

VAUXHALL  
MOTOR  
CARRIAGES



V. 1.



VAUXHALL MOTORS, LTD.  
180 GREAT PORTLAND STREET,  
LONDON, W.

TELEGRAMS : WHIRLING, LONDON      TELEPHONE : MAYFAIR 1079



Works :  
LUTON, BEDS.

TELEGRAMS : AUTOCAR, LUTON

TELEPHONE : LUTON 116



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# LEADING DIMENSIONS, GEARINGS AND DETAILS

Horse-Power.	Type.	No. of Cylinders.		Bore and Stroke.	Transmission.	Speeds (in miles per hour) at 1,000 r.p.m.								Gear Ratio on Direct Drive.		Wheel-Base.	Distance from Dash to Front of Back Wheel.	Length from Dash.	Length over all.	Track.	Width of Frame.	Width over all.	Size of Standard Tyres.	Weight of Chassis.	Price of Chassis.
						Standard Gear				Low Gear.															
		mm.	mm.			1st	2nd	3rd	4th	1st	2nd	3rd	4th	Std.	Low.										
30	B 11	6	90	120	Four Speeds Live Axle.	8.5	13	21	31	7.7	11.7	19	28	3.3:1	3.6:1	11.3 or 12.0	5.11 or 6.8	8.3 or 9.0	14.9 or 15.6	4.6	36	5.6	880 × 120	cwt. 19	£600 £605
20	A 11	4	90	120	Four Speeds Live Axle.	7.7	11.7	19	28	7.2	11	18	26.5	3.6:1	3.9:1	9.7 or 10.3	5.5 or 6.1	7.9 or 8.5	13.1 or 13.9	4.6	36	5.6	875 × 105	cwt. 17½	£440 £445

N.B.—In each case the longer of the two chassis are those best suited for use with landaulette or other enclosed coachwork. Where especially heavy phaeton, landaulette or limousine coachwork is to be used, tyres of sizes larger than standard sizes may advantageously be fitted. The greater the sectional dimension of the tyre the greater the comfort and durability afforded. The tyres fitted as standard are Dunlop, but Michelin or Continental tyres may be fitted, without extra charge, if preferred.



## MATERIALS USED IN THE CONSTRUCTION OF VAUXHALL CARS

Among other conditions essential to the production of a car that shall possess superlative merit is one that the design, workmanship and materials employed by the makers shall be the result of the most advanced engineering and mathematical science, highly skilled artisanship combined with the possibilities of the most refined machine tools, and the extensive application of modern metallurgical research.

Successes in Reliability Trials, Speed and Hill Climbing Contests are indisputable evidence of superiority in respect of design and workmanship, but the point that is of more importance to the owner is that his car shall, in addition to power and speed, have wear- and breakdown-resisting powers to the highest degree.

This is an aspect of the problem of choosing a car in which the evidence of Reliability Trials counts but little, compared with the manufacturers' reputation. To those who take an interest in the technical side of chassis construction, to whom information of this nature carries weight, Vauxhall Motors, Limited, offer the following specification of the materials used by them in the production of Vauxhall cars. It will be seen at once that only the highest qualities, regardless of expense, are recognised as being fit for use.



## MATERIALS USED IN THE CONSTRUCTION OF VAUXHALL CARS

Name of Part.	Material.	Ultimate Stress. Tons per square inch.	Elastic Limit. Tons per square inch.	Elongation on 2".	
Crankshaft - - - -	Nickel Chrome Steel	50	40	20 %	
Gear Shafts, Propeller Shaft and Axles - - - -	Nickel Steel	40	22	30 %	
Gear Wheels - - - -	Nickel Chrome Steel	108	102	15 %	
Front Axles - - - -	Mild Steel	28	14	25 %	
Stub Axles - - - -	Mild Steel	28	19	55 %	
Crankshaft Bearings - - -	White Metal				
Gudgeon Pin Bushes and Bushes generally - - - -	Phosphor Bronze				
Crankcase and Gearbox - -	90% Aluminium	13 tons		5 %	
Cylinders - - - -	Hard Cast Iron				
Levers - - - -	Mild Steel	28	14	25 %	
Hubs and Brake Drums - -	Mild Steel	28	19	55 %	

All these materials are carefully tested, and in the case of important parts such as steering-gear details and axles a piece is taken from every one made and carefully tested, so that the risk of failures is reduced to the absolute minimum. So far as engineering science can suggest, nothing whatever is left to chance.



# VAUXHALL MOTOR CARRIAGES

## ON THE CHOICE OF A CAR.

*A perusal of the following is commended to all prospective clients, especially those who wish to embody in their specifications departures from standard design or construction.*

**I**N presenting this description of the Vauxhall models for 1911, the manufacturers feel that a note on the general principles governing the choice of a car may be acceptable to those who wish to consider the matter at their leisure

The Vauxhall programme for next season comprises two models only, a four-cylindere car of 20 h.p., and a six-cylindere car of 30 h.p. These are not offered as competitors in the "cheap car" market, the policy of Vauxhall Motors, Limited, being to make each car turned out the very best possible. This can only be done by spending time and money ungrudgingly in thoroughly testing and perfecting each detail. Though the result of this may not be apparent at first, it is amply justified by the low cost of upkeep and maintained vitality of the cars so manufactured.

Without dilating upon the unique series of successes in open competition during the past three seasons which have made "Vauxhall" a household word amongst motorists, the manufacturers would draw attention to the fact that no other car of the same engine-dimensions can show officially-certified records of acceleration, hill-climbing, speed on the level, petrol consumption and reliability to compare with those of the Vauxhall. A list of these successes is given on pages 52-59. A most gratifying feature of Vauxhall successes during the past season is that amateur and private owners have been more successful than ever, thus demonstrating the fact that Vauxhall cars will show their good qualities without the care of trained and expert drivers.

The reputation of the Vauxhall is firmly established both at home and abroad as that of a first-class car, second to none in design and workmanship, a car for the connoisseur on the one hand, but equally, on the other, a car for the buyer with no technical knowledge, who wishes merely to make a "safe" purchase.



## ON THE CHOICE OF A CAR

With the fullest confidence, therefore, in their product the Company address themselves to a critical discussion of the principles of car selection. In considering this question it is obvious that in a counsel of ideals price must be left out of the question. The comparative merits of the two models will be summed up as impartially as possible, the question of expense being left to the client, who is probably best qualified to deal with it. In choosing a car there are of course certain conditions surrounding each individual example of the problem, conditions which restrict the choice within comparatively narrow limits, and the more difficult the conditions imposed the more easily is the choice made, although the task of finding examples from which to choose may be greater.

If, for instance, a buyer seeks a caravan, the number of makers of such is so few that a choice is easy. It is only when there are so many makes satisfying the same conditions that the task of selection becomes difficult. The first step, however, is to decide the class of body required, whether open or closed, cabriolet, landaulette or limousine. The style of body is so largely a question of taste that Vauxhall Motors, Ltd., only manufacture open touring bodies, leaving the more expensive closed bodies to those who are specialists in this work. Having settled the first point, the next is that of engine power. It is the Company's firm conviction that a four-cylindered engine, whose cylinders measure 90 by 120 mm., is the smallest that can be used where ease of running and low cost of upkeep are essential, and an engine of this size is accordingly the engine fitted to the smaller Vauxhall model. A four-cylindered 90 by 120 mm. engine of this size develops sufficient horse-power at low speeds to enable it to pull well without unduly low gearing, which fact tends to secure quietness and absence of vibration. Both Vauxhall models are fitted with four-speed gear boxes, although the first speed is in the nature of an emergency gear. Two lengths of frame can be supplied in each case, to suit open touring or closed carriages.

The 20 and 30 h.p. types are respectively four- and six-cylindered, giving their nominal horse-power at 1000 r.p.m., but giving 40 h.p. and 60 h.p., respectively, as their maximum outputs at about 2,200 r.p.m. Each has cylinders of 90 mm. bore by 120 mm. stroke.

It may be expedient (since the six-cylinder *versus* four-cylinder controversy has long been dead) to recapitulate the relative advantages of the six-cylindered type. As Vauxhall Motors, Ltd., are manufacturers of both types it is evident that no bias need be suspected.



## ON THE CHOICE OF A CAR

The six-cylindere is superior to the four-cylindere engine in respect of uniform torque and engine balance. However skilfully a four-cylindere engine is designed, it is impossible to eliminate what are technically known as secondary unbalanced forces. These arise from the fact that it is impracticable to employ a connecting rod whose length is more than two-and-a-half times the stroke of the engine. The disturbing forces introduced by the varying angles between crank and connecting-rod are particularly manifested at high engine-speeds even if reciprocating parts are made as light as are those on Vauxhall engines.

Of still greater importance is the variation of twisting effort, or torque, on a four-cylindere engine. In such the power is generated by successive independent impulses, necessitating the use of a flywheel to combine them into an approximately uniform twisting effort. Although the uniformity of torque can be improved by a larger or heavier flywheel with respect to the transmission gear, the flywheel has no modifying effect upon the actual impulses, which react through the crankcase to the frame and thence to the passengers.

In the six-cylindere engine no secondary unbalanced forces exist, while the power is generated by a series of overlapping impulses.

The increased regularity is such that a smaller flywheel may be used for a given amount of torque variation, and, the reactive torque on the frame being also continuous, an effect of smoothness and balance is obtained which can be secured in no other way.

The criterion, therefore, by which a choice between the two types should be determined is this:—*Are the unique degrees of balance, smoothness of running, silence and uniform torque obtainable by using a six-cylindere engine to be regarded as worth the extra initial outlay?* Initial outlay is mentioned advisedly, as there is no doubt that the cost of upkeep of a six-cylindere engine is less, power for power, than that of a four-cylindere engine. In addition, of course, may be mentioned the fact that a six-cylindere engine has a much greater flexibility on top speed than a correspondingly powerful four-cylindere engine.

It will be seen from the above that the considerations underlying the choice between a "six" and a "four" are largely those which apply when purchasing any article in which increased merit necessitates increased price. Vauxhall Motors, Ltd. have at all times examples of each type available for trial purposes.



## ON THE CHOICE OF A CAR

It is a good rule in the use of machinery to have always an ample margin of power above that sufficing for the actual work. Such a provision is invariably true economy.

Having dealt now with the various types and their possibilities, the subject of departures from standard, so often required by purchasers, will receive attention. These usually take the form of alterations to bodywork, gearing, road clearance, springing, and (in a few cases) of increased output from the engine for racing and sporting purposes.

In each case the standard length of chassis and wheelbase permits the use of a comfortable side-entrance body. If extra seats in the tonneau are required a sacrifice must be made of leg-room in the tonneau, and a certain amount of body "overhang" must be tolerated, except in the case of the long-wheelbase types of chassis.

If extra leg-room is wanted between front seat and dashboard, this may entail some sacrifice of effective width of side entrance, and involve also some alteration of the rake of the steering-pillar and position of pedals. To accomplish this satisfactorily the client should be measured for his particular requirements. In any case, to determine the position of the steering wheel, for any given body, the dimensions required are :

- (a) The height above the cushions to the bottom of the steering wheel, and
- (b) The distance from the upholstery on the back of the front seat to the same point.

Any increase of the width of the back seat involves raising the body at the back, to keep the panels clear of the tyres.

The policy of Vauxhall Motors, Ltd., is to place only such vehicles on the road as will give continuous satisfaction to the user, and sustain the manufacturers' reputation. To secure this combination, suggested alterations in coach-work are carefully considered, and any unfortunate contingency that may be apprehended is pointed out before instructions to proceed are taken.

Alterations to gearing are demanded naturally by those who dwell in abnormally hilly districts, and though this matter is of such vital importance in motor car design that a volume could be written upon it with ease, a very brief treatment must here suffice.

