ABRIDGED
LIST . . .

BIANCHI CARS

ABRIDGED CATALOGUE

Bianchi Cars

DI-28

BIANCHI
MOTORS LD.
26 ST. JAMES'S STREET,
LONDON
S.W.

TELEPHONE :
Regent 5660

TELEGRAMS :
" Bianchauto, London."

BIANCHI GUARANTEE

All 1916 Bianchi Models are guaranteed

—not for six months or a year—

BUT FOR 50,000 MILES.

BIANCHI 1916 MODELS

THE success of the new Bianchi Policy and Mileage Guarantee with our last year's models has induced us to continue the manufacture of 1916 cars on the same principle.

It is a matter of sincere regret, however, that the continued advance in the cost of raw materials, and the enormous increase in the cost of freight and insurance, makes it quite impossible to sell at previous prices, but any addition in our listed prices only just covers such extra costs.

We have made minor improvements but no radical changes in the range of models we now offer, and we still adhere to our practice of making and assembling every part of the Bianchi Car in our own Factory at Milan, where over 3,000 workmen are employed, and the skill and technical knowledge undoubtedly

brought to bear in the manufacture of these cars, supplemented by a magnificently equipped Factory, and the most severe and exhaustive tests on Alpine roads of every chassis we offer for sale, enables us with every confidence to solicit the support of the discriminating Motorist in the forthcoming Season.

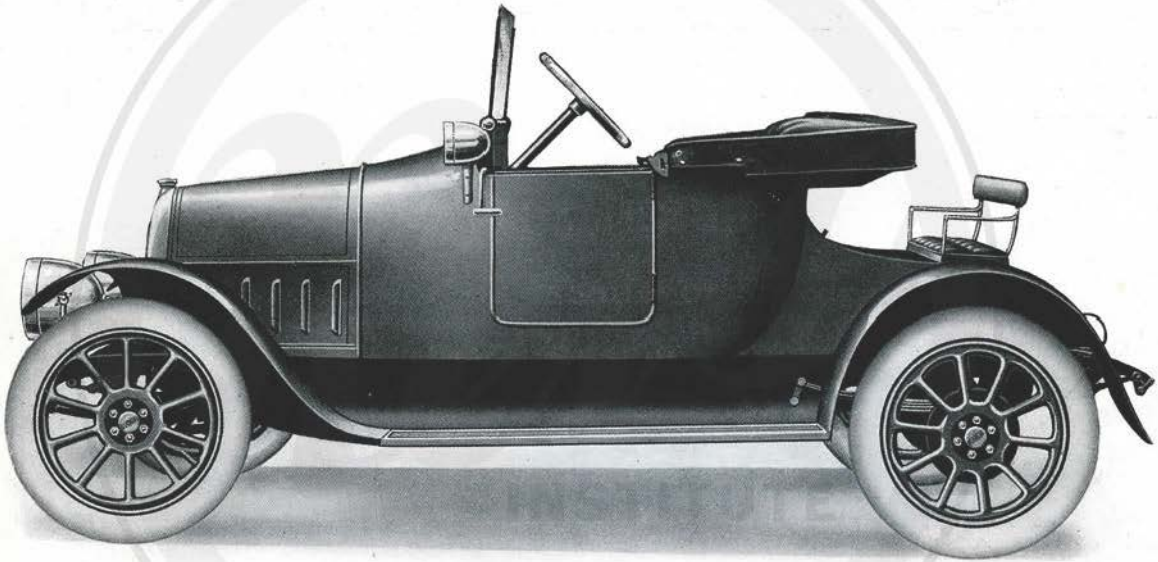
In the 1916 models we have aimed at a clean design and substantial build, with all outside pipes and levers eliminated, and a trial run will immediately demonstrate the silence, flexibility, power, absence of vibration and easy suspension of Bianchi Cars.

We shall be happy to send our complete Catalogue, or to give the fullest possible information, on request.

Our testing ground, "The Alps"

ABRIDGED SPECIFICATION OF 1916 MODELS

TYPE	S2	A3 Bis	B2	BC5	C6	E2
Horse Power	12	14/20	18/30	20/30	25/40	42/70
No. of Cylinders	4	4	4	4	4	4
Bore	60	75	90	90	100	130
Stroke	110	120	130	130	140	150
Ignition	High Tension Magneto					
Lubrication	Forced	Forced	Forced	Forced	Forced	Forced
Carburettor	Zenith	Zenith	Zenith	Zenith	Zenith	Zenith
Transmission	Live Axle	Live Axle	Live Axle	Live Axle	Live Axle	Chain Drive
Wheel Base	7' 10"	9' 3"	10' 2"	10' 10"	10' 10"	10' 10"
Wheel Track	4' 3"	4' 5"	4' 9"	4' 9"	4' 9"	4' 10"
Chassis, width front		2' 2"	2' 6"	2' 6½"	2' 6½"	2' 8"
" " rear		2' 8"	2' 10"	3' 0"	3' 0"	3' 0"
Overall, length	10' 10"	12' 8"	14' 3"	14' 7"	14' 7"	14' 5"
Body Space	6' 6"	7' 11"	8' 6"	8' 10"	8' 10'	8' 6"
Size of Wheels	700 × 85	765 × 105	820 × 120	820 × 120	880 × 120	880 × 135
Approximate Weight	12 cwts.	15 cwts.	19½ cwts.	21 cwts.	22 cwts.	24 cwts.
Price of Chassis, with Five Detachable Wheels and Tyres only	£305	£470	£575	£620	£750	£990
Price of 2-Seater Car, complete, including Hood and Screen	£345	£595	£700			
Lighting Set and Starter, complete with 5 Lamps	Extra £40	Extra £45	Extra £45	Extra £45	Included	Included



