

HUTCHINSON'S MOTOR MAGAZINE

VOL. 2. No. 1 - JANUARY 1948 - PRICE 1/6



Introducing a Regular Monthly Feature:
Round the EXPORT Showroom

Special Contribution by R. GRESHAM COOKE
Director, Society of Motor Manufacturers and Traders

CHIPSTEAD MOTORS LTD.

8 Gaspar Mews, Courtfield Gardens, S.W.5.

THE SPORTS CAR SPECIALISTS

ALFA-ROMEO	DELAHAYE	M.G.
ALVIS	FRAZER-NASH	MERCEDES
ASTON-MARTIN	FIAT	RILEY
BENTLEY	INVICTA	ROLLS-ROYCE
BUGATTI	LAGONDA	S.S.
DELAGE	LANCIA	TALBOT

NEAREST TUBE STATION
GLOUCESTER ROAD

Telephone: FRObisher 4876-7.

J. A. S. KING

offers his unique Specialist Service to Owners



ROLLS-ROYCE AND BENTLEY CARS

*Full staff of Rolls-Royce and Bentley
mechanics of over 24 years experience*

36-38 Willesden Lane, N.W.6
Maida Vale 7555

*Always a few Specially Selected
Used Models for Sale*

The Institute Incorporated of the COURTEOUS KNIGHTS OF THE ROAD, LTD., is a new motoring association inaugurated in September, 1947.

Already the Institute is becoming well known and is attracting public interest by its "Crusade of Courtesy for Safety," a campaign devised to reduce road accidents and, thereby, save life on the road.

All motorists who are Courteous Drivers and who feel the need of an organization such as this, should not hesitate to establish themselves and become a "KNIGHT OF THE ROAD."

COURTEOUS KNIGHTS OF THE ROAD

Commonwealth House,
Holborn, W.C.1.

Copyright. Issued
January 1948.

Ernest Sutton LTD.

Consistent buyers of modern
low mileage motor cars of all
types.

A large selection of immaculate
used cars always in stock.

Ernest Sutton LTD.

4 Brick St., London, W.1
Telephone: Grosvenor 4772/3

CONTENTS

JANUARY, 1948

VOL. 2, NO. 1

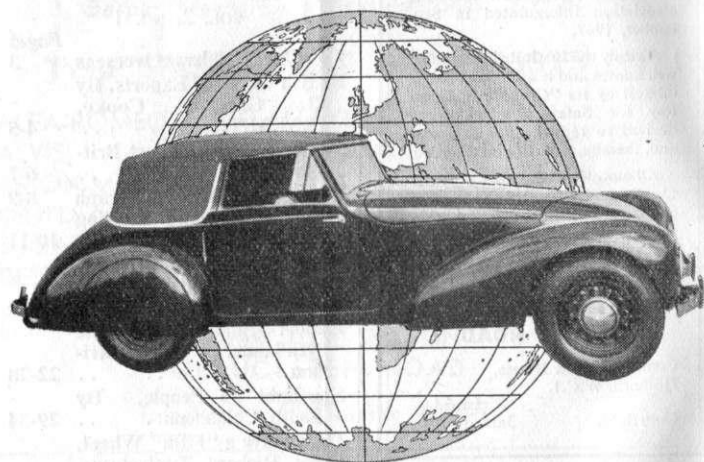
	Pages
To Our Readers Overseas	3
British Cars and Exports. By R. Gresham Cooke, S.M.M.T.	4-5
Trade Barriers Against British Cars	6-7
Output and Exports Graph Graph Showing Sterling Value of Car Exports	8-9 10-11
Round the Export Show- room: 1948 Hillman Minx—Allard	12-20
Export Survey from the Midlands. By G. S. Davi- son	22-28
Spotlight on People. By Keith Colquhoun	29-34
Cars Have a "Fifth" Wheel. By Richard Twelvetrees, A.M.I.Mech.E.	35-38
Noted and Quoted: Report from the Midlands. By G. S. Davison	39-41
Woman at the Wheel. By Pat Howarth	42-44
Boothby, D.F.C., Designs the New J.B.M. By John Reed	45-48
Sports Diary. By K. N. Hutchison	49-52
Baedeker in Brief	53
To-day's Patents for To- morrow's Cars. By H. J. Butler	54-58
Practical Motorist. By F. K. Heap	59-62

HUTCHINSON PERIODICAL CO., LTD.

10 Gt. Queen St., London, W.C.2
Telephone: HOLborn 6101/2

1/6 monthly, 18/6 p.a. post free

Whether you live in **TAKORADI**



or 天 泰

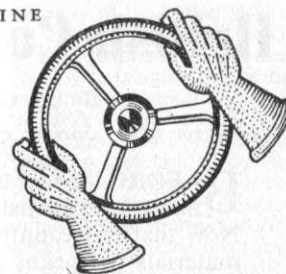
Whether you live in the U.S.A., China, Belgium, Africa, Europe or anywhere in the world, the Allard is the ideal car because it offers a combination of features which make it suitable for use under any conditions. These include a reliable large capacity multi-cylinder engine, capable of many thousands of miles, without attention, and 9½ in. ground clearance; strong but lightweight chassis, independent front suspension, excellent roadholding and streamlining; first-class workmanship, excellent body work, powerful brakes, comfortable seating and exceptional safety. In fact, no other car in the world combines to the same degree the Allard's vivid acceleration, superb roadholding, powerful braking and unflinching reliability with world-wide service for its Ford engine and gearbox.

ALLARD

ALLARD MOTOR Co. Ltd., 24/28 HIGH ST., CLAPHAM, S.W.4 Tel: MACAULAY 2431

HUTCHINSON'S MOTOR MAGAZINE

TO OUR READERS OVERSEAS



WITH THE PUBLICATION of this number, *Hutchinson's Motor Magazine* will come into the hands of an audience far larger than that intended when the journal was founded to serve the British motorist and to deal with the British car. Our times have many paradoxes, and it is now true that the British motorist can best be served by sending out of his reach every British car that can be spared. For until the Government are satisfied with the industry's export figures there is little hope of either cars or petrol coming the way of the motorist at home. Consequently, this magazine now undertakes a twofold task: to serve the British motorist until better times come, and to do all in its power to support the British car industry in the immediate task of winning and holding a greater share in the world market than was ever attempted before the war.

TO THIS END, it is our good fortune to be part of the Hutchinson Organization, for so long the biggest exporters of British books, and a new scheme has made it possible for this magazine to be distributed by Hutchinson offices and agencies in no fewer than thirty-eight countries. Thus we take now the opportunity of sending warm greetings from Britain to new readers in every part of the world.

THEY WILL SEE that much of this special number has been taken up by the story of British car exports. It is not the complete story, for that would levy an excessive demand in days of rationed newsprint; but there is enough to show what has already been achieved abroad by the British car and to indicate the triumphant spirit of one branch of British industry.

British Cars and Exports

By R. GRESHAM COOKE

Director of the Society of Motor Manufacturers and Traders

BEFORE the war about 20 per cent of the production of the British motor industry was exported. Now that this country has to buy its food and basic materials by means of manufactured goods instead of interest on loans and the sale of coal, the motor industry has jumped into prominence as being one of the industries that can most readily switch its production to export.

IN POINT of fact, it is now among the first three industries to have made the greatest switch-over from home to export sales since 1938.

In pounds sterling, we have increased our annual export rate by 440 per cent as compared with 1938. The efforts of the industry are such that its products, bringing in over two million pounds a week, are able to buy the rations for five million persons every week, or the whole population of Scotland.

Since the end of the war in August, 1945, we have exported a total of 330,000 cars and commercial vehicles, and this says much for the enterprise and re-conversion of the industry, as at the end of the war there was almost no car production at all. Further, France, which was a near competitor of ours before the war, has managed to export only 120,000 vehicles in the same period. The British motor industry is exporting nearly 70 per cent of its car production at the present time and 50 per cent of its commercial vehicle production and aims at doing better still during 1948. Its output has, in fact, been limited by the amount of steel that has been available to it, as that basic material is in tremendous demand for housing, shipbuilding and

reconstruction schemes of every kind. The capacity of the motor industry is greater than it was before the war, and given the raw materials we can almost double our present output of vehicles.

Owing to the increasing amount of exports, the number of cars, commercial vehicles and buses sold at home during 1948 will be very much below the figure for 1947 and, of course, below pre-war years, and as far as transport is concerned we shall here carry on a policy of "Make do and mend."

The chief customer for our products is, of course, the British Commonwealth, which took 45 per cent of our production in 1946. Within the Commonwealth, our biggest importing customers are Australia (about 20,000 vehicles in 1946), New Zealand and South Africa. It is now being suggested that Australia should take nearly double the number of British cars they took last year and many times the number of trucks. In Europe, the chief customers are Belgium, Switzerland, Holland, Portugal and Denmark, and in other parts of the world, the Argentine and S. America, when currency restrictions allow. Altogether, we export into 124 different markets of the

world but from time to time, as at present, many of those are closed, either wholly or partially, by currency or import restrictions.