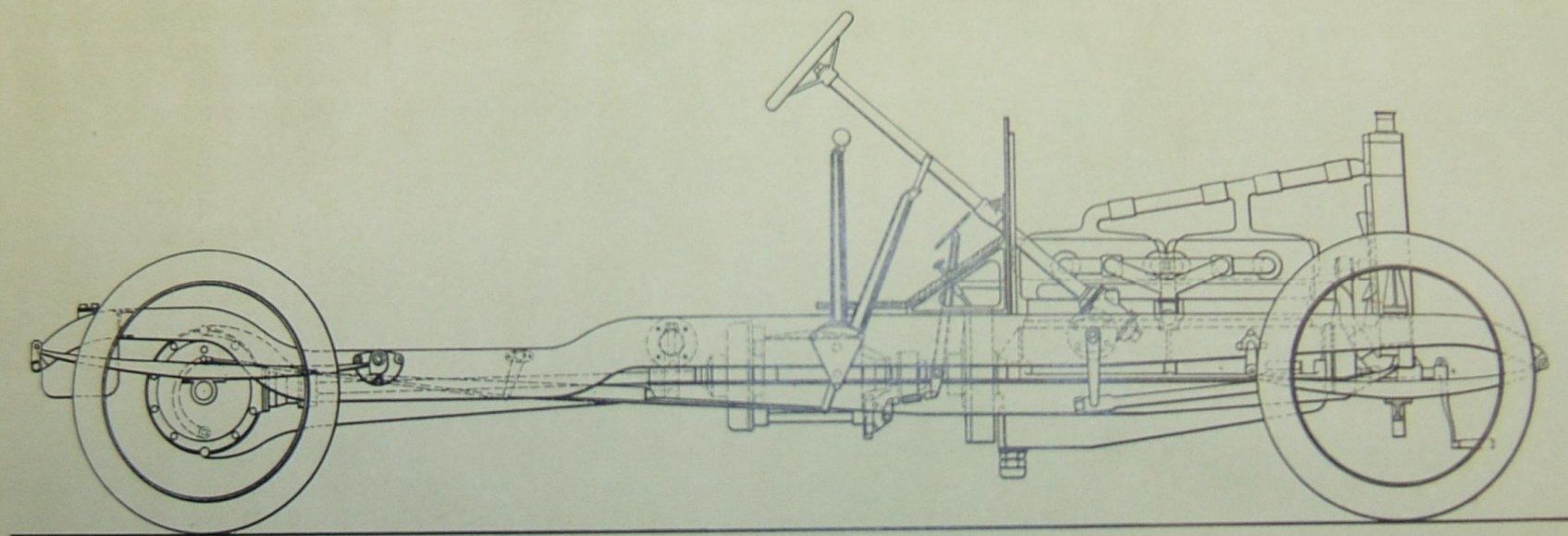
The function of the change-speed gear, as is well known, is to enable the torque exerted by the engine to be multiplied to suit varying conditions of load and road.



# SPECIFICATION OF THE 30 H.P. VAUXHALL

ENGINE	Six cylinders, 90 mm. bore, 120 mm. stroke, cast in two blocks of three each, with mechanically operated valves, all on one side.
CARBURETTOR	Automatic in action at all speeds, and of the float-feed constant-level type, requiring no attention from the driver.
IGNITION	Bosch dual system, affording high-tension magneto, coil-and-accumulator, and switch starting.
LUBRICATION	By pump forcing oil through main bearings and hollow crankshaft to connecting rod big-ends.
CLUTCH	Internal cone, metal to metal, running in oil.
GEARS	Four Forward Speeds (direct drive on Fourth) and Reverse, operated by side lever in gate. The speeds given at 1,000 engine revolutions per minute are 8.5, 13, 21 and 31 miles per hour. Lower gearing, for use with heavy coachwork is also fitted, to order. (See Table on page 3.)
STEERING	Worm and segment.
CONTROL	Throttle and ignition levers, working in conjunction with pedal accelerator, are fitted above the steering wheel.
BRAKES	Internally expanding, metal to metal, on rear wheel hubs and propeller shaft, operated by side lever and pedal, respectively. The three brakes are entirely interchangeable, and all are capable of accurate and ready adjustment.
WHEELS	Artillery pattern wheels are fitted as standard with rims of 880/120 mm. ; but detachable wheels wire or otherwise, are fitted when specified
TYRES	880 by 120 Dunlop are fitted as standard, but Michelin or Continental tyres of the same sizes may be fitted, without extra charge, if preferred.
FINISH	All bright parts of the chassis are nickel plated.





ELEVATION OF THE 30 H.P. CHASSIS



## DETAILED DESCRIPTION OF THE 30 H.P. VAUXHALL CHASSIS

The FRAME, constructed of pressed steel, is designed to afford adequate support for coachwork of any nature or weight the chassis can reasonably be called upon to bear. It is cambered or upswept at the rear axle, to facilitate the use of conveniently low side doors, and so inswept or narrowed forward of the dashboard as to permit the widest possible steering-lock. The frame of the longer (12ft. 0in.) wheelbase chassis is "dropped" in the centre to permit the use of particularly low and wide side doors.

The DASHBOARD is made of aluminium, whose use gives additional strength to the frame and also obviates all possibility of the cracking or warping almost inevitable in the case of wooden dashboards.

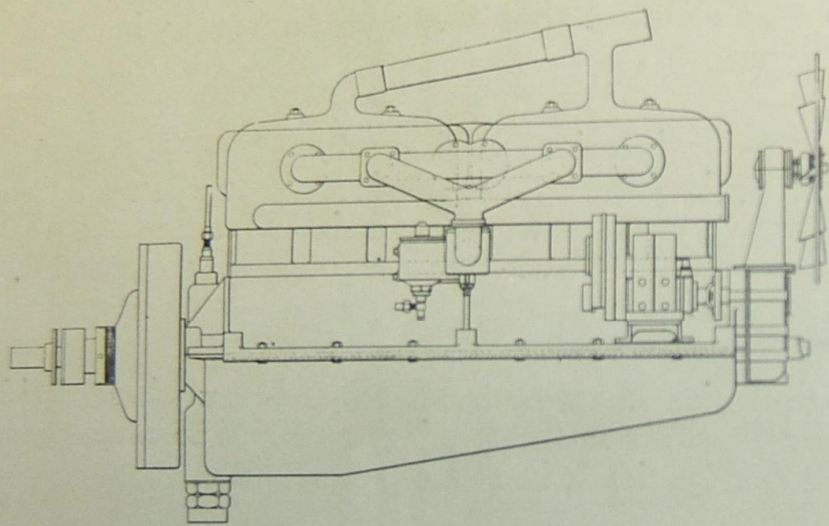
The SPRINGS are of the semi-elliptic type which our experience has proven to be best adapted to general work and afford adequate comfort under all loads.

The ENGINE is of six-cylindere design, the cylinders being cast in two blocks of three each. This method of construction secures three indisputable advantages. The engine possesses the maximum rigidity, lends itself to the performance under ideal conditions of thermo-syphon (or natural circulation) cooling, and ensures the perfect balance of the engine.

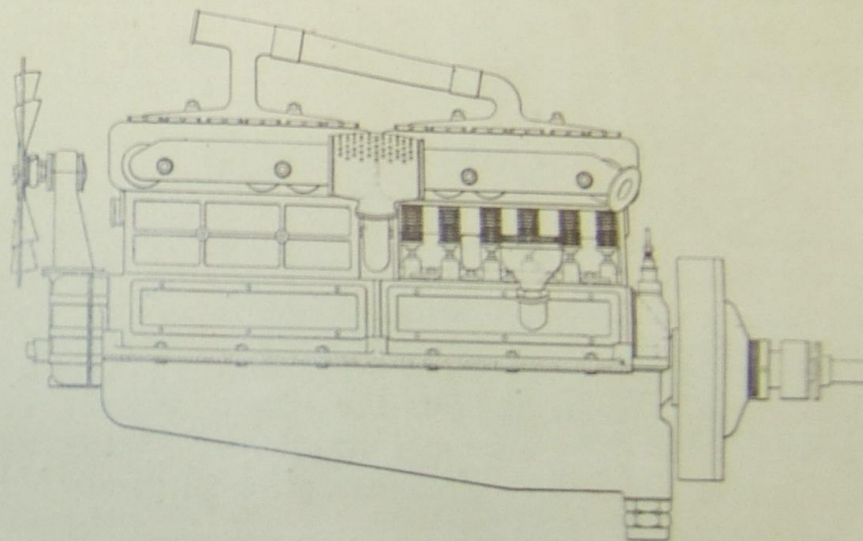
The VALVES are all disposed on the left-hand side of the engine. They and their tappets, springs, etc., are encased by means of two metal doors, which are readily detachable.

Inlet and exhaust valves are interchangeable. The front cross-member of the frame is so dropped that the camshaft with its bearings and the half-time wheels may be readily withdrawn for inspection.





THE 30 H.P. ENGINE : INLET SIDE



THE 30 H.P. ENGINE : EXHAUST SIDE



The CRANK-CASE is an aluminium casting which carries the crankshaft in seven white-metal bearings. The entire weight of the crankshaft is borne by the upper half of the crank-case, the lower portion being merely an aluminium under-cover and oil-sump.

The CRANKSHAFT is supported by seven white-metal bearings of liberal length. The bolts holding the bearings in place pass through the top of the crank-case, whose material is thus held in compression, instead of being—as is commonly the case—in tension. The bearings, as also the camshaft bearings, may be readily inspected by the removal of two aluminium doors in the side of the crank-case.

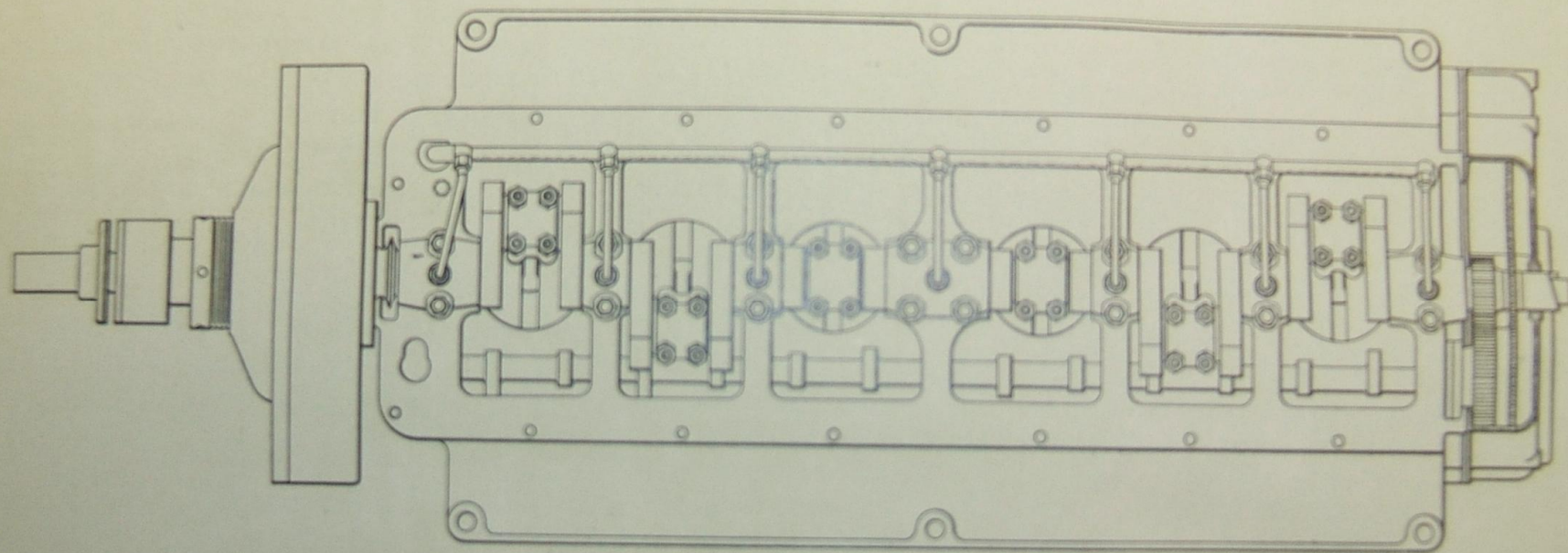
The CLUTCH is combined with the flywheel, the latter being bolted to a flange forged on the crankshaft. It is of the internal cone type, a simple metal cone engaging against the tapered surface of the steel flywheel. There are no leather linings, plates or springs to need adjustment or renewal. The design of the clutch entirely frees the crankshaft of end-thrust when the clutch is engaged, and the latter can be completely dismantled, for inspection, in a few minutes without disturbing either engine or gear-box.

The IGNITION is by the Bosch system, giving high-tension magneto and coil-and-accumulator ignition. The firing point may be advanced or retarded by the control lever fitted above the steering wheel. The magneto, made specially to fulfil Vauxhall requirements, gives completely independent dual ignition in its neatest possible form.

