

Great care is taken to ensure cleanliness in those sections where colour is used, and the air inside the booths is kept a little above the pressure of the surrounding shops to prevent any possible influx of dust. Furthermore, the air is washed, filtered and heated to ensure exactly the correct conditions of temperature and humidity.

The superior paint finish resulting more than justifies the extra time and cost involved.

Not all bodies are painted at the Coventry factory, but the same high standards of control and workmanship are features of all the paint plants under the Group's control.

BODY TRIM SHOP

After painting, the bodies are conveyed to the Trim Shop which, at the Stoke factory, is conveniently housed adjacent to the Paint Shop.

In this Shop, three separate mechanised tracks handle the continuous flow of Humber, Hillman and Singer body shells, and fit them out with cushions, squabs, door pads, headlinings, armrests and all the other items of soft trim, as well as glass and other body hardware.

It is at this stage that the standard of dust and water sealing is established, and the most meticulous attention is paid to this aspect of the assembly.

In separate bays adjoining the track, skilled craftsmen tailor and make up the hundred-and-one items which form the trim of a modern vehicle.

Recently, the latest technique in door trim pad assembly has been introduced whereby the conventional stitching operation is replaced by fusing the pads together in large welding presses. Not only does this modern dielectric method lend itself to more rapid production, but it also allows a wider variety of patterns to be used.





CAR ASSEMBLY

The huge car assembly plant at Ryton constitutes a most impressive picture, as the rows of mechanised tracks carrying vehicles in various stages of completion move forward to link up with the mass of units and components supplied by the overhead conveyor systems.

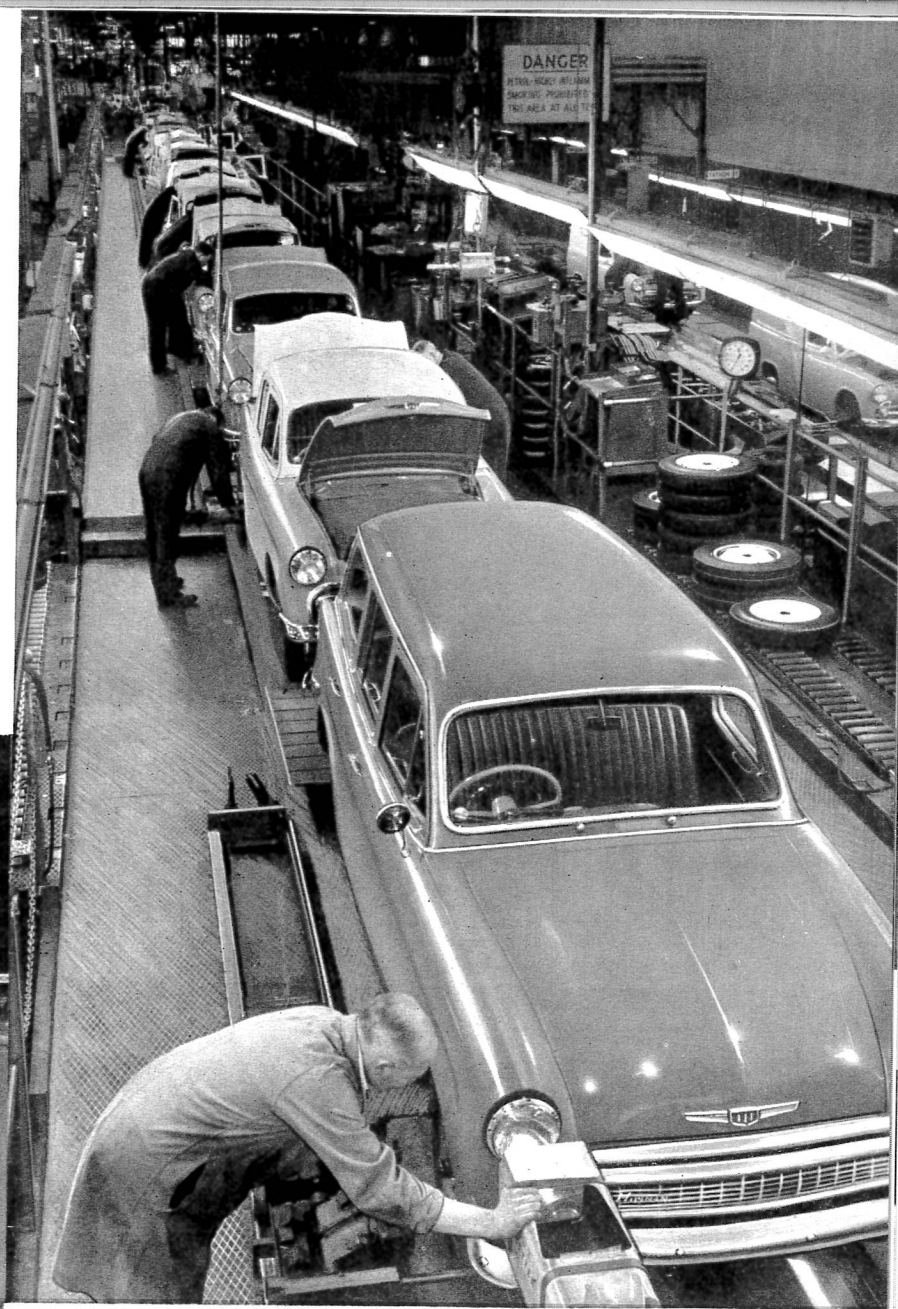
Catering for the assembly of thousands of vehicles per week requires organisation of the highest order, and the task allotted to each operator may be likened to a piece of jigsaw puzzle, in that it fits into the general picture in one place only.

On arrival at Ryton the bodies are already painted, trimmed with soft furnishings, including seats, and equipped with a limited amount of accessories. The first task is to complete these bodies to an advanced stage, and this is most conveniently carried out on the Pre-mount track where skilled fitters add such equipment as head and tail lamps, instrument panel assembly, control pedals, handbrake lever, bumpers, horns and so forth. Thus, at the end of this track the body when lifted on to the overhead conveyor is complete and ready to receive the chassis units.

Whilst the body has been progressed along the pre-mount track, other operators have been pre-assembling the engine, gearbox, propeller shaft, axles and springs. This operation is so synchronised that as the body is swung down into position the chassis units move forward and upwards to meet it. Because of the unitary principle of construction, whereby the body itself acts as the chassis frame, the main chassis units are inserted as an assembly from underneath either by hydraulic hoist or by means of a special ramp at the beginning of the track.

Once the engine, gearbox and other major units are rigidly attached to the body, the vehicle assembly moves rapidly along the remainder of the track, receiving shock absorbers, exhaust system, petrol tank, wheels and other fittings on the way.

The wheels are of interest as they are painted to match the body colour in a separate paint plant. Tyres are then fitted at an almost incredible speed, inflated by automatic pumps to the exact pressure, and passed by a mechanical conveyor to the appropriate point on the assembly line. From the main assembly tracks, finished vehicles come off at the rate of one a minute, passing to the roller tests where the road wheels and transmission are turned and road conditions simulated. Following this, a further inspection is given; the front wheels are set in accurate track by a highly ingenious electrical instrument, and headlamps are correctly focussed. Finally, the completed car passes down the polishing line, where the paint-work is brought up to a high level finish and carefully inspected for scratches or blemishes before passing to the Despatch Department.



