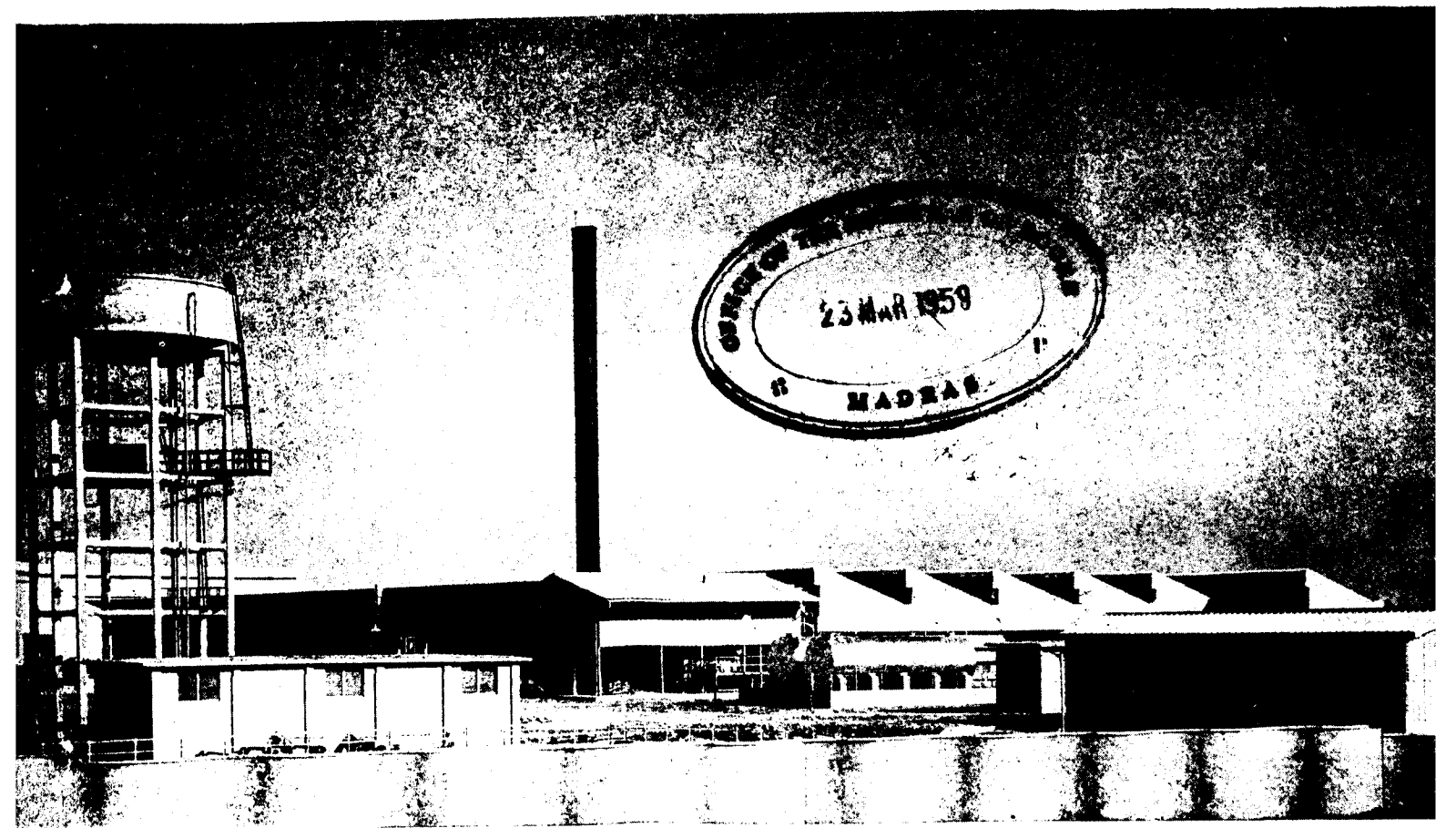


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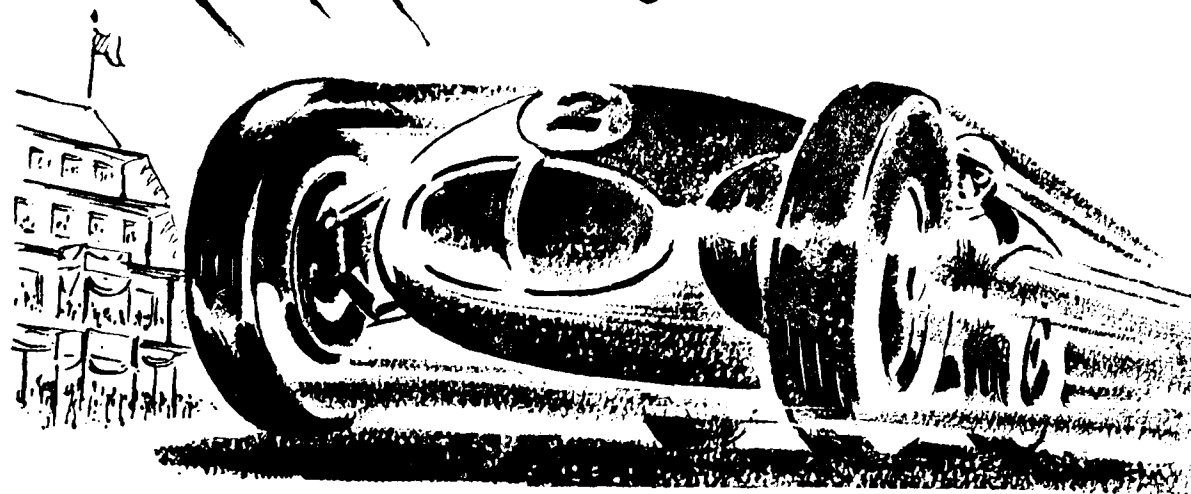
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PHOTO (Right) shows a view of the dai's at the opening function while the one above shows a view of the factory.



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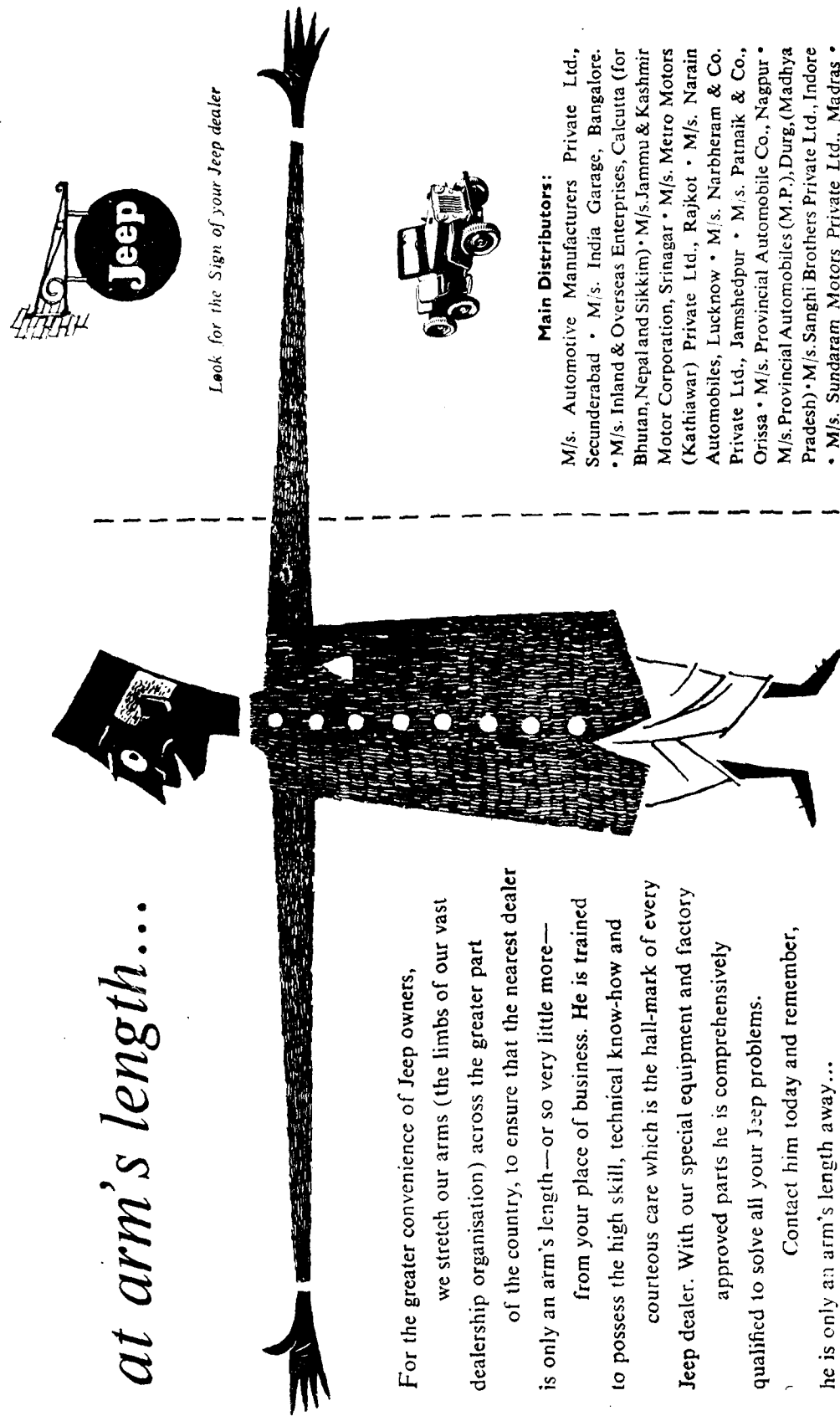
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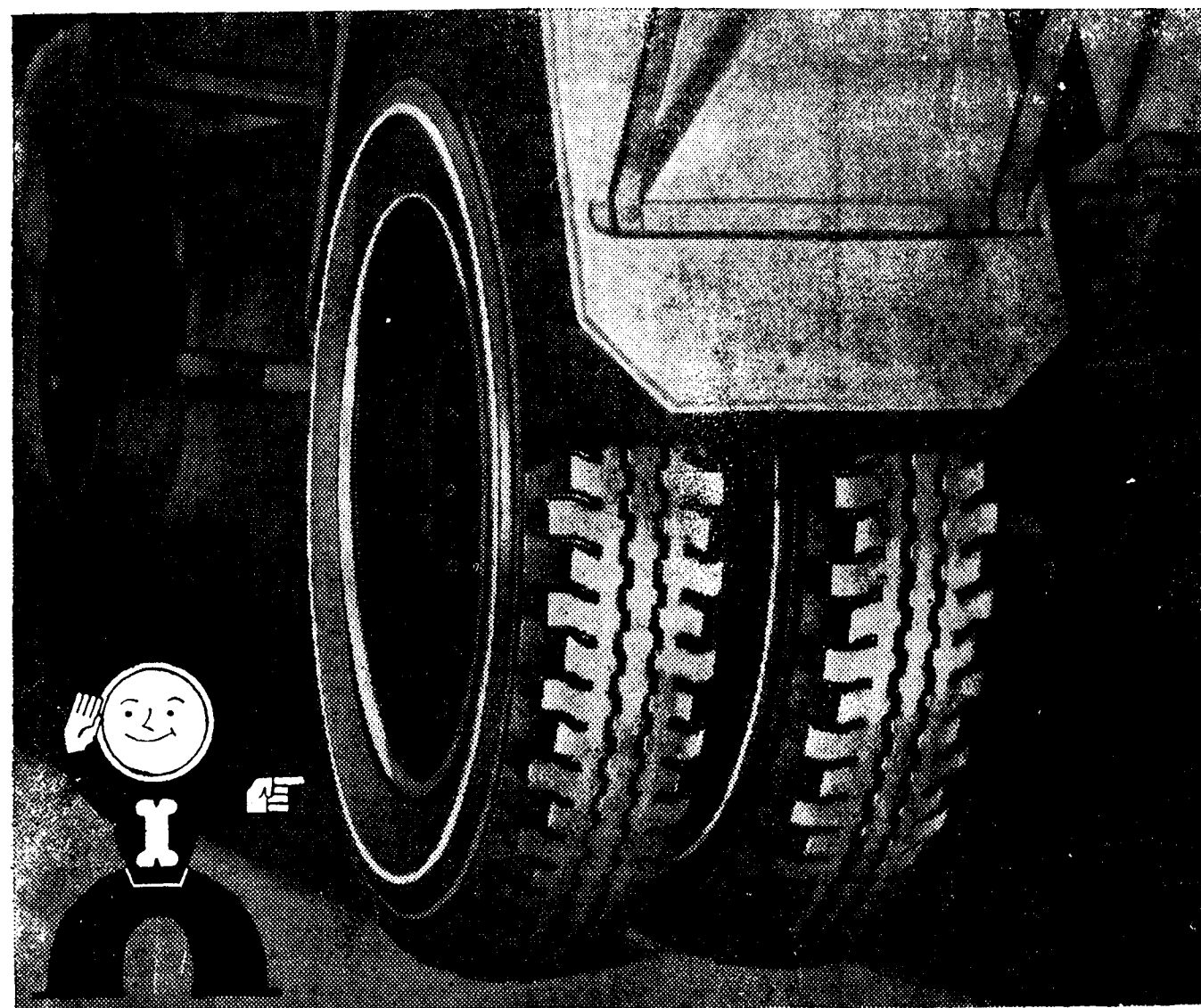
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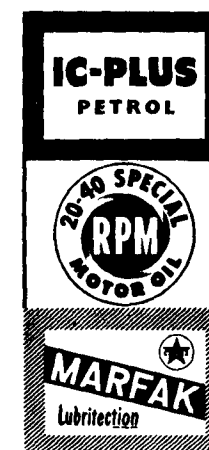
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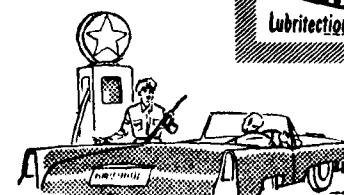
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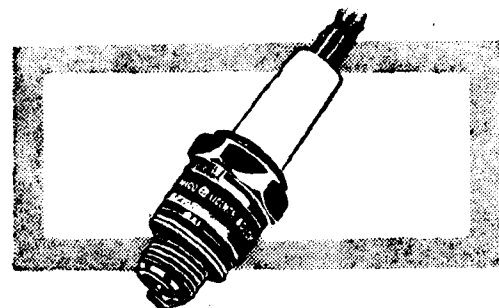
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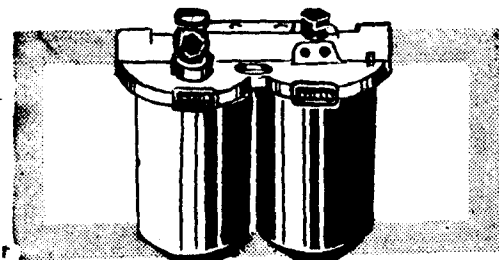
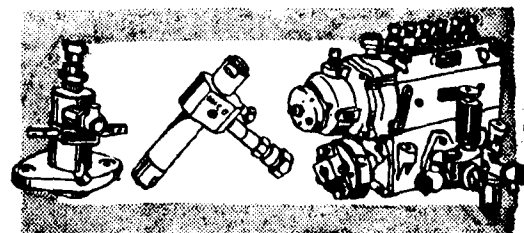
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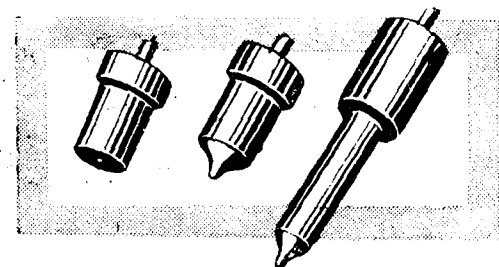
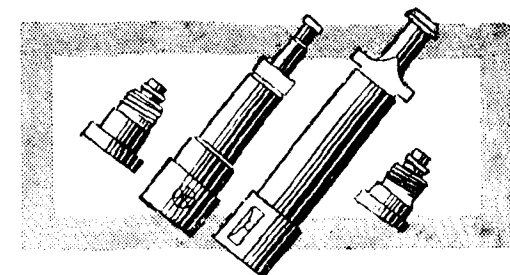
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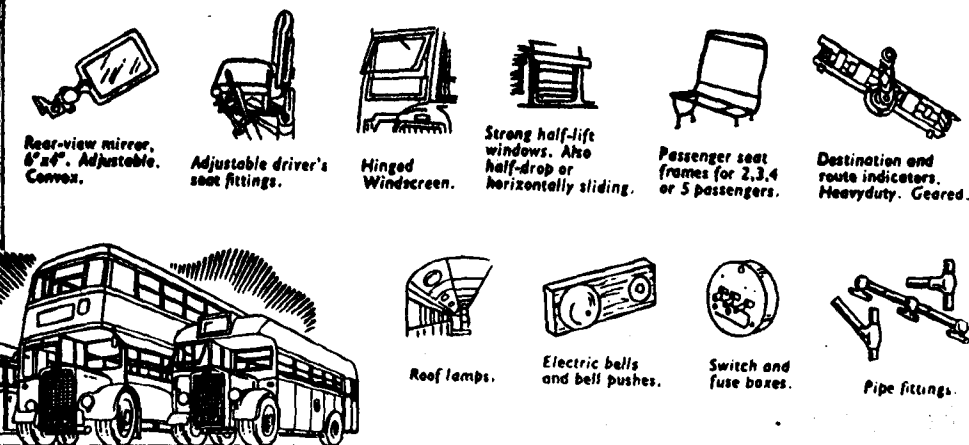


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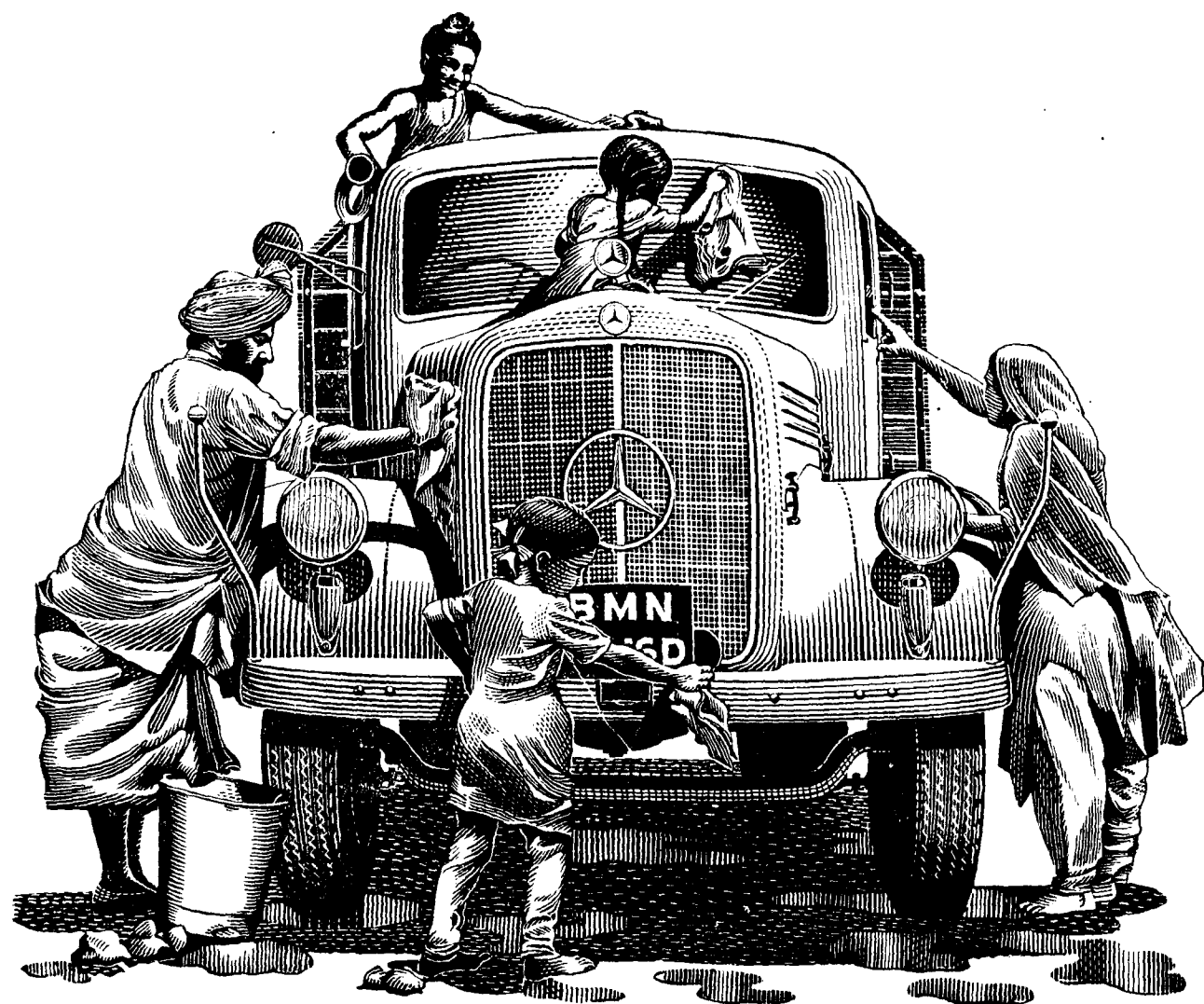
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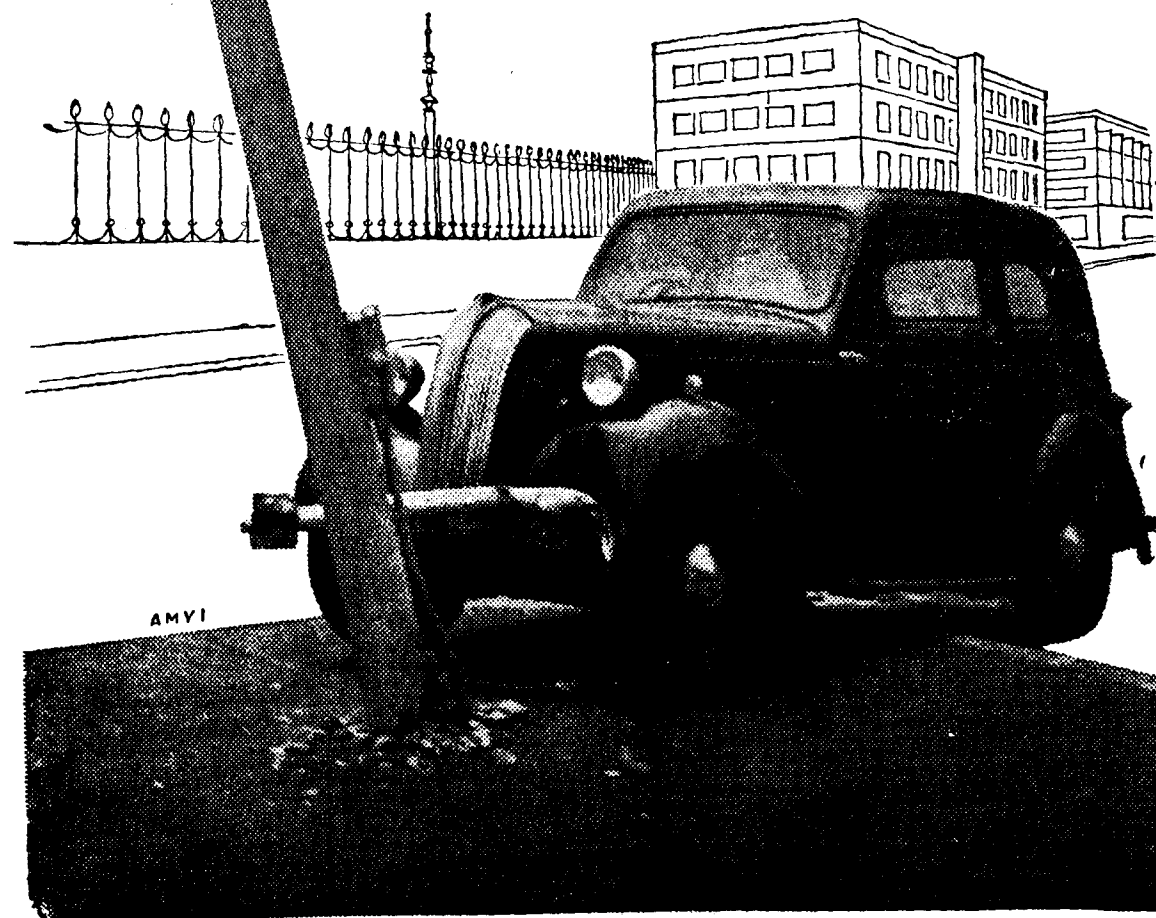


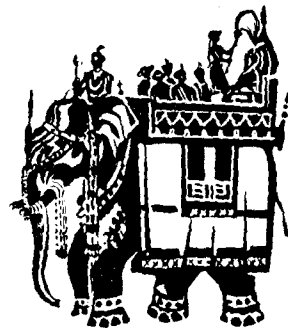
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editorial

NATIONALISATION

We congratulate the All India Motor Unions' Congress in its decision to have one of their Annual Conferences in the South. In fact the success that has attended the 11th All India Road Transport Operators' Conference held under the auspices of this great institution at Bangalore has more than justified the need for such conferences being held in various parts of the country. It was gratifying to see that delegations of transport operators from practically every State in India had congregated at Bangalore in fine weather to make the Conference a success.