Bianchi 12 h.p. Car

BIANCHI 12 h.p. CAR

Car complete, fitted with Hood and Screen, Dickey Seat and Hood Envelope, 5 Sankey Detachable Wheels, complete with Tyres, including N.S. **£345**

SPECIFICATION

Motor—4 Cylinders, monobloc. Bore 60 mm. Stroke 110.

Ignition—Magneto, latest type.

Carburettor—Bianchi-Zenith.

Control—By foot accelerator, throttle and ignition levers on steering wheel.

Cooling—Thermo-Syphon, Honeycomb radiator and fan.

Lubrication—Forced feed.

Clutch—Single plate.

Change Speed—Three Speeds forward and reverse, gate-change.

Transmission—Bevel drive, live axle.

Road Wheels, Back—Carried on extension of axle casing.

Wheels—Sankey detachable 700 × 80 mm.

Brakes—2 Independent sets inside drums on rear wheels.

Bianchi 14-20 h.p. Chassis

BIANCHI 14-20 h.p. CHASSIS

Chassis, with 5 Detachable Wheels, Tyres, Plain Front and Non-skid Rear, complete, **£470**

SPECIFICATION

Motor—4 Cylinders, monobloc. Bore 75 mm. Stroke 120 mm.

Ignition—H.T. Magneto, latest type.

Carburettor—Bianchi-Zenith, Horizontal.

Control—By throttle and ignition levers on steering wheel and foot accelerator.

Cooling — Honeycomb radiator, Centrifugal pump and fan.

Lubrication—By forced feed, plunger or rotary pump.

Pressure—Plunger pump.

Clutch—Multiple disc.

Change Speed — Four speeds forward and reverse. Direct drive on top, gate-change.

Transmission—Enclosed propeller shaft to full floating live rear axle. Cardan drive with live axle to road wheels.

Road Wheels, Back—Carried on extension of axle casing, double ball bearings.

Brakes—2 Independent sets inside drums on rear wheels.

Wheels—Detachable, 765 × 105 mm.

Bianchi 18/30 h.p. Chassis

BIANCHI 18/30 h.p. CHASSIS

Chassis, with 5 Detachable Wheels and Tyres, Plain Front and Non-skid Rear, complete, **£575**

SPECIFICATION

Motor—4 Cylinder, monobloc. Bore 90 mm. Stroke 130 mm., special large valves.

Ignition—H.T. Magneto, latest type.

Carburettor—Bianchi-Zenith, Horizontal.

Control—By throttle and ignition levers on steering wheel and foot accelerator.

Cooling—Honeycomb radiator, Centrifugal pump and fan.

Lubrication—By forced feed, plunger or rotary pump.

Pressure—Plunger pump.

Clutch—Multiple disc.

Change Speed—Four speeds forward and reverse. Direct drive on top, gate-change.

Transmission—Enclosed propeller shaft to full floating live rear axle. Cardan drive with live axle to road wheels.

Road Wheels, Back—Carried on extension of axle casing, double ball bearings.

Brakes—2 Independent sets inside drums on rear wheels.

Wheels—Detachable, 820 × 120 mm.

Three-quarter Coupé De Luxe

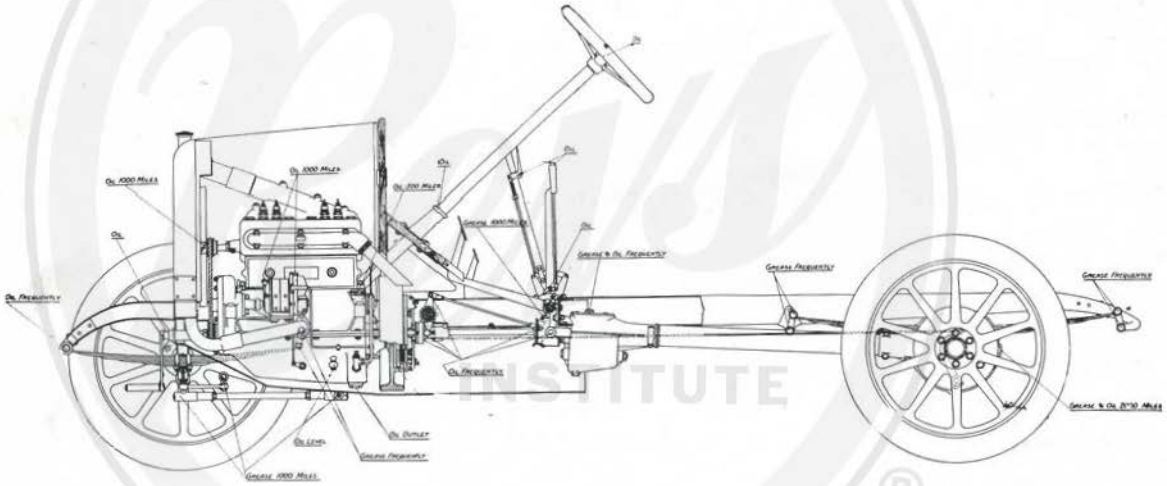
THREE-QUARTER COUPÉ DE LUXE

High-Class Body very luxuriously appointed. With Double Dickey Seat, dome wings, entrance from both sides.