Car manufacturers have been able not only to revive production but to bring out a number of new models. Twenty new models have been launched by leading manufacturers and most of these fall not within the Minicar range produced by France nor within the very large car class produced by America, but within the medium ranges for which there is a good demand both here and abroad. This is not to say that we do not make large and fast cars which sell extremely well.

Apprehension has been felt in many quarters about the ability of the industry to sell its products for a long period in the markets that are available to us, but I am among those who think that we are not going to be driven out quickly and that in any event a much higher proportion of our output will continue to be exported year after year than was the case before the war. The British motor vehicle has several advantages which are becoming appreciated at the present time. In the case of cars, many countries do not want a large or heavy vehicle. Parking space and crowded road conditions in urban districts, whether in Melbourne, Copenhagen or in Lima in Peru, are calling for a car that is easy to handle and easy to park. With the world shortage of petrol, rationing in many countries, and the high price as well, a great part of the globe cannot afford to run cars that have a high petrol consumption, and it is the British speciality to have produced for many years most economical vehicles. There is also a world shortage of dollars and although those with long distances to run may want to buy an American car, in fact for currency reasons it may be difficult to do so.

There are certain markets that

take specially to the higher priced and fast custom-built car in which the British are supreme adepts, and it is not easy to imagine our being displaced in such markets.

With regard to commercial vehicles, the advantages of economy and handiness also hold good for our light trucks. Moreover, wherever we have sent our heavy vehicles and our buses, once having captured the market we have remained there because of the outstanding quality of the product.

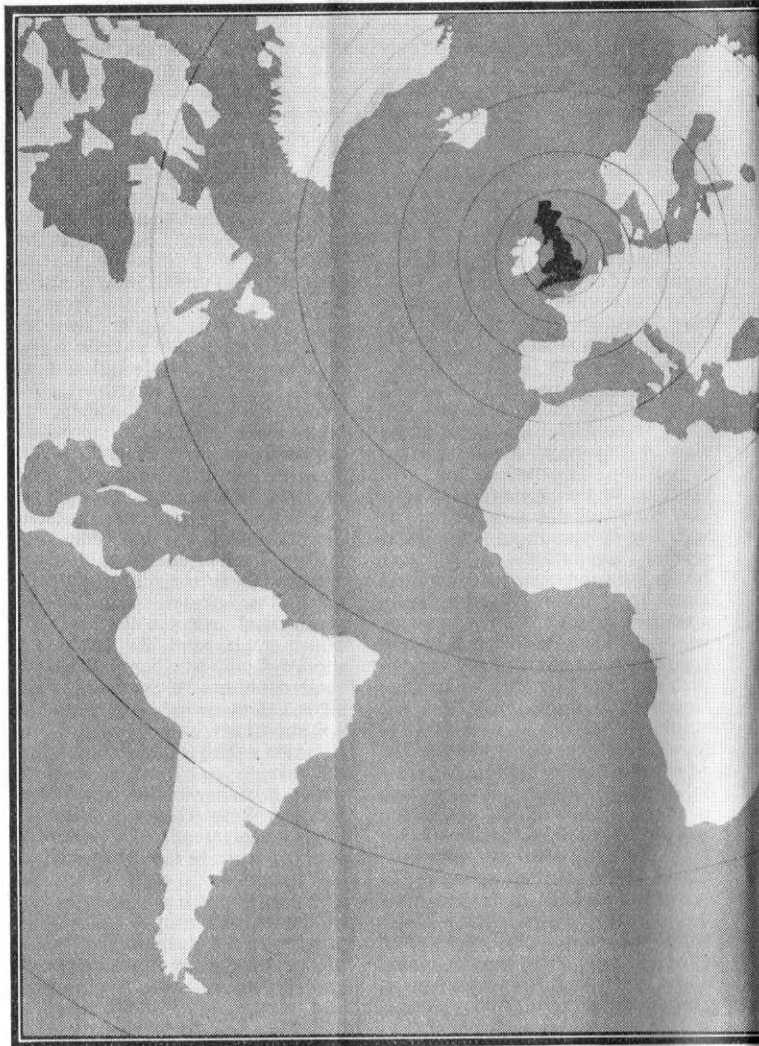
Some criticism has been made, particularly in the case of cars, on the score of price, but that is largely bound up with the quantity we are allowed by Government policy to produce. If we can increase our volume there is no reason why prices should not, in course of time, come down.

Our Government is trying to break down trade barriers which discriminate against British vehicles and, where possible, imports of the motor trade will form a feature of the bi-lateral agreements now being discussed with several countries.

Two further developments are assisting the British motor industry. With the greater sales of its products all over the world, it can afford to expand its sales and service facilities where previously these could not be extended to the same extent owing to the smaller volume of new sales. The industry has also greatly increased the sum devoted to co-operative research which is carried out by the Motor Industry Research Association. In future years interesting and fruitful improvements to the motor vehicle are expected to come from the intensive research now being done.

The British motor industry is enterprising and aggressive and it means to capture and retain its proper share of the world's markets, and it is convinced that it can do so and thus help to relieve a world-wide shortage of cars and trucks.

The World Wants Cars But—



Barriers Go Up Against Britain

The whole world needs transport, but economic urgencies and expediencies force many countries to set a full or partial ban upon motor car imports. Often the embargoes vary from month to month. At the time of writing, for example, **India, Brazil, Argentine, France, Denmark and Mexico** all forbade the importation of British cars.

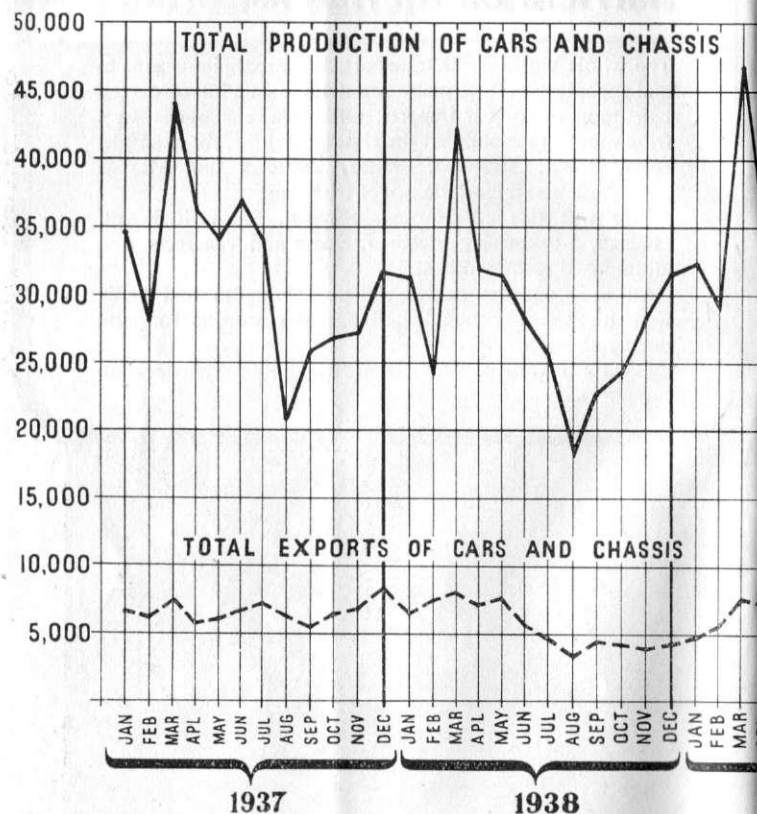
Nor was this all. **Norway, Sweden, Portugal, Egypt, Holland, Luxembourg, Belgium, Spain and Venezuela** had all imposed restricted bans.

Of the countries named, **Belgium, Sweden and India** were numbered among Britain's best customers for cars during the year 1947.

Britain has the cars they need. But artificial barriers are raised.