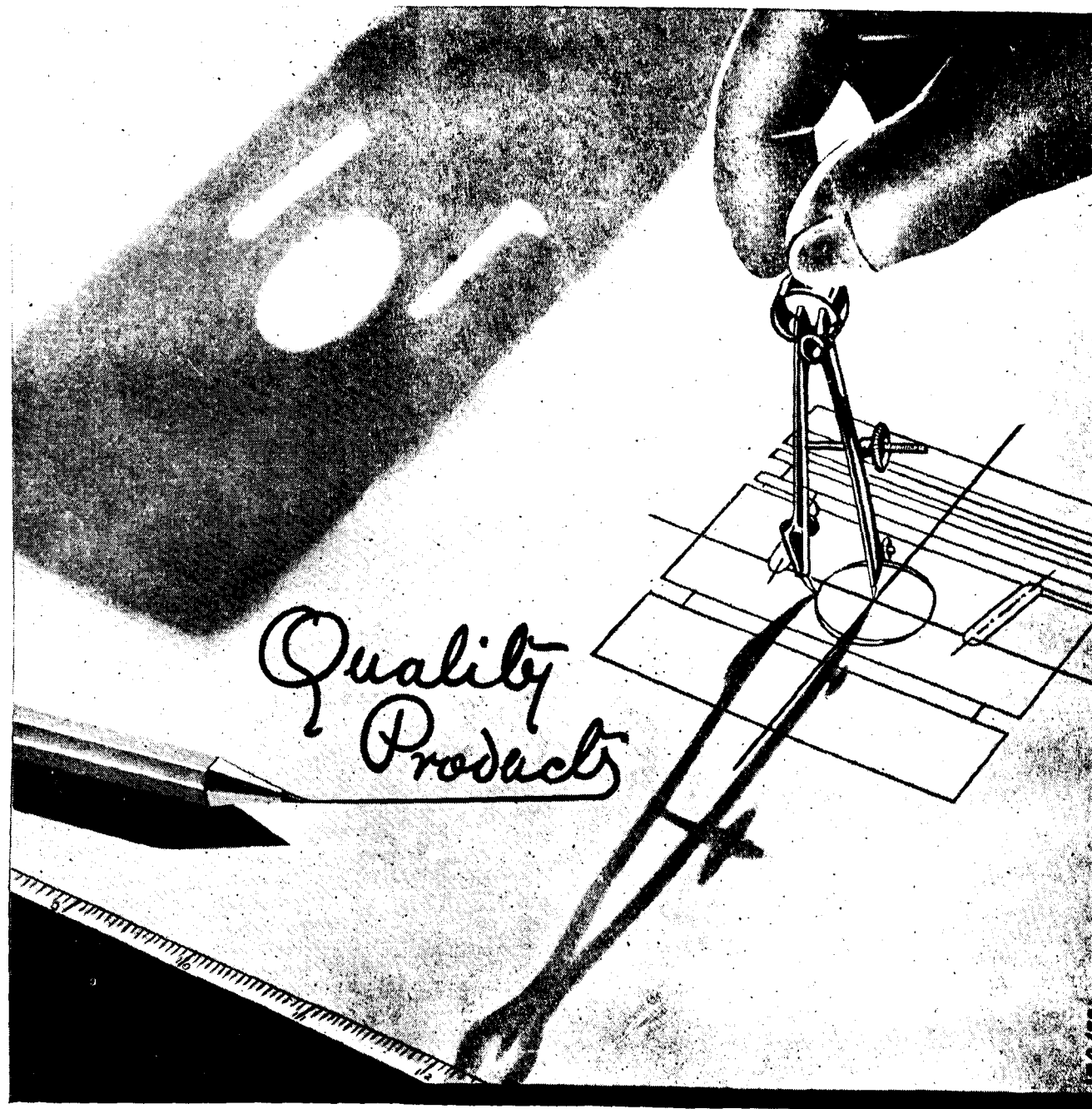
The most welcome feature of the Conference was the frank and outspoken address to the operators by Mr. S.K. Patil, Minister for Communications and Transport, who was himself Chairman of the All India Motor Unions' Congress for a long time before he became a minister. It is something to be welcomed by all operators that Mr. Patil should have given on behalf of the Government and the Planning Commission a categorical assurance that goods transport will not be nationalised, at any rate till the end of the Third Plan and that there will be no undue haste in the matter of nationalisation of bus transport in such of those places where it has not so far been nationalised. The mind of the Union Government in these matters has of course been recently well indicated and if there has been sufficient co-operation from all the States, the problem of nationalisation in the next few years will not arise. But the most important point that the operators should remember is the fact that the more they are able to run their services efficiently and economically with a view to satisfying the ever-increasing needs of the travelling public, the less they will have to dread the possibility of nationalisation, because no democratic government can take any measure to which the public is opposed; and recent attempts at nationalisation of bus transport in some places have already given the Government and the public a rough idea of the dislike and the disapproval of the public in creating such monopolies in the matter of transport. Such monopolies have tended not only to increase the cost of administration and service but at the same time has done very much to deteriorate the efficiency of the service itself. The elimination of personal interest in operation in certain parts where bus transport has been nationalised has resulted in unending sacrifice on the part of the bus traveller.

This being so, it is the duty of the transport operators whether of goods or of passenger vehicles, to do everything in their power to improve the efficiency and if possible to offer more economical transport for the population and for goods traffic. We have no doubt that the operators in this country are fully alive to this problem and it is now up to them to so organise their services that there will be no scope for the Government to think of nationalisation at least in regard to road transport services. The increasing demands under the planned economy is bound to grow up in the matter of road transport and this offers the greatest opportunity for the transport operator to build up an efficient and economical service.

It is also to be hoped that the Government and the manufacturers will co-operate in this respect and see that the huge cost of vehicles and parts are greatly reduced and brought within the realm of economic business. The progressive manufacture of transport items and the protection given to the industry, if at all, should go to help achieve this goal.

DUNLOPS

We offer our humble congratulations to the great firm of Dunlops on their very wise and significant choice in celebrating their Golden Jubilee by the opening of a new huge and modern factory for the production of various rubber products at Ambattur. Whatever is said about the neglect of the South in regard to various industries, there is no doubt that in spite of so many drawbacks and the lack of incentive for business, the transport and the automobile industries have been very intensely developed particularly in South India. South India grows more items under these heads than perhaps any other part of this country and it is but natural that such a big mass producing tyre factory should have been started near Madras. The very large attendance at the opening function was a fitting tribute to the part that is being played in the Indian national economy by Dunlops.



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AN "OLD BOMB" COMES GOOD

BY
A. HOLDEN

There comes in the life of almost everyone of us, a time when we have one of those fantastic dreams and come inexplicably into possession of an enormous fortune—so much money that it causes us much embarrassment.

We bless our good fortune, and still in our dream world, plan how to spend it . . .

But today the motorist finds that he needs almost a fortune to run his car and to maintain it in good workable condition and he invariably wishes he was able to draw upon his "dream" to add realism to the picture.

While there are many who can afford new cars of the most luxurious kind, and can manage to furnish them with all the required accessories and gadgets, there are those of us who cannot afford a modern auto. Instead, we have to content ourselves with a used or "second-hand" vehicle.

He may find that this vehicle performs remarkably well, despite the fact that it may appear unpretentious and ungainly, and be of some age. Mechanically it might even outclass the newer models. It may not have the same turn of speed, but the owner appears happy and content. He is a car owner and is not called upon to spend expensively on it.

On the other hand, it goes without saying that among all the "good used cars" available, you will come across some "bad" ones that give their owners no end of trouble, and might in the long run cost double the money they originally paid for them—simply to put them on the road, in a safe condition.

Affectionate if derogatory

However, in Australian motoring circles, these old cars—old by either age, model or appearance, are familiarly referred to as "old bombs," apparently because they rarely start without a bang, or are likely to "blow up" without warning. The expression is almost one of affectionate endearment, if in a derogatory way.

It should not be forgotten, meantime, that some "old bombs" far exceed all expectations and in

speed can outclass modern autos, and possess outstanding manoeuvrability to boot.

Now, as far as "old bombs" go: In the Queensland town of Dalby, a 32 year old mechanic, Colin Eveans, father of four young children, some few years back bought himself such a vehicle. It was battered, a 1926 Whippet Tourer—nothing impressive to look at, but for all that a car, and he reckoned that in its condition it was well worth the £30 he paid for it.

It was, after all, "something to drive to work in," and in addition he could use it to cart firewood.

The date of purchase was December 16, 1956, and a few months later Colin Eveans decided to clean it up, on the inside, in particular. He set about the task in the usual way a motorist does with such things, but when he was removing the back seat, he sighted two old canvas bags stuffed between the flock and the springs.

Golden Bomb

"Old canvas bags. Throw 'em out" you might say to yourself, but a closer examination revealed that the bags contained—money, in Australian and American notes. When counted the amount reached the staggering figure of £17,023, no less. A lot of money in anybody's language. Being an honest man, the mechanic handed his find over to the local police, who took the matter in hand, and set about trying to find the rightful owner of the fortune.

This discovery soon became the "talk of the town," and many people were soon referring to his car, not as an "old bomb," but as the "Golden Bomb," a truism if ever there was one!

At first nobody seemed to be able to explain how the money came to be hidden in the car. Among many explanations was one suggesting that the cache was the ill-gotten gains from some shady black-market operations carried out during the last world war, by perhaps an American soldier, or by someone unknown.

Enlightenment as to the exact situation was a difficult one, and as some ten persons had owned the old Whippet before it came the way of Mr. Eveans, considerable time was spent in research and checking records.

Those who might have claimed possession of the money were one by one eliminated, with the finder anxiously waiting developments, no doubt biting his finger nails as well as those on his toes!

However, one of the owners was Frank Fowler, a Brisbane hire car proprietor, who died in July 1943. The Australian Union Trustee Company had wound up his affairs and sold his goods, which had included the old Whippet tourer cum "bomb."

Mother filed a claim

The sole beneficiary of his estate was his mother, now living in England, who on being informed of the finding of the fortune, instructed the Union Trustee Co., to place a claim for ownership thereof. Court proceedings were duly instituted, and on the face of it, it appeared as the man who first came upon the fortune might stand to lose it.

The case was watched with some apprehension by motoring interests, as the legal intricacies appeared complex and challenging. Owners of other "old bombs" nevertheless began peering under the seats of their vehicle taking them to pieces, and hopefully thinking they might have an unsuspected cache so concealed.

Legality of the Problem

The position in Queensland was unique, and many knotty problems had to be faced. There were so many "ifs", "whys" and "buts" involved that it looked as if it might be easier to hand the money over to the relative in England, or to have it divided equally between both claimants.

In one instance, the law said: "As against everyone save the true owner, the property in a chattel vests in the finder, on his taking possession of it." That statement contrasted with another ruling, reading: "If the purchaser of a chattel

subsequently finds concealed therein some article, the existence whereof is unknown to both buyer and seller, the property in the article, will, apart from special circumstances, such as the proved intentions of the parties to sell and buy the chattel and its contents known and unknown, not pass to the buyer."

A pretty kettle of fish to unravel without a doubt. Deliberations and discussion were long and involved. The position not only involved rightful ownership of the vehicle, but of the money, with questions asked about relative claims in both fields.

Eveans gets it

In time, on July 8, 1958, a court order was made granting ownership of the money to Eveans, with a six months' stay of proceedings, to give the Trustee Co., further time to consider any appeal.

The £17,023 was placed "in trust" at the Commonwealth Bank, with Eveans, subject to additional strain and worry, waiting for the time to elapse and hoping that no claim would upset the position. It can be imagined how deep a sigh of relief he must have drawn, when on January 8, this year, 1959, he legally became the rightful owner of the £17,023 fortune!

All the waiting and hoping must have had something to do with the state of health of Mr. Eveans, for before the final decision was made he had to enter hospital for a nervous complaint, which could not have been improved by the long proceedings. Anxiety, frustration, uncertainty must have been very high.

Finally, having had the money position finalized, questions were asked about the cause of it all—the old "bomb"—nay, the "Golden Bomb." What would be its fate? Would it be sold, or abandoned, or would it be retained as a souvenir of much sentimental appeal?

The answer to these was simple: He would buy a new car, and at the same time keep the Whippet into the bargain—to remind him of his good luck, and troubles, combined.

Some said that it would be a good thing to keep the "old bomb,"

for should he have recourse to teach his wife to drive a car, there would be no worry about damage to the vehicle that might occur during the period of instruction, if he employed the tourer for that purpose, as against the newer model, which might easily suffer through the effects of inexperienced driving.

There may be a cache concealed

That's the story of the "Golden Bomb," one that for 2 years has

held the attention of the public and motorists alike. Should you have or know of an old car, "a bomb" lying about the place, buy it at once, and take a good look in the back seat—just in case there's a cache concealed.

But don't be alarmed if—should you come across any, you have to prove your ownership in a court, and have to wait 2 or 3 years to actually prove it, and before you can spend the money.



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From GORDON WILKINS

Italian styled body, greater braking power. New axle ratio. New steering gear.

The new M. G. Magnette is the latest of the BMC line to be rejuvenated with a body designed by Pinin Farina. The four-door unit construction saloon is similar to those used on the new Wolseley 15/60 and Austin A.55 but it has shorter tail fins and a different front with a new version of the traditional MG radiator grille, something between the slim vertical one on the old Magnette and the broad curved one on the MGA. Engine, transmission and suspension are little changed except that the rear axle ratio is higher. Maximum speed is said to be about 85 m.p.h. and fuel consumption 38 miles/imp. gallon at a steady 30 m.p.h. or 29.4 m.p.g. at a steady 60. Wheels are smaller and brake drum diameter is accordingly reduced from 10 to 9 in. but overall braking power is greater; front brake drums are 2½ in. wide and total brake lining area is increased to 147 sq.in. a gain of nearly 10 per cent. Brakes are now Girling instead of Lockheed. Interior finish is in MG style with instruments grouped in a matt cowl in front of the driver, leather upholstery and short remote control gear lever on the floor.

The 1489 c.c. BMC engine has new inlet and exhaust manifolds and two new 1½ inch SU diaphragm ½ type carburettors aid to permit easier adjustment and give smoother idling than the old type. Maximum power is unchanged at 68 b.h.p. (SAE) at 5,400 r.p.m. but torque is up slightly to 85 lb. ft. at 3,300 r.p.m. Tank capacity is also increased to 10 imp. gal. (12 U.S. gal.). The clutch is hydraulically operated. Gearbox ratios are unchanged but axle ratio is now 4.3 to 1 instead of 4.55 to 1. Allowing for the use of 5.90—14 tyres against the previous 5.50—15 this gives a slight increase in road speed for a given engine speed. (16.54 m.p.h. at 1,000 r.p.m. in top.)

Weight is slightly higher than before. Steering is by cam and peg in place of the former rack and pinion to reduce road shock. Front suspension is by wishbones and coil springs without anti-roll bar.



M. G. MAGNETTE (MARK III) : This startling, "new look" sports saloon combines the most modern lines and up-to-the minute comfort with all the special M.G. features which spell SAFETY FAST motoring to produce a fast, "eager" car of streamlined yet pleasing appearance. Powered by the B.M.C. 'B' Series engine developing 68 b.h.p. at 5400 r.p.m., the Mark III is the latest notable descendant of a famous breed.

Rear suspension is half elliptic; all campers are piston type. Wheelbase is reduced by about 2½ in. compared with the old car, and front track is about 2 in. less but length is increased by 9 in. and height is slightly greater. Ground clearance, head room, leg room and elbow room are maintained or increased. Leather upholstery, pile carpets and walnut veneer for door cappings and fascia panel set the tone of the interior. The matt black of the leather crash pad on top of the fascia matches that of the instrument panel and its cowl and the horn ring on the 17 inch drop-centre steering wheel is cut away at the top to allow a clear view of the instruments. These comprise speedometer with trip and total readings, fuel gauge, oil pressure gauge, engine thermometer and ammeter. There is no tachometer, but an electric clock is fitted centrally between the air and water controls for the heater and demister unit.

Control switches are the snap-action toggle type so the light switch can be used to flash the headlamps. A trigger below the steering wheel works self-cancelling direction indicators. It has a warning lamp on its end which is automatically dimmed at night. Door locks are the new zero-torque non-slam type with

safety catches on the door edges where children cannot reach them. All four doors have winding windows and swivelling ventilation panes. The trunk is big and unobstructed with a flat floor; capacity 19 cu. ft. (0.538 m3). Spare wheel in separate wind-down cradle below. Twin sun visors, three ashtrays, heater-demister windscreen washer and reversing lamps are standard equipment.

MG Magnette Mark II Technical Details

Engine 4 cyl. o.h.v. pushrod 73-025 88.9 m.m. 1489 c.c. Compression 8.3 to 1. Two 1½ inch SU carburettors 68 b.h.p. SAE at 5400 r.p.m. 85 lb. ft. 3300 r.p.m. Transmission. Single plate dry clutch hydraulically operated.

Four speed gearbox with synchromesh on top three. Central remote control lever. Hypoid axle. Overall ratios 15.64, 9.52, 5.91, 4.3 to 1. Reverse 20.45 to 1.

Suspension and steering. Wishbones and coil springs front.

Half elliptic rear, Piston type dampers. Cam and peg steering.

Dimensions. Wheelbase 99½ in. Track for 48½ in. Rear 49½ in.

Length 178 in. Width 63½ in. Height 59½ in.

LEAF SPRINGS FOR AUTOMOBILE SUSPENSION

(From our Special Correspondent)

New Delhi : On the recommendation of the Tariff Commission which conducted an enquiry into the automobile leaf spring industry in 1954, the Indian Standards Institution has issued a specification for general requirements for leaf springs for automobile suspension. One of the ancillary recommendations of the Commission was that the Indian Standards Institution should examine the question of standardisation of the types of leaf springs in consultation with the manufacturers of leaf springs, producers of spring steel, manufacturers of motor vehicles, etc. The I.S.I. should take up the question of formulating standard specification for indigenous leaf springs as early as possible in consultation with the indigenous manufacturers of leaf springs and manufacturers of motor vehicles.

It is understood that according to the estimate of the Development Wing the demand of automobile leaf spring was 390,000 springs per year and it will go up to 510,000 by 1960-61.

The raw materials that are required for the production of the leaf springs are mild steel flat bars or strips and plates, phosphoric bronze bushes, tubes for bushes, centre bolts, clips bolts, nuts and rivets. Many of the raw materials are, it is understood, available from indigenous sources except spring steel bulk of whose requirements were met by imports.

The Standard was adopted by the I.S.I. on 30th December 1957. In preparing the standard the views of producers, consumers and testing authorities were taken into consideration and also the manufacturing practices followed in the country in this field. It is also observed that most of the leaf springs issued and manufactured in India are designed on the FEPS system. And it was anticipated no difficulty would be felt in redesigning the leaf springs on the metric system since they have to vary only the thickness of leaves, the length of leaves (excepting the first leaf) and the number of leaves in the spring. Anyway since it will take a few years before spring leaves manufactured in metric sizes become

available, the standard recommended—

- (1) metric sizes to meet the present demand and regulate future demand;
- (2) in inch sizes to meet the demands during transition period and for manufacturing replacements.

It was also hoped that in due course manufacturers of Leaf Springs and assemblers of automobiles would collaborate in evolving designs on the metric basis confining, as far as practicable, to those metric sizes which have been indicated in the Standard as preferred.

The Industry Minister has recently given the percentages of indigenous content in different main models of automobiles manufactured in India and they are, as they stood in April 1958.

Cars :	Percentage
Hindustan Ambassador.	60
Fiat '1100'	37
Standard Vanguard	33
Standard '10'	30
Truck and Bus Chasis :	
Tata Mercedes Benz	53
Dodge (Medium diesel)	
165' W.B.	52
Dodge (Light petrol)	
126" W.B.	26
Dodge Power Wagon	26
Leyland 'Comet'	38

SASTRI VISITS STANDARDS

In spite of a very crowded programme Sri Lal Bahadur Sastri, Union Minister of Commerce and Industry, paid a visit the Standard Motors Factory at Vandalur on February 14.

The Minister was received by the directors of the firm. He went round the various machine shops, took a keen interest in the operations being carried out on the various machines, particularly in the cylinder block, mainshaft, camshaft sections. In great detail he examined the tool room and the gear cutting and other small component sections. He also followed the various operations in the manufacture of the numerous components that constitute the gearbox. During his visit through the assembly shops, he followed up the various stages towards the completion of the car. He then visited the training school where he examined the various components which are either manufactured or procured from Indian sources. Mr. K. N. Ramanathan, Chief Engineer, Messrs. Sitaram & Morgan explained in detail to the Minister the various manufacturing and assembly operations.

Leyland Royal Tiger/Titan	9
Jeep :	
Willy's CJ-3-B	58

Mr. Lal Bahadur Sastri being received with the Purna Kumbam by Sri K. Gopalakrishna



MOTORINDIA

LOTUS PROGRAMME FOR 1959

Profiting from the lessons of 1958, when they attempted to do far too much and suffered in racing, Lotus have pulled their works team out of sports car racing but will give limited support to approved stables and private owners. The bounding vitality of this vigorous young outfit will now be concentrated on production of an extended range of cars including a new small sports model and full scale participation in Formula 1 and Formula 2 Grand Prix races with five cars.

Drivers in Formula 1 will be Graham Hill and possibly Keith Nall and in Formula 2 Innes Ireland and Allan Stacey. The single-seater which takes either size of engine has been redesigned with new chassis frame and cleaner body which has no blisters over the engine. For Formula 1 events a new Coventry Climax unit with redesigned crankcase, new crankshaft and swept volume raised to 2,495 c.c. will be employed. After experiments with two different mountings the power unit is canted at 17° to the vertical and 10° to the cars horizontal centre line to take the drive shaft past the left side of the cockpit. The Lotus five-speed gearbox in unit with the differential has been redesigned with a positive stop shift in which the lever returns to the same position every time instead of the five-notch quadrant which drivers found difficult to use. There is now more room in the cockpit and the exhaust system is mounted externally. Cooling systems for water and oil are redesigned and rear suspension is stronger. The car weighs about 700 lb. dry.

The new frame has a removable tube over the engine for additional stiffness and suspension at front and rear is partly enclosed by the body.

Using the car in Formula 2 form with 1,500 c.c. Climax engine, Graham Hill has already lapped the Brands Hatch circuit in 56.3 seconds and put in 15 consecutive laps below Stirling Moss's record of 57.4 seconds.

