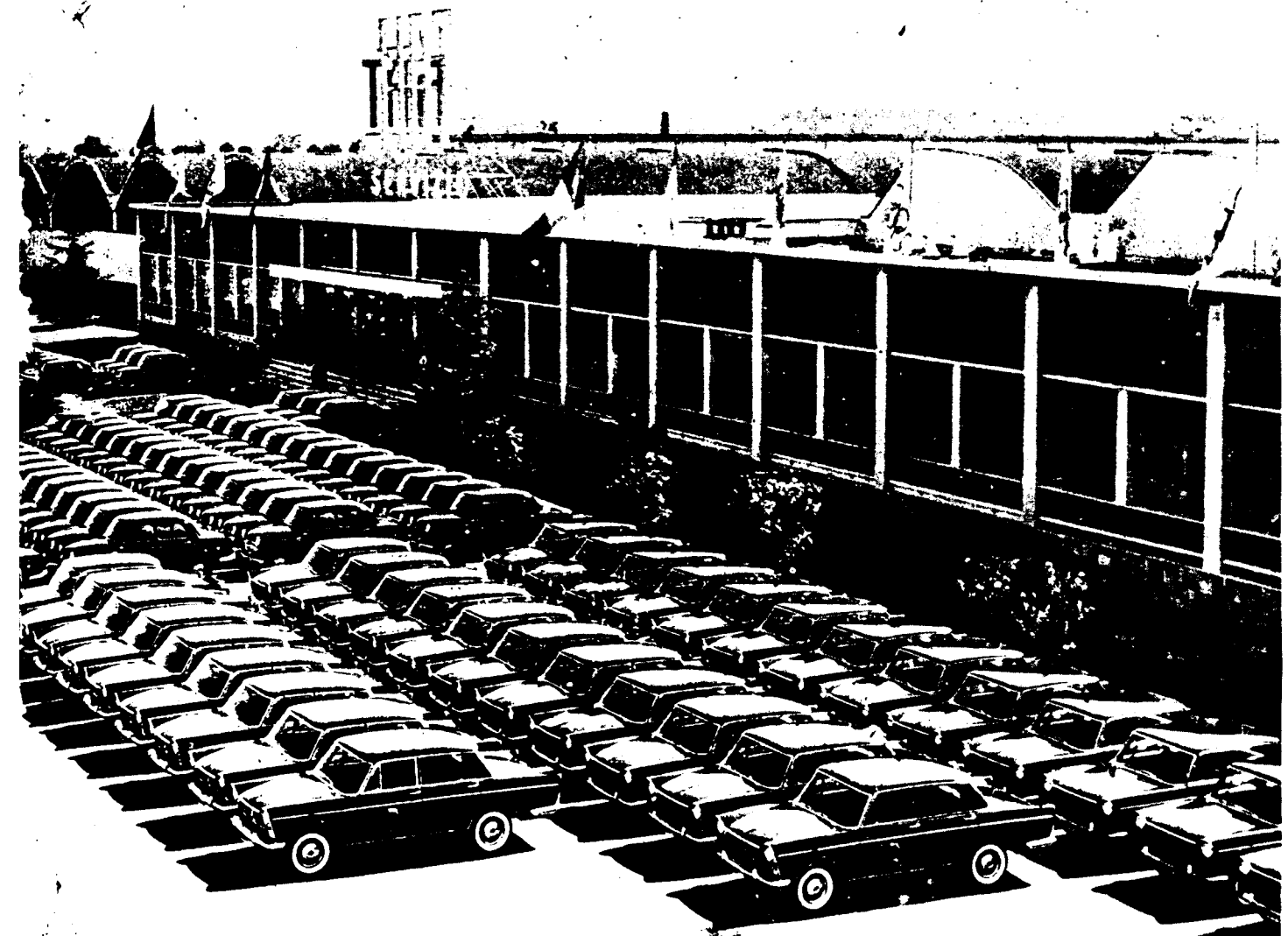
MOTORINDIA

VOLUME 5

AUGUST 1960

NUMBER 1

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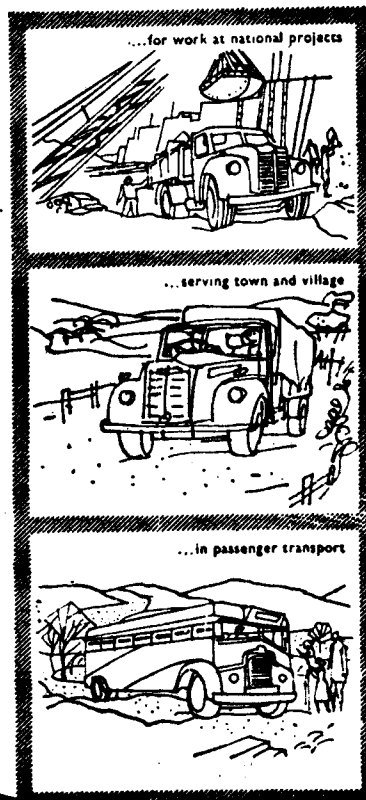
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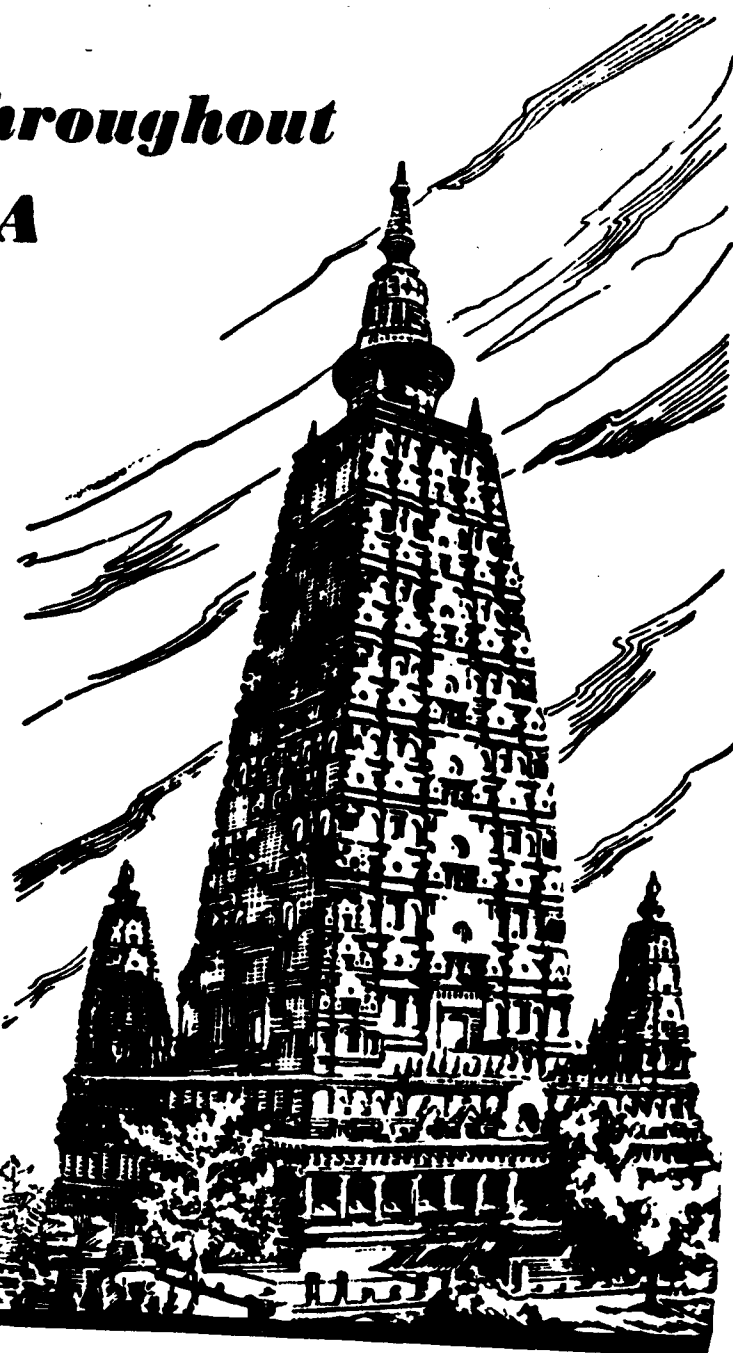
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Vol. 5

AUGUST

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Price Re. 1

Annual Subscription Rs. 10

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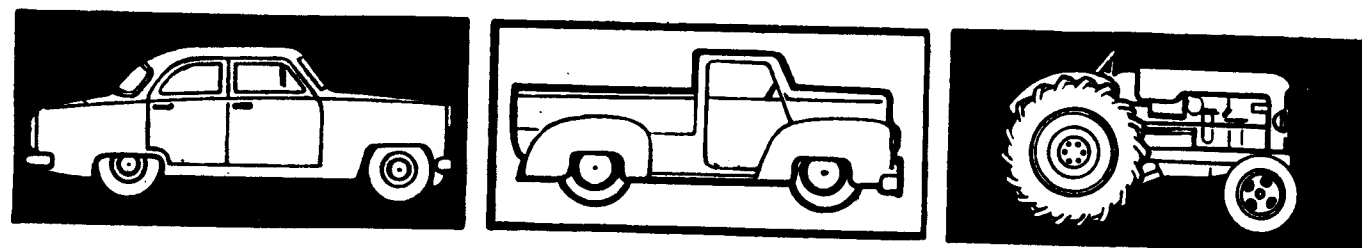
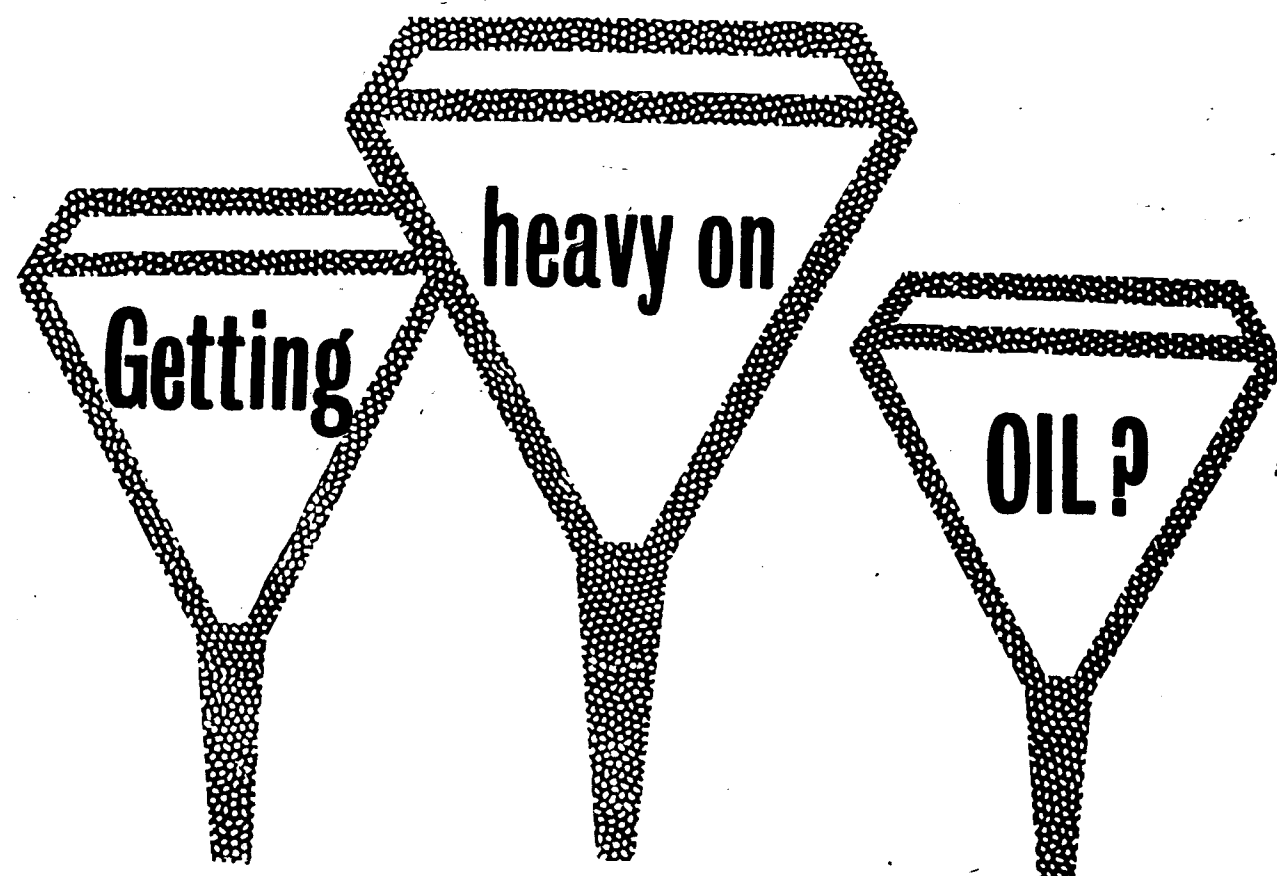
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editorial

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NO NEW UNITS, Please

A further inquiry into the local manufacture of a small car suited to Indian conditions is contemplated. But the Third Plan outline is concerned with expansion of the manufacture of commercial vehicles, not of cars. This is due to the Socialist slant, as also to the growing demand for road transport in the face of an absolute ban on imported vehicles. While the manufacture of tractors will raise fuel and oil consumption, the Government is evidently committed to the expansion of small manufacture in view of success achieved, and the existing companies' capacity to go forward and to secure additional capital for expansion.

The two shares, which are linked with truck manufacture, are held in high esteem. Both Ashok-Leyland and Telco shares are fancied by our investors, as shares with real growth prospects, because more steel can be got in addition to machine tools, as also more petrol at home. Output can rise easily to the installed capacity of 50,000 vehicles per annum.

The motor industry is now confident as more spares and accessories are being made locally and foreign associates are helping in local manufacture of magnetos, plugs and piston rings etc. Lucas is starting manufacture of horns etc. The battery industry too is growing stronger with age. Quality is equal to that of imported equipments and old firms like Forbes, Forbes Campbell have entered on new lines. The manufacture of special glass for motor vehicles is going to begin with Belgian aid, and the wheel and tyre project in Madras has the full support of Dunlop. Tyre cord is going to be made in greater quantity and the synthetic rubber project ensures abundance of raw materials needed for tyres in future at any rate.

The advent of scooters and mopeds of local manufacture will supplement motor cycle output. What the difference will be in relation to demand for small cars may only be guessed at present. But it is quite likely that the increase in vehicles may induce the States to modify taxation by accepting a single-point tax on transport. This was advocated by the Dalal Committee ten years ago to rationalise motor vehicle taxation by centralising the tax on fuel consumed and relating the tax paid to actual use of the road facilities.

The rational tax system is perhaps of less urgency than the allocation of foreign exchange for essential imports, as Ford's scheme for a single plant to produce tractors under exclusive ownership has not been accepted by the Government which demands Indian participation in any new scheme of manufacture.

New units are not called for in motor manufacture and concentration in existing plants is the major feature of the current programme with extra excise revenue in prospect, the Government view of the responsibility for further growth of the motor industry will change as many predict and the investment opportunities for many will be greater as anticipated by the Stock Exchange. The preference noted last year for motor shares is permanent, and it is significant that Telco leans already on TMB trucks and not on metre gauge locomotive manufacture. Trucks are decidedly more paying for the makers.