For 12 h.p. Chassis **£140**

For further body prices see our large catalogue.

BRIEF DESCRIPTION AND WORKING INSTRUCTIONS OF 12 H.P. BIANCHI CHASSIS



Oiling Diagram and Side View of 12 h.p. Bianchi Chassis

Frame is made of the highest grade nickel steel hydraulically stamped into a frame of large section, ensuring the greatest rigidity and strength so as to stand the enormous strains to which a motor car can be subjected. We would especially draw your attention to the exceptionally strong side members, also the very wide cross members.

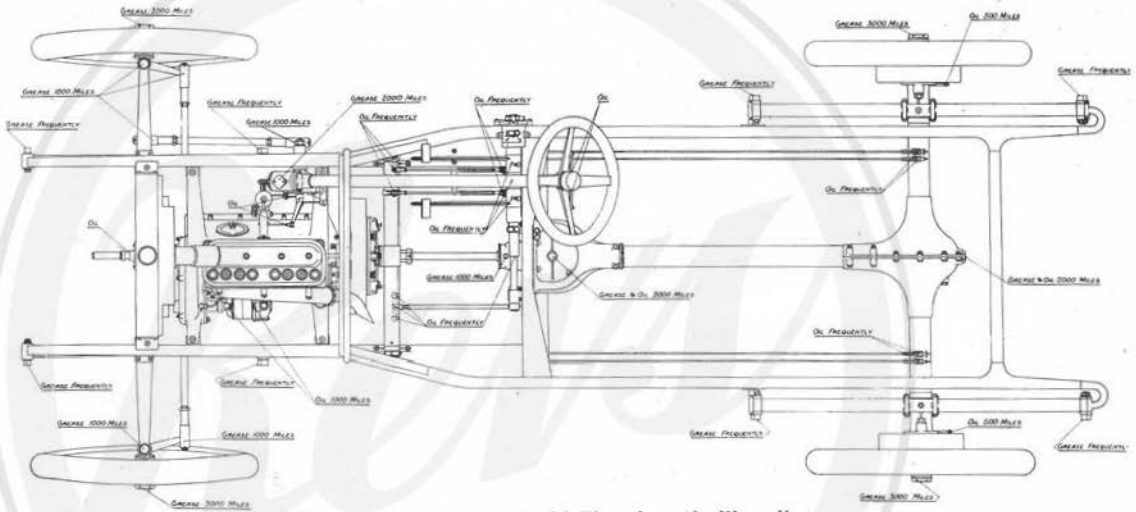
Suspension—The springs are specially flexible and long, giving the utmost comfort. Both front and rear springs are of semi-eliptic type. All springs are made of special spring steel of the highest grade possible.

Radiator is of the honeycomb type, of the very best quality, which our large experience has proved to give universal satisfaction. The engine cooling is effected on the thermo-syphon principle, with large water-pipes and sufficient head of water to give the natural flow. An auxiliary tank forming part of the radiator ensures a sufficient supply of water, even under tropical conditions. The cooling is so efficient that we recommend running with the fan disconnected in winter.

Shields under motor and gear box—This is made in two pieces (easily detached by one man), each piece is detachable, independent of the other.

Silencer is well suspended between two of the transverse members and fitted well out of the way of stepboards and valances. The silencer is constructed of steel tubes, is very efficient and easily detached for cleaning purposes, it can be taken apart by undoing one nut at each end which allows the front end of silencer to come away and the whole of the tubes to be taken out. The work of taking down, cleaning and re-assembling can be done in a few minutes.

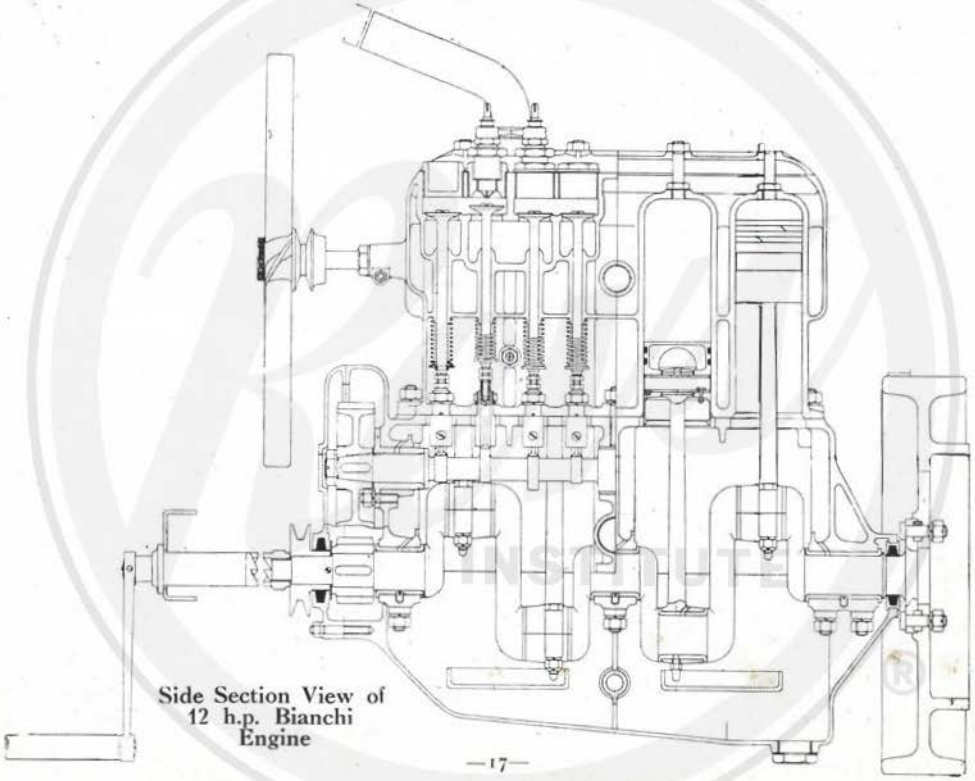
Wheels—Sankey detachable wheels are fitted as standard, and spare wheel supplied free. In order to remove wheel for changing, undo the nuts with the wheel brace supplied. To facilitate changing, occasionally oil the outer shell of the hub and studs. The nuts should be tightened from time to time.