The CARBURETTOR is of the float-feed constant-level type, absolutely automatic in action, with no spring-controlled air-valves or other doubtfully efficient means of regulation to need adjustment. It calls for no attention whatever from the driver, and is the type of carburettor used on all the Vauxhall cars whose consumption records, in various officially-observed trials, have been so uniformly creditable.

The CONTROL of the engine is effected by a throttle-lever, working in conjunction with the magneto-advance lever fitted above the steering wheel, and a pedal accelerator. The engine speeds of this type of Vauxhall engine range from 150 to 2,500 revolutions per minute. The engine yields its nominal rating of 30 H.P. at 1,000 revolutions per minute.





INVERTED PLAN OF 30 H.P. ENGINE, SHOWING LUBRICATION SYSTEM  
COMMON TO BOTH MODELS



The LUBRICATION system of Vauxhall cars has been proven by officially-conducted tests to be the most economical and efficient in existence. Oil is carried in a sump in the crank-case under-cover. A plunger-pump, driven by a ball-bearing eccentric on the rear end of the camshaft, dips into a filter-chamber in the sump, and draws up oil which is forced through a main oil-pipe and seven branch-pipes to the main crankshaft bearings, and thence, through the hollow crankshaft, to the connecting rod big-ends.

The entire pump, and its valves, can be readily detached. A pressure gauge on the dashboard indicates the pressure existent in the lubrication circuit, and a little metallic "tell-tale" rises and falls in a slot on the dash with every stroke of the pump. The level of oil in the sump is indicated by a float fitted at the rear end of the crank-case, easily seen when the off-side flap of the bonnet is loosened, and the sump may be replenished with oil when necessary by means of a filling plug on the crank-case door. Thus the Vauxhall engine may be lubricated without any trouble, and the efficient working of the lubrication system is checked by a single glance at the "tell-tale" on the dash.

After its journey round the circuit the lubricating oil returns into the sump, is filtered, and pumped round again—to such purpose that in the Royal Automobile Club's 2,000 Miles International Touring Car Trial of 1908 the winning 20 H.P. Vauxhall car used rather less than one gallon of oil per 1,000 miles. A strong feature of Vauxhall design is the provision of a means of removing from the bottom of the sump any sludge or oil residue which may settle there. This may be done without drawing-off the oil in the crank-case.

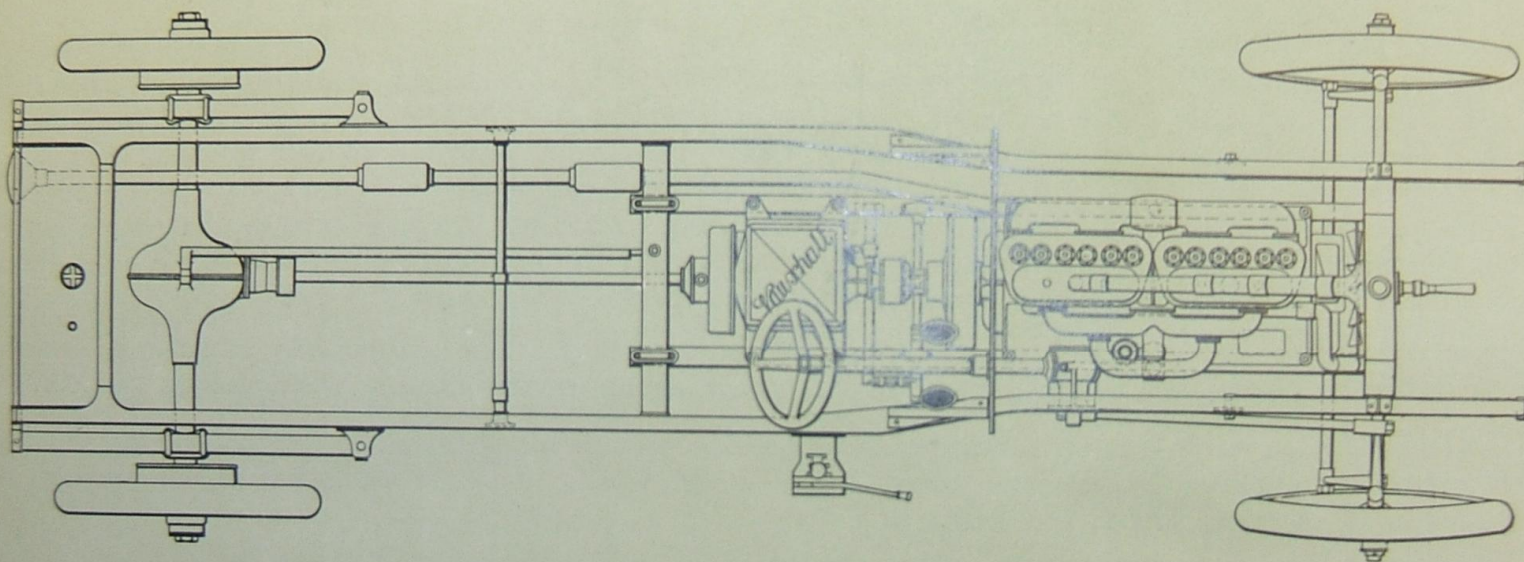
The Gear-Box, Rear-Axle, Differential Gearing, Springs, Wheels and Axles and other members requiring lubrication are all provided with convenient and efficient means of oiling and greasing.

The COOLING is effected by natural circulation, assisted by a fan. The water-jackets are ample, and of uniform depth all round the engine.

The STEERING is of the irreversible worm-and-segment type, and delightfully "light" in operation. The steering arm is placed behind the front axle—a position which not only precludes the possibility of its being damaged in collision, but also facilitates the fitting and removal of the detachable wheels, now so widely popular.

As previously stated, throttle and ignition control-levers are placed above the steering wheel.





PLAN OF THE 30 H.P. CHASSIS



The CHANGE-SPEED GEARS furnish four forward speeds, the fourth being direct-driven, and a reverse. The gears are engaged by the use of a side lever of distinctive design. They are so arranged that the reverse pinion is out of mesh while the forward gears are engaged, and the employment of a safety-device precludes any possibility of inadvertent engagement of the reverse gear.

The standard gears afford speeds of 8.5, 13, 21, and 31 miles per hour, with the engine running at 1,000 revolutions per minute. Lower gearings may be fitted when specified. (See Table on page 3.)

The gears are of exceptionally large dimensions both as to diameter of pinion and width of tooth. They are mounted on castellated shafts of nickel-steel, which are kept as short as possible, to eliminate any possibility of springing, and are carried in ball bearings. Packing glands are provided at either end of the gear-box, so that the shaft-ends are perfectly oil-tight in the aluminium casing. The gear-box is cast in one piece, suspended on an angle-sectioned steel sub-frame. The lid of the gear-box, which is of the same length and width as the box itself, is instantly detachable for inspection or lubrication purposes, by the loosening of one locking-handle. At the rear end of the gear-box is fitted the universal joint casing, which acts as a drum for the propeller shaft brake, operated by the usual pedal.

The change-speed lever, like the hand-brake lever, is of I-sectioned steel. The sliding shaft actuating the gear changing mechanism is carried in bearings of special design, which render impossible any binding when changing speeds.

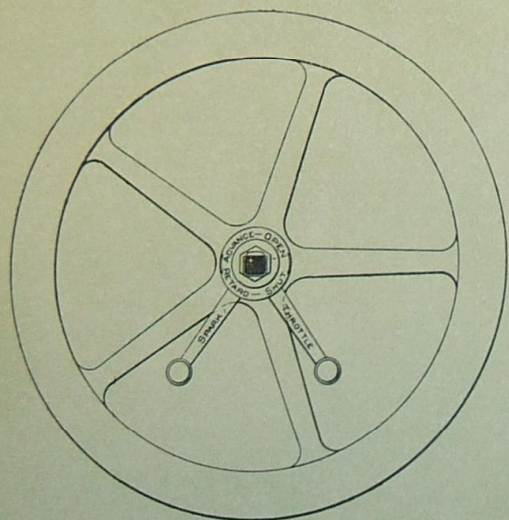
The UNIVERSAL JOINT is of substantial design and construction. All contact surfaces are case-hardened, and the joint is completely enclosed by a metal cover. This cover, which need not be removed for greasing, effectively prevents the access of dust and grit to the joint.

The PROPELLER SHAFT is of nickel-steel, and transmits the drive to the live rear-axle through the two universal joints with which it is provided.

The REAR-AXLE is contained in a cast-steel casing, from either end of which project tapered steel tubes on which the road wheels are supported. The power is transmitted to the driving-shafts through differential gearing of the straight-spur pinion type, and of great strength.

The driving-shafts are of nickel-steel, and pass through the steel differential sleeves, which are supported on ball bearings. The castellated ends of the driving-shafts fit into the road-wheel hubs.





THE STEERING-WHEEL CONTROL GEAR  
COMMON TO BOTH MODELS

A metal undershield extends from the flywheel to behind the shaft-brake drum and universal-joint casing, and the upper-half of the flywheel is encased in an aluminium cover, to protect the clutch from dust and grit. The steering joints, which are of the ball-and-socket type throughout, are all effectively encased.

Ball bearings are used wherever practicable throughout the chassis. Price, detailed dimensions, etc., will be found on page 3.

The rear-axle casing is filled with oil through a filler projecting at the back of the casing. A plug-hole at the top provides a means of inspecting the pinions.

If necessary, the bevel pinion can be removed by swinging the propeller shaft clear and removing four nuts on the front of the casing. The pinion is supported by three large ball bearings, which obviate all possibility of any springing of the pinion-shaft, and consequent wear of the teeth.

The mounting of the road-wheels upon extensions of the rear-axle casing frees the driving-shafts of everything but their functional torque stresses. They carry no weight whatever. Bevel pinion, propeller shaft, gear shaft and crankshaft are all in one plane, so that the Vauxhall car possesses the maximum transmissive efficiency. To facilitate this straight-line drive, the engine is slightly inclined on the sub-frame by which it is carried.

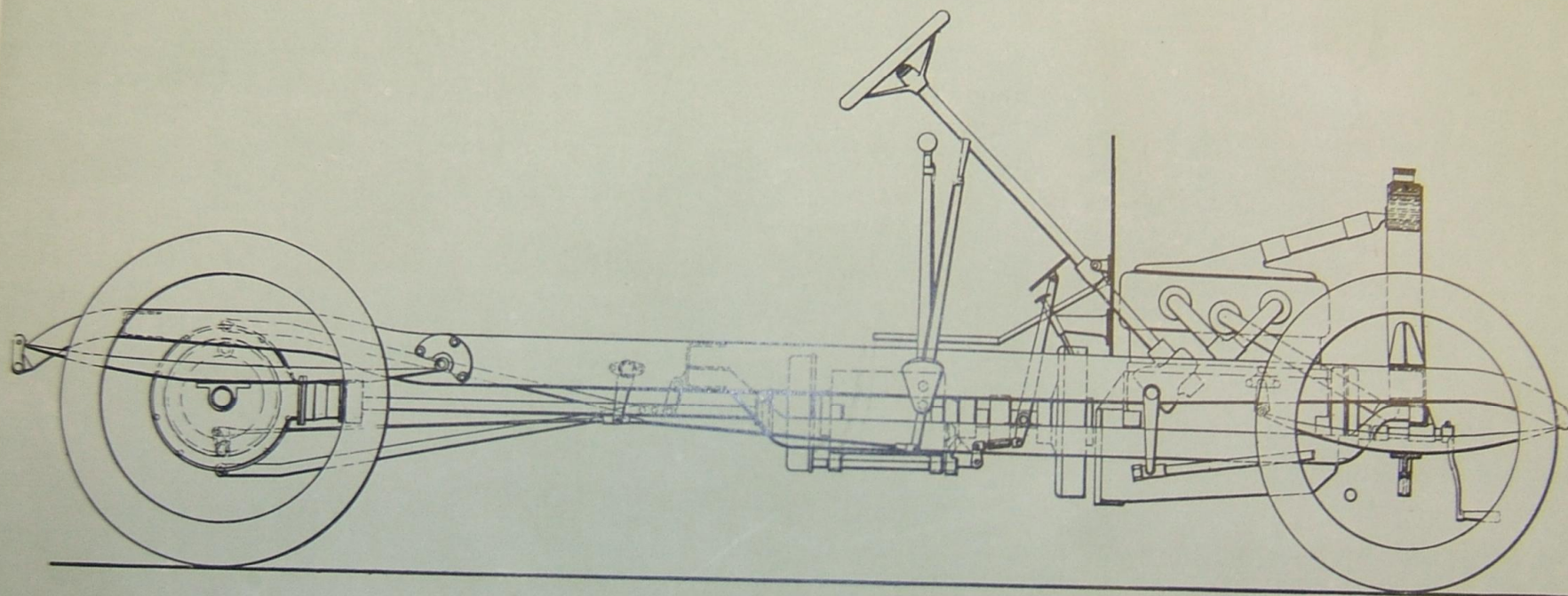
The BRAKES are interchangeable and of the internally-expanding type, one in each rear road-wheel hub, and one in the drum enclosing the foremost universal joint, placed just behind the gear box. The hub-brakes are operated by a side-lever of I-sectioned steel.