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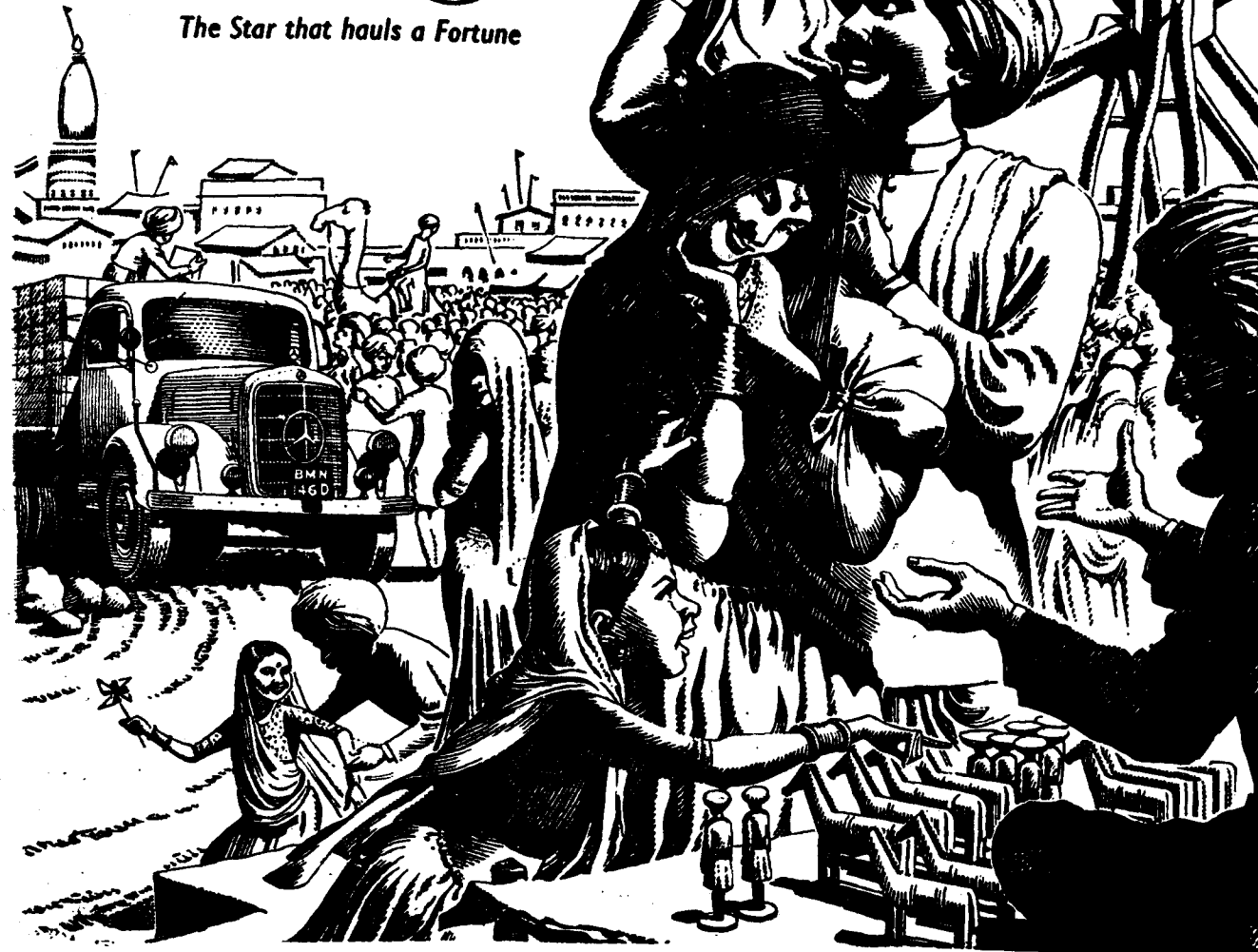
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Widening Scope for the Gas Turbine

The gas turbine's meteoric rise in aviation has provided a strong impetus to its use in other fields, especially for stationary duties, but also for sea, rail and road transport. Of the world total of over 500 non-aircraft turbines currently in operation, about 300, aggregating nearly 2 million H.P., are employed by the oil and natural gas industries in field work, refining, petrochemical plants, oil pumping and compressor stations. Notable features of recent developments are adaptations of aero-turbines for static use in pipeline service, and the combination of gas turbines with free-piston diesels in composite power plants for land installations, locomotive and marine propulsion.

The sweeping advance of aircraft jets and turbo-props since the war has inevitably dwarfed the gas turbine's progress in other fields, though it was in terrestrial uses that this type of prime mover made its debut well before it entered the aviation scene. Indeed, the aircraft turbine could hardly have made such rapid strides had the way not been paved by the earlier pioneer work on gas turbines for stationary power generation and locomotive propulsion. But the wealth of experience gained from the design and operation of many tens of thousands of aero turbines is, in turn, now being increasingly exploited in opening up new possibilities for gas turbines industrial and transportation uses.

Industrial Applications

Gas turbines for driving electric generators, centrifugal pumps, compressors or other rotary machinery, have been employed for many years in various industries. In oil and natural gas operations they are used in field work, in refining and petrochemical production in oil pumping and gas compressor stations. Pipeline companies in particular are now turning to gas turbines on a fast growing scale. For instance, Texas Eastern in the United States, which five years ago did not employ a single gas turbine in its gas transmission systems, has since equipped a score of stations with gas turbines, some of which develop 13,000 h.p. Of eight new compressor stations now under construction for Trans Canada Pipeline, six will have natural gas turbine-driven compressors—the first to be used in a Canadian pipeline system. A particular advantage of gas turbines in pipeline service is their suitability for unattended, remote-controlled operation.

It is estimated that in the oil and gas industries alone about 300 gas turbines, aggregating nearly 2 million h. p., are at present in operation throughout the world. This is over half the total of more than 500 stationary, portable, locomotive and marine gas turbines currently in use. Output ratings range from about 50 h. p. to multiple sets of over 50,000 h. p., and still larger plants are being projected. Notable among the countries planning a big expansion of gas turbine power is, inter-

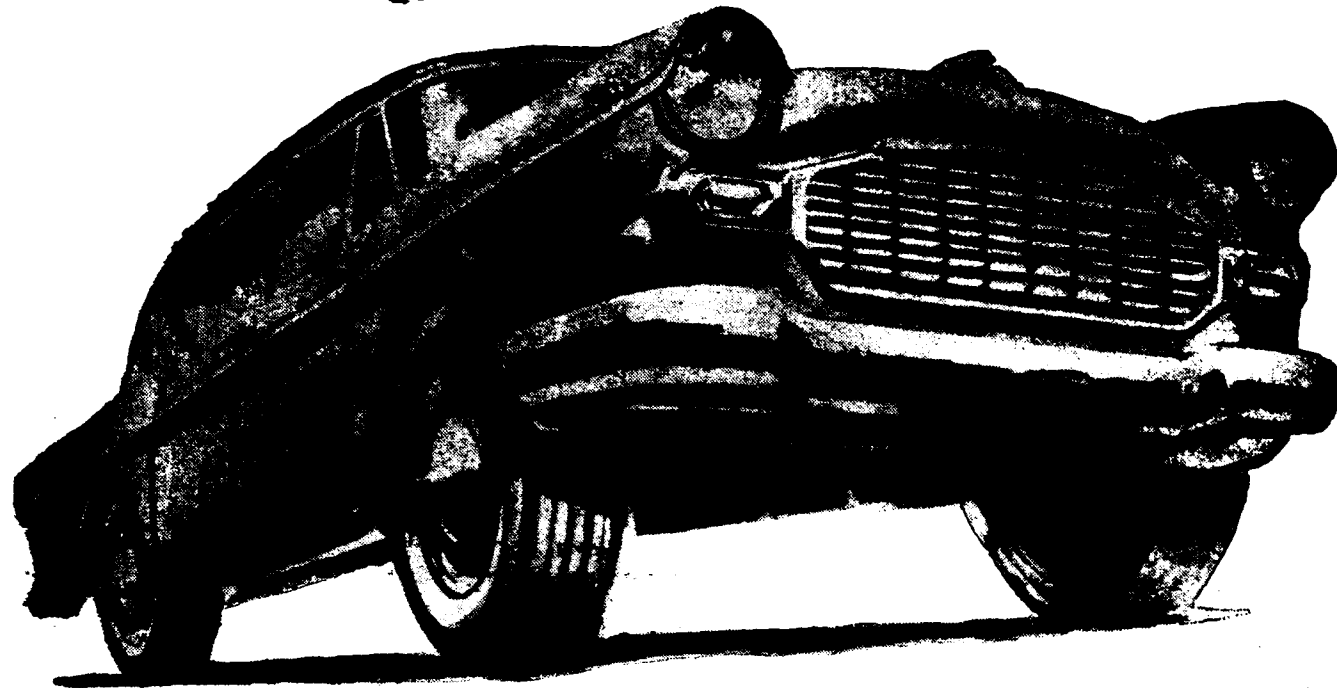
alia, the Soviet Union, where the installation of several new gas turbine power stations with capacities ranging from 100,000 to 300,000 k.w. each is envisaged under the present Seven-Year Plan.

The fuels burned in stationary gas turbines include crude, distillates, residuals and natural gas. In order to improve the inherently moderate thermal efficiency of the conventional gas turbine, many of the larger and high-powered units are equipped with heat exchangers, in which part of the exhaust heat is recovered for pre-heating the intake air before its entry into the combustion chambers. But these devices not only complicate the design, operation and maintenance of the plant, but also add considerably to the size and weight of the whole installation. In the case of aircraft turbines, where the overriding need for lightness and compactness of the propulsion unit rules out the use of heat exchangers, other means of cutting down fuel consumption have been found, for example, by use of higher combustion pressures and operating temperatures, improved control of the gas flow through by-pass ducts, etc.

Aero-Turbines for Stationary Use

Various leading manufacturers of gas turbines have directed their efforts in recent years to modifying some of their well-proven aero jet engine models for industrial uses, so that the fruits of the great progress made with aircraft turbines may also be more fully exploited in other fields. Two pipeline companies in the U. S. A., which so far have been using large conventional gas turbines or reciprocating gas engines, are already planning the experimental installation of small high-speed aircraft turbines, adapted for natural gas burning, for driving compressor stations in their gas transmission lines. It is anticipated that the fuel economy of these engines will about equal that of present-day conventional gas turbines with heat exchangers, while capital, operating and maintenance costs will be substantially lower. As these aircraft-type turbines are much smaller and can be accommodated on lighter foundations than conventional stationary turbines or reciprocating gas engines, they can be easily removed as a

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whole and replaced by complete spare units in case of major repairs.

An added attraction for adopting aircraft turbines for static uses is the possibility of operating them on natural gas, which is an excellent turbine fuel. While gas turbines can, of course, also burn all kinds of liquid fuel, from light and middle distillates to residuals, the heavier grades are not universally accepted—and would most certainly be rejected for aircraft-type turbines—because of the problems of corrosion and ash deposition arising from the presence of sulphur, vanadium and other metallic elements in most residual fuels. Though their adverse effects may be lessened by pre-washing treatment of the fuel and the use of additives, or by limiting combustion temperatures, such expedients either increase the costs or lower the efficiency of engine operation.

Economic Key Factors

The use of inexpensive fuels has long been recognized as the key to speeding the gas turbine's advance into industrial fields. That its progress in aviation was never retarded by similar considerations is chiefly due to the fact that the advent of the turbo-jet and turbo-prop at once introduced entirely novel concepts of flying speeds, power and high-altitude performance,

which gave these newcomers from the outset a vast superiority over piston engines. In virtually all other uses, however, the gas turbine faces the competition of a variety of long-established and will proven alternative sources of power, such as steam turbines, diesel engines, thermal and hydro-electricity. In contrast to its unique potentialities in aviation, its prospects in other spheres of transport or in industrial applications rest mainly upon its economic advantages over rival forms of prime movers, rather than on outstanding feats of physical performance.

In thermal efficiency, a modern gas turbine with heat exchanger about equals a comparable steam turbine, while in its independence of any outside source of heat generation and its instantaneous availability for use it shares the advantages of all internal combustion engines over steam power. However, boilers readily burn the cheapest grades of residuals or low-rank coals, whereas gas turbines are more fuel-selective and as already pointed out, generally better served by the more refined types of liquid fuels. So is, of course, the diesel engine—and, indeed, to a higher degree—but its unrivalled thermal efficiency largely compensates for its more discriminating taste. On the other hand, a diesel is a heavier and more complex piece of machinery than a gas turbine, which converts the fuel

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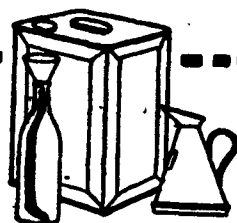
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7	31.8	80	363.7	7	1.54	80	17.6
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Alternative to Rail Diesels

When the gas turbine was still in its infancy, those virtues were first regarded as so greatly outweighing its shortcomings in thermal economy as to offer a potential challenge to diesel power in the transportation field. This possibility was soon put to the test on the railways, where diesel traction was initiated in the U. S. A. and in Germany in the early 1930s. Already at the turn of that decade, a prototype gas turbine locomotive was placed into experimental service in Switzerland, whose engineers have from the outset taken a prominent part in pioneering work on gas turbines for stationary and rail uses. Various types of gas turbine locomotives have since been developed also in Britain, France, Sweden, the Soviet Union and the United States, but so far only one U. S. railroad, the Union Pacific, has acquired a substantial fleet of gas turbine locomotives for permanent use. Elsewhere, only a few units have been built, and fewer still have been retained in operation.

Evidently, the main obstacle to any wider adoption of gas turbines for rail traction is their prohibitively low thermal efficiency at the frequent load fluctuations that are inevitable in most rail services. The use of specially pretreated low-cost residuals has generally not proved sufficient to reduce fuel costs to acceptable proportions. Nor has it been found practicable to cut consumption rates by the installation of heat exchangers, as this is mostly ruled out by space and weight limitations in locomotives. Only in locomotive operations at continuously high load factors can gas turbines successfully hold their own against diesels. That rather exceptional condition is, however, met in the case of Union Pacific, which runs its gas turbine locomotives solely on long-distance freight hauls over the Rockies. Since 1952, this company has brought into service about 40 gas turbine locomotives of 4,500 and 8,500 h. p. each, and has 30 more on order.