The entirely new sports racing car is the Seventeen. Conceived orig-

inally as a 750 c.c. machine it is very small and extremely light and as now offered, with the Climax 1100 c.c. engine will be very potent indeed. At present it is only being supplied on the British market and elsewhere the Lotus Eleven which is now fully homologated will continue to race.

The Seventeen

The Seventeen is much smaller, with a wheelbase of 82 in., and a lower frontal area. It weighs 110 lb. less than the Lotus Eleven. Suspension is all independent with a new strut type front suspension which beats even Lotus records for lightness. A coil spring and damper strut acts as the steering swivel and has a light tubular stub axle with mounting plate for the disc brake caliper and the steering arm attached at the base by four bolts. Top end of the strut is attached to the frame; the lower end rests on a single wishbone. Rear suspension is the Lotus strut type swing axle as on the single seaters, the Fifteen and the Elite. Widely separated mounting points of the suspension have permitted the creation of a strong but extremely light space frame. The sheet metal floor is a stressed unit and a small sheet metal drive shaft tunnel takes part of the braking and acceleration loads from the chassis-mounted differential. A light alloy fuel tank of 8 gallons is mounted at the rear.

Engine normally supplied is the Coventry Climax 1100 with single overhead camshaft in stage three tune with five bearing crankshaft giving 84 b.h.p. at 6,800 r.p.m. on a 9.8 to 1 compression. Mounting points are also designed to take the Climax 750 c.c. FWM engine when it becomes available.

Transmission is through a 7½ in. single plate clutch, hydraulically operated and a lightweight four-speed close ratio gearbox in unit with the engine. A choice of four ratios is available for the hypoid final drive and a ZF limited slip differential is an optional extra. Bolt-on disc wheels in cast magnesium are used as they save 35 lb. of unsprung weight, compared with centre lock wire wheels. Brakes

NEW SMALL SPORTS CAR — OTHER MODELS IMPROVED — WORKS TEAM QUITS — SPORTS CAR RACING TO CONCENTRATE ON FORMULA 1 AND 2.

are Girling discs of 9½ in. (24 c.m.) diameter, operated through two master cylinders with an adjustable balance bar. The body will be very well streamlined on familiar Lotus lines. Dry weight is only 750 lb. (342 kg.) for the complete car.

Refined and developed

The Lotus Fifteen already raced so successfully by private owners has been refined and developed. Front suspension has been reversed so that the anti-roll bar forming part of the top wishbones passes rearwards, allowing more space for radiator and oil cooler and simplifying the chassis frame.

Torque produced by the 2-litre twin camshaft Climax engine is now such that a four-speed gearbox is considered adequate and a BMC box is now fitted in unit with the engine. The same box will also be available to export buyers of the 1,500 car as they may find it easier to service than the Lotus five-speed box which forms a unit with the differential although this is still available to order.

The low body-line does not allow a conventional radiator heater tank to have a sufficient head of water above the pump to separate air bubbles and prevent cavitation at the impeller in all conditions. Two swirl pots are therefore being used to separate the air by centrifugal action and allow the water displaced by thermal expansion to be returned again on cooling.

The Lotus Elite, now in regular production will be raced at Sebring, Le Mans, and Rheims. For the Formula 1 and Formula 2 cars Stan Elsworth former Vanwall mechanic will take charge of preparation.

Dimensions Wheelbase 82 in. 208.3 c.m. Front track 42 in. (108.7 c.m.). Rear track 45 in. (114.3 c.m.). Overall length 131 in. (332.7 c.m.). Overall width 55½ in. (141 c.m.). Weight to scuttle 25 in. (58.4 c.m.). Overall height 29 in. (73.7 c.m.). Ground clearance 12.7 c.m. (5 in.). Weight less fuel 750 lbs. (342 kg.)

France's New Safety Code for Cars

By Mr. GORDON WILKINS

Dangerous Mascots and Fittings banned in Three-stage Campaign

France is the first country to impose a legal code for motor vehicle constructors banning fittings which could cause danger to occupants or to other road users. The code, which applies to cars, commercial vehicles, motor cycles and scooters becomes effective in three stages, starting this year.

From July 1959 there must be no emblems, mascots or other fittings ahead of the windscreen likely to increase the gravity of injuries to pedestrians, cyclists or motor cyclists in the event of collision. The Peugeot was the last French car to be fitted with a mascot—a lion's head—and this has now been dropped. Existing mascots must be removed before July. External mirrors must have no points or sharp edges. Interior mirrors must be in a frame with no sharp edges. Sun visors must also have rounded edges.

Roof Racks and Ski Racks

Stage 2, effective July 1960, bans roof racks and ski racks with sharp edges and bumpers or over riders with sharp projections. Bumper ends must be curved round to follow the lines of the body. Engine compartment and exhaust system must prevent fumes entering the body. (This could affect station wagons when used with the tailgate down). The instrument panel must not have any hard edges or projections liable to hurt passengers who are thrown forward and the bottom edge must be rounded (Presumably switches must be recessed). Seats must be securely fixed to the floor, though they may be adjustable (Lift-out seats as on the 2 CV Citroen may be affected). Front seat backrests must be padded at the top (No more hand rails or exposed tubular frames).

Door handles banned

Stage 3, effective July 1961, bans any door handles likely to hook a cyclist or pedestrian and all pointed or sharp-edged projections at sides and back of vehicles must be eliminated. The size of cowls over laps is limited. The roof and windscreen

GLASS WHICH FLOATS ON MOLTEN METAL

A wine glass or other object produced by the glass blower needs no special polishing before it is sold. It has a natural high lustre produced as the surface cools naturally in the air. Sheet glass as used for ordinary windows does not have an absolutely consistent thickness and so produces distortion of vision. Accurately finished plate glass therefore has to be finished by grinding or polishing. The present method,

surround must be free of sharp projections such as the control for a sliding roof and the roof itself must not open accidentally under impact. All doors must be hinged on their forward edges. This last affects a number of cars including the French Citroen 2 CV, Renault 4 CV Dyna Panhard, Vespa 400 and Reugeot 203 but will not be applied to cars registered before July 1961.

Most comprehensive

Switzerland, Belgium, Germany and Britain already have regulations against dangerous mascots and other projections which are applied with varying degrees of severity but this code is by far the most comprehensive seen so far.

called the Twin Grinder, was invented by the British firm Pilkington 20 years ago and is now widely used throughout the world but it is slow, costly and does not produce the high surface glass which exists on glass straight from the furnace.

A new process

Now, after seven years of research and experiment Pilkingtons have started using a new process in which a ribbon of glass squeezed out by rollers floats across the surface of a bath of molten metal. The underside of the glass acquires a high lustre flat surface from contact with the molten metal and the upper side is fused into the same condition by a carefully controlled battery of flames. The bath is in sections at diminishing temperatures so that the glass ribbon emerges at the end with a fine hard surface before passing on to the rollers of the annealing furnace.

High Optical quality

The new glass, called Float glass has high optical quality and a high lustre. It is believed that one machine will eventually be able to meet all Britain's need including those of the motor industry and as production rises, the price should

Motor dealers of Vijayawada who assembled at Prakasam Road, Governorpert, Vijayawada on 12th February on the occasion of the opening of the branch of M/s. M.P. Narayanan, Radiator Specialists of Madras



MOTORINDIA

be reduced below that for plate glass.

The bath on which the glass floats, requires a metal which does not react with the furnace lining or with the glass at about 1,200 deg. C. No official information has been released but from early patents it appears it may be tin, or a mixture of tin, aluminium and lead, the latter being added to maintain the required specific gravity.

Round the World

DAF. First production cars should come out from the Van Doorne's factory at Eindhoven about March. The first few hundred cars will be sold through DAF dealers in Holland but first exports, mainly to Belgium, are planned for the fall when it is hoped that output will reach 100 to 150 cars a day.

Full production of 1,000 cars per week should be reached by the end of the year.

FORD is now the leader in U.K. vehicle exports. Total for 1958 was 216,000 vehicles.

RENAULT. The Dauphine has doubled its sales in West Germany in 1958 compared with 1957. 10,000 Renault cars were imported into West Germany during 1958, more than three quarters of them Dauphines.

VOLKSWAGEN. Devaluation of the French Franc is a headache for Volkswagen. It cuts the price of the Dauphine in West Germany and will produce a big increase over the 1958 total of 10,000 Renault imports, but it raises the price of Volkswagens in France. Importers profit margins will be cut so that the car can be sold for 795,000 French francs. If full devaluation had been taken into account the car would now cost 825,000 francs.

Production of the Volkswagen is expected to reach 3,000 a day by the end of 1959. At present it is 2,500 daily. Total production of VW since 1945 is 2,594,920 units. Production and export increased in 1958 when 556,717 units were built, of which 316,662 were exported. In 1957 472,554 were built and 270,987 exported.

RENAULT DAUPHINE sells in France for 620,000 francs and the price could probably be cut now that 1,200 are coming off the production lines daily.

ITALIAN gas is cheaper. Gasoline in Italy returned to the pre-Suez price of 218 lire a litre 8s a gallon recently when a Bill abolishing a 14 lire surtax imposed during the Suez crisis came into force. This follows a nationwide campaign led by Italian motor magazine Quattroruote.

VANWALL wins Dewar Trophy. The Dewar Trophy for the outstanding British technical achievement in motoring during 1958 has been awarded to Mr. G. A. Vandervell and his colleagues for the design, development, production and performance of the Vanwall racing car, which was first winner of the new World Championship for Constructors in Formula 1.

U.K. CARS LEAD U.S. IMPORTS. Britain exported more cars than ever to U.S. in 1958 and took 36 per cent of the imported car market. Germany had 34 per cent, France 18 and Sweden 4. Over 130,000 Americans bought U.K. cars valued at \$ 170 M last year. U.K. industry's target is 185,000 U.S. sales in 1959. It is forecast that the total American domestic car market may rise from the 1958 4 M to 5½ M in 1959. Imports can expect to benefit from this trend by rising from 1958's 350,000 total to perhaps half a million.

8 per cent of all car sales in the U.S. in 1958 were imported, U.K. cars representing 2.7 per cent.

AMERICAN GP CARS FOR EUROPE. Lance Reventlow hopes to have the Scarab ready to race in the Monaco GP this year. Drivers will probably be Reventlow and Charles Daigh.

CITERIA STILLBORN. Hopes raised by presentation of a remarkably well built prototype for a new Dutch sports car, the Citeria, were dashed when its sponsor was arrested on charges of fraud. The Citeria is a very attractive two-seater sports coupe with BMW 600 flat twin engine and four-speed all-synchromesh gearbox at the rear, tubular chassis and plastic body. Front suspension is by single wish-

bones and vertical coil spring-damper struts. Rear independent suspension by wishbones and transverse leaf spring.

ENGLAND. Following Chrysler Corporation's purchase of an interest in Simca Paris, distribution of Simca products in Great Britain, currently handled by Fiat (England) will be undertaken by Chrysler's British subsidiary Dodge Brothers (Britain) Ltd. Existing agency contracts will be honoured.

VAUXHALL WEATHERING TESTS IN FLORIDA. Vauxhall Motors Ltd. of Britain are using a new 10-acre testing field opened by GM in Florida for weather testing of paint finishes, metals, plated parts, plastics and upholstery fabrics.

The new test field can deal with 2,000 samples a month. It has a laboratory, photographic dark room, paint spray booth, humidity and instrument rooms and offices. Outside is accommodation for 5,000 paint panel samples on portable open-air racks. Other racks are maintained under glass for exposure of interior items of the car which are not normally subjected to rain.

A.A. plans big expansion

1959 *Development programme.* In 1959 the A. A. radio aid network for motoring is to be extended to three new areas giving total coverage over more than 47,000 square miles of Britain. Over 300 new vehicles are to be provided for the road patrol service, including many diesel engines and radio equipment. There are to be more A. A. roadside telephone boxes. Larger head-quarters in London and the provinces are to be provided to give day and night service for over 2,150,000 members, and the A.A. teleprinter network will be extended to include thirty-three offices.

Viscount Brentford, Chairman of the A.A., commenting on the Association's plans said "indications are that the motor-owning population of Britain will increase as never before. We believe that growing national prosperity and the relaxation of restraint on credit will produce unprecedented expansion—the total number of motor vehicles on our roads by the end of 1959

may well approach eight million. Hence this big A.A. development programme which will greatly increase the scope and efficiency of our services."

VOLKSWAGEN PROVING GROUND. A 60 acre proving ground in Wolfsburg has been constructed to keep a check on the quality and safety of the Volkswagen. It reproduces road surfaces and driving conditions met by drivers all over the world.

A 1.12 mile oval concrete test track runs round the proving ground with banked curves on which speeds of 93 m.p.h. can be obtained without side thrust. There is a steering pad and 33 ft. high test hills with four different gradients. There are strips of bumpy noisy asphalt and a cobblestone track with pot-holes and cracks and a concrete corrugated track. The 2,500 VW produced every day are tested on this proving ground, eliminating the risks of testing on public highways.

CITROENS IN CAMBODIA. During 1958 Citroen secured 31 per cent of the Cambodia market following opening of an assembly plant in PNOM-PENH.

NSU PRINZ POWER OUTPUT GOES UP. Production of the Prinz began in January 1959 and as a further development of this Bertone-styled 85 m.p.h. car NSU plan a special Sport Prinz with a 40 b.h.p. (SAE) supersports engine which will take top speed over 90 m.p.h. It will be known as the Sport Prinz 35.

MERCEDES-BENZ ARGENTINA WORKS AGAIN. The Argentina Government recently handed back to the Daimler-Benz AG its 54 per cent share in the 100 million Peso capital of the Mercedes-Benz Argentina. At the same time the compulsory administration of the firm was lifted and a new board of directors appointed. President is Arnold Wychodil of Daimler-Benz and Dr. Ceria as the representative of the 46 per cent minority interest which belonged to the former President Jorge Antonio and is now controlled by the Argentina Government. Discrimination against Mercedes Benz Argentina and Daimler-Benz AG has been abolished and the first step taken towards

reactivation of the Stuttgart firm's Argentine subsidiary, which had been closed for three years. The Argentina Government has granted an import licence for 800 engines to be installed into semi-finished trucks.

Efforts will be made to bring the production of the Argentine truck manufacturing plant back to pre-shut-down level of 250-300 vehicles monthly. A solution for the passenger car assembly plant which produced approximately 400 vehicles per month in 1955 will require more time. Import restrictions on passenger cars weighing over 2,200 pounds and priced about 1,600 dollars would have to be lifted.

ENGLAND: Standard Motor Co. have formed a wholly owned subsidiary Company in Naples, Italy known as "Standard-Triumph Italiana" to import, assemble and distribute their products in Italy.

Britain's First Motorway the 3½ million pound 8½ mile Preston by-pass has been closed for repair to the tarmacadam surface which broke up following severe frost. The road had been open for only 47 days. The Ministry of Transport says "No one was to blame" but false economies in construction are being blamed by critics who point out that for £150,000 extra a durable concrete road could have been built. Others blame incorrect construction because other countries with much more severe climates build roads successfully. Repairs to the Preston road will close the road for months and cost the taxpayer about £50,000.

Bristol make Bodies for Minicars

Bristol Aeroplane Company are to make the resin bonded glass fibre bodies for the Noble 200 Minicar which is being built in Belfast, based on the designs of the German Fulda.

Alta Closes Down

Geoffrey Taylor, builder of Alta sports and racing cars has retired after over 36 years connection with the sport. His sports cars were successful on British tracks before the war and a single seater was raced by George Abecassis. Immediately after World War II, Taylor built a supercharged 1½ litre single seater and his unblown 4 cylinder engines were used in the Formula

II single seaters run by HWM and Connaught.

Massey Ferguson take over Perkins : Bid for Standard Tractor Plant

Massey Ferguson whose tractors are at present built by Standard Coventry in the most highly automated tractor plant in Europe have taken steps towards manufacturing independence by buying Perkins the famous British diesel engine builders. They have long been bidding for control of Standard but have not yet achieved it although they have about 25 per cent of the ordinary shares. They will not renew their manufacturing contract with Standard which still has seven years to run and are now negotiating to buy the tractor plant. A condition of the deal would be that Massey Harris relinquish their holding in Standard, leaving them to pursue an independent car manufacturing policy with the completely new models due later this year.

Armstrong Siddeley and Bristol Cars under Joint Control

The Hawker Siddeley Group and The Bristol Aeroplane Company intend to merge Armstrong Siddeley Motors and Bristol Aero-Engines.

Hawker Siddeley and B.A.C. are sharing the share capital of a new company, Bristol Siddeley Engines Ltd., which will hold the shares of Armstrong Siddeley Motors, Bristol Aero Engines and Bristol cars.

The Board of Bristol Siddeley Engines Ltd., will include Sir Reginald Verdon Smith, Chairman, Sir Roy Dobson, Vice-Chairman, F. R. Banks, Sales Director, Mr. B. Davidson, Commercial Director, Dr. S. G. Hooker, Technical Director (Aero), Mr. W. H. Lindsey, Technical, Director (non-Aero).

INDIA: The Italian CEAT Rubber Co. is building a tyre plant in India. 60 per cent will be owned by CEAT and 40 per cent by Tata of India. The factory will be built on the outskirts of Bombay. Initial output will be 400 tons of tyres a month rising to 1,000 tons a month. Total investment will be about £900,000 and a labour force of 600 is planned.

RUSSIA: Plans tourist routes by car. Original itinerary by way of Warsaw has been extended and it is now possible to enter Russia

through Poland or Rumania, while travel by car can also be arranged in Czechoslovakia, Hungary, Poland, Rumania and Bulgaria.

RUSSIAN OUTPUT : Car production in Russia is now about 140,000 per annum. In the first half of 1958 Russia produced 255,000 motor vehicles of which 61,000 were cars. If market reaction is favourable Russia plans to enter U.S. market later this year with the 1,220 c.c. Moskvitch four-seater saloon.

CHINESE CAR INDUSTRY : Reports from Pekin claim that, in 1958, 70,000 motor vehicles, both private and commercial were produced, which is double the figure for 1957. Current expansion plans will raise production capacity to 150,000 vehicles per annum. Cars reported in production include the Red Flag, a 200 b.h.p. six-seater for top state functionaries and the 70 b.h.p. East Wind saloon described by the Chinese as a "middle class" model. New models scheduled for production are the Ching-kanshan, by the Pekin Motor Vehicle Works and the Progress, which is a 95 h.p. saloon.

Krupp Buys Maserati, Americans Rumoured to be Bidding for Ferrari

Rheinstahl, A. G. one of the companies in the German Krupp Group has bought Maserati. It is reported that production of cars and machine tools will continue and the Orsi family is retaining a 7 per cent interest in the company. Rheinstahl already controls Hanomag.

Presence of American production experts advising on rationalisation of production methods at the Ferrari works is now believed to reflect an active interest in Ferrari on the part of an American manufacturer. Some sources suggest it is one of the big three who would like to acquire the whole outfit as a going concern. These reports were strengthened by Ferrari's recent statement that in certain circumstances expansion of production might force him to abandon motor racing.

Record Output by European Motor Industries of Britain, France, Italy and Germany

Cars made in Britain last year totalled 1,051,551 compared with 860,842 in 1957. Car exports last

T E L C O VISITED

year were 486,816 against 426,277 in 1957.

Provincial figures show that in September 1958 approximately 7,904,400 vehicles were licensed in Great Britain, a 6 per cent increase over 1957. There were 4.5 million cars licensed, a rise of 8 per cent and there were 1.5 million motor cycles, a 3 per cent increase.

For the French motor industry, 1958 was a record year. 1,127,354 vehicles were produced compared with 927,814 in 1957. Output of passenger cars was 925,483 against 723,762 in 1957.

Italian motor industry produced over 400,000 vehicles last year against 351,799 in 1957. Expansion of exports largely accounted for the increase in production which was over 150,000 vehicles. One of the main developments was the improvement in the sales of the new Fiat 500 in the last quarter of the year. Alfa-Romeo hopes to put on the Italian market the first Italian-built Renault "Dauphines" in the spring.

West Germany built 1,495,229 motor vehicles in 1958, an increase of 23 per cent over 1957. Output of cars and station wagons was 1,306,756. 733,000 units were exported in 1958 equivalent to 49 per cent of total production. Last year Germany also imported 85,000 motor vehicles, 65,000 of which came from Italy.

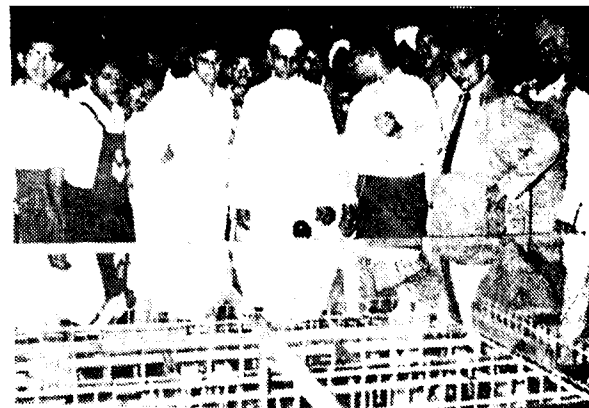
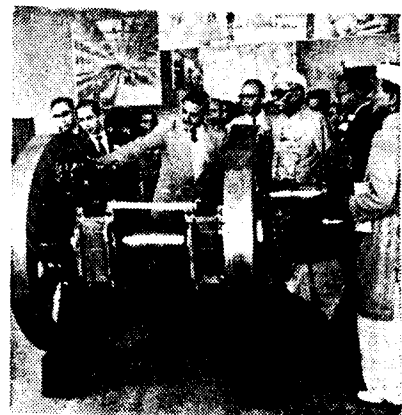


Photo above shows Mr. Morarji Desai, Finance Minister when he visited the stall of M/s. Telco at the India 1958 Exhibition. The photographs below show the President Rajendra Prasad arriving at the Telco stall, and taking a keen interest in the exhibits therein.



ALL-INDIA CONFERENCE OF OPERATOR

The Eleventh All-India Conference of Road Transport Operators, was held under the auspices of the All-India Motor Unions' Congress at Bangalore on 6-2-1959 under the distinguished presidency of Rajkumari Amrit Kaur, M.P. Sri S. K. Patil while delivering the inaugural address said that the controversy between the private and public sectors was only "superficial and that both are complementary and supplementary to each other." Sri T. S. Santhanam (T.V.S.), the Chairman of the Reception Committee, welcomed all the delegates and pleaded earnestly that Government should give all encouragement to the automobile industry and remove all restrictions on Road Transport. The proceedings are given below :

About 500 delegates from all the 14 States of India attended the Conference and prominent among them being:—Sri Kundan Lal, Secretary-General of the A.I.M.U.C., T. S. Santhanam, Director, T. V. Sundaram Iyengar and Sons and Managing Director of Sundaram Motors Private Limited, Sri V. Ayodhyaraman, Vasundara Lorry Service..... G. L. Sayal, President, West Bengal Lorry Syndicate, Sri M. L. Vyas, Managing Director, Raipur Transport Company Private Ltd., Raipur, (M.P.), Sri Champa Lal, Garg, Rajasthan, Sri Hira Lal, Gahlot, Rajasthan, Sri S. Govindarajan, President, Salem District Lorry Owners' Association, Sri S. K. Chatterjee, Bengal, Sri S. C. Pairta, Cuttackpur, Sri Rama Brahmam, Andhra, Sri Nagaraj, Bangalore, Sri K. P. Varma, Raipur, Sri M. D. Misra, Bilaspur Motor Transport Co-operative Society, Sri A. M. Khan, President, Chattisgarh Transport Co-operative Societies' Association, Sri B. S. Sidhwa, Mysore, Sri K. V. Bagal, Poona—and Sri Khurshed Hasan, General Secretary, Motor Union, (A.P.), Hyderabad.

Six resolutions on important topics and problems that affect the Motor Transport Operators were passed and they are given here verbatim. Messages and good wishes were read by Sri Kundan Lal.