COMMERCIAL VEHICLE PRODUCTION

The Group's Commercial Vehicle activities are concentrated at the Commer/Karrier factories in Luton and Dunstable, supported by specialised power unit manufacturing plants at Maidstone and Coventry.

Within these factories a wide variety of models and types are constructed with load ratings ranging from 15 cwt. to 12 tons, and body styles which cover such varying designs as Vans, Pick-Ups, Tippers, Dropsiders as well as Gully Emptiers, Refuse Collectors, Road Sweepers, Ambulances and Fire Tenders for Municipal use.

Moreover, the range of models is further extended by making available a choice of normal or forward control cabs, petrol or Diesel engines, single or two-speed axles and manual or power-assisted steering and brakes.

LUTON FACTORY

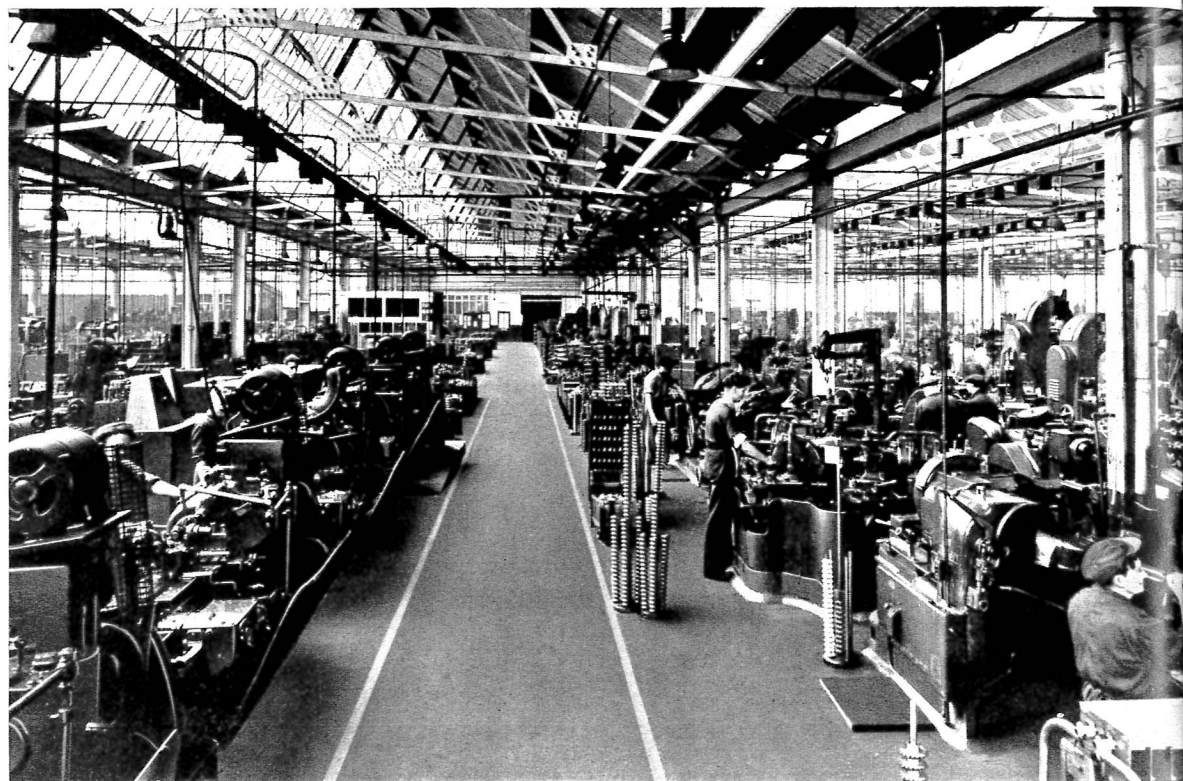
With the transfer of the main assembly lines in 1954 to the modern, new Dunstable plant, and later on the Parts Department to Birmingham, the Luton works were completely re-planned to provide vastly improved machining and other facilities in line with the rapidly expanding demand for the Group's commercial vehicles.

Today, machining and sub-assembly of all main units is the chief function of the Luton plant, although here also are housed other important activities such as the Design, Planning and Production Control offices, the Experimental and Service Departments and a fully equipped Apprentice School.

There are three main machine shops, each containing many intricate machines for turning out gearboxes, front axles, rear axles, steering assemblies and numerous smaller components.

Gear cases for the two types of synchromesh gearboxes are machined and assembly takes place on two lines, one for each box. In this shop also, grinders of the centreless type machine king pins, shackle pins and reverse shafts.

Heat treatment of these components is carried out by a recently installed gas carburizing and hardening plant, and the tool room is housed close by.



A general view of the No. 1 Commer machine shop at Luton where special and general purpose machinery produce gears for Commer/Karrier gearboxes and rear axles. Further sections of this shop are laid out for heat treatment of the machined components and their integration into unit sub-assemblies.



No. 2 machine shop at Luton is planned for the production of axles including the machining and assembly of stub axles, gear carriers, axle shafts and brake drums (above).

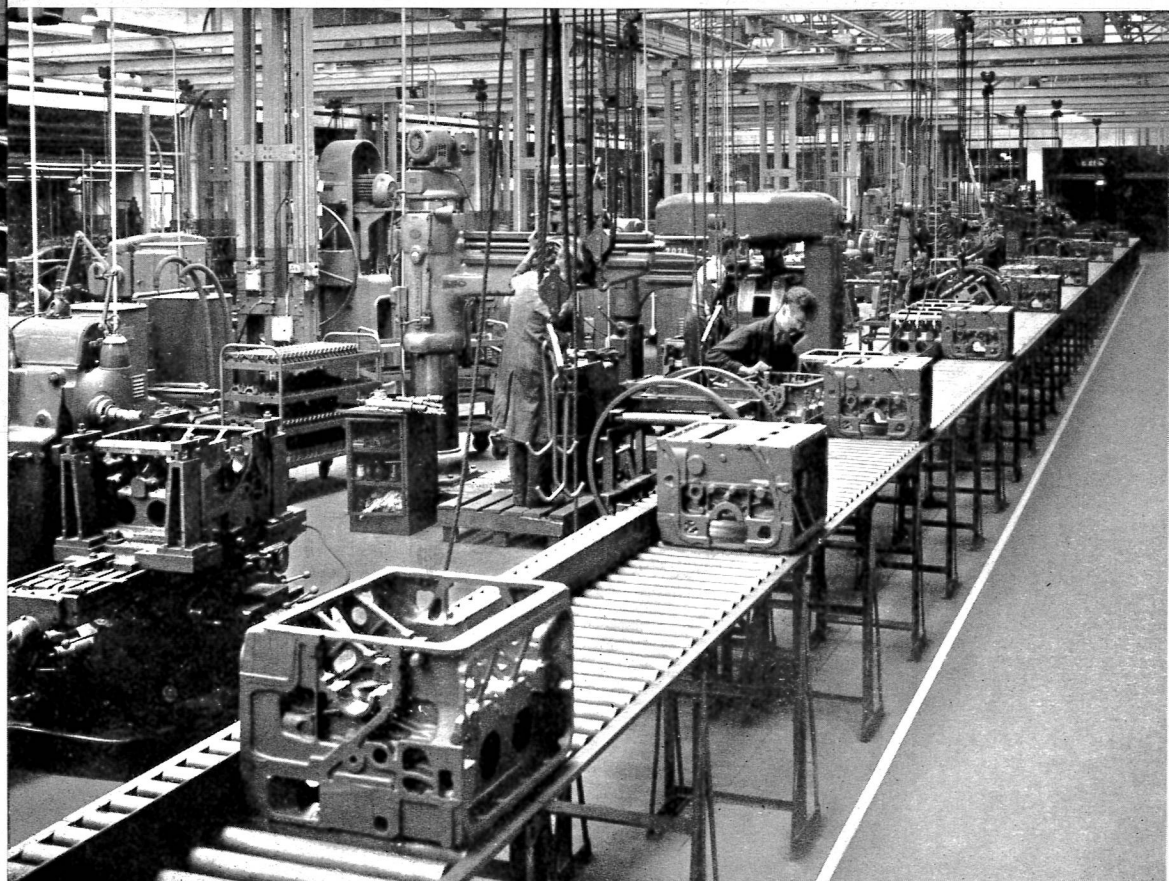
The production of axles is the responsibility of the second machine shop where the manufacture and assembly of stub axles, bevel gear carriers, axle casings, axle shafts and brake drums are concentrated.

