

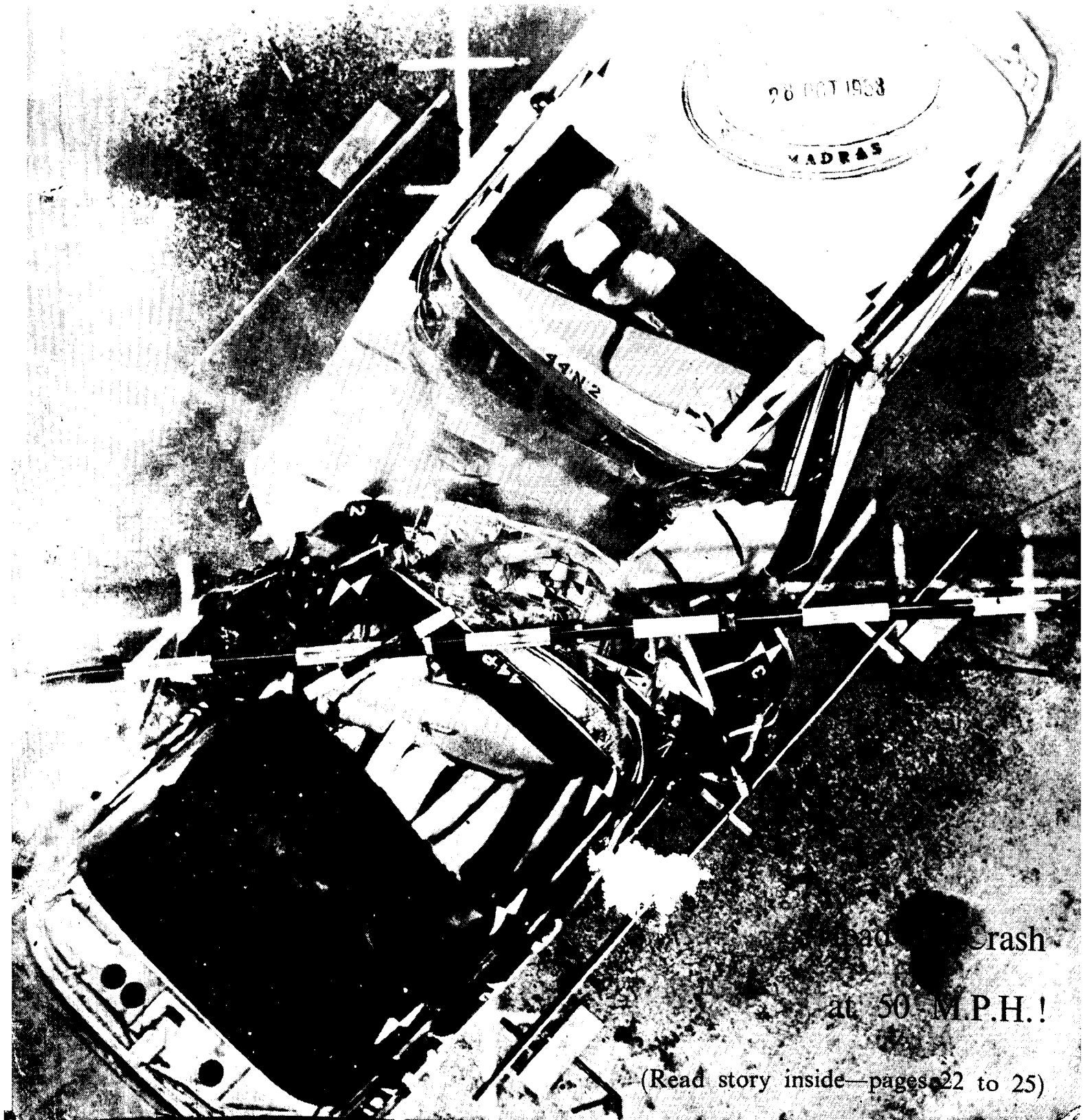
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402 MOTORINDIA

VOLUME 3

402
40-11
SEPTEMBER 1958

NUMBER 2



Head-on Crash
at 50 M.P.H.!

(Read story inside—pages 22 to 25)



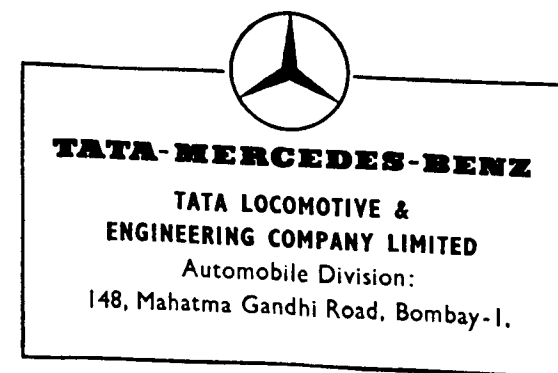
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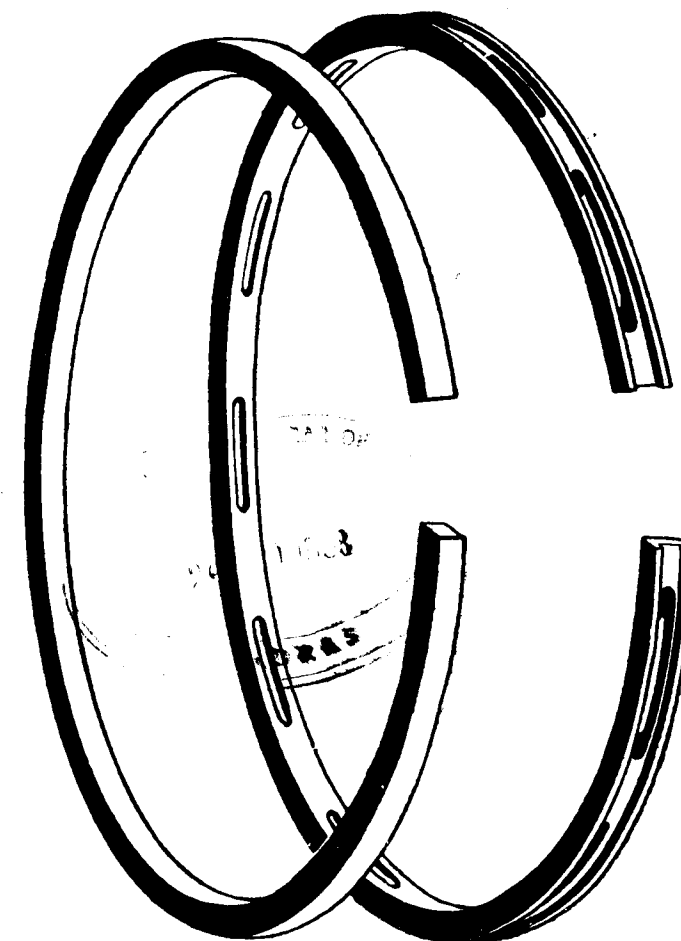


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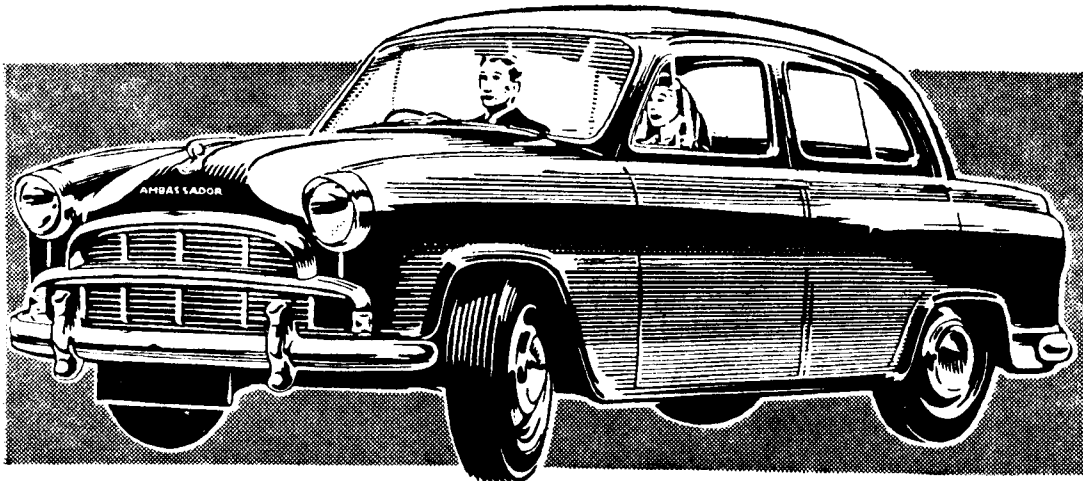
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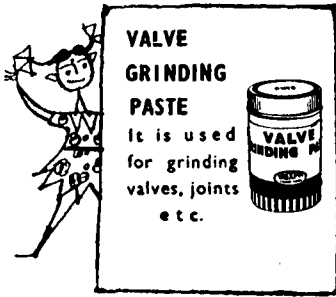
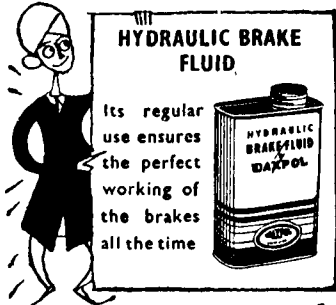
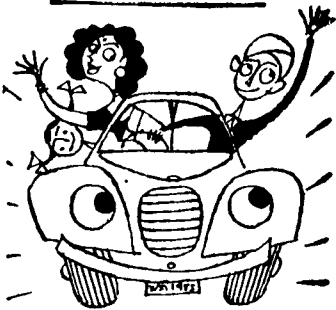
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MOTORINDIA

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Vol. 3 SEPTEMBER 1958 No. 2

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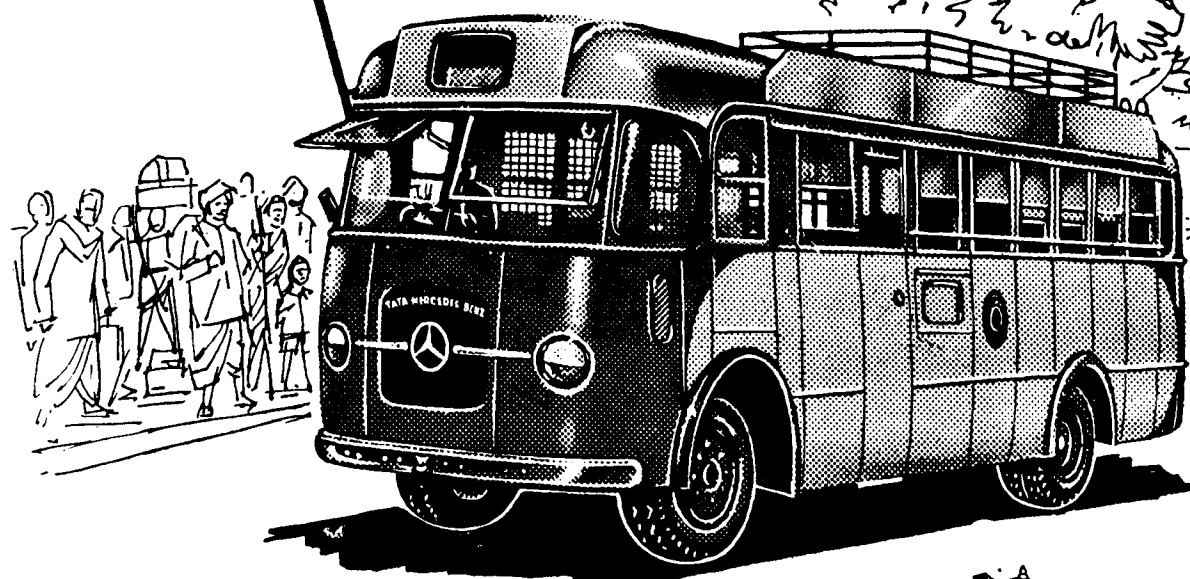
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editorial

66

CHOOSE YOUR GARAGE

In a recent judgement in a Civil Revision petition filed by the Indian Airlines Corporation, His Lordship Mr. Justice Ramachandra Iyer of the Madras High Court has cleared a point in regard to the signing of consignment notes. Though the particular judgement has special reference to Air consignment notes, duplicates of which are usually signed by persons booking parcels, we are reminded of similar problems facing motorists.

We received a representation recently from one of our readers in which it was pointed out that motorists while leaving their vehicles for repairs to workshops are obliged to sign the order form as a matter of routine. We doubt if any motorist has ever read all that is printed on such order forms, but the representation that we received recently revealed an instance where a car was left to a local garage for making certain repairs. The owner was asked to sign on a rough estimate which he duly did. When he went after a few days to take delivery of the car, the gentleman in charge of the garage drew the attention of the customer to almost a full page of rules, regulations and conditions printed on the back of the order which the customer had signed without reading it. For, on the reverse of that order form were many clauses including one wherein it was stated that he agrees to take back the car on payment of the entire charges *in cash*. Actually, the owner wanted to take the car, drive and see how the things have been mended at the garage and whether they have been done as desired by him. But the printed condition which he had signed, we are sure without any knowledge, and the stiffness on the part of the garage manager insisting on fulfilment of those conditions made it necessary for the car owner to take delivery of the car after paying the full amount. Now the motorist in question has tried the car several miles and he finds that most of the works supposed to have been done and charged for, have not been done to any degree of satisfaction. Against this he has now no remedy. Luckily for us most decent garages or workshops, in spite of conditions on the order forms, show a willingness to re-examine the particular defect if after the repair they have not been okayed by the customer.

Our object in referring to this particular instance is to draw the attention of readers to the existence of stiff-necked controllers of garages or workshops who may find it convenient to refer to the printed conditions to cover up bad workmanship. Readers are therefore warned in their own interest to choose the place where they should leave their vehicles for repairs, particularly in case of big overhauls etc.

SPARES FOR OLD VEHICLE

We endorse the many points mentioned in the Memorandum presented by the Secretary of the Bombay Motor Merchants Association to the Hon. Mr. S. K. Patil, Union Minister for Transport & Communications recently at Bombay. Time and again we have drawn the attention of the authorities to the almost inescapable need to see that vehicles are kept on the road. While there is no doubt about necessary protection being granted to manufacturers of indigenous automobiles, the Government cannot escape their duty and responsibility to see that spare parts for the maintenance and service of all those vehicles that were imported into India before 1953—and nearly a million of them are now on the roads of India today—are available throughout the country at reasonable prices. The drastic cuts imposed on many of the essential spare parts in recent years have resulted in the enormous increase in the prices following a scarcity which is being taken advantage of by some of the undesirable elements in the trade. The auto parts dealers as a whole are however, very reasonable in this respect and it is to be hoped the Government will view the situation in the light of representations made by the Bombay Association and see that replacement parts are allowed to be imported in sufficiently large quantities so that not only supplies may continue but the scarcity conditions may be removed. These vehicles will be on the road for many years to come and so any decision must be a long term one.

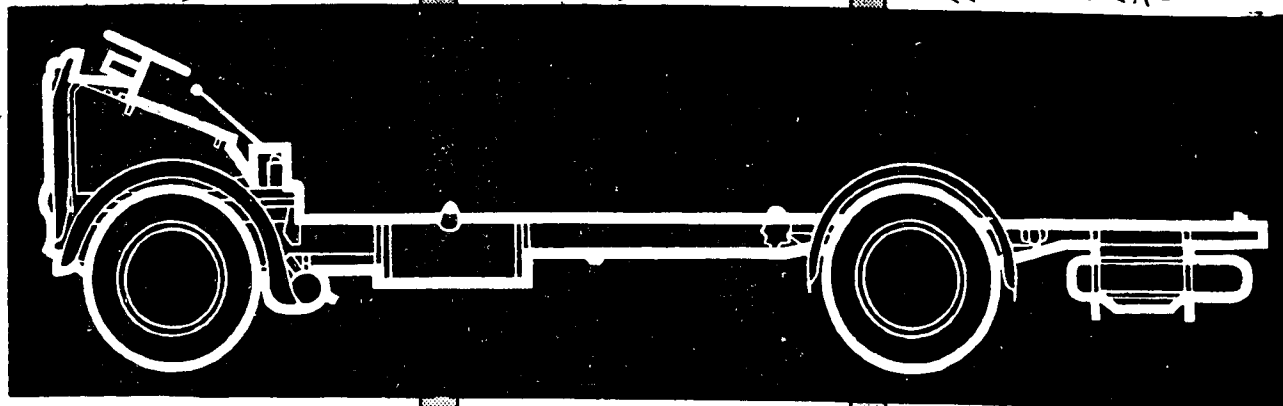
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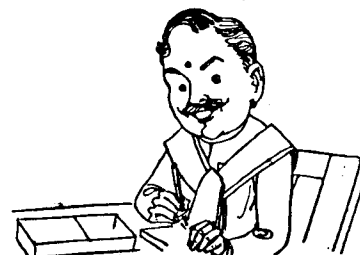
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Speed and Economy

From GORDON WILKINS

British motorists will get their first view of several new high performance cars, family cars and miniature economy models at the Motor Show which opens at Earls Court on October 22. Outstanding exhibit among the small family cars is the new AUSTIN A 40 with brilliant Farina styling, gay colour schemes and detail finish that make it worthy of a place in any Concours d'Elegance. Engine, transmission and suspension are basically the same as those of the A.35, but with larger wheelbase and track and bigger brakes.

ROVER are presenting their new 3-litre a beautifully finished fast saloon car with six-cylinder engine of 2995 cc (183 cu.ins.), delivering 115 b.h.p. new torsion bar front suspension and entirely new body, engine, gearbox, front suspension and steering are mounted on a detachable sub-frame insulated by rubber from the rest of the car and the bodywork is full of interesting details. Export deliveries will not commence before the spring of 1959.

Other Rover models continue except that the 105 R with Rover's own automatic transmission is dropped. Bolder grilles and new front bumpers are adopted in line with the style of the 3-litre. There is a new bright moulding along the waistline to demark duo-tone colour schemes and the instrument panel now has a flexible safety pad.

The Land ROVER STATION WAGON has been re-styled in line with the rest of the range and now has the enlarged 2,286 c.c. engine. The long wheelbase model has ten seats.