Welcome Address

Mr. T. S. Santhanam, Chairman of the Reception Committee, read his address welcoming the delegates. He paid a tribute to Rajkumari Amrit Kaur and Sri S. K. Patil, Minister, Central Government for their services to the All-India Motor Unions' Congress. "Sri S. K. Patil was guiding our destiny over the past years as President of our Congress. His dynamism is well-known. Whatever he does, he does thoroughly, not merely for the present but for the future also. Whatever he does has the impress of his direct concentration and personality."

Importance of roads

Mr. Santhanam continued. "In our country with 1.5 million square miles and 380 million people, we have only 35,000 miles of railways. Ours is a country of vast distances, and the majority of people live in villages. We need a vast net work of good roads so that every village will be at a distance of not more than a mile or two from the nearest road. This should be the objective to be achieved in the shortest space of time. This view has been recognised by all ; yet the progress that has been made is far from satisfactory. Therefore, greater emphasis is to be placed in our Plans for expanding road mileage and developing and improving existing road surface and bridging all the important rivers throughout our country. Roads and road transport go together and the prime requisite for efficient road transport is good road.

"In the past, the importance of road and road transport has not been fully recognised by the Central and State Governments. The laws that have been enacted have not shaped a full and complete picture of the role of road transport in the cultural, social and economic activities of the people of our land. State Government boundaries have also impeded the free flow of commerce and industry."

Railways vs Roads

"Immediately after the first World War, the emphasis in India and elsewhere was to safeguard the



Mr. S. K. Patil, Minister for Transport and Communications, Government of India, who inaugurated the All-India Transport Operators' Conference at Bangalore recently, being led to the Conference hall by the Chairman of the Reception Committee, Mr. T. S. Santhanam and other



An ideal Reception Committee Chairman, Mr. Santhanam is seen escorting Rajkumari Amrit Kaur, President of the Conference, at the flight of steps the Puttanna Chetty Hall

Mr. P. V. S. Mani of M. B. T. seen pinning the Reception Committee Chairman's badge to Mr. Santhanam. The Vice-President of the Mysore Operators' Association (with Angawastriam on) is seen waiting to receive delegates from all India



interest of railways. Many committees have reported on this subject and the Motor Vehicles Act and Rules were enacted with a view to protect the railway revenue and ensure that there was no loss in the operation of railways which was a monopoly purveyor of transport. During the second World War, it was proved that the road transport is vital both in times of war and peace ; the usefulness of road transport was amply demonstrated by deployment of all available commercial vehicles in the service of the country—for example, for the movement of foodgrains and construction of aerodromes. Post-war years have again confirmed the earlier experience and in spite of restrictions and handicaps, road transport industry has developed.

Remove the restrictions

“Better roads and the use of heavier trucks and truck-trailers will bring down the cost of operation and will make road transport cheap, rapid and efficient. The country should think not only of increased production of motor vehicles, but motor vehicles of larger capacity and truck-trailer combination. The present restriction of loads due to various reasons should be removed as quickly as possible.

“ Road transport industry is labour intensive ; on a rough calculation, over a million people are employed directly. Indirectly, inclusive of manufacture, service, main-

Treated as second class citizens

“The All-India Motor Unions’ Congress is the only All-India Organisation, which deals with road transport from the standpoint of operation ; it keeps itself informed of the shortcomings of road transport industry and the difficulties arising from the literal interpretation of the Motor Vehicles Act and Rules. The All-India Motor Unions’ Congress, with its limited resources, is serving road transport to the best of its ability throughout India.

“This in short is the history of the All-India Motor Unions’ Congress. It should be admitted that in the absence of comprehensive and timely statistics and inadequacy of funds, the All-India Motor Unions’ Congress is not fully equipped to deal with the planning of road transport for the country as a whole. This can be done by a separate and differently constituted body more or less on the lines of Indian Roads Congress. This has been suggested in the discussions with the Government and it is hoped than an Indian Road Transport Congress will be brought into existence. Such an organisation with adequate finance will be in a position to collect all the information relevant to the development of road transport and furnish data



The Democle's Sword of nationalisation hanging as it is over the heads of Road Transport Operators throughout the country today, an enterprising artist took the opportunity of the All-India Transport Operators' Meet at Bangalore to draw and exhibit a cartoon describing the plight of the road transport operator today

"I thank you all for co-operating with me in making this Congress a success."

Sri Patil's inaugural speech

Sri S. K. Patil, Union Minister for Transport and Communications, Delhi, then delivered his inaugural address. He said :

"I had the proud privilege of

Sri Patil's Inaugural Speech

being the President of the All-India Motor Unions' Congress and congratulate you on securing the able services of Rajkumari Amrit Kaur. As Minister of Transport and Communications, I have tried to understand your problems and appreciate your point of view.

Complementary and supplementary

"The controversy between the public sector and the private sector is superficial. Both are complementary and supplementary to each other and without the co-operative co-existence of both, there will be no strong economy. There is absolutely no conflict between the two. I implore you not to think that anything done in the public sector is inimical to the private sector. Both must be balanced in order that the national economy should be strong.

Sometimes, "I am accused of being a 'particular friend' of the private sector. I am a particular friend of all that is good in this land. In a country like India where 90 per cent of agricultural and industrial development is still to be achieved, even the 'hardest of the capitalists' would agree that this could not be done unless people represented by Government stepped in.

Taxation should be uniform

"Taxation on transport and vehicles should be uniform in all States, so as to make working of Inter-State transport smooth. I assure you that the recommendations of the Masani Committee on re-organisation of this industry will be quickly implemented. The Inter-State Commission's report for removing transport problems will receive the attention of the Government at an early date. Everything possible is being done regarding road construction and amounts are being provided for improvement of roads in addition to the planned programme."

Sri Patil went on :

"There will be no nationalisation of goods transport in the country for at least five to seven years. The taking over of the passenger transport will be on a phased programme and there will be no undue haste in changing the existing conditions. If you run your services with efficiency

M-7

and economy and in the larger interests of the people, you will not be deprived of your trade not after seven years, even after fifty years.

No taking over of goods transport

"In conclusion, on behalf of the Planning Commission and the Government of India, I want to convince you that we do not intend during the Third Plan to nationalise the GOODS TRANSPORT. You need not be afraid that Government would do anything with a cruel desire to eliminate the private sector. I want that both sectors should work harmoniously."

Presidential Address

Rajkumari Amrit Kaur, M.P. then delivered the presidential address amidst cheers. She said :

"I have no real personal knowledge of your problems. I am not, and have never been, in anyway connected with this industry. I do not know therefore what prompted some amongst you to approach me to preside over your Congress. I had some discussion with them when they came to see me and I was naturally very hesitant to accept a task for which I felt I was wholly unfitted. But when my friend, Mr. Patil, who had for many years guided you with the organising ability which he possesses in such full measure, also pleaded with me to say "yes" to your request, I felt I should take up the responsibility and so here I am. I have been greatly heartened by the fact that Mr. Patil is now Minister for Transport and Communications in the Government, for I am convinced that not only my task but the task of the organization will be made much easier with him at the helm. All your problems are already known to him. He has always taken a very keen interest in many different branches of economic activity in the country and road transport has occupied a special place in his heart. Therefore, I have every hope that he will most willingly continue to help.

Road transport gravely neglected

“ When I refer to the problems of transport shortages, I am not unaware of the claim made by the Railways that so far as they are



A section of the huge gathering of delegates who assembled at the Puttanna Chetty Town Hall for the All-India Transport Conference.



A delegate from Kurnool is seen in conversation with the Chairman of the Reception Committee.



Mr. P. S. Narayana Iyer speaking at the open session.

Mr. Kundan Lal, the energetic Secretary of the AIMUC seen discussing a point with Mr. Santhanam at the Conference.



“Grave Inadequacy of Transport”

—AMRIT KAUR

concerned the shortage is only in respect of certain regions and that too, only during certain times in the year. This view is not, however, shared by all. The representatives of trade and industry in the country have been constantly complaining of the non-availability of railway wagons and of the considerable delays involved in transport. The question of rail-road co-ordination is a vexed one and by no means capable of easy solution. Even in the highly advanced countries of the world, such as the U.S.A. and the United Kingdom, their Governments are also today confronted with this problem. In our country where we suffer from a grave inadequacy both of rail and road transport, we can ill-afford to have any waste or duplication of our resources. But this does not mean that any one means of transport is to be subjected to undue restrictions simply for the sake of a more rapid development of the other. So far as I know the complaint of road transport interests has been that in the past, and up to date road transport has been grossly neglected. Not only that, the feeling is that it has been cramped in such a way that it has been unable to play its full part in the economy of the country. In other words, the road transport industry is of opinion that the time has come for a policy of positive encouragement in contrast to that of ‘mere tolerance’ hitherto pursued, so that a vital contributory factor in economic development may be enabled to grow to its full stature.

Advantage of road transport

“It is an obvious fact that Railways are a cheaper means of transportation. Nevertheless, road transport has certain inherent advantages. As for example, there is a definite saving of time and time means money. There is also a degree of flexibility in road transport which coupled with door-to-door service it is capable of rendering constitutes an advantage. For these and certain other reasons, road transport has come to be increasingly patronized by the consignors of goods, both on long and short distances, not only in this country but all the world over. It has been generally

conceded in every country that road transport is ideally suited for short-distance haulage. But, with modern trends in automobile manufacture, in particular with dieselisation of its motive power, as also with the latest research in road construction, a greater saving in time can also be made by sending goods even over longer distances by road.

Legal sanction behind nationalisation

“Now what is the position as far as the Road Transport Industry is concerned? The Motor Vehicles Act has recently been amended and a new Chapter IV-A has been added. This is only the legal sanction behind the policy of nationalization of road transport. Parliament has made it clear that whenever any State Transport Undertaking was of the opinion that they could provide ‘efficient,’ ‘adequate,’ ‘economic,’ and ‘properly coordinated’ road transport services, it would formulate a scheme to take over the existing routes. This scheme will then be examined in the light of objections received and will be confirmed or modified after giving the objectors an opportunity to present their case. The Supreme Court has very recently held that this was not just a formality. On the contrary it was an act of a quasi-judicial character and the Government or any authority nominated by it for this purpose was to decide this issue by applying a judicious mind. I do not suppose anyone will object to what appears to be a just and responsible position provided the law is administered according to the spirit and not only according to the letter. I am sure we shall all also concede that wherever the existing operators are not rendering efficient service to the public they have no business to continue. At the same time, however, if Government services are not comparatively cheaper, more efficient and more comfortable, it will surely be wrong and unjust to uproot a vast number of people who are gainfully employed in this business. I myself am not in a position to enter into any controversy about the state of affairs of the nationalized transport undertakings as they are to-day, *vis-a-vis*

the private operators. I should imagine that all is not well with either. But I am given to understand that the private operators have improved a great deal since their early days and there is no reason why they should not improve still further provided Government gives them some encouragement *pari passu* with a stricter control and the necessary regulations.

Lacking in Roads and Transport

The road transport industry is an industry which can perhaps be more amenable to Government control than any other. Government can, without investing a single penny, if they so desire, get the maximum comfort for the travelling public from the private sector. Already they have enough powers under the law, but if more are needed the law can be amended. Further, the money needed for investment in this industry by Government could be utilized elsewhere. And here I would like to say that that money could and should be utilized for road construction, so necessary for the proper development of communications. No one can deny that today we are woefully lacking both in roads and road transport. Most of our villages are as inaccessible today as they were many years ago. Must we not try to carry modern means of transport right to the doors of our farmers?

Not fair to private operators

“I believe, however, but I speak subject to correction, Government transport services have hitherto wanted to take over only the existing metalled roads and have in turn asked the displaced private operators to go and serve on the kutchra and village roads. Is this quite fair to the private operators? Should not Government resources be spent on those areas where transport is most needed for the economic development of the villagers? I am not sure that by displacing the private operators in this way, the Government is making any contribution towards the expansion of road transport which is a vital necessity for the farmer. If the State Governments were to accept this position, I have a feeling that for many years

“TREAT YOUR EMPLOYEES WELL”

to come there will be a vast scope for the expansion of their existing transport services. This will also mean that at least for some time to come the private operators too can exist side by side with State services. I am one of these who has always believed in healthy competition as one of the best means of maintaining standards of efficiency.

The way out

“Our beloved Prime Minister has recently laid great stress on the principle of co-operative effort. Surely that principle can with profit be applied to this industry. After all, the road transport industry is widely diffused. There are more than 50,000 operators of whom nearly 95% own less than five vehicles. The Planning Commission had also made some suggestions along these lines about forming viable units. I believe that if these people could be persuaded to form themselves into ‘co-operatives,’ many of their ills and most of their evils, of which the State Governments make so much, would disappear. Governments would also in this way come to have further control, *i.e.*, through their co-operative department, as also through the M.V. Act. The operators will have nothing to lose either.

Treat your employees well

“I have taken more of your time than I had wished to. I must thank you for having elected me as your President. Let me also take this opportunity to assure you that so long as your interests do not come into conflict with any national interests, which situation I have every hope will never arise, for I like to believe that every Indian is a patriot, I shall always try my best to help you and help the Government at the same time by acting as liaison between the two. No one knows better than I do, my own grave limitations but I will endeavour to do whatever lies in my power. A few last words by way of advice. Treat your employees well. Give the public the best you can. Remain united and thereby strengthen both your provincial unions and the A.I.M.U.C. You have a bright future, no matter what the dark clouds gathered on the horizon

today may threaten to be, for every dark cloud has a silver lining. Above all, look upon yourselves as the servants of the people. You have a right to make reasonable profits but at no time must there be exploitation. I like to believe that private enterprise is but another form of voluntary endeavour and if undertaken in this spirit, with clean hands and a pure heart, it will, it cannot but be welcomed by Government.

Conclusion

“You will now hear a brief report from our Secretary-General, who will cover such other points as deserve the attention of the Government and which I have not included in what I have said.

In the end, I would like to thank once again on my behalf as well as yours, our friend Mr. Patil, who has come all this way to inaugurate our Conference. I am sure we can always expect sympathetic understanding and justice from him.”

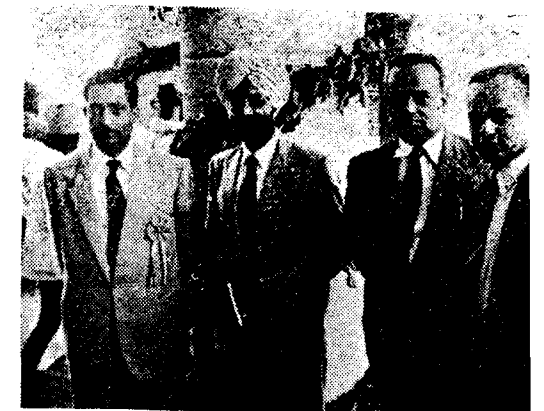
Report

The Secretary-General of the A.I.M.U.C. Shri Kundan Lal then presented his report to the Conference. After dealing with the problems facing the Conference, Shri Kundan Lal said:

“The present Conference is our first in the South. It is a happy augury that we are all meeting here in the most beautiful city of Bangalore which can rightly be called the hub of Southern India. We are fortunate in having Shri T. S. Santhanam as the Chairman of Reception Committee and the Mysore State Lorry Owners’ Association as our hosts here. We have been successful in securing the co-operation of not only the big operators but also of the individual lorry and bus owners. The biggest T.V.S. and the smallest, in my humble-self, are all here, from all the fourteen States of India and this is by itself an achievement. I think the A.I.M.U.C. can rightly claim credit of having brought us all together. Shri Santhanam has so kindly said some nice words about our Organisation and the way it was functioning, within limitations but I would like to tell a little bit more for those who are not familiar with it.



Mr. Santhanam is seen presenting a Mysore visitor to the Conference, to Mr. Mahinder Singh of M/s. Hyderabad Allwyn Ltd.



Some prominent delegates at the Conference seen as they were entering the Conference Hall.

Mr. Ramanna of Kurnool (with cap on) and Mr. Ayodhyaraman, President of the Mysore Operators' Association (wearing badge) seen with the Secretary to Mr. Santhanam.



“ROAD TRANSPORT LONG NEGLECTED”

The elephant and the mouse

“Coming back to the question of rail vs. road, why is it that railways are once again campaigning for restricting road transport to shorter distances? Is road transport to serve railway interests or is it not that railway and road transport should serve national interests? Road transport has long been neglected, if not suppressed. Not only that, it has been subjected to all sorts of undue and one-sided restrictions and all this has been done in the name of achieving a co-ordination between rail and road transport. We are told Railway assets shall be protected. It is like an elephant asking for protection against the probable onslaught of a mouse. People are told that road transport is suited to short distance only. We forget that it is not something inherent in road transport which makes it unsuitable for long distance. On the contrary there is far greater saving of time and money when goods are moved over longer distance. Daily average speed of a railway wagon is just about 48 miles, whereas a truck can conveniently do about 150 to 200 miles a day. This fact is conveniently forgotten when comparison is sought to be made of the cost per ton mile.

“Here again it is none of the fault of road transport that it may be costly. Given good and better roads, higher payloads, lesser tax burden and freedom from operational restrictions, it can be cheapened. Why should it not be? Transport is an integral part of all trade, business or industry. Its cost is always reflected in the price which the consumer is called upon to pay. What a pity that in our anxiety to keep the Railways, we are allowing so much of the waste of our national resources to accrue in the form of under utilisation of our roads and vehicles. I must say that we have never claimed that all is well with us. On the contrary, we have been repeatedly requesting the Government to take early steps to ameliorate the condition of those who are engaged in this business.

“In view of the fact that it was at our instance that at the Mussorie Conference of Transport Commissioner/Controllers, definition of via-

ble unit was widened to include in it even the associations of individual owners, it is hard to appreciate the criticism, however well intentioned it may be that we are asking for a monopoly.

Justice denied and delayed

“Restriction on inter-state transport operations, imposition of double taxation, charging of octrois and tolls by local bodies (and the resulting delays), raising of taxes despite the fact that all are agreed that the present tax burden was already unbearable; difficulties experienced in getting ready supplies of chassis, parts and tyres; and at reasonable prices; lack of easy and cheap credit facilities, and many more problems we have repeatedly brought to the notice of the Government. I do not know how to put it before you, but truly speaking, every time we have been promised help but in spite of all this, we are still where we were! What use is this sympathy to us if justice is denied or delayed?

Disquieting rumours

“There are rumours of a further tax on diesel oil; that goods transport will be restricted to 300 miles, a radius of 150-miles and so on. Is this the way to foster this industry? Let us all consider these and many more problems which may be placed before you by many speakers who have far greater practical experience. But while considering them, please do not forget that we have not come here just to pass a dozen or odd resolutions. Allow me to repeat that we will have to think of ways and means of implementing these resolutions which we pass here.”

Address by Sri V. Ayodhyaraman

Sri V. Ayodhyaraman addressing the Conference referred to the incubus of the municipal tax and the spectre of harassment caused by it. He suggested that a friendly public opinion should be created, if they wanted to succeed in asserting their rights.

The incubus of Municipal tax

He said:

“I need hardly recount here such everyday matters as harassment

caused by the Police; the restrictions imposed on the payload; imposition of double tax and so on. I should neither take your time in telling you how we are being treated in the Courts or in the Offices of Transport authorities and by and large, by the Government Officials. Our lot is in no way better than what perhaps is yours. Such problems will be brought home to you by many other speakers. I would, however, like to mention in the same breath in which I have said so much before about the commercial importance of Bangalore, that the imposition of Octroi by the local Municipal Corporation, more so the way in which it is realised to the great harassment of Operators, has, to a very large extent, throttled its future growth as a great commercial and trading centre. Road Transport, as you all know, is essentially a versatile mode of transportation; and its utility lies only in its quick-movement. But, the municipal tax imposed besides being an unbearable burden, has been the cause of immense delays in the movement of trucks.

Spectre of harassment

“This delay takes away the real usefulness of Road Transportation. It is not uncommon to find lorries fully loaded held up for hours together and often for days, simply because the inadequate staff posted at municipal octroi posts cannot allow them an exit. What does it mean in terms of rupees, and naye paise? What does it mean in hours, minutes and seconds both to the Consignor and the Consignee of the goods? Again, what does it mean to the consumer in terms of the price he is made to pay? I wonder whether anyone has ever tried to calculate these things in this manner. We have suggested times without number that this tax be merged with Sales Tax or any other Tax. I would once again like to say this from this national platform, hoping that it will not fall on deaf ears again. I know that this problem is in no way unique for this City. There are in some other states octrois and tolls levied on goods in transit and these cause similar harassment to the operators.

Sri Ayodyaraman on Harassment & Loss

Create friendly public opinion

“It is seldom that operators from every part of the country would come together like this. Let us think of ways and means, as I have said earlier, of creating a friendly public opinion—a sort of public liaison, so to say. Let us not be misunderstood by the public. Our efforts should not be to plead with the Government or appealing to it. I do not want nor do I expect much sympathy from those who are in offices; but, I have every hope that people in this State as elsewhere will give us their ears; they will appreciate our limitations. How grossly we are misunderstood? All sorts of accusations are hurled against us. We, on our part, have always taken these things with a degree of coldness, which I am afraid has passed all limits.

Our indisputable right

“This is an age of propaganda—at least, we have a right to put forth our viewpoint. Let us not feel chary of it. We have as much right to say what we feel, as any other industry. I appeal to you friends, therefore, to concentrate on this one rather important point which, if properly discussed and debated will open ways for the solution of our different problems.

“I thank the Minister, Mr. Patil who has to hurry back, also the Chief Minister of our State who has been kind enough to come here despite his various preoccupations; our President, Shrimati Rajkumari Amrit Kaur and all our delegates and friends and particularly our Secretary-General and my friend Mr. Kundan Lal who was so much instrumental in giving us this opportunity to hold this Conference here, in Bangalore.”

At the open session, after a brief introduction by Mr. Kundan Lal, several delegates took part in the discussion.

Mr. S. Govindarajan

Speaking in Tamil, the Salem Lorry Owners' Association's President Mr. S. Govindarajan read the resolutions which were passed by the Salem District Lorry Owners' Association at their meeting. In his speech he explained the difficulties

the lorry owners come across and pleaded that the Central Government should come to their rescue.

He demanded that the public carrier tax should be equalised throughout India in all States and when a lorry having a primary permit of one state enters other states, only 1/4th tax must be collected. He emphasised that it was important. Permitted lorries should be granted equal permission to make use of all trunk roads throughout India.

He referred to the high prices for petrol, Diesel oil, mobile oil and spares and tyres, for the mobile van and said that adequate steps should be taken to level down the prices for the benefit of lorry owners. He also asked for import of small cars, lorries and buses until we are able to satisfy the needs of the country.

ALLOW DEVELOPMENT REBATE FOR BUSES AND LORRIES

MR. P. S. NARAYANAN'S PLEA

Mr. P. S. Narayanan, Managing Director of Raman & Raman (Private) Ltd., Kumbakonam speaking at the General Session said *inter alia*:

With regard to the grant of bus permits, in certain cases when the Madras State Transport Appellate Tribunal cancels the permit granted by the Regional Transport Authority and grants the same to the appellant, the Regional Transport Authority, grantee files the writ petition in the High Court. High Court in their stay order allow both the parties to run their two buses in place of one, only one which is required by the route in question. The interest of the other operators in the route who are not parties before the High Court is affected, since one extra bus is introduced on the route. This is not fair. He therefore suggested that some clause may be provided in the Motor Vehicles Rules that when the State Transport Appellate Tribunal cancels the permit granted by the Regional Transport Authority the High Court should be pleased to order to run only one operator either the Regional Transport Authority grantee

or the State Transport Appellate Tribunal grantee. He may be asked to deposit a reasonable amount and that if the writ petitioner succeeds, he will take back the deposit and if he loses in the writ the State Transport Appellate Tribunal grantee takes the deposit and begins to ply his bus. If both the parties are prepared to deposit the amount then the person already running on the route may be asked to continue after collecting the deposit from him. This procedure will only be fair to innocent operators who are not involved in the writ.