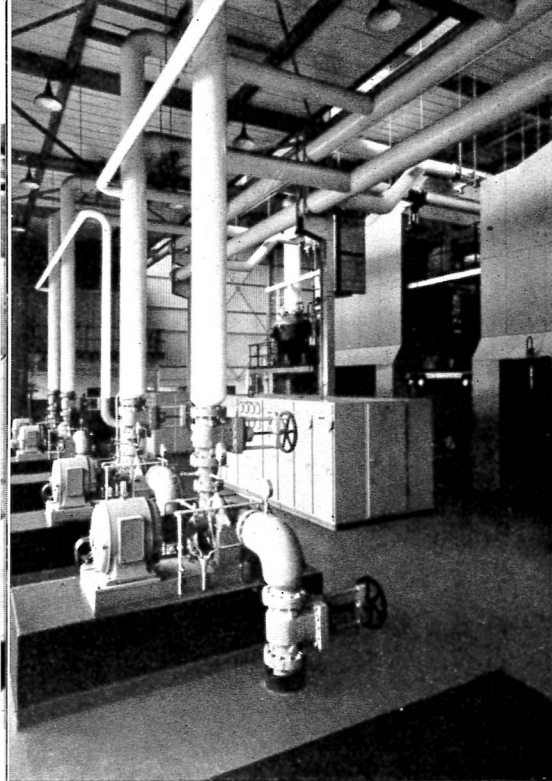
Finally, the third machine shop is given over to the production of Dropsider body parts and the machining and assembly of steering box casings. Miscellaneous controls, including brakes, cab-mounting brackets, etc., are also machined here.

In addition to the Machine Shops, Luton houses its own body building plant where assembly is carried out of the 1½-ton Forward

Control Van, the "Superpoise" ¾-ton and 1½-ton Vans and construction of Dropsiders, Tippers and other types of bodies including the steel underframes. A fully equipped sawmill prepares timber parts for the bodies. Adjacent is a Paint Shop, which works on a line process; there being ovens to speed the drying at each stage of painting.

Acquired by the Rootes Group in 1950, the Victoria Works of Tilling-Stevens, at Maidstone, have now been completely reorganised for the quantity production of the Rootes two-stroke opposed piston Diesel engine (below).





The design of the boiler house at Dunstable is one of the most modern in the country, its present consumption being approximately 2,000 gallons of fuel oil a day. It is supplied from two underground storage tanks each with a capacity of 114,000 gallons.

DUNSTABLE PLANT

The erection of the new Commer/Karrier plant at Dunstable was started in September, 1953, and completed some twelve months later.

This plant has been developed to provide a most spacious layout having over a quarter of a million square feet of level floor, wide, roomy gangways and a clear headroom of 21 feet.

The main assembly block is 720 feet long, comprising twelve 60 feet bays, and 330 feet wide, comprising three bays of 90 feet and one of 60 feet.

There are two assembly conveyors each 480 feet in length, one of which is devoted to four-cylinder models and the other to the six-cylinder range.

The first section of each conveyor is used for the initial preparation of frames, and the second section for the assembly of chassis fittings. All parts are fed from stores adjacent to the assembly line thereby reducing internal traffic and congestion to a minimum.

Before being transferred to the main assembly track it is necessary for the chassis to be turned over. This process is effected by means of an ingenious system of clamps and an overhead hoist so that the chassis is lifted, turned and then moved forward onto the main track by the operation of a simple switch.

Once on the main track, engines and gearbox assemblies, which have been previously prepared on a separate line, are lifted into position from a conveyor running underneath the two lines.

Amongst the engines now offered is the advanced Rootes Diesel 3-cylinder opposed piston engine, which has already established an excellent reputation for its sound performance and great economy. This engine is now being produced in volume at the Victoria Works of Tilling-Stevens, at Maidstone.

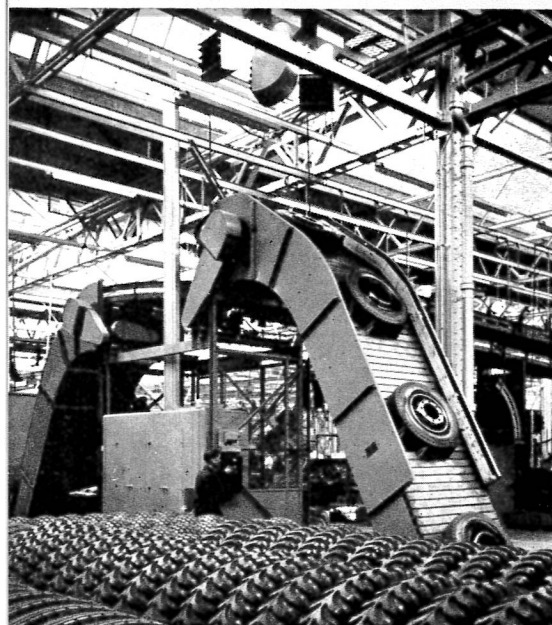
Having received the engine and gearbox, the chassis progresses along the remainder of the 280 feet long section where all remaining components such as road wheels, controls, radiator, battery and so forth are attached.

Finally, the cab complete with wings and bonnet is lowered from a special overhead hoist and rigidly mounted in position.