The Rootes group programme features the PHASE 111 HILLMAN MINX with larger engine of 1494 cc. (91.2 cu.in.) giving 52.5 b.h.p. (SAE) with it comes a larger clutch new gearbox with closer ratios and an axle ratio of 4.55 to 1

At The London Motor Show

TO BEGIN ON OCTOBER 22 AT EARLS COURT

instead of 4.78. Style features include new grille, new side and tail panel mouldings, and redesigned interior with new instrument panel.

The other big Rootes innovation will be the SUPER SNIPE, which is a fast and luxurious six-cylinder six-seater. The SINGER GAZELLE has minor changes to trim, a new facia and new external colour division. It now has a pushrod engine of the same size as that in the latest Minx.

ARMSTRONG SIDDELEY are expected to increase the engine size of the Sapphire and will probably fit disc brakes. STANDARD have once again altered the chromium decoration on the Vanguard which will be offered with four-speed gearbox or Borg Warner automatic transmission. MIKE HAWTHORN will be showing the 12-cylinder 3-litre Gran Turismo Ferrari with its latest four-seater coupe bodywork by Pinin Farina. It can be geared for speeds upto 150 m.p.h. and has proved virtually unbeatable in the Gran Turismo class in international competitions.

Another racing driver, George Abecassis, will show the latest version of France's elegant FACEL VEGA sports coupe with V8 engine delivering 360 horsepower. This car too is credited with speeds up to 150 m.p.h. It brings Mr. Abecassis into competition with his father-in-law Mr. David Brown who is expected to exhibit a new GRAN TURISMO ASTON MARTIN of 3.7 litres with Superleggera body designed by Carrozzeria Touring of Milan, who are now styling consultants to the David Brown group.

Touring also build the convertible bodies for the new 2-litre Alfa Romeo 2,000 which will be seen in England for the first time. A new British entry in the same class is the 2.2 litre disc-braked BRISTOL 406 which will be shown for the

first time carrying British-built bodywork similar in outline to the Swiss-built Beutler body shown last year. ALVIS will show their 3-litre with its new saloon body built by Park Ward to designs by Graber of Switzerland. Several economy cars will be on view including the OPPERMAN UNICAR with plastic saloon body and air-cooled two-stroke engine and the FISKY SPRINT, higher powered model derived from the Meadows Fisky, also with plastic body.

Among the new baby cars will be the remarkable little DUTCH DAF making its first appearance in England. It is the smallest car on sale with fully automatic transmission. The engine is an air-cooled flat twin of 600 cc. at the front and it drives the rear wheels through an ingenious system of belts. A new exhibit from Germany will be the NSU PRINCE, a lively small four-seater saloon driven by a rear-mounted 600 cc. air-cooled engine.

Sweden is sending two new VOLVOS, the PV 544 which is an improved version of their popular 1,600 cc. PV 444 and the Amazon S., another 1,600 cc. model which is one of the fastest family cars of its class in the world.

Several famous names will be missing from the show. Allard are concentrating on the commercial vehicle market and only make sports cars to order. Lagonda also seems to be a doubtful starter this year. The effects of the past year's difficulties in the American industry will be reflected in the fact that there are no Nash or Hudson cars as American Motors is now concentrating on its economical Rambler series and the Austin-built metropolitan. Ford's new make, the Edsel which has had a disappointing reception, will not be seen in London this year and unless there is a change of policy for 1959, there will be no Packards. (Copyright)

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Two Fiat 500s seen during a 100,000 mile test run in Italy

A LITTLE CAR GOES A LONG WAY

62,000 MILES ROAD TEST OF THE FIAT 500

BY

GORDON WILKINS

If you want the engine of your car to last indefinitely, lubricate it properly and keep it *running night and day*! This seems to be one lesson from a long distance test of a Fiat 500, Italy's latest baby car in which I took part. Normal press road tests extend for anything from 250 to 3,000 miles according to the amount of data editors feel their readers require. But Italy's leading motor magazine Quattroruote goes much further. Their test of the Fiat 500 lasted 62,000 miles and last year they ran a Lancia Appia for 100,000 miles.

The test crammed five years' normal use into the few weeks between mid-April and early June running night and day over a punishing 750 mile circuit from Rome to Naples, Foggia, Bari, Pescara and back to Rome. At the beginning it encountered snow, ice and fog; it finished in hot sunshine.

The Fiat 500 test was specially interesting because it provided an independent assessment of the operating costs and mechanical durability of the smallest car now being built by any major European manufacturer; a tiny two-seater weighing, 1,050 lb., driven by a rear-mounted two cylinder air-cooled engine of 479 cc.

I first witnessed the test routine at midnight in the big Fiat service station in Rome. Ing. Moscarini, vice director and technical editor of Quattroruote glanced at his watch from time to time and two mechanics adjusted a pair of floodlights. Suddenly, at the exact time shown in the schedule there was the piercing blast of a powerful wind horn and the little dust-covered Fiat 500 swept into the area of the floodlights. The crew of two, in white overalls, got out and completed the entries on their log card. Engine oil was changed while Ing. Moscarini leaned over into the rear of the car, unlocked two instruments, took out two circular record cards, and put in two new ones. The car then went up on a lift where the transmission oil was checked and the chassis was greased. Down again, wind-screen and lamp glasses were cleaned, and all lamps checked. A new crew climbed in, the engine started at the first touch on the switch and away they went on the long night run through Latina, Terracina, Formia and Mondragone to Naples, then on through the daylight hours to Foggia, Bari, Pescara and back to Rome.

Soon I learned more about it by driving the car myself during one of its 83 runs round the 750 mile test circuit. For my run I had as navigator Ing. Moscarini himself, who supervises every run by means

of two recording instruments plotting every variation in road speed and engine revolutions, every stop, every acceleration and deceleration. Under the magnifying lens, the discs permit Ing. Moscarini to reconstruct every detail of the run. Here the car was cruising smoothly at the maximum permitted speed; there it was held up by traffic; further on the speed dropped and the engine revolutions fluctuated as the driver changed gear in the mountains. The test is controlled and analysed with minute accuracy.

The car looked like any other Fiat 500 except for the lettering on the sides and the magazine's badge on the front. Under the bumpers were two fog lamps, and a powerful wind horn. There were a few extra items on the instrument panel; a thermometer to show engine oil temperature and another which showed air temperature inside and outside the car. There was also a stop watch on which the duration of every stop was recorded, even if only for a few seconds at a level crossing. There were also two driving mirrors; one to show the road behind, the other to show the dial of the tachometer, as big as a dinner plate, which was fixed to the rear bulkhead. At night this dial was illuminated with a red glow and it was never far from the driver's thoughts, for the instructions were that 3,500 r.p.m.



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MOTORINDIA

September 1958

must never be exceeded. The idea was to reproduce the engine conditions used by a normal owner, and not of a racing driver in the Mille Miglia. This permitted us speeds of 18 m.p.h. in second gear, 31 m.p.h. in third and 48 m.p.h. in top.

On the long straights like those up the Adriatic coast from Pescara, where the Mille Miglia cars used to touch 170 m.p.h. it was tedious enough but one could never relax, for it was easy to let the revs. rise too high. And passing big trucks with trailers required concentration, for the speed difference was not great and one would have been glad to be able to use higher revs. to cut down the passing time but after a while it developed into a fascinating sort of game. After all, the driver is in much the same situation as a driver racing at Le Mans. His team chief has told him the maximum revolutions he may use and he has to get round as fast as he can without exceeding them. The rules of the test imposed no restrictions on cornering speeds, so the run became an entertaining exercise in obtaining high average speeds with low engine revolutions. On the section from Pescara to Rome, for example Ing. Moscarini told me there were 2,420 corners. I do not dispute it. I drove round them all and enjoyed it.

I confirmed what I have suspected ever since I first drove one, that the Fiat 500 has within its performance range the most extraordinary cornering powers ever achieved on a rear-engined car. I threw it into tight corners uphill and downhill at speeds which I would not care to exceed with more powerful cars, without once having to unwind the wheel to check a tendency to oversteer. Uphill I was often alternating between second and third gears, always with one eye on the rev. counter. Downhill I used the brakes hard and often but they showed no signs of deteriorating.

And always Ing. Moscarini sat impassive watching the watches, or pointing out the interesting features of the route. As I twirled the wheel this way and that on a particularly tortuous climb where the road coiled like the snakes we spotted occasionally. He remarked conversationally that soon after the war a jeep had gone over the edge

with four men on board at this point,—just to encourage me. We made a (carefully timed) stop to photograph the ancient Roman Ponte d'Arli and paused to admire the superb mountain panorama as the sun set above the Lago di Scandarello. But always there was one eye on the schedule. And this was no leisurely touring time table; no easy routine run idly consuming petrol and tyres to amass a big distance. The circuit chosen is a most searching test for any car, inflicting continuous punishment on springing, shock absorbers, steering brakes and even the structure of the car in a degree which people who do not know the roads will find it hard to visualise.

For the 54 miles from Pescara to Ascoli the set average was 37.7 m.p.h. so the time allowed was 87 minutes. The traffic was light and the roads were straight, so I did it in 80 min. 6 sec. But from Ascoli to Rieti the roads were much more difficult. The set average was 34 m.p.h. and I should have covered the 71 miles in 126 min. but I relaxed to admire the scenery and took 128 min. 40 sec. From Rieti to Terni I lost some time in traffic, relaxed again to look at the fine mountain views and finished cornering as if I were in a race, but I took 47 min. for the 23.6 miles instead of the scheduled 41 min. By now it was obvious that the schedules can only be maintained by unremitting concentration on the job. We were running late, and something had to be done, so I covered the last 34 miles from Terni to Rome in 95 min. 13 sec. against the schedule time of 109 min.; still without exceeding 3,500 r.p.m. except perhaps for two bursts of a second or two where considerations of safety made it necessary.

So once again it was midnight under the floodlights in the Rome garage. Another crew stood waiting. And this time the Pirelli technicians stood ready to change the tyres. The car had completed 90,000 km. and was running perfectly. The engine seemed as quiet and as smooth as when new; the gear change was perhaps even easier than on a new car. The brakes were good and everything was in working order. There was a rattle from a loose lock on the passenger's door and

a rattle from the rear which seemed to be caused by test instruments and not by the car itself.

The new tyres were fitted, and the wheels electronically balanced. The fuel tank was filled and 120 gm. of oil added to the transmission to replace a small loss which is caused by the drive to the recording instruments. The recording discs were changed, the new crew climbed in and the little car sped out into the night once more.

The average speed was 36.8 m.p.h. or 31.9 m.p.h. if stops are included. 1,138 Imp. gallons of fuel were used, representing a consumption of 55.2 m.p.g. Engine oil was changed every 1,500 miles.

At the end of the test the performance was checked to see how it had fared. It was if anything better than when new. Maximum speed was 56 m.p.h.; acceleration from 0 to 30 took 13.5 secs. and 0-50 took 37. Fuel consumption at a steady 30 m.p.h. on a level road was 82.5 m.p.g. and at 50 m.p.h. it was 56 m.p.g.

During the test five sets of tyres were used (the last were little worn at the end, having done only 7,500 miles) and the sparking plugs were changed three times. The valves were ground in once, the rear dampers were changed at 33,000 miles, several rubber bushes were renewed on the dampers and the whole front suspension was overhauled once. Rear brakes were relined at 46,000 miles, and the drums were skimmed. Three rear wheel bearings were replaced, and two universal joints. Perhaps the most vulnerable item was the dynamo, which was overhauled and fitted with new bushes four times.

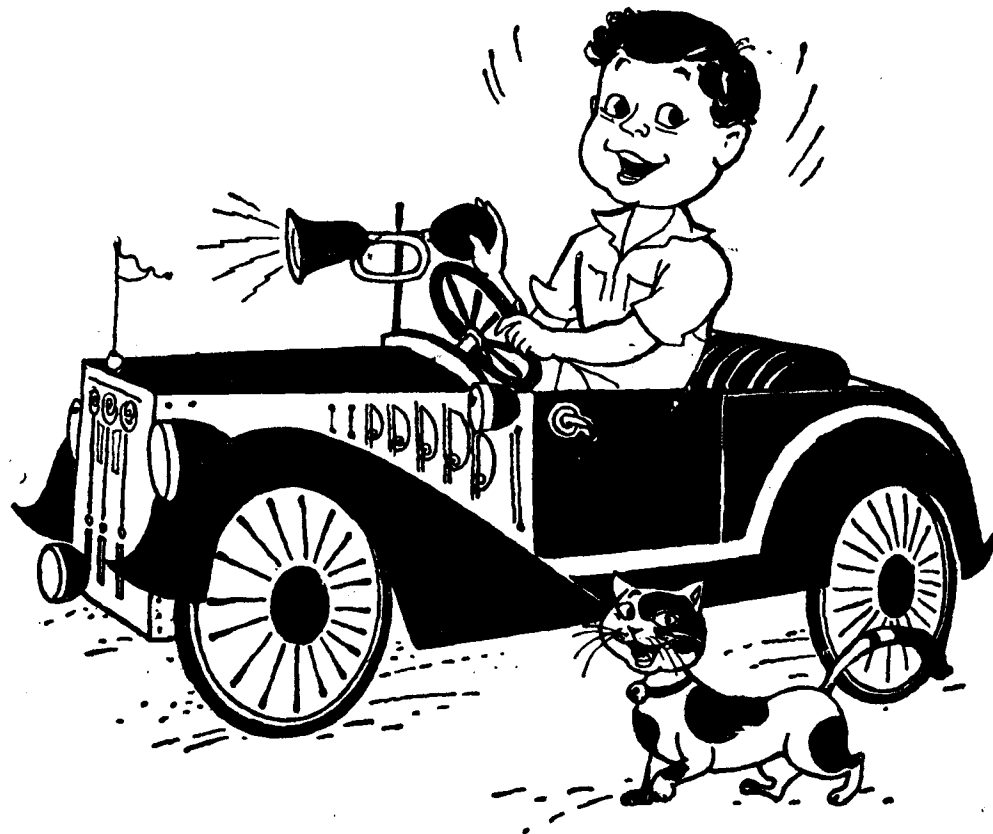
On such a test the engine never cools down, so that it does not suffer cold starts, with the heavy cylinder wear that they produce.

When the test ended the cylinder bores were still good, with maximum wear of only 0.008 in. The pistons which had travelled 28,000 miles up and down the bores had maximum wear of only 0.005 in. The centrifugal oil filter which is built into the fan pulley was packed with soft dirt and had effectively protected the working parts. Crankshaft and wrist pins were as new and bearings

September 1958

MOTORINDIA

11



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Automobile Production Figures For Other Countries

(BY OUR EUROPEAN EDITOR)

Great Britain: New cars are being registered in Britain at the rate of 40,000 a month. There are now over 4½ million automobiles on the overcrowded roads of Britain; the total has doubled in 10 years and during that time new road construction has been negligible. Total vehicles in use including commercial and public service vehicles are approaching 8 million.

During the first six months of 1958, the British industry produced 550,669 cars. Exports were 250,883 an increase of nearly 25 percent on the first half of 1957. Good vehicle production is up too with a total

A LITTLE CAR

were perfect. There was wear of 0.007 in. on one exhaust valve guide. The timing chain was little worn. Clutch, gearbox and differential were in excellent shape when stripped but the universal joints were due for second replacement and Fiat is now introducing a modified design which puts less stress on the rubber. One front hub taper roller bearing was breaking up. Starter and screen wiper motor were in excellent condition although the latter had worked continuously for days on end.

The body and structure had stood up to a severe hammering but a concentrated test cannot indicate long-term effects of ageing and corrosion. Several rattles had developed and doors had dropped 0.45 in.

It was an interesting indication of the ability of a tiny car to stand up to work far harder than the average owner will ever give it, provided it gets the recommended service and lubrication. Including cost of fuel at the high Italian price of 7s 4d. per Imp. gallon, allowing for depreciation and charging all labour and materials at official prices, Quattroruote calculates all-in running costs at 3.06 pence per mile.

of 160,000 for the first half of year. The used car market has been less active partly through the threat of compulsory inspection for 10 year old cars which starts at the end of the year but hire purchase business has set up new records and some big banks have been buying stock in the major finance companies.

BMC now leads European production with a record 63,000 workers producing about half a million vehicles a year.

The struggle for control of Standard-Triumph between existing Board under Lord Tedder and the Massey-Ferguson Group of Canada whose tractors are built by Standard in England and France was intensified last month. When Standard bought Mulliners, the coach builders who make Triumph-sports and Standard station wagons bodies, Massey-Ferguson offered Mulliner stock holders 8s for every 5s Standard share they received on the deal. Standard shares were then 6s 7d on the market (Massey-Ferguson had previously been offering 9s to Standard stock holders, but the deal fell through). Tedder countered by jacking up the dividend and revaluing assets which pushed the market quotation for the shares to 7s 6d but Massey-Ferguson picked up 51 per cent of the new shares raising their total holding in Standard Triumph to 24 per cent of the ordinary capital.

The Do-it-Yourself movement in auto building is expanding fast in Britain. Sports cars like the Lotus and Buckler led it. Soon the Fulda, German miniature made under licence in England will be available in kit form to the home builder and so will the rear-engined Opperman Unicar. A new sports car for home builders is the Typhoon built by Tornado Cars. It has a tubular frame, coil spring suspension and Ford Anglia engine, gearbox and axle. Body is an open plastic-two-seater. Manufacturers claim complete car can be built at home for as little as £250 (\$700 dollars).

Introduction of Parking meters has been strongly opposed by British

motorists on the grounds that they reduced total parking space available and are just another addition to Britain's heavy auto taxes. There was therefore, grim satisfaction when the Government installed the first 650 of these unwelcome American devices in London's Grosvenor Square and adjacent streets which are occupied almost entirely by American Government agencies and forces headquarters. American personnel who previously parked their cars on both sides of the street all day now pay a penalty of \$1.50 (10s) after the first two hours and after four hours their cars may be towed away.

So far meters have been partially boycotted and there has been a big increase in congestion in surrounding areas. Government's answer, more meters in more districts. Meanwhile figures released by the Government Road Research Laboratory show average speed of rush hour traffic in Central London is now 9 m.p.h. rising to a breathless 10½ m.p.h. during the rest of the day.

British Government has refused demands for a speed limit on Britain's first motor road, now under construction. Suggestions varied from 55 m.p.h. proposed by the Pedestrians Association (though no pedestrians will be allowed on this road) to 100 m.p.h. suggested by a member of the House of Lords.