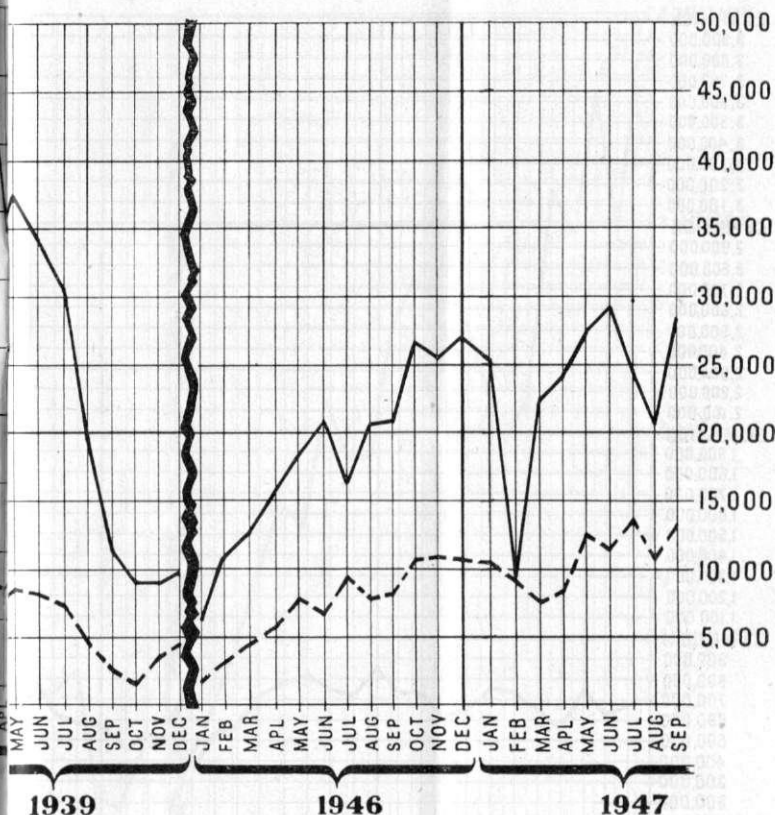
THEN: Output and Export Figures Compared



The two lines of the comparative graph for the period 1937-9 tell most of the story. Exports fluttered between 5,000 and 10,000 cars and chassis a month, but production averaged about 35,000 a month. The gap between the two lines was wide.

Note the regular seasonal peaks and slumps for production. Peaks came each year in the spring, when car-buying was brisk; slumps occurred just before the autumn Motor Show.

NOW: The Export Graph Climbs Steadily

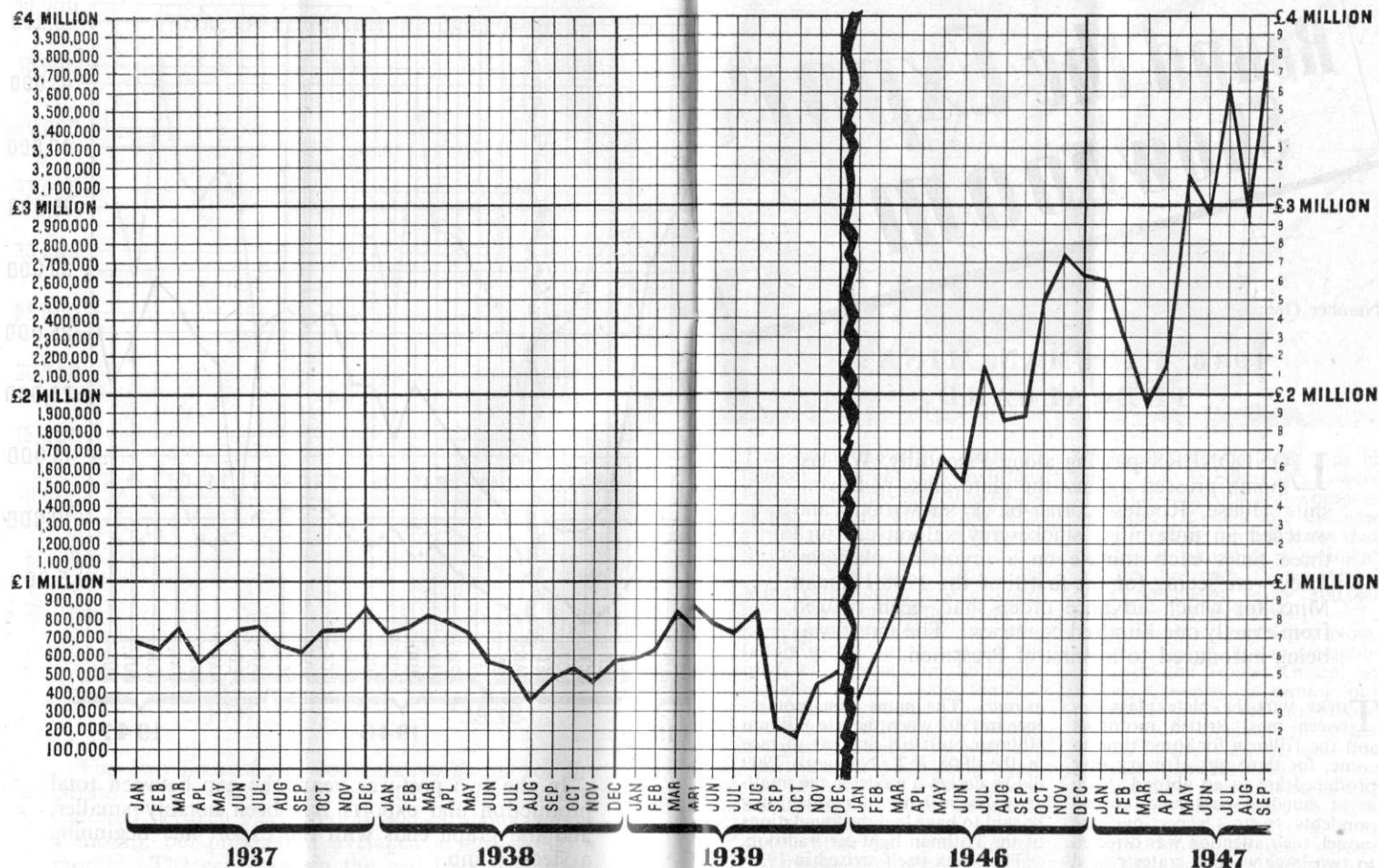


In the two post-war years the gap between total production and exports has been notably smaller, and the graph ends with the export line beginning a steep climb.

Note that lack of materials has kept post-war production well below pre-war peaks. Note, too, the disastrous slump in February, 1947, marking the Great Frost and electricity cuts.

THEN: Monthly Exports Below £1 Million

NOW: The Graph Soars Towards £4 Million



As the eye runs along the graph line, from January, 1937, to September, 1947 (with a wartime break), one is astonished by the precipitous climb in the sterling value of exported cars and chassis which began in January, 1946, and has continued almost

without a setback. It is a remarkable industrial achievement for car manufacturers to have brought the monthly sterling value of their exports to the £4 million mark. . . . But implicit in this figure is the increased prices of cars.

BRITISH CARS AND ACCESSORIES FOR OVERSEAS

Round the Export Showroom

Number One:

1948 HILLMAN MINX: THE ALLARD

LONDONERS passing along Piccadilly, W., last month pressed against the plate glass of Devonshire House, Rootes' corner-block showroom, and watched an unfamiliar smoke-grey saloon car turn three times each minute on a revolving platform. They were seeing for the first time the 1948 Hillman Minx for which advance orders had been booked from exactly one hundred countries. The model was being introduced to a thirst of Pressmen.

THERE WILL be plate glass between most British motorists and the Hillman for some time to come, for three out of every four produced are to go abroad. Even as a hundred motoring correspondents were inspecting the model, their attention was directed to two large wooden crates reared in the background. They were stencilled "Australia." Inside was a 1948 Minx, packed c.k.d. Those crates set the key for the occasion.

Hillman, of course, is one of Britain's oldest and best-known

marques. The name won prominence in 1907 when the late William Hillman built his first car to race in the 1908 T.T. Not until 1909 did he design a model in the small-car class, a 9 h.p. job which may be said to have laid the foundations of the Hillman light-car tradition.

The Minx itself arrived in 1931. At that time, every factor favoured the small car in Britain (the Austin Seven, which appeared in 1922, had reached immense popularity, and the Minx year of 1931 also saw the first Morris £100 model).

The Minx, however, made an immediate hit not only in Britain but abroad. This was due to the skilful design, which aimed at virtually a large-car performance in the small-car range.

Throughout the 'thirties the Minx consolidated and extended its position in public favour, at home and abroad as the ideal family car, a car that suited the needs of everybody in the family, including women, who found it particularly trouble-free and manageable. Although Hillman designers refused to revolutionize their successful basic design, each year brought its improvement; and it is significant that up to 1940 the remarkable pre-war total of 40,000 Minx had been exported and the Rootes brothers had established necessary sales and service organizations in more than one hundred countries.