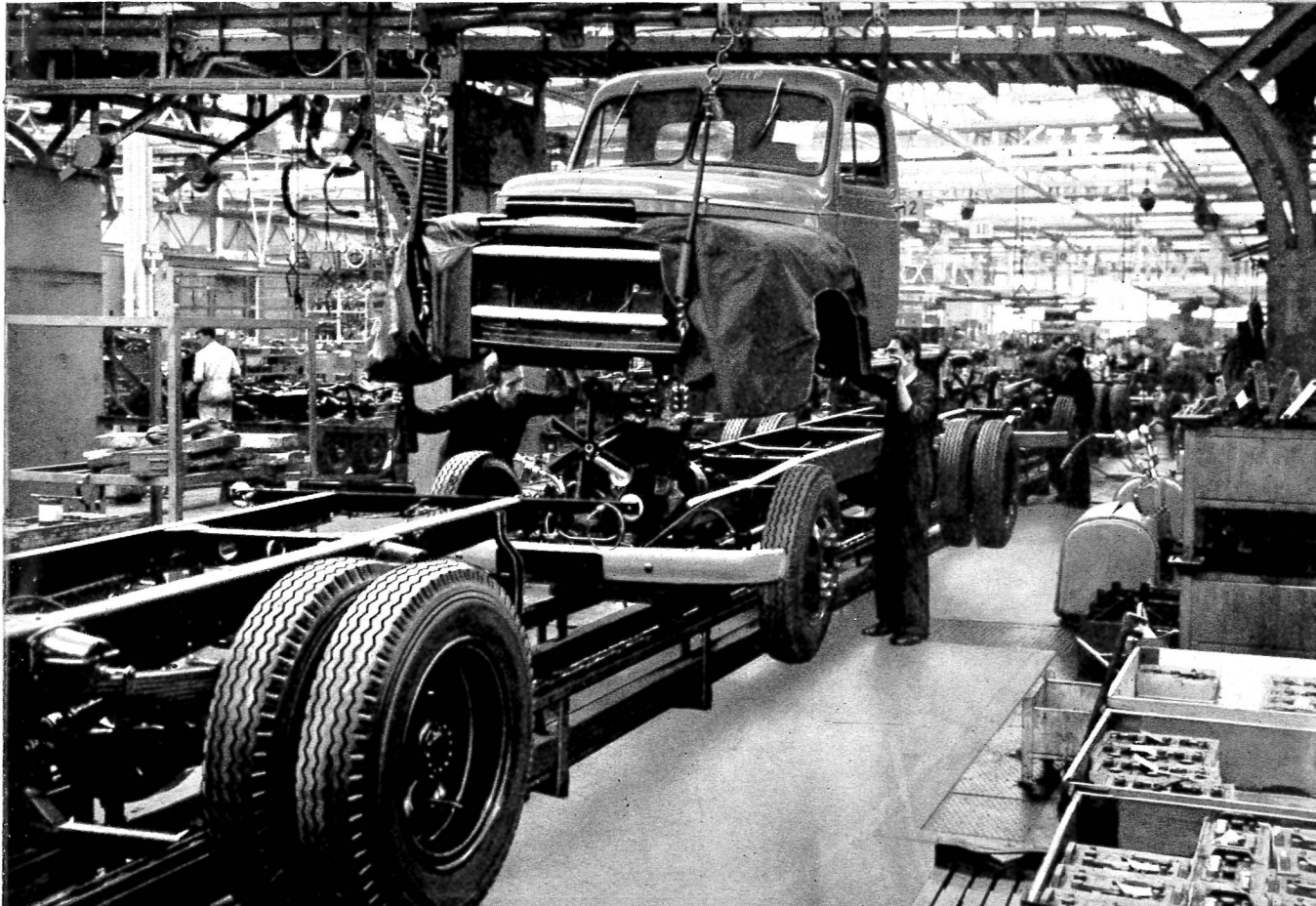
A feature of the entire plant is the amount of mechanisation that is apparent everywhere, with overhead hoist and power tools providing a very generous amount of horse power per operative.

The assembly tracks with both lines fully loaded are capable of producing up to 500 units per week, equivalent to twelve completed vehicles per working hour.

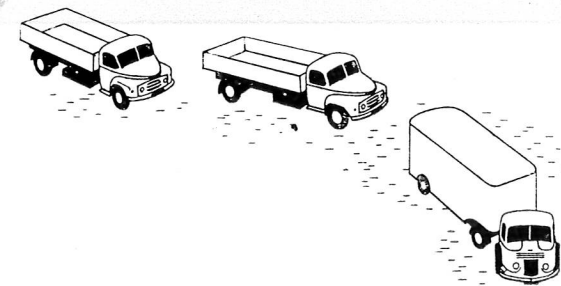
Road wheels are transferred from stores to the assembly line by means of a specially designed conveyor, so arranged that the required wheels pass from stores over the track and down individual chutes to the lines below.



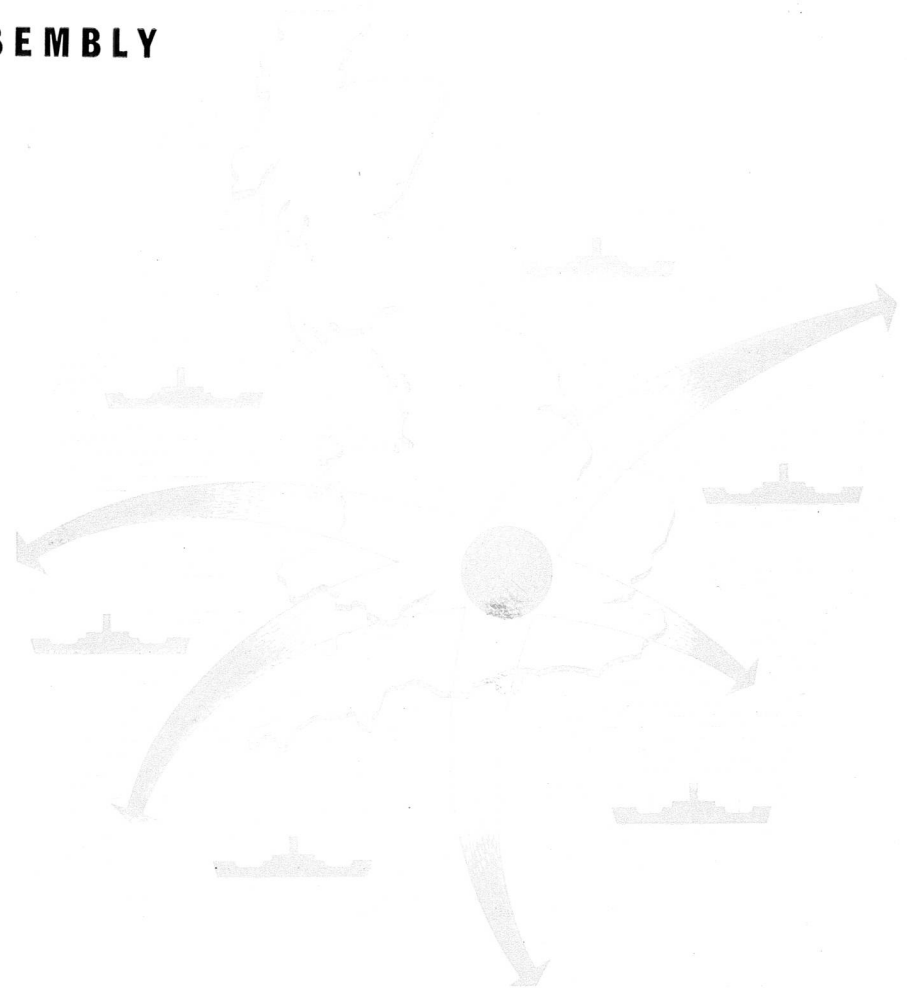
A general view of the 280 feet long vehicle assembly tracks at Dunstable, with the separate lines for four- and six-cylinder models.