He urged the Congress to persuade the Central Government to allow the development rebate in the cases of the buses and lorries also. Upto 1958 March, double depreciation was allowed on the new buses and lorries. This helped the operators to increase their resources to enable them to improve and expand their business for future prosperity. This double depreciation is now stopped and in its place the development rebate has come.

The Income-tax authorities refuse to allow this development rebate on the new buses and lorries. He therefore requested the All-India Motor Unions' Congress to take up this subject with the Central Government as early as possible.

Mr. M. D. Misra

Mr. M. D. Misra of Bilaspur representing the Bilaspur Motor Transport Co-operative Society said: “Much has been said about nationalisation. It is better to realise why the cry against nationalisation is raised. It is on the one side the ‘Politico Economic’ cry of the political parties, and on the other side it is the cry of the common people for the inefficient service and lack of amenities to the travelling public whose number goes on increasing every day.”

Further he said, “We, on our part, though we cannot turn to politics, can certainly take the burden of serving the people and enlist their solid co-operation. If we want to have the willing co-operation of the people we must make our organization a strong and stable one. We must see, or rather, make

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our operators at the district level pay more attention to public to render good service.

"We also should see that no monopoly of any kind is imposed on the route, whether it be of big operators or viable units."

Mr. K. V. Bagal

Mr. K. V. Bagal of Poona, explained the difficulties of the Road Transport operators of Poona and requested the conference to pass important resolutions to urge the Governments, both Central and States, to understand their difficulties.

Mr. Har Bhajan Singh, Managing Director of North Indian Goods Transport, spoke in Hindusthani. He explained the difficulties of Goods Transport operators in North India had to face and requested the Central Government to consider their grievances.

Mr. D. T. Sunder

Mr. D. T. Sunder, Secretary, The Bangalore and Kolar Districts and Anekal Taluk Bus Owners' Association read the resolutions passed by his Association. He pleaded for a review of the principle and policy of nationalisation of Bus Transport Business and to recognise the rights of private operators by postponing further nationalisation to a date after 1965. He explained the difficulties of bus operators in Bangalore—Anekal and Bangalore—Chintamani pockets and requested that the Government of Mysore should consider their case with sympathy. The permits of these operators were not renewed for 3 years and it gave rise to a lot of litigation causing great loss and worry to the operators.

Mr. M. L. Vyas of Raipur spoke. He detailed the drawback of Road Transport in Madhya Pradesh and exhorted the conference to submit their grievances in the form of resolutions to the Governments.

Sri S. Muthuswami Ayyar

On behalf of the Madras State Lorry Owners' Association, Sri S. Muthuswami Ayyar spoke elaborately on development of road transport, nationalisation only if private sector is inefficient and fails in its

duty to the public, necessary amendments of Section 129 of M.V. Act, malpractices in disposal of applications for permits and renewals of permits and inordinate delay caused by red tape etc. He pressed for a uniform policy in laden weight and that the present laden weight of 9 tons should be allowed to all public carriers and that it should be made uniform in all States. He pointed out the anomaly of allowing different weights to different vehicles on the same road under district rules. He pleaded that the discrimination that exists in the treatment of the private sector and the nationalised transport should be removed. He wound up by asking that the import policy should be relaxed till local manufacture is able to meet the demand for vehicles and spare parts.

The Open Session then came to an end, after the delegates were served 'Tea'.

In the evening at the Town Hall a colourful dance item was arranged and it was highly appreciated.

At 8-30, p.m. in Woodlands Hotel a nice dinner was given to the delegates.

Resolutions

The following resolutions were unanimously passed at the Conference:—

WHEREAS in the absence of a well-defined national transportation policy, road transport hitherto neglected and suppressed, is sought to be restricted on long distances;

AND WHEREAS the railway are campaigning afresh for restrictions to be imposed on movement of goods trucks over a distance of 300 miles (or of a radius of 150 miles) without at the same time giving up any of their operations;

AND WHEREAS in this country rail road coordination has always been to all intents and purposes imposition only of one-sided restrictions on road transport—much to the detriment of the country and the industry;

This XIth Conference of the All India Motor Union Congress resolves to request the Government to remove any restrictions that may be there in some States under code

UNANIMOUSLY

of principles and practice and allow hereafter unrestricted movement of goods trucks within the State and a liberal movement on well-established Inter-state routes, irrespective of mileage, for which there is, presently a great demand which railway cannot meet expeditiously. Further, it requests the Government to delegate sufficient powers and provide adequate staff to the Inter-state Transport Commission who may thus be in a position to formulate scheme for development of Inter-state traffic on a much more liberal scale without any further delay.

Enunciate a clear policy

WHEREAS the Planning Commission has recommended and the Government of India as well as the different State Governments have accepted in principle the policy of a phased and gradual—nationalisation of passenger transport service in the country;

AND WHEREAS despite this no phased programme has been prepared or at least not made known to the public and operators, with the result that more often than not schemes of nationalisation have been rushed through without any notice causing irreparable—though avoidable loss to the operators;

AND WHEREAS in the opinion of this Conference, there is ample room for expansion of nationalised sector in undeveloped areas and on new roads to be constructed and also there is urgent need for increasing the existing frequency of services on existing nationalised routes;

This XIth Conference of the All India Motor Union Congress, request the State Governments as also the Government of India to enunciate clearly their future policy enabling both the Private as well as Government buses to ply side by side, as is the considered opinion of this Conference that monopoly of either will not be in the larger interests of our people now gainfully employed which fact has also been accepted by having declared that they were to have a 'mixed economy', making a particular mention with regard to this industry in its industrial policy resolution;

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AND FURTHER this Conference appeals to the public at large to so influence the Government policy that they may have maximum transport at economic cost both from the private and State-owned lines for any hasty and complete liquidation of private operators will throw out of job millions of our people now gainfully employed, thus jeopardising at the same time our whole economy.

Rationalise tax structure

WHEREAS it has been agreed to by all that the present burden of taxation on road transport is too heavy ;

AND WHEREAS despite this one or the other of the State Governments are raising taxes almost every year and imposing numerous other taxes direct or indirect resulting in this burden increasing constantly ;

AND WHEREAS being fully conscious of the present financial stringency of our Government ;

THIS XIth Conference of the All India Motor Union Congress pleads with the Central Government and the State Governments to rationalise their tax structure so that all taxes on road transport are merged into one, the Motor Vehicles tax, and such taxes as are imposed by the local bodies such as Octrois and tolls, are merged with the Sales-tax, because in the opinion of this Conference, the latter taxes though in reality being a burden on the consumer are the cause of numerous delays and irksome inconvenience to the operators, besides resulting also in national waste due to idling of the trucks and buses which are stopped many a time *en route* delaying also the movement of goods.

Form viable units without delay

WHEREAS the road transport industry is presently in an unorganised state, more due to the presence of individual operators possessing meagre or no means ;

AND WHEREAS with a view

to achieve efficiency and economy both in management and operational costs, it has been repeatedly suggested to the Government to encourage some sort of amalgamation by the Planning Commission and by various other bodies including the A.I.M.U.C.

AND WHEREAS the Government has in principle accepted this ;

THIS XIth CONFERENCE of the All India Motor Union Congress requests the Government to take urgent steps to see that viable units are formed throughout the State with least delay, which steps may include both amendments to the Motor Vehicles Taxation Act, credit facilities, A.U. import licences and such other measures that can be taken to encourage the formation of such units, because it is the considered opinion of this Conference that unless such viable units are formed the industry cannot be put on proper footing and cannot become in a position to get fares and freights stabilised and thus render efficient service to the public, which has to depend so much on it. It further wants to make it quite clear that a viable unit must not necessarily be on ownership basis for what is intended is joint operations and management only.

Easy and cheap credit facilities to operators

WHEREAS Government of India and also the State Governments have been of late helping various industries financially and otherwise by advancing loans, extending subsidies and providing various other facilities ;

AND WHEREAS road transport industry despite its being highly labour intensive and being in the hands of average middle class men, Government has not yet thought fit to help, leaving it to find out its own resources, often at exorbitant cost ;

AND WHEREAS Government of India amended the State Bank

of India Act some time ago to help the purchase of commercial vehicles but the Bank has not yet done much in this direction ;

THIS XIth Conference of the All-India Motor Union Congress respectfully urges the Central Government, as also the State Governments, to take early steps through State Bank of India or through Co-operative Bank or preferably through a Road Transport Finance Corporation to be set up to afford easy and cheap credit facilities to thousands of operators needing them.

Foreign exchange allocation needed

WHEREAS in the Second Five-Year Plan there has been rightly a greater emphasis on development of transport however, despite this, roads and road transport have not been given sufficient foreign exchange allocation ;

AND WHEREAS there are a number of missing bridges the construction of which are delayed due to want of allocation for the import of the requisite special type of steel and weak culverts and also road surfaces are not up to the mark and are not sufficiently wide ;

AND WHEREAS there is a dire need for construction of more and new roads especially in undeveloped areas, if the standard of living of people living there is to be brought into par with others ;

AND WHEREAS due to this imbalance in allocation of resources, there is at the moment acute shortage of new chassis and spare parts, tyres and tubes causing untold difficulties to the operators, in supply and at times resulting in high prices being charged ;

THIS XIth Conference of All India Motor Union Congress requests the Planning Commission and the Ministry of Finance to kindly allocate for the above needs adequate foreign exchange resources, so that the difficulties of road transport industry may be tidied over without further loss of time.

Union Minister Mr. Patil, Mysore Chief Minister Mr. Jatti and other leading lights at the All India Transport Operators' Conference at Bangalore.

President Prasad visited the Motor Industries stall at India 1958 Exhibition



CHARGING CIRCUIT OF AN AUTOMOBILE

BY
M. J. PATEL

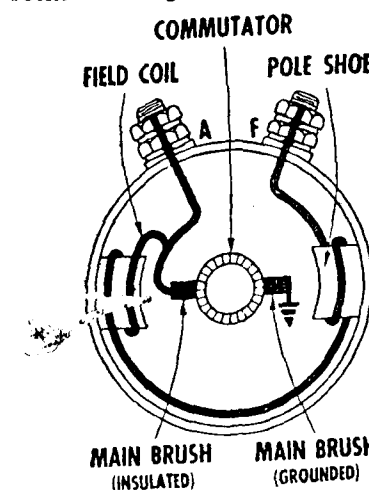
In an automobile the electrical system can be divided for analysis into five basic circuits :

- (a) Starting circuit ;
- (b) Charging circuit ;
- (c) Ignition circuit ;
- (d) Lighting circuit ;
- (e) Accessory circuit which often consists of a number of separate circuits.

The GENERATOR AND REGULATOR are the principal means of charging circuit.

Generator : The Generator is the "Power House" of an automobile, because by the help of generator, the mechanical energy is converted into electrical energy. In other words the generator is the source of all electrical energy on an automobile. It supplies electrical power for starting, ignition, lights, radios, heater and other accessories. The battery is not the source of electricity, but only a storage reservoir. In starting, for instance the battery supplies the electrical energy, but as soon as the engine starts, the generator begins to replace the electricity taken from the battery. The job of keeping batteries charged on today's car is difficult because of the large high compression engines and the increasing number of electrically powered accessories.

How Generator Works : The generator is shown in simplified form in the figure.



The commutator is connected to many coils of wires which is known as "ARMATURE." When the

wires of the armature pass through the magnetic field, produced by field coil, in such a way that they cut the magnetic lines of force, electrical voltage is generated in armature wires. Since the wires are connected to the copper commutator segments, which in turn are in contact with brushes, electrical voltage causes current to flow. The amount that flows is controlled by the design of the generator, the number of coils in armature and the turns and size of wires in each coil.

Regulator : All automotive generators require some method of controlling the output to limit the voltage and current value as desired for the safety of generator and the load. The unit which controls the charging rate is known as Regulator and is located in between dynamo and battery circuit.

Function of Regulator : The function of regulator is to control the following :

- (a) Voltage limiting ;
- (b) Current limiting ;
- (c) Circuit breaking.

The voltage and current limiting is done by voltage and current regulator units which have a set of contacts, connected in generator field circuit to keep the voltage and current to a maximum safe value.

The circuit breaker is simply a magnetic switch which closes and opens the circuit between the generator and battery when necessary.

Causes of Generator Failure

- (1) Loose Generator fan belt ;
- (2) Broken or loose connection in generator circuit ;
- (3) Worn or sticky brushes ;
- (4) Oily or dirty commutator ;
- (5) Burnt or open circuit in armature (due to high charging rate) ;
- (6) Worn brush ;
- (7) Regulator not grounding ;
- (8) Failure of regulator.

Important : The generator and regulator are the principal means of keeping the battery in top condition. Therefore it will be advisable to get dynamo overhauled and the regulator properly adjusted periodically.

PRIVATE BUSES FOR DELHI

Corporation Plea held *ultra vires*

It is understood that the Union Law Ministry have declared the recent Delhi Corporation resolution demanding that private operators be licensed to ply buses on certain routes of the City as *ultra vires* of the Corporation Act. It may be remembered in this connection that in November last the Delhi Corporation passed a resolution that till such time as the Delhi Transport Union was in a position to satisfy the transport requirements adequately it was desirable to allow private transport agencies to operate on certain routes. The resolution also, it must be remembered, expressed dissatisfaction at the inadequate transport system and immense inconvenience to the public.

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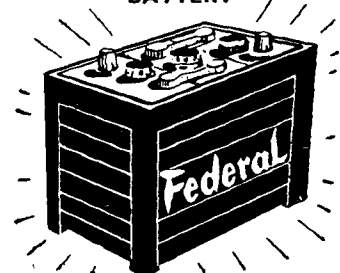
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TALKING OF TYRES

BY A. HOLDEN

My neighbour bought himself a new pair of those tubeless tyres and ever since he's been bragging about how good they are, which prompts these few thoughts on tyres.

A tyre is what has air in it, and what usually forms part of the essential requirements of a motor vehicle. The air in the tyre keeps up the wheel from off the ground, and in turn keeps up the car.

A tyre, likewise, is something you cannot afford to do without, unless you are not a motorist, and don't own a vehicle. Or have sold it.

Of course, it goes without saying that a tyre is no earthly good for the purpose for which in the first place it was manufactured unless it has air in it (something like a politician!)

Though the tyre can still operate at half-pressure, this is not wholly satisfactory in the long run, and it is the long run that counts most in motoring.

There are tyres large and tyres small. There are tubeless tyres and tyres with. All serve much the same ends, depending on your individual requirements.

By the same token, there are tyres round and tyres flat, but rarely if ever are there square tyres, but they could assume other geometrical shapes for various devious causes.

And speaking of blow-outs—tyres always blow out, never in, according to reports.

As a rule the average motorist finds it necessary to have four tyres and one spare (plus wheels). Yet it is one of the odd characteristics of car bodies that the space for the fifth tyre is generally located in a fairly inaccessible position.

But motorists being what they are, though the additional tyre can be a nuisance and take up often valuable space, how often when urgently required is it insufficiently "pressurised" or even flat?

It follows that the best tyre is one that has and maintains the correct degree of inflation, but

inflation under any guise is considered to be a dangerous and contentious subject.

Deflation can not only be equally ruinous and wasteful, but most uncomfortable.

To correctly assess the pressure of your tyres it is the thing to possess a small tyre "gauge," or you can rely on those attached to air pumps at local garages-cum-service stations. But, why, oh, why do these gauges differ so much?

On visiting three separate garages, for example, on a recent occasion, not one of the gauges tallied with my own. Somebody must have been wrong. The matter needed looking into. I did. Yes, sir, my gauge was wrong!

Now, a tyre "blow-out" indicates some excessive pressure, a pointed object has perhaps fractured the tyre surface or walls, the vehicle could be overloaded, the tyre could be under-deflated, or it could be the possible state of the road.

Actually, it is just as well there are blow-outs and the like, otherwise there would not be the constant need for repairs and for replacements. There would similarly, not be so many tyres manufactured, fewer men would be needed, and there would perhaps be serious unemployment.

So why shouldn't there be worn tyres and blow-outs (as long as it is somebody other than yourself). Everybody's got to live, haven't they?

The word "tyre," meanwhile, should not be confused with the word "tire," unless you come from the United States. The latter word is quite a different matter altogether, signifying a person's working days have come to an end, or that he has gone to bed—has, in fact retired.

In the former regard "re-tyre" means that his vehicle's tyres need replacing or specialised attention, because they've worn out, which is just where we came in.

While it can be said that you can judge a car by its tyres, so, too, can you misjudge a car by its tyres. All this depends upon the driver and the use and abuse to which his vehicle has been subjected.

And to save wear and tear, isn't it better to regularly check your

tyres, for "checked" tyres can prevent in the final analysis, "chequed" tyres.

You can purchase tyres straight out and be done with it, you can exchange tyres, and like most other commodities these times, you can buy 'em on terms. You can also buy them on Saturdays too!

Some manufacturers speak of their tyres as being "air-tight" jobs. Pity is that too many motorists drive when "tight," and they are not always full of air, but tight with liquor.

I sometimes rather fear some service stations might be in league with tyre providers and repairers. One new establishment locally has one of the most atrocious drive-in approach imaginable. Each car enters and leaves the "attention area" with resounding bumps, grinds and knocks. The council people say that they will not realign the footpath drive-way with the guttering, and so the wear on the tyres is very obvious.

Nevertheless, the garage proprietor maintains that he has one of the fastest tyre repair services going! He also sells new tyres.

To keep up the appearance of your tyres, they should be periodically primed or "dressed" so that they look smart and have that "new look" at most times. But if you are like me, you'll probably ignore this regular "painting," because invariably every time I either polish, wax, or paint the tyres—it rains, and I am back where I started from.

The advantages initially gained are thus lost, and that is when I give not only my tyres a proper "dressing down."

Tyres have a slight affinity with pins or nails. The more used the more that are needed, and the more needed, the more that are used. Which is in itself a vicious circle, and as tyres are found like circles, just as it should be.

Tyres can, however, still serve a useful end, even after their normal life span on a vehicle has concluded. They come in handy as children's play things, as seats for swings, can be used to protect gates and posts on your property from bumps from your car, and they can be converted into "hanging gardens."

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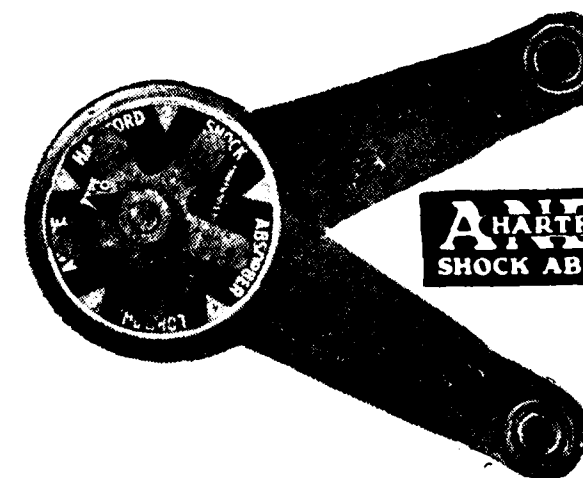
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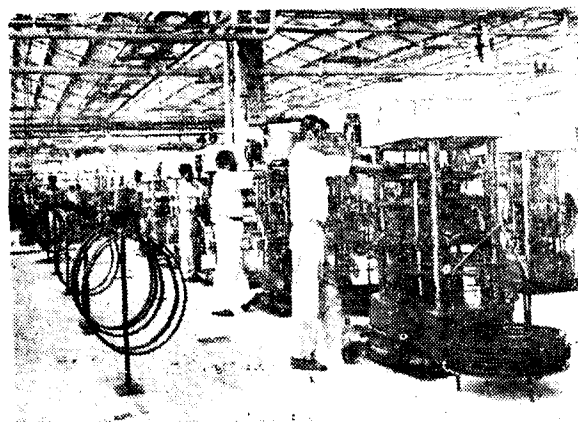
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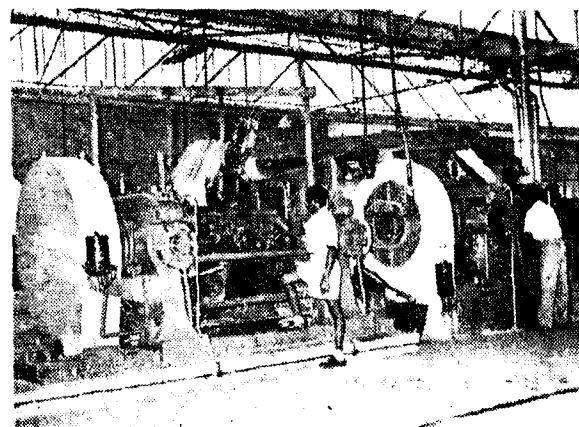
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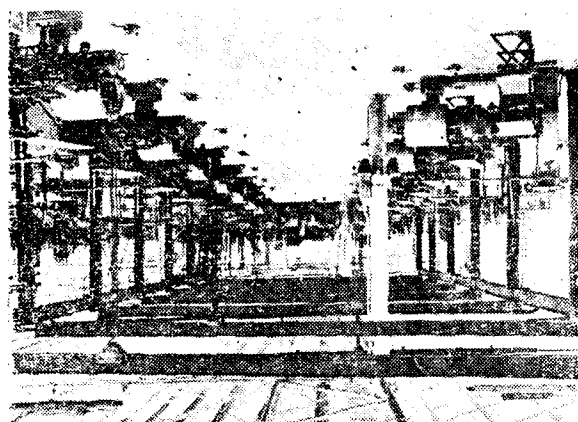


Moulding Cycle Covers at the Ambattur Factory of Dunlops

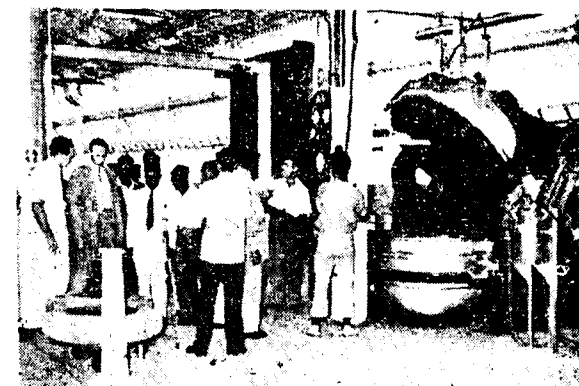


Warming & Softening Rubber Compounds being done at the Ambattur Factory of Dunlops

DUNLOPS OPEN



The Giant Cover Making section of the Dunlop Factory, Ambattur, showing two rows of Case Making Machines



A Press Party is shown round the Factory

AT AMBATTUR

A Dunlopillo cushion being taken out of its mould after vulcanization at the Dunlop Factory at Sahaganj



A truck and bus tyre being taken out of its mould at the Dunlop Factory at Sahaganj



Dunlops Open New Factory at Ambattur TO COINCIDE WITH GOLDEN JUBILEE

The official opening of the new Dunlop Factory at Ambattur on February 12, coincided with the completion of sixty years of Dunlop activity in India. It was in 1898 that Dunlop brought to India her first consignment of pneumatic tyres, ten years after its invention by John Boyd Dunlop, a veterinary surgeon in Belfast, Ireland.

The opening function was largely attended by dealers in tyres from all parts of India, particularly in the South and by the elite of the Madras City. In the unavoidable absence of Mr. G. E. Beharell, Mr. Peppercorn who had come specially for the function from England, read out the speech of the former. Mr. Lal Bahadur Sastri, Minister for Commerce and Industry, who was to have opened the Factory was also unavoidably held up at Delhi with the result Mr. R. Venkataraman, Minister for Industries, Government of Madras, officiated for Mr. Sastri and delivered the latter's speech. He also opened the Factory by pressing a button on behalf of Mr. Sastri. Mr. Kamaraj, Madras Chief Minister was also present. At the conclusion of the function, nearly thousand visitors went round the huge modern Factory that has sprung up in Ambattur.