Automotive Uses

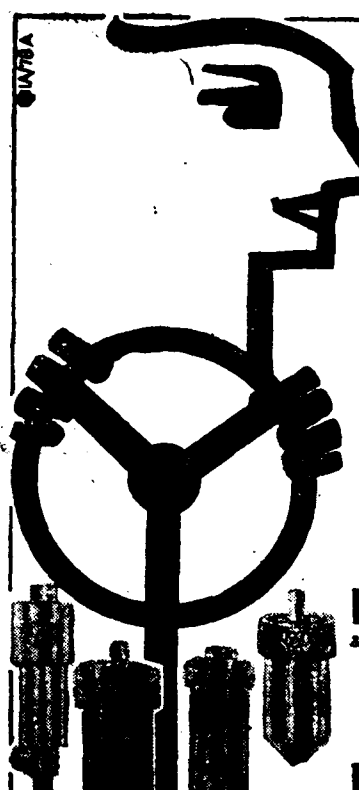
The early 1950s saw also the first gas turbines in road and marine transport. In the former field, over a dozen motor manufacturers in Europe and America have since been experimenting with gas turbine-powered cars and lorries of their own makes, but none has so far come forward with production models. Though some of these automotive gas turbines achieved

in test runs reasonably good fuel consumption with the aid of small regenerative heat exchangers, their power outputs—ranging from 125 to 370 h.p.—appreciably exceed the average needs of road transport. The types so far developed should, therefore, be more readily adaptable to use in heavy commercial vehicles for long-distance transport, which also offers better scope for prolonged engine running at high loads, at which the gas turbine is thermally more efficient than at part-loads.

It is worth noting, however, that Ford in the U. S. A. is at present evolving a new type of automotive gas turbine, consisting of a low-pressure, low-speed section supercharged by a very small high-speed turbine. This engine embodies two burner stages and heat exchangers. The company has also developed a special technique for forging all turbine blades into the rotor hub in one operation, thereby eliminating the need for fine-machining and fitting. Ford believes that the new turbine, when fully developed, might prove competitive with small automotive diesels in both first cost and operating economy.

Marine Propulsion

The use of gas turbines for driving ships has long attracted the interest of marine engineers. The British



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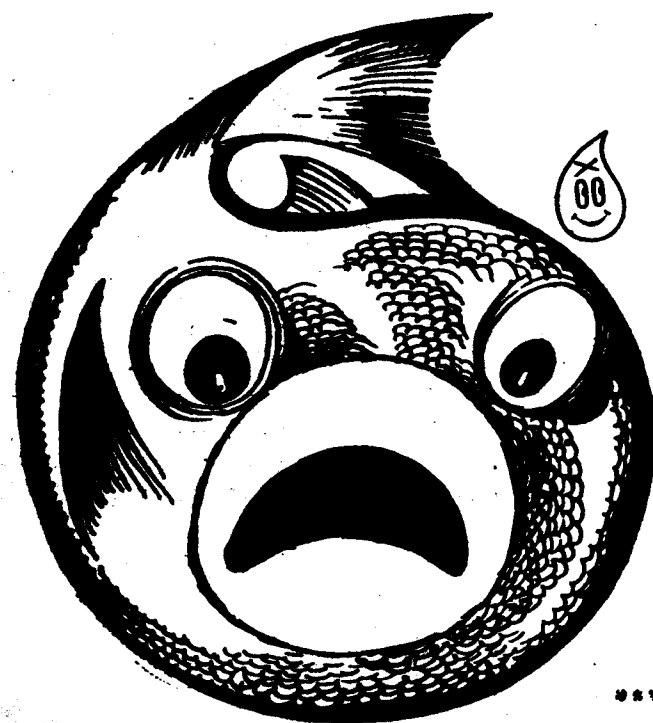
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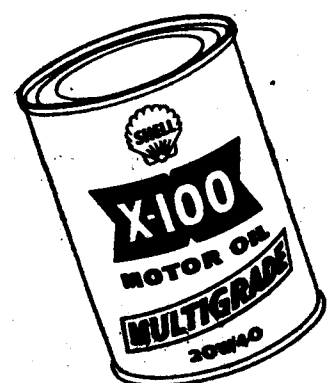
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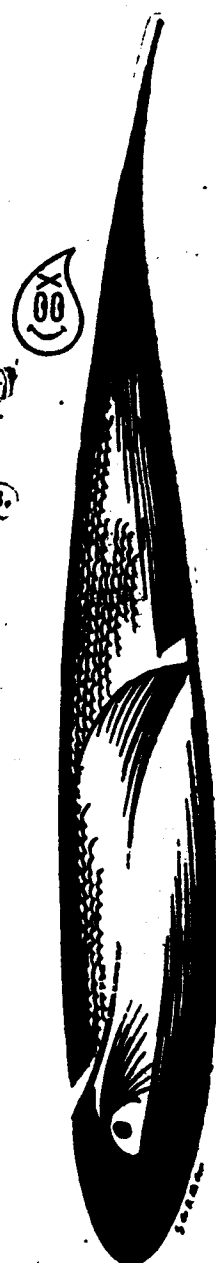


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Admiralty, which already in 1947 put a 2,500 h. p. aircraft-type gas turbine in a gunboat, has since equipped a number of other small naval craft with high-speed gas turbines. Most of these are operated in conjunction with gasoline and diesel engines or steam turbines, to give extra power for peak requirements, but more recently the Royal Navy has also adopted gas turbines, based on turbo-prop aero engines, as sole propulsion units for a new class of fast patrol boats.

Shell took the lead in installing a gas turbine for the first time in a sea-going merchant ship, when in 1951 it substituted a 1,200 h.p. gas turbine with heat exchanger for one of the four original diesel-electric engines in its 12,000 d.w.t. tanker *Auris*. Encouraged by the promising performance of the turbine, the company later displaced the whole propulsion machinery of the vessel by a single 5,500 h.p. gas turbine with heat exchanger and mechanical gear transmission. The conversion was completed last year, but after extensive sea trials of the new propulsion machinery, the ship was recently laid up. Shell has no plans for equipping any other tankers with gas turbines. Though the thermal efficiency of the *Auris* unit about equals that of a comparable steam turbine, and maintenance costs may possibly prove to be somewhat lower, this latter advantage is not considered sufficient to offset the higher capital costs of a gas turbine of that particular design.

Shell's experience seems to be confirmed by the results of an American experiment with the U. S. Liberty ship *John Sergeant*, whose original reciprocating steam engine was replaced some years ago by a 6,600 h.p. gas turbine, under a broader programme of the U.S. Maritime Administration for re-equipping several Liberty ships with different new types of propulsion systems. In contrast to the *Auris* turbine, which has so far been mostly run on diesel fuel, the gas turbine in the *John Sergeant* burned mainly low-vanadium bunker-C fuel oil in three years' trial operations of the vessel on North Atlantic trade routes. At the conclusion of these tests, it was reported that the turbine blading was found virtually free of corrosion and ash deposits, but this was attributed only to the careful pre-cleaning and desalting of the residual fuel and to the liberal use of inhibitors. The continuous attention to be given to this fuel treatment was described as the only special problem arising from the use of residuals in maritime gas turbines.

Free-piston Gas Turbines

In another of the converted Liberty ships, the *William Patterson*, old propulsion machinery has been displaced by a so-called free-piston gas turbine, i.e., a combination of a free-piston diesel gas generator with a simplified turbine. Free-piston or crankshaftless, diesel engines have long been employed through-



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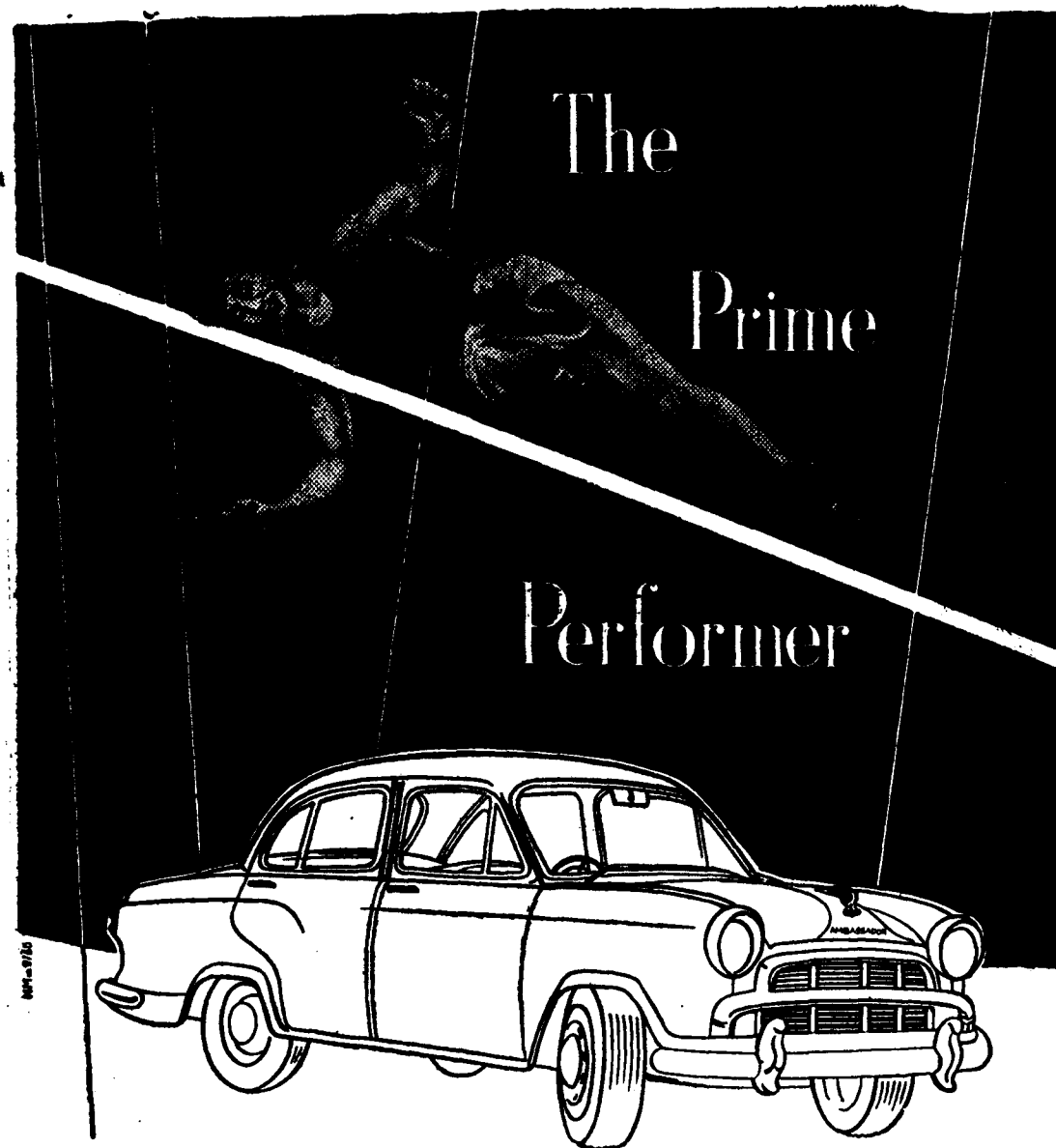
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out the world as air compressors, mainly for pneumatic tools. More recently, however, their functions have also been extended to producing compressed gas for gas turbines. As a turbine receiving its supply of feed gas from such a free-piston gasifier needs no built-in rotary compressor and combustion chambers, it can be much smaller and of simpler design than an ordinary gas turbine; it also requires less expensive construction materials because of the lower temperatures at which it operates. By linking multiple units of free-piston diesel gas generators with a single turbine, high power outputs can be achieved. Under suitable conditions, the overall thermal efficiency of the composite plant may closely approach that of a diesel engine, over which it has, however, the advantages of greater lightness and flexibility in plant layout, and of accepting a wider range of fuels, including heavy residuals. On the other hand, the free-piston turbine combination will generally take up more space and involve greater complications in piping.

The development of the free-piston turbine, which owes much to the pre-war pioneer work of the Societe des Auto-Compresseurs Pescara in France, has made considerable headway in the past ten years. Between 400 and 500 plants of this kind, ranging from a few hundred h.p. to multiple sets of several thousand h.p., are now in service or on order in many parts of the world. Totalling nearly a quarter million h.p., they are chiefly used for electricity generation, oil and water pumping, compressor plants, and other static installations, but have also been variously applied for traction purposes and ships' propulsion. About half a dozen free-piston turbine locomotives of different types have been produced in Sweden, France, the United States and the Soviet Union. In the U.S.A., free-piston turbine units have likewise been experimentally evolved for potential use in farm tractors and road vehicles.

In the marine field, free-piston turbines were first adopted in the mid-1950s for a number of French minesweepers and two small commercial coasters. But since then half a dozen more ships, either converted or newly built for British, German, Dutch and U.S. owners, have been equipped with this type of plant, and another 15 or so are on order. The largest marine units so far projected are 16,000 h.p. free piston turbine sets intended for installation in French Navy frigates.

Despite the, at present, evident preference for free-piston over straight gas turbines, the free-piston engine's greater attractions for marine uses have as yet been proved only partially under practical conditions in the few ships already equipped with such machinery. The performance of that installed in the *William*

Patterson has so far fallen particular as regards fuel consumption have been found well above the mark. But the advocates of the free-piston with growing experience in its design and with vessels and propulsion systems outset for its use, this type of composite eventually prove competitive with marine diesel and steam turbines alike.

New Vistas

No doubt, the combination of gas turbines with different types of prime movers might also open up new promising possibilities in other fields. A significant pointer in this direction has been the recent re-equipment of Britain's experimental Hovercraft with a dual-propulsion system. This air-riding amphibious vessel was originally powered only by a single aero-piston engine, producing both the supporting air cushion and the propulsive energy. Now its cruising speed has been greatly increased by installation of an additional aircraft turbo-jet engine to give supplementary forward thrust. At this very early stage of development, the designer's ultimate choice of power plant, or engine combinations, for this revolutionary crossbreed between land, water and air vehicles, is still unpredictable. But as a hovercraft relies for both lift and forward motion solely upon the action of air jets, gas turbine power in one form or another may well be destined to play an essential part in paving the way for this newly emerging medium of transportation.

Meanwhile, the current design studies of turbo-jet-ram-jet combinations for supersonic transport planes, and the recent spectacular advances in the development of downward-facing, deflectable turbo-jets for vertical take-off and landing (V.T.O.L.) aircraft, are fresh reminders of the still wide scope for extending the use of the gas turbine to novel applications in the realm of aviation—the very field in which this type of prime mover first rose to world-wide fame.