Rumour is that Aston Martin are contemplating introduction of a new G.T. model to compete with costly Continental models like 300 SL Mercedes and Ferrari 250 G.T. Specification is expected to include an engine of 3½ to 4 litres and De Dion rear end.

The shape of the turbine-engined car Blue Bird with which Donald Campbell hopes to beat the world land speed record of 394.2 m.p.h. set up by the late John Cobb in 1947 has now been finalised after scale model tests in a wind tunnel of the Department of Aeronautics at London's Imperial College of Science and Technology. Power will be provided by a 5,000 h.p.

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Bristol Proteus free turbine engine similar to those used on the Britannia air liner. The engine is being specially adapted to drive all four wheels. The attempt is scheduled to take place on the Salt Flats Utah in 1960 and Stirling Moss has reportedly been asked to take part.

France : Chrysler has at last secured an interest in the European car industry which will allow it to compete in the imported car market in the United States against products of General Motors and Fords European factories, subject to "certain consents, waivers and conditions" unspecified which are included in the agreement. They did it by buying Fords' 15 per cent interest in the French Simca concern which was acquired when Ford sold its French subsidiary at Poissy to Simca in 1954. Presumably Simca cars will now be sold through Chrysler dealers in the U.S.A.

Transfers of all Simca manufacturing activity to the greatly enlarged poissy plant is almost completed. Exports rose from 19 per cent of output in 1956 to 26 per cent in 1957 and accounted for over a quarter of all French vehicle exports. output from Simca assembly plants in Belgium, Ireland, Sweden, South Africa and Australia rose last year and two new assembly lines in Mexico and Cuba are now operating but Assembly of Simca and Willys vehicles at the Kaiser-Frazer plant in Holland is to cease. Simca production in the first quarter of 1958 was 56,042 cars. Output of the group's Unic trucks, and Someca tractors was also up. Pre-war association between Simca and Fiat continues in various forms. A new car manufacturing company has just been formed in Morocco with Simca and Fiat sharing a 40 per cent interest, the rest being split between a Morocco Government agency and private capital.

Renault are spending £250,000 (\$700,000) expanding their assembly plant near London, England which is currently producing 17 Dauphines a day and production has just begun

at a new 14 acre assembly plant in Dublin.

France : In the first half of 1958 the French motor industry built 486,117 cars and 103,337 buses and commercial vehicles, a total of 589,454 an increase of nearly 25 per cent over the total for the first half of 1957 when the figures were 372,967 cars, 99,310 buses and commercial vehicles. Automobile Exports were up 54 per cent over the first half of 1957 (166,247 against 108,487). Commercial vehicle exports also rose, from (20,975 against 18,223). Highest rate of increase is shown in small cars up to 6 h.p. tax rating, a class which includes the record breaking Renault Dauphine.

Germany : Mercedes Benz sales on the German home market rose by 8 per cent in the first half of the year compared with the first half of 1957, but exports rose by 29 per cent. Automobile production averaged 8,000 a month during the spring and should reach 9,000 a month by the end of 1958.

Mercedes Benz Argentine S.A. was confiscated by the Argentine Government at the end of 1957 but a settlement has been achieved and three German manufacturers have now submitted plans for tractor factories in Argentine.

Mercedes Benz do Brasil is producing 550 vehicles a month, chiefly truck and buses with 50-60 per cent local content by weight.

Australia : Standard Motor Company and Daimler-Benz AG have formed a new jointly financed Australian company, which will progressively manufacture and market Mercedes-Benz vehicles and engines in the Standard plant at Melbourne. German Tempo Matador commercial vehicles which already have British BMC engines will be assembled and eventually manufactured in Sydney.



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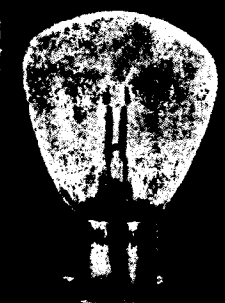


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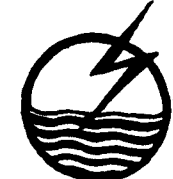
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PRE-WAR RACING IN '58

Grand Prix Mercedes of 1937 and 1939 at Oulton Park

BY

GORDON WILKINS

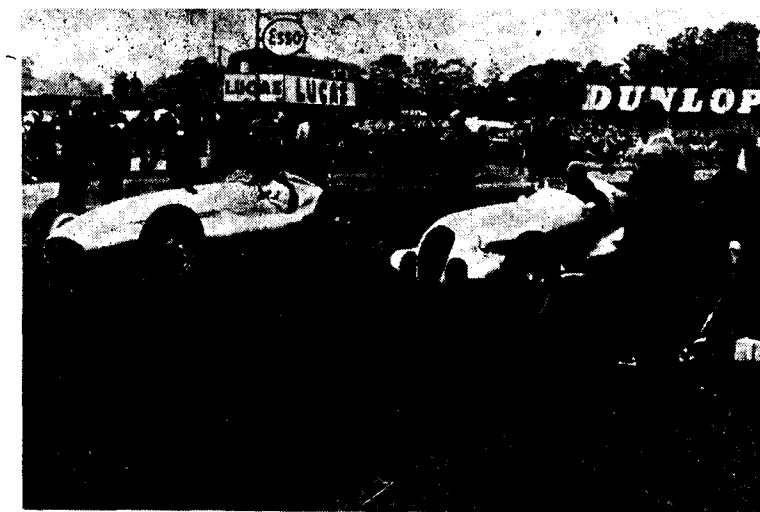
A crowd almost as big as those at modern international meetings went to Oulton Park for this year's Seaman Trophy meeting of the Vintage Sports Car Club. Besides the attraction of the beautifully preserved pre-war racing cars run by club members, Mercedes had pulled two of their pre-war Grand Prix cars out of the museum at Stuttgart and sent them to England for a demonstration to honour the memory of Richard Seaman, a member of the pre-war Mercedes team, and the only British driver to win the German Grand Prix on the Nurburgring.

The two cars were a 1937 W. 125 5.6-litre 645 horsepower model, the most powerful road racing car ever built, and a 1939 W. 163. 3-litre.

From 1934-1937, engine size for Grand Prix cars was unlimited but dry weight without tyres was limited to 750 kg. (1650 lb.) The first Mercedes built under this formula in 1934 has a 3360 cc. engine developing 350 b.h.p. but 3 years later the W. 125 had an 8-in-line engine of 5,660 cc. supercharged, giving 646 b.h.p. at 5,800 r.p.m. giving it a maximum speed up to 200 m.p.h. It had enormous success, winning the German, Swiss, Italian, Monaco, Tripoli and Czechoslovakian Grand Prix. It coincided with the peak of Caracciola's career, for he won the German, Swiss and Italian races, was second at Monaco and won a heat on the banked Avus track at Berlin at 155.59 m.p.h. Brauchitsch won at Monaco, won a heat at the Avus at 160.38 m.p.h. and was second at Monza. Seaman, the British driver, was third at Monza, and Lang won at Tripoli at 132.04 m.p.h.

The car had a tubular frame, unequal-length wishbones with coil springs at front and De Dion axle with torsion bars at the rear. Its four-speed gearbox was mounted at the rear, maximum speeds in the gears being 90, 137, 160 and 200 m.p.h.

For 1938/9 engines were limited



Vintage Oulton Park: Collins in 1939 Mercedes and Brooks in 1937 Mercedes.

to 3 litres with a minimum car weight of 850 kg. (1870 lb.).

The Mercedes W. 154 and its derivative the W. 163 produced for this formula were lower built by mounting the power unit diagonally so that the drive shaft passed alongside the driver.

The 12-cylinder engine, of 2,692 cc. with 2-stage supercharging developed 483 b.h.p. at 7,800 r.p.m. The superchargers alone required 150 b.h.p. to drive them and the 1939 car had nine oil pumps. A five-speed gearbox was used, giving speeds of 60, 109, 133, 157 and 195 m.p.h.

In 1939, Seaman won the German Grand Prix on one, Lang won at Tripoli, Brauchitsch in the French G.P. and Caracciola in Switzerland. In 1939, Lang won at Pau, Switzerland, Belgium and the Eifelrennen while Caracciola won the German Grand Prix.

As much as the fantastic noise, it was the sweet smell of acetone which helped us to span the gap of the years. The setting helped too, and as the two silver cars snarled and slid their way round the parkland circuit, it was easy to imagine ourselves back at Donington Park twenty years ago.

Although taking no risks with these irreplaceable relics of a great era, both Peter Collins and Tony Brooks went sufficiently fast to give those who never saw pre-war racing an impression of what is stupendous spectacle it was. Tony Brooks said it was one of the greatest moments in his racing career. Peter Collins was equally impressed. Both found the 5.6-litre 645-horsepower monster of 1937 a handful, as did its drivers at the time of its

racing career. The driving position is surprisingly upright, with the pedals unusually near to the seat. The cockpit seems short and deep, and the wheel is very close to the chest, so that the whole driving style has to be altered. The reason for this becomes apparent when you drive the car. The steering is high geared, but so heavy that it is a real effort to drag it round the corners. No wonder the drivers tended to steer with the throttle as long as their tyres would let them. Said Collins, "I simply don't think you could drive it with a present day arms-extended driving position. You couldn't exert sufficient effort at the rim of the wheel." There'd be another complication too. During the first part of the accelerator pedal travel nothing much seems to happen, and then the power comes in with a sudden electrifying surge. At 2,000 r.p.m. the engine is already developing 240 b.h.p. or very nearly the full power of a modern Grand Prix machine. And as a further complication, there is a centre accelerator on both cars, an unfamiliar feature to many present-day drivers. They did five laps and then changed cars.

Both cars snarled away on acceleration, leaving black trails of molten rubber on the road, but it was obvious that each driver found the 1938 car very much easier to handle than the 1937 one, and its five-speed gearbox helped it to hold its own on acceleration. They lapped at about 80 m.p.h. touching 120 on the straight. The progress made in road holding and ease of control between the two cars is quite impressive. In fact the 3-litre although

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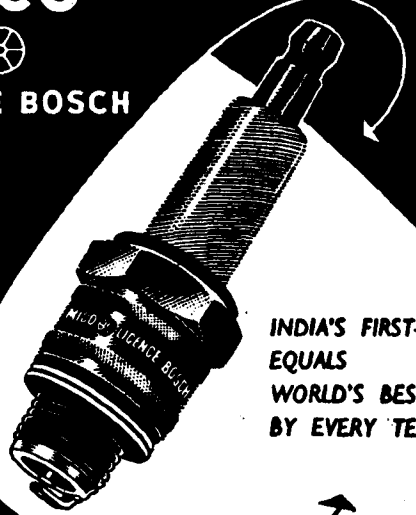
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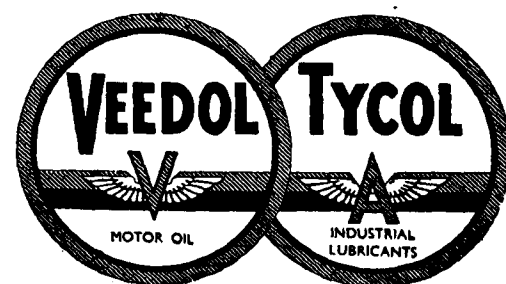
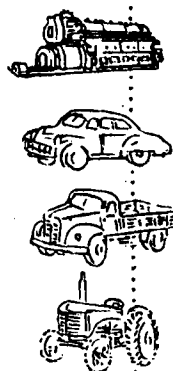
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GPEM / 17

AUTO NEWS IN BRIEF

BY

(OUR LONDON EDITOR)

Germany: Increasing competition is making itself felt in the miniature car market. Maico went bankrupt while their sleek new sport coupe designed by Beutler was being shown in New York.

designed 21 years ago has the beginnings of the qualities found in the modern Grand Prix car. Said Collins "I'd like to drive it for 100 miles with no one looking, and then I reckon I could really get it moving. It should be able to lap Oulton Park at 90 m.p.h."

The Mercedes demonstration completed a programme which was a perfect evocation of motor racing in the late 1930's.

The main event for the Seaman Trophy produced a fine struggle between four ERA's two 1936 1½ litres driven by W. F. Moss and P. Waller a 1936 2-litre by D. C. Hull and a 1934 1½ litre handled enterprisingly by G. Chapman with a competitive background provided by a horde of Bugatti, Delage, Amilcar, Bentley, Alta, Alfa Romeo and Vauxhall built between 1924 and 1938.

Bill Moss won, handling the ERA with such mastery that he is obviously worth a trial on something more modern and in a subsequent race he put in a lap at 82.41 m.p.h. which is within 3 m.p.h. of the best by a modern Formula 1 car. Hull was second, and Waller third. Chapman broke down, leaving fourth place to be taken by a 4½ litre Bentley handled with great enterprise by G.H.G. Burton who also won two other races.

To see and hear these fine old cars in action is a thrill which no museum can ever provide and the vintage members spare neither effort nor money to keep them in perfect order. Even a pre-war Austin Seven racer now arrives at the track on its own transporter. This was a historic occasion. It was also one of the last appearances of Peter Collins, who after brilliantly winning the British Grand Prix at Silverstone last month was tragically killed in the German Grand Prix [Aug. 3].

Maico of Pfaffingen is dead but the latest reconstruction, one of the many in the history of this small car is intended to ensure continuing production by Maico of Harrenberg.

Manufacture of the Heinkel miniature has been transferred from Germany to the Irish Republic and the Fulda is now to be made under licence in England with engine imported from Germany.

England: The Peerless Gran Turismo coupe with Triumph TR3 engine, gearbox and front suspension, disc brakes and De Dion rear axle is now in production. One competed at Le Mans, handled well and finished the race but was not classified through failing to complete the minimum distance required for its class. Plastic bodies are now being made by James Whitson at the rate of 20 a week in specially temperature controlled workshops with low ceilings to minimise temperature fluctuations. Heated moulds are planned to increase the rate of production.

Jaguars refused to comment on press rumours that they intend returning to racing in 1959. However, my prediction is that Jaguars will have a new team of works cars with independent rear suspension ready to race by the end of the year. If Sir William Lyons then judges the time is ripe this could mean their debut at Sebring 1959.

Private owners have nobly upheld the make's prestige with two consecutive wins by Ecurie Ecosse at Le Mans but this year despite disc brakes, the cars with 3-litre engines were no match for Ferrari. A lighter car than the D-Type with better wheel adhesion on rough surfaces and probably larger piston area seems indicated. One thing which would certainly speed up the Jaguar return to racing would be an announcement that Mercedes were returning to sports car racing.

Bristol: Following construction of a small series of the new Bristol 406 coupes by Beutler, Bristol will soon begin production with a new car of their own design in England. This is a two-door coupe with notched back and small tail fins.

The engine is 2216 cc. and gives 105 b.h.p. at 4,000 r.p.m. and transmission is through a 4-speed gearbox with Laycock overdrive. Brakes are Dunlop discs with vacuum servo.

Mulliners: Decision of the Standard Motor Company to buy Mulliners, of Birmingham the big body building company which makes bodies for the Triumph cars and Standard commercial vehicles, has sparked off a new struggle for control of Standards between Lord Tedder, the chairman and Massey-Ferguson, whose tractors are built by Standard in England. Massey-Ferguson have offered to buy all Standard shares issued to Mulliner shareholders. This would increase their effective holding in Standard above 20 per cent and bring them nearer to effective control of the company.

Italy: Alfa Giulietta sprint modified. For 1959 the normal Alfa Giulietta Sprint coupe by Bertone will have a heavier front grille treatment with square mesh inserted in the side intakes, new parking and tail lamps. Improved production methods are said to give better finish on the panels and interior trim is revised. Power of the standard model is raised by 10 h.p. to 80 b.h.p. at under 5,500 r.p.m. giving it a maximum speed of over 105 and making it as fast as the first of the Veloce series. Extra power comes from increased compression (8.5:1). New twin pipe exhaust and new settings for the twin Solex carburettors. Stick shift is now standard instead of steering column.

Ugolini leaves Maserati: It is reported from Italy that Ugolini, famous racing manager of Maserati and formerly racing manager for Ferrari has left Maserati. This suggests that Maserati has no early plans for return to racing but a new independent race organisation under Ugolini's management using Maserati cars remains a possibility.

England: During the first five months of the year Britain exported 60,594 cars to the U.S. compared with 35,042 for the first five months of 1957. Average car production by the British industry was 21,250

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September 1958

a week during the five months period.

New esso refinery: The Esso Petroleum company have decided to build a new refinery and marine installation near Milford Haven in Wales costing 50 million dollars.

World land speed record car: Design work has now begun on the new car with which Donald Campbell hopes to improve on the World Land Speed record held by the late John Cobb. His car, like Cobb's will have the driver sitting in the nose ahead of the front wheels and all wheels will be enclosed but the power unit will be a 4,000 b.h.p. Bristol Proteus gas turbine driving all 4 wheels. He hopes for a speed of 475 m.p.h.

England: B.M.C. have given me a categorical denial of story printed in a U.S.A. magazine to the effect that a 600 c.c. baby car will be announced in August.

B.M.C. recently shipped the 2 millionth vehicle to be exported from its factories since the war. The vehicle was one of 7-ton trucks bound for Malaya.

B.M.C. exports for the first quarter of 1958 broke all records with 21 per cent increase over the same period for 1957.

Rootes wins styling honours: Rootes Group cars recently won top styling awards in International Concours d'Elegance in two European capitals. In Rome, they received the silver cup for the finest display of series production models from one factory in the 11th Concours d'Elegance. The Rootes exhibits, a Humber Hawk, Sunbeam Rapier convertible, Sunbeam Rapier coupe and Hillman Minx also won a gold medal for the most attractive group of foreign cars on show. This is Rootes second successive triumph in the Rome Concours which they won outright last year by a Humber Hawk.

In Athens 2,000 people saw a Sunbeam Rapier outright the Hellenic Touring Club's Concours d'Elegance, competing against 51 cars of Europe's leading makes. The competition was attended by King Paul, and Queen Frederika and the Crown Prince Constantine.

September 1958

M-6

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MOTORINDIA

WHAT REALLY HAPPENS IN A

Scientists staged 50-m.p.h. collisions to find out. Here
seat belts, safety

BY

MARTIN MANN

Glimmering in California's best sunshine while the Pacific lapped quietly nearby, two new sedans roared straight at each other down an old Navy runway. The solemn eyes of trim, handsome, ex-bomber-pilot Derwyn M. Severy watched closely. This was no hot-rodders' game of chicken. For the sixth time in four months, Severy was deliberately crashing good cars head-on. Object: Safety.