As the chassis approaches the end of the assembly line, the cab is conveyed by an overhead hoist to meet it.



EXPORTS AND OVERSEAS ASSEMBLY



For a great many years, the Motor Vehicle Industry has played a leading part in obtaining valuable foreign currency for Britain, and in this respect the Group's contribution has been a significant one.

In fact, since 1946 well over half the total vehicle production has been sent overseas, and today Rootes Group Sales and Service facilities are to be found in over 150 countries.

The method of shipping vehicles is twofold—either as built up or completely knocked down (i.e., sets of components packed in cases for subsequent assembly in the overseas assembly plants).



C.K.D. SHIPMENTS

The Completely Knocked Down condition is the means by which the many overseas assembly plants are fed from the parent factory with the thousands of parts needed to build a car or truck.

For convenience sake, wherever possible the mechanical units are fabricated into partly assembled units, and these together with the various body panels, doors, bonnet and so forth are packed in wooden crates, the composition of each crate varying according to the requirements of individual markets or custom restrictions.

Every item is carefully inspected before inclusion in a crate, and is then pre-packed with special wrapping materials so that it can be guaranteed that there will be no deterioration either internally or externally during the period between packing and unpacking.

BUILT-UP SHIPMENTS

In addition to C.K.D. shipments, obviously a very large percentage of vehicles are sent overseas in the built-up condition.

The actual shipping of such huge cargoes presents its problems, and in many instances ships are specially chartered by the Export Division to expedite delivery.

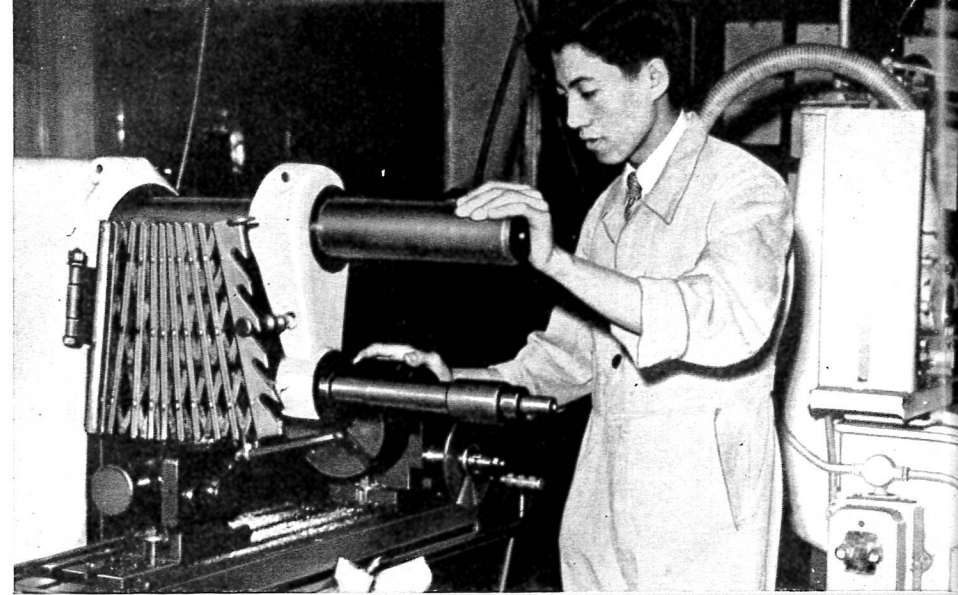
As for C.K.D. shipments, numerous precautions are taken to see that the units arrive in first-class condition. Examples of this are the preservation of chromium-plated parts and paintwork by the application of protective coatings, and the filling of engines and transmissions with special oils when the vehicles are due for prolonged periods of waiting at the docks in very cold weather.

THE ROOTES GROUP TRAINING SCHEME

With an Organisation of the magnitude of the Rootes Group of Companies, it can be easily understood that positions of responsibility and the many skilled jobs have to be filled by well-trained personnel.

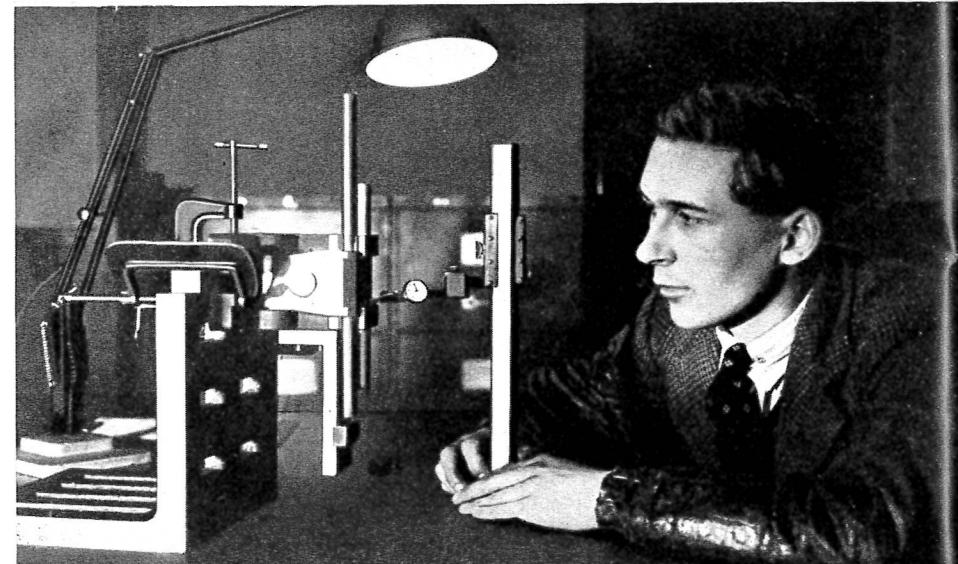
To ensure the availability of such people, the Rootes Group Training Scheme was introduced. This scheme provides a thorough training in all the most important aspects of vehicle manufacture, the pupils and apprentices spending allotted periods in offices and workshops in accordance with a carefully determined programme. As a result they are able to assess the type of employment likely to be most suitable.

On finishing their three or five year period (depending on the type of



training), those who wish to stay on with the Group go before a Selection Committee, comprising Directors and Senior Executives, and whenever possible they are placed in positions where they may develop their talents further.

The opportunities of these schemes are world-wide, and they are open to students from many countries overseas. In fact, a large number of young men from overseas participating in the scheme finish up not within the employ of the Group directly, but with Rootes Dealers and Agents in their own country.



EMPLOYEES' FACILITIES

All the Rootes Group factories are provided with modern, well-equipped Surgeries, staffed by trained nurses and supervised by doctors.