The automobile tyre manufacturing industry in India consists of two units, of which the Dunlop Factory at Sahaganj, near Calcutta, accounts for some 60% of the total production. Of the two new tyre factories which have recently been sanctioned by the Government of India, the first to go into production will be the Dunlop Factory at Ambattur. It will produce tyres for trucks, buses and bicycles and retread rubber, principally for the needs of the South Indian market.

The Second Five-Year Plan will entail a considerable increase in the volume of goods traffic to be carried by road—approximately 60-70 million tons in 1960-61, as compared to 20-25 million tons at the beginning of the Second Plan. At the same time, it is estimated that



Mr. T. E. Peppercorn of the Dunlop Main Board who had specially arrived from London, for the function.

bicycles, as the most popular means of personal transport, will increase very considerably in number; the production target for bicycles is 12,50,000 in 1960-61, as compared to an estimated production of 10,80,000 in 1958.

In terms of tyre requirements, it is estimated that consumption of automobile tyres in 1960-61 will exceed 1.6 million and that of bicycle tyres will be in the region of 16 million. The actual production in 1957 was 0.99 million automobile tyres and 7.15 million bicycle tyres.

The rubber manufacturing industry is one where very rapid technological progress has been registered in recent years. The future holds a promise of even more fundamental development as a result of current research on a variety of new polymers which should take their place in the production lines of tomorrow. The large and highly qualified team of research workers in the Dunlop world-wide research organisation is helping to determine what is required today, and what is to come. The consequent improvements in manufacturing processes are immediately available to the

Dunlop Factories in India which are, therefore, fully abreast of the developments in rubber technology in the industrially advanced countries of the world. When economic conditions justify the opening of a new line of production, Dunlop in India can immediately call upon the manufacturing experience gained in other parts of the world. This, perhaps, is the greatest advantage which the Indian rubber manufacturing industry has derived from its association with a world-wide organisation like Dunlop.

Dunlop have always believed in entrusting to Indian personnel positions of responsibility at all levels in the organisation. Dunlop, it may be recalled here, were one of the first to introduce the Training Within Industry (TWI) programme at Sahaganj in 1948. Promising young men are given every facility to widen their experience and knowledge. In suitable instances, higher training is arranged in associated factories abroad, particularly at Fort Dunlop, Birmingham, the largest and best equipped tyre plant in the Commonwealth.

A concrete instance of how Dunlop have helped to train experts to man India's rubber manufacturing industry is provided by this new factory at Ambattur. Welcoming the large gathering to the function Mr. John Luckham, Managing Director of Dunlops in India said *inter alia*:

We have with us Mr. T. E. Peppercorn who, as many of you here will remember, first came to Madras in 1929. He was with our Madras District Office for ten years, during which time he worked in several capacities becoming District Manager in 1935. Since then, Mr. Peppercorn has had wide experience in other parts of the world and was recently appointed to the Main Board of the Dunlop Rubber Co. Ltd., in the U.K. This is a matter of great pride to those of us who knew him in Madras, and I am sure that his friends here would like to extend a very hearty welcome to him today.

SOUTH HAS ALWAYS LED IN ROAD TRANSPORT

Dunlop's association with India began sixty years ago in 1898 when the Company imported the first pneumatic tyres. It is an interesting coincidence that the first automobile also arrived in India at about the same time. Since then, the Company has kept pace with the progress of the nation and in 1936 it pioneered a new industry in India with the establishment at Sahaganj of the first large scale factory to manufacture tyres for cars, trucks, buses, bicycles and bullock carts. I am proud to say that the Sahaganj factory now ranks as Asia's largest rubber manufacturing enterprise. Since 1936, industrial progress in India has been very marked and to keep pace with this development, additional lines of manufacture have been added from time to time and now, apart from every type of tyre, the Sahaganj factory manufactures a comprehensive range of conveyor and transmission belting, Fan and Vee belts, hose, cycle rims, Dunlopillo, etc. I may mention that since 1936, our Sahaganj factory has produced, up to the end of 1958, over 81 million tyres.

Road transport has become particularly important under the Second Plan requiring a further increase in the production of tyres and tubes and in order to meet a part of this new demand, a considerable expansion of production at Sahaganj has just been completed. This, however, is not enough on its own and a decision was taken to set up a second factory. At the time this decision was made, South India was developing its industries and had already established important units in the motor, motorcycle and cycle industries.

I understand that it was in Madras that commercial motor transport in India was initiated some 47 years ago and since then South India has always been amongst the leaders in the development of roads and road transport, with the result that today the demand for tyres fully justifies the establishment of a separate factory to meet your needs.

Therefore, in 1956, we approached the Government of Madras with our plan for establishing a tyre factory in this State and I am very glad to tell you that we have all

along received every encouragement from them. A tyre factory uses a tremendous amount of water and the availability of this must be a primary consideration in the selection of a suitable site. Accordingly, we sought the assistance of the Madras Section of the Geological Survey of India who undertook a careful and intensive survey in this area on our behalf. A good water bearing area was found here at Ambattur and this site was finally selected early in 1957 because in addition to its water supply, other necessary facilities such as the nearness to a port, road and railway communications, electric power and engineering services were available. It is perhaps worth mentioning that this new Dunlop Factory is situated only a few miles from the site of the famous Avadi Session of the Indian National Congress held in 1955, where the aim of a "Welfare State" was declared.

We should like to record our sincere thanks to all those who co-operated with us in setting up the factory.

The entire project, including land, buildings and plant, has cost about Rs. 2.5 crores of which over Rupees one crore represents expenditure here in India. The equipment which you will see as you go round the factory later this evening is of the most modern design and has been specially chosen for its suitability for Indian conditions.

The Company is dedicated to India's great programme of development. From year to year, we have steadily expanded our capacity and added to our range of products. We have tried to keep in step with the progress of the nation and whatever success we have achieved during this period, is largely due to the loyalty of our employees and the co-operation of our dealer friends and customers. For the future, I can assure you, Dunlop will continue to contribute in full measure, to the development of this vast sub-continent. I may add that it is for this reason that this factory has been so planned that expansion can be carried out with ease as and when this is required.

Points from Mr. G. E. Beharrell's Speech were read at the meeting by Mr. Peppercorn

Dunlop, India, is an important member of the Dunlop family. It ranks, in terms of value of products sold, with its sister companies in America, France and Germany. Sahaganj employs more people than any other single factory in the group, apart from the British factories at Birmingham and Liverpool. It produces more Cycle tyres than any other Dunlop factory. Today, with the opening of this new factory, it achieves even greater importance.

Its association with other Dunlop companies brings it many advantages. Among them there is the regular interchange of people between factories throughout the world, bringing a constantly fresh approach to complex problems, a new approach that becomes speedily available to any Dunlop company. Then there is the basic research undertaken not only by the Dunlop Research Centre with its fifty laboratories in the United Kingdom, but also in other research centres throughout the world. From this realm of ideas springs the future prosperity of the group. This factory, with every other Dunlop factory, will share the fruits of that research, and it will also share in the development, which is going on unceasingly, throughout the group of new methods, new equipment and the use of new materials. In the same way, it will benefit from the results of the work which is going on all the time in conjunction with the vehicle manufacturers, to enable tyre design to keep in step with the progress and development of new vehicle and suspension designs.

In Dunlop we always refer to ourselves as a family. They way in which we share our problems and our solutions is a practical expression of family spirit. But Dunlop, India, in a very real sense, is an Indian company, too. From its very beginnings the parent company sought and encouraged local talent. Over the years a comprehensive system of training for supervisory staffs has been operated, augmented as necessary by specialised training in Britain. The high proportion

Lal Bahadur's Tribute to Dunlops

of indigenous personnel in senior management positions is a striking recognition of the success of that policy. It is also an expression of a basic Dunlop idea that companies should seek a blend of independence and inter-dependence.

This can be seen, too, in the ownership of the company. Dunlop has found favour with the people of India who hold almost one-half of the equity shares. This company is a joint venture of the peoples of India and Britain, and in this new factory they possess an asset of great value.

But the desirable thing about a new factory is that it should get its newness rubbed off as soon as possible. It has been built so that it can add to the country's national wealth, and the more rapidly it achieves the output that was planned for it, the more quickly it becomes an efficient factory. Tardiness can only bring about inefficiency and higher costs. Neither as a company nor as a country should we tolerate that. So the best efforts of our managers and workers must be bent to the successful and rapid achievement of a high volume of production of high quality. I am sure that the public, users, and dealers of South India, will also co-operate by demanding the tyres made in this factory.

I am sure that the factory has a bright future and I believe that the day is not very far off, when Mr. Luckham will come along with plans for enlarging it. I say this because the Government in India so clearly recognises the vital part which road transport has to play in every part of the world and more particularly in India. Looking around the world, we see that in many countries the cycle has established itself as the first and perhaps the cheapest method of personal transport; in others the motor car has become a measure of progress and material prosperity, and almost without exception the lorry is an essential arm of industry and commerce, which could not function without it; while the bus helps to cater for the ever-growing urge of people to travel from one place to another. Your own Second Five-Year Plan envisages that your

industrialisation will generate 260/270 million tons of goods traffic per annum and of this total some 60 to 70 million tons will be carried by road. For this purpose a fleet strength of 160,000 trucks will be necessary, apart from the increasing demand which will arise for passenger and personal transport. I am told that the demand for cycle tyres alone is expected within a very few years to be double what it is today.

Mr. Luckham has referred to the great programme of development which your country is tackling with such courage and imagination. In this programme Dunlop has a place and the Company is determined to play its part to the full.

Mr. Lal Bahadur Sastri's speech
Inter alia he said :—

As has been so well described by Mr. Beharrell and Mr. Luckham, Dunlops have a long and significant history in India. How they have grown from a small venture to such big undertakings in Calcutta, Bombay and now Madras, the biggest centres of our country naturally arouses our admiration. I can quite understand the pleasure and the pride which you, Mr. Beharrell and Mr. Peppercorn and all associated with Dunlops must be feeling at this moment. It is a good augury that Mr. Beharrell and Mr. Peppercorn are here today and I extend our cordial welcome to both of them.

During the last 21 years since this factory was set up many things have happened and both politically and economically India is a very different country. I shall not dwell on the political changes. But in the economic field there has been I think, a fair amount of progress. One yardstick of such progress is the growth in the consumption of automobile tyres and tubes in the making of which Dunlops have been the pioneers in India. In purely economic terms there has always been a great deal in favour of tyre production being established in the South, for all our rubber is produced in the South and the consumption of tyres and tubes is also large in this area. But the establishment of this factory in Madras is welcome from another

point of view also. It is the earnest desire of the Government to see that the development of new industries is as widespread as possible and not concentrated in a few major cities. The over-centralisation of industries brings in its wake many evils. It would be unfortunate for a country with so much of wide open spaces to find industries congested into small areas where workers live in slums and the air is polluted with smoke. The site which Dunlops have chosen, though close to some other industrial units, is spacious and clean and I hope that it will continue to remain so.

One of the plans of our development should be to provide to the people of India cheap travel and despatch of the products through economical forms of transport. Our great railway system is doing its utmost towards this task. But inevitably, in a country so vast as ours, road transport has a vital role to play. South India has been an important centre where roads have been considerably developed and the tyre production of this factory will, I am sure, be a valuable contribution to the objective of further developing the transport system in this area. The selection of this location is specially good for the Madras State and if I might say so, in the self-interest of this concern also.

You, Mr. Chairman, have drawn attention to the fact that almost one half of the equity shares of the Dunlop company is owned by the people of India and it is really a joint Indo-British venture. The Government of India welcome joint ventures of this kind in which the machinery and the techniques which the more advanced countries have got into partnership with our own men and materials to produce whatever people need. I hope that as the years go by, the sense of equal partnership will gain in strength.

I realise, however, that it will take time before we can enter into the export market in so far as tyres are concerned. So far, with the growing demand for tyres it has not been easy for us to find exportable surpluses. But as programmes of expansion are completed and new

units go into production—and this unit will certainly be followed by others—exports become not only possible but essential. This is particularly necessary for an industry like the tyre industry which has at present to depend on substantial imports of many things to keep its production up. In the long run every industry must try to earn the foreign exchange which it needs to sustain its production. The country's need for foreign exchange is great and I hope what with the opening of this factory Dunlops will be able to make a major contribution to our export drive.

You will all be interested to know the progress made in the production of tyres.

As against production of 7,621,369 tyres in 1956 production went up in 1957 to 8,557,149. In 1958 there has been a still further increase.

Although the figures for the whole of 1958 are not yet available, in the first nine months of 1958 production of tyres was 7.2 million as against 6.4 million in the corresponding period of 1957. These figures are telling and are a good augury for the future.

Government for their part are trying to bring about development in connected fields so as to reduce the dependence of this industry on imports. The production of raw rubber in the country needs to be increased and we are making every effort for it. The gap between demand and supply has been steadily widening and the current deficit is of the order of 10,000 tons. To meet this not only are we anxious to encourage and expand the production of natural rubber but we are hoping that a synthetic rubber plant will be in operation fairly

early in the Third Five-Year Plan period. In addition there are indications that the production of improved rubber chemicals such as accelerators and anti-oxidants as well as items like tyre cord, carbon black, beadwire, etc., will be developed in the near future.

May I also suggest that Dunlops being the premier undertaking for the manufacture of almost all kinds of tyres their supply and distribution to smaller factories should be carefully done. I had occasion to visit one or two small factories where their goods have been held up for want of adequate supply of tyres. Bigger concerns have naturally to meet their own requirements but smaller ones also depend on them and their needs should be met to the extent possible.

EXIDE MAKES MILLIONTH BATTERY

All India Exide Sales & Service Conference, 1959

The All India Exide Sales & Service Conference was held in Calcutta on 5th and 6th February. Welcoming the members, Mr. H. R. Gregson, Director and General Manager of Chloride & Exide Batteries (Eastern) Private Ltd., said that in view of the rapid development of transport and communication facilities in India, the battery industry had an increasingly important part to play in the industrial life of the country. The Exide Organisation, continued Mr. Gregson, has been making batteries for well over seventy years and has been established in India for more than fifty years, during which the Company has built up an enviable reputation for quality products. Referring to the battery industry in India, Mr. Gregson said that the target for motor vehicle battery production set by the Second Five-Year Plan at a little over 400,000 units a year to be reached by 1961, reflects great progress made by the Industry which is extremely self-contained and which has, besides the production of finished batteries, a considerable output of plastic and rubber components.

Expanding on this subject, Mr. Gregson said that a substantial part of this progress was due to the activities of the Exide Factory, near Calcutta, which was described by the Tariff Commission some years ago, as "the largest battery manufacturing concern in India," and is now acknowledged to be the largest and most modern unit of its type in Asia.

An item of considerable interest mentioned by Mr. Gregson was that the Exide Factory near Calcutta had just manufactured the MILLIONTH EXIDE AUTOMOTIVE BATTERY. In view of the fact that production commenced only 12 years ago, this is no mean achievement and reflects the great progress made by this Factory.

Special batteries

Quite apart from manufacturing automobile batteries, the Exide Factory is today making special batteries for the Defence Services, inclu-



Mr. H. R. Gregson, General Manager, Chloride & Exide Batteries, congratulating Mr. H. Shepherd, Factory Manager, on the production of the millionth Exide automotive battery during the Exide Sales Conference recently held in Calcutta.

ding accumulators for aircraft in the Indian Air Force, stated Mr. Gregson. This has resulted in a considerable saving of foreign exchange. Besides this obvious advantage, the activities of the Exide Factory are also helping our armed services to achieve their objective of self-sufficiency.

The Indian Railways, Mr. Gregson said, have for some years depended almost entirely on the very large production of Train Lighting Cells from the Exide Factory. The Exide-Ironclad Train Lighting batteries being made in India are in day and night service throughout the country and during the past 3 years the Exide Factory had supplied enough batteries each year to equip 2000 Railway coaches and also spares for the very large rolling stock in this country.

CHLORIDE STATIONARY BATTERIES

Besides these products, Chloride Stationary Batteries are now being manufactured and are rendering valuable service at important projects. The majority of the new automatic telephone exchanges in the country are being equipped with Chloride Stationary Batteries.

The expansion programmes at the Exide Factory, included measures to make it a completely self-sufficient

unit within a very short period. The Lead Recovery Plant installed some time ago has now been operating very satisfactorily for the past two years and has made a most valuable contribution to the saving of Foreign Exchange. The potential output of this Plant is comparable with the total mined lead production of India. The recovery Plant can, therefore, be considered a national asset.

BATTERY PRODUCTION

Plant Target Exceeded

During 1957 about the order of 3.24 lakhs of automobile storage batteries were produced in India.

There are at present 13 manufacturing concerns with their total installed capacity of 316,500 storage batteries per year. The total licensed capacity by the middle of June, 1958 was over 5 lakhs batteries per year as against the Second Plan Target of 3.5 lakhs. Batteries valued at over Rs. 15,000 were exported during 1957 as against a little over Rs. 14,000 per 1956.

Automotive

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the Leading Automobile, and
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NEWFIELDS PT/2

Display of Chevrolet and Bedford Trucks

CHEVROLET & BEDFORD

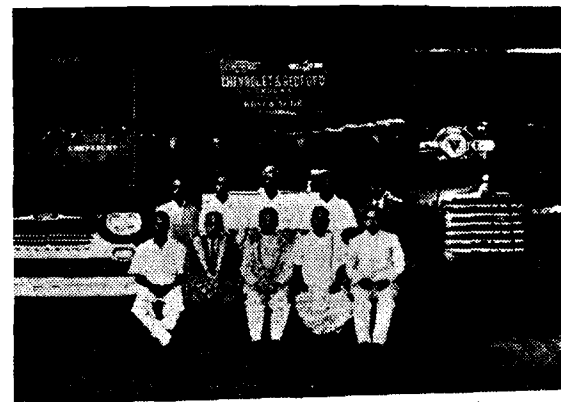


Sri S. Srinivasan, Dt. Magistrate who introduced the Chevrolet and Bedford trucks to the public delivering his presidential address



A section of the gathering who attended the function

Group photo of the partners and members of the staff with Mr. T. C. Monga and Sri S. Srinivasan, (Dt. Magistrate). Sitting: (From left) Sri N. Sethuraman (Partner, Kasi & Sethu); Sri T. C. Monga of Hindustan Motors; Sri S. Srinivasan (Dt. Magistrate); Sri P. S. Narayanan, (Managing Partner, Kasi & Sethu); & Sri N. Kasiraman (Partner, Kasi & Sethu). Standing: (From left) Sri V. Ragunathan, Works Manager; Sri Ramani; Sri Satyanarayanan; Sri J. Sreenivasan and Sri L. Fernandez



At Kumbakonam

A social function was set up on the evening of Sunday the 18th January displaying the new Chevrolet and Bedford chassis for which M/s. Hindusthan Motors Ltd., are the progressive manufacturers and M/s. Kasi & Sethu are their dealers for the three districts of Tanjore, Trichy and South Arcot.

After light refreshment and prayer the welcome address was read by Mr. P. S. Narayanan, Managing Partner of Kasi & Sethu. Mr. S. Srinivasan, B.A., B.L., District Magistrate then introduced the new chassis to the public and explained the utility of these two trucks. In the course of his presidential address, he expressed the need for more number of such enterprises as this firm with men of industry and vision like Mr. Narayanan for conducting them on sound business lines, so that India may become industrially strong and economically sound in a short space of time.

Mr. N. Sethuraman, B.Sc., D.M. I.T., Automobile Engineer and Partner of Kasi & Sethu, read the messages received from many well-wishers.

Mr. T. C. Monga, the Southern Regional Sales Representative of M/s Hindusthan Motors Ltd., spoke about the uniform policy of M/s. Hindusthan Motors Ltd., in appointing the distributors and the utility of these famous trucks as well as the steps taken by M/s. Hindusthan Motors for progressive manufacture of these famous trucks.

Mr. N. Kasiraman, B.Sc., Partner of M/s. Kasi & Sethu, gave a narration of how Kasi & Sethu grew from a small petrol dealer to the present status of stocking huge volume of spare parts for all cars and trucks, importing spare parts, and now taking the distributorship of Chevrolet and Bedford chassis in Trichy, Tanjore and South Arcot Districts. Mr. T. Sampath, M.L.A. then spoke in appreciation of the service rendered by M/s. Kasi & Sethu.

Mr. L. Fernandez, Sales & Service Manager, of Kasi & Sethu proposed a vote of thanks. After

the vote of thanks, there was a music concert by Miss Sarojini and party. This was followed by an entertainment on Nadaswaram by Mr. Packirisami Pillai of Kumbakonam.

At Vijayawada

At a very impressive function held in the premises of M/s. S. M. Abdul Haq Sahib and Bros., Vijayawada on December 25, Sri G. S. Raju, Deputy Chairman of Andhra Pradesh Legislative Council presided and declared the new Chevrolet chassis open to public view.

There were transport operators, members of the Automobile trade, elite of the city and press reporters among the invited gathering. Sri S. Anjaneyulu Pantulu, Manager, S. M. Abdul Haq Sahib & Bros. welcomed the president and the invitees. Sri G. Pentojirao, Sales Executive proposed a vote of thanks.



Sri G. S. Raju, Dy. Chairman of Andhra Pradesh Legislative Council addressing the gathering at a function held to declare open the new Chevrolet chassis at Vijayawada. Others in the picture are (L to R); Sri S. M. A. Khudus, Proprietor, S. M. Abdul Haq Sahib & Bros.; and Sri S. Anjaneyulu Pantulu, Manager.

A section view of the gathering



Dealer News

Calcutta Motor Dealers' Association

A census of the production capacity of existing unit in the State, especially machine tools, should be taken immediately so that there be no loss of production says the Calcutta Motor Dealers' Association in a draft for consideration by the West Bengal Business convention. The idle capacity of existing units should be activated, working out new schemes as an ancillary industry or arranging manufacture of such equipments and machinery which are still imported. For example, many items of Motor Vehicle Parts can be manufactured indigenously in many of the engineering factories, should be technical know-how and raw materials be easily available. This will create substantial jobs and conserve foreign currency. Hence, a well organised survey should be held under the joint auspices of the Government and the trade and industry to determine such capacity of the factories and other producing units.

There are many unregistered small factories in this state and also modest proprietary concerns in the nature of a one-man show whose working capacity is considerable but for want of necessary capital, raw materials and marketing facilities, these units practically add nothing to the prosperity of this state. Co-ordination of these small units with big factories is a very useful task.

Manufactures of small components for assembly in big workshop can be entrusted to these small units. The big producing unit may help them with technical advice and raw materials. In the opinion of the members of our Association it is advisable that the manufacturers should take on themselves and scrupulously set a high standard of quality so as to meet price competition. They should market their products through the established trade channels.

Transport problem

No development of trade and industry is possible unless the transport system of a country is highly developed. In view of the sordid bottleneck in transport experienced in our country, top priority should be given to the achievement of planned targets. The Railways even when working to full capacity can hardly meet a part of the transportation requirements of the country. So, there should be relentless effort to organise land and water transport. This would require betterment of road links. A clear-cut National Policy of Transport should be formulated and a Board should be set up as proposed recently, with Government Representatives, specialists and members of the industry and trade. In the meantime, all the available means of transport should be utilised giving all facilities to the transporters. In this connection, we like to emphasize that any further restriction in the imports of Motor Vehicles Spare Parts and Accessories may create serious situation resulting in further deterioration of the transport problem.

Rather, it would be prudent to find ways and means to increase the percentage of quota licences for those parts and accessories. We have no doubt that with better

Photo taken on the occasion of "welcome back to India" to Mr. R. E. O. Carey who returned from a successful trip of United States. He has reassumed his position of Managing Director. He has been associated with Goodyear India for over 20 years. Photo shows Mr. I. N. Ahuja, Goodyear, Calcutta; Mr. S. I. Kapoor, Dt. Manager, Goodyear, Calcutta; Mr. D. R. Pargal, Goodyear, Calcutta; Mr. R. E. O. Carey, Managing Director, Goodyear; Mr. M. S. Lamba, Prop. Lamba Trading Co., Calcutta.



operating facilities more vehicles can be placed on the road resulting in greater employment among the operatives and the trade. In that case cost of transport in various trade and industries will be lessened contributing to the general welfare of the society.