## SPECIFICATION OF THE 20 H.P. VAUXHALL

ENGINE	Four cylinders, 90 mm. bore, 120 mm. stroke, cast <i>en bloc</i> , with mechanically operated valves, all on one side.
CARBURETTOR	Automatic in action at all speeds, and of the float-feed constant-level type, requiring no attention from the driver.
IGNITION	Bosch high-tension magneto.
LUBRICATION	By pump forcing oil through main bearings and hollow crankshaft to connecting rod big-ends.
CLUTCH	Internal cone, metal to metal, running in oil.
GEARS	Four Forward Speeds (direct drive on Fourth) and Reverse, operated by side lever in gate. The speeds given at 1,000 engine revolutions per minute are 7.7, 11.7, 19 and 28 miles per hour. Lower gearing, for use with heavy coachwork is also fitted, to order. (See Table on page 3.)
STEERING	Worm and segment.
CONTROL	Throttle and ignition levers, working in conjunction with pedal accelerator, are fitted above the steering wheel.
BRAKES	Internally-expanding, metal to metal, on rear wheel hubs and propeller shaft, operated by side lever and pedal, respectively. The three brakes are interchangeable, and all are capable of accurate and ready adjustment.
WHEELS	Artillery pattern wheels, with rims of 875 mm. by 105 mm., are fitted as standard, but detachable wheels, wire or otherwise, are fitted when specified.
TYRES	The tyres fitted as standard are Dunlop, but Michelin or Continental tyres may be fitted, without extra charge, if preferred.
FINISH	All bright parts of the chassis are finished in brass.





ELEVATION OF 20 H.P. CHASSIS



## DETAILED DESCRIPTION OF THE 20 H.P. VAUXHALL CHASSIS

The FRAME, constructed of pressed steel, is designed to afford adequate support for coachwork of any nature or weight the chassis can reasonably be called upon to bear. It is cambered or upswept at the rear-axle, to facilitate the use of conveniently low side doors, and so inswept or narrowed forward of the dashboard as to permit the widest possible steering-lock. The frame of the longer (10ft. 3in.) wheelbase chassis is "dropped" in the centre, to permit the use of particularly low and wide side-doors.

The DASHBOARD is constructed of aluminium, whose use gives additional strength to the frame and also obviates all possibility of the cracking or warping almost inevitable in the case of wooden dashboards.

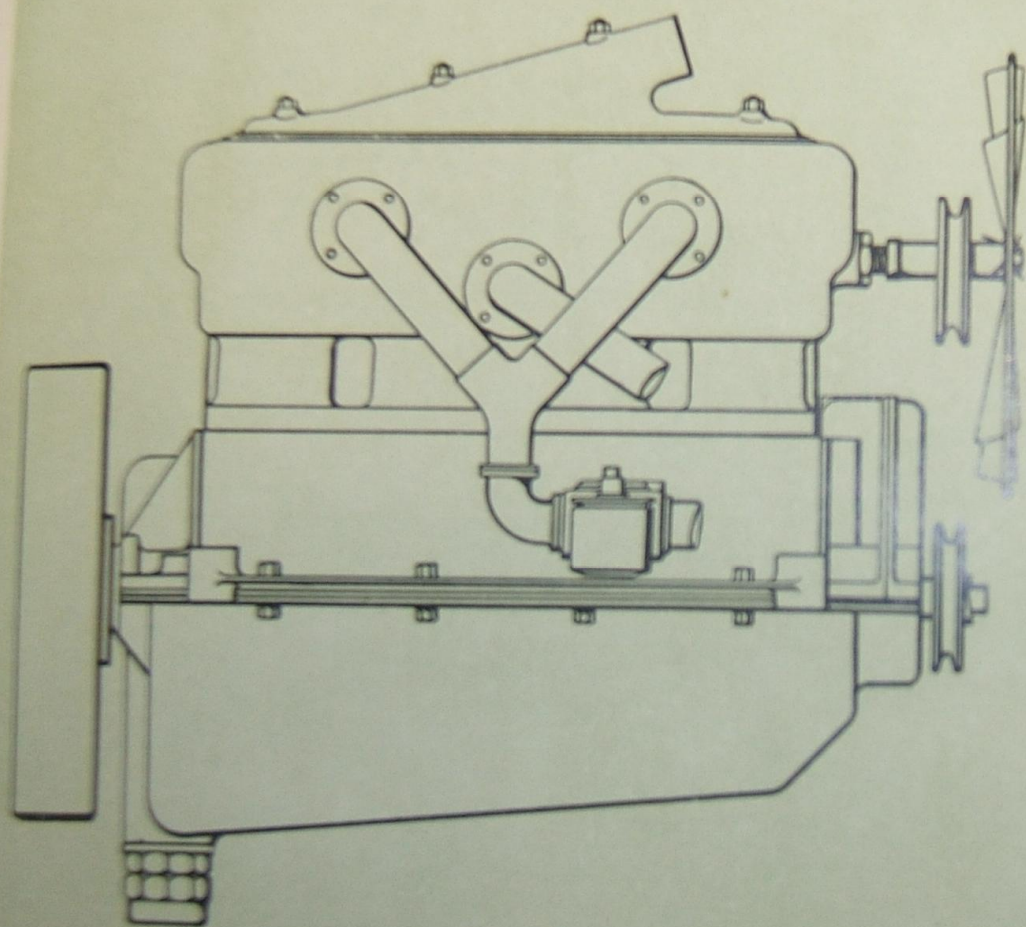
The SPRINGS are of the semi-elliptic type that our experience has proven to be best adapted to general work, and afford adequate comfort under all loads.

The ENGINE is of four-cylindered design, the cylinders being cast *en bloc*. This method of construction secures three indisputable advantages. The engine possesses the maximum rigidity, lends itself to the performance under ideal conditions of thermo-syphon (or natural circulation) cooling, and the casting of the cylinders together also permits the accessible disposition of all fittings.

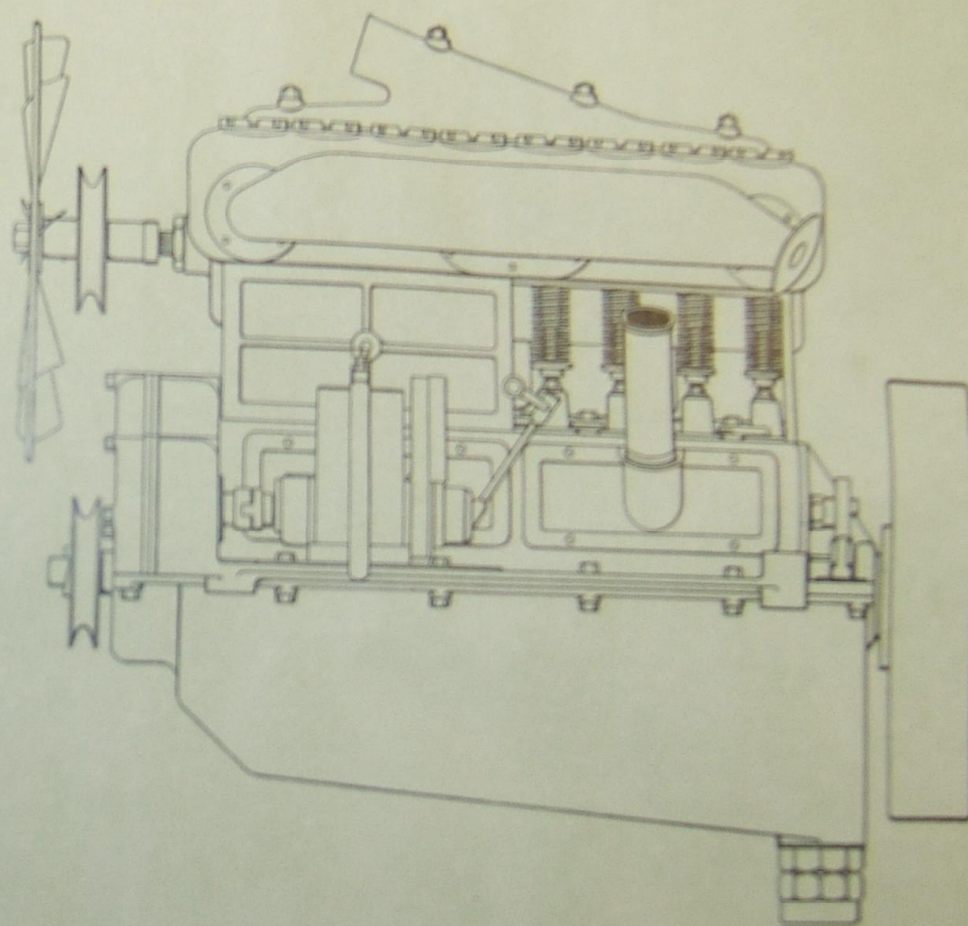
The VALVES are all disposed on the left-hand side of the engine. They and their tappets, springs, etc., are encased by means of two metal doors, which are readily detachable.

Inlet and exhaust valves are interchangeable. The front cross-member of the frame is so dropped that the camshaft with its bearings and the half-time wheels may be readily withdrawn for inspection.





THE 20 H.P. ENGINE : INLET SIDE



THE 20 H.P. ENGINE : EXHAUST SIDE



The CRANK-CASE is an aluminium casting which carries the crankshaft in five white-metal bearings. The entire weight of the crankshaft is borne by the upper half of the crank-case, the lower portion being merely an aluminium under-cover and oil-sump.

The CRANKSHAFT is supported by five white-metal bearings, of liberal length. The bolts holding the bearings in place pass through the top of the crank-case whose material is thus held in compression, instead of being—as is commonly the case—in tension. The bearings, as also the camshaft bearings, may be readily inspected by the removal of two aluminium doors in the side of the crank-case.

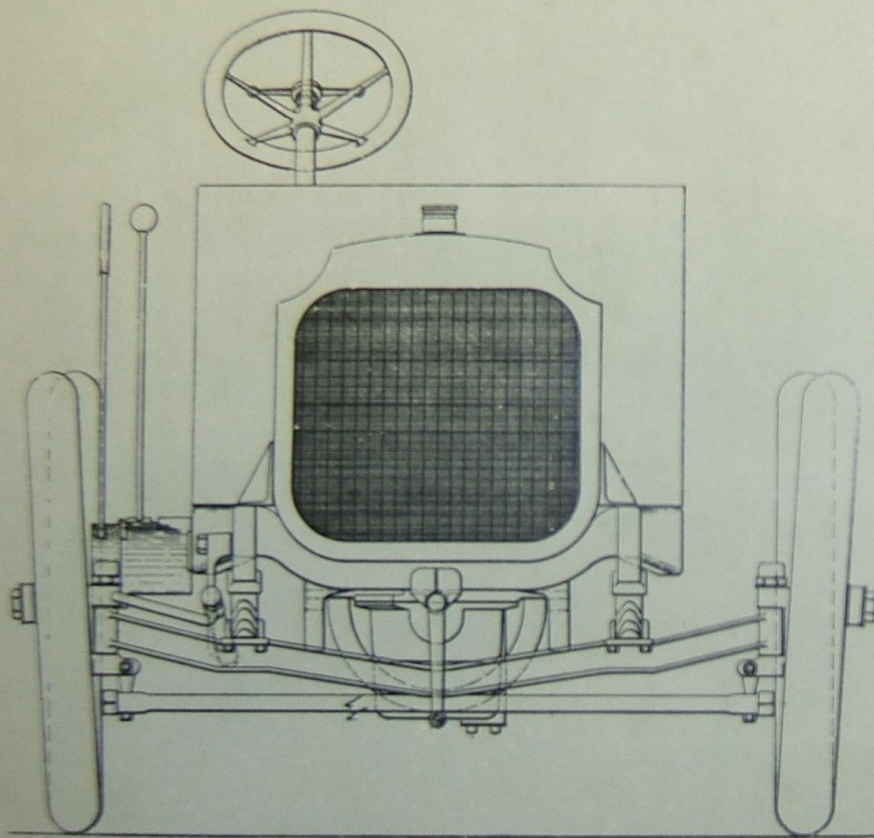
The CLUTCH is combined with the flywheel, the latter being bolted to a flange forged on the crankshaft. It is of the internal cone type, a simple metal cone engaging against the tapered surface of the steel flywheel. There are no leather linings, plates or springs to need adjustment or renewal. The design of the clutch entirely frees the crankshaft of end-thrust when the clutch is engaged, and the latter can be completely dismantled, for inspection, in a few minutes, without disturbing either engine or gear-box.