The facilities are provided to ensure that injuries, however trivial, receive immediate skilled attention. Employees are encouraged to take advantage of these provisions to obviate any risk of subsequent infections.

The Group Medical policy aims at promoting the mental and physical fitness of its employees, and special attention is given to the welfare and safety of those employed.

Sport and relaxation are catered for at each of the many factories by the Rootes Group Social and Athletic Club, and all employees



The various sections of the Social and Athletic Club also take full advantage of the Canteen facilities for dinners, dances, concerts and in a number of instances for such events as Boxing Tournaments, Badminton Tournaments, Flower Shows and Photographic Exhibitions.

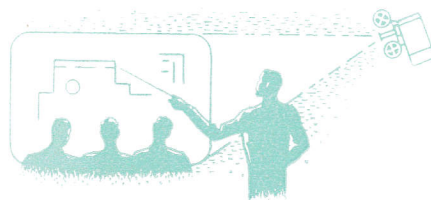
are entitled and encouraged to take advantage of the facilities offered.

Naturally, the scope of these facilities is dependent to some degree upon the size of the factory, but in most cases a well-kept sports ground catering for outdoor games is provided as well as a Social Club.

Up-to-date and well equipped canteens are available in all Rootes Group factories for the benefit of their employees. Varied meals are served for a modest charge and cater for the needs of both day and night shifts.

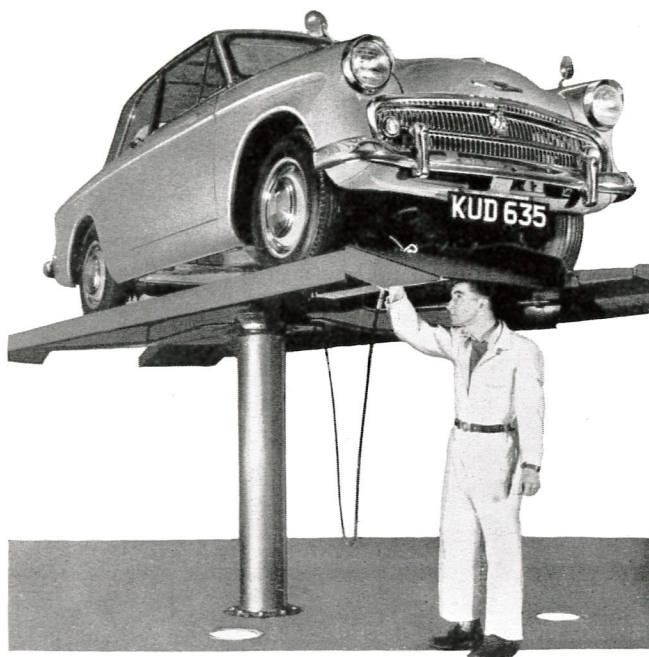


AFTER-SALES SERVICE



It is a fundamental part of the Rootes Group policy to ensure that every effort is made to maintain the initial quality built into cars and trucks throughout the vehicles' life.

The approach to this ideal takes a number of forms each designed with but one specific objective in view—to create customer goodwill by prompt and efficient service after sales.



In addition to the various modern service stations run by the Group itself, the premises and facilities of every one of the many hundreds of Dealers at home and overseas are continually being improved and modernised.

All are given the utmost encouragement and assistance to improve plant and equipment and introduce the latest technique into their workshops.

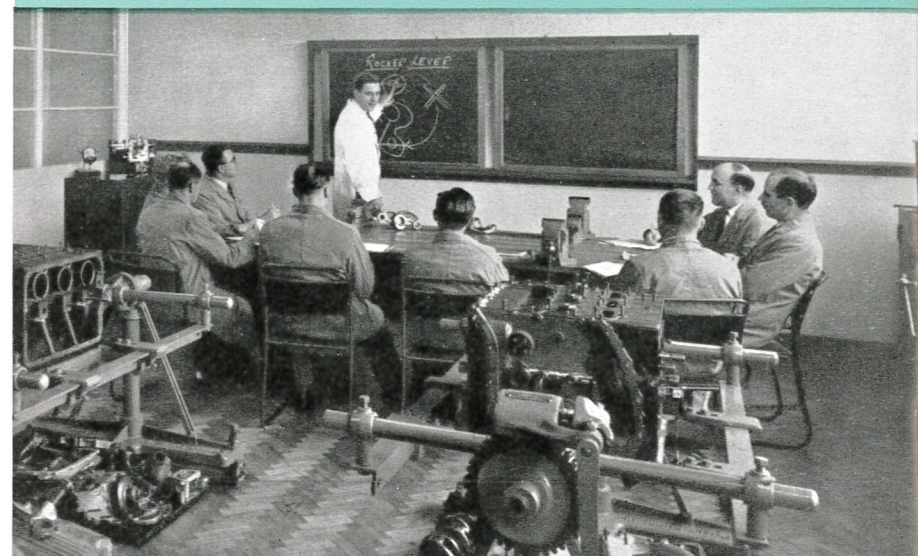
At all times they are able to call upon factory-trained technicians who advise on such matters as layout, stores and stocking systems, approved equipment and special tools.

Furthermore, area representatives pay frequent visits in order to keep everyone associated with the Group's vehicles informed of the latest approach

to specific service problems. Matters arising from the visits are then discussed by the representatives with Service Executives at the factory.

An interesting and very valuable part of the Group's programme to promote increased service efficiency is the fully equipped Service School at Coventry, where, all the year round, courses are held on all aspects of car and truck design.

Again, Dealers are encouraged to send their representatives to these courses to obtain a thorough basic knowledge of both the products and service methods.