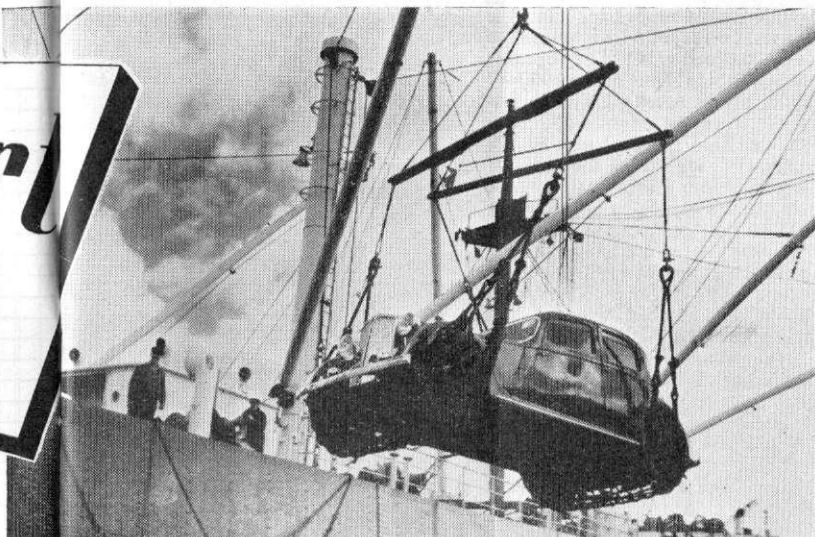
That was the background to the Minx when post-war research and experiment began again in 1945.

Obviously, with the 1948 Minx in mind, the technical staff were briefed to keep true to the pre-war tradition, yet build into the new model those post-war features that have been proved in experiment and on the roads. (Experimental types completed nearly 100,000 miles in road tests alone.)

The result is impressive. Now, the re-equipped 70-acre assembly plant of the Rootes Group, at Ryton, Coventry, is turning out the new Minx at the rate of one every four minutes: in other words, twelve cars an hour for overseas, three for Britain.

In addition to many chassis and body developments, the 1948 Minx has a new frontal styling, synchromatic finger-tip gear change (the first popular light car to standardize a four-speed gearbox with steering-wheel controls), and Lockheed hydraulic brakes.

The most immediately striking development is the frontal styling. The radiator grille is shallower,

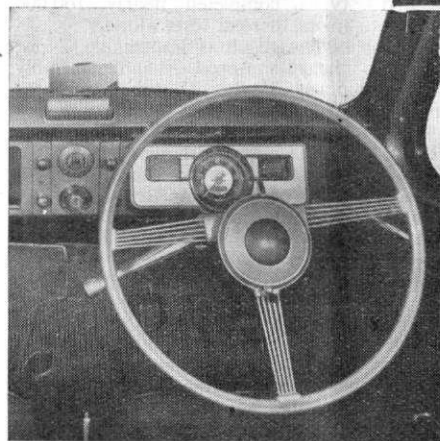


rounder, and "nipped in," and the bonnet curves into the wings to give a tailored effect. The separate head- and side-lights of the 1940-47 model are replaced by two head-lights (incorporating side-lights) moulded into the contours of the wings. On each side of the radiator there are four horizontal chrome bars, below which is a gleaming deep-section bumper.

It will be gathered from the above that the Minx front now glitters with chrome, although it hasn't been applied with an immoderate transatlantic hand. Further sparkle is to be found on the wheels, where easy-to-clean discs have generous chrome centre plates.

The interior of the body features a particularly attractive combination of wool cloth and leather for the trim, and a neat fascia panel, with compact dials unobstructed by a three-spoke steering wheel, is finished in jewelescent grey. Provision is made for the fitting as an extra of H.M.V. radio. Driving vision, forward and to the side, is excellent.

Chief development in engine and



(Above) The three-quarter view of the coupé model reveals the Minx's post-war lines

(Left) The steering-wheel does not obstruct the instrument panel. Note the synchromatic gear lever

(Right) The new frontal design is very striking, but not immoderately ornate



transmission is the fitment of the new synchromatic finger-tip gear-change, which was introduced a month or two ago on the same Group's Humber Hawk. It is the first time such a refinement has been made standard on a popular British light car in the low-price range—a move in harmony with Hillman policy of "the small car with something extra." There can be no doubt that an overwhelming majority of car users will welcome the innovation, which enables gear changes to be made by a flick of a finger on the left hand without releasing the wheel. This makes for confidence, comfort and safety in modern traffic conditions.

At least one motorist conservatively prejudiced against easy gear-change devices is ready to admit that the Minx synchromatic system answered all objections. Enthusiasts often held the view that gear-change refinements take a

deal of the fun and skill out of driving and spoil an intimate relationship between engine and driver. The synchromatic raises a question over this cardinal belief. Certainly the Minx goes through the gears more rapidly than most conventional sports cars of equal power, and the getaways through traffic are remarkable.

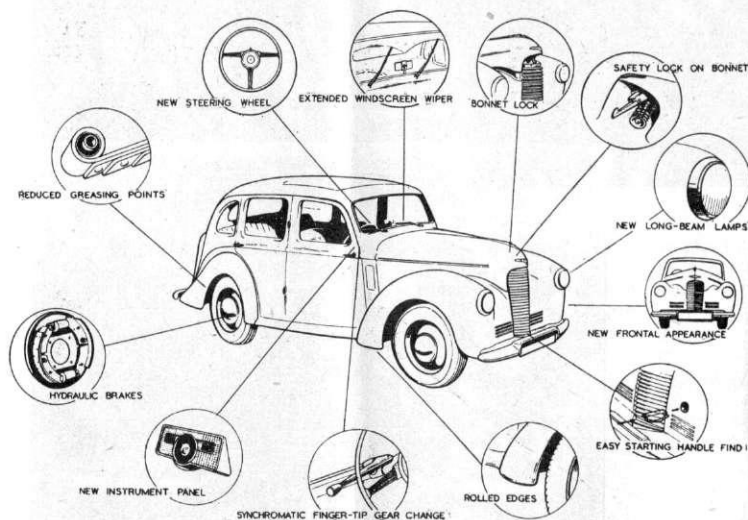
To complete the list of new features:

Lockheed hydraulic brakes of two leading shoe design, which are light in operation and easily adjustable;

A bonnet lock device inside the car to prevent pilfering or interference with the engine, with a safety catch so that the bonnet cannot be accidentally released while the Minx is moving;

Pre-focused sealed reflector headlamps, inbuilt so that it is impossible to disturb their alignment;

A four-corner jacking system;



The diagram shows at a glance the twelve principal innovations on the new 1948 version of that world-wide favourite, the Hillman Minx

A self-locating starter handle;
Improved lubrication;
Rear axle mounted on to rear springs with rubber-insulated blocks, thus "straightening out" the ride.

Many admired features of earlier Minx design have been retained with little alteration. The all-steel body and frame unit is of integral construction, and the familiar power unit reappears with detail

refinements, including increased oil pump capacity and narrower, deeper piston rings. The driving seat is still adjustable for height, slope and leg length.

In short, the 1948 Minx is an authentic post-war car with a well-proved pre-war tradition.

Introducing the model, Sir Reginald Rootes, vice-chairman, revealed the special place the Minx holds in his Group's affections. As

1948 HILLMAN MINX

ENGINE: Four cylinder, monobloc type, side by side valves, special design detachable cylinder head. Steel-backed main and connecting rod bearings. Three bearing crankshaft, full pressure lubrication. Three bearing camshaft with harmonic cams. Down-draught carburettor with special design "hot spot" and air silencer, giving greater economy, easier starting and high performance. Three point bonded rubber "cushioned power" engine mounting eliminating vibration.

Bore and stroke 63 mm. x 95 mm. (2.48 x 3.74 in.).

Cubic capacity 1,184.5 c.c. (72.26 cu. in.).

Engine develops 35 b.h.p. at 4,100 r.p.m.

COOLING SYSTEM: Thermo-syphon, belt driven, 2-bladed helical type fan.

CLUTCH: Borg and Beck, single dry plate. Chain linkage.

GEARBOX: New four speed silent synchromatic gearbox with combined dipstick and filler. Ratios: 1st—18.63; 2nd—12.90; 3rd—7.79; top—5.22; reverse—24.84; with synchromesh on 2nd, 3rd and top. Gear change by means of finger-tip control lever situated on steering column. Safety lock for first gear prevents accidental disengagement.

IGNITION: Coil and distributor. Automatic advance and retard.

FRAME: Stressed platform foundation frame; in unit with body shell produces one rigid structure.

SUSPENSION: Balanced ride suspension with automatic variation to load and road surface. Extra-long, semi-elliptic road springs with wide base. Steel and rubber bushes eliminate many greasing points. Luvax-Girling piston type pressure recuperating hydraulic shock absorbers.

WHEELS: Five "easy-clean," easily detachable disc wheels. Spare wheel and tyre housed in separate compartment in luggage boot.

BRAKES: Lockheed hydraulic design. Cast iron brake drums. Mechanically operated handbrake on rear wheels. Two leading shoes on front-wheel brakes.