What happens in a head-on collision at 50 m.p.h.? Could you live through one? How much help are the new safety gimmicks—belts, positive locks, pop-out wind-shields, dished steering wheels? What about unit bodies?

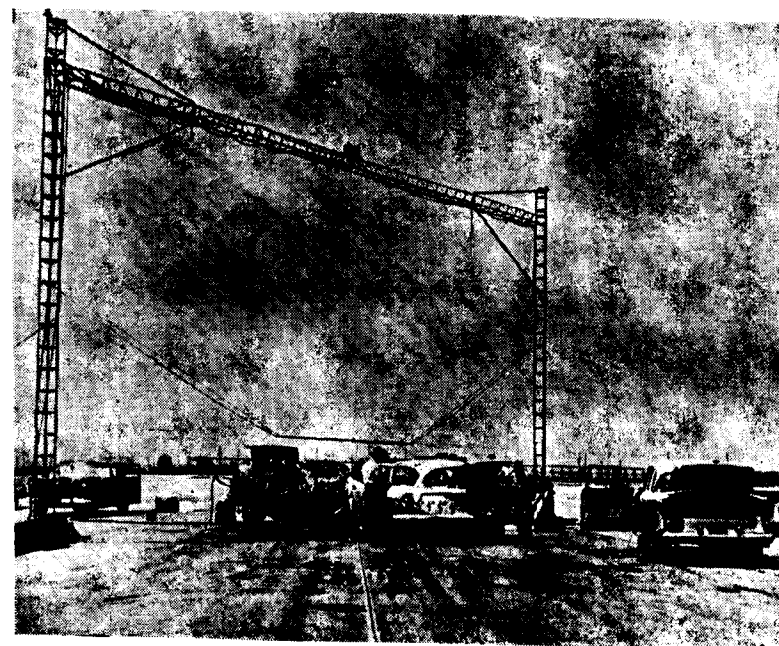
Now for the first time there are answers. Not the final word, but an initial report on Severy's meticulously conducted crash tests, the first ever to reveal what happens in a head-on collision at road speed.

The results do not flatter Detroit.

Severy, a dark, serious native Angeleno of medium height and very long title—Project Engineer for the Collision Injury Research Project of the Institute of Transportation and Traffic Engineering at the University of California at Los Angeles—has made safety his job since the war.

In this latest series of tests, he and his crew of 26 engineers, mechanics and cameramen smashed up 12 Sedans; a '49 Ford, a '50 Nash, four '56 Ramblers, four '56 Fords, a '56 Pontiac and a '56 Nash Statesman. They rammed them together two by two, each pair colliding precisely 12 inches off head-on at precisely identical speeds (21, 27, 47 or 52 m.p.h., depending on the test). From miles of movie film, still photos and electrical recordings, some eyebrow-tilting results stand out:

*You could live through—but not walk away from—a 50 m.p.h. head-on collision.



The scene after the crash

*Your survival chances at any speed would shoot up if auto makers stuck to simple, well-known rules of safe design.

*New safety gadgets help—but do not work as well as they should.

*Type of construction doesn't matter. There was no clear-cut difference in crash performance between the standard body bolted onto a load-bearing frame and the newer frameless type that welds all body sections into a single stress-resisting unit.

How did they find out? Staging a fast head-on collision—inside a test tube, you might say—turns out to be far more difficult than avoiding the real thing on the highway. The big bash lasts only around a tenth of a second. You want to measure everything; deceleration at several points on each car; forces on safety belts; movements of seats, steering wheel, and doors; how the glass broke; which way the dummies flew.

Some of this can be done electronically. Accelerometers—to mea-

sure G-forces—were spotted at four points on each car, inside the dummy drivers' chests and at the dummy passengers' hips. The signals were fed over a slack cable to oscillographs in an instrument car following each crash car.

But most of the data comes off film. There were five high-speed movie cameras shooting as many as 1,400 frames per second (that stretches a tenth of a second to more than five seconds), two Air Force gunsight-aiming-point movie cameras (200 frames per second) focussed on the dummies from within each car, three standard movie cameras and three still cameras.

Three of the cameras pointed straight down from a steel bridge (built of antenna tubing for \$300) exactly straddling the collision point. Four were positioned on the ground to get a full side view, and four others covered from an angle.

Setting up a crash is not easy. How can you be sure the cameras will catch the action? They have to be close up and aimed before the

HEAD-ON CRASH AT 50 M.P.H.

are their conclusions on unit vs. frame construction,
locks, dished wheels

test starts. This makes things tough indeed. It means that the crash cars can't wander of course more than *one inch*. Their speeds must be identical, and within two miles an hour of the preselected collision speed. On top of that, the cars should be completely free during the actual collision, unconstrained by controlling tracks or cables.

Quite obviously you cannot use human drivers. (They couldn't steer accurately enough, anyway). So what can you do? The scientists' answer is ingenious.

*Steering. Each car was guided by a plastic shoe, fastened to the front bumper and sliding inside a single U-shaped track that ran down the collision course. The track ended 20 feet from the impact point, so the car hit free, as required.

*Speed. Car No. 1 towed Car No. 2. A cable from the rear of Car 1 ran to a sheave at the far end of its track, then back under Car 1 to the front of Car 2. Adjusting the length of the cable—just as you would the pull cord of draw draperies—made the cars collide right in front of the cameras. And the speeds of the two cars automatically came out identical. A hook on the guiding track disconnected the cable a fraction of a second before impact, so the cars hit free, as required.

Car 2 just coasted, its engine dead. Car 1 was started by pushing it (in gear, ignition on) to cruising speed with a power-assist car driven by assistant project engineer Arnold Siegel. The power-assist car then dropped back and a governor on Car 1's engine took over.

Cr-r-rash. Six times the UCLA scientists did this. First came two 12-to-16-hour days of setting up. Then the power-assist car starts the crash cars rolling toward destruction. The instrument cars, bulging with engineers and their back boxes, follow carefully alongside.

At zero-minus-10 seconds, the engineers switch on oscillographs and GSAP cameras, and the instrument-car drivers brake, stopping 10 to 30 feet short of the collision point. At zero-minus-four seconds, Severy rolls the high-speed movie cameras.

At zero there's the awful crunch of crumpling sheet metal and shattering glass. At zero-plus-fraction-of-a-second there's quiet again. The engineers swarm over two price-less heaps of junk.

They fine-tooth-comb the cars and dummies. They lift the wrecks to make precise photos of the underbodies (super-imposed on similar "before" photos, these reveal crash-caused body deformation). They even bring in outside experts to estimate repair cost (it gets up around the original cost of the car after collisions near 40 m.p.h.).

second this underbody point started to bounce backwards. By .150 second it stopped moving altogether.

The rear of the car slewed around four feet. The engine was pushed back, the left front wheel forced through the floor against the driver. The underbody was crushed back to the front axle on the left, and the body bent somewhat as far as 13 feet from the front bumper.

Much the same happened to the frame car, but the point under the driver began slowing later (.010 second), reached a lower peak deceleration (53-G) sooner (.040 second), then eased to a total stop (.150 second) without bouncing backward.

That's the car. What of the driver?

Unbelted, he didn't start slowing

EXCLUSIVE MOTORINDIA

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But not until weeks later are all the films, stills and oscillograph recordings processed and checked. Then Severy can tell you just what happened during that fatal tenth of a second. His report ticks it off, thousandth-of-a-second by thousandth-of-a-second.

Take Experiment 43. Two '56 sedans—one unitized, one frame—rammed at 47 m.p.h. In the unitized car, inertia kept the point under the driver going for .005 second. Then it started slowing. In .026 second the front bumper collapsed and the point under the driver was decelerating at about 30-G. At .050 second the deceleration rate under the driver zoomed to 79-G—79 times greater than the acceleration of gravity. Then the deceleration eased up. At .110

until after the car did. That's bad. He flew.

In the unitized car, the driver began to decelerate at about .030 second. By .039 second he (and his seat) had slid forward a few inches. At .044 that cannon shell, the steering-wheel hub, was at his chest. By .068 second he was getting its full wallop. The deceleration on his chest was 68-G, and the blow was the same as if somebody had dropped a 6,800-pound weight on him. At .092 second he hit the windshield. Around .100 second he bounced back. At .113 second he got slammed by a passenger flying from the rear seat, bounced around some more, and finally halted at around .200 second.

You Can Survive A Bad Crash if you use Safety Belts

In the frame car, the driver bounced backward *before* the steering-wheel hub delivered a 7,500-pound jab to his chest, then bounced once more before stopping (also around .200 second).

In case you're wondering if anybody can live after 6,800 or 7,500 pounds hits his chest (to say nothing of getting his head battered), the answer is no. A physician examined the dummies after the crash, classed both as dead drivers.

Each of these cars carried rear-seat passengers. The deceleration of the car body under them was less (45-G in one, 46-G in the other) than under the driver because crumpling metal up forward absorbed some of the impact. Deceleration on the passengers, however, was almost as great as on the drivers. Two passengers had seat belts; their deceleration began earlier and increased more gradually.

Partly because of the belts, partly because the rear seat offers more room for flying around, the two belted passengers came through

better. One (in the unitized car) was rated a definite survivor, the other a probable fatality.

How the cars held up? Collisions at 40 and 50 miles an hour are a rough test of the design of an automobile. Do the doors open? What happens to the steering wheel? The windshield? The seat belts?

All these things, and more, the UCLA scientists tell in cold, gory detail.

Doors. The frames twisted enough to permit doors to swing open, but only one did—"a tribute to the improved safety door latch," says Severy. More doors might have opened if the collisions had caused more sideways force. In the two old cars, the doors were difficult to open after a low-speed (21 m.p.h.) collision.

Windshields. They shattered forward. None popped out whole. Jagged remains of the wraparound stayed put.

Seats. All front seats tore loose to ride the drivers' backs. Their added weight made injuries worse.

Steering wheels. The wheel and post, rigidly attached to the front of the car, moved back and up to catch the forward-flying driver in chest and head. The dished wheel was little help. The driver's body collapsed the wheel, still got speared by the post.

Safety belts. In the 47 m.p.h. collision, both belts broke. Their tensile strength was rated at 8,000 pounds—*four tons*—twice as strong as good standard ones. In another test (at 52 m.p.h.) a 16,000-pound belt and its bolts held—but the floor pan of the car gave way.

Unitized vs. frame construction. Unit bodies performed better—crumpled more and bounced back less—in 20-to-30 m.p.h. collisions. Frame bodies were better at 45 to 55 m.p.h. But the difference was small and the conclusion was: "The chances of survival are approximately the same in either . . ."

This last result was a disappointment—to put it politely—to Ameri-

can Motors, long-time proponent of unit bodies and one-time financial angel for UCLA research (but not these tests, which were supported by Parish Pressed Steel, a neutral in the unit-versus-frame argument). At the same SAE meeting that Severy reported to, AMC executive body engineer Carl W. Cenzer spoke up. Interspersed with faint praise for the UCLA work were some properly taken reservations: Front-end collisions aren't the whole story. Unitized construction, Cenzer believes, has other safety advantages.

What should be done? At points, Severy and his assistants relax the reserve traditional in technical reports and aim pointed suggestions at auto designers. For instance:

On seat belts, the report says: Make them stronger (8,000 pounds) and wider (three inches), and *use them*—"the chances of survival are greatly increased . . ."

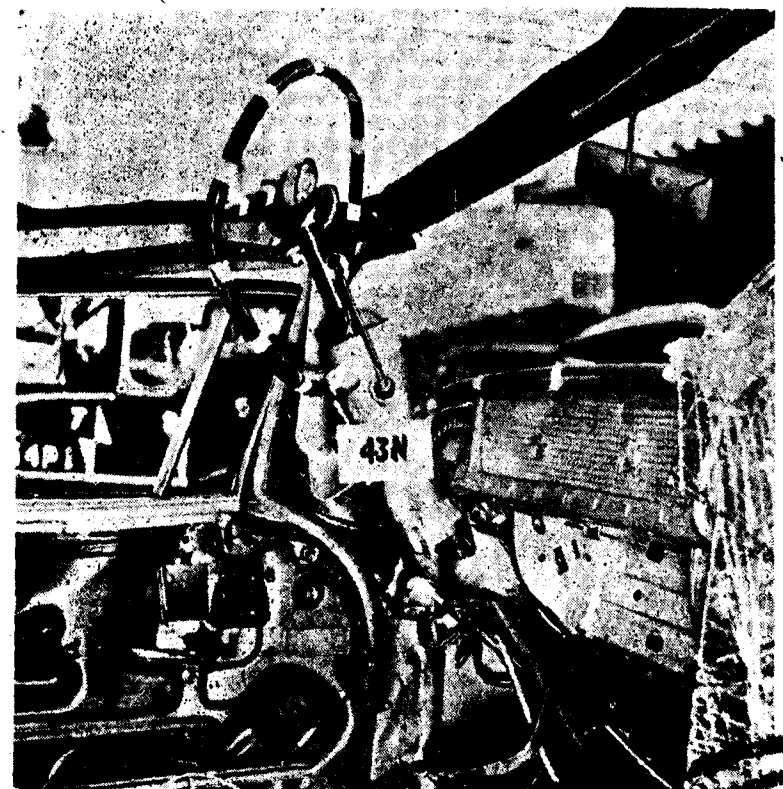
On steering mechanisms, the report says: Put a splined joint behind the fire-wall (so the post will give instead of riding back into the driver), and broaden the hub (to spread impact forces over a greater area of the driver's body).

On design details, the report says: No exceptions *ever* to the rule against sharp objects inside the car. Put rear-seat ash trays in the rear armrests (not in the backs of front seats, where they gouge the heads of forward-thrown passengers). Make instrument-cluster visors of flexible plastic (present rigid visors seem safe beyond the steering wheel, yet they sliced the hard plastic nose off one dummy and neatly decapitated another).

Will anything be done? Could be. The auto industry is very touchy about safety—and getting touchier.

Last winter Alabama Congressman Kenneth A. Roberts introduced a bill requiring cars to be equipped with "reasonable safety devices." He called for improved design of the very same car parts that Severy indicated as dangerous.

. . . and common sense vital in designing Cars

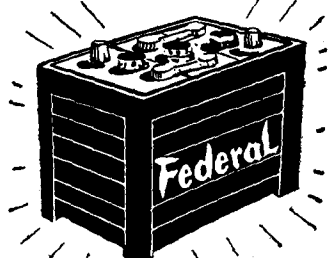


RAMBLER AFTER 47-M.P.H. COLLISION: Steering wheel sticks through roof (hole was cut for camera view). Crushed underbody shows (right) in superimposed "before-and-after" photos.

FORD AFTER IT MET RAMBLER: Damage is similar. Only one dummy (safety-belt-equipped rear-seat passenger in Rambler) was considered a definite survivor of this crash.



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People who own dogs find that if their pets are properly trained they can make quite agreeable companions, so much so that in many countries families often take their dogs with them when they go motoring. This overcomes the nuisance of arranging for someone to care for the pets.

Dogs of all sizes and colours are seen, paws on window edges, or with heads thrust out into the slipstream, enjoying themselves no end as the cars speed along. The dogs bark with canine spirit at anything on the roadside, including other cars, pedestrians, cats, and naturally enough, other dogs.

When at a given time each Sunday my neighbour makes ready for his usual outing, he has only to rev. up the engine of his auto a few times and his fox terrier dog will come bounding out, full of eager anticipation.

It will seat itself nearby until the car is loaded, then at a given signal will jump into the back seat, settle itself comfortably and utter several "all clear" barks. Balance being almost second nature with dogs, they can maintain a firm hold on the seat behind the driver, or move quickly from side to side as their attention is attracted by something on or near the highway.

Sometimes when the motorist is alone the dog will sit on the vacant front seat, gaze resolutely ahead, with its eyes, like its master, glued on the road. Now and then, with a doggy grin, it will turn to the driver with an expression that suggests: "Nice day for a drive, isn't it?"

On one occasion, when two cars drew alongside one another in one of those bottlenecks that hold up traffic in many roads during week-end motoring, two dogs appeared at opposing side windows. Eyeing each other with obvious dislike, they began barking and jumping up and down with great animation. As the cars moved off slowly, the dogs kept up the barking, regardless of the feelings of other motorists and passers-by.

On another occasion a dog changed cars, in response to the call of its master, while the vehicles were in motion. As the cars drew abreast, the animal, body tensed, balanced

DOGS IN CARS

BY
A. HOLDEN

on the window-edge, then sprang sideways through the open window of the second car, which was carrying its master.

Then, the friendship that exists and develops between a dog and a cat, particularly an elder dog protecting a small and inoffensive kitten, is a pleasing sidelight on animal life. At a nearby beach resort calmly taking things easy on the ledge running along the back window of a luxurious limousine were a small Pomeranian dog and a half-Persian kitten fast asleep, the kitten's head on the dog's back, in pure contentment and devoted confidence.

One day I noticed a harmless-looking Pekinese curled up, half dozing in the front seat of an unattended vehicle in a suburban shopping area. Inadvertently I bumped against the car as I walked by, and the miniature dog came to life with a barking that increased in intensity as it observed me through the glass.

While the noise of an excited dog may be worse than its bite, its shrill tones will bring the owner hurrying to the spot to see what is happening. Which it did to great effect.

The mournful appearance of a large bull-dog on guard in another parked car is certainly not a reassuring sight for anyone bent on stealing the vehicles. With the bite from such an animal would no doubt be painful, its looks had the effect of warning off any intruders.

Many business firms in Australia and New Zealand employ dogs, mostly of the Alsatian breed, to protect their goods when effecting metropolitan delivery. The way these animals are able to retain their holds on the back of open lorries, is often surprising. Even though the fast-moving vehicles may round a corner at speed, stop without warning or swerve to avoid an obstacle, the animals freely manipulate the situation, rarely losing their uncanny sense of balance or upright stance.

But, my, how cavalierly children treat dogs accompanying them in cars! They pummel the animals no end, pull their ears, twist their tails, and make a normal dog's life most abnormal. Yet the dogs take it all with good heart and humour, giving only a shake or the head or a low growl by way of warning, when matters become too difficult.

I recall one small dog, alighting and disappearing into the surrounding scrub when the family car had gained its destination. His excited barking could be clearly heard rising and falling with the wind. Shortly afterwards, with a look of infinite pride on his face, the dog reappeared, bearing in his mouth a still-squirming rabbit, just as the family were preparing the mid-day meal.