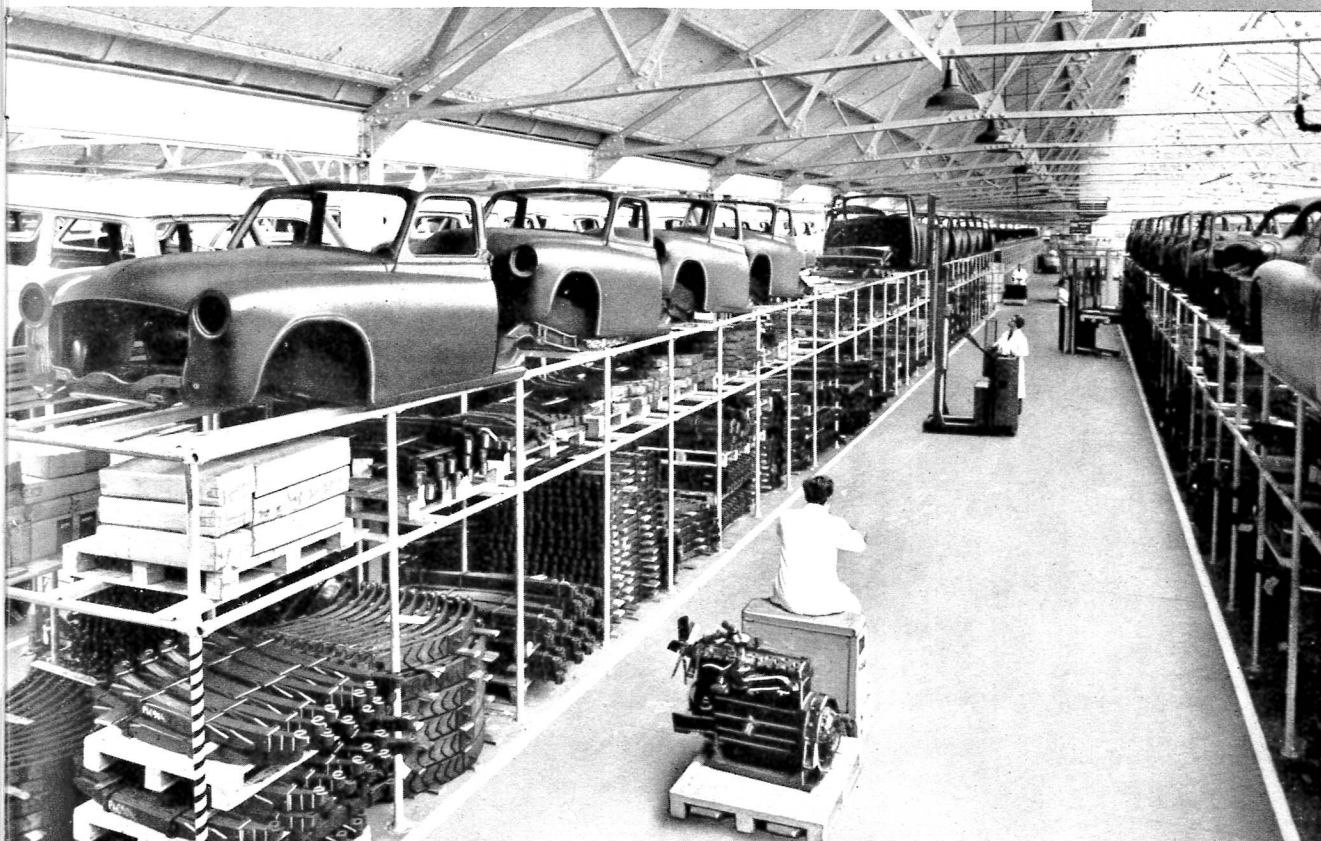
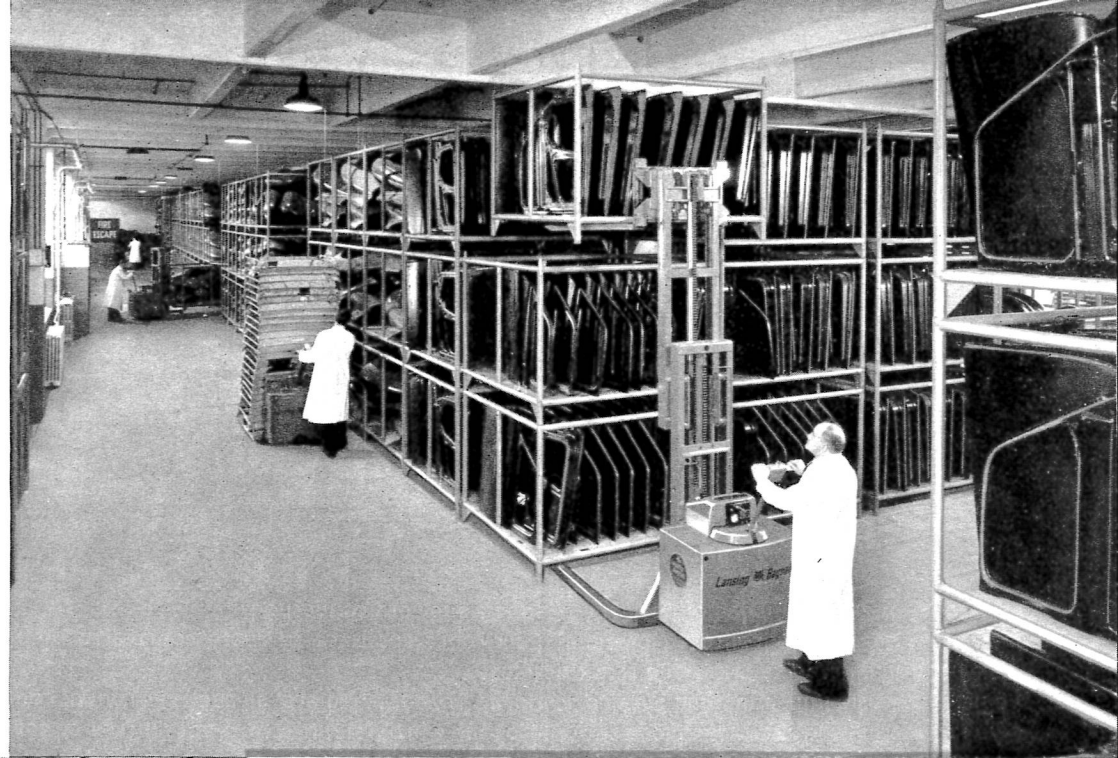


ROOTES GROUP PARTS ORGANISATION

The free availability of genuine Rootes Group parts is recognised as a vital link in efficient after-sales service. In order that this can keep pace with the rapidly expanding Rootes car and truck ownership throughout the world, a very great expansion programme has been put in hand.