STEERING: Burman Douglas, worm and nut type with natural rake steering column. New 16½ in. diameter 3-spoke spring steering wheel.

PETROL TANK: 7½ gallons (33 litres) capacity at rear of chassis. Pump feed to carburettor with emergency hand primer.

ELECTRICAL EQUIPMENT: 12 volt, 51 amp. hours. Lucas battery housed under bonnet. Constant voltage control. Ventilated belt-driven dynamo. Powerful starter operated by control on fascia board. Two powerful flush-fitting sealed reflector headlamps giving long and broad beams with dipper control on steering column. Built-in tail lamp incorporating stop lamp operated by brake pedal pressure. Self-cancelling trafficators controlled by switch on steering column. Electric horn. "Floodlit" illumination of instruments conveniently grouped in front of driver. Lucas twin blade windscreen wipers.

FOUR CORNER JACKING SYSTEM: Stevenson-Smith's enclosed screw type jack, easily positioned into special square sockets and operated by means of wheel brace.

MAIN DIMENSIONS

Wheel base 7 ft. 8 in. (2337 mm.)
Track, front 3 ft. 11½ in. (1210 mm.)
Track, rear 4 ft. 0½ in. (1232 mm.)
Ground clearance 6½ in. (159 mm.)
Overall length 13 ft. 0 in. (3962 mm.)
Overall width 5 ft. 0½ in. (1537 mm.)
Overall height 5 ft. 2½ in. (1587 mm.)
Turning circle 34 ft. 6 in. (10.5 m.)
Weight of complete car (saloon-dry): 2016 lb. (914 kg.)

Price: Saloon, £385 (P.T., £107);
Coupe, £435 (P.T., £121).



An open door invites the connoisseur to get into the driving seat and try the Allard. Under the long, gentle curve of the bonnet is a V8 engine that ensures remarkable performance for general duties.

he put it: "We make more expensive and faster cars, but somehow—without, of course, decrying our other products—in our own minds we always have the Minx on a special pedestal.

"The Minx does not claim to be the cheapest car—so far as price is concerned—in the four-seater or 10 h.p. category. It does, however, claim to have the something which denotes it as being in a class of its own. The new Minx is a car which we are launching on its career with every confidence, as a model which is modern without being extreme and which has quality, reliability and economy of the highest order. In fact, we feel it is a worthy successor to those Hillman Minx in whose track it follows.

"We are proud of the fact that up to 1940 we had exported some

40,000 Minx and had direct distributing sales and service organizations for them in over 100 different foreign countries, Colonies and Dominions. Since the war, of course, these have been still further expanded."

THE ALLARD

In proportion to the size of the firm and the number of models produced, no British post-war cars have made a deeper impression at home and abroad than the Allard. Indeed, keeping the proportion, it may be said that few British cars have carried a more serious challenge into America itself than the Allard.

What is the explanation? Allard's success may be summed up under three heads. First, all three models are highly individual in the best

British sense (that is to say, without freakishness for its own sake), and they are intended, without compromise, not for the family market but for motorists who have the makers' own enthusiasm and joy in first-class machinery.

Secondly, the firm secured the best possible publicity for cars of this type by carrying off competition awards against the most celebrated rivals.

Thirdly, S. H. Allard gave his models a high-power engine and then let A. Godfrey Imhof go ahead with the designing of a body that is both striking and functional. (A significant thing: an Allard which stands outside *H.M.M.* office induces even telephonists and typists to come up two flights of stairs to ask what, who, how, why? According to Imhof, the same thing happens wherever the Allard appears.)

The present-day Allard owes everything to competition. A proto-

type appeared in 1936 as a special, with a modified Ford V8 chassis and independent suspension. It was the handiwork of H. S. Allard, a competition driver who soon proved what his model could do in trials.

The model went into production and competition successes continued. After the war, a company was formed to develop the Allard as a trials car adapted for high-performance general duties, with three Imhof body styles: a two-door saloon, a drop-head coupé, and a competition two-seater with shorter wheelbase for the uncompromising sportsman.

All three types have a ready market at home and abroad, and there is no question that Allard could multiply many times their projected output of 750 cars a year without staling the demand. One of the most flattering signs is the reception given to the models on the Continent, for the Allard in some ways has Continental affinities and criticism is therefore not only searching but well-informed.

"Americans? They love it," says Godfrey Imhof when you ask him about the transatlantic reaction to the Allard. As salesman-in-chief for the car all over the world, he should know. His report of American opinion is particularly interesting, since for most manufacturers the U.S. market scarcely exists—a fact borne out by the 1947 export figures, which show an average of 20 cars exported to America each month.

What gives the Allard its appeal?

"First, the car is based on a Ford V8 chassis," explains Imhof. "There is an unbeatable parts service through Ford agents everywhere. For instance, when I was touring Switzerland, introducing the car to agents, my water pump passed out as I was driving through

SHOWROOM

a village. I put up at the local inn, told the proprietor the pump had gone, and asked if there was a Ford agent in the district. There was, and the next morning I said that I would be getting along down there. 'No need to,' answered the proprietor. He had already contacted the Ford agent and the car would be ready that morning. The price: twenty-eight shillings.

"You get service like that all over the world.

"Another selling-point is that the car is something quite new. At the 1947 Lisbon rally, for instance, the Allard beat Alfa-Romeos and the like. 'What kind of a car is that?' they asked. 'We can see it's got British number plates, but where was it made?' They get a surprise when I tell them that it really is a British-made model.

"Moreover, it has a large U.S.-type engine. People like this—something that will carry the car twenty to thirty thousand miles before it needs attention. Other points: it's got a good ground clearance (9½ in.); there is a fully boxed chassis; and it has been developed by road trials—easily the toughest way of developing a car. The prototype Allard, for instance, is eleven years old and has done 100,000 miles, but last year it came first in six or seven trials. It is also worth noting that the special type of individual suspension with divided axle goes down well."

Since 1945 Allards have been exported to U.S.A., Brazil, Argentina, Chile, Switzerland, Belgium, South Africa, Australia, Egypt, Palestine, Holland, the Channel Islands, Malta, Gibraltar, Portugal, Tangiers, and Spanish Morocco.

Other countries, like France, Italy, India, Persia, Turkey and Greece, have placed orders, but for reasons such as export bans the firm has not been able to deliver yet.

Inquiries have also been received from Austria, Czechoslovakia, Canada, Denmark, Norway, Sweden, New Zealand, Mexico, several South American countries, China, Malaya and Burma.

It is hoped to produce about 750 Allards in the coming year. This figure will be made up of three standard body designs: the open-top two-seater, the four-seater, and the drop-head coupé. About 75 per cent will be exports.

Allard executives believe that a well-made, efficient car to a large degree sells itself. For instance, when news got around that Allard were going to export there were about two hundred applications.

But much of the car's success has been the result of a personal touch supplied by Godfrey Imhof, who has been with the car on a goodwill tour including France, Spain, Portugal, Ireland, the Channel Islands and Switzerland. He has also met visitors from the U.S., Australia and South Africa.

"Wherever I stopped on the Continent," he says, "crowds gathered and asked 'what is it?'"

A tall, well-built man, Godfrey Imhof sits behind an impressive glass-covered desk in a generously-furnished office in Imhof House, overlooking New Oxford Street. The building is the showpiece of the area. It has a world-wide clientele for everything in the musical line. Imhof's talent for industrial design led to his association with Allard. It came about this way.

He had placed an order for an Allard in 1942, and with characteristic enthusiasm he consulted the Allard people so often that "they must have become so fed up they asked me if I would like to have a go at designing one myself. I did. They seemed to like the ideas I put forward, and that was the beginning of the association."

H.M.M. OVERSEAS

NOW ON SALE IN 38 COUNTRIES

As announced in our December issue, *Hutchinson's Motor Magazine* is now distributed in most parts of the world. Overseas readers wishing to ensure regular delivery should write to the appropriate address given below.

ARGENTINA. Juan Homs, Boedo 1036, Buenos Aires, Standard Agencia Srl, Reconquista 538, Buenos Aires.

AUSTRALIA. Hutchinson & Co. (Publishers) Ltd., P.O. Box 99, Melbourne, Vic.

BELGIUM. W. H. Smith & Son, 71-75 Boulevard Adolphe Max, Brussels.

BRAZIL. G. Florentino, C. Postal 1754, Rio de Janeiro.

CANADA. Wm. Dawson & Sons Ltd., 70 King Street East, Toronto 2.

CEYLON. Ola Books Ltd., York Building, York Street, Colombo.

CHILE. Juan G. Terry, Casilla 101, Santiago.

CHINA. Kelly & Walsh Ltd., Shanghai.

CZECHOSLOVAKIA. Orbis Newspaper Department, Stalinova 46, Praha XII.