The IGNITION is by Bosch high-tension magneto. The armature is driven by a dog-coupling mounted on a shaft extending from the timing-gear casing, whose design permits the fitting of independent dual ignition. The firing point may be advanced or retarded by the control lever fitted above the steering wheel.

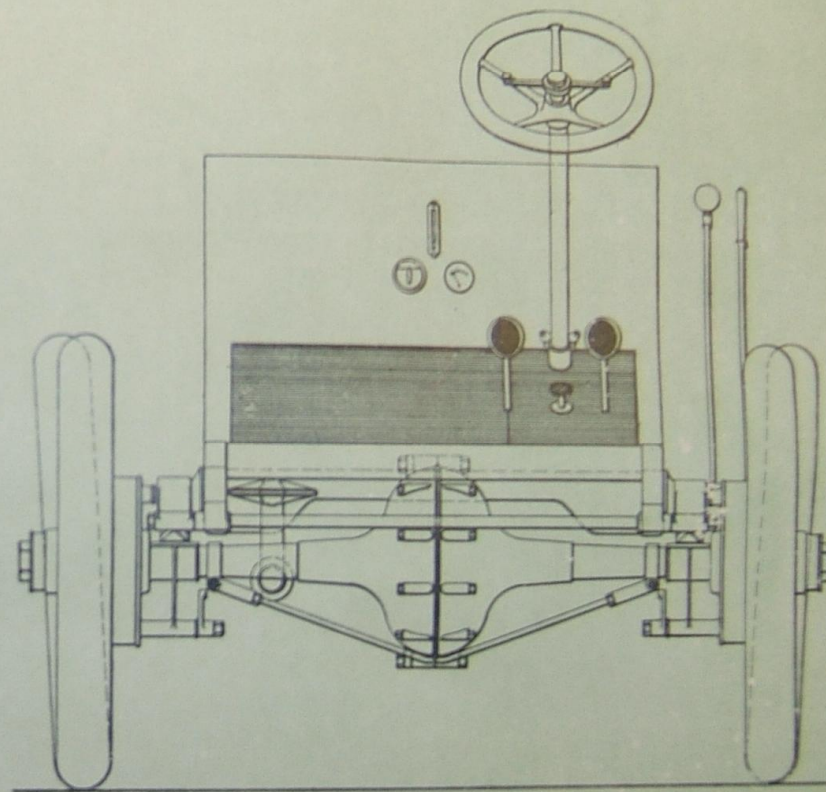
The CARBURETTOR is of the float-feed constant-level type, absolutely automatic in action, with no spring-controlled air-valves or other doubtfully efficient means of regulation to need adjustment. It calls for no attention whatever from the driver, and is the type of carburettor used on the Vauxhall cars whose consumption records, in the various officially-observed trials, have been so uniformly creditable.

The CONTROL of the engine is effected by a throttle lever working in conjunction with a magneto-advance lever, both fitted above the steering wheel, in combination with a pedal accelerator. The engine speeds of this type of Vauxhall engine range from 200 to 2500 revolutions per minute. The engine yields its nominal rating of 20 H.P. at 1000 r.p.m.





FRONT VIEW OF VAUXHALL CHASSIS



REAR VIEW OF VAUXHALL CHASSIS



The LUBRICATION system of Vauxhall cars has been proven by officially conducted tests to be the most economical and efficient in existence. Oil is carried in a sump in the crank-case under-cover. A plunger pump, driven by a ball-bearing eccentric on the rear end of the camshaft, dips into a filter-chamber in the sump, and draws up oil which is forced through a main oil-pipe and five branch-pipes to the main crankshaft bearings and thence, through the hollow crankshaft, to the connecting-rod big-ends.

The entire pump, and its valves, can be readily detached. A gauge on the dashboard indicates the pressure existent in the lubrication circuit, and a little metallic "tell-tale" rises and falls in a slot on the dash, with every stroke of the pump. The level of oil in the sump is indicated by a float fitted at the rear end of the crank-case, easily seen when the off-side flap of the bonnet is loosened, and the sump may be replenished with oil when necessary by means of a filling plug on the crank-case door. The Vauxhall engine may be lubricated without any trouble, and the efficient working of the lubrication system is checked by a single glance at the "tell-tale" on the dash.

After its journey round the circuit the lubricating oil returns into the sump, is filtered, and pumped round again, to such purpose that in the Royal Automobile Club's 2000 Miles International Touring Car Trial of 1908, the winning Vauxhall car used rather less than one gallon of oil per 1000 miles. A strong feature of Vauxhall design is the provision of a means of removing from the bottom of the sump any sludge or oil-residue which may settle there. This may be done without drawing-off the oil in the crank-case.

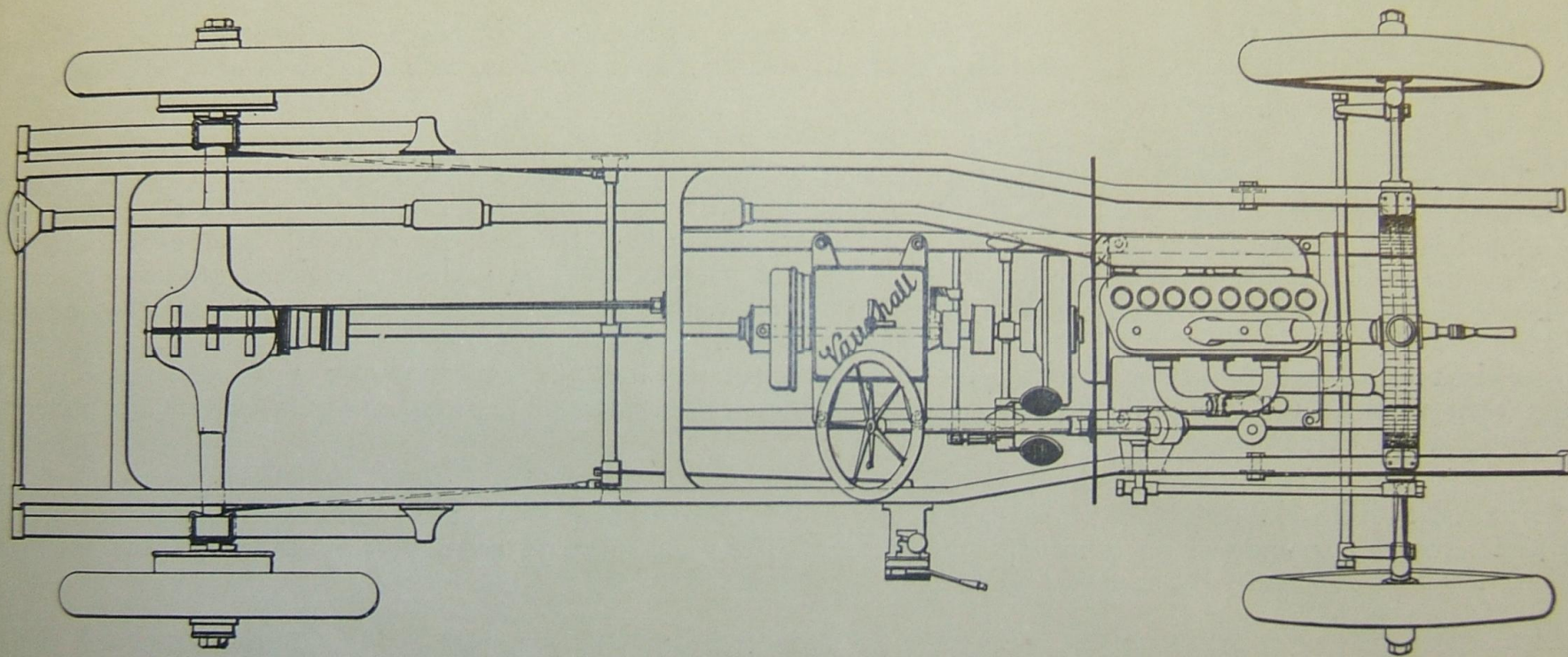
The Gear-Box, Rear-Axle, Differential Gearing, Springs, Wheels, Axles and other members requiring lubrication are all provided with convenient and efficient means of oiling and greasing.

The COOLING is effected by natural circulation. The water-jackets are ample, and of uniform depth all round the engine.

The STEERING is of the irreversible worm-and-segment type, and delightfully "light" in operation. The steering-arm is placed behind the front axle—a position which not only precludes the possibility of its being damaged in collision, but also facilitates the fitting and removal of the detachable wheels now so widely popular.

As previously stated, throttle and ignition control levers are placed above the steering wheel





PLAN OF 20 H.P. CHASSIS



The CHANGE-SPEED GEARS furnish four forward speeds, the fourth being direct-driven, and a reverse. They are so arranged that the reverse pinion is out of mesh while the forward gears are engaged, and the employment of a safety-device precludes any possibility of inadvertent engagement of the reverse gear.

The four gears afford speeds of 7.7, 11.7, 19, and 28 miles per hour, with the engine running at 1,000 revolutions per minute in the case of the standard gearing, and of 7.2, 11, 18, and 26.5 miles per hour, at 1,000 revolutions per minute, in the case of the lower gearing. (See Table on page 3.)

The gears are of exceptionally large dimensions, both as to diameter of pinion and width of tooth. They are mounted on hexagonal shafts of the finest nickel steel, which are kept as short as possible, to eliminate any possibility of springing, and are carried in ball bearings. Packing glands are provided at either end of the gear-box, so that the shaft-ends are perfectly oil-tight in the aluminium casing. The gear-box is cast in one section, suspended on a channel-sectioned sub-frame of pressed steel. The lid of the gear-box, which is of the same length and width as the box itself, is instantly detachable for inspection or lubrication purposes, by the loosening of one locking-handle. At the rear end of the gear-box is fitted the universal-joint casing, which acts as a drum for the propeller shaft brake, operated by the usual pedal. The sliding shaft actuating the gear-changing mechanism is carried on bearings of special design which render impossible any binding when changing speeds.

The UNIVERSAL JOINT is of substantial design and construction. All contact surfaces are case-hardened, and the joint is completely enclosed by a metal cover. This cover, which need not be removed for greasing, effectively prevents the access of dust and grit to the joint.

The PROPELLER SHAFT is of nickel steel, and transmits the drive to the live rear-axle through the two universal joints with which it is provided.

The REAR-AXLE is contained in a cast-steel casing from either end of which project tapered steel tubes on which the road wheels are supported. The power is transmitted to the driving-shafts through differential gearing of the straight-spur pinion type, and of more than adequate strength.



The driving-shafts, of nickel steel, pass through the steel differential sleeves, which are supported on ball bearings. Squares formed on the ends of the driving-shafts fit into the road-wheel hubs.

The rear-axle casing is fitted with two plug-holes, top and bottom, the upper for filling the casing with oil, the lower one for draining off superfluous lubricant. The differential pinions are clearly visible through these plug-holes.

When necessary, the bevel pinion can be removed by swinging the propeller-shaft clear and removing four nuts on the front of the casing. The pinion is supported by three large ball bearings, which obviate all possibility of any springing of the pinion-shaft and consequent wear of the teeth.

The mounting of the road wheels upon extensions of the rear-axle casing frees the driving-shafts of everything but their functional torque stresses. They carry no weight whatever. Bevel pinion, propeller shaft, gear shaft and crank-shaft are all in one plane, so that the Vauxhall car possesses the maximum transmissive efficiency. To facilitate this straight-line drive, the engine is slightly inclined on the sub-frame by which it is carried.

The BRAKES are interchangeable, and of the internally-expanding type, one in each rear road-wheel hub, and one in the drum enclosing the foremost universal joint, placed just behind the gear-box.