Road transport is now handicapped by multifarious restrictions in inter-State plying and in many cases, by stringent and harassing rules and regulations which make the working of the transport companies unremunerative. We understand that special type of temporary permits are issued to a few lucky operators for plying from one State to another. Now that the question of evasion of Sales-tax has been solved with the imposition of Central Sales-tax, these permits should be issued on an extensive scale and without any restriction on movement in any State of the Republic.

Import trade

Of late many importing houses of finished goods had to declare lock-out and many others with dwindled stock are now facing closure or difficulty in maintaining their establishment. This has caused a fresh problem of unemployment. There are many traders dealing in imported goods only but they are not importers themselves. Due to restriction of importers, therefore, their condition has greatly deteriorated as they are unable to procure goods in the wholesale market. So, the problem of the rehabilitation of the small importers and tradert in this category in the present ses up of business and trade has to be considered.



Dr. Ing. h. c. Fritz Konecke, General Manager and Chairman of the Executive Board of Directors of the Daimler Benz, A. G., who celebrated his 60th Birthday recently.

THE MADRAS MOTOR PARTS DEALERS' ASSOCIATION

In a circular dated 9th February 1959 the Association says that the following firms have become members of the Association and therefore requests members to extend them their cooperation.

Messrs. Inland Agencies, Dealers in Motor Parts & Accessories, 153, Ramakrishna Mutt Road, Mylapore, Madras-4.

Messrs. Kasi & Sethu, Dealers in Automobile Spare Parts & Accessories, Post Box 22, Pidarikulam Road, Kumbakonam.

The Committee has declared Friday the 10th April 1959 as a holiday on account of "Ramzan."

Photograph taken on the occasion of the visit of the Hon. Sri S. K. Patil, Minister for Commerce and Industry, Government of India, to the Canara Workshops Factory recently. The picture shows Mr. V. S. Kudva, Technical Director, explaining to the Minister certain technical aspects of the machinery in the Factory.



MYSORE AUTOMOBILE PARTS AND ALLIED MERCHANTS' ASSN.

A meeting of the Executive Committee of the Association was held recently under the presidency of Mr. Ujagar Singh, Vice-President of the Association, when Messrs. Trans Auto Traders, Bangalore were readmitted as members of the Association.

A letter from Messrs. Tallam Automobiles regarding the levy of Rs. 2 per book of 25 leaves of 'C' Form by the Sales-tax Authorities was considered and it was resolved to ascertain from other States like Bombay, Madras and Delhi about the practice existing in those States.

The Committee also considered a letter from the Delhi Motor Traders' Association regarding the formation of an All-India Federation of Motor Dealers' Associations and formed a Sub-Committee consisting of the President, the Vice-President and the Secretary to go through the Draft Memorandum and Articles of the proposed Federation and suggest amendments or alterations if required, to be communicated to the Delhi Association.

It was resolved to hold the Annual General Body Meeting and election of office-bearers by the end of February. By a convention that is being followed by the Mysore Association, MOTORINDIA understands that Mr. Ujagar Singh, Vice-President of the Association will be elected President of the Association for the coming year by the time this publication is issued. MOTORINDIA takes this opportunity to congratulate the new President and wish him a successful tenure of office.

Delhi Motor Traders' Assn.

At a meeting of the Executive Committee held on 5th January 1959, it was resolved that non-members could have the DMTA Bulletin and circulars issued from time to time by paying an annual subscription of Rs. 60 in advance. Messrs. Speed & Power Corporation, Gokhale Gate, Delhi-6 were admitted as members. It was also resolved, while considering a letter, dated 26th December 1958, from the President, Delhi Pradesh Congress Committee, that this Association must confine its activities to matters pertaining to the trade alone and should not associate with any political or communal organisations.

The Executive Committee also confirmed the invitation issued to the various Motor Trade Associations to attend a Conference at Delhi in connection with the formation of Federation of All-India Motor Trade Associations in the country.

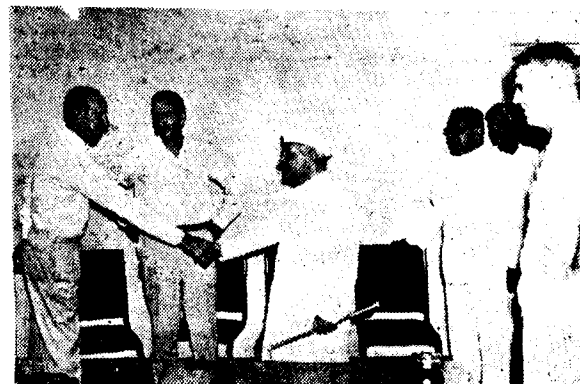
Steps to Boost Cycle and Battery Export Announced

In order to help and stimulate the export drive the Railway Board decided that with effect from 5th December 1958, 50% rebate should be allowed on freight paid on consignment of nine different commodities when booked from certain specified stations to ports of export.

Among the articles that find place are motor vehicle batteries; bicycles and dry cells and batteries.

The concession will be in the form of a rebate subject to satisfactory evidence being furnished that consignments claiming rebate have been actually exported out of the country. The claim must be preferred within six months from the date of delivery of the goods for carriage by rail.

ANDHRA GOVERNOR VISITS CALTEX REFINERY: His Excellency, Shri Bhimsen Sachar, Governor of Andhra Pradesh, being introduced to Mr. R. J. Marks, while Mr. H. A. Bronson looks on. In the right foreground is Mr. D. M. Berdine and, at his right, Mr. I. J. Naidu, I.A.S., Collector of Visakhapatnam.



High Speed Diesel Engine Lubrication

Mr. Balgopal's Illuminating Talk

Under the auspices of the Madras Branch of the Indian Institute of Road Transport, Mr. A. E. L. Collins, President presiding, Mr. T. A. S. Balagopal of M/s. Standrad Vacuum Oil Co., Madras, delivered an interesting lecture on "Some Aspects of High Speed Diesel Engine Lubrication." Following is the text of the address, at the end of which Mr. Balagopal answered a number of questions put by the audience.

It is Common Knowledge that the first Commercial Compression ignition engine was produced in 1898, even though the Diesel Engine cycle was conceived by the late Dr. Rudolf Diesel as early as 1892. The development of the Diesel Engine from those early days to the reliable and economic unit of today, has been one of the remarkable achievements of this Century. When we analyse the factors responsible for this phenomenal progress we realise that the most important of them are:

(1) Advances in the field of metallurgy which gave us materials capable of withstanding the severe operating conditions encountered in Diesel Engines.

(2) The production of Mineral lubricating oils which could also stand those conditions.

The functions of a Diesel engine lubricating oil are multifarious:

(a) It lubricates the moving parts, such as pistons, rings, cylinders, main bearings, connecting rod bearings, etc. cover a wide range of lubricating conditions.

(b) It provides a sealing for the piston rings to prevent excessive blow-by.

(c) It offsets the corrosive effects on engine parts.

(d) It protects, against rusting under conditions of low-load operation.

(e) It functions as a heat transfer medium.

(f) It resists oxidation.

(g) It should have the ability to keep the engine parts, free of deposits.



Mr. T. A. S. Balagopal

Moreover the oil is expected to perform all the functions stated above even when it is burdened with an appreciable load of contaminants.

Even though the above is comprehensive of the requirements of the Diesel Engine lubricant in general, the High Speed Diesel Engines used in Fleet operation require special consideration. This is because of some essential differences between the stationary Diesel Engine and the High Speed Diesel Engine.

(1) In most stationary Diesel engines, it is possible to regulate the cooling water and thus have an accurate control over Cylinder temperatures, whereas no control of that nature can be exercised in H.S. Diesel Engines.

(2) Weight and Size are of little consideration in Stationary Diesel Engines. As such they are provided with a substantial charge of lubricating oil, whereas in the H.S. Diesel Engine the necessity of minimum size and weight has resulted in small charge of lubricating oil—in many cases 1/10th to 1/20th of the oil charge in an Industrial Diesel Engine developing the same rated horse power.

In addition the automotive Diesel Engines has to cope with violent speed and load fluctuations, and less efficient combustion.

To put it briefly, the lubricating oil in a High Speed Diesel Engine suffers for greater punishment than an Industrial Diesel Engine.

Capacity to resist oxidation

Since 1935 there has been a tremendous development in the field of chemical additives for petroleum oils. Generally speaking additives are used for either (a) obtaining results not attainable by refining methods alone or (b) when it is more economical. But the ultimate object is to improve the original oil with regard to a specific characteristic or property.

Let us discuss some of the important (specific properties) and the additives utilised to improve the same.

(a) Resistance to oxidation

It would be very desirable if the high grade lubricant could maintain its original properties without change for an indefinite period of time during its service. But the hydrocarbon nature of petroleum oil makes it readily susceptible to oxidation, particularly when subjected to high temperature in the presence of certain oxidation catalysts readily obtainable in the engines. Apart from the changes in physical and chemical properties of the lubricant due to oxidation the undesirable effects from a user's standpoint are the tendencies to increase in viscosity, to deposit insoluble sludges and lacquers and to form acidic products that are corrosive to metals.

Also the metallic particles of wear accumulated in the lubricating oil acts as catalysts of oxidation. The sludges formed in the lubricating oil mainly due to 'Cold operations' of the engine also act as oxidation catalysts.

It is evident therefore that a suitable additive is necessary to:

(1) Withstand the high temperatures encountered in the piston and Combustion Zones of the engine.

(2) to inhibit the deterioration of the oil under the severe conditions.

(3) to protect the engine parts against corrosion from the decomposition products.

Several types of chemicals as for example—

(a) Hydroxy compounds such as phenols and naphthols.

(b) Nitrogen compounds such as amines.

(c) Sulphur compounds like disulphides, etc.

(d) Halogen compounds.

(e) some organic metallic compounds, and

(f) compounds containing phosphorus, arsenic, selenium, etc. are found to be effective as oxidation inhibitors.

The mechanism by which these additives function is not clear but there is evidence to believe that they achieve their objective by one or more of the following ways :

(1) Inhibition of chain oxidation.

(2) Deactivation of both metal Catalysts and the solid metal surfaces.

(3) Selective or directive oxidation of the secondary oxidation products.

These materials are usually added in concentrates from 0.25% to 1.0% by weight. Oxidation inhibits slow down but do not completely eliminate oil oxidation. Various oils respond to a different degree to the same inhibitor. Thus the production of a satisfactory oxidation-resistant oil requires the proper selection and refining of the base oil as well as the correct type and concentration of the inhibitor.

Detergency

It is inherent in the very operation of the Diesel Engine for certain contaminants to occur. Unless the tendency of these contaminants to collect inside the engine is effectively controlled the efficiency of operation will decline rapidly.

As a matter of fact engine deposits have many sources. They may be :

(a) Atmospheric dirt and road dirt carried into the engine.

(b) metallic particles from wear of the moving parts.

(c) Lubricating oil deterioration products.

(d) Fuel combustion by products (e.g., soot, unburnt fuel, complex organic acids and water).

(e) possible coolant leakage.

(f) casting sand and mill scale due to improper cleaning of the engine after manufacture, etc.

These deposits vary in nature depending upon the constituents, and the temperature at which formed. Some typical types of deposits are :

(1) combustion chamber 'carbon'—consisting of fuel soot, oil and fuel 'coke' dirt and grit all joined into a hard and adhering mass especially on piston heads, and rig grooves.

(2) Varnish and 'lacquer' formers—These exist originally as oil soluble material are later converted to thin adhering almost glass-like coatings on cylinder walls and piston skirts, due to chemical changes and the polishing motion of the affected parts. Hot sludges of various forms arising from the oil soluble combustion products are also formed; Cold sludges, in which water is constituent usually appears in crankcase, valve chambers and other relatively cool engine parts.

It is obvious that any lubricant having the specific property of preventing or minimising these deposit formations in automotive Diesel Engine will result in less time being spent by the vehicle in workshops for maintenance jobs.

To incorporate the property of reducing deposit formation a detergent additive is added to oils. These additives have a fairly complicated chemical structure containing one or more metals such as barium, calcium, zinc, magnesium, sodium and potassium, in combination with an organic group of the type like Hydrocarbon Sulphonate, or Alkylated Phenols.

Normally detergents and dispersants are combined in the same additive. The detergent functions as a solvent and washing medium, loosening and washing away accumulating deposits and tends to retard their formation; while the dispersant acts to keep the fuel soot and small insoluble particles and dirt in colloidal suspension as they are washed down.

The mechanism of action of the detergent additive seems to be to coat the metal surfaces with an absorbed layer thereby preventing adherence of soot and resin and

also coating each solid particle with absorbed layer, preventing thereby coagulation of the particles and forming deposits. An additional function of the detergent is to neutralise sulphur acids thereby reducing their deleterious effect on the oil.

The selection and concentration of the detergent additive again depends on the base oil used and is ultimately established through engine tests.

A word or two about the detergent levels of lubricating oils is necessary.

Generally speaking we have, what I would like to call as a basic oil, which conforms to what is referred to as MIL-0-2104A or DEF/2101A Specification.

An oil meeting this requirement must pass the tests relating to gravity, flash point, pour point, viscosity, viscosity index, Carbon residue, etc., and in addition must pass two tests—one in a specified engine to test the ring sticking, wear and accumulation of deposits in the cylinders and another test in a different engine to test the tendency for oxidation and bearing corrosion characteristics.

This original specification drawn mainly by defence personnel and automotive manufacturers were drawn having a fuel with .35% sulphur. Later on when the sulphur in the fuel increased and also, supercharged engines came into being higher detergency oils came into being: Such as Supplemental List I

Series 2

Series 3

etc., each indicating a higher level of detergency than the previous are.

However, it is necessary to depreciate the tendency to think that the detergent oil is in answer to all engine lubrication problems. It should not be considered a cure all for every type of engine sludge and deposit trouble. As a matter of fact, there are five factors on which is dependent the satisfactory performance of a H.S. Diesel Engine. These are :

(a) Operating conditions

(b) Maintenance

(c) Engine Design

(d) Fuel and

(e) Lubricating Oil.

The important but often overlooked fact is that the engine oil is only one factor involved with lubrication and performance; and there are four other highly important factors which can either work with the oil or against it. When too many of these other four factors are working against the oil, we can quickly get into trouble, regardless of additives and 'superdetergency.'

But there are certain practical aspects of the problem which a transport operator will do well to bear in mind.

(1) The automotive Diesel Engine should be operated at high temperatures than many are in the habit of using. Many detergents do not reach their full activity until temperatures of 180° to 190°F have been reached.

(2) Ample oil should be circulating to take advantage of the detergent action; that is—there must be a good washing action to carry away the dirt as it is formed.

(3) Good crankcase ventilation should be provided at all engine speeds and loads.

(4) Oil filters of adequate size to provide high flow rate and high solid holding capacity should be provided.

"Special Additives"

Fleet operators are often urged to add to lubricating oils, "special additives" which are available in the market. These additives are claimed to import more or less miraculous properties. Sometimes it is even implied that Oil Companies are holding back these materials for no good reason.

It should be mentioned that in the petroleum business, few subjects had as much equipment, time and money devoted to them in the last 20 years as have oil additives. If any material is devised or known of, that will improve performance in a measurable degree from any angle, without at the same time having detrimental effects, it is made use of as a matter of good business. Modern method of analyses expose most secrets, and if any material possessed the miraculous powers advertised, they would be made use of promptly, and endorsed by automotive manufacturers, who are most interested in having better lubricants developed.

But a note of caution is necessary with certain of these 'dopes' or 'cure-alls' as they are called, which have solvent ability.

The effects of a solvent mixed with the lubricating oil are well known :

(a) dilution of the oil resulting in lower viscosity and lower lubricating ability.

(b) being a light product it tends to evaporate through breathers taking away a little oil with it resulting in increased oil consumption.

(c) it may oxidise and deteriorate chemically resulting in increased sludge and lacquer.

(d) loosening of the many sludge deposits (which are doing no harm to engine operation) and may affect oil screen and oil circulation.

(e) in some cases reacting with water in engines to form active acids.

Moreover matching an additive to a lubricating oil is a specialised job which will involve many laboratory and engine tests.

Taking all these factors into consideration it will be realised that modern motor oils containing refinery blended additives will, in general give the best result obtainable. The use of supplementary additives is not likely to improve their performance, and may impair it.

Sulphur : Much is said about the sulphur content of fuels. Sometimes it appears to be harmless and in some cases it appears to accelerate wear and deposits. There is a general impression that all users and all engines must be guarded against sulphur. This is not quite accurate.

Literally hundreds and hundreds of engine tests have been run to measure the influence of sulphur on diesel operation. Results differ with engine design and operating conditions.

Quoting from a report entitled "The Effect of Sulphur in Diesel fuels on Engine Operation in the Laboratory" published by the co-ordinating Research Council of U.S.A., it states :

"The laboratories employing five engine types furnished test data at selected operating conditions on two or more of six test fuels ranging from 0.3% to 1.15% sulphur content

and covering a wide range of crude sources and refining processes.

Analytical treatment of the data submitted indicates considerable variability in the results obtained by the different laboratories and the absence and any clear-out trend relating to deposits and wear to fuel sulphur content. While in some instances increased deposit and wear appear associated with increased sulphur, the majority of the data indicate no consistent trends, leading to the conclusion that fuel factors other than sulphur were significant in effecting deposit and wear."

Engine design and operating conditions appear to have a significant effect on wear and deposit reaction to variation in fuel sulphur content.

The important point to remember is that presence of sulphur in the fuel in a proportion in excess of the optimum is undoubtedly undesirable. This optimum has been fixed by standardised bodies such as the B.S.I. in the light of considerable experience and with due regard to operating conditions. It is worthwhile to remember that engine operating conditions, particularly low cooling water temperatures or excessive operating temperatures, overheating of the injectors, etc., are some of the factors which accentuate the bad effects of sulphur.

The detergent additive added also helps to a large extent to offset the bad effects of corrosion and deposit formations attributed to sulphur.

In conclusion it should be stated that there is a widely prevalent idea that the high additive lubricants are the complete and final answer to all engine lubrication problems, if you can just get enough additives into the oil. The various other factors design and operation are overlooked.

It seems that we need a little better understanding of the limitations of additive oils, as well as the limitations of the engines in which they are used. With a little more emphasis on these limitations, and greater stress on the continuous research and study carried in different laboratories, we may be confident that the automotive and petroleum industries may be able to develop still better engines and better oils, for the real benefit of everyone concerned.

Fuelling the Jets

With the inauguration of the first transatlantic jet services with British Overseas Airways' Comet-4s and Pan American's Boeing-707s, the era of civilian jet travel is now truly established. Throughout the next four to five years, the airlines of the world will bring into operation nearly all of the 500 turbo-jets so far ordered, as well as add about an equal number of turbo-props to the more than 300 already in service. In terms of annual ton-mile capacity, the combined transportation potential of those 1,300 turbine-powered airliners well surpasses that of the present world fleet of some 4,300 piston-engined planes—a telling reflection of the greatly superior performance and load-carrying capacity of turbo-liners, and especially of the new giant jets, one of which equals in earning power three piston-engined Super-Constellations, or 20 Dakotas.

The advent of the jet age will, thus, transform the whole complexion of commercial aviation. It opens up immense new opportunities for further raising the speed and comfort of air travel, but it also confronts the air transport companies, aircraft manufacturers and airport authorities, with a host of novel problems, technical and economic. While turbo-props may still be regarded as somewhat akin to piston-engined craft, turbo-jets display certain radical differences that place them outside the general pattern. One of these differences is their notably high fuel consumption.

* * *

Britain's Comet-4, which can carry up to 80 passengers at an average of 500 m.p.h. non-stop over 2,000 miles, and 45-50 passengers across the North Atlantic, burns hourly about 1,100 imp. gallons (say, 4 tons) of turbine fuel. America's considerably larger and still somewhat faster Boeing-707 or Douglas-8 jets eat up around 2,000 U.S. gallons (over 6 tons) per hour; this is roughly three times the hourly consumption rate of the 95-seat 400 m.p.h. long-range Britannia turbo-prop, and about five times that of the piston-engined 80-seat 310 m.p.h. Super-Constellation. Thus, the fuel supply needed by one of the big American intercontinental jets for a 7-8 hours'

non-stop flight, including reserves, may be as high as 60-65 tons, i.e., almost half the aircraft's total take-off weight at full payload. The proportion of fuel costs to total direct operating costs is 40-45 per cent, as compared with under a third for the largest piston-engined machines, even though the unit price of the kerosene-type turbine fuel is only between two-thirds and a half that of the high-octane aviation gasoline used by piston-engined planes. On the other hand, both the hourly mileage performance and payload capacity of the big jets are so much higher that their fuel costs per seat-mile may work out about the same as for their piston-engined contemporaries. The fact remains, however, that commercial air transport will absorb fast mounting quantities of turbine fuel in the coming years, as the many hundreds of new jets and turbo-props are entering service.

* * *

Until now, the airlines' needs for turbine fuel have been modest in comparison with the avgas consumption of their piston-engined fleets. At the end of this year, they should still be no higher than 1½-2 million tons, as compared with military jet fuel requirements of some 15-16 million tons, and current world consumption of aviation gasoline, military and commercial combined, of some 13 million tons a year. But civilian demand for turbine fuel is expected already to reach five to six million tons by 1960, and to exceed ten million tons three to four years later, when current orders for turbo-airliners are due to be completed.

Obviously, at this early stage of jet travel, any forecasts of airline demand for turbine fuels are bound to be conjectural. Apart from possible delays in aircraft deliveries or proving flight programmes, estimates of the future growth of air traffic as a whole cannot be much more than inspired guesses as they are based largely on the extrapolation of past trends. This year's rate of traffic increase is falling short of anticipations; also, there is at the moment still much uncertainty about the future relative place of turbo-jets and turbo-props in the overall pattern of turbo-aircraft operations. And this issue

may not be resolved until the International Air Transport Association comes to a definite decision on the controversial question of differential fares for jet and turbo-prop services.

The airlines' original intention to assign the jets chiefly to the long-range routes, and the turbo-props to the medium—and short-hauls have been substantially modified in the past few years, during which over 150 medium—and short-haul jets have been ordered. Although the jet's outstanding speed and high-altitude performance can be exploited to fullest advantage only in non-stop operations upwards of, say, 1,500 miles, it is now apparently felt that even on considerably shorter stages—which account for by far the largest part of the world's air transport business—big jets of high payload capacity may nevertheless well pay their way, because they might, by their greater speed, attract more traffic than the slower turbo-props. They would, however, use up more fuel per aircraft mile on those shorter hauls than on the longer runs.

* * *

Meanwhile, the very largest of the intercontinental jets may for some time exceed the anticipated consumption rates, owing to the possible need for shortening their non-stop stages. An instance was the recent refusal by the London and New York airport authorities for Pan American's transatlantic Boeing-707 jets to take off at full load, because of the excessive noise and of the exhaust smoke emitted when the engines are run at maximum take-off power with the aid of water injection. Until these drawbacks are remedied, the operating companies will have no alternative but to throttle down the jet engines of these mammoth aircraft on take-off, at the price of curtailing their payloads or fuel loads, or both. Lower payloads would mean higher fuel consumption per ton-mile flown; a smaller fuel load, by imposing the need for intermediate refuelling stops, would appreciably increase overall journey times, as well as the fuel consumption for the total distance covered, since every additional take-off and re-climb swallows up an extra 4-5 tons of fuel. Thus, a single refuelling stop on the

North Atlantic route may reduce the jets' speed advantage over turbo-props, such as the Britannia, from 2½-3 hours to an hour or less, as the less fuel-thirsty turbo-props would be able to cover the same distance non-stop. It may well be, therefore, that turbo-props will eventually be given a larger share of intercontinental traffic than was initially foreseen, especially if the airlines should agree on lower fares for the turbo-props.