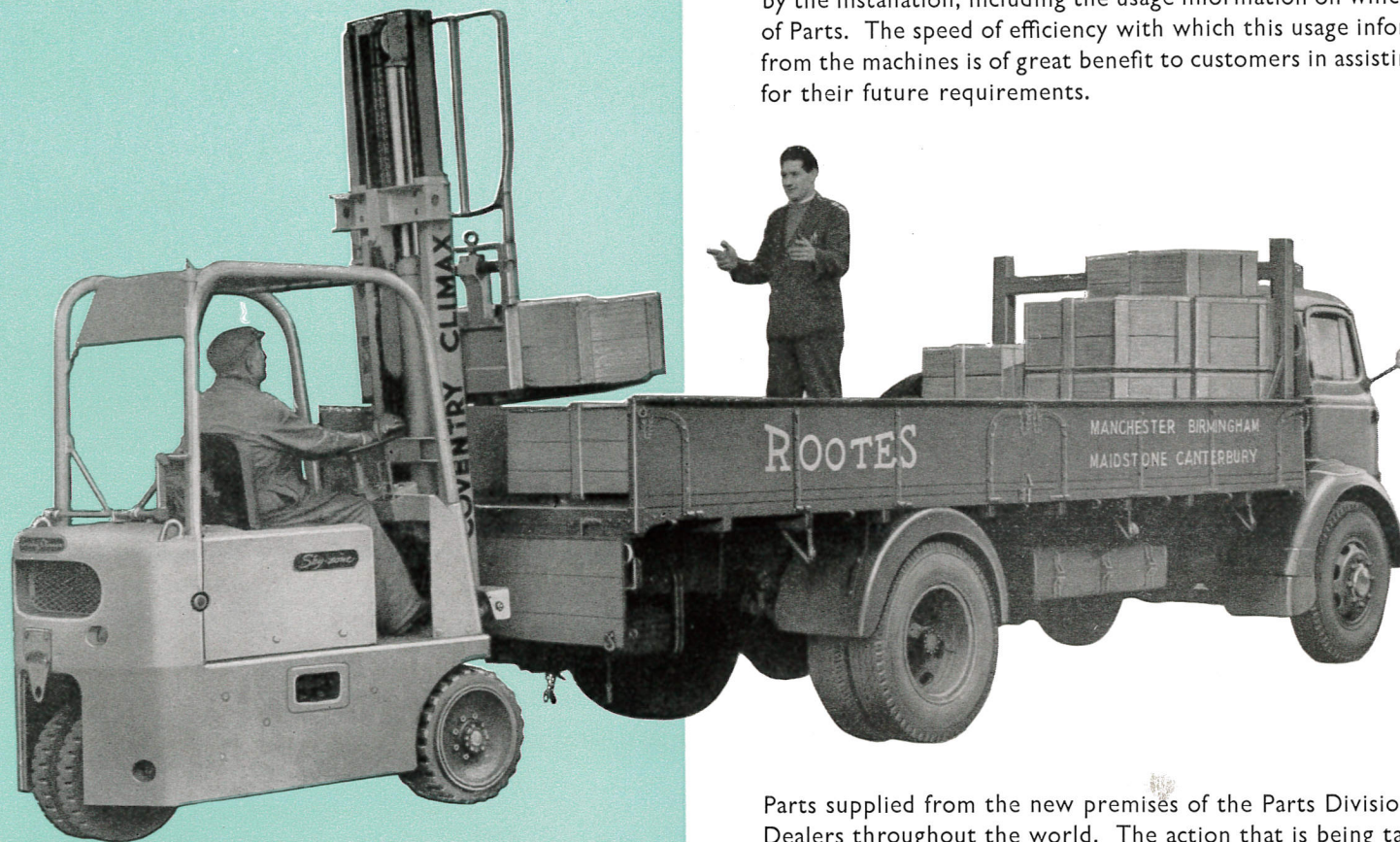
The major part of the Singer Motors factory at Birmingham has been taken over by the Rootes Parts Division, and the new premises will contain the entire Group stock of parts and accessories for cars and trucks, amounting in value to around £10,000,000.

Almost 60,000 different part numbers are stocked and serviced by the Rootes Parts Division.



Very large sums of money have been expended to install the most modern storage equipment and material handling arrangements. These include chutes in addition to the more conventional pallet trucks and hoists. Excellent facilities are provided for the receipt of material and the rapid turn-round of transport vehicles collecting parts.

A most elaborate mechanised office system has also been installed in the Parts Division. It is based on 80-column Hollerith Punch Cards and the Machine Room includes the most up-to-date Punch Card machines, including Electronic Calculators. This mechanised office system prepares all the basic paper-work of the Division including stores issue tabulations, invoices, etc. The operation of the Parts Division involves a mass of detail records and this ultra-modern installation brings with it the highest degree of efficiency. All the statistics of the Department are provided by the installation, including the usage information on which to base the purchasing of Parts. The speed of efficiency with which this usage information can be obtained from the machines is of great benefit to customers in assisting accurate provisioning for their future requirements.



Parts supplied from the new premises of the Parts Division are already flowing to Dealers throughout the world. The action that is being taken in concentrating all these stores in a single factory, with the most modern material handling and office equipment, will ensure that Rootes Dealers and customers are served by an excellent after-sales service.

THE WORLD-WIDE ACTIVITIES OF THE ROOTES GROUP

Sales and Service in 152 countries. Over 4,000 Distributors and Dealers throughout the World

OVERSEAS ASSEMBLY PLANTS, CONCESSIONAIRES AND REGIONAL OFFICES

NORTH AMERICA

CANADA

Head Office and Plant:
Rootes Motors (Canada) Ltd.,
1921 Eglinton Avenue East,
Toronto 13,
Ontario,

and at
25 St. James Street,
Ville St. Pierre,
Montreal,
Quebec.

3135 West Broadway,
Vancouver, B.C.

MEXICO

Rootes Motors (Mexico) S.A.,
Paseo de la Reforma 139,
2° Piso,
Mexico D.F.

U.S.A.

Rootes Motors Inc.,
505 Park Avenue
New York,

and at
42/32 21st Street,
Long Island City,
New York.

9830 West Pico Blvd.,
Los Angeles 35.

Rooms 217/219,
2525 Van Ness Avenue,
San Francisco,
California.

CENTRAL AMERICA

CARIBBEAN

Rootes Motors (Caribbean) Ltd.,
P.O. Box 1479,
Nassau,
Bahamas.

REPUBLIC OF PANAMA
Rootes Motors (Panama) Inc.,
Estafeta No. 1,
Apartado 3295,
Panama.

SOUTH AMERICA

ARGENTINA

Rootes Argentina S.A.,
Casilla de Correo 3478,
Buenos Aires.

BRAZIL

Rootes Motores (Brasil) S.A.,
Avenue Rio Branco 39,
18th Floor (S/1806),
Rio de Janeiro.

VENEZUELA

Motores y Industrias Venezolanas S.A.,
Apartado 490,
Maracaibo,
Venezuela.

EUROPE

BENELUX

Rootes (Belgique) S.A.,
Shell Building,
47 Cantersteen,
Brussels,
Belgium.

FRANCE

Rootes Motors S.A.,
6 Rond Point des Champs Elysees,
Paris 8.

IRISH REPUBLIC

Buckleys Motors Ltd.,
Shanowen Road,
Whitehall,
Co. Dublin.

SWITZERLAND & CENTRAL EUROPE

Rootes Autos S.A.,
Kreuzstrasse 46,
Zurich 8.

AFRICA

EAST AFRICA

Rootes (Kenya) Ltd.,
Box No. 3020,
Gloucester House,
Victoria Street,
Nairobi,
Kenya.

FEDERATION OF RHODESIA & NYASALAND

P.O. Box 2382,
Pockett's Building,
Stanley Avenue,
Salisbury,
Southern Rhodesia.

UNION OF SOUTH AFRICA

Rootes (Pty) Ltd.,
P.O. Box 4621,
Maritime House,
Pirow Street,
Foreshore,
Cape Town.

ASIA

FAR EAST

MacDonald House,
Orchard Road,
Singapore 9.

JAPAN

Yamato Motor Co. Ltd.,
2691 Oi-sakashita-cho,
Shinagawa-ku,
Tokyo.

MIDDLE EAST & WEST PAKISTAN

P.O. Box 2289,
Esseily Building,
Assour,
Beirut,
Lebanon.

AUSTRALASIA

AUSTRALIA

Rootes (Australia) Ltd.,
Salmon Street,
Port Melbourne, S.C.7,
Victoria.

NEW ZEALAND

Todd Motors Ltd.,
P.O. Box 2295,
Todd Building,
110-116 Courtenay Place,
Wellington, C.3.



ROOTES PRODUCTS

H U M B E R * H I L L M A N * S U N B E A M * S I N G E R * C O M M E R * K A R R I E R