Plan view of 12 h.p. Bianchi Chassis and oiling diagram.

THE ENGINE

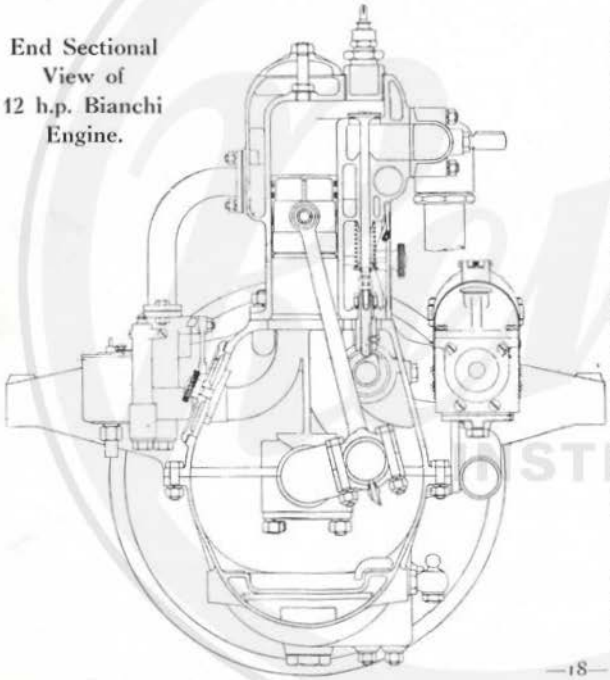
Will appeal to experts on account of its specially clean design and construction, the final result of many prolonged tests which have proved the super excellence of the present design.



Side Section View of
12 h.p. Bianchi
Engine

Crankshaft is made of nickel steel of very high resistance and of great strength, supported by three very long main bearings, and able to withstand the utmost strain that it is possible to put upon it.

End Sectional View of 12 h.p. Bianchi Engine.



Valves and lifters—The Valves are all placed on one side of the engine, are interchangeable, and made of nickel steel of the very highest grade, which cannot possibly warp. The valve lifters are fixed in pairs on the foot of the cylinder casting, and are steel stampings ground to a perfect fit.

The guides are of steel, case hardened. The valve springs are made very light on account of which very little energy is absorbed, thus allowing the engine to run at a high speed without vibration. The valve lift is adjustable in the usual way. We, however, advise our clients not to touch the valve adjustment as this is set very carefully at our works before the chassis is delivered. If, however, after a considerable amount of wear the valves require adjustment, the work should be done most carefully, the setting to be 2-3 tenths of a millimetre.

Connecting rods and pistons—The connecting rods are steel stampings, shaped, made as light as possible consistent with ample strength. The gudgeon pin bushes are made

Connecting rods and pistons—continued.

of nickel steel. The pistons are cast of special metal of very high resistance, and are as light as steel pistons, but stand the constant friction much better, and work without overheating even at very high speeds. The gudgeon pins are of nickel steel, ground, and fixed to the piston at one end only by a conical screw which ensures even expansion of the piston at all temperatures. The piston rings are made of a special metal, are all interchangeable, and an exact fit.

Fan is fitted just behind the radiator, cast of aluminium in one piece, belt driven, and running on ball-bearings, draws approx. 250 cubic feet of air per 1000 revs. of motor, on account of this it is advisable to slacken the fan belt in winter time. It has an eccentric adjustment.

Magneto—A high tension Magneto of the latest type is fitted and can be removed very easily. The internal tooth coupling permits of a very minute and accurate adjustment in relation to the position of firing.

To remove the Magneto, unscrew the two studs beneath the bracket.

Petrol consumption is very low, approximately 35 miles per gallon, this is still greater proof of the super-excellent efficiency of the engine.

Troubles : Their Causes and Remedies.

Carburettor not working properly--This probably is due to the petrol supply being blocked by dirt, either in the feed pipe or carburettor.