DENMARK. Arnold Busck, Kjobmagergade 49, Copenhagen.

EAST AFRICA. Patwa News Agency, P.O. Box No. 136, Mombasa, The Uganda Bookshop, Box 145, Kampala Uganda.

EGYPT. Mr. S. S. Bassous, P.O. Box 131, Alexandria.

EIRE. Eason & Sons Ltd., 40 Lower O'Connell Street, Dublin.

FINLAND. Akateeminen Kirjakauppa, 2 Keskuskatu, Helsinki. Rautatiekirjakauppa O/Y, Koydenpunojankatu 2, Helsinki.

FRANCE. Anglo-French Periodicals & Publicity, 58 Rue de Chateaudin, Paris 1Xe. Galligani's Famous Bookshop, 224 Rue de Rivoli, Paris 1er. W. H. Smith & Son, 248 Rue de Rivoli, Paris.

GREECE. Messrs. G. Hagiantoniou, W. Churchill St. 31, Athens.

HOLLAND. B. C. Heisterkamp & De Vries, P.O. Box W. No. 6037, Westermarkt 2, Amsterdam-C.

HONG KONG. Kelly & Walsh Ltd.,

HUNGARY. Transpress, Zsomolyai-Ut 20, Budapest.

ICELAND. Messrs. Bokastod Eimreidarrinnar, Adalstraeti 6, Reykjavik.

INDIA. National Information & Publications Ltd., 74 Laxmi Bldg., Sir P. M.

Road, Fort, Bombay 1. New Book Co., 188/190 Hornby Road, Bombay. Paradise Bookstall, opp. Regal Cinema, Preddy Street, Karachi 3, Pakistan. J. Ray & Sons, Edward Road, Rawalpindi. W. Thacker & Co. Ltd., P.O. Box 190, Bombay.

ITALY. Andre Camillo, Via Livorno 3, Milan.

LUXEMBOURG. Paul Bruck, 50 Grand Rue.

MALAYA. Kelly & Walsh Ltd., Singapore.

NEWFOUNDLAND. Ayre & Sons Ltd., St. Johns.

NEW ZEALAND. Australasian Agencies Ltd., G.P.O. Box 1557, Auckland. R. Hill & Son, Matlock House, 32-34 Quay Street, Auckland.

NORWAY. A/S Narvesens Kioskkompani, Stortingsgata 2, Oslo.

PALESTINE. Collective Subscription Agency, P.O. Box 768, Haifa. F. Pinzower, P.O. Box 6008, Tel-Aviv.

PORTUGAL. Lucio de Campos, R. Ferreira Lapa 23-1, DT, Lisbon. Nazareth & Filho Lda, Rua 5 de Outubro, Evora.

SOUTH AFRICA. Hutchinson & Co. (Publishers) Ltd., 19 Seaward Road, Dock Road, Cape Town.

SPAIN. Distribuidora Internacional Soc. Ltd., Lope de Rueda 3, Madrid.

SWEDEN. C. E. Fritze's Bokhandel, Fredsgatan 2, Stockholm. N. J. Gumperts, Nodra Hamngatan 35, Goteborg.

SWITZERLAND. Naville & Cie, 5-7 Rue Levrier, Geneve.

SYRIA. Antoine Sabbagh & Fils, P.O. Box 24, Aleppo. Sabri N. Tarzikhan, Khan Hibel, Aleppo.

TURKEY. Librarie Ruben Catan, B.P. 144, Izmir.

U.S.A. British Publications Inc., 150 East 35th Street, New York 16, N.Y. Hutchinson & Co. (Publishers) Ltd., 25 West 45th Street, New York 19.

URUGUAY. Kurt Palnitzky, Casilla Correo 293, Montevideo.

GOLD COAST BOATMAN—

Playing a part in the British car export drive are bullock drivers in Malay, Fiji islanders who haul crates by hand—and M'bo, master of a small craft plying between Accra's shallows and cargo boats, newly arrived from Britain, lying at anchor a quarter-mile off shore.

Before the anchor drops and holds are opened, a fleet of frail single-masted tenders put out to meet the ship. Aboard each, half a dozen natives clad in cotton shorts strive to reach the ship's side first. M'bo usually makes the running.

Soon the hatches are open and the ship's derricks are slinging and lowering the crates stencilled with the names of British car firms, British towns. The crates were made by carpenters in Oxford, Luton, Coventry, Birmingham, Bradford.

M'bo and other native boatmen are links in the chain.

THE MECHANIC IN BRAZIL—

Then there are the mechanics overseas, the counterparts of those employed in British factories. They make their contribution.

Not long ago S.S. *Potaro* tied up in Santos harbour, Brazil, carrying in its holds a big cargo of Ford "Anglia" saloons urgently wanted in Curitiba. Speedy delivery was important. Night had already fallen.

Matching the energy and determination of Dagenham's 11,000 workers, Ford mechanics and assemblers in Santos decided to tackle their job without waiting for a new day. As the crates came ashore they were opened. At 3.30 a.m. the team started to put the "Anglias" together and before darkness fell seven men had assembled nine cars. Day after day they worked on at high-pressure until the whole shipload had been dealt with.

Cars have Fifth Wheel (and Go Into a "Frig")

MUCH has been said and written lately about the reluctance of leading manufacturers to "improve the breed" by racing. In this article, RICHARD TWELVETREES, A.M.I.Mech.E., lifts the curtain on the engineering research by which the same end is achieved in the factory.

THE EXTENT to which modern cars benefit from engineering research was clearly demonstrated on my recent visit to the Research Department of Vauxhall Motors, Ltd., Luton. There a self-contained two-storey building, with a floor area of 101,062 sq. ft., constructed and equipped at the cost of £175,000, is devoted exclusively to this important phase of car manufacture.

The engine section is responsible for experimental and research work on power units and for specialized road trials in which speed, acceleration, hill climbing, cooling and fuel consumption are measured. Here also is the fitting shop, where experimental engines are built up and dismantled again for examination after life and durability tests. Part of the ground floor is allocated to the general running shop and to a number of enclosures equipped for bench and other tests.

In the running shop cars are prepared for road tests of performance—distinct from the complementary road tests handled by the "general" running shop.

A typical example is the "fifth wheel test" for which a light wheel is arranged to trail from the car and to drive a calibrated dynamo. A meter connected to the dynamo and carried in the car, records speeds independently of the speedometer and with a negligible margin of error. This apparatus is

also used to record distances for fuel consumption tests.

A highly developed and interesting technique is applied to the combustion chamber research conducted in the dynamometer rooms. A picture of rapidly varying pressure conditions inside the combustion chamber of a running engine is reproduced on a cathode ray indicator and the resulting diagram projected on to a fluorescent screen is recorded on cinema film.

A second method employed to determine the properties of combustion chambers of various shapes consists of taking plaster casts of the cylinder heads. The casts are sliced up to show how the mixture volume burns as the flame front travels outwards from sparking plug points.

The "cold" room is, in effect, a refrigerator large enough to enclose a complete car. It is used for extreme tests of carburation and starter-motor capacity in temperatures down to "20 below," and for tests in extreme cold.

Road tests are of two kinds—duration trials which go on day and night to aggregate big mileages, and shorter tests made to check some special aspect of performance, or to investigate an alleged fault.

For short performance tests, Vauxhall Motors employ all kinds of ingenious recording instruments which are fitted to the cars. For braking tests, for example, a hydrau-



A hundred Hillman Minx—the biggest single consignment of British cars shipped to Palestine since the war

RESEARCH

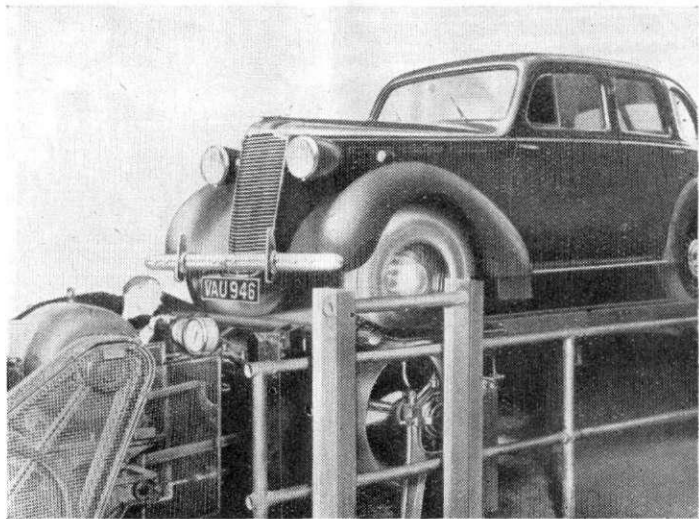
recording brake, under its own power. The vicious behaviour of this apparatus is accounted for by cams bolted to the drums so that as they revolve, each of the two car wheels concerned is jolted up and down three times in every revolution.