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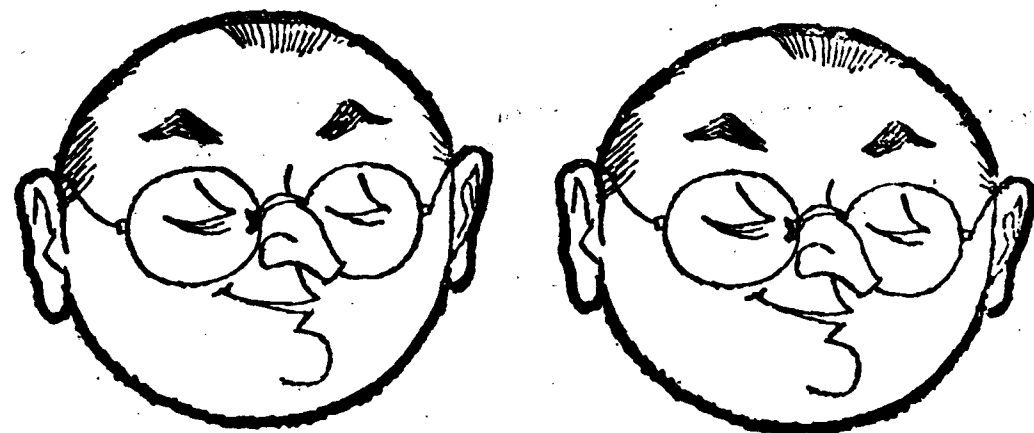
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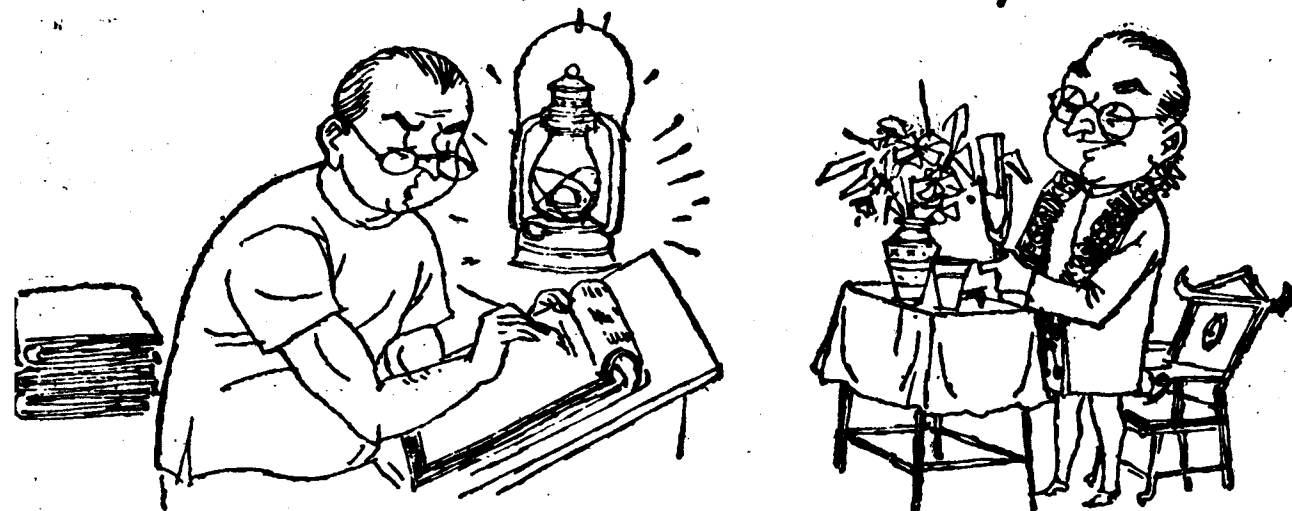
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Accidents WILL Happen

Even when men (and women) are at the wheel

By A. Holden

None of us, whether we are a car owner, a driver or, are merely a pedestrian, likes to hear of road accidents, particularly a serious one, or ones that affect our immediate family, friends or associates.

But with so many cars on the roads, it behoves every one of us at all times to exercise the utmost care when driving to avoid accidents, be they of our own or other people's making. We should be alertly apprehensive of possible danger, to prevent disasters occurring to ourselves and to others.

At any time day or night

For many years now I have been analysing road accidents and endeavouring their cause and why they occur, and if there are general remedies that can be applied to them. Unfortunately, road accidents occur at any time of the day or night, and know no limits as to place or person.

Statistics continuing to show a rise in traffic accidents, it is of interest to note that many reported accidents have been of a bizarre or unusual nature. But some of them might have been avoided if due care, consideration and continued attention to the job in hand, and to the rule of the road, could have been displayed.

Make headline news

Women, no less than men, have been at the receiving end of many such odd accidents, as either drivers, passengers or onlookers. But as there are fewer women drivers these times, mishaps that have affected them are always bound to make headline news.

For example, in 1956, so startled was the motorist whose wife gave birth to a baby as he was driving her to hospital in San Francisco that he lost concentration and consequent control of the vehicle. The car struck a tree, and while his wife suffered only slight bruises, a passing doctor thankfully provided medical aid for the husband, the wife, and the new-born child!

Grudge against husband

In the same year, a woman living in British Columbia, Canada, claimed "mistaken identity", after she had sped along the highways of that part of the country,

and bumped into two police cars. She later maintained that the cars driven by the police looked like those belonging to her husband, against whom she appeared to have a grudge.

However, luck was one time certainly with a woman in Munice, Indiana U.S.A., who, falling on an ice-covered street, beneath the wheels of another car, escaped death by inches. She was not run over, but was pushed along the slippery surface of the road by the car's wheels, but suffered only cuts and bruises.

All lost their lives

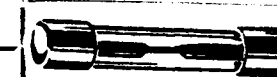
Three years ago tragedy struck a Canadian family, returning from a day's outing, when travelling in Keswick, at 45 miles an hour during a wind storm, a 70 feet high elm tree was suddenly blown across their car. The father, mother, two sons, a mother-and-



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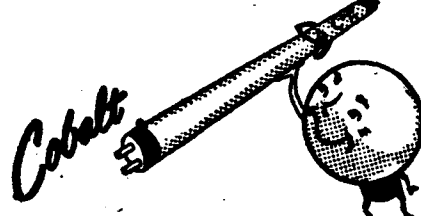
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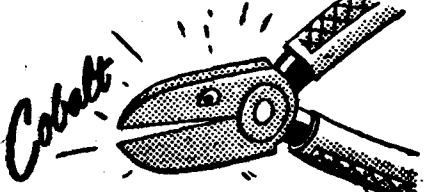
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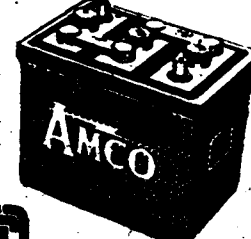
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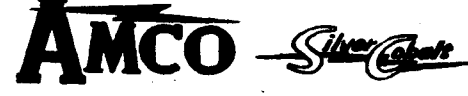
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father-in-law and a nephew, lost their lives in the mishap.

But another time, a husband in Jacksonville, Florida, struck at the car window of the vehicle being driven by his wife. In fright, the woman drove away, and the husband gave chase in another car, to try and explain his "humour". But the wife's car crashed into another car at an intersection, killing her.

Honeymoon Tragedy

Last year, 1959, several minutes after leaving on her honeymoon, a woman and her husband in a northern N.S.W. town in Australia, were involved in an accident. They had travelled only 250 yards in their tourer car, when it struck another at a street corner—and right outside an ambulance station at that! The husband was admitted to hospital, while the woman escaped with shock.

Then during 1949, in Regina, Canada, a lady driver's car skidded into a lamp post. Knocked unconscious by the impact, she would have frozen to death in the 16 degrees below temperature, had not a fire alarm been set off by the crash!

An American film actress was a passenger in a car that in a town near Naples, Italy, recently knocked down 30 people, who had mobbed her when she stopped for petrol at a garage nearby. Her co-driver fearing for her person, when the people began pushing and tearing at her clothing, jumped into the car, which shot forward into their midst. Only one to suffer injury was a 13-year-old girl.

Fiancee Killed

A woman was injured and her fiancee killed, when the car they were driving struck a bitumen tanker in New Zealand last year. The woman had just been with her fiance to purchase an engagement ring. Apart from severe shock, she suffered acid burns and severe head injuries.

But another time a woman sheltering under a shop awning in Sydney, Australia, in a rain storm, was knocked to the ground by the flying wheel which had fallen from a passing motor truck. The wheel had ran

and threw the woman through the windshield, fatally, a second time.

In a Colorado Court, U.S.A., a man was fined £ 5 for following in his car too closely behind the car in front of him which was driven by his wife. She, meantime, was acquitted of the charge of making a sudden stop, and for failing to give the proper signal.

A man, in Victoria, during 1959, after being involved in an argument with a woman friend, when blows were struck, was taken to court, after it was claimed he tried to run her down with his car. He had driven his car at her as she ran along the footpath, but it stalled. Nevertheless, he was charged with assault with a weapon, "to wit a motor car, and with unlawful assault."

A brave act was carried out by a young woman, in a town in northern N. S. W., Australia, last year, when she successfully stopped a 5 ton runaway truck, with a 2 year old boy as its only passenger. She struggled with an unfamiliar hydraulic brake system, after she had chased and caught the speeding truck—and drew it to a stop "as we were heading for a line of shops."

But a young woman, driving a car in Passaic, New York, not many years ago, made to kiss her male companion while making a turn, but as a result of "insufficient attention" (to either or both acts) the car mounted the footpath and knocked down a fire alarm. This in turn called the fire brigade and emergency trucks, while a burglar alarm in an adjacent store went off and called police. Seriously damaged, her car had to be towed away.

Near Bell N. S. W. Australia, a motor car crashed down a 200 feet high cliff, and the woman passenger climbed back to the road and hailed a passing van, which went for police and ambulance assistance. However returning to the scene of the accident, the van itself ran off the road down a 300 feet embankment and seriously injured its two occupants.

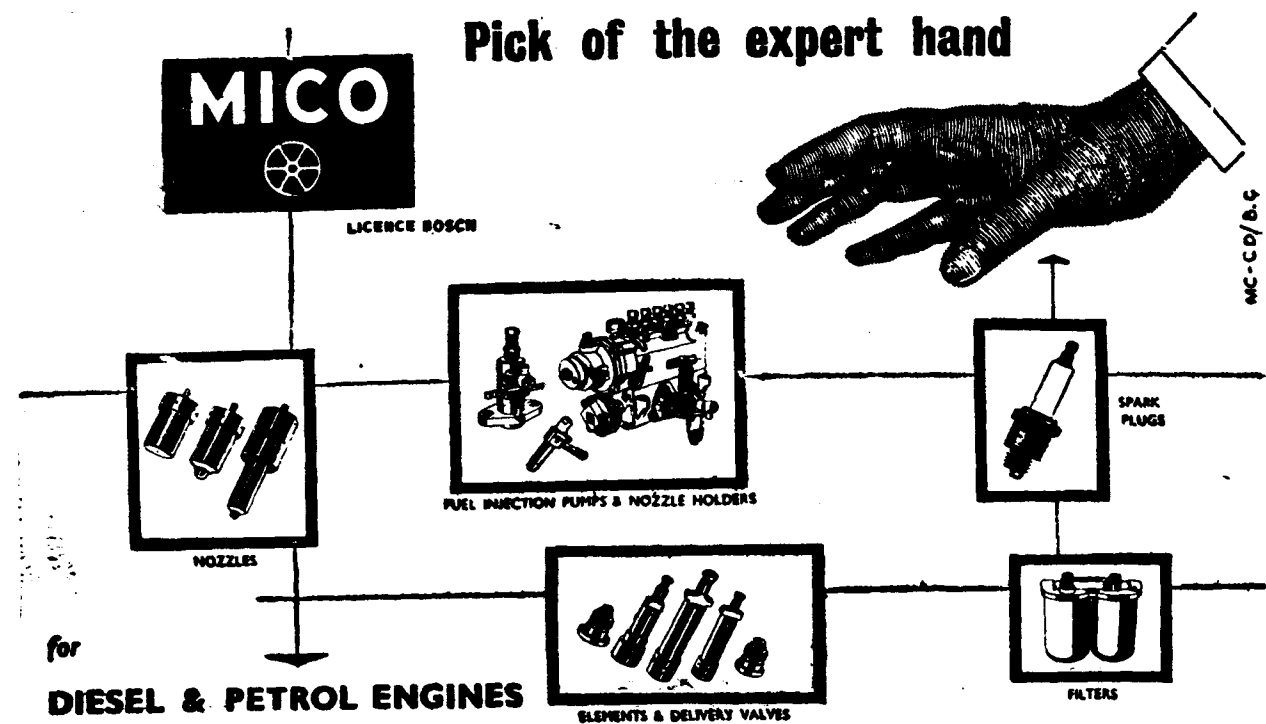
A woman in Boston, U.S.A., met her death when during an accident, she was hurled through car windshield twice. The car she was driving hit a tree, hurling her through the windscreen. The driver of another car carried the injured woman to his vehicle

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along the road, mounted the footpath and knocked the woman's feet from beneath her.

A Michigan, U.S.A., couple had a lucky escape from more serious injury, when late one night while asleep in their bedroom, a car struck the house. Still in their bed they woke to find themselves in the front yard, uninjured—but the driver of the car—a woman—had to be treated later for shock.

Meanwhile, in 1950, a London woman was trapped beneath a car for an hour after the car her husband was backing knocked her down. Her hair became entangled in the propellor shaft, and ambulance men had to cut it away before she could be released.

Something similar happened to a Queensland woman driver, whose dress became enmeshed in the gears of the car, as she was tending to the gears on the floor of her car. As the gears and propellor shaft moved, she was drawn tightly down on the floor of the car. She was released from her embarrassing predicament, when her dress was cut away.

Another woman, watching out of curiosity, a burning trailer in Vallejo, California, was killed by a bullet which, evidently in a drawer within the trailer, exploded with the heat, pierced the walls and hit her.

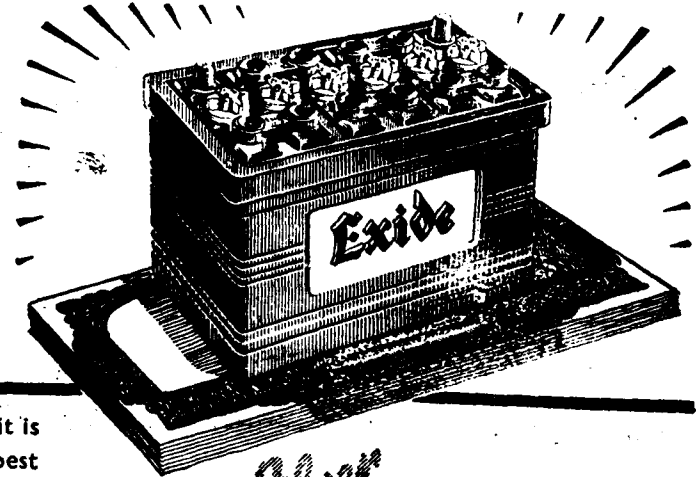
In an English town some time ago a mouse caused a car crash, when the creature was seen by the woman, (sitting next to her husband,) at her feet. The woman screamed, threw her arms around her husband's neck, and as a result the car swung off the road, mounted the footpath and hit a brick wall. The couple, both injured, were taken to hospital, while the mouse escaped.

While crossing a road in Dublin, Ireland, a man jumped out of the way of an approaching car on another occasion, and collided with a woman stepping off the kerb. The woman sustained a broken arm, and the man was later sued for £ 68 damages. "Pedestrians have to be careful of other pedestrians," said the Judge.

In 1951, a man, living in Massachusetts, U.S.A., had been turned down by his girl friend after he had proposed to her. So, with her in the car, he drove head-first into a telephone pole. "O.K. you asked for it!" he is reported to have said as he lined his car up for the the accident!