By whatever margin the actual requirements of civil aviation for turbine fuels may differ from present estimates, they will in any case multiply rapidly in the years ahead. So from now on, the oil industry must be prepared for a rise in global demand for commercial jet fuels averaging 1-1½ million tons annually over the next decade. In all probability, the airlines will continue to adhere to the kerosene type of turbine, fuel, hitherto adopted by all of them except Trans Canada Airline, which uses the military JP-4 "wide-cut" type comprising about 70 per cent low-octane gasoline and 30 per cent middle distillate. With free-world supplies of kerosene currently totalling some 45 million tons a year, and presumed roughly to double in the next 10-15 years in line with crude production, refiners will have no difficulty in providing the airlines with the additional quantities of turbine fuel they need. They may, however, have to make some adjustments to present processing techniques, to meet the more stringent quality specifications for commercial aircraft turbine fuels possibly imposed in the future. The characteristics of the kerosene-type turbine fuels now in use are basically similar to those of ordinary kerosene, but henceforth they may have to be tailored more closely to the diverse requirements of worldwide air transport operations under widely differing climatic and temperature conditions.

A particularly important factor in the freezing point of the fuel, which for ordinary kerosene lies at about -40 deg. C., but to ensure ready pumpability of the fuel in flights at very high altitudes a freezing point of -50 deg. C. (-58 deg. F.) is called for. Thanks to the flexibility of modern refining methods,

this and other special requirements can be met. Ex-refinery prices of standard kerosene-type turbine fuel are at present slightly higher than those for wide-cut fuel, but the boiling range of the latter brings it within the taxable limits on internal consumption in some countries. The kerosene-type is generally untaxed and has therefore an added attraction for the airlines, which by and large consider kerosene most suitable for commercial turbine aircraft as regards availability, calorific value, volatility and, notably, relative safety in operation and stock-handling.

* * *

The needs of the commercial air transport companies are, of course, very different in size and nature from those of the military authorities, which insist on wide-cut fuels, not only because their characteristics conform better with the specific technical requirements of air forces but, above all, on account of the swift expansibility of supplies in the event of war. While kerosene currently represents 6-8 per cent of all the crude processed (though this ratio could be doubled, if necessary), over 40 per cent of the oil industry's crude production could be turned into wide-cut fuels in case of need. Present world demand for military jet fuel is likely to keep rising until the early or middle 1960s; thereafter it is expected to level off and later to decline with the increasing substitution of piloted jet planes by missiles whose rocket engines will be predominantly powered by non-petroleum fuels. The contraction of military demand for jet fuel would enhance the refineries' future supply potential for civilian aircraft.

A feature of both turbo-props and jets—as indeed of the gas turbine generally—is the very low requirement for lubrication. Whereas a big piston-engined long-distance plane might take delivery of 100 gallons or so of lubricating oil, its turbine counterpart would need only a few pints. In the latter case the lubricant is not made from petroleum, but is a synthetic chemical product.

* * *

The new tasks arising for the oil industry from the advent of jet

travel are not confined to the production side. They also involve a considerable expansion and further diversification of its distribution organization for aircraft fuels. Large additional storage facilities for turbine fuels are being set up at most of the major airports, while existing stores of aviation gasoline and its separate delivery equipment must be kept available for supplying the thousands of piston-engined airliners continuing in service for many years to come. More and better equipment is also being provided for improving the efficiency of fuelling the huge turbine planes. Loading a jet aircraft with up to 20,000 gallons of fuel from conventional 3,500 gallon fuellers, as normally used for servicing piston-engined machines, would require five to six of such vehicles. Special types of super-fuellers have, therefore, been developed; the largest hold 10,000 gallons and can discharge up to 500 gallons a minute.

Though the overall rate of fuel intake at the aircraft tanks is being kept lower for technical reasons, the use of super-fuellers simplifies and speeds up the fuelling procedure. It is, however, generally regarded only as a stop-gap solution, which the oil companies intend progressively to displace by fixed hydrant fuelling systems wherever their installation is economically justified. Providing a continuous supply of fuel from the airport storage tanks through underground pipelines to the loading areas, hydrant systems not only require less operating personnel and involve lower depreciation costs, but also offer the important advantage that the aprons can be kept clear of bulky mobile equipment for aircraft fuelling. Yet in this, as in other respects, the changes brought about by the swing-over from piston-engined to turbine-powered planes will be much less exacting upon the oil industry than on the airlines, for which the advent of jet travel means a major breakthrough of far-reaching consequences for the whole economics of air transportation.

Road Development

World's Largest Undersea Tunnel

BY N. S. ANANTH

TOKYO—One of Japan's most ambitious engineering projects, the Kanmon Tunnel, underlines the importance of road traffic in the development of economies.

The Kanmon Tunnel, claimed to be the world's longest undersea tunnel was opened only recently, but has had a remarkable effect on the economy of Western Japan. To understand the importance of this undersea highway, it is necessary to know a little of the geography of Japan.

The Japanese mainland consists of four big islands—Hokkaido to the north, Honshu in the centre, Shikoku to the southeast of it and Kyushu at the south of Honshu. To these four must be added the various small islands.

This natural division poses many transportation problems. It was in order to reduce these problems that the idea of a connection between the two most highly developed islands of Japan was first mooted.

The plan was first taken up by the late Count Shimpei Goto, the then president of the state—operated Japan National Railways. He proposed the construction of a tunnel connecting Honshu to Kyushu but nothing came out of the proposal.

The next step came three years later when the Internal Affairs Ministry decided to build a suspension bridge across the Kanmon Straits. However, the tide of the

times was against it. The Japanese Imperial Navy intervened with one of the strangest arguments:

"Our warships bear the Imperial Crest and it is unthinkable that anyone should look down from the bridge on the Crest."

With militarism and chauvinism riding high, as they were at that time in Japan, this was an irrefutable argument and the plan was hastily dropped.

Then came the Manchurian Incident. This made the Government acutely aware of the need to connect the two islands.

In June, 1935, a survey was begun and a 5,000 foot experimental tunnel was bored. This was later used as the model for the excavation of the tunnel proper which was started in May, 1939.

It was by no means an easy job. Cave-ins were an ever-present danger. Due to a geological flaw, a 435 foot section was always collapsing. Finally in May, 1942, the 2,575 foot undersea section was completed. Work was then started on the Honshu and Kyushu sides to link up with the undersea section.

Then World War II intervened forcing a complete stop to all work on the project. Work was resumed only after Japan surrendered.

During the construction work, about 14,500,000 cubic feet of earth were excavated. This earth was used for reclamation purposes and for building a railway bed.

During the 21 years it took to complete the job, the tunnel took a toll of 53 lives.

The completed tunnel, fully lit with florescent lights, requires only 10 men to operate. Most of the day-to-day operational work is carried out by an elaborate system of machines. These machines control temperature, ventilation, lighting, traffic and other aspects of the operation. Any trouble is automatically reported at the control panel.

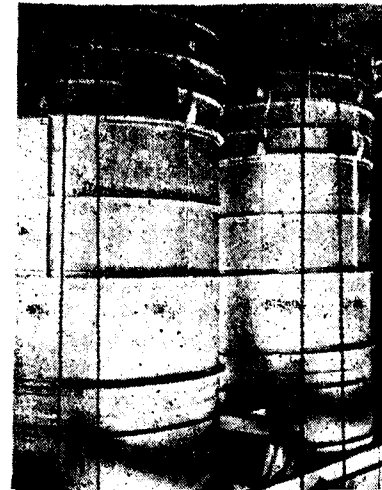
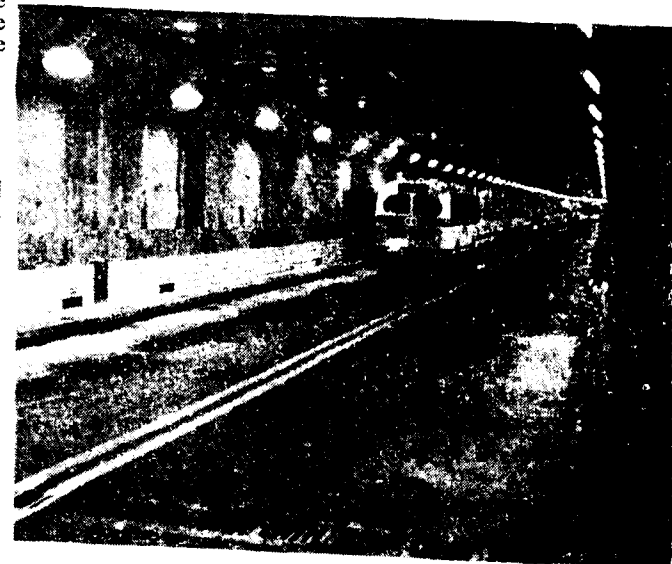
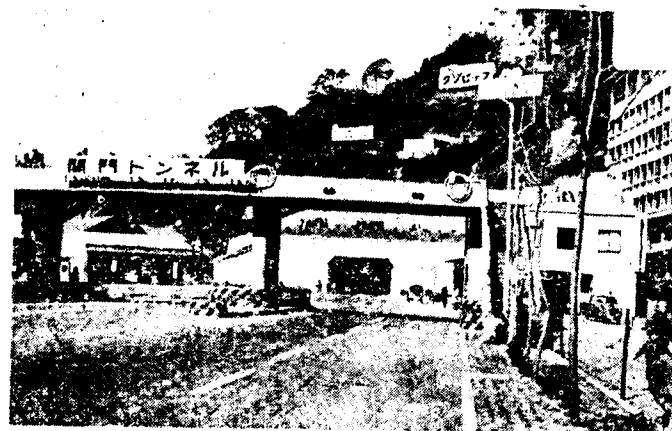
Personnel expenses account for only 2.8 per cent of the cost of the tunnel's operation.

The tunnel is expected to have a far-reaching effect on the economy and industries of the region it serves.

Kyushu is one of the biggest heavy industry centres of Japan. This naturally brought about a congestion at the Kanmon Straits Ports. Heavy industrial products manufactured in Kyushu, especially northern Kyushu have to be shipped abroad from these ports. They must also be sent over to Honshu.

The interior of the Kanmon Tunnel is fully lit with florescent lights. Underneath the section is a pedestrian boulevard

Entrance to the Kanmon Tunnel which connects the two Japanese islands of Honshu and Kyushu. The tunnel, claimed to be the longest undersea tunnel in the world, has greatly reduced the congestion in the Kanmon Straits.



These giant blowers are used to ventilate the tunnel. A system of machines controls all aspects of the operation and only 10 men are required to operate the undersea highway.

With the construction of the new tunnel, a good deal of the transportation between the two islands can be handled by the new link. This not only eases the port congestion, but also steps up traffic safety in the straits.

The total annual savings brought about by the tunnel is estimated to be £57,000.

It is expected that the total cost of construction of the tunnel can be recovered in about 26 years through tolls on vehicles and pedestrians.

However, it must be admitted that all is not perfect with the tunnel. After the tunnel was opened, it was found that the acoustics were very bad. This brought a good deal of criticism, especially when everyone was ballyhooing about the great engineering achievement.

The tunnel, however, had a good side effect. Japan's ability in matters concerned with the construction of tunnels gained international recognition. Bombay Municipal Corporation has approached Japan for help in the construction of a tunnel under Bombay Harbour. This tunnel is expected to be twice as long as the Shimonoseki-Moji tunnel.

Another unexpected windfall came about when Japan began to broil in last summer. The inhabitants in the area found that the tunnel was degrees cooler. The result was that the number of pedestrians using the tunnel zoomed and the tunnel became a favourite boulevard for an evening stroll.

ROAD TO BHUTAN

The construction of a road from Jayanti in North Bengal to Sinchula on the Bhutan border is to commence shortly. The road will be 25 miles long up to the Indian border and this portion will be completed by 1961.

According to the Prime Minister of Bhutan, who was in Calcutta recently, the Bhutan Government would continue the road right across the country to the Central Bhutan so that the only direct motorable road between Jayanthi to Tizong will be about 125 miles.

Indo-Bhutanis relationship has been considerably cemented since the recent visit of our Prime Minister to that country.

CARS ON LEASE—NEW SCHEME IN AUSTRALIA

A company in Melbourne, Australia, is providing a new service to motorists, enabling car drivers to lease late model vehicles for a period of two years at a cost which is claimed to work out cheaper than car ownership through hire-purchase.

It is claimed that the price of the service is lower than the cost of depreciation, maintenance and interest payments.

The company, Kays' Holdings Ltd., calls its plan "Auto Lease," and states that the scheme generally has operated for over a decade in Canada, the U.K. and the U.S.A.

The main users of this service are said to be small and large companies which prefer to lease cars rather than have capital tied up in them.

Under the company's scheme, charges in Australia will range from £5-19 a week for a Morris Minor to £7-10 a week for a late model Holden. The cars will be registered in the name of the lessee, who will pay for registration, insurance and maintenance.

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

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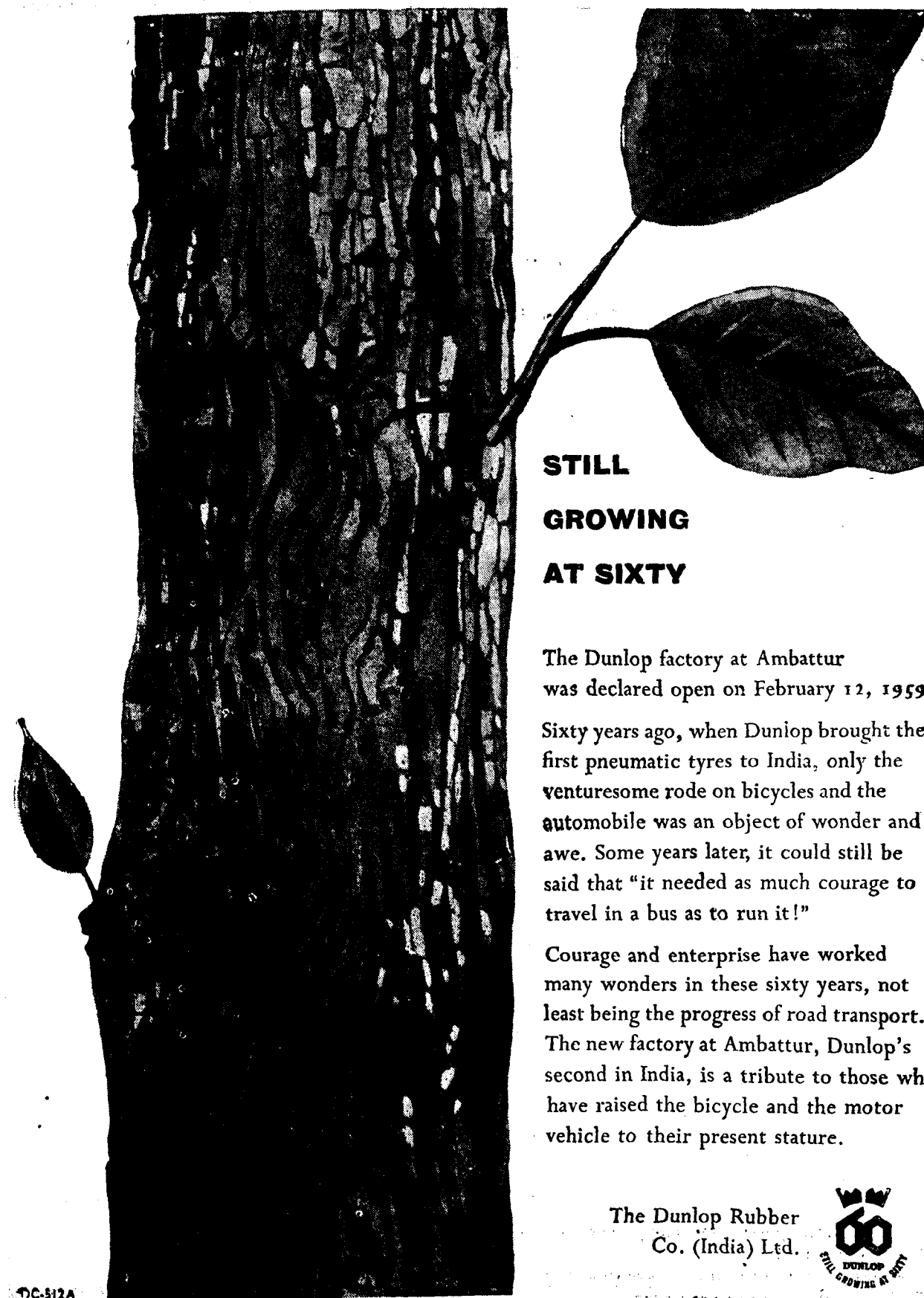
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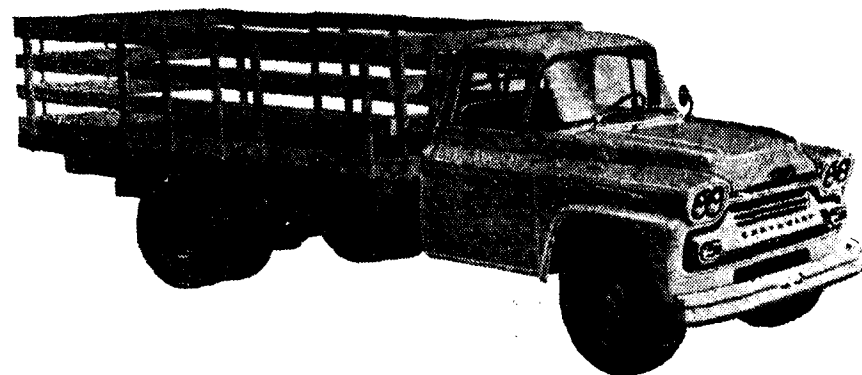
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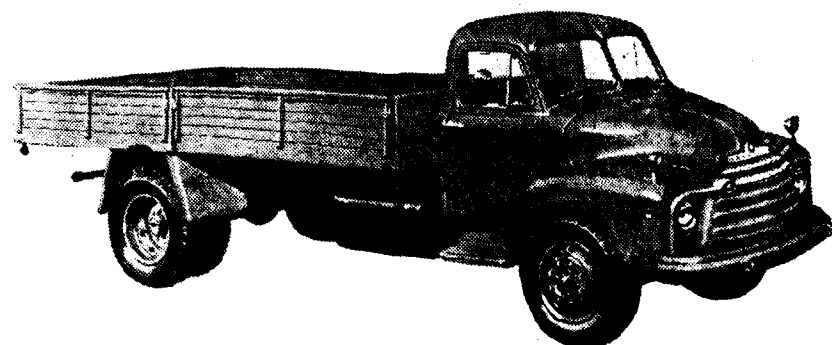
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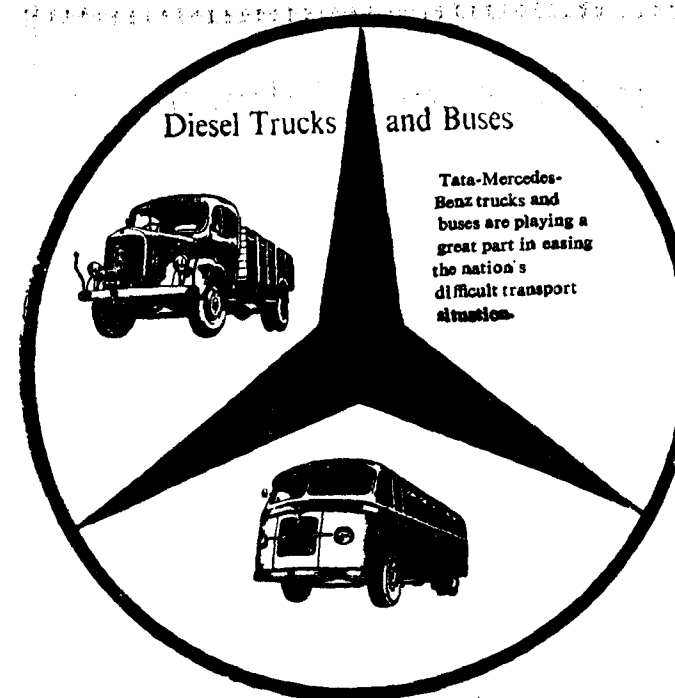
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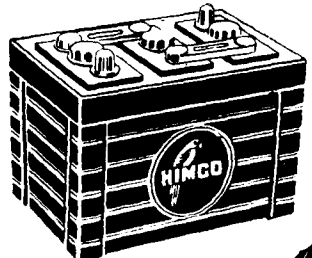
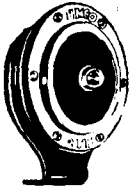
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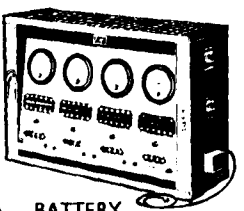
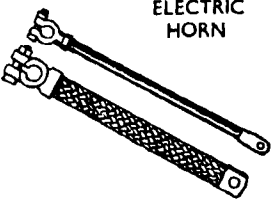


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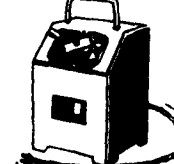


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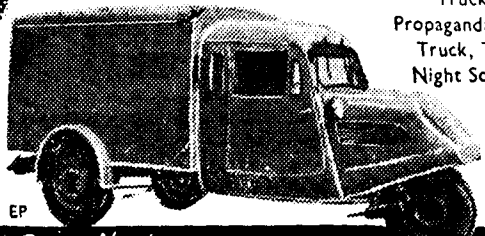
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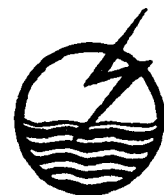
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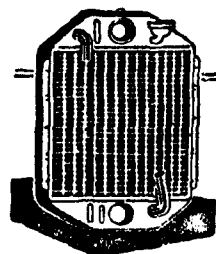
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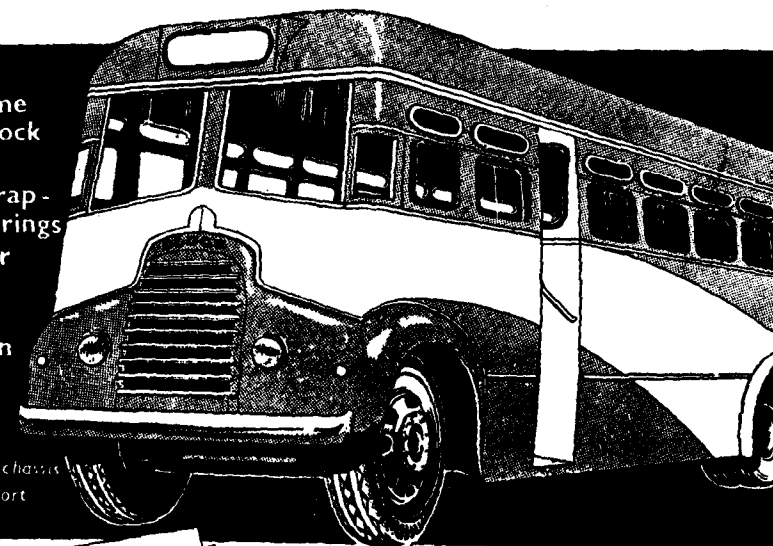
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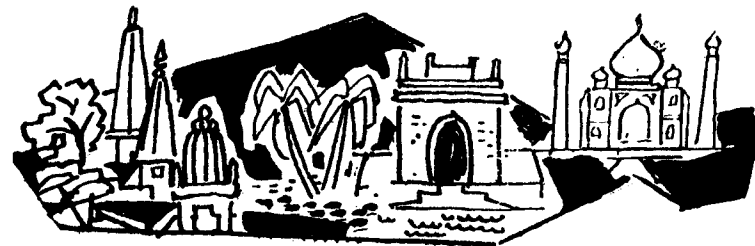
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