1. Unscrew the petrol union near the carburettor and see if a flow of petrol comes through the feed pipe, if not, take down the pipe and clean out thoroughly. This can, in most cases, be done by simply blowing hard through same, otherwise clear out with a piece of copper wire.

2. Should the petrol feed be quite in order the carburettor must be stopped somewhere. To ascertain position, take the lid off the float chamber (this can be done without tools), lift up the needle valve and see if the petrol flows freely. Should this be the case, then one of the jets must

be stopped up either by an infinitely small piece of grit or dirt, or some other foreign matter. To remedy this, take out the jets (which are placed in a very accessible position), and clean same.

3. A punctured float may cause a great deal of annoyance. To put this right, take out the float and evaporate the petrol in same by putting the float in a little hot water, then re-solder the opening, but use only a little solder so as not to alter the weight of the float.

4. Should the level of the petrol be too high or accidentally be put out of order, the petrol will flood. In this case it is advisable to consult us, one of our agents, or the "ZENITH, Co." It should be noted if the small weights on the float are working quite freely.

Should the engine refuse to start—The causes are either :

1. No ignition,

2. No petrol in the carburettor, which may be caused by petrol tap not being turned on properly.

3. Throttle may be too wide open or not sufficiently opened.

4. Sparking plug points too far apart.

Should the engine not develope its full power.

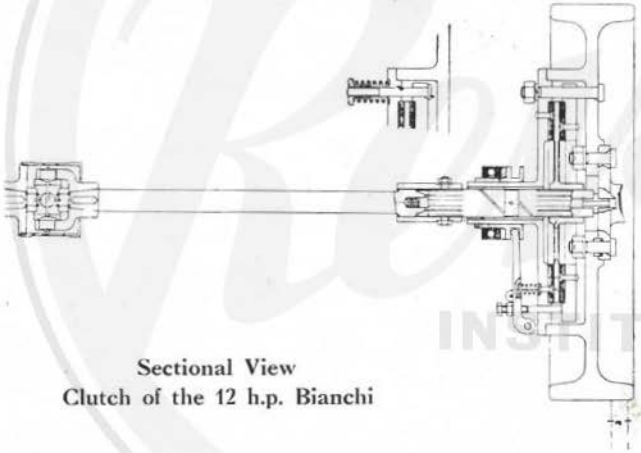
1. The mixture of gas is not sufficiently rich. Try a jet one number larger.

2. The mixture is too rich. Try a jet one number smaller. In the case of too rich mixture, the engine gets hotter than usual, also the exhaust is black.

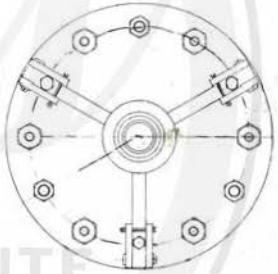
3. Or it may be that the engine is not getting sufficiently hot, in which case adjust fan belt as described previously.

4. Choke tube may be too small, try a larger size, but **never in any case try to bore out the existing jets** in the carburettor. For experiments purchase some different sizes either from us or the "ZENITH Co."

Clutch—The accompanying diagram shows a sectional view of the clutch used in the 12 h.p. Bianchi. It consists of two steel plates and a floating plate which has a Bianchi asbestos fabric disc riveted to either side. One of the steel plates is formed by the cover plate and the other is internal. The latter grips the floating plate to the cover plate by the pressure of six external springs and is caused to recede, thus releasing the clutch, by three fingers, operated by the adjustable arms. A ball thrust is provided in the clutch withdrawal collar which should be lubricated with oil every 250 miles. The clutch proper requires no lubrication, it being of the dry plate type. The withdrawal pins and spring bolts require oiling from time to time.



Sectional View
Clutch of the 12 h.p. Bianchi



End View showing
withdrawal arms.

Universal Joint between engine and gear-box—This is of unique design, working in oil-tight casing, which eliminates friction and makes rattle an impossibility.

GEAR-BOX AND GEARS.

The method of attaching our gear-box to the chassis is patented by us. It has some very great advantages which are enumerated below. This type of gear-box has been fitted by us with great success on our various models during the last 5 years, and we have the greatest confidence in fitting same to this our latest model. The gear-box is fixed by two forks to the middle transverse member of frame, and at the back end to the drawn steel torque tube, which again is connected to the rear axle. This unique design eliminates all universal joints between gear-box and rear axle, thereby reducing loss of power in transmission to a minimum. The gear-box being 3 point suspended is not affected by any working or warping of the chassis when the car is going over rough roads, as the alignment is always perfect.

By its special construction it absorbs all vibration from the differential, and the rear wheels hold the roads exceedingly well.

The gear-box contains three speeds forward, and reverse, worked by a single hand lever in a gate.