Another time a sudden wind squall in a Sydney suburb ripped off the bonnet of a passing car and sent

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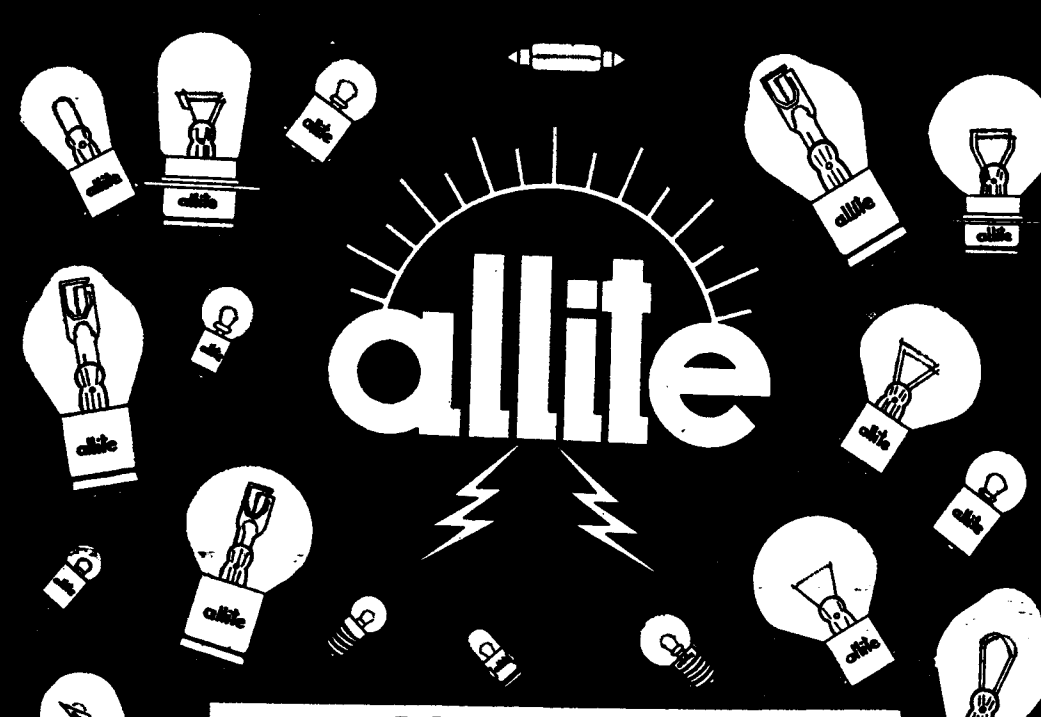


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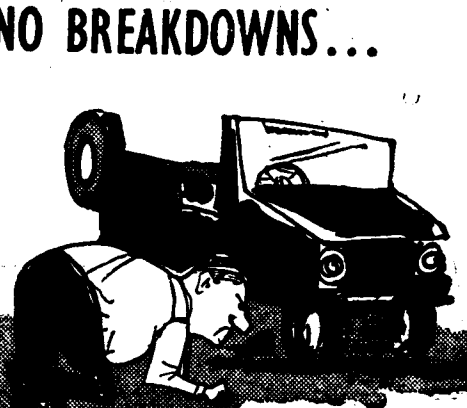
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it hurtling against the side of a nearby tram. The passengers were showered with broken glass and one woman was seriously injured.

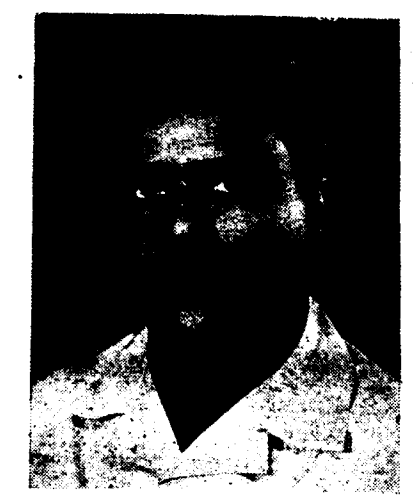
So whatever you do—kindly give a thought for the “little woman” she who drives a car and does so capably, confidently and with due care and courtesy; and likewise the woman or girl who may be a passenger in your car, or who might have habitual cause to be a pedestrian.

Treat them with respect and consideration, and we won't have so often to use them in our accident statistics and surveys. Women, as drivers, seem to receive a lot of criticism, much of it unwarranted, while as pedestrians they have been described as being “scatterbrained” and thorny-tles.

Now, come on men, give the ladies a break, and also a brake! And, girls! Watch your steps!

The
Late

Mr.
BALU



The hand of death, we regret to record, snatched away Sri V. Balasubramanian, Partner, The Eastern Agencies, Automobile Dealers & Importers, 24, Sri Narasimharaja Road, Bangalore 2, on Friday, the 15th July 1960, at the young age of 40; after a brief illness.

V. Balasubramanian (popularly known as Balu, brother of Sri V. Kunjitapudam of Madras) has lived a glorious career in the Auto Parts Trade for nearly two decades and has acquired a host of friends and admirers, both in the business and social field. He was a man of generous disposition, admired by all his friends. His readiness to help others in distress has always been outstanding. His friends and well wishers would surely find a gap, hard to fill. May His Soul Rest In Peace.

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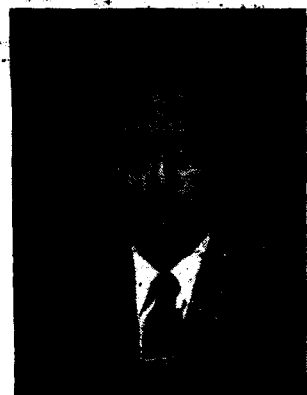
SERVICE MANAGEMENT TRAINING PREMIER'S TEAM FOR ITALY

THE Premier Automobiles have sponsored a course for training the service personnel of their Dealers in various administrative duties connected with their post. The course will be held in Fiat factory in Italy and will last for three months.

The first batch of trainees selected from various dealers whose photographs appear on this page, left for Italy on 2nd September. They

will cover many subjects during their stay in Italy including customer handling, planning of work, controlling repair costs, following work through various shops etc.

The present training course is restricted to the Service Personnel of the Dealers. A training programme for the Fleet Owner's Service Personnel is already in operation; the first batch has returned to India after completing the course.



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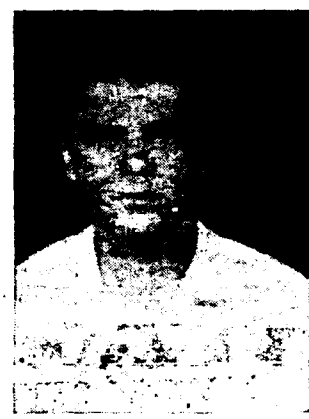
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Asst. Service Manager, Messrs. Narbheram & Co. Ltd., Jamshedpur.



Mr. D. K. BUCHIA
Technical Service Supervisor, The Premier Automobiles Ltd., Bombay.

FIRESTONE SALES DIRECTOR VISITS SOUTH



JL
DL, 30/2/1962
H. S. 1



Mr. G. T. Warner Sales Director of Firestone Tyre & Rubber Co., recently visited South India renewing old contacts and establishing new contacts with dealers in this area. At Madurai Mr. Warner was given a grand reception by the parts dealers who are members of the Tamil Nad Motor Parts Dealers Association. The picture above shows Mr. N. Kannayiram, R. A. President of the Association welcoming Mr. Warner.



Mr. Warner is seen replying to felicitations by the Dealers at Madurai.

Mr. K. V. P.

Rao

For

U. S. A.



After Completing his education in Hindu High School, Triplicane Madras, he took up service under Firestone in Oct. 1925. He served as a salesman upto Aug. 1933 when he was promoted as District Manager of the Madras District Office. Under his able management, the Madras Branch made rapid strides in business. In recognition of his long and valuable service to the company, in Jan. 1953 he was made the Manager of the Southern Division controlling the offices located at Madras, Bangalore, Cochin and Vijayawada (later on shifted to Hyderabad.) In May 1953 he was sent to U. S. A. for advanced training with the parent factory at Akron and also for studying the latest administrative and merchandising methods. The company has again sent him now to U.S.A. for extensive management orientation and liaison work. He left Madras on the 7th Aug. 1960 and Bombay on 8th by the A. I. I. Boeing, en route to U.S.A. After spending about 6 weeks in the United States of America, he will visit U.K. and the Continent and return back to Madras in Dec. 1960. Mrs. Rao also is accompanying him in this foreign tour.

M-7

Warner Entertained By Tamilnad Dealers



A section of the large number of dealers who attended the dinner held in honour of Mr. G. T. Warner.

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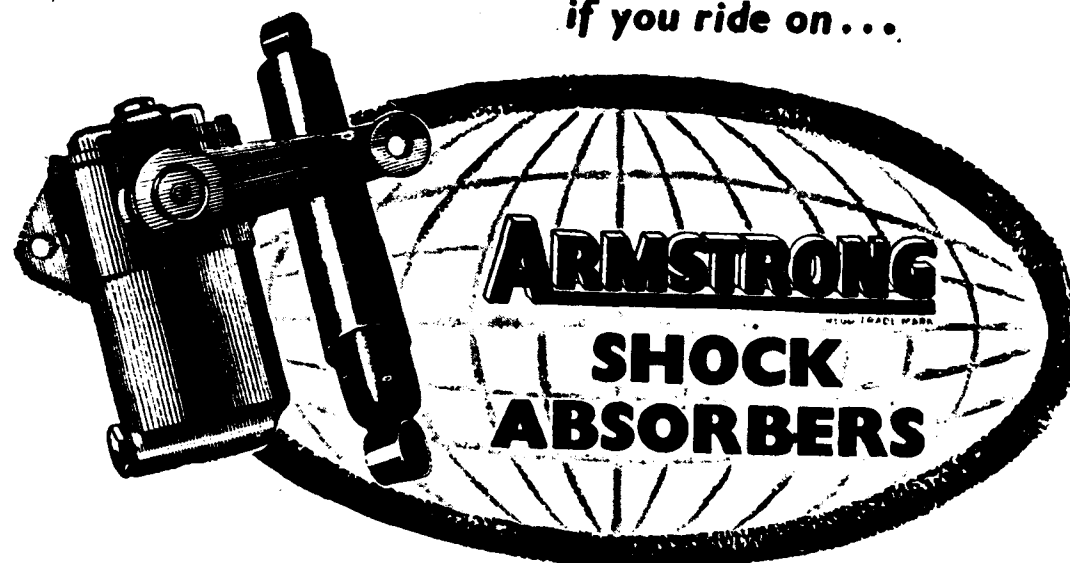
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SRI. S. V. B. ROW, PRESIDENT OF THE FEDERATION OF INDIAN AUTOMOBILE ASSOCIATIONS ADDRESSING AN ANNUAL GENERAL BODY MEETING AT BOMBAY IN JULY APPEALED TO THE CENTRAL GOVERNMENT FOR MORE GRANTS AND ALLOTMENTS FOR ROAD DEVELOPMENT IN THE THIRD FIVE YEAR PLAN.

He continued :—

The formation of this Federation is the consummation of a long cherished goal of having a central co-ordinating body, on an All-India level, representative of Automobile Associations, functioning on a regional basis. The Federation is the vehicle of common expression, for all the associations, in matters of common concern, such as taxation and transport policies, promotion of tourism, both domestic and foreign, motor vehicle law and customs regulations applicable to the import and export of motor cars, automobile and gasoline prices etc. The Federation is, therefore, a definite stage in the growth of motoring in the country, and I am glad its advent has been welcomed and blessed, not only by the Government of India but also by foreign associations such as the Automobile Association, London, the Alliance Internationale De Tourisme etc.

not only to its members and the larger motoring public but also to the country as a whole.

The development of motoring automatically leads to the development of the country, for the motor car makes its impact on various facets of the economic, social, political and cultural life of the country.



Mr. S. V. B. Row

Very much behind other countries

The development of motoring however, presupposes certain indispensable conditions, of which two of the most important are, the provision of an adequate road system inter-linking towns and villages and State and State an ever expanding automobile industry equipped with the resources and technical skill to keep the wheels of motor transport moving all over the country. Taking the question of roads, there is no gainsaying the fact that of late there has been a new awareness of the need for and importance of an adequate road system but many of us wonder whether the pace of its progress cannot have been made quicker than at present. In spite of all the progress made so far, which I think is substantial, what with the two Five Year Plans which have raised the road mileage to more than the Nagpur Plan target of 3,31,000 miles, our road system is very much behind other countries. According to one estimate, per 100 square miles, Ceylon has 38 miles, but India has only 25.

A mere drop in the ocean

Of the 3,79,000 miles of roads we will be having at the end of our Second Five Year Plan, the surfaced roads will be only 1,44,000 miles and even of this only one-third will have asphalt or

Plays a Significant Role

Our Federation is thus born under extremely favourable auspices and it is my firm conviction that in the years to come it is destined to play an important role in influencing and directing the automobile movement in our country. The automobile movement, as you all know, has revolutionised the 20th century and in the crusade against poverty and wants launched under our dynamic Prime Minister, in the form of the three Five Year Plans, this movement is bound to play a far-reaching role in the economic regeneration of the country. It is for this reason we say, 'Develop Motoring: you develop the country' for, whether you look at it from the point of view of production, distribution and consumption, the triumvirate of modern economies, or from the point of view of the defence of the country or for that matter from any angle of constructive endeavour, which contributes to a country's prosperity and strength, you will always find the automobile playing a silent but significant role which perhaps is unexcelled by any other single contrivance. The Federation which is born with the avowed object of developing motoring in India is, therefore, a welcome development, for, it has immense scope to be of service

August 1960



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concrete surfacing. Realising that the progress achieved so far is totally inadequate, a Twenty Year Plan of road development has been drawn up by the Chief Engineers of the States which seeks to raise the total road mileage to 6,57,000, nearly double our present mileage. The total cost of the Plan is Rs. 5,200 crores to be implemented on a phased basis, the expenditure during the Third Five Year Plan being estimated at Rs. 590 crores. As against this, the total allotment proposed for roads in the Third Five Year Plan is Rs. 250 crores which considering the over-all outlay of the Plan of Rs. 10,200 crores is a mere drop. It is difficult to understand why the question of roads has failed to claim that attention which its importance deserves. What arteries are to the body, roads are to the country and they are, therefore, vital life lines of the community. I would, therefore, appeal to the authorities concerned to consider the possibility of raising the allocation, for road expenditure is investment which yields rich dividends.

Progress not so Rapid as Promised

Another important factor which contributes to the development of motoring is the availability of vehicles at reasonable prices. The automobile industry has been in existence for nearly a decade now but, I am afraid, due to frequent shifts and changes in policies, its progress has not been as rapid as promised from time to time. The automobile industry is a key industry which, from the experience of other countries, we can boldly say, is indispensable for progress in all directions, both in peace as well as in war. The economic life of modern countries largely revolves round this industry and if we want to be prosperous, if opportunities of employment are to be raised, if mechanical skill is to be fostered, if ancillary and subsidiary industries are to be developed, it is obvious we should do everything possible for its promotion. Unfortunately, our vehicle density per mile of road is only one whereas it is 25 in the U. K., 21 in the U.S.A., 7 in Canada, 8 in Ceylon and 13 in Malaya. At present the production is about 12,000 cars a year against an estimated demand for 20,000 and the target tentatively proposed for passenger cars in the Third Five Year Plan is 30,000.