The rig is so arranged that observers can walk round or under the car while the test is in progress and are thus able to see what happens in a way that is impossible under road test conditions. That is to say, wheel movement and spring deflection can be observed and measured; so can other manifestations such as wheel wobble, shimmy, brake chatter, tyre noise, structural resonance, vibrations, engine movement, axle cross shake, steering wheel fight. All can be investigated without moving the car from the shop.

A valuable accessory to the

chassis dynamometer is the stroboscopic flicker lamp which can be timed to show on slow motion any vibration or movement the engineers may wish to analyse. In addition to the bigger rigs for complete cars and chassis units, the running shop equipment includes a great variety of smaller testing devices for investigating the behaviour of individual components.

The work of the drawing office, situated on the first floor of the research building, is carried out in close co-operation with the design staff. Working drawings of every component are prepared here before any new car or improved unit is put into production. The activities of this department may be gauged from the fact that the design of every new model entails the preparation of several thousand drawings, many of which are extremely complicated.



This device is used for investigating suspension systems, wheel movements, steering problems, etc., by reproducing rough road conditions

NOTED & QUOTED

G. S. DAVISON, our Midlands correspondent, reports events in the Car Country

THE MOTOR-MINDED Midlands are not taking at all kindly to the abolition of the basic petrol ration.

This deliberately mild observation may well apply, **ANTI-ABOLITIONISTS** I know, to any other part of the country, but since motoring and the Midlands are synonymous, it is well, I feel, to draw attention to the fact that the "basic ban" has aroused feeling among all classes of road users to a greater extent than any other edict during or since the war. I am not concerned here with any question of politics, or whether or by what alternative means petrol consumption in this country should be reduced.

I do not regard the staffs of Regional Petroleum Offices as being necessarily fiendish types who take a sadistic delight in automatically turning down every application for "E" or "S" coupons that they may receive. I am prepared to believe that they are average human beings trying to do their best in circumstances which show more than a few signs of having got beyond their control.

Having said that, I will add that the spontaneous growth of "anti-abolition" movements throughout the Midlands during the past few weeks has been astonishing, and a salutary indication of what public opinion really means. In Wolverhampton, for example, more than a thousand people at a protest meeting in the Civic Hall decided to telegraph the King that they had called on the Government to resign.

That is the sort of thing your average citizen does not do unless he feels very strongly indeed about something.

And he—the whole thousand or so of him (and her)—certainly felt very strongly about the petrol cut. Mr. J. Baird, M.P. for Wolverhampton East, and Mr. Will Nally, M.P. for Bilston, were among the speakers, and they were subjected to considerable opposition and heckling. They were booed as they left the meeting before it ended.

Mr. A. E. Harrowby, chairman of the Basic Abolition Protest Movement, declared carried a resolution calling for the restoration of the basic petrol ration. An addendum that the Government no longer represented the wishes of the people, and requesting Mr. Attlee to resign and advise the King to dissolve Parliament, was declared carried with three dissentients.

Other meetings have been held throughout the Midlands, not all of them sponsored by the same organization.

Coventry, for instance, has its Society for the Restoration of Basic Petrol, with a membership which has considerably exceeded a thousand in little more than a month.

What may be the outcome of all this remains to be seen, but *vox populi* in these parts seems intent on doing more than raising a few echoes.

WRITING OF petrol—basic or otherwise—reminds me of what may be, perhaps, a story



The LPL (Surrey) plate proclaims the car of L. P. Lord, Austin chairman and managing director. The picture catches him talking exports with Longbridge visitors

typical of these days of form-filling, applications-in-triplicate, and all the rest of it.

During the recent municipal elections special supplementary allowances were made for those using cars for political campaigning and the fetching and carrying of voters to and from the polling stations. From a source which I certainly have no reason to doubt I hear of two motorists who applied for "election specials"—one setting out his needs for twelve units and the other for nine.

Each thought that Father Christmas had paid an early call when the Petroleum Office responded to their appeals, for one received 120 units and the other 90!

It is reasonably easy to see how a clerical error and the generous bestowal of a nought in each case was responsible for this official munificence. But while this makes a sardonical story, one wonders just how often similar mistakes occur?

THERE IS inevitably a "jam to-morrow" flavour about manufacturers' announcements of

new models nowadays. Even when a new car is going into immediate

full production, we have become accustomed to being told that the first supplies are for export, and it will be some time before the home motorist will get his chance. This seems likely to be the case with the lately announced new Singer, which it is hoped will be in full production by the autumn of next year.

Details of the car so far released show that it is a 5-6-seater of 1,400 c.c. capacity, which will eventually replace the Super 10 and 12 saloons now in the makers' programme. Thus, it is a further example of the beneficial effect of the new taxation basis, which is tending to do away with the multiplicity of models in the lower horse-power groups.

The engine is of the usual Singer overhead camshaft type, and a high performance is promised. The car has very up-to-date body lines, and the box-type chassis has independent front suspension. No announcement has yet been made as to the probable price of the new Singer.

ANOTHER NEW model just announced is the latest Hillman "Minx," whose outstanding feature is synchromatic finger-tip gear-change operation, controlled by a lever on the steering column.

This new method of gear change made its appearance recently on the latest Humber Hawk, the first time it had been applied to a four-speed gear box; its adoption for the Hillman Minx is its first introduction to the specification of a light car.

THE ACCOMPANYING photograph shows Prince Abdorezza Pahlevi, a brother of the Shah of

Persia, at the Austin works at Longbridge, with his aide Dr. Ashi-

anti, Mr. L. P. Lord, Austin's chairman and managing director, and Mr. W. T. McCrum, of the British Council.

The Prince's visit was an item in the itinerary of a short tour of British industry, arranged by the British Council. Iran is very much on the map of the Austin company's vigorous export policy, and the visitors here are showing a keen interest in Mr. Lord's own car. It will be noticed that it bears Mr. Lord's initials on its registration plate, having been registered in Surrey for this special purpose.

MUCH INTEREST has been aroused by the recent appointment of Mr. W. O. Bentley to a consultative post with Armstrong W. O. BENTLEY'S Siddeley Motors, Ltd. In recent years Mr. Bentley has been chiefly associated with the Lagonda concern, but he severed this connection in August last year, when the firm ceased production and its designs were sold to the David Brown organization.

Before that, however, he was famous as joint founder, with his brother, of the Bentley concern. Even earlier, as motorists of an older generation may remember, W. O. Bentley was a designer of aero engines with the Humber concern. This was during the first World War.

His new appointment seems to promise some interesting developments from the Armstrong Siddeley factory, whose general manager has recently emphasized the need for British manufacturers to make a special effort to challenge American competition in motor car engines of the bigger and higher powered class.

WOMAN AT THE WHEEL

By PAT HOWARTH

FROM the theory of the basic ban, we have now passed on to the practice. There is a difference between the two. That's not surprising: there usually is. But no one I know has summed the matter up more pithily than my greengrocer, an upright man and a week-end motorist of rare passion.

AS HE chivvied a bunch of over-ripe bananas into a bag, he mournfully told me that his car had been laid up, in strict accordance with the advice of the motoring journalists. He pointed into the High Street.

"But others," he said rather bitterly, "seem to have managed it."

He was right. High Street seemed almost as full as ever.

"You see," he went on, "honesty doesn't pay as it used to in the old days. My next door neighbours—they've got a special ration of petrol on the grounds that they are too feeble to get to the shops under their own steam. They're as fit as I am. Another chap round the corner got three gallons a week by saying that he would be available if anybody needed to be taken to hospital. Others, they tell me, have got an issue for attending church or by pretending they take their children to school.

"And it would be all very nice if they really did want the petrol for these purposes. But they don't—no more than I do. So they get away with it. But those of us who're honest get nothing. It seems to me that it's always the same with regulations . . ." He paused.

" . . . When do you think the basic will come back?"

The greengrocer, I think, is on the mark. If petrol is to be dished out in accordance with rules of thumb, it is the decent types who will play the game and get nothing. No Form was ever invented, no Civil Servant ever got born that could decide between the just and the unjust.

There always seems to be a difference between the letter of the Form and the spirit underlying it. If that were not so, every woman's marriage "lines" would be a romantic novel; as it is they're not even entertaining reading.

Now there would be some hope for Forms if a committee of women could revise the cold question and answer of the marriage certificate and get a bit of feeling into it.

It's impossible to guess the total number of people who have been hard hit by the abolition of the basic ration—really hard hit, that is, in the sense that they have either lost their livelihood or seen it worsened. I'm told that many small Schools of Motoring have closed down altogether and many garage and filling station owners are bearing losses by keeping on

their staffs until petrol comes back.