One time I spied a dog contentedly riding on the running board of an old car as it made its way along a rough country track—giving a sort of warning of the vehicle's approach to the township, as the car had no horn!

Meanwhile, one local doctor at most weekends usually transports some half dozen pointer dogs for hunting foxes and the like. They take up plenty of space in the medico's car and certainly look odd passengers, sitting up with great dignity in the back seat of the vehicle clearly defined as belonging to a member of the medical fraternity.

However, on more than one occasion, the doctor called upon one of his pets to carry messages back to outlying settlements when his car had broken down in isolated areas of the country.

In some parts of Australia, when families move from one district to another, open motor lorries are used to transport their furniture and other household equipment. Recently, one loaded truck, carrying sundry gear, also bore on high a gaily-painted kennel on the top of the vehicle. Inside the kennel a nondescript animal was poised resignedly. As the vehicle moved along, the dog eyed the countryside with obvious interest and curiosity.

Whatever way you look at it, a dog's life can be transformed into one of delightful satisfaction when such animals are carried in cars.

THE REDeX CAR CLUB

Welcome to New Members

The Redex Car Club welcomes the following new members who joined the Club and is thankful to those who introduced them:

Mr. S. G. Jaisinghani
Mr. T. F. Khambatta
M/s. Tata Hydro-Electric Agencies (P) Ltd.
M/s. Venus Polishes
M/s. Auto Accessories (I) Private Ltd.
Mr. H. N. Kothari
Mr. A. H. Bachooali
Dr. K. N. Kamdar
Mr. P. R. Patel
Mr. M. H. Batheja
Mr. D. Ramchand

Renewals Please

The Annual subscriptions of the following members become payable in October 1958. Please renew your Membership in time and get your Motorindia copy regularly:—

Miss B. M. Wadia—Mr. N. J. Duggan—Mr. D. H. Dhunjibhoy—Cdr. N. H. Vacha—Mr. D. C. Bolton—Mr. J. H. Talati—Mr. F. B. Mehta—Mr. A. H. Tabaccowala—Mr. J. E. Baptista—Mr. H. Narbheram—Mr. B. V. Bhatia—Mr. H. T. Lilani—Mr. P. S. Lunkad—Mr. C. M. Shah—Mr. J. Madhavji—Mr. H. D. Dave—Mr. N. M. Patel—Mr. V. L. Sapre—Mr. K. R. Stones—Mr. M. R. Kalewar—Mr. J. L. Desai—Dr. S. J. Jaglekar—Mr. V. N. Lokur—Miss D. Morarjee—Mr. D. H. Bajaj—Mr. S. M. Raut—Capt. V. N. Shirodkar—Capt. H. Mistry—Dr. J. D. Sundaram—M/s. Ramaniklal—Mohanlal.

Non-Stop 870 Miles Scooter Run

Under the auspices of the Redex Car Club and the combined co-operation of the Automobile Association of South India and the Western India Automobile Association, Mr. F. R. Pochkhanawala, aged 19, made a record non-stop Madras-Bombay run on a Lambretta Scooter with a pillion rider, Mr. S. P. Patil, leaving Madras at 6 p.m. on 19th August and arriving at Bombay at 12.30 p.m. on 21st. Thus he drove 870 miles single-handed in 30 hours and 30 minutes.

A special meeting and filmshow was arranged at the B. E. S. T. Conference Hall to congratulate Mr. F. R. Pochkhanawala on his unique achievement.

In the absence of Mr. E. A. Nadirshah, the President of the Redex Car Club, Mr. P. F. Lally, the Honorary Secretary welcomed and requested Mr. P. R. Bhatt, the President of the Western India Automobile Association to preside over the function. Mr. Bhatt paid high tributes to the sportive spirit of Mr. Pochkhanawala and Mr. Patil and advised that parents and elders should encourage such enthusiasm among the younger generation in such well-organised events. He also

complimented the Redex Car Club for taking the initiative. This is the first time that a non-stop Madras-Bombay run on a scooter has been officially recorded, although there seems to have been an unofficial record of 36 hours.

Mr. Bhatt handed over to Mr. Pochkhanawala and Mr. Patil, vouchers for "Free Supply" of materials and Services offered by Messrs. Automobile Products of India Ltd., Ashland Oil Co. (I), Venus Car Polish Co., A.C.I. (India) Private Ltd., R.S. Vatcha & Co., and Mr. P. F. Lally.

Later the visitors were shown three instructive and interesting films.

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COMMERCIAL MOTOR SHOW

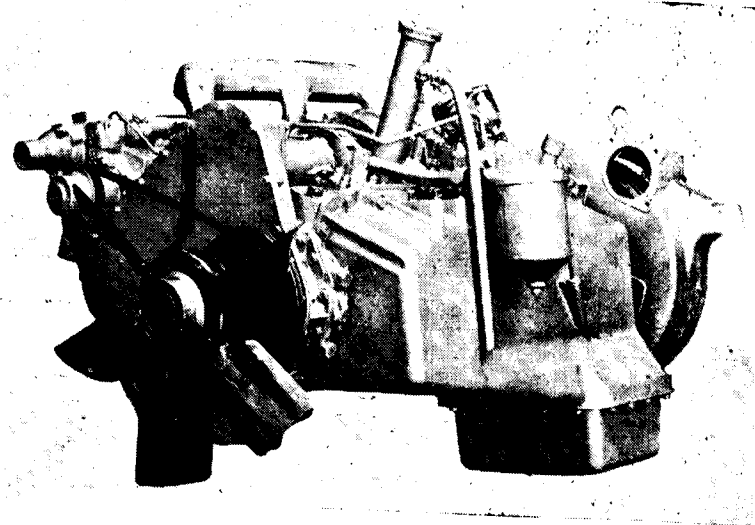
Perkins introduce the C. 305

Compact power unit for Commer

A new "flat" underfloor six cylinder diesel engine—it is actually inclined at a 24 degree angle above horizontal—has been designed by F. Perkins Ltd., the Peterborough diesel engine manufactures, and is being exhibited for the first time at the Commercial Motor Show, Earls Court, from September 26.

Known as the C. 305, this extremely compact power unit is being fitted in the new forward control Commer four ton truck, and is also being offered as optional first equipment in the new five and six ton forward control Commers and the new Karrier Gamecock models—all making their debut at the show.

The C. 305 engine is a big feature of these four attractive models



The Perkins C. 305 Diesel Engine

require phasing; renewable steel chrome plated liners for extra long life; a seven bearing crankshaft; twin hole injectors of the type used successfully on other Perkins engines; and a C.A.V. thermostat unit to ensure first-time starting.

The fuel pump, designed to reduce wear and servicing to a minimum, is fitted with a hydraulic governor, which prevents over-revving and ensures smooth running throughout the full range of engine speeds.

A large capacity belt-driven water pump fitted on the front of the head has a curved vane impeller to prevent cavitation at maximum engine speed. Incorporated in the water pump outlet connection is a capsule type thermostat to permit maximum flow and ensure rapid warm up.

High pressure forced feed lubrication is provided by a rotor type lubricating oil pump shaft-driven from the auxiliary drive by skew gears. An auxiliary oil feed rail ensures an adequate feed to valve gear.

The A.C. Delco fuel lift pump operates from a cam coupling between the exhauster and the D.P.A. pump.

Technical Data

Bore : 3.6" (91.44 mm.)
Stoke : 5" (127 mm.)
Number of Cylinders. 6

Cubic Capacity : 305.3 cu. ins. (5.0 litres).

Compression Ratio. 17.4 : 1.

Firing Order : 1, 5, 3, 6, 2, 4.
B.H.P. = $\frac{\text{B.M.E.P.} \times \text{N.}}{2593.6}$

Vehicle Engine Gross Rating : 87 b.h.p.

At Maximum Governed Speed : 2,400 r.p.m.

Maximum Gross Torque : 216 lbs. ft.

At Engine Speed : 1,300 r.p.m.

Weight—Engine (Dry) : C/W.

Exhauster, Dynamo, Flywheel and Flywheel Housing, Less Starter Motor and Fuel Filter : 831 lbs.

Dimensions : Engine in inclined position :

Length—Front of crankshaft pulley extension to rear of flywheel housing : 37 1/4" (946.1 mm.)

Width—Overall. 34" (863.6 mm.)

Height—Overall 28 1/2" (727.1 mm.)

MOTORINDIA

September 1958

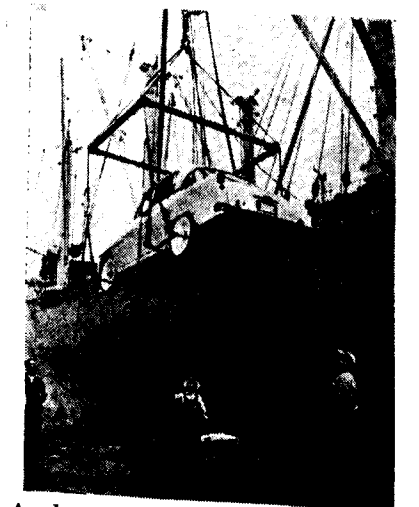
PERSONS & EVENTS



A photograph taken at the Press Conference addressed by Mr. P. C. Aspinall, Export Manager, Chloride Batteries, London, associate of Chloride & Exide Batteries (E) Private Ltd.



Mr. R. K. Sircar, Publicity Manager, Dunlop Rubber Co. (I) Ltd. who left recently on a business tour of U. K. and the Continent.



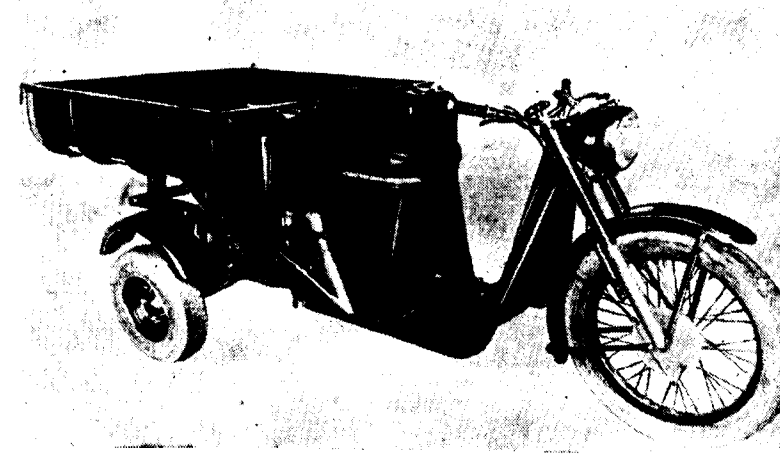
A Japanese Toyopet swings dockward at Los Angeles Harbour. Toyopets are selling faster than many other makes in the American Market.

Mr. Hans Bery, of CALTEX, is the first Indian to undergo special management course in the United States, that will keep him overseas till 1959 end.



IN PICTURES

The "IZh—GM" goods motorcycle manufactured in Izhevsk



specially introduced to meet demands of fleet users for medium range trucks and has been designed with an eye for economy, reliability and accessibility.

The engine develops 87 b.h.p. at 2,400 r.p.m., the maximum governed speed. Maximum gross torque is 216 lbs. ft. at 1,300 r.p.m. It has a 3.6 in. (91.44 mm.) bore, a 5 in. (127 mm.) stroke and 305.3 cu. in. (5.0 litres) cubic capacity.

The C. 305 in line engine is fitted with a flange-mounted C.A.V. distributor-type fuel pump, which has a single element and does not

TELCO PRODUCTION UP

Substantial Rise in TELCO Production

BOMBAY : The working of the Tata Locomotive and Engineering Company Ltd., for the year ended March 1958, has shown encouraging results. The turnover rose from Rs. 21.45 crores to Rs. 26.94 crores recording a rise of 25 per cent over last year.

The profits for the year which were wholly accounted for by the operation of the automobiles division kept pace with the increase in the turnover. The output of locomotives and boilers, truck and bus chassis as well as of the products of the steel foundry showed a substantial increase, despite a fall in realization on the locomotives and boilers sold during the year. The Railway Board has agreed to place orders with the company hereafter for complete locomotives only.

The progress in the automobile division has been satisfactory, the output of Tata Mercedes Benz vehicles during the year being more than 7,000 units. The phased manufacturing programme of parts and components is ahead of schedule and the preparations for the final phase, viz., the production of the complete diesel engine are proceeding satisfactorily. In spite of some difficulties, the company expects to complete the entire manufacturing programme as per schedule by the end of October, 1959.

After providing for taxes, managing agents commission and depreciation, the profit, including a sum of Rs. 1.18 lakh brought in, is Rs. 94.13 lakhs compared with Rs. 90.45 lakhs last year.

Hindustan Motors Record modest increase

The report of the Directors of Hindustan Motors for the year to March shows a modest increase in both sales and profit. After providing Rs. 63.6 lakhs against Rs. 30 lakhs for depreciation, Rs. 6.96 lakhs for wealth tax and Rs. 1.41 lakhs for development rebate, the profit is Rs. 19.48 lakhs including Rs. 7.93 lakhs brought in.

Sales total Rs. 10.47 crores against Rs. 10.02 crores. Stocks are valued at Rs. 76.32 lakhs against Rs. 1.68 crores. Salaries, wages, etc., are up from Rs. 75.21 lakhs to Rs. 78.33 lakhs. Raw materials have cost Rs. 6.67 crores against Rs. 8.18 crores.

Preference dividends absorb Rs. 10.04 lakhs leaving Rs. 9.93 lakhs to go forward. Depreciation amounting Rs. 14 lakhs is still to be provided for up to the end of the year under review.

Equity shareholders will naturally feel disappointed that the dividend has again been passed over. But how soon they are going to get their maiden dividend is difficult to say. The prospects of an ordinary dividend even during the current year seem rather uncertain.

The Directors argue that the policy of the Government stands in the way, although the Company has both the desire and ability to make further progress. The Company is claimed to be the first of its kind to manufacture 68 per cent of the c.i.f. value of the components itself. The Directors point out that despite this the Company has not received the encouragement it deserved.

The main difficulty of the Company is in regard to the supply of raw materials. The Directors say that demand for the vehicles is good but in view of the present licensing policy of the Government only a limited number of vehicles could be manufactured. On account of this part of the production capacity remains idle adversely affecting the working results.

Moreover, the Directors say that the Company has not been allowed to adjust its prices to meet rising costs. They emphasise that the capacity of the Company to make profits depends mainly on the grant

of import licences commensurate with its manufacturing facilities as well as freedom to adjust prices.

It is said that the Company manufactured around 7,000 vehicles during the year under review, but looking to the supply position of raw materials, it seems difficult to maintain this level, let alone increase it. Much depends on the availability of raw materials and, if the policy proves helpful, production might be stepped up although five months of the current year have already passed.

The Company has taken in hand the erection of a heavy engineering shop for industrial and structural fabricated steel work. The work has been completed and fabrication of steel has begun.

The Directors say that the Company has made an agreement with the General Motors Corporation for the assembly of Chevrolet cars and trucks and G.M.C. and Bedford trucks and the manufacture of one of the trucks in India.

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OPEN 19

ON ROADS AND ROAD TRANSPORT ROAD TRANSPORT REORGANISATION COMMITTEE MADRAS LORRY OPERATORS' VIEWS ON QUESTIONNAIRE

The Madras State Lorry Owners Association has replied to the questionnaire issued by the Road Transport Re-organisation Committee point to point and has stated that it is prepared to meet the Committee if necessary for the purpose of supplementing and clarifying its answers through personal discussion.

Among other things, the Association feels that the POWERS OF THE STATE TRANSPORT AUTHORITY should be decentralised and that many of the powers of the State Transport Authority should be delegated to the Regional Transport Authorities for expeditious despatch of business. Some of the powers suggested for that delegation are grant of exemption of overhang upto 50%, and overall width, height etc.

The Association feels that the empowering in Madras State of both the S.T.A. and the S.T.A.T. to dispose of revisions leads to a lot of confusion and complications. It should be made that only the S.T.A. who is a Judicial Officer should dispose all revisions. The S.T.A.T. can dispose of all Appeals.

The Association pleads for being HEARD BY THE R.T.A. in the matter of hearings and objections. As regards Question No. 4, the Association feels that in the City of Madras, the entire administration is under the control of the Police. They suggest that as in the case of other districts, the Regional Transport Authority should be the Collector of Madras and a Regional Transport Officer should be appointed as Secretary.

As regards the CONTROL OF ROAD AND ROAD TRANSPORT, the Association pleads for a unified control which is at present lacking in the State of Madras.

Another interesting point contained in the replies given by the Association is the suggestion to have a REGULAR SCHOOL CONDUCTED FOR GIVING TRAIN-

ING in the Motor Vehicles Act and the working of the Road Transport to all the officials in the Transport Department.

As regards the RENEWAL OF LICENCES, the Association states that at present it takes at least a fortnight, in some offices and more in some others. All applications for renewal can be disposed of the very same day if adequate staff are employed.

The Association feels that the State should establish TRAINING SCHOOLS FOR CONDUCTORS AND DRIVERS and instructions should be given by skilled personnel only. At present some schools exist for training drivers, being conducted by private individuals not recognised by the State. There is no training school for conductors at all.

The Association is of the opinion that SECTION 57 (3) regarding the issue of permits should be deleted for grant of extension of validity and Endorsements to lorries (Public carriers) so that considerable amount of time and labour for both officers and the operators may be saved.

As regards CONTROL AND ENFORCEMENTS (QUESTION 18-B) the Association states that permits should be issued to all the applicants irrespective of whether there is vacancy or not. Even though this may lead to unhealthy competition in the market, it may not affect the traffic. Business also will not be affected. By so doing the development of premium market for permits which now exists can also be avoided.

The Madras State Lorry Owners' Association is for the issue of PERMITS TO BE VALID THROUGHOUT THE STATE without countersignatures. As an interim measure, whenever the R.T.As find that more number of applications are received for countersignatures, they may obtain general

concurrence from the S.T.A. to avoid delays.

INTER-STATE PERMITS should be given liberally and some reciprocal arrangements should be made between the neighbouring States for the collection of single point tax. The tax also should not be very heavy and it may be slightly above the normal tax for Inter-State vehicles, i.e., 1-1/6th of the normal tax for Inter-State vehicles. Such an agreement exists between Madras and Andhra Pradesh already. The Inter-State permits should be valid throughout India. Inter-State Traffic should be on an All-India basis and it should be developed only by another Inter-State Transport Commission.