Considering the population and size of the country the target of 30,000 cars per year at the end of the Third Five Year Plan appears to be inadequate especially in the context of the increased economic activity due to the Five Year Plans. Already low production and the ban on imports have between them contributed to scarcity conditions and a buyer has to wait, in some cases for more than a year, before he can get a car allotted in his name. And in the case of used cars purchasers sometimes have to pay more than what such



Photo taken at the Meeting of the Council of the Federation of Indian Automobile Associations shows, left to right Shri K. G. Subramanian, Hon. Secretary, Shri S. V. B. Row, President, Shri Babubhai M. Chinai, Vice President, Shri P. L. Vohra, Shri H. N. Ghosh, Shri D. S. Pande (Members of the Council), Shri Ramdas, Secretary, A. A. U. I., Shri J. J. K. Patel, Secretary, W. I. A. A.

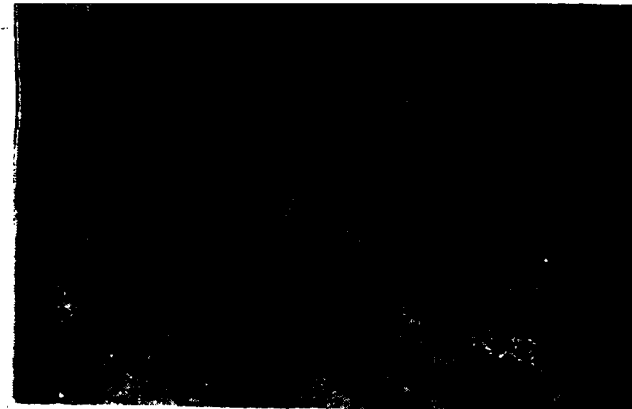
vehicles cost originally. I wonder why the Government is so indifferent to the hardships of the consumers whom they find very handy whenever additional revenue is to be raised by taxation. Personally I feel that they can do a lot to alleviate the sufferings of the consumers:

1. By adopting a long range policy for the growth and development of the industry and its ancillaries which should be religiously followed unaffected by ministerial changes.
2. By ensuring the co-ordination of the different units engaged in production so as to pursue a common policy in the purchase of raw materials and the absorption of indigenous ancillary products.
3. By giving high foreign exchange priority for the industry to increase its productive capacity and for the import of essential materials and
4. By reducing taxes, lowering the prices and enabling the industry to stimulate the demand.

These are a few of the measures which are bound to promote the healthy growth of the industry and incidentally aid the elimination of the evils of scarcity conditions which present today. A healthy automobile industry helping to keep the wheels of transport moving is a *sine qua non* for the development of motoring. It



Photograph taken at the recent conference of the Distributors of M/s. Payen-Talbro Private Ltd., at their Factory shows from left to right, Mr. O. N. Talwar, (Allied Motors Private Limited Delhi) Mr. Mahinder Dewan, Sales Manager, Payen-Talbro, Mr. W. N. Talwar, Managing Director Mr. D. P. Desai (central Automobiles), Mr. G. W. S. Vertannes, (James Warren & Co. Ltd.) Mr. R. N. Talwar, Sales Director, Mr. N. Krishnamurti (Speed-a-way Private Limited) Mr. V. Marwah, (Allied Motors).



Payen-Talbro distributors seen in the board room in conference, above, are M/s. V. Marwah, N. Krishnamurti, Mr. O. N. Talwar, Mr. W. N. Talwar, Mr. R. N. Talwar, Mahinder Dewan and Sreedharan.

CONFERENCES & VISITS



New upsetting machine erected in P. A. Shri V. M. Meswami, General Manager of the Premier Automobiles Ltd., performing the Pooja of the new upsetting machine erected in the Forge Shop of the Company. The advantage of this machine over drop-forging hammer is that it produces parts economically without "flash" and with correct "grain-flow", and also in greater quantity. This reduces the amount of machining and hence the cost of production.



Mr. L. P. Misra, General Manager of M/s. Hindustan Motors, is seen with Mr. J. Perinayakam and Mr. J. Thangadurai when he visited the Kodaikanal Motor Union Private Limited recently.



Sri. Chinnubai Kilachand is seen discussing some interesting points, in the picture on the left with Mr. L. L. Narayan, when he visited the Engine Valve Factory at Alandur recently. In the picture on the right Mr. Chinnubai is seen examining the finished product-Tranco valves being stocked in the production room.



is for this reason I say that the future of motoring in India is wedded to the automobile industry.

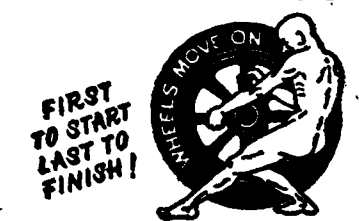
Paradoxical Situation

An equally potent force so far as motoring is concerned is the Government's taxation policy. The principles of motor vehicle taxation which are based on pre-war notions need radical transformation in the light of the great role which we expect the motor vehicle to play in the context of the prevailing conditions. There is centralisation and uniformity so far as the railways, the airways and sea transport are concerned but in the case of motor transport there is a fragmentation of authority and a bewildering variety of rules and regulations differing in scope and implications as between the different States. Of course it is granted that this paradoxical situation is a legacy of the past handed down to us by our previous masters but what passes comprehension is why in the case of motor transport there should be such discrimination? Why should a motor car have to pay one type of tax say in Bombay and another type say in Madras and why should there be difference in the quantum of tax and its methods of collection. And to add to the confusion, there appears to be no reciprocity as between one State and another for a vehicle taxed in one State and going into another State must pay tax to the latter State and claim refund for the unexpired period from the former. Apart from these handicaps the present constitutional position applicable to motor transport leads to a conflict of interests between the Union Government and the State authorities, for while the latter view the subject from their respective angles, the Union Government has to look at it from the point of view of the larger interests of the country as a whole. To mention an instance take the question of laying a ceiling on motor vehicle taxation at 75 per cent of the present incidence in the State of Madras, which has been agreed to at the Conference of State Transport Commissioners held at Mussoori and subsequently discussed and approved at various meetings between the States' representatives and the Central Government, has not made any appreciable progress although many years have passed since the proposal was first mooted. It is obvious that the Union Government, has not been able to convince the State Governments on the wisdom of falling in line with a common approach which, if it has not achieved anything, has at least drawn the attention of the public to the need for the Centre arming itself with the necessary constitutional sanction to implement its accepted principles. In the evolution of uniform principles of taxation and the methods of collection as also in the simplification and standardisation of the rules and regulations applicable to the operation of motor transport, there should be recognised certain basic funda-

mentals which should be above arguments or amendments. It is such a constitutional machinery that I envisage if motoring and motor transport are to grow and make their due contributions to the development of the country.

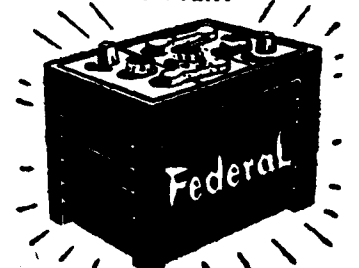
Revise Price Structure

Apart from a radical change in the constitutional set up as applicable to motor vehicles, I think the time has come when motorists should demand a reduction in the selling price of petrol. How is it that the consumer is denied the advantages of the proximity of oil wells, the establishment of refineries, the exploitation of indigenous oil wells and the voluntary surrender by the Oil Companies of the rebate allowed to them so far as the selling price of petrol is concerned? Recently the Government is reported to have persuaded the Oil Companies to forego the rebate they were enjoying on the Import Duty amounting to Rs. 19 crores per year. There are reports in the last few days that the Oil Companies have decided to reduce the crude oil prices but the consumer is nowhere in the picture. The Central Excise Duty and the States' Sales Taxes have steadily gone up in the last ten years and to-day they represent about 55% of the petrol selling price. Besides here is also an import duty. While I realise that the execution of the Five Year Plans require all sources of revenue to be tapped, I feel that without affecting the revenue the levies on petrol can be reduced, for by lowering prices, consumption will be increased, with resultant addition to revenue. In any case the price structure needs an impartial scrutiny so that some benefit may flow to the consumers. I am, therefore, glad that the Government of India have appointed a Committee under the Chairmanship of Mr. K.R. Damle to inquire into the price structure of petroleum products and I earnestly hope that some benefit will accrue out of this enquiry to the consumers.



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August 1960

**ARRIVALS &
DEPARTURES
- INTERNATIONAL**



Mr. D.S. Narayanan of Telco, who has been deputed for an 8 weeks study tour of the Daimler Benz Factory in Germany and the main Mercedes-Benz dealership on the continent, recently left Bombay by air for Germany. Photo above shows Mr. Narayanan along with his colleagues and Telco Dealers. Below: Mr. Narayanan being garlanded at the airport.



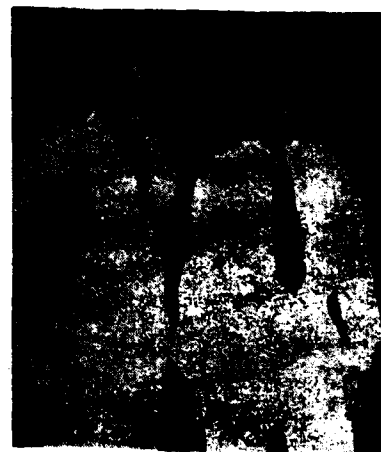
Mr. N. W. Dewdney of Burmah-Shell, Bombay, receiving a farewell gift from Dr. R. Gonsalves who took over from him as his successor.



Mr. N.S.K. Sivamy, District Manager, Dunlop, Hyderabad, left for the U.K. by air recently for a four month refresher course with Dunlop associate factories in the U.K., France and Germany.



Mr. H. C. Mahindra, Director of Mahindra and Mahindra Limited accompanied by his wife and children left Bombay by Air India Boeing in August on a business-cum-pleasure trip to U.K., U.S.A.



Dr. M. Coppola (L) of Innocenti, left for Italy recently. He was seen off by Mr. J. Watsa, General Sales Manager of Automobile Products of India Limited.

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August 1960

Mr. P. S. Narayana Iyer, the transport veteran of South India, is seen here giving his experience from a humble beginning many years ago to the present preeminent position of his companies during the opening, recently, of the Tiruchi Branch of M/s. Kasi & Sethu.



TIRUCHI BRANCH OF KASI & SETHU

Declared open by Mr. T. C. Monga

Under the presidentship of Sri A. S. G. Lourdaswami Pillai, Chairman of the Tiruchi Municipal Council, Mr. T. C. Monga the Regional Sales Representative of M/s. Hindustan Motors Ltd., Calcutta, declared open the branch of M/s. Kasi & Sethu, leading automobile parts dealers and importers and also dealers for the world famous Bedford Trucks and Chevrolet on 6th July '60, at No. 83, West Boulevard Road, Tiruchirappalli. A large number of business men and elite of the Trichy Town attended the function.

Mr. Monga Stresses Need for Service Stations

After prayer by Kumaris Savithri and Padmavathi which included recitation of the Ramayana in Tamil in six minutes, welcome addresses to the special guests read by Sri N. Kasiraman, Partner of Kasi & Sethu. Mr. Monga who first cut the ribbon and declared open the branch, emphasised in his speech, the need for service stations to be attached to the sales offices connected with the chassis trade. He also greatly appreciated the unity between the father (Sri P. S. Narayana Iyer, Managing Partner of the firm) and his two illustrious sons, messrs Kasiraman and Sethuraman, both partners of the firm. He wished success to the firm and hoped that M/s. Kasi & Sethu will be one of the top-most dealers in Bedford chassis in South India.

Mr. Lourdaswami's Praise

Mr. Lourdaswami Pillai spoke of the great qualities of Sri Narayana Iyer and particularly of his excellent

character, simplicity and business acumen. He remarked that Trichy town needed any number of first class automobile workshops and spare parts dealer organisations, especially in view of the ever increasing vehicular transport in this region. He suggested that M/s. Kasi & Sethu would do well to run a first class automobile workshop in the cantonment area in this town soon.

Mr. Lourdaswami concluded his speech by saying that Sri Narayana Iyer was a very able administrator and hoped that under his able guidance, the branch will grow into a big business enterprise and would be of immense service to the many bus and lorry operators in Trichy district.

Sri Narayana Iyer's reply

Sri Narayana Iyer, who spoke next, explained how from humble beginnings as a clerk under the late C. Rajam (founder of the Madras Institute of Technology, Chromepet.) he started his business as a bus operator and a motor spare parts dealer in 1936. He also expressed his grateful thanks for the splendid work and sincere cooperation he had from all his employees, which have made the concerns Kasi & Sethu as well as Raman & Raman (P) Ltd., what they are today.

He requested all the operators in Trichy district as well as the public to extend their hand of cooperation in his endeavour to establish a spare parts organisation and a motor workshop at Tiruchirappalli.

Earlier, messages received from various businessmen and well-wishers were read by Sri N. Sethuraman, who also proposed a vote of thanks at the close of the function.



Mr. N. Kasi Raman is seen presenting an address of welcome to Mr. T. C. Monga.

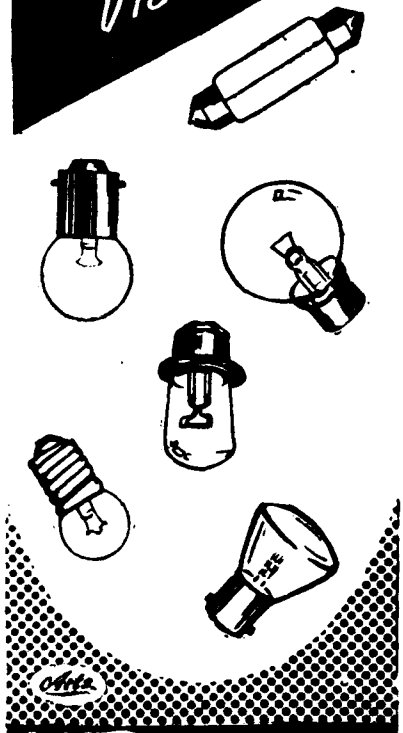
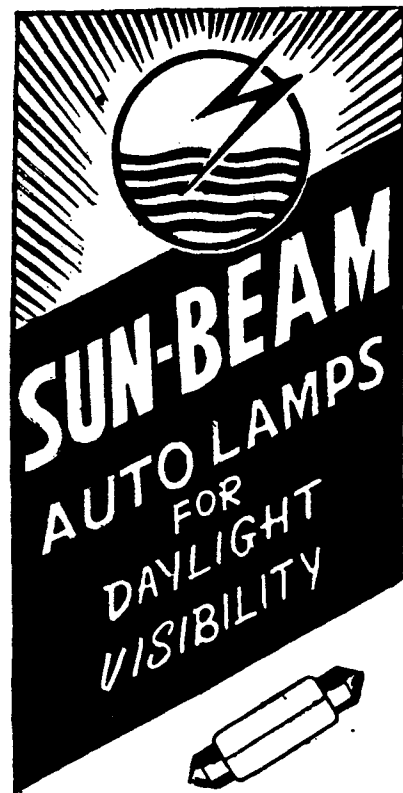


Mr. Monga is seen cutting the ribbon at the opening function.

Mr. Kasi Raman is seen presenting an address to Mr. A. S. G. Lourdaswami.



Mr. M. Sethuram B.Sc., D.M.I.T., Partner, Kasi & Sethu, is seen speaking on the occasion of the opening of the Tiruchi Branch.