Then there are the hotel and café owners. So far there is no sign that the basic will be back in a few months, although there are a few optimistic rumours that the Government will do something about it in the late spring. And if private motoring is still off next summer, the hotel trade will lose half their income.

No wonder, then, that there is a movement in the trade to urge the Government to adopt a scheme for issuing "H"-for-holiday petrol coupons.

The idea comes from the Yarmouth and Gorleston Hotel and Boarding House Association, who have drawn up a resolution for submission to the Board of Trade, the Minister of Transport, and the Minister of Fuel and Power. The association suggests that motorists should be asked to prove they want the coupons for "bona fide holiday purposes" merely by producing

written confirmation of their sea-side hotel bookings, along with evidence that they propose to carry a full car load of passengers. Then (the Yarmouth hoteliers say) the road mileages could be calculated and coupons issued, with a gallon or two to spare to provide for emergency.

Several difficulties come immediately to mind, the most important from the motorist's point of view being the fact that once a car is laid up it might seem a doubtful blessing to be able to mobilize it for a fortnight or so. But the Yarmouth proposal includes a suggestion that three months' road fund licences be issued and that a rebate be paid when the car is taken off the road again.

Another objection, which the motoring organizations are likely to give weight to, is that in negotiating for the return of the basic ration in full it would be weak tactics to aim lower than the target.



Three British personalities—Patricia Roc, Rosamond John, and a Minx—whom the Rank Organization have filmed for export. In future, British films will show British cars

In other words, it is understandable if the A.A. and the R.A.C. should choose not to associate themselves with an extremely one-sided compromise. In round-table bargaining, nothing is to be gained that way.

Indeed, we might sum up that the Yarmouth campaign is likely to suit the interests of the hoteliers and caterers rather better than it suits the immobilized motorist.

But the fact is undeniable that the "H"-for-holiday petrol scheme, although a very poor second best, seems to me a second best worth having. Women with young families are looking ahead to next summer's holidays with deep misgiving, for on these occasions a car is a necessity. (Only men draw a firm distinction between necessities and conveniences: for women a convenience is for all practical purposes the same as a necessity. For example: although a carpet can be cleaned on hands and knees with a brush, a vacuum cleaner is nevertheless a domestic necessity.)

In the complete absence of private motoring next summer, family holidays are going to be a formidable torture. From what we saw of the railways at work during summer 1947, there is no reason to believe that the main lines will be able to bear the extra traffic that is likely to make for the seaside resorts in 1948. And, mark you, it looks like being entirely internal traffic, for there seems to be no more chance that the ban on foreign travel will be lifted than the basic ban.

What, then, does the Government feel about the holidays of the people? Are they to be made possible? Or are families to stay at home and be content with bridge parties at the neighbours?

For myself, I earnestly hope that in good time the basic will be restored. But if that is considered impossible I shall hope that the Ministers will not lightly rule out

the suggestion made in Yarmouth. Otherwise, the Howarths face 1948 with a glumness that defies description.

BRITISH car manufacturers, it seems, haven't yet finished learning what the overseas customer expects from his car. We know that east of Eden they ask for large luggage boots, roomy bodies, high horse-powers, good ground clearance, etc., etc.; but far nearer to Britain than that a car must have qualities that no one has so far thought of.

At any rate, that's what must be inferred from a choice news item from Beirut. I quote:

"Two Arab chauffeurs, Ali Mobarak and Mustapha el-Ali, are lying seriously injured in a Beirut hospital as a result of an unusual duel. After an argument about the respective powers of their American cars they met outside the City by arrangement and drove their cars at one another at 60 m.p.h. from a distance of 250 yards, while their seconds watched."

The paragraph is illuminating, yet tantalizing. It illuminates the old axiom that the Oriental treats his machinery somewhat scurvily, that he light-heartedly loads up until the springs give. But it tantalizes because we learn nothing about the nature of the argument that led to the head-on crash.

We've all heard and taken part in wrangles about the merit of this car and that. We've all seen the sporty types pass out of the house, with jaw sternly set, to put their argument to the test on the road. But (I hazard) none of us has ever before heard of the arguments being settled in this Oriental fashion by smashing up both cars.

I'm still wondering what exactly the head-on duel was supposed to prove. And who won—Ali Mobarak or Mustapha el-Ali? . . . I hope some satisfactory verdict was reached, if only to console the two chauffeurs for their injuries—and, presumably, for the loss of their jobs.

Boothby, D.F.C., Designs New J.B.M.

By JOHN REED

IT is commonly argued, on good grounds, that nowadays a young Morris could no longer start with a bicycle repair shop and end at the head of an immense enterprise like the Nuffield Organization. Nor, perhaps, could a second Percival Perry risk £500 to become a distributor and go on to build another Dagenham.

But despite all the difficulties and discouragements new men are forcing their way into the field of British car manufacture.

ONE of them is Squadron Leader James Boothby, D.F.C., who makes the J.B.M., a sports and racing model of a type that Britain has always turned out with peculiar success.

In converted farm buildings at Horley, just off the London-Brighton road, his team of workmen works up to sixteen hours a day to produce a car which has a power/weight ratio comparing very favourably with anything at present available.

A really good power/weight ratio has not been a characteristic of every British sports car in the past. On the other hand, much experiment in this direction was made in many European workshops before the war, notably in France and Germany, where the aim was to improve the ratio not by increasing the size of the engine or for that matter by reducing the size of the body, but by getting an all-round saving in the amount of metal used.

This is the principle which James Boothby Motors, Ltd., have applied to their model. The bodywork is made up of a welded-steel

tube frame with stressed skin covering, and the total weight of the car is only 17½ cwt. It is built on a stripped Ford V8 chassis.

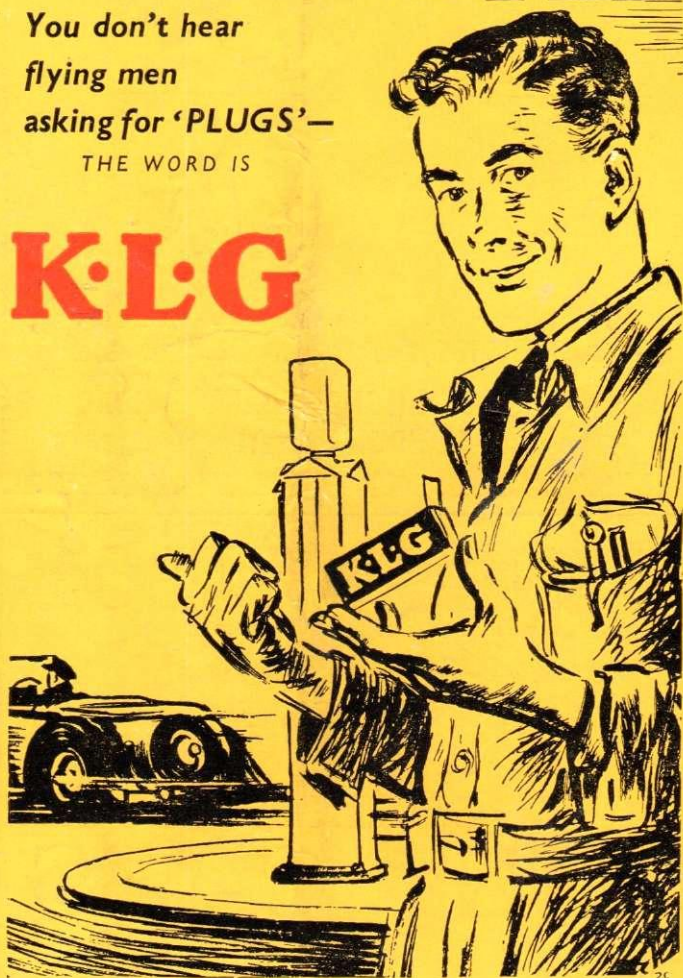
Features of the power unit have been designed to reduce overheating when the engine is performing at consistently high speed on a long run. To a considerable extent this object has been achieved. By reducing back pressure the temperature at trouble spots over cylinders Nos. 2 and 3, and 6 and 7 is brought down by 20 degrees. The modified 3,622 c.c. Mercury engine has an output of between 115 and 120 b.h.p., which can be stepped up by fitting a special manifold with four carburetors (with a consequent loss in m.p.g.).

Although the prototype has been seen at a number of meetings during 1947 and showed up favourably against comparable cars, it is designed primarily as a road plus sports racing job. However, there is a large locker above the two petrol tanks which will take ballast if necessary. Normally this contains a spare wheel and baggage; there is room for further baggage behind the seats and in a tail locker.

You don't hear
flying men
asking for 'PLUGS'—

THE WORD IS

K·L·G



K · L · G CORUNDITE SPARKING PLUGS

K · L · G Sparking Plugs Limited, Cricklewood Works, London, NW2