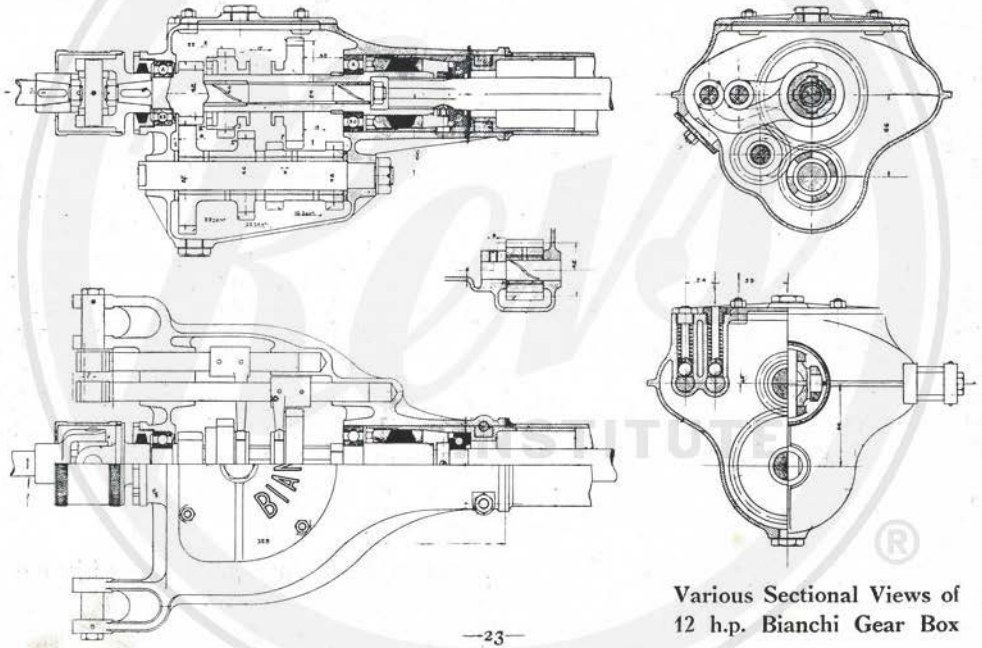
Shafts and gear-wheels—All our shafts are made of the highest grade nickel steel of great strength. They are heavy, strong, and well supported; they do not set up any vibration and are ground to an accurate fit for the bearings.

All gear-wheels are made of special gear steel of the best quality, almost impossible to wear out. The gears are hardened and ground after cutting, and tested on highly perfected machinery to ensure absolute silence.

Oil-tight packing of gear-box—It is impossible for our gear-box to lose any oil or grease as same is made in one piece, and all the openings for the shafts are fitted with oil-tight packing

Gear-Box and Gears—Oil-tight packing of gear-box—continued.

joints. These are adjustable, and should at any time a leak occur, it is very easily stopped by simply tightening the joint by means of the set screw fitted to same. A gland is also fitted at end of gear-box to prevent the oil from running through to the rear axle.



Various Sectional Views of
12 h.p. Bianchi Gear Box

Attachment through torque tube to rear axle—The transmission between the gear-box and rear axle is absolutely rigid, but the special fitting in front of our gear-box allows for any up and down movements, as well as any side strain. The upper end of the torque tube is bronze bushed and carries inside a ball bearing which again supports the cardan shaft at its upper end, also a ball thrust is fitted to take any end thrust due to declutching.

Externally, the upper end is supported by a strong bronze collar in which are placed two studs, working in a grove on the torque tube to allow for any uneven movement of the back axle.

Dismantling of gear-box—To effect this it is only necessary to detach the coupling between the engine and universal joint, and afterwards detach the two bolts holding the gear-box and torque tube together. Before removing the two studs at forked ends of gear-box, support same from underneath as the gear-box will otherwise drop to the ground. After removing these two studs the gear-box comes completely away from the chassis. To take out the gear-wheels withdraw the primary shaft and take out the gear-wheels through the opening on top; also the secondary shaft can be withdrawn and the gear-wheels of same taken out in the same manner. When re-assembling the gear-box see that the different bearings are fitted in their proper places and carefully note that the dog drive to cardan shaft is in its proper place.

Trouble with gear-box is for us quite unknown, as our gears are made of the highest grade material and on the most perfect machinery. We should advise our clients from time to time to see to the level of grease in the gear-box, which should be half way up the shafts.

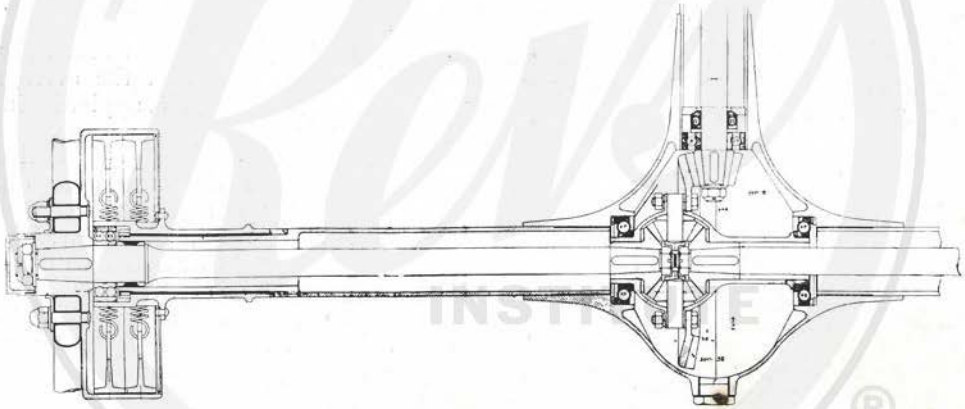
REAR AXLE

To ensure great strength and solidity, our rear axle casing has been subjected to quite extraordinary special studies.

Casing is in two pieces, joined in the centre, and carrying an extension into which the torque tube is fitted. Each half is a special high resistance steel stamping.