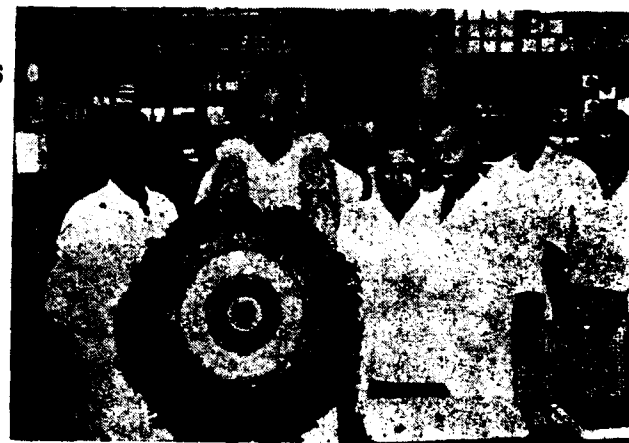
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Messrs. B. D. GOPAL DASS, 8-B, Ajmere Gate Extension, New Delhi & The Mall, Laxmi Building, Kanpur, (Uttar Pradesh & Delhi).
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Hercules Automobiles

New Firm
Opened



Mr. R. Ratnam, Director, Sundaram Motors, declared open the new business of Hercules Automobiles recently.

Messrs. K. Paramasivam and S. Govindarajan have started a new Auto Spare Parts business under the name and style of Hercules Automobiles at the Express Estates (near Odeon Cinema) Woods Road, Madras-2.

The pleasant function of declaring open the new partnership business was performed on 19th August by Sri R. Ratnam, (Director of M/s. Sundaram Motors P. Ltd.,)

The partners of Hercules Automobiles are already widely known in the Automobile and cine circles.

Mr. Govindarajan was for over 15 years with the T. V. S. Organisation which he served at Pudukottai for a considerable time and later at Madras.

Mr. Ratnam who declared the new business open expressed his thanks to the organisers for having given him the honour. He referred to the good experience gained by the partners in the past and hoped that experience will stand them in good stead in their new business and create a long list of clientele for themselves.

A large number of invitees attended the function and they were received by the partners.

At present the Hercules Automobiles are stocking a wide variety of spares for all makes and models of popular vehicles.



Cinema Star Ragini, who made the first purchase at Hercules Automobiles is being received by Mr. Paramasivam, Partner.

NEWS FROM

Gordon Wilkins

THE NEW BRANDS HATCH London's First Grand Prix Circuit

The names of Stirling Moss and the late Mike Hawthorn have been given to corners, hills and straights on the new 2.65 mile Grand Prix car and motor cycle circuit at Brands Hatch, near Farningham, Kent.

The new 100,000 spectator circuit, which is Southern England's first Grand Prix type race track, has been completed in only six months at a cost of more than £ 40,000. The track was used for the first time on July 9th for the international motor cycle meeting and was also used for the first motor race in August. The race was to be called the 150 mile Silver City Trophy International and many of the major Grand Prix cars and drivers in Europe were present.

The new Brands Hatch is an extension of the smaller 1.24 mile circuit which has been in use since 1953 and, for the first time, will give the London area a big-time race track suitable for international car and motor cycle Grands Prix.

Brands Hatch resembles a miniature Nurburgring - the famous German circuit generally regarded as the most difficult and exciting in Europe. Brands, like Nurburgring, weaves and swoops in a series of acute and gentle bends through wooded hills and valleys in such a way that most spectators can see more than half the circuit. The circuit has a minimum width of 35 ft and about 25 Grand Prix cars or 32,500 cc motor cycles will be able to start in major events.

New Pits

In addition to the enlargement of the track Brands Hatch has acquired many other new facilities.

Thirty-five permanent pits, Press Box opposite the start-line and pits has been doubled in size to accommodate 50 journalists under cover. Grand stand on Clearways to seat 750. Another new stand for 500. Total stand accommodation is now for 3,500 under cover and 2,000 uncovered. There is a tunnel under Paddock Hill Bend to give competing cars direct access to the pits. The scrutineering bay in the paddock has been partially covered and there is a new car park in

in the centre of the new track area and eight extra vehicle entrances have been provided around the circuit.

New Regulations in Britain Vehicle Testing to start this Month

Official testing of cars, motor bicycles and other vehicles will start on September 12, under Regulations laid before Parliament recently.

From that date, any owner of a vehicle eligible for test may arrange with an authorised examiner for a test to see whether it complies with certain statutory requirements as to brakes, lights and steering, and, if it does comply, obtain the Test Certificate which will later be made compulsory for vehicles registered for more than ten years.

Testing will not be compulsory immediately, because a reasonable interval must be allowed for owners to obtain their test certificates; but an Order will shortly be made by the Minister of Transport which will specify when it will be unlawful for vehicles registered more than ten years earlier to be on the road without a valid test certificate. After another date, to be fixed later by the Minister, production of a valid test certificate will be required before a vehicle excise licence can be renewed. All test certificates will be valid for a year.

About 12,000 garages throughout the country have applied for appointment as approved Vehicle Testing Stations, and appointments are being made as quickly as possible. Some 64 local authorities which wish to take part will also be so designated; and the Ministry

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August 1960
M-13

of Transport itself will operate one testing station at its depot at Hendon.

Each of these testing stations, on appointment, will display a sign - a blue square with three triangles in white and the words "Vehicle Testing Station - Approved by the Ministry of Transport."

The fee to be paid by the owner to the examiner is 10s 6d for a motor bicycle and 15s for any other motor vehicle where a test certificate is issued and 9s 6d and 14s respectively where a test certificate is refused.

New Berkeley Three - Wheeler De Luxe

Since the introduction of the Berkeley Three-Wheeler in Sept. last year more than 1,700 models have been sold. Now the manufacturers, Berkeley Cars Limited, announce the addition of a de luxe version.

Many improvements have been made, but the principal modification is increased rear seat accommodation providing more legroom for children or greater luggage space.

The windscreen has been re-designed to give better visibility and a larger hood has been provided. A hard top version of this will be available shortly. A heavy duty front suspension has been incorporated and a reinforced rear suspension incorporates a larger spring absorber unit and enables a lower sitting position to be provided. The body is constructed of moulded glass fibre. Wheel discs are included as standard.

The Berkeley Three-wheeler is powered by an Excelsior 328 cc twin cylinder engine and drive is to the two front wheels. Top speed is said to be 55 to 60 mph and manufacturers claim average petrol consumption of 60 mpg.

Price of the Berkeley three-wheeler de luxe model in England is £ 425 including purchase tax. The price of the standard three-wheeler remains at £ 339. 19.11 including tax.

Build - it - Yourself Kits Available

A fast new 950 cc. sports car, the Alexander Turner is now being offered either completely assembled or in build-it-yourself kit form through collaboration between Turner Sports Cars, (Wolverhampton) Ltd and Alexander Engineering Co. Ltd. The car is developed from the Turner successfully driven by Bob Cerard during 1959 to win the Autosport Championship for production of sports cars. The new model has an attractive glass fibre body on a steel sub-frame, with an unusually good luggage trunk. The chassis is tubular with front

suspension by coil springs and wishbones, using BMC parts and rear suspension by rigid axle on trailing arms attached to transverse torsion bars, with a panhard rod for lateral location.

The engine is the BMC(A) type of 948 cc., fitted with a new crossflow cylinder head evolved by Alexander. This head has already been raced with great success on the Austin A. 4 on which Geoff Williamson has won numerous national and international successes during 1959. It was also used on the Austin-Healey Sprite with which Williamson won his class in the Coupe du Salon at Montlhery. This engine gave over 80 bhp and the car was doing 191 kmh (118 mph).

Transmission is through the normal BMC* Gearbox with a 4.55 to 1 axle ratio as standard equipment. Optional extras on the new Turner include choice of three camshafts, ZF differential, Girling disc brakes at front, Lockheed servo for brakes, wire wheels or bolt-on wheels with the new Alexander gear-drive single-nut fixing, high compression pistons racing close-ratio gears, detachable hard top. In standard form, the engine delivers 60 bhp (61 CV) at 6,000 rpm, the new head giving a compression ratio of 9.4 to 1. Car dimensions are: Wheelbase 80½ in (204.5 cm) Track front 115.6 cm (45½ in) rear 44½ in (113.6 cm) Length 138 in (350 cm) width 54 in (137 cm) Tyres 5.20 - 15. Standard brakes have drums 20.3 x 3.8 cm. (8 x 1½ in.) with two leading shoes at front. Basic price of the car in kit form at works is £595 or £630 fully assembled and finished.

TURNER and ALEXANDER collaborate in the new Sports Car.

Power Assistance Option for Cresta and Velox Brakes

The Vauxhall-Sixes - the Cresta and the Velox - are now available with power-assisted braking.

It is provided by a hydraulic and vacuum servo unit, specially designed for Vauxhall six-cylinder models made since October, 1957. The U. K. price of the unit itself, is £12. 17s. 6d. The purpose of the new accessory is to reduce the pressure needed on the pedal. This pressure is in fact reduced by half, with power assistance, a pressure of 45 lb. produces the same retardation as a 90 lb. pressure without the power assistance. The compact, self-contained unit is mounted on two brackets on the offside of the engine, and powered by vacuum from the induction manifold. A vacuum reservoir is incorporated in the servo, so that two - full - power brake applications can be obtained even with the engine stopped.

MADRAS MOTOR PARTS DEALERS' ASSOCIATION

Independence Day Celebrations

The Madras Motor Parts Dealers Association celebrated Independence Day on 15th August 1960, as usual in a grand way. At eight in the morning quite a number of dealers in the city and members and staff assembled at the quadrangle of the Bharat Buildings. The president, Mr. T. S. Krishnamurthy after puja, hoisted the national flag amidst cheers. In the course of his speech Mr. Krishnamurthy said :

I have great pleasure in welcoming you all to this function. As you all know, we have met to offer our respectful salutations to our National Flag which is a symbol of our freedom and which is occupying a place of high honour in the world to-day. By unfurling the Flag and offering our Pranams, we are not only honouring ourselves with an air of pride of being an Independent Nation, but also renewing our pledge year after year to strive to live up to the ideals which were very dear to and held in great esteem by the Father of our Nation, Mahatma Gandhi. This year, we have an added significance to this function since we are doing it in the august presence of our revered President Dr. Babu Rajendra Prasad. Let us rededicate ourselves to the task of working for the prosperity and welfare of our Nation.

State encroaching into domain of business

Politics was of little interest and little use for the business community hitherto. But now politics and administration have become very important and they play a major part in the social and economic life of the ordinary citizen.

In our field of activity, we are all aware that the State is steadily encroaching into our domain. We have to see the writing on the wall clearly and adapt ourselves to the changing conditions. The paramount need today is to shake off all our petty differences and help our association to work for achieving its objectives and aims. There can be no difference of opinion in the aims and objects of the association. There may be difference only in the methods adopted to achieve these. It is therefore very necessary for the members of this association to take greater interest and voluntarily offer their services for its working. We must play fair to the other members of our association and to the common man in the street. In this process we may have to make some sacrifices in our personal gain and pleasure, but it is inevitable in the larger interests and we should not hesitate to do this. Any institution

depends solely for its strength and successful working only on the co-operation and goodwill extended to it by its members. I therefore repeat my request to the members to attend all our meetings and give the benefit of their experience and advice to the committee who work the association.

I am pleased to inform you that the All India Federation of Motor Parts Dealers is also fast taking shape and it will come to play its part in safeguarding our interests very shortly. I would therefore make an earnest appeal to all of you to join me and make a solemn pledge that we will work for achieving the maximum good for the maximum number.

I thank you very much for the kindness with which you have all responded to the invitation extended to you by the association for this celebration.

The large gathering which was present was then entertained to breakfast.

Mr. S. Natarajan, Hony. Secretary of the Association thanked all those present for their very keen interest in the affairs of the association and for having turned up in large numbers at such an early hour.

TRADE CIRCULARS

The Association in a circular to the members states that the State Trading Corporation of India Limited, has offered to the Association import of disc wheels on barter arrangements from Czechoslovakia for sale through the members. Further details regarding this is available from the Hony. Secretary, Mr. N. Natarajan.

Bond for Production of Import Licence.

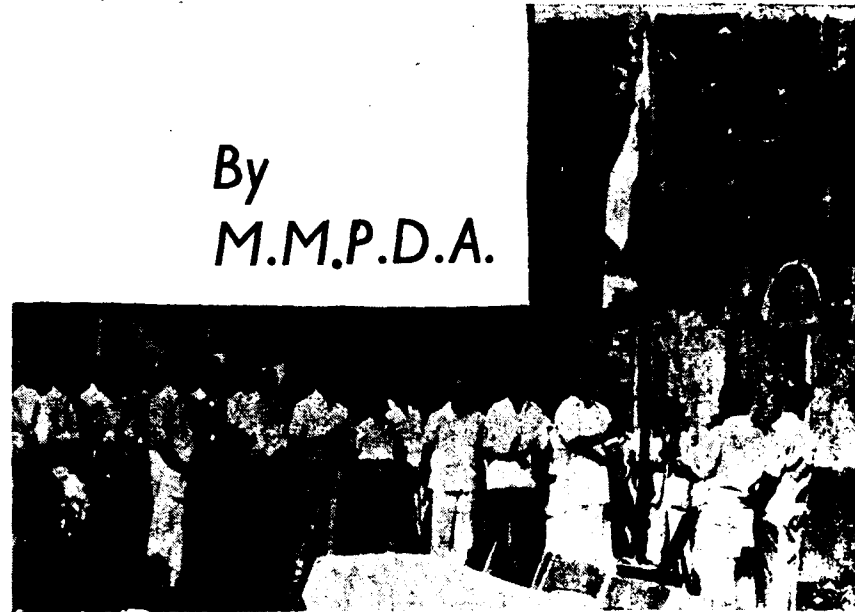
Before goods are released on a bond for the production of an import licence, it is essential for the Customs House to verify that a valid licence does exist. For this purpose importers may, at their option, present a photostat copy of the licence together with the original licence at the Customs House even before the importation of the goods and preparation of the Bill of Entry. The original licence will be returned to them after the necessary verification. The Photostat copy will be retained in the Customs House for reference.

Pilot Light

"Pilot light" having a small bulb inside which is fixed on the dash board of motor vehicle to indicate whether the Head Lights are working and whether the battery is charging, cannot be called electrical panel instrument. It falls within the category of lamps assessable to duty under item 75 (10) (II) of the I.C.T., according to the latest ruling of the Central Board of Revenue.

Independence Day Celebrations

By
M.M.P.D.A.



Mr. T. S. Krishnamurthy, President, Madras Motor Parts Dealers' Association is seen hoisting the national flag on the occasion of the celebration of Independence Day by members of the association in the Bharat Buildings quadrangle on 15th August 1960.



A very large number of the members of the M.M.P.D.A. and their staff seen in the photo at the left having breakfast as part of the Independence Day celebrations.

AT
HIMCOS



Mr. K. R. Anand, Chairman, Himco Batteries presided over the Independence Day celebrations at the Himco factory premises at Alandur. Mr. Anand is seen addressing the gathering in the photo.