There should be only TWO CLASSES OF PERMITS, viz., Inter-State permit being valid throughout the State and Inter-State permit being valid throughout India. This will be a great relief to all lorry operators and many evils will be wiped out and this will certainly improve the present state of traffic.

As regards PUNISHMENTS, the Association is of opinion if the permit holders authorise the driver in writing stating that he is solely responsible for all the offences committed during the period of his duty, no one can escape. In Act No. 60, it should provide that such authorised person should be punished. In the absence of the above authorisation, action should be taken against the permit holder. The G.V.R. maintained in the vehicle should be signed by the person who is in charge of the vehicles and he alone should be made responsible for the offences. Since certain police officials who check the vehicle are not in a position to classify the offence under M.V. Act and Rules the punishment could not be enforced properly. The judiciary head who hears the case also should be with thorough knowledge in M.V. Act and Rules (i.e., the interpretation of the Act

and Rules must be correct). In the absence of this so many innocent operators are punished and the real offenders are let off. To make long story short, all the officials outside transport department who deals with transport should be fully qualified in Motor Vehicles Act and Rules. If the above conditions are fulfilled there will be a better control and enforcement. The regulation of transport will also improve.

As regards DEVELOPMENT, the Association states: In the present administrative set-up except for the following is good:

(a) There should be a QUALIFIED SUPERVISORY HEAD for supervising the technical work of the Motor Vehicle Inspectors.

(b) All the inspecting officials should come under S.T.A. There should not be any inspecting officials who has no knowledge in M.V. Act and Rules.

(c) There should be a SEPARATE WING set up for interpretation of Acts and Rules.

Though at present there is no data to show that the fullest use of available road facilities and road transport vehicles are being made, the Association is of opinion that the fullest use of road facilities are not utilised.

If permits are granted to all the applicants, the ROAD TRAFFIC will be improved very much. The Government should also see immediately that all the motorable roads, bridges, culverts are made fit to withstand the maximum laden weight that is granted in G.O. No. 384 dated 12-2-58. Then the traffic will flow freely and much improved.

For DEVELOPMENT OF ROAD TRANSPORT all the local board and village road should be brought under State Highways Department, including laying and maintenance also. The State Transport Department should advise the State Highways Department from time to time which of the roads should be attended first and given preference to.

The Association feels that it will be more advantageous in the interests of all concerned if the R.T.Os. are appointed as Motor Licensing

Officers for the issue of taxation licence. The R.T.O. should have sufficient staff for this purpose so that taxation licences can be issued at each taluk headquarters during the beginning of each quarter.

AS REGARDS THE VEHICLES, the Association feels that if diesel vehicles are available in light medium and heavy sizes at low cost, then it will go a long way in the development of transport. At present diesel vehicles available are not fully covered the whole range.

EX-ARMY VEHICLES : PLEA FOR CONTINUED SERVICE

The Madras State Lorry Owners' Association, in a communication to the Transport Authority, Madras, enclosing an extract of a letter received from the Karur Lorry Owners' Association, submits that the transport authorities are indirectly threatening and forcing lorry owners to replace old model vehicles. Many of these old model vehicles are ex-army vehicles purchased in the auctions held at various places. In these vehicles almost all the parts are renewed and are capable of rendering service for another 10 years or more. In spite of this, these vehicles are refused permission to continue their service. An operator who has invested a large amount of money in a lorry, will not keep a lorry in a condition as to be not roadworthy. As his main aim is to earn money and to do this, he will always keep the vehicles in roadworthy condition.

Besides, once in six months the fitness certificate has to be renewed and for each renewal, he has to spend about Rs. 3,000 to Rs. 4,000 on a lorry for thoroughly overhauling and replacing all parts. Most of the lorry owners will not be able to purchase brand new vehicles at the present cost, which is exorbitant.

Therefore, the Association considers this a hardship for the lorry operators and they feel that if these old model vehicles are taken off the road, then there will be national wastage of transport capacity.

The Association states that while many buses of Government Trans-

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port and private companies of 1942 and 46 models were still running continuously at not less than 160 miles per day, it appeared as if the lorries had been singled out for elimination. The ex-army vehicles in question are definitely thousand times better than many of the Government Transport buses, the chassis and other components of the ex-army vehicles being sturdy and strong than the present day models.

The Association, therefore, feels that if necessary the inspection for renewal of grant of fitness certificate can be made more rigid for the ex-army vehicles instead of taking them off the roads. In respect of this consideration, the Association refers to a High Court Ruling which held that the model of a vehicle should not be taken into consideration. Under the circumstances, they request the Transport Authority to issue necessary instructions to all Regional Transport Officers, Motor Vehicles Inspectors and others not to insist on replacement of older models of ex-army type.

Checking of Lorries

GOVERNMENT ORDER

The Madras Government have published an Amendment to the Madras Motor Vehicles Rules 1940, which says :

In the said rules, in rule 290, sub-rule (b) shall be re-lettered as sub-rule (c) and before sub-rule (c) as so re-lettered the following sub-rule shall be inserted namely :—

"(b) Any clerk, Traffic Guard, Chowkidar or attender employed in a check post or chowki post, may, at any time when a goods vehicle is near or at the check post or chowki post, call upon the driver of the vehicle to stop the vehicle and to keep it at rest for such time as may be necessary to enable him to make reasonable examination of the contents of the vehicle."

MADRAS ASSOCIATION'S PROTEST

In connection with the G.O., the Madras State Lorry Owners' Association points out that previous Rules as amended in 1950 and 1955 specified only persons in rank of the Sub-Inspector and Head-constable to stop the vehicles and check them. They are at a loss to understand why powers should be given to clerks, traffic guards, chowkidars or even attenders employed in the check post.

The Association feels that the implementation of the G.O. will lead to corruption and unnecessary harassment of operators and will lead to measures that will throttle the movement of goods vehicles.

The Association points out the rule which is framed in order to detect the evasion of sales tax does not however apply to buses, carts etc., which also may provide transports goods with a view to evading sales tax.

The Association states in its representation to the Authorities, "At present we understand that the T.V.S. alone have been exempted by some other arrangement prior to 9-8-58 from being checked at the check posts. This is pure discrimination and assumption that they alone are above suspicion."

Moreover, the Association points out, that it will be impossible at the check posts to load or unload the goods in the vehicle for the purpose of checking which will result in inordinate delay and hardship to lorry operators.

They, therefore, request the public, the legislators and others to join the Association and help them remove the hardships that will be caused to the lorry traffic as a result of the recent Amendment to the Rules.

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The Consignment Note

Judgment on Indian Airlines Petition

MADRAS : Holding that the contract limiting the liability of the carrier as contained in the consignment note was valid and enforceable, Mr. Justice S. Ramachandra Ayyar allowed a civil revision petition by the Indian Airlines Corporation against the judgment of the Full Bench of the City Small Causes Court.

The respondent, Mr. Sha Jothajee Maniram, sent on March 9, 1955, a parcel of pen-nibs valued at Rs. 1,600 to Calcutta through the Indian Airlines Corporation. Before accepting goods for carriage, the petitioner issued a consignment note setting out the terms and conditions of carriage and this was signed by the agent of the respondent.

One of the conditions stated that the petitioner shall be under no liability for the loss, damage, detention, or delay of the goods. In so far as any liability might be imposed on the carrier bylaw, such liability for the loss or damage of the goods shall be limited and agreed to be in the aggregate to the actual value or the declared value or Rs. 300 whichever was less.

The Parcel was not delivered to the consignee, and it could not also be traced. The respondent filed a suit for the recovery of Rs. 1,858 representing the value of goods and damages for the loss. The Chief Justice of the Court of Small Causes held that the parties were bound by the terms and conditions of the consignment note, and the respondent was entitled to only Rs. 300. The respondent filed an application for a new trial before the Full Bench of the Court of Small Causes. The Judges of the Full Bench held that the terms and conditions were not brought to the notice of the respondent, and that the petitioner would be liable under Section 8 of the Carrier Act. On the further finding that there was negligence on the part of the Airlines Corporation, they held that the respondent was entitled to a decree as prayed for. The petitioner filed a revision in the High Court.

Road Development in India Salient Features of Second Road Plan

The salient features of the above Plan prepared by the Chief Engineers of all States in India which was discussed by the Council of the Indian Roads Congress from the 9th to 11th August in Bombay are as follows. The Plan has been modified by the Zonal representatives of Chief Engineers in certain respects and is now under consideration by a committee of the Council of the I.R.C.

His Lordship observed that what the petitioner did to make the contents of the note known to the consignor was a finding on fact, which the Full Bench was not competent to go into. Apart from this, the conclusion arrived at was incorrect in the opinion of His Lordship. When a consignor or his agent had signed a declaration, and agreed to the conditions, the burden would be on him to show that the signature was obtained by fraud or misrepresentation, or that he had no notice of the conditions. In the present case, there was no evidence of any such thing. The conditions found on the note should therefore govern the rights of the parties.

The Full Bench of the Court of Small Causes had relied on Section 8 of the Carrier Act for the purpose of holding the petitioner liable for the loss or damage caused by its neglect. That Act could not apply to the carriage of goods by air.

The liability of carrier of goods by air had not been completely put on a statutory basis, observed His Lordship. The carriage by Air Act, passed by the Indian Legislature, related only to international carriage, and could not apply to carriage of goods within the country. There had been no notification applying the rules to carriages by air not being international carriage.

In the result, the judgment and decree of the Full Bench of the Court of Small Causes was set aside, and that of the Chief Justice of the Court of Small Causes restored.

Mr. S. Govind Swaminathan appeared for the petitioner.

deration by a committee of the Council of the I.R.C.

(1) The road mileage per square mile of the territory should be raised from 0.26 to 0.52 mile per square mile. The corresponding figures for the U.S.A. and U.K. are 1 and 2 respectively.

(2) This will result in increasing the total road mileage of the country from 3.79 lakh miles in 1960-61 to 6.54 lakh miles in 1980-81.

(3) The result of this increase will be to reduce the minimum distance of any place in India in agricultural areas from five to three miles from a metalled road and from two to 1.5 miles from an unmetalled road. There will be a corresponding reduction in semi-agricultural and non-agricultural areas.

(4) The present five categories of roads will be retained and their mileages fixed as follows :

	Per cent	
National Highways.	3.8	} 50.0
State Highways ...	15.6	
Major District Roads.	30.6	
Other District Roads	30.6	} 50.0
Village Roads ...	19.4	
Total ...	100.0	

(5) Expressways with limited access and grade separations at most crossings will be provided on about 1,000 miles of National Highway near congested areas.

(6) The following standards will be employed on these roads :—

- (i) Expressways : Four-lane carriageways with modern surfaces.
- (ii) National and State Highways : Two-line carriageways with modern surfaces.
- (iii) Major District Roads : One-lane carriageway with about 60 per cent, with a modern surface and 40 per cent, with a water-bound macadam.

- (iv) Other District Roads : Single-lane carriageway with stabilised soil or gravel.
- (v) Village Roads : (a) As above one some roads which will be classified later. (b) Below the above on others.

Bridges will be provided on (i), (ii) and (iii), those on (i) and (ii) being capable of taking truck-trailer combinations with an axle-load of eight tons. Those on (iii) will carry an axle-load of about five tons. Low-level bridges or ferries will be provided on other roads.

(7) The effect of these suggestions will be that half the total mileage will be fully bridged and surfaced.

(8) The cost of the scheme will be as follows :—

	RS.
	IN CRORES
1961-62 to 1965-66 ...	470
1966-67 to 1970-71 ...	940
1971-72 to 1975-76 ...	1,410
1976-77 to 1980-81 ...	1,880
Total ...	4,700

The maintenance will increase from about Rs. 30 crores in 1960-61 to Rs. 120 crores in 1980-81.

(9) In addition to the present taxation on motor vehicles the following other sources have been suggested to find the necessary funds :

- (a) A betterment tax on lands adjoining roads,
- (b) Road cess on land revenue,
- (c) Tax on vehicles, other than motor transport,
- (d) Tax on passengers and goods,
- (e) Tax on diesel oil,
- (f) Tolls on big bridges and specific roads.
- (10) Use of mechanical equipment on a large scale has been suggested.

Mr. S. K. Patil Hopeful

This 20 year 4,700 crore Road Development Plan is not impossible of achievement, according to the Union Minister for Transport and communications, Mr. S. K. Patil who held that road transport, besides being complimentary to rail communications, was by itself an important factor in the economic life of the country.

Mr. A. D. Dhingra, Chairman of the Bombay Branch of the Indian Roads and Transport Development Association in a speech at the recent reception held in honour of the Union Minister for Transport and Communications, Mr. S. K. Patil at Bombay, said *inter alia* :

In regard to road transport, a number of developments have taken place. The most important of them is the growing awareness of the fact that rail transport is not sufficient for the requirements of the Second Five-Year Plan and that, therefore, road transport has to be developed to the extent to which the railway transport is deficient. The amendment to the Motor Vehicles Act in November 1956 abolishing the distance limit on motor transport proposed in the Amending Bill was the first step in this direction. Then came the report of the Estimates Committee of the Lok Sabha, followed by the appointment of an Inter-State Transport Commission envisaged in the Motor Vehicles Amendment Act. And now we have the appointment of a Road Transport Reorganisation Committee under the above chairmanship of one of the past Presidents of this Association, namely, Shri M. R. Masani, M.P.

Whilst all these measures are welcome and will undoubtedly lead to an expansion of road transport in due course, the most pressing need of the country today is the number of vehicles required to

cope with the estimated traffic during the next three years. Our Council has estimated that the minimum requirements of long-distance traffic of the Second Five-Year Plan is of the order of about 200 million tons per annum by 1960-61, out of which the railways can cope with only about 160 million tons per annum. Therefore, the country has to make provision for the remaining about 40 million tons per annum.

Careful estimates prepared on the basis of the targets of production of commercial vehicles in the country show that after allowing for replacements of old vehicles there will be a gap of about 75,000 trucks to meet this traffic. This gap can be reduced to a certain extent by putting on the road as many trailers as it is possible to manufacture locally. However, the remaining vehicles will have to be provided and the greatest problem of the moment is to find the requisite foreign exchange for them. I do not wish to go into the details of this question at this stage, but I like to bring this fact specially to the notice of our Transport Minister with a request to him to take early steps in the matter.

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MOTORINDIA

BMMA RECEPTION TO S. K. PATIL

The Bombay Motor Merchants' Association organized a welcome on August 29 to Mr. S. K. Patil, Union Minister of Transport and Communications at the Association's Vora Hall.

After introducing the prominent members of the Association to the Hon. Minister, Sri M. G. Kapadia, President of the Bombay Motor Merchants' Association welcomed Mr. Patil to the Association.

HE ADDED : THIS ASSOCIATION TODAY REPRESENTS 326 DEALERS IN AUTOMOBILE SPARE PARTS, OUT OF WHICH SOME ARE ALSO INDIGENOUS MANUFACTURERS AND 36 ASSOCIATE MEMBERS (INDENTING HOUSES AND OTHERS) IN THIS CITY ALONE AND IS ALWAYS LOOKED UPON FOR LEADERSHIP BY SIMILAR ASSOCIATIONS IN CALCUTTA, DELHI, MADRAS AND OTHER BIG CENTRES.

During the period of 21 months, i.e., from January 1957 to September 1958, the established importers are granted the licences of total 55 p.c. of their one year's imports and they are worried about their luck during next period beginning from October 1958. Prior to 1957, the additional licences based on purchases from established importers and assemblers were also granted and such licences amounted, in some cases, more than quota licences at 100 p.c. These licences also are now discontinued.

We hope you will easily realise that 55 p.c. of quota licences in total during 21 months are not even 15 p.c. of the total of quota licences and additional licences that were granted during any one year prior to 1957.

We can have only one imagination in finding out the reason, beyond the foreign exchange position, for such a drastic curtailment in quota licences and that is possibly the percentage of components being manufactured by the Assemblers.

According to the press reports, the Hindustan Motors Ltd., have reached the production of compo-

nents up to approximately 68 p.c. of the c.i.f. value of complete vehicles and that is at the top of other similar Assemblers.

BUT THESE 68 P.C. OF THE COMPONENTS ARE FOR CURRENT MODEL VEHICLES AND MAJOR SHARE OF IT IS PROBABLY CONSUMED IN ASSEMBLING THE VEHICLES AND NOT SPARED FOR REPLACEMENT SERVICE.

The items other than those petty ones, imports of which are entirely banned or are allowed as token and particularly those 13 items, like Brake Linings, Clutch Facings, Cylinder Liners, Electric Horns, Fuel Filters, Gaskets, Piston Rings, Pistons, Radiators, Shock Absorbers, Spark Plugs, Thin-walled Bearings and Engine valves, valve guides, etc., which are likely to be manufactured or are being manufactured by factories other than the Assemblers, are not being offered to the general trade for rendering replacement service.

The demand for vehicles is much more than the present production and as a result thereof as well as of the prohibitive prices, the vehicles

older than even 20 years are still maintained in some cases for service and these vehicles require more and more parts for replacements. FURTHER THE SPARE PARTS FOR SUCH OLD MODEL VEHICLES ARE NOT BEING MANUFACTURED BY APPROVED FACTORIES AND ASSEMBLERS AND THEREFORE THEY ARE TO BE IMPORTED.

I would like to add for your information that these imported parts on which the Customs Duty is paid at a rate varying from 17½ to 50 p.c. are mostly available to the consumers at cheaper rates than those of indigenously manufactured.

We have got an impression that you, in the capacity of the Minister of Transport, would be interested in studying the situation, which, if continued, is likely to create a partial paralysis in Transport.

Earlier, Sri S. B. Anand, Honorary Secretary of the Association presented a Memorandum to the Hon'ble Minister on the position of spare parts for vehicles and the present scarcity following the ex-

Mr. M. G. Kapadia, President, Bombay Motor Merchants Association, Sri S.K. Patil, Union Minister for Transport and Communications, Sri S. B. Anand, Hon. Secretary, B.M.M.A. and Mr. Megh Raj Sethi seen at the B.M.M.A. reception to the Hon. Minister.



MOTORINDIA

September 1958

Memorandum on Transport Needs Presented

change situation, and discussed the same with the Hon'ble Minister.