A metal under-shield extends from the flywheel to behind the shaft-brake drum and universal-joint casing, and the upper half of the flywheel is encased in an aluminium cover, to protect the clutch from dust and grit. The steering-joints, which are of the ball-and-socket type throughout, are all efficiently encased.

Ball bearings are used wherever practicable throughout the chassis. Price, detailed dimensions, etc., will be found on page 3.



# VAUXHALL OUTFIT OF TOOLS AND SPARES

With all chasis purchased from Vauxhall Motors, Limited, or any of their Agents, the following outfit of tools, spares, etc., is supplied gratis:—

1 small adjustable Footprint spanner	1 piece of L.T. ditto	2 $\frac{1}{4} \times 1$ -in. ditto
1 large ditto	6 valve cap and 6 sparking plug washers	3 dozen assorted split pins
1 compression-plug spanner	1 6-in. flat file and handle	2 dozen assorted split taper pins
1 $\frac{7}{16} \times \frac{1}{4}$ double-ended spanner	1 6-in. half-round file and handle	3 dozen assorted locking washers
1 $\frac{1}{4} \times \frac{5}{16}$ ditto	1 $\frac{3}{8}$ -in. square ditto	1 lifting jack
1 $\frac{1}{4} \times \frac{3}{8}$ ditto	$\frac{1}{4}$ -lb. 18 gauge copper wire	1 tyre pump
1 $\frac{7}{16} \times \frac{1}{2}$ ditto	1 pair 8-in. cone pliers	1 tyre outfit in box, comprising levers, solution, patches, brush, French chalk and sand paper
1 hub-cap spanner	3 each $\frac{1}{4}$ -in. castle and plain nuts	1 valve lifter
1 large screw-driver	3 each $\frac{5}{16}$ ditto	1 boot key
1 small ditto	3 each $\frac{3}{8}$ ditto	1 petrol funnel
1 light hammer	3 each $\frac{1}{2}$ ditto	1 roll of insulating tape
1 $\frac{1}{2}$ -in. chisel	3 each $\frac{7}{16}$ ditto	1 cleaning cloth and 1 roll of cotton waste
1 pair cutting pliers	2 $\frac{1}{4} \times 1$ in. bright bolts and nuts	1 lubricating chart
1 spanner and adjustable blade for magneto	2 $\frac{5}{16} \times 1\frac{1}{2}$ -in. ditto	1 magneto booklet
1 Kaye's force-feed oil can	2 $\frac{3}{8} \times 1\frac{1}{2}$ -in. ditto	1 carburettor booklet
2 sparking plugs and 2 washers	2 $\frac{3}{8} \times 1\frac{1}{2}$ -in. black ditto	
1 piece of H.T. wire, 2 $\frac{1}{2}$ yards long	2 $\frac{3}{16} \times 1$ -in. round head screws	

N.B.—A pair of paraffin side lamps, a paraffin tail lamp and a bulb horn are included in the prices of all open touring bodies built by Vauxhall Motors, Limited, but these accessories are not included in the prices of bodies not built by the Company, whether purchased from them or otherwise.



# AN ALTERNATIVE GEAR-CHANGING SYSTEM

(LINLEY PATENTS)

Messrs. Vauxhall Motors, Ltd., have repeatedly sold cars to motorists who while thoroughly appreciating the merits of Vauxhall design and construction had yet a preference for some system of gear changing other than the Vauxhall standard "gate"-operated gear-box.

Having examined every efficient alternative the Company have now decided to adapt for use on Vauxhall chassis the Linley patent gear-box. This may now be fitted to either the 20-h.p. or 30-h.p. Vauxhall chassis.

Needless to say, before deciding upon the adoption of this patent, the Company have investigated most carefully its various points.

The Linley gear-box has been in constant and continual use on commercial vehicles for over four years. During this period it has been subjected to some of the hardest, heaviest and least expert handling imaginable.

It may safely be said that no constituent part of a car has ever been submitted to tests so searching as has this gear-box, but neither the brutal jamming of carmen nor the constant "changing" necessary when three and four ton loads have to be negotiated in hilly districts have revealed any fault in design or construction of this mechanism.

In 1907 a new Linley gear-box was submitted to the Technical Committee of the Royal Automobile Club, who examined it carefully. It was then officially sealed and run a distance of seven thousand miles. At the end of this trial, the seal was broken by the R.A.C. officials, and the whole of the constituents of the gear-box most minutely examined. No wear was perceptible; there was absolutely nothing to indicate for what distance or for what time the box had been in use.

Trials such as these, and their own experiments with the gear-box in a Vauxhall chassis for the whole of the past year, have decided Messrs. Vauxhall Motors, Ltd., to offer the Linley gear-box as an alternative to the standard gear-box.

Briefly stated, the more outstanding advantages afforded by the Linley gear-box are :—

That anybody, no matter how inexpert or ignorant from the motoring point of view, can change gears without noise, hesitation, uncertainty or damage ;

That any gear-change may be prepared if necessary an hour before it is actually going to be made, and when it is to be made it is effected instantaneously by the depression of the clutch pedal only ; and

That this unexampled simplicity is combined with the utmost conceivable durability, mechanical soundness and freedom from possibility of breakdown or failure.

A description in detail of the new gear-box is now in preparation, a copy of which will be forwarded on application. Meanwhile, a demonstration set is available in the Company's London Showrooms and another at the Works at Luton, where it may be inspected daily. Its operation can be mastered by anybody in one minute, and to inspect it is to see conclusively how fully justified are the foregoing remarks.



## SPARE PARTS, EXTRAS, ACCESSORIES, FITMENTS AND SUPPLIES

	£	s.	d.
Superior Cape-cart hood, for touring phaeton - - -	20	0	0
Ditto, with central screen fitted behind driving-seat - - -	23	0	0
Single Cape-cart hood, for two-seated car - - -	10	0	0
Nickel-plated fittings to Cape-cart hoods, instead of brass -	1	0	0
Wind Screens.—Any type of wind screen specified may be fitted at Makers' list prices.			
Independent accumulator ignition, with Lodge distributor, fitted	17	10	0
Bosch dual ignition, latest type, fitted - - -	17	10	0
Nickel-plated finish to all bright-work, instead of brass finish, in case of 20 h.p. model, or brass in place of nickel in case of 30 h.p. model - - -	8	10	0
Number-plates, painted and fitted, including registration of car	1	10	0
Head-light brackets fitted, per pair - - -	2	2	0
Swing head-light bracket, for single head-light - - -	1	15	0
Special "A"-type head-light bracket, for single head-light -	1	10	0
Brackets for holding spare tyre or wheel, per set - - -	1	0	0
Waterproof bag, for spare tube - - -	0	2	6
Ditto, for spare tyre, complete - - -	0	7	0
Detachable and folding luggage carrier, at rear - - -	3	3	0
Waterproof covers for upholstery, per set - - -	5	5	0
Drop-down sprag - - -	1	10	0
Side lamps, per pair - - - from	2	5	0
Tail lamp - - -	1	1	0
Horn - - -	1	2	6
Rushmore headlamps, with generator, tubing and brackets, 6in. flare-front, fitted complete - - -	11	0	0

	£	s.	d.
Rushmore headlamps, with generator, tubing and brackets, 7 in. flare front, fitted complete - - -	13	0	0
Rushmore headlamps, with generator, tubing and brackets, 8 in. flare front, fitted complete - - -	15	0	0
"C. A. V." Dynamo Lighting Sets, comprising type E. Dynamo, 12v 5a. Switchboard, pair Model G. Head-lights, pair Model G.S. Side-lamps, Tail-lamp, T.33 Accumulator, 12v. 33a. hrs. actual, with necessary transmission gear, armoured cables, etc., etc., fitted, complete - - -			
	37	10	0
Assorted copper and asbestos washers, per dozen - - -	0	3	0
Valves, inlet or exhaust, complete - - -	0	10	6
Sparking plug, Bosch - - -	0	3	6
Piston-rings, per set of three - - -	0	4	6
Vauxhall engine oil, in five-gallon drums, per gallon -	0	4	0
Ditto gear oil, per gallon tin - - -	0	3	0
Grease cups, each - - -	0	2	6
Hub-caps, 20 and 30 h.p. front, each - - -	0	5	0
Ditto, ditto, rear, each - - -	0	10	0
Waterproof tonneau cover - - -	2	5	0
Rudge-Whitworth detachable wheels, per set of five, fitted, complete, with carrier - - -	26	0	0
Step irons, steps and mudguards, supplied with chassis, per set, fitted - - -	3	10	0
Four carbon brushes, and springs, for magneto - - -	0	5	0
Packing and delivery, f.o.b., London - - -	12	0	0



## COACHWORK PRICES

The variety of types, diversity of treatments and number of what may legitimately be considered necessary fittings in connection with automobile coachwork render it impossible to produce an arbitrary list of prices. The prices stated beneath are for coachwork of high-grade design, construction and finish in every particular. On request the Company will quote for coachwork of lower prices, but cannot recommend it, nor be held responsible for its failure to give satisfaction.

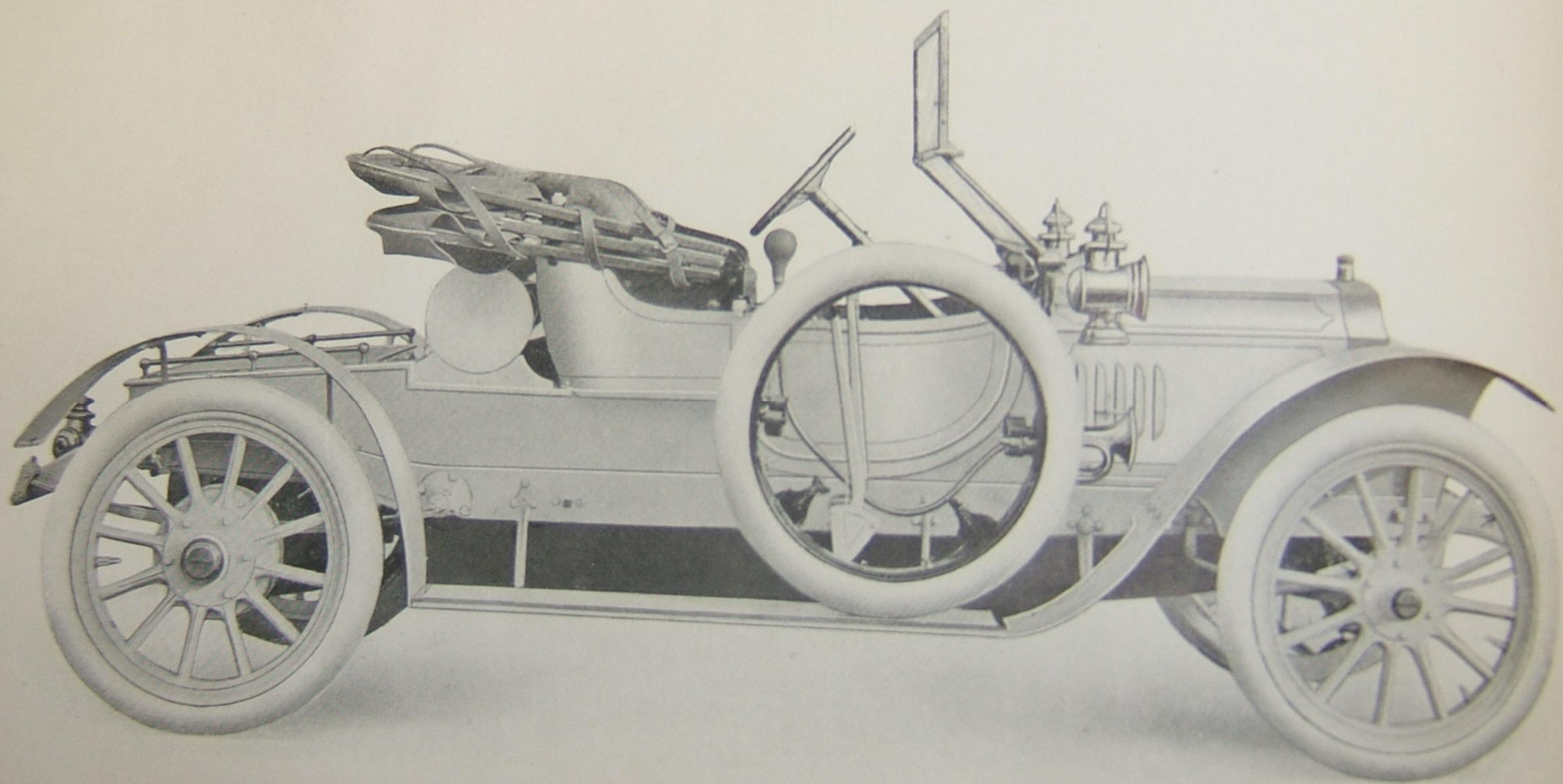
In addition to submitting estimates for coachwork to specification, Vauxhall Motors, Limited, are always happy to prepare designs embodying provision for the fulfilment of purchasers' particular requirements.