Crown wheel is made of highest grade gear steel, hardened and ground, and tested on special machinery to ensure perfect quietness.

Differential casing and gears—The differential casing is fixed to the crown wheel with bolts in the usual way. The differential consists of two sun wheels fitted to the driving shafts (the bearings for these shafts are case hardened), and four star wheels, working on a case hardened cross piece. The differential casing is supported on the axle casing by ball bearings and ball thrusts.

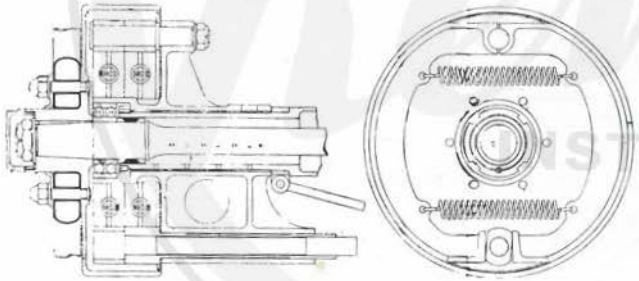


Sectional view of 12 h.p. Bianchi rear axle.

Driving pinion is made of the same high grade material as the crown wheel and in the same manner. It is fitted to the end of the propeller shaft on a taper and held in position by a key and nut. It is supported on a large ball bearing, and the thrust of the drive is taken by the thrust bearing provided.

Wheel hubs are carried on cradles fitted on the extension of the axle casing, so that the driving shafts carry no weight whatever. The road wheels run on double row ball bearings of very large diameter and heavy section (tested to carry a load of two tons), which are oiled automatically from the rear axle, a steel washer with felt packing preventing the oil from leaking out on the brake drums.

Supports for rear springs—These are fitted to the cradle carrying the wheel hubs, and are fitted so that no shocks from the application of the brakes or the torque of the drive are transmitted through same to the chassis. By this means the springs preserve their suppleness indefinitely.



Sectional Views of Brakes and Rear Hubs.

Brakes—It will be noticed on first sight that the brakes of our various models are all working in the brake drums of the rear wheels. This is the proper scientific method of braking, and saves the differential a good deal of wear. The two sets of brakes are worked independently, one by foot pedal and the other by hand lever. Our new equalizing system is three point suspended, and gives a very sweet action.

Brakes—continued.

The brakes are of very large diameter so that little effort is required to make them act. The brake shoes are made of cast steel. The brake liners are made of a special alloy to ensure very smooth braking action. All the parts of the equalizing system and the brake quadrants are steel drop forgings hardened and ground to a perfect fit.

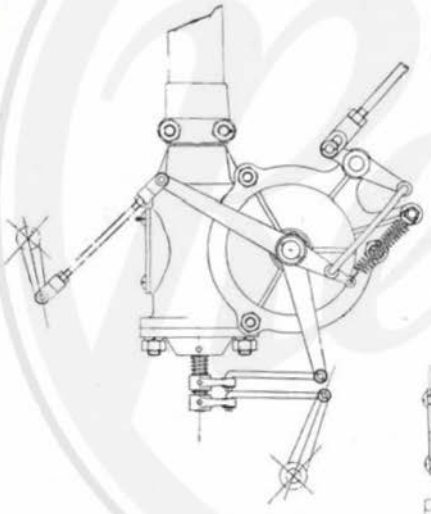
Adjustment of Brakes—By means of hand adjustment nuts on rear end of brake rods. The sectional view on the preceding page shows the operation of the brakes. In order to prevent any rattle of the brake operating rods an intermediary flexible support is provided, held in position by a tension spring—the guides of this support require a little oil from time to time. The road wheels should be removed occasionally for cleaning purposes.

STEERING

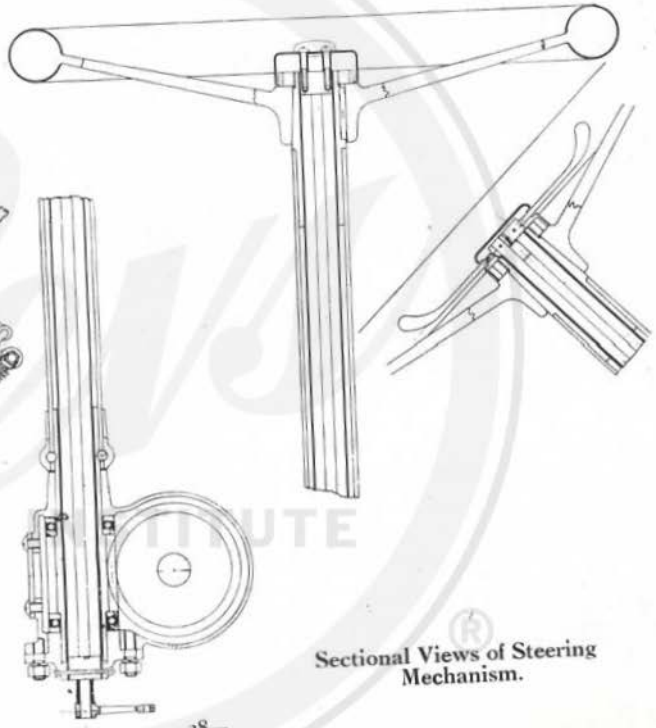
Front wheel pivots are manufactured of the finest quality high resistance steel, hardened and ground. The steering pins and bushes are made of the same material and in the same manner.