The Memorandum said :

The economic development of the nation depends to a considerable extent on the facilities of Transport offered by the country. The Transport system of a country is many times compared to the veins in the human body and just as the circulation of the blood is so very important to the human body, so is the transport system to the development and continued prosperity of a nation.

Our Government too has recognised the importance of transport and a separate Ministry has been handling the Transport and Communications. We are very glad to note that this Ministry is today headed by one of the most eminent persons in our country, i.e., Shri S. K. Patil and looking to the record of selfless service rendered by Shri Patil in the past, we have every hope that during the tenor of his office everything will be done as far as the development of Transport is concerned.

The Transport system in our country consists of Air Transport, Water Transport and Land Transport. Looking to the structure of our country, while the Water Transport is of importance on account of the big coast line and Air Transport is of importance because of the situation of our country in the world Air routes, the most important mode of Transport certainly is the Road Transport. On account of the high cost of laying a Railway track, it is more economical and easier to have the net work of Road system in the country. For this purpose our Government have given a place of importance to the construction of Main Highways and Feeder Roads and it is the aim of our Government to connect every village to the highway, so that the villager can also take advantage of being able to sell his produce in the main markets and thereby obtain a fair price for his produce. We therefore find that the need for Motor Vehicles which are the most economical and convenient mode of Road Transport is very essential for the economic development of

the country. Our Government has recognised this fact and has therefore given permission to the setting up of Factories at different places that have agreed to progressive manufacture of Motor Vehicles in India.

However, we find that the total number of vehicles actually required in the country far exceeds the number of vehicles available in the country including the vehicles progressively manufactured by the Indian Factories. We also find that the demand for Motor Vehicles is bound to increase day by day with the implementation of the Five Year Plans. The demand for more vehicles will necessarily arise on account of the following factors :—

(1) Laying of Main roads and Feeder roads would necessarily mean that more vehicles are needed to operate on these roads.

(2) The establishment of industries in the Five-Year plans at different places in the country would also make it necessary for more vehicles to carry the raw materials to the places of factories and then again transport of finished goods from the factories to the railway station or other distribution terminals.

(3) It is admitted by the Railways that it is not possible for them to bear all the burden of the increased Goods traffic on account of the development plans and hence there

will be a necessity to divert this extra traffic to Road Transport.

(4) The need for replacement of worn-out vehicles would also mean that more new vehicles will be required, because many of the vehicles operating today are of older models and of army disposal stocks.

(5) The prosperity of the people as a result of the implementation of Plans implies more travelling and hence more demand for vehicles.

Taking into consideration the above factors, it has been estimated that the demand for vehicles in the country in excess of the total availability of the vehicles by 1960-61 period would be in the vicinity of 50,000 Cars and 140,000 Trucks and since we also feel that it will not be possible for the Automobile plants in our country to increase their output, the vehicles existing in the country will have to bear the extra burden which will result on account of the shortage of the availability of new vehicles. We, therefore, feel that the requirements of Spare Parts to keep the vehicles running on the roads would increase substantially in future and even today we find that the Spare Parts requirements are not sufficient. More and more spare parts will be needed and in this connection, we give below the following factors which will contribute towards increased demands of Spare Parts :—

(1) Spare parts required to meet

Sri S. K. Patil seen addressing the gathering



MOTORINDIA

September 1958

the normal requirements of vehicles on the road.

(2) Spare parts required to meet the anticipated demand of Diesel vehicles which are put on the road during the course of last one year and such Petrol vehicles that have been converted into Diesel vehicles during the course of last two years, especially army disposal vehicles.

(3) Spare parts will be required on account of overloading of the vehicles which today has become 'a token for granted evil' in our country on account of shortage of vehicles and high taxation per vehicle.

(4) The demand for spare parts would also be higher on account of the bad conditions of roads in the country.

(5) Since every year approximately 40,000 new vehicles are being put on the road, the additional demand for spare parts for such vehicles would also arise every year.

(6) The value of diesel engine spare parts is much more than that of similar parts of petrol engine and since the quotas have been established by the dealers for import of petrol engine parts, even if the same quantity of spare parts has to be imported, the total value of licences required would necessarily be more.

(7) Since we have seen that the total availability of vehicles in the country will be less than the actual demand of vehicles in the country, the vehicles already on the road will have to take up this extra burden and this would necessarily result in more than normal demand for spare parts to keep these vehicles in road-worthy condition.

(8) We also find that spare parts for Motor Vehicles are interchangeable with spare parts for Tractors and some stationary engines and hence a part of the import of Motor Vehicle Parts are diverted to such engines and hence the total value of spare parts available for Motor Vehicles is reduced to that extent.

TAKING THE ABOVE FACTORS INTO CONSIDERATION AND LOOKING AT THE FIGURES OF THE MOTOR VEHICLES RUNNING IN INDIA, WE FIND THAT IN 1955-56 THE TOTAL NUMBER OF

VEHICLES WAS 418,000 AND ADDING TO THIS AN ESTIMATED INCREASE OF 40,000 PER YEAR, THE TOTAL NUMBER OF VEHICLES IN INDIA TODAY WOULD BE ROUGHLY IN THE VICINITY OF 500,000 AND TAKING INTO CONSIDERATION THE SEVERAL FACTORS FOR INCREASED DEMAND OF SPARE PARTS AS ENUMERATED ABOVE AND THE NORMAL REQUIREMENTS OF A VEHICLE, WE HAVE ESTIMATED THAT THE DEMAND FOR MOTOR VEHICLE SPARE PARTS, ITS SCHEDULE 293-95-97/IV, BUT EXCLUDING THE RESTRICTED ITEMS IN THE LIST III OF APPENDIX XXVI, THE REQUIREMENTS PER VEHICLE WOULD BE AT LEAST RS. 200 FOR EVERY SIX MONTHS. This is a very conservative estimate especially considering the high cost of diesel engine parts, but still we have tried to keep the figure at the lowest possible level and calculating on this basis, the Spare Parts requirements of the country would be to the tune of Rs. 10 crores per six months, whereas we find that the actual value of licences granted for the April-September 1958 period are only of the value of about Rs. 1,25,00,000. This figure does not include the blanket licences granted to the Assembling plants in the country.

We should certainly add the value of spare parts that the Assembling

plants would be able to supply to their dealers and also the value of spare parts indigenously manufactured in the country, but even after considering all these we would find that the requirements of the country would be in far excess of the actual availability. We, therefore, feel that the Government should revise its policy as far as imports of spare parts are concerned. In this connection we may also point out that the licences issued to established importers for Motor Vehicle Parts have been cut down to 25% of their established imports and that Actual User licences, granted to Transport Operators have also been cut down from Rs. 600 per petrol vehicle and Rs. 1,000 per Diesel vehicle to Rs. 150 and Rs. 250 respectively.

We also find that the *Ad Hoc* and New Comer licences which were issued in the previous policy have been completely stopped in the present policy.

We also find that the established indigenous industries are not in a position to meet the entire demand of the particular spare parts which they are manufacturing and for which the Government is giving protection to some extent.

Added to all these the past pile-up of stocks that have been built up out of imports in the past is also getting exhausted.

Considering all these facts, we feel it is high time the Government

(Continued on page 42)

Sri S. B. Anand, Hon. Secretary, B.M.M.A. thanking Sri S. K. Patil.



MOTORINDIA

September 1958

Problems Facing Auto Parts Dealers

Mr. Sharan Gupta's Representation to Import Adv. Council

Attention on problems facing the Automobile Trade was drawn by a number of speakers, including Shri Lalchand Hirachand, Sri T. S. Santhanam and Mr. P. Sharan Gupta at a recent meeting of the Import Advisory Council at New Delhi.

As regards the problems facing the automobile spare parts trade, the following representations were made by Mr. Sharan Gupta :

The basic period for import of Motor Vehicle Parts—item No. 293, 295, 297 Part IV, sealed Beams 38-A (e) ii—II, Pressure Gauges—92 (k) V. should be extended upto the year 1957-58.

The import of Auto Bulbs—Item 38-A (e) (i) Part II is banned and therefore the question of extension of the basic period of this item does not arise, as has been suggested by Shri S. N. Shah.

Validity period of Import licences for Motor Vehicle Parts, Garage Tools and Miscellaneous Hardware item No. (293, 295, 297, 275 Part IV) upto the value of Rs. 5,000 should be extended upto 12 months instead of 6 and 9 months as at present. With the present cut in quotas, this would enable the small importer to club together his licences for two periods and effect economical imports.

There have been drastic restrictions on imports of Motor Vehicle Parts (Item 293, 295, 297—Part IV) and the list III of Appendix XXVI contains some protected items. It is suggested that interchangeability of licences for list III items be allowed in accordance with the licensing policy of that particular item. For instance if an importer wants to import electric horns (item 4 of List III) against his quota of Engine Valves (Item 13 of List III), should be given a licence for horns at 50% of his quota of engine valves. This will help to remove the scarcity and bring down the selling prices.

Items continue to be divided under many sub-heads—particularly Motor Vehicle Parts (293, 295, 297 IV) Separate applications are required to be submitted for each sub-heads item and separate fees are deposited

against each application. This causes a great burden—specially on a small importer. I would suggest that if for any reason, an application is rejected, the application fees should in that case be refunded.

Further, a dealer who submits his application on *ad hoc* basis pays fees according to the amount applied for. But when he actually receives this *ad hoc* licence, it is in majority of the cases for much smaller amount than applied for. It is suggested that a refund should be allowed of the excess amount paid by him towards application fee.

Piston Assembly : (item 8 of List III of Appendix XXVI). The present policy allows import of 66-2/3% of the value of licence for cast iron type pistons under the licences for piston Assemblies. The cast Iron Pistons are required for vehicles like Chevrolet and Bedford only, which are speedily going off the road. It is suggested that import of Piston Pins, Piston Pin Bushes and Circlips, which are the parts of Piston Assembly be allowed within the value of this 66-2/3%.

Garage Tools : Item 275 (b) Part IV : The present policy has provision for grant of *ad hoc* licences to firms exclusively dealing in Garage Tools. This is a discrimination against those of the dealers who had been dealing in Garage Tools as well as in Motor Vehicle Parts. Garage Tools are sold also by Motor Vehicle Parts Dealers as the two Trades are identical. It is, therefore, suggested that the *ad hoc* licensing policy of Garage Tools should be extended also to those of the dealers who are established importers of both motor vehicle parts and Garage tools.

The Item of Tyre and Tube : Valve Pins and Valve Caps were allowed to be imported under Miscellaneous Hardware (275(a) Part IV) This has now been stopped. The items are not manufactured in the country and these are sold only by Motor Parts Dealers. It is suggested that the import of Tube Inside Valves and Caps should be allowed under Motor Vehicle Parts

licences (293, 295, 297 Part IV). This will not affect the foreign exchange and will ease down the scarce availability of these items.

Spare Parts for Fuel Injection Equipment : Item No. 30 (f) (i) Part II. The basic period for import of this item should be extended to 1957-58, which at present is only upto 1951-52. The dieselisation of the Road Transport has taken place only during the last four years and there were hardly a couple of importers of Diesel Parts upto 1951-52. *Ad Hoc* licences for this item were issued only after 1954. Hence the basic period be extended to give opportunity to other dealers to become established importers for this item.

Further, spare parts for Fuel Injection Pumps (Item 30 (f) (i) Part II) should be allowed to be imported under List II of Appendix XXVI under licences for Motor Vehicle Parts, to the extent of 4% of the licence value. The Fuel Injection parts for automobiles are sold by Motor Parts Dealers. Such a step would help in removing the scarcity without affecting the foreign exchange.

THE AUTOMOBILE AGENCIES

A Correction

In the report of the opening of The Automobile Agencies appearing on page 27 of our August issue, it was stated that the Automobile Agencies were the Sole Distributors for Payen Talbros products in India. We wish to point out to our readers that this is not correct. The Automobile Agencies are one of the Sub-distributors for Payen-Talbros Gaskets for Automotive application for the States of Madras, Mysore and Kerala including the territory of Old Hyderabad. Readers may be aware that there are also other Sub-distributors, viz., Speed-a-ways Private Ltd., and The Motor & General Trading Co. of Madras.

SOME IMPORTANT FEATURES OF THE SECOND FIVE-YEAR PLAN OF THE SOUTHERN RAILWAY

BY MR. S. K. MUKHERJI

Standing on the threshold of the third year of the Second Railway Plan, we can face the future with greater optimism than we could afford some months earlier, when the scarcity of foreign exchange was threatening a deadlock in the programme of import of rolling stock, machinery, steel and other strategic materials for line capacity works. Since then the International Bank for Reconstruction and Development have sanctioned a loan of Rs. 42.84 crores; consignments of steel, out of an order for 5.22 lakh tons valued at Rs. 33.92 crores placed in world competitive markets, have started arriving and wooden sleepers for the track, which were in short supply, are also in the process of being imported from abroad. These measures have infused fresh hopes for the realisation of the objectives of the Plan, according to which the Railways are:

- to carry the increased production of heavy industries like coal, steel, cement and other commodities as far as possible;
- to continue the rehabilitation of track, bridges and rolling stock to achieve a satisfactory standard of their maintenance and to be able to carry without restrictions the traffic that would be offering; and
- to take further steps to make the Indian Railways self-sufficient in respect of their requirements of stores and equipment by increased manufacture in the country.

The Southern Railway has been correlating its own efforts to these main objectives, keeping in view the geographical characteristics of the system, the back-logs of its rehabilitation programme and the special pattern of traffic which it is called upon to handle in the contest of the economic regeneration of the country.

Formed in April 1951 by the merging of the former M.S.M., S.I. and Mysore State Railways, the Southern Railway serves almost the whole of the Southern Peninsula, embracing the States of Madras, Kerala, Mysore, Andhra and Bombay. Its total route mileage is 6,159.36 of which 1,858.34 are in Broad Gauge, 4,205.32 in Metre Gauge and 95.72 in Narrow Gauge.

The Broad Gauge system forms part of the trunk routes, Bombay-Madras, Delhi-Madras and Calcutta-Madras, with an over-lap between Bezwada and Madras for the last two routes. The line from Madras to Mangalore on the West Coast is an extension of these Broad Gauge routes, with branches serving Bangalore and Cochin. Though the Broad Gauge mileage is only about 30% of the total route mileage, it is called upon to handle about 60% of the total net ton miles carried over the entire Railway.

The Metre Gauge system extends upto Trivandrum in the South and from Masulipatam on the East Coast to Poona in the West and it feeds the Broad Gauge sections through a number of transshipment points, important amongst them being Poona, Hotgi, Guntakal, Tadepalli Tranship (Bezwada), Arkonam, Bangalore, Trichinopoly and Palghat. The preponderant route mileage in Metre Gauge is a significant factor in operation in the context of the fact that relatively to Broad Gauge, the net financial return on working an average Metre Gauge train mile is much poorer.

This Railway has also the highest proportion of steep gradients in India, especially on the Metre Gauge and it is significant to note that operation over such a terrain is not conducive to economy.

At the beginning of the First Plan, this Railway had nearly 1,600 miles of track under speed restrictions, mainly because the track was not strong enough to permit the running of the new standard locomotives at the maximum speed permissible for the sections con-

cerned. At the commencement of the Second Five-Year Plan, there was still a balance of about 1,300 miles to be re-laid.

The incidence of a large percentage of overaged rolling stock has been another serious problem to reckon with. At the commencement of the Second Five-Year Plan, the percentage of overaged locomotives was 21.9 for the Broad Gauge and 31.4 for the Metre Gauge; the percentage of overaged passenger carriages was 27.8 for the Broad Gauge and 27 for the Metre Gauge and the percentage of overaged public traffic wagons was 14.7 for the Broad Gauge and 18.6 for the Metre Gauge. During the First Plan period, very little improvement could be effected in the incidence of overaged units, as the new stock received during the period was just sufficient to replace the stock going out of circulation, while an almost equal number became overaged during the period. Thus, the commencement of the Second Five-Year Plan found this Railway with a somewhat sombre legacy of arrears of rehabilitation of the track and rolling stock.

The Southern Railway is mainly a receiving Railway and considerable amount of consumer goods move from North to South while very few commodities move from South to North. Before the last war, an appreciable portion of this North-South traffic, which consists mainly of coal, iron, steel, foodgrains, pulses, sugar, fertilizers and other miscellaneous goods, was moving by the sea route, but during and after the war this traffic, for various reasons including the heavy increase in shipping costs, began to seek transport exclusively by rail. The surplus, commodities in the area served by this Railway, viz., iron manganese and other metallic ores, tobacco, groundnuts and groundnut oil are generally exported by sea and do not move by rail to the North. The only commodities worth mentioning which move from South to North are salt, jaggery, and to a certain extent, rice

from Bezwada area. In addition, potatoes and fruits like mangoes and plantains move to the North during seasons. This heavy imbalance in the flow of traffic from North to South and South to North creates for this Railway an important operational problem of taking over larger and larger number of wagons at the point of inter-change, viz., Bezwada, Raichur and Waltair, and returning the wagons with a large percentage of empty haulage in the direction of return. Superimposed on the traffic moving to these great arterial routes is the purely local traffic of the system, which consists of export traffic to the ports, mainly Madras and to some extent, Vizagapatam and Cochin; distribution of goods imported via Madras and Cochin Harbour and local movement of foodgrains, timber, forest produce, salt, cement, textiles and other miscellaneous goods. This is broadly the pattern of movement on the Broad Gauge and the traffic on the Metre Gauge is only a complement to the pattern on the Broad Gauge, being mostly traffic interchanged with the latter. The originating traffic on the Metre Gauge consists mainly of rice produced near Trichinopoly, jaggery from Kolhapur, iron and manganese ores from Guntakal, Hubli and Bangalore areas, salt from Tuticorin and cement near Trichinopoly and Bezwada.

The passenger traffic forms an appreciable percentage of the total traffic carried by the Railway and though mainly of short distance, with an average lead of about 30 miles, it accounts for 40% of the Railway's revenues. In the circumstances, great attention has always been paid to this aspect of our business, notwithstanding the fact that this is not so remunerative as goods traffic. Though the passenger train-miles have increased from 223.3 lakh in 1938-39 to 246.16 lakh in 1956-57, trains run fairly crowded. This rules out the possibility of cutting any passenger services to find the extra capacity for goods movement.