		£	s.	d.
Two-seated Semi-Racing . . . . .	Bodies from . . . . .	45	0	0
Two-seated Victoria or Park Phaeton . . . . .	" " . . . . .	70	0	0
Two-seated Coupé . . . . .	" " . . . . .	150	0	0
Folding Third Seats to any Two-seated . . . . .	" " . . . . .	10	0	0
Four-seated Torpedo Phaeton . . . . .	" " . . . . .	60	0	0
Five-seated Touring Phaeton . . . . .	" " . . . . .	60	0	0
Six-seated Torpedo Phaeton . . . . .	" " . . . . .	75	0	0
Seven-seated Touring Phaeton . . . . .	" " . . . . .	75	0	0
Four-seated Single Cabriolet, Landaulet or Limousine . . . . .	" " . . . . .	225	0	0
Five or Six-seated Three-quarter Landaulet . . . . .	" " . . . . .	235	0	0
Six or Seven-seated Cabriolet, Landaulet or Limousine . . . . .	" " . . . . .	250	0	0
Six or Seven-seated Pullman or Berline de Voyage . . . . .	" " . . . . .	275	0	0

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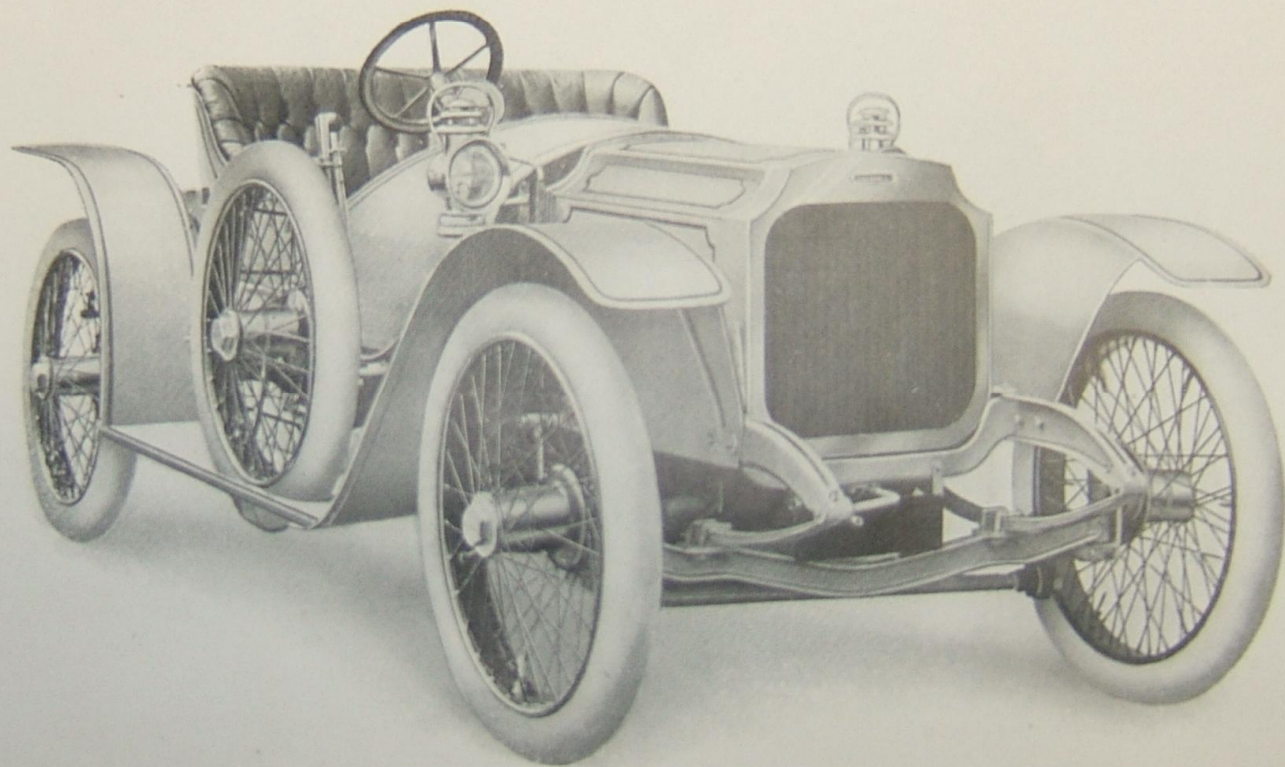
On application quotations will gladly be made for Country House Cars, Shooting Brakes, Luggage Cars, Station Omnibuses and other types not mentioned above.





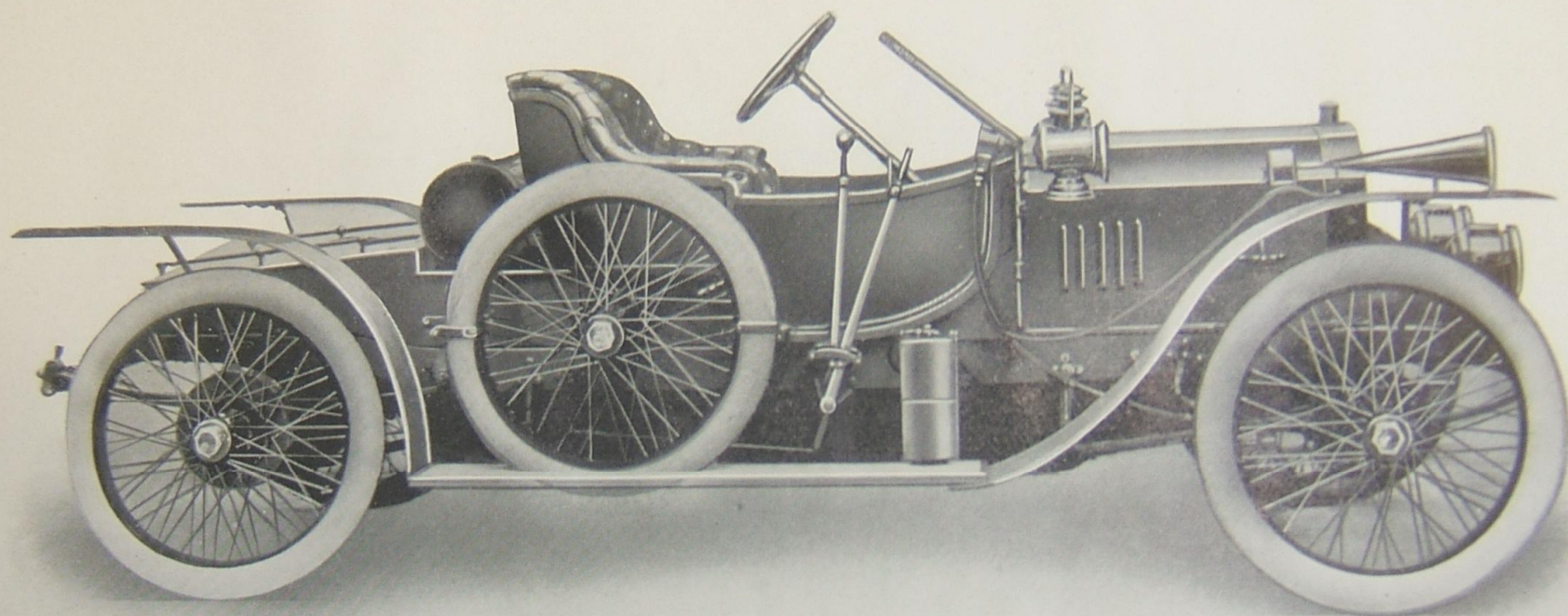
"Durham" two-seated semi-racer body - - - £45  
(Hood, screen, spare wheel, etc., extra.)





"Cheshire" two-seated semi-racer body, with Aston dash - - £50





“Surrey” two-seated semi-racer body - - £45  
(Screen, etc., extra.)



# VAUXHALL SUCCESSES OF 1908

## R.A.C. 2,000 MILES' TRIAL

Vauxhall awarded Silver Cup. This car made Non-stop Run Throughout, the Finest Performance in the Trial, constituting World's Record, and excelling the performances of all other cars competing.

## \*SCOTTISH AUTOMOBILE CLUB RELIABILITY TRIAL

Vauxhall awarded Gold Medal for Absolute Non-Stop Run Throughout ; also made Fastest Time in all Five Hill Climbs.

## CANTERBURY (N.Z.) AUTOMOBILE ASSOCIATION RELIABILITY TRIALS

Vauxhalls were awarded : 1.—Prize for Highest Number of Marks for Reliability.  
2.—Prize for Highest Number of Marks in Hill Climb.  
3.—Trophy for Fastest Time in Hill Climb, Irrespective of Class, and  
4.—Gold Medal for Non-stop Run.

## GAILLON HILL CLIMB

Vauxhall made Fastest Time, and was placed First on Formula in its Class. General Classification : Second on Formula. In this competition the Vauxhall was the only British car entered.

## \*MIDLAND A.C. SHELSLEY WALSH HILL CLIMB

Vauxhall awarded President's Cup, First on Formula, Establishing an Efficiency Record.

## LANCS. A.C. RIVINGTON PIKE HILL CLIMB

Vauxhall made Fastest Time, beating all competitors in Classes C, D and E.

## \*HERTS. COUNTY A.C. ASTON HILL CLIMB

Vauxhall made Fastest Time in Class 2 by 15 secs.

COVENTRY M.C. NEWNHAM HILL CLIMB Vauxhall made Second Fastest Time in Class.

\*YORKS. A.C. PATELEY BRIDGE HILL CLIMB Vauxhall made Second Fastest Time in Class.

\*See also 1909 or 1910 Successes.



# VAUXHALL SUCCESSES OF 1909

IPSWICH A.C. HILL CLIMB Vauxhall made Second Fastest Time of Day.

BEDFORDSHIRE A.C. HILL CLIMB

Vauxhall made Second Fastest Time of Day (a car more than twice the H.P. being 1 sec. faster).

\*BROOKLANDS A.R.C. MEETING

Vauxhall, driven by Amateur Owner, finished Third in Easter Junior Handicap, from Scratch.

MANCHESTER A.C. RELIABILITY TRIAL

Vauxhall awarded Silver Cup for Most Meritorious Performance, Irrespective of Class, and placed first in Hill Climb, Irrespective of Class.

\*BROOKLANDS A.R.C. MEETING

Vauxhall, driven by Amateur Owner, won Three "Firsts," Two "Seconds," and Three "Thirds" in Brooklands Whitsuntide Race Meeting. This series of wins for one Meeting is unique in automobile history.

IRISH AUTOMOBILE CLUB RELIABILITY TRIAL

Vauxhall awarded Goff Gold Challenge Cup, for Most Efficient Performance made by any car engaged in the Trial; also awarded Gold Medal in Class E for Absolute Non-Stop Runs on all six days of Trial. Another Vauxhall made Fastest Time in Speed Trials.

\*SCOTTISH AUTOMOBILE CLUB RELIABILITY TRIAL

Vauxhalls awarded Efficiency Gold Medal, and Bronze Medal for highest number of marks for Hill Climbing, in Class F, and Special Silver Medal in Class E. Each of these cars gained highest Marks in its Class for Petrol Consumption.

\*LINCS. A.C. GRIMSTHORPE PARK SPEED TRIALS

Vauxhall, driven by Amateur Owner, awarded Newsum Challenge Cup and Special Prize for Finest Performance, Irrespective of Class.

\*See also 1908 or 1910 Successes.



# VAUXHALL SUCCESSES OF 1909

## YORKS. A.C. SALTBURN SPEED TRIALS

Vauxhall awarded Yorkshire Cup (for which it was the smallest-engined car competing) and Three Gold Medals.