The centre of gravity is exactly in the centre of the tyre. In this way the easiest possible steering is obtained.

Steering is by worm and wheel, irreversible. The thrust is taken by two ball thrusts. Contrary to average practice we use a complete wheel instead of a sector and when wear takes place in one quarter of the wheel it can be turned into a new position thereby eliminating all slackness in the box. The column is supported by a long bronze foot attached to the footboards. In order to prevent any rattle of the rods that pass through the steering column a lead fitted tube is provided for these to pass through. A cover plate held in position by two screws offers ready



Steering box and control levers.



Sectional Views of Steering Mechanism.

access to the box without dismantling same for the purpose of inspection and lubrication. An ebonized steering wheel is provided. The control levers of the magneto advance and throttle are mounted on top of the steering wheel and work on the Autoloc principle. The one on the left alters the firing point of the magneto and that on the right the opening and closing of the throttle. Should the levers not remain where set the springs below the steering box require tightening, which can be effected by either fitting a stiffer spring or inserting a washer between the spring and lever.

LEVERS AND PEDALS

Besides the levers on top of steering column mentioned above, the following are fitted:

1. Outside right hand lever for working the brake acting on the back wheels through the equalizer.

2. Speed lever working in a gate of a new type, very neat, with a very short movement at top of lever.

3. Outside right foot pedal actuates second set of brakes on rear wheels through equalizer.

4. Foot pedal placed in the middle works the accelerator.

5. Clutch pedal is the inside left, actuating levers which work through a collar containing a thrust bearing. The levers are adjustable to take up any wear.

LUBRICATION SYSTEM AND GREASING

Engine is automatically lubricated by a rotary pump driven off the camshaft, a gauge on the dash showing that the oil is circulating. The pump takes the oil from the sump and delivers it to troughs below the connecting rods which are provided with dippers. The oil is also fed to

the main bearings and the chain-driven timing gears. The correct level of the oil is ascertained by a tap on the magneto side of the engine, the tap should be turned towards the flywheel to show when the oil has reached the required level, but care should be exercised to see that it is turned towards the radiator when the car is running. A test tap placed over the timing gear case is provided to test if the oil is circulating.

If gauge does not show any pressure :

1. See if the inlet tube is chocked up.
2. If the filter at bottom of same is dirty, in which case clean thoroughly with petrol.
3. See if all joints in pipes are properly made.
4. If after doing the above the gauge should still show no pressure, take down the oil pump (that is naturally supposing the gauge is working properly) and clean out.

The sump contains sufficient oil for 150-200 miles. A high level tap is fitted on the base, never fill above this and do not forget to close same before starting the engine.

Every 3,000 miles the sump should be cleaned out with a little paraffin and afterwards filled with fresh oil. Besides the automatic oiling of the engine it is necessary to oil the following parts, as indicated on the oiling charts on pages 14 and 16.

1. The magneto.
2. The fan bearing.
3. The bearings for the throttle and magneto levers.
4. Clutch bearing.
5. Fill the cover on universal joint with heavy gear oil.
6. Oil the ball bearings for withdrawing clutch.
7. All movements of pedals through their respective oil holes, also the movement of brake and speed levers.

Lubricating System and Greasing—continued.

Gears—Verify from time to time the level of grease in gear box, so that it does not get too low, the proper level is about half way up the primary shaft. About every two thousand miles oil the ends of the selector rods outside the gear-box, and also the pins holding same in their proper place.

Rear axle—Verify from time to time the level of grease in same. It should be up to the lower part of the driving shafts. About every 5,000 miles the brake drums should be cleaned inside with petrol, at the same time grease all the moving parts of the brakes and oil the equalizers.

Swivel pins and spring shackles and other parts fitted with grease caps should be seen to at least every one thousand miles, and the grease caps filled up, preferably with gear oil.

Steering box—About every two to three thousand miles this should be filled up with grease.

The best guarantee for the proper working of the chassis is to follow the instructions given.

Do not forget that the time spent in cleaning and oiling and otherwise looking after the chassis, will be repaid tenfold, both in repair bills and a perfect running of the car.

REPAIRS.—We keep a staff of skilled workmen to deal with repairs. Cars sent to us for repairs will only be driven at the risk and on the responsibility of the owner.

We reserve the right to make any alterations in our models during the year, without being compelled to modify or alter those already sold.

WHY A SECOND - HAND BIANCHI CAR ALWAYS COMMANDS A VERY HIGH PRICE

is easy to understand from previous statements in our catalogue issues, and due regard to the quality of the cars. Many a Bianchi Car which has done 50,000—100,000 miles is in absolutely perfect condition. This we can easily prove, and will refer prospective buyers to owners of our Cars, or to the numerous testimonials we are constantly receiving from Clients. The quietness of the Bianchi remains, as does the smooth running, even to the very end of its existence. It is evident, therefore, a Bianchi is the best investment for automobilists who requires lengthy and reliable service.

When a Bianchi is advertised second-hand, it is invariably promptly sold, and what is more at a good price—we, ourselves, nearly always have a number of enquiries for second-hand Bianchi's, and any owner desirous of selling his car should communicate with us.