The three main channels through which the bulk of the North-South goods movement takes place are the routes via Waltair (junction with South-Eastern Railway) and via Bezwada and Raichur (which

are junctions with the Central Railway). Traffic moving via Waltair and via Bezwada converge at Bezwada to form a combined stream between Bezwada and Madras. This section had not been originally designed to carry the heavy traffic that gradually has come on to it. As the main artery through which an enormous volume of North-South traffic, including railway and public coal, moves to Madras and places beyond in South India, it is one of the most heavily worked single line sections in India. Though the conversion of the Gudur-Renigunta section from Metre Gauge to Broad Gauge has provided an alternative channel for traffic moving from Bezwada to stations west of Arkonam, the section between Bezwada and Gudur continues to be heavily overstrained. In the same manner, the mingling of the streams of traffic coming from Raichur side and via Gudur-Renigunta throws a great strain on the Renigunta-Arkonam single line section. The sections from Arkonam to Jalarpet and Jalarpet to Erode are important channels for dissipation of the traffic received at Arkonam for destinations north and west of Jalarpet and were working to saturation point on the eve of the Second Five-Year Plan.

The freight requirements of industries and other developmental activities in the country will necessitate increased intake of traffic at the three junctions and increased movements over these saturated sections. The targets to be reached at the end of the Second Five-Year Plan are as under:

	Number of wagons per day	
	Pre- sent Intake	Target
Waltair ...	270	400
Bezwada ...	325	400
Raichur ...	210	300
	Loads moved at pre- sent	Target
Bezwada to Madras ...	450	700
Arkonam to Jalarpet ...	350	550
Jalarpet to Erode ...	250	400
Renigunta to Arkonam ...	210	700

Against this background, it will be possible to appreciate why so much emphasis has been laid on Line Capacity works, Track Renewals, Locomotives and Rolling Stock, in the framework of the Second Five-Year Plan for this Railway. Out of the total expenditure of Rs. 134.47 crores proposed to be incurred for the Plan, the amounts earmarked under these heads are Rs. 52.76 crores, Rs. 18.52 crores and Rs. 28.03 crores respectively. The plan framework also contains a number of works calculated to improve operation by the provision of improved signalling (Rs. 3.38 crores), electrification (Rs. 3.68 crores), bridge rehabilitation (Rs. 3.07 crores), remodelling of workshops (Rs. 7.61 crores) and expansion of goods shed and terminal facilities (Rs. 2.54 crores).

Line Capacity Works

The line capacity works include	Miles to be doubled
(a) Doubling of the following sections:—	
Bezwada-Gudur (Partial)...	106.50
Samalkot-Rajahmundry ...	31.25
Arkonam-Jalarpet ...	90.00
Jalarpet-Erode (Partial) ...	56.45
Renigunta-Arkonam ...	41.50
Total ...	325.70

(b) Conversion of Metre Gauge to Broad Gauge:	
Bezwada-Masulipatam ...	50.0
Gudivada-Bhimavaram ...	41.0
Total ...	91.0

- Remodelling of important yards.
- Extension of loop lines to enable longer trains being run on certain sections.
- Additional loops at stations to facilitate crossing of trains.
- Opening of additional crossing stations and converting non-block stations into block-stations to reduce the length of long block sections.

As already mentioned, an amount of Rs. 52.76 crores is provided in the frame-work of the Plan for Line Capacity Works. During the first year of the Plan (1956-57), an amount of Rs. 3.56 crores was spent and a further expenditure of Rs. 1.89 crores has been incurred since the

beginning of the second year. Amongst the important items of work that have been executed, mention may be made of the following :

(i) *Doubling* : Of the 39 miles to be doubled on the North-East section between Bezwada and Bitragunta, work on 12½ miles has already been completed and that on the remaining 26½ miles is on hand. Due mainly to non-receipt of permanent way materials, the work has not progressed as anticipated. Girders are still awaited for bridges that have to be built on the double line alignment. Earthwork is, however, being progressed as quickly as possible.

On the South-West Line, doubling of 39½ miles of track on the Arkonam-Jalarpet-Tirupattur section has been taken on hand.

(ii) *Provision of additional Block and Crossing Stations* : On the Madras-Bitragunta section, 3 new block-huts have been opened, viz., Akkampet, Nulebellee and Ayyavari-palem. Several stations were converted into crossing stations, viz., Godavari, Palakol, Viravasaram and Tanuku on the Broad Gauge and Sankaralingapuram and Chalapuram on the Metre Gauge.

(iii) *Additional loops* : Additional loops have been provided at Mangalagiri, Nambur, Adoni, Guroli and Adarki and provision of similar loops at Chinnapatti, McDonald Choultry and Kaveri in various stages of completion. Loops have been extended to hold longer trains at Nancherla, Aspari, Matmari, Kuppal, Auvaneeswaram, Kundara, Muttanendal, Tiruppuvanam and Donakonda.

(iv) *Re-modelling of Station yards* : The first stage of the re-modelling of Raichur station was completed during the first year of the Plan and the holding capacity of the yard has thereby increased from 450 to 744. The re-modelling of the yards at Bezwada, Rajahmundry and Tenali is in progress. The Metre Gauge yard at Guntakal is also being re-modelled and the work is in progress. The work at Tiruvarur is nearing completion.

Additional marshalling and sorting lines have been provided at Shencottah and Jalarpet junctions.

Transshipment facilities have been improved at Guntakal and Trichinopoly.

The terminal facilities at Salt Cotaurs and Trivandrum Central have been augmented to permit quicker release of loads.

Track renewals

Against an expenditure of Rs. 18.52 crores envisaged for track renewals in the Second Five-Year Plan, an amount of Rs. 3.52 crores was spent in the first plan year and a further amount of Rs. 1.67 crores upto 31-12-57 during the second year.

On the Broad Gauge, 32.56 miles of track relaying was effected during the first year and 28.49 miles in the second year upto 31-12-57.

On the Metre Gauge, 80 miles were completed in the first year and 40.25 miles in the second year.

Renewals of sleepers for 55 miles on the Broad Gauge was taken on hand during the two years of the plan and 28.35 miles were completed upto 31st December 1957. On the Metre Gauge, 35 miles were taken on hand in 2 years and 21 miles completed till the end of December 1957.

The progress has been slow for want of materials, but in the coming years a change for the better is expected.

Locomotives and Rolling stock

Out of a provision of Rs. 28.03 crores under this item in the Second Five-Year Plan, the expenditure incurred during the first year of the Plan was Rs. 12.12 crores and a further amount of about Rs. 90 lakhs has been incurred upto 31-12-57.

The framework of the Plan provides for the following additional requirements :

Locomotives : Broad Gauge 119, Metre Gauge 93 ;

Coaching Stock (Bogies) : Broad Gauge 175, Metre Gauge 291 ;

Other Coaching Stock : Broad Gauge 273, Metre Gauge 184 ;

Goods Stock : Broad Gauge, 4707 wagons, Metre Gauge 3463 wagons ;

Other Stock : Broad Gauge 60, Metre Gauge 118 ; *Bogie Hopper* wagons : Broad Gauge 150.

During the first year of the Second Plan, the following additions to stock have taken place :

Description of stock	Gauge	As at the end of the Five-Year Plan	As at the end of the first year of the Second Five-Year Plan
Locos	BG	584	630
Coaching stock (in terms of 4 wheelers)...	MG	830	865
	BG	2,824	2,891
	MG	5,064	5,440
Goods stock.	BG	12,889	14,013
	MG	19,525	21,139

(Continued from page 38)

gave attention to the "Automobile Spare Parts," which are so very essential in keeping the goods and passenger vehicles on the Road and thereby maintain the Transport system in the country, which is so very essential to the successful implementation of the Five Year Development Plans.

We note that in the past the Government has recognised this fact and even in the July-December 1956 policy, import licences of substantial amounts were granted, but now on account of the shortage of Foreign Exchange, the licences have been cut down very drastically.

We fully sympathise with our Government, but we also feel that Government should give due importance to the availability of Spare Parts in the country and relax the licensing of Motor Vehicle Parts.

We hope the matter will be given due attention.

As a responsible Organization, we deem it our duty to keep the Government informed of the correct position and while assuring our fullest co-operation to the Government, we feel it is very necessary that Transport vehicles are not off Road for want of Spare Parts and we are sure the Government will see our view-point and import licences to the extent of at least Rs. 5 crores for six months would be issued to the Trade.

We are fully aware that these suggestions may mean prohibiting imports of certain other items on account of the overall shortage of Foreign Exchange, but we feel that the Government has got to give priority to items like Motor Vehicle Parts which are more essential to the needs of the country.

URANIUM SUPPLY DEMAND ASSESSED

With the growing interest in atomic power, a good deal of thought has lately been given to the potential demand for, and supply of, uranium. An American paper, examined the prospects on the supply side. A more recent study by Sir Edwin Plowden, chairman of the U.K. Atomic Energy Authority, seeks to assess the future demand for the metal, taking certain reasonable assumptions. Both studies point to the reassuring conclusion that, even though military demands remain high and civil demands continue to rise rapidly, there need be no shortage of uranium.

Sir Edwin Plowden, whose article appeared in the December 1957 issue of *Optima* (published quarterly in Johannesburg by the Anglo American Corporation of South Africa), starts from the basic assumption that military demands will continue at the current, but undisclosed, level. But this is not essential to his case, for he believes that if the assumption were falsified by nuclear disarmament the resulting drop in the demand for uranium would soon be offset by an increased requirement for civilian purposes. Economic resources released by disarmament would (eventually) be applied to other ends, with a consequent increase in total energy requirements.

During the 1960s and 1970s the civil demand for uranium will be primarily for fuel for nuclear power stations ; and because replacement needs will be only a very small percentage of the initial requirements, assessments of future demand must be based on the rate at which new stations are being commissioned rather than on the total capacity existing at any one moment. Since, at the present stage of technical development, nuclear power stations are appreciably more economic in larger sizes, most of those built in the next ten or twenty years are likely to be in countries already highly industrialized. This trend will be reinforced by the fact that in many of these countries reserves

of coal and water power are, or soon will be, fully exploited.

Although, in comparison with conventional power stations, the running costs of a nuclear power plant are low, they nevertheless account for about a third of the cost of the electricity sent out—and a large proportion of running costs reflect the cost of uranium. Hence the demand for uranium, as for any other commodity, will be in part dependent on the price, and an electricity authority will base its decision on whether or not to invest in nuclear power partly on its view of future price trends. The price of uranium will also affect the type of reactor chosen. If high prices are expected, the choice is likely to be a reactor which will obtain the maximum amount of electricity from each ton of uranium ; if prices are expected to be low, types of reactor which do not achieve high "burn-up" may be commissioned on account of their lower capital cost.

The first power stations built will have a relatively low rating ; those now under construction in the United Kingdom require an initial charge of about 500 tons of natural uranium to provide a capacity of 300 megawatts. To achieve higher ratings some degree of fuel enrichment will be necessary. In so far as this enrichment is obtained from uranium-235 there will be an increased demand for uranium by the enrichment plants. If plutonium is used this will have to be obtained from reactors which themselves use natural or only slightly enriched uranium. Eventually nuclear power stations, whether using natural or enriched uranium, are expected to require the equivalent of about one ton of natural uranium as an initial charge for each megawatt of installed capacity. It has been suggested that the development of fast breeder reactors will reduce the demand for uranium ; but, while it is true that their running needs will be small, because they should produce more fissile material than they

consume, their initial requirements are likely to be greater than for other types of reactor.

Examining the likely uranium requirements of Western Europe, Sir Edwin Plowden refers to the report of Euratom's "three wise men" which proposes the installation in the member countries of 15,000 MW of nuclear capacity by 1967. On the assumption discussed above, this programme would entail an initial demand for 15,000 tons of uranium. As regards the United Kingdom, no nuclear programme has been announced for later than 1965, but it is estimated that there will be some 20,000-30,000 MW of nuclear capacity by 1975. The annual tonnage of uranium oxide needed to meet the U.K. programme will be between 1,000 and 2,000 tons by 1961, rising to 5,000-10,000 tons a year by the 1970s. In the U.S.A., demand for uranium for civil use is expected to reach 20,000-30,000 tons annually by 1975.

The total Free World demand for uranium, excluding military requirements, may well therefore reach 50,000 tons a year by the 1970s. World resources of uranium oxide workable by present techniques are estimated at 800,000 tons, but the impetus of demand would undoubtedly stimulate prospecting work and so multiply this figure. Hence, production should be capable of considerable expansion beyond the 40,000 tons-a-year level envisaged for 1960. With demand and supply on this scale, prices should become competitive. That this process is already under way is suggested by the fact that in 1954 the U.S. Atomic Energy Commission quoted 10 dollars a pound as the probable long-term price of uranium oxide, but that for the period after 1962 the guaranteed domestic price has been reduced to 8 dollars a pound. A "world price," says Sir Edwin, is beginning to emerge.

CARS

	Rs.	nP.
Plymouth Cars, (Sundaram Motors Private Ltd.) Ex-Premier Automobiles Factory, Kurla	20,270	00
Plymouth Suburban (Sundaram Motors, Ltd.)	22,646	00
Hindustan Ambassador 1957 (Southern Automotive Corporation Private Ltd.) ex-plant Uttarpara	11,161	00
Dodge kingsway sedan (Rane (Madras), Ltd.)	20,371	00
Dodge Suburban (Rane (Madras), Ltd.) ex-Bombay	22,899	00
Vanguard Phase III (Union Co. (Motors) Ltd.)	14,700	00
Standard Super Ten Saloon (Union Co. (Motors) Private Ltd.) on the road	10,022	12
Standard Estate Car (Union Co. (Motors) Private Ltd.) on the road	14,889	12
Studebaker 'Parkview' Station Wagon 1956 model (Reliance Motors Ltd.) ex-plant Calcutta	20,280	00
Studebaker 1956 Commander (V.S.T. Motors Private Ltd.) Including S.T. & Delivery Charges	22,239	86
Studebaker 1956 President Classic (V.S.T. Motors Private Ltd.)	24,499	78
The Fiat 1100 The Elegant (Sundaram Motors Private Ltd.) Ex-Factory	9,755	00
Willys C.J. 3B Universal Jeep ex-plant Bombay	12,160	00
Willys Model Station Wagon ex-plant Bombay	18,150	00
Jeep 1 ton truck	13,046	00

MOTOR CYCLES

Royal Enfield (The Madras Motors (Private) Ltd.)—		
"150 Ensign" (any dealer point in India)	1,890	00
"350 Bullet" with spring frame (any dealer point in India)	3,430	00
499 c.c. Model 'j2'	3,500	00
"500 Bullet" with spring frame	3,950	00
"500 Twin" with spring frame and with Magdyno or coil ignition	4,450	00
"700 Super Meteor" with spring frame and with Magdyno or coil ignition	4,650	00

SCOOTERS

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

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

48 c.c. Scooterette ... 827 00
150 c.c. 'LD' Model Deluxe Scooter ... 1,795 00

VANS

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

TRUCKS & COMMERCIAL CHASSIS

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

(V.S.T. Motors Private Ltd.)
Tata-Mercedes-Benz. Diesel Truck and Bus Chassis L 312/42 165" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ... 26,820 00
LP 312/42 165" W.B. Full Forward Control Truck Bus Chassis ex-Works, Jamshedpur ... 27,780 00

LP 312-48 190" W.B. Full Forward Control Bus Chassis ex-Works, Jamshedpur ... 28,570 00
L 312/36 142" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ... 26,475 00
LK 312/36 142" W.B. 5-Ton Truck Chassis ex-Works, Jamshedpur ... 30,125 00

Fargo (at Sundaram Motors Private Ltd.) Dodge (at Rane (Madras) Ltd.) Prices duty paid ex-factory Premier Automobiles Ltd., Kurla, Bombay.

C3D6-116" (4) 7.00×16-6 Ply ... 11,615 00
C4D6-126" (4) 7.00×16-6 Ply ... 11,615 00
C3PW6-126" (4) 9.00×16-6 Ply ... 11,615 00
C4G6-153" (6) 34×7-10 Ply ... 11,391 00
C4G6-153" (6) 32×6- Ply ... 6,062 00

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

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Rs. nP.

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K6D500-153" (6) 34×7-12 Ply ... 18,628 00

K6D500-171" (6) 34×7-10 Ply ... 18,606 00

K6D500-171" (6) 34×7-12 Ply ... 18,904 00

PICKUP

C3D6-116" (4) 7.00×16-6 Ply ... 15,012 00

C4D6-126" (4) 7.00×16-6 Ply ... 16,058 00

K6D200-116" (4) 7.00×16-6 Ply ... 16,293 00

K6D200-116" (4) 7.00×16-8 Ply ... 16,358 00

DIESEL CONVERSION

C4H6-153" (6) 34×7-10 Ply ... 22,668 00

C4H6-153" (6) 34×7-12 Ply ... 22,937 00

C4H6-171" (6) 34×7-10 Ply ... 22,903 00

C4H6-171" (6) 34×7-12 Ply ... 23,172 00

K6D500-153" (6) 34×7-10 Ply ... 20,997 00

K6D400-171" (6) 34×7-10 Ply ... 21,303 00

K6D500-153" (6) 34×7-12 Ply ... 22,930 00

K6D500-153" (6) 34×7-10 Ply ... 22,632 00

K6D500-171" (6) 34×7-12 Ply ... 23,414 00

K6D500-171" (6) 34×7-10 Ply ... 23,116 00

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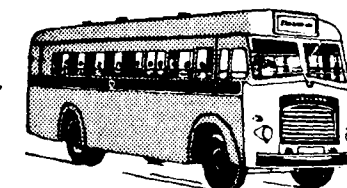
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Dunlopillo bus seats fitted on London Passenger Transport vehicles in 1928 were removed and used again on new vehicles many years later when the old buses were scrapped. Operators in India have similar experience of the long lasting qualities of Dunlopillo. Upkeep costs on Dunlopillo seating are virtually nil and it will be in good trim from one bus to the next.



- No springs to repair—no stuffing to form lumps.
- No metal parts to penetrate covering material.
- Comfortable, cool, and vermin resistant.
- Easy to fit and easier to maintain.



Dunlopillo

The first name in latex-foam cushioning and the finest.



THE starter was sticking, the transmission noisy and the clutch felt cantankerous — but MOBILUBRICATION Service soon changed the picture!

Make sure you get regular MOBILUBRICATION Service for your car. Remember, it's the *complete* lubrication service, with a special MOBILGREASE to protect every working part of your engine!

Mobilubrication... a **STANVAC** service for better motoring

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