Mr. I. K. Luv, Director and General Manager, of Himco Batteries Madras Private Limited is seen presenting bouquets and garlands on the occasion of the Independence Day celebrations to Mr. R. Ramachandra Iyer seated in the centre.

MOTORINDIA NEWSLETTER SERVICE

(FROM OUR SPECIAL CORRESPONDENTS)

DIESEL OILS FROM COAL TAR STUDIES AT CENTRAL FUEL RESEARCH INSTITUTE

The Central Fuel Research Institute at Jealgora has explored the possibilities of producing light and high-speed diesel oils from certain types of tar obtained from Raniganj coal. The studies have shown that some types of tar could be satisfactorily processed into good quality diesel oil.

The demand for high-speed diesel oil in India has been increasing by about 30 per cent every year since the last World War due to increased dieselization of commercial road transport and the railways.

The studies were initiated with a view to remedying the imbalance between the production and demand for diesel oil in the country. Subjecting the tar obtained from Raniganj coal to low-temperature hydrogenation the Institute developed suitable catalysts for which patents have been applied for. Operating conditions have been also determined.

Large quantities of low-temperature tar are likely to be available in the country during the next few years as a result of the carbonization of coal for producing smokeless fuels for domestic purposes. By 1970 it is estimated about five million tons of such tar would be available.

The results of these investigations at the Central Fuel Research Institute have been reported in the August issue of *Research & Industry*, a monthly periodical published by the Council of Scientific & Industrial Research, New Delhi.

This issue of *Research & Industry* also reports the results of investigations at the Forest Research Institute, Dehra Dun, on the production of paper adhesives from used myrobalan pulp. Till now the residuary fruit pulp, obtained after extracting tannin, was not being put to any profitable use.

GOODYEAR TYRE Engineers Gather Vital Information

They carry an air of mystery with them that goes well with their tangled assortment of intricate gadgets.

The three of them dart on to the race track, and with a weird box-like instrument, seem to listen to the pulse of the black-topped surface.

Then comes the quick withdrawal, a scramble with a rubber hose attachment checks the heat at critical points within the tire. Another gauge records the tire pressure while the third man is checking for wear and the effects of heat.

These "cloak and dagger" men are visible at every major automobile track for the long days of practice preceding the actual races. They are neither drivers nor pitmen nor officials of any sort.

They are Goodyear engineers who are in business before most of the major races throughout the country.

The equipment they carry with them includes temperature gauges, pressure gauges and tread wear gauges. A pyrometer is used to measure the temperature of the track and of the tires. Tread wear is checked with the proper measuring device.

The heat becomes a tremendous factor in the race as a result of the high speeds to which the tires are subjected. These compound and design engineers want the firsthand look at how their "baby" is responding to the critical conditions.

The knowledge gathered at the tracks becomes a valuable tool in improving the tire. High speeds generate a greater amount of flexing which in turn produces heat in the tire. Excessive heat can produce both separation between the tread and tire body and cause tread chunking, so a lower cord angle which promotes more rigidity has been adapted to assure a cooler running tire.

It turns out that these cloak and dagger characters are interested in far more than the running of this race. The information they gather here will be vital aid to them back on the drawing boards of the company's offices.

MOTOR SPIRIT TAXATION RULES Amendments Proposed

The Government of Madras in certain amendments proposed to the Madras sale of motor spirit taxation

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rules states that under the proposed amendments of Rule No. 25, every person registered under the act shall give separate acts and every wholesale dealer and importer shall submit separate returns of his transaction in petrol, diesel oil, and motor spirit other than petrol and diesel oil. Every wholesale dealer and importer shall show the sales separately in respect of the stocks of each variety for which taxation has already been paid.

Transport Vehicle Driving Licence

Amending the Madras Motor Vehicles Rules relating to the Driving Licences for Auto Rickshaws etc.

Under the proposed amendment, rule 5D of the said rules shall be amended so that no authorization to drive a transport vehicle shall be granted unless the applicant satisfies the licencing authorities that he had at least one year's experience in driving any motor vehicle other than a motor cycle. In respect of a transport vehicle of the class motor cycle the applicant should have experience of at least 6 months in driving a vehicle of the same type.

M. V. Registration Marks

According to a proposed amendment of the motor vehicles rules relating to the assignment of registration marks in Madras State, the first schedule is to be amended so that the registration marks for the Madras City will be MSC, MSP, MSZ, MSY, MSX & MSW.

THE WAXPOL INDUSTRIES LTD.

Change Over to Metric System

You are perhaps aware of a Press Notice issued by the Standing Metric Committee of the Ministry of Commerce & Industry on the 4th of April 1960 to change over to Metric weights compulsorily from 1st of October, 1960. This press notice also announces the Government's decision that there will be no extension of this time limit since the transitional period of two years allowed from 1st of October, 1958 would have elapsed by then.

In a number of instances, new sizes of containers have also been worked out for different trades for

conversion to Metric system. According to this, Waxpol Brake Fluid would be supplied in packings of 250 ml., 500 ml., 1 litre, 5 litres and 20 litres instead of $\frac{1}{2}$ Pint, Pint, Quart, 1 Gallon and 5 Gallons respectively. N. C. Thinner would be supplied in 5 litres and 20 litres packings instead of 1 Gallon and 5 Gallons respectively. The containers for our remaining products, however, will remain as they are for the present except that the Metric equivalent of the existing weights would be printed thereon.

The above changes will be brought into effect from 1st October, 1960 and the price of these products will also naturally need revision due to the variations in the quantity of the contents.

An increase in the prices of Waxpol products due to imposition of Excise duty at Rs. 200/- per Metric Ton on the tin plate and due to the increase in the goods train freight, will take effect at the same time when the prices are revised due to Metric change over.

The above may be kept in view while securing orders for Waxpol products for supplies from the month of October 1960 onwards.

Hand Tyre Inflator industry Protection off From Next Year

The Government of India have accepted the Tariff Commission's recommendation that protection to the automobile hand tyre inflator industry need not be continued beyond December 31, 1960.

Government's resolution on the Commission's report just published states: Government have drawn the attention of the Indian Standards Institution to another recommendation of the Commission that I. S. I. should take up the formulation of a standard for seamless brass tubes required for the industry.

There are at present six units — four in the large-scale sector and two in the small-scale sector — manufacturing automobile hand tyre inflators. The annual rated capacity of these units has been estimated by the Commission at 85,200 for hand tyre inflators and 96,000 for pump connections. As against this, the actual production in 1959 amounted to 47,784 hand tyre inflators and 48,906 pump connections.

The Commission has estimated the current annual domestic demand at 55,000 inflators and 1,50,000 pump connections. It has observed that the demand for inflators will be stable at this level, except for a slight upward trend.

DUNLOP INFORMATION

Dunlop - I. R. F. Bursary

The Dunlop Rubber Co., (India) Ltd., in collaboration with the International Road Federation, London, will give a Bursary in Highway and Traffic Engineering to

an Indian Engineer for the year 1960—61, tenable at Durham University in the U.K.

The duration of this post-graduate Bursary course will be roughly ten months commencing from October, 1960 and will cover all aspects of Highway and Traffic Engineering. The course will also include a programme of practical instruction such as visits to works in progress, to scientific and engineering institutions, and demonstrations of machinery and equipment. The Indian Roads and Transport Development Association has been entrusted with the task of forming a selection board.

Mr. K. PADMANABHAN

Mr. K. Padmanabhan, Sales Manager, Industrial Rubber Products and Dunlopillo, Dunlop, India, returned from the U.K. in August, after an extensive study tour. Mr. Padmanabhan visited associate factories in the U.K. to study the latest production methods and developments in the manufacture of conveyor and transmission belting and other industrial rubber products. He also visited associate factories in France and Germany.

The Late Mr. B. Mookerjee Calcutta Dealers Mourn Loss

A Condolence meeting was held on Monday, the 8th August 1960 in the premises of Calcutta Motor Dealers' Association on the sudden and untimely death of Sri B. Mookerjee, former Vice-President and former general secretary of the association, and the managing director of messrs. Central Motor Parts & Accessories Co. Private Ltd. on the 6th August, 1960. After observation of 2 minutes silence, for prayer for peace of the deceased's soul, the President Sri. Karsondas Khimji, in his brief speech, elaborated the fine acts and deeds of Mookerjee. He was followed by the Vice President Sri A. N. Daing and Sri S. K. Banerjee, director of Howrah Motor Co. Private Ltd. Sri P. K. Basu, general secretary, read out some condolence letters received from members of the association.

The meeting passed a resolution "that the members of the Calcutta Motor Dealers' Association express their profound sorrow at the sudden and untimely death of Sri B. Mookerjee, popularly known as Velu Babu in Automobile Trade, former Vice-President and former General Secretary of the Association, and the Managing Director of Central Motor Parts & Accessories Co. Private Ltd, Calcutta, on 6th August, 1960. His devotion, zeal and untiring efforts for the betterment of the association and the trade as well are now recorded with full remembrance and respects and will live forever in the heart of all his associates in the trade and in the association.

The members pay their humble and respectful homage to the memory of this great son of the trade and join in prayer with the hundreds of his admirers that his soul may rest in peace."

August 1960

REDEX CAR CLUB

New Members

The following new members joined the Club in June and July, 1960. We welcome them to our fold and thank all those who introduced them.

Mr. Vipin Maneklal, The National Trading Co., Mrs. V. Mehta, Mr. M. C. Ghasvala, Mr. N. V. Dodhi, Mr. R. S. Udwadia, Mr. R. H. Shah, Mr. W. R. Stossel, Mr. A. K. Munsif, M/s. Dinubhai, G. Desai & Co., Mrs. P. Koregaokar, Mr. A. S. Surveyor, Mr. M. R. Maniar, Mr. S. D. Sharma, Mr. V. J. Dalal, Mr. J. H. Writer.

Madras Motor Sports Club

S.I. Rally on September 30

This is to announce that The Madras Motor Sports club will be conducting the South India Rally this year on 30th September, 1960—October 1, 1960.

THE ROUTE FOR THE RALLY WILL BE MADRAS - TINDIVANAM - VILLUPURAM - ULLUR - DURPET - ATTUR - SALEM - AVANASHI - METTU - PALAYAM - OOTY - MYSORE - MERCARA - PUTTUR - BANTWAL - MUDIGERE - CHICKMAGALUR - HASSAN - KUNIGAL - BANGALORE - RANIPET - MADRAS MAKING A TOTAL OF ABOUT 1,000 MILES.

Entries for this rally will be accepted by them only 350 cc motor cycles, since it is considered far too long and strenuous a distance for motor cycles and scooters below 350 cc.

But they are prepared to conduct a shorter rally of about 500 miles simultaneously with the main rally, provided there is a minimum of 20 entries in this class.

The entry fee is Rs. 25/- for motor cycles, which should be accompanied by a recent photograph (passport size) of the driver and co-driver (essential in all classes). The closing date for entries is 15TH SEPTEMBER, 1960, and on no account will late entries be accepted.

Such of those members who are interested in taking part in this Rally, may get in touch with the Hon. Secretary of the Enfield club or the M. M. S. C. Secretary.

Car Mishaps Caused by Fatigue

"Driving all day makes a man's heart sluggish and causes little stroke and heart attacks, which, in turn, cause accidents" says an American doctor.

"Get out every hour and walk around the car," says Dr. Richard G. Kloss of the Veterans' Administration Hospital in Boise, Idaho, U.S., "And take a few setting up exercises."

Dr. Kloss says lack of exercise while driving cuts down the essential oxygen supply to the brain by reducing the output of the heart.

A little exercise will double the output, he says.



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CORK GASKETS SINCE 1932

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POPULAR MANUFACTURING CO.

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MODELS AND THEIR Prices

CARS

Hindustan Ambassador 1957 (South India Automotive Corporation Private Ltd. and Reliance Motor Co. Private Ltd.) ex-plant Uttarpara ... 14,736 47

Vanguard Marks Co. (Motors) Ltd. Prices nett ex-plant Madras, Sales Tax, etc. are extra. ... 14,736 47

Standard Super Ten Saloon (Union Co. (Motors) Private Ltd.) on the road ... 9,479 61

The Fiat 1100 The Elegant (Sundaram Motors Private Ltd.) Ex-Factory ... 9,783 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 Ensign" (any dealer point in India) ... 2,003 00
"350 Bullet" with spring frame (any dealer point in India) ... 3,568 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

VANS

TEMPO Three wheeler Vans (Manufactured by Bachbraj 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. Hanseat ... 6,129 00
Delivery Van ... 8,118 00
Prichet Van ... 7,776 00
Hindustan Traveller, price on the road (Reliance Motor) Co. 14,700 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., and Reliance Motor Coy. (Private) Ltd. at Kumbakonam by Kasi & Sethu Private Ltd., and at Madurai by S. G. Jayaraj Nadar & Sons).
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 ... 26,390 00
I.P. 312/42 165" W.B. Full Forward Control Truck Bus Chassis ex-Works, Jamshedpur ... 27,350 00
I.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 ... 29,690 00

DODGE FARGO

Fargo (at Sundaram Motors Private Ltd.) Dodge at Associated Accessories P. Ltd. Kurnool. 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 series D200 - 116" (4) 7.00x16 - 8 Ply ... 15,955 00
do do (4) 7.50x16 8 Ply ... 16,194 00
do D300 - 126" (4) 7.00x16 - 8 Ply ... 15,966 00
do do (4) 7.50x16 - 8 Ply ... 16,205 00
do W300 - 126" Power Wagon chassis (4) 9.00x16 - 10 Ply ... 22,569 00
KEW105 & 109PA6 - 165" w.b. load chassis (6) 8.25x20 - 12 Ply ... 22,003 00

DODGE/FARGO KEW DIESEL TRUCK CHASSIS:

105 & 109P6 - 165" (6) 8.25x20 - 12 Ply ... 28,648 75
105 & 109M4 - 165" do ... 28,981 75

DODGE/FARGO KEW DIESEL BUS CHASSIS:

87 & 89 P6 - 190" (6) 8.25x20 - 12 Ply ... 29,222 75
87 & 89 P6 - 142" (6) 8.25x20 - 12 Ply ... 29,036 75
87 & 89 Deutz 190" (6) 8.25x20 - 12 Ply ... 30,088 75
87 & 89 M4 - 190" (6) 8.25x20 - 12 Ply ... 29,286 75

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

service with a smile

... and it certainly is a pleasure to know that so many wise motorists use Caltex petrol and oils regularly. I can almost 'tell-at-a-glance' when an engine's got the well-cared for look that regular use of Caltex petrol and oils give it. Sure, it's service with a smile, and a real pleasure to know so many motorists care for their car with Caltex.

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Why is it worth waiting for a Standard Ten ?

- **PERFORMANCE** - It is specially designed for safety, easy manoeuvrability and quick acceleration.
- **RELIABILITY** - It is sturdy in construction and reliable.
- **ECONOMY** - It gives 35 miles per gallon on an average, or more, depending on driving conditions.
- **STYLE** - Its beautiful body lines, and distinctive dual tone colouring make it stand-out anywhere.
- **COMFORT** - It seats four/five persons comfortably, with ample luggage space as well.

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