## \*LANCS. A.C. RIVINGTON PIKE HILL CLIMB

Vauxhall awarded President's Silver Cup and Gold Medal for Best Performance of the day. Second-Best Performance of the day was also made by a Vauxhall.

## \*MIDLAND A.C. SHELSLEY WALSH HILL CLIMB

Vauxhall awarded Henry Edmunds Cup and President's Cup. The Second and Third Fastest Times of the day (the fastest being made by a 58 h.p. car) were made by Vauxhall Cars.

## \*HERTS. COUNTY A.C. ASTON HILL CLIMB

Vauxhall Cars awarded the Edwards Challenge Cup, Two Silver Cups for best Performances in Classes II. and III., and a Special Silver Cup for best Handicap Performance, Irrespective of Class, constituting Efficiency Record for the Hill.

## \*BROOKLANDS A.R.C. MEETING

Vauxhall awarded the O'Gorman Trophy, having won the race for this prize at a speed of  $70\frac{3}{4}$  miles per hour, another Vauxhall finishing Second.

## SEMMERING HILL CLIMB

Vauxhall, driven by Amateur Owner, made Third Fastest Time in its Class, against cars driven by Continental Professionals.

\*See also 1908 or 1910 Successes.



# VAUXHALL SUCCESSES OF 1909

## \*HERTS. COUNTY A.C. ASTON HILL CLIMB (SECOND MEETING)

Vauxhall cars Awarded Two Silver Cups, one establishing Record for Finest Efficiency Performance on Hill, and making Fastest Time of the Day. Vauxhalls made Finest Performances in both Amateur and Trade Sections.

## \*YORKS. A.C. PATELEY BRIDGE HILL CLIMB

Vauxhall car awarded Gold Medal for Second Best Performance in both Open and Closed Events.

## WOLVERHAMPTON A.C. HARLEY BANK HILL CLIMB

Vauxhall awarded Open Handicap Gold Medal.

## IRISH A.C. LIMERICK HILL CLIMB

Vauxhall, driven by Amateur Owner, finished Third on Formula.

## \*B.A.R.C. 21 H.P. CLASS RECORDS

Vauxhall Established 21 h.p. (R.A.C. Rating) Class Records, attaining speeds better than those attained by cars holding 26 h.p. and 40 h.p. Class Records. Short Record (flying half-mile) 88.61 m.p.h. Long Record: (ten laps, approx.  $27\frac{3}{4}$  miles) 81.33 m.p.h. A Flying Kilometre was covered by this car at a speed of 88.26 m.p.h.

## "STAR" MATCH

This Match arose from a Challenge to the World issued on behalf of the "Star" Car. The Vauxhall proved the faster car of the two by 5 m.p.h.

\*See also 1908 or 1910 Successes.



# VAUXHALL SUCCESSES OF 1910

## AUSTRALIAN A.C. RELIABILITY TRIAL

Vauxhall awarded Highest Aggregate Marks for Reliability, Petrol Consumption and Hill Climbing. This car was delivered to its Amateur Owner three days before the commencement of the competition, and was in every detail a Standard Touring Phaeton.

## \*BROOKLANDS A.R.C. MEETING

Vauxhalls won Three "Firsts" and Two "Seconds."

## HERTS. COUNTY A.C. ASTON HILL CLIMB

Vauxhalls awarded First, Second, Third and Fourth Places.

## \*BROOKLANDS A.R.C. MEETING

Vauxhalls, driven by Amateur Owners, won One "First" and Two "Thirds."

## "PRINCE HENRY TROPHY" INTERNATIONAL RELIABILITY TRIAL

Two Vauxhalls achieved Complete Non-Stop Runs throughout the Trial, winning the "Prince Henry" plaque. The Vauxhalls, competing against the most eminent cars manufactured throughout the world, were the only British team running.

## SOUTH WALES A.C. BUTTRILLS HILL CLIMB

Vauxhall, driven by Amateur Owner, made Best Performance on Formula in Class 5.

## \*BROOKLANDS A.R.C. MEETING

Vauxhalls, driven by Amateur Owners, won Two "Firsts" and Two "Thirds."

## \*LINCS. A.C. GRIMSTHORPE PARK SPEED TRIALS

Vauxhall, driven by Amateur Owner, again won Newsum Challenge Cup, thus permanently securing this Trophy. Vauxhalls competing in these Trials made Best Performance in Event 1 (Private Owners), and Second and Third Best in Event 2 (Open Section).

## \*BROOKLANDS A.R.C. INTER-UNIVERSITIES MEETING

Vauxhall, driven by Amateur Owner, finished First in Big Car Race.

## AUSTRALIAN A.C. COOGEE HILL CLIMB

Vauxhalls, driven by Amateur Owners, awarded First and Second Places.

\*See also 1908 or 1909 Successes.



# VAUXHALL SUCCESSES OF 1910

## DERBY AND STAFFS. (INTER-CLUB) OAKAMoor HILL CLIMB

Vauxhall Awarded Bolton Cup and Gold Medal.

## \*MIDLAND A.C. SHELSLEY WALSH HILL CLIMB

Vauxhalls awarded Second, Third and Fifth places. The Efficiency Record, established by the Vauxhall in 1909, remains unbeaten.

## \*BROOKLANDS A.R.C. MEETING

Vauxhall cars secured Two "Firsts," One "Second" and Two "Thirds."

## \*BROOKLANDS A.R.C. MEETING

Vauxhall for the second time in succession won the O'Gorman Trophy, other Vauxhalls finishing Second and Third. The speed of the winner averaged 76 m.p.h. over the course of 27 miles. This speed was  $5\frac{1}{4}$  m.p.h. better than that of the Vauxhall winning the Trophy in 1909, when another Vauxhall ran second, also attaining a speed of  $70\frac{3}{4}$  m.p.h.

## \*CANTERBURY (N.Z.) AUTOMOBILE ASSOCIATION TRIALS

Vauxhall won Half-Mile (standing start) Sprint Race and Petrol Consumption Test. The winning car was built in 1908, and has been in continuous use, for hiring and trial purposes, ever since. Her time for the Half Mile (oval, unbanked course) was 48 secs. Her consumption (the Consumption Test being made immediately after the Sprint Race and no carburettor adjustment being permitted) worked out to  $34\frac{1}{2}$  miles per gallon.

## SOMERSET A.C. HILL CLIMB

Vauxhall Awarded Grand Challenge Bowl, Gold Medal and Silver Medal, for Fastest Time of the Day, Fastest Time in Class III., and Best Performance on Formula, Irrespective of Class.

## \*YORKS A.C. PATELEY BRIDGE HILL CLIMB

Vauxhall Awarded Silver Cup for Best Performance on Formula, Irrespective of Class, Special Gold Medal presented by the R.A.C. for Best Efficiency Performance and Gold Medal for Best Performance on Formula in Class A, Open Event. The performance of the Vauxhall in this Competition constitutes an Efficiency Record for the Hill.

\*See also 1908 or 1909 Successes.



## THE BROOKLANDS 21 H.P. CLASS RECORDS

In October, 1910, a 19.90 (R.A.C. Rating) Four-cylindered Vauxhall Car, Chassis and Engine No. C. 10. 2, B.A.R.C. No. 462, weighing over 1,800 lbs., established the following Records :

**21 h.p. (R.A.C. RATING) CLASS SHORT RECORD**

**100.08 M.P.H.**

**21 h.p. (R.A.C. RATING) CLASS LONG RECORD**

**90.22 M.P.H.**

The phenomenal efficiency of the Vauxhall 20 h.p. engine will be appreciated on comparing the speeds of the 21 h.p. Class Records with those of the 26 h.p. and 40 h.p. Class Records which are as follow :

**26 h.p. Class Short Record       -       87.98 M.P.H.**

**26 h.p. Class Long Record       -       76.55 M.P.H.**

**40 h.p. Class Short Record       -       94.13 M.P.H.**

**40 h.p. Class Long Record       -       80.90 M.P.H.**

The 20 h.p. Vauxhall also achieved a Record Performance under the "White and Poppe" Trophy Competition Rules, namely a

**FLYING LAP (2.76 MILES) AT A SPEED OF**

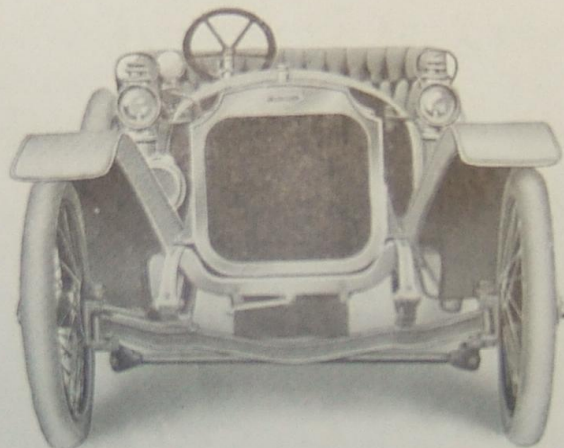
**93.31 M.P.H.**



BROOKLANDS AUTOMOBILE RACING CLUB RESULTS

STANDARD VAUXHALLS

TO DATE NOVEMBER 1st, 1910,



in the majority of cases driven by Amateur Owners,  
have secured

<b>FIRST</b>	<b>14</b>	<b>PRIZES</b>
<b>SECOND</b>	<b>7</b>	<b>PRIZES</b>
<b>THIRD</b>	<b>7</b>	<b>PRIZES</b>



## VAUXHALL AGENTS

The number of Agents for Vauxhall Motor Carriages precludes the inclusion in this Catalogue of a list of their Addresses. There are authorised Agents for Vauxhall Cars in every district, at home and abroad, all of whom possess Demonstration Cars available for trial purposes.

On application to Vauxhall Motors, Limited, 180 Great Portland Street, London, W., the address of the nearest Agents will immediately be communicated.

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## AEROPLANE, MARINE, LIGHTING AND POWER INSTALLATIONS

Vauxhall Motors, Limited, are prepared to submit designs and estimates for aeronautical, marine, lighting or power engines, at prices ranging from £120.

The high efficiency and light weight (per b.h.p. of output) of Vauxhall engines combine to render them eminently adaptable to aerial work, while their proven efficiency and economy of running and their known ability to give satisfactory service with the minimum attention, commend them for marine or stationary work.



## PURCHASERS' CABLE CODE

### USED BY VAUXHALL MOTORS, LIMITED

<b>Twesho</b>	-	20 h.p. short chassis, with standard rims.
<b>Twelo</b>	-	20 h.p. long chassis, with standard rims.
<b>Thirsho</b>	-	30 h.p. short chassis, with standard rims.
<b>Thirlo</b>	-	30 h.p. long chassis, with standard rims.
<b>Chatrida</b>	-	Chassis with dash trimmed down to conformation of bonnet, for racing work.
<b>Toupha</b>	-	Touring Phaeton body (seating five), with side and tail lamps and horn.
<b>Tuseta</b>	-	Two-seated Semi-Racing body, with luggage platform behind.
<b>Parphata</b>	-	Two-seated Park Phaeton or Victoria body, with third folding seat behind, covered in by luggage platform when not in use.
<b>Torpesta</b>	-	Torpedo phaeton, with plain dash. (N.B.—This body seats four only.)
<b>Torpescu</b>	-	Torpedo phaeton, with scuttle dash. (N.B.—This body seats four only.)
<b>Capedo</b>	-	Double Cape cart hood, for four or five-seated car.
<b>Capesi</b>	-	Single Cape cart hood, for two-seated car.

<b>Sinlafo</b>	-	Single Landaulet, seating four; with canopy extension, wind-screen and luggage rail on top.
<b>Sinlafi</b>	-	Ditto, seating five; one on folding seat facing main interior seat; ditto, ditto.
<b>Threqufi</b>	-	Three-quarter Landaulet, seating five; one on folding seat facing main interior seat; ditto, ditto.
<b>Threqusi</b>	-	Ditto, ditto, seating six; two on folding seats facing main interior seat; ditto, ditto.
<b>Threquse</b>	-	Ditto, ditto, seating seven; three on rear seat, two on folding seats; ditto, ditto.
<b>Limofa</b>	-	Limousine, seating four; ditto, ditto.
<b>Limofi</b>	-	Ditto, seating five; one on folding seat facing main interior seat; ditto, ditto.
<b>Limosi</b>	-	Ditto, ditto, seating six; two on folding seats; ditto, ditto.
<b>Limose</b>	-	Ditto, ditto; seating seven; three on main interior seat; two on folding seats; ditto, ditto.