Features of B.S.A. Motor Cycles

POWER, SPEED, SILENCE, SAFETY, ECONOMY, RELIABILITY—that's what you get when you choose a 1930 B.S.A. Motor Cycle. Some of the more important B.S.A. features are described in the following pages. Other features, which show how thoroughly every little detail has been studied to give greater convenience to the rider, include :—Finger adjustment to clutch and brakes ; Throttle stop to carburetter for slow running adjustment ; Battery carried under saddle on electrically equipped models ; Improved steering damper knob ; No inverted levers ; Carburetter lever controls (when fitted) open inwards.

Frame. *Inclined engine models.*

This frame has been re-designed for 1930. The general outline and duplex cradle construction have been retained, and in its latest form it possesses immense strength without excessive weight.

Instead of the tubular top member joined to the short tank rail a single high tensile steel forging "A" is used, embodying the head lug "B" at the front end and the seat lug "C" at the rear, forged in one piece. The usual brazed joints at the ends and at the centre are thus eliminated, and a much stronger and more reliable construction is obtained.

This gives the machine a

BACKBONE OF FORGED STEEL

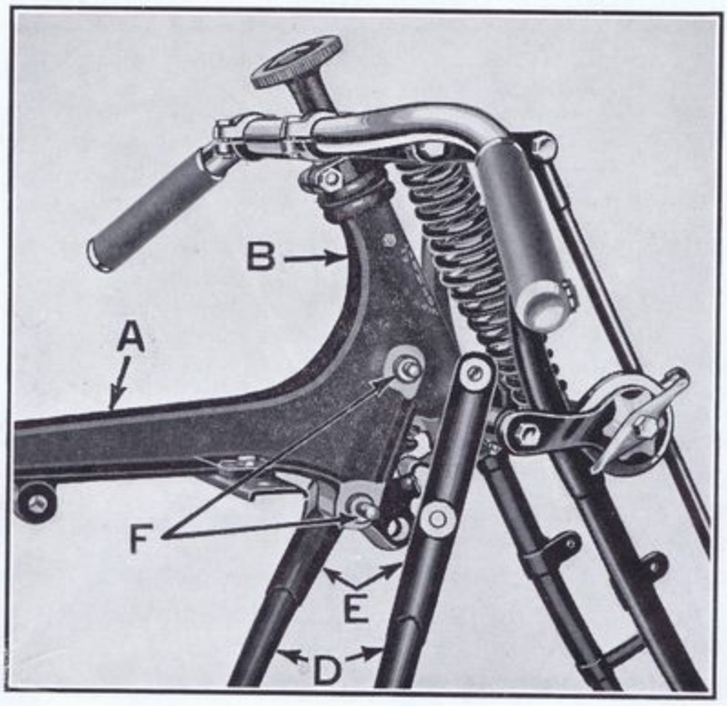
and means greater strength, greater safety, greater comfort.

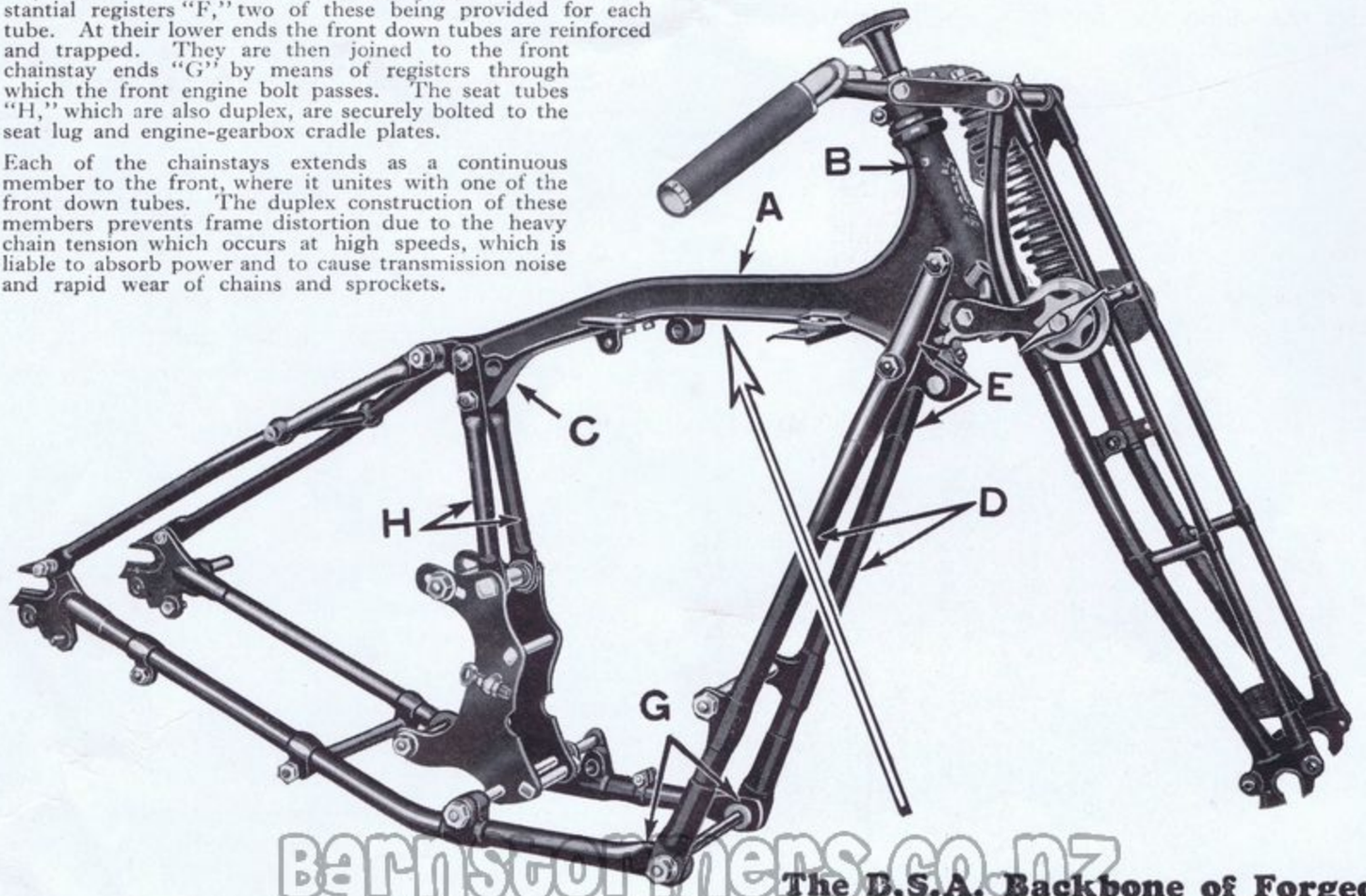
The forging is of a wide "I" section which is gradually increased from rear to front in such a way that it offers uniform resistance to bending throughout its length. At the front, immediately behind the head lug, where the vertical loading on the top member is high, a very deep section is employed.

This forging is also designed to withstand the side and twisting strains which occur during fast or heavy sidecar work, and to provide a degree of rigidity which results in complete stability on grease and on rough surfaces.

The duplex down tubes "D" are brazed into separate forgings "E," which are bolted to the head lug and located on substantial registers "F," two of these being provided for each tube. At their lower ends the front down tubes are reinforced and trapped. They are then joined to the front chainstay ends "G" by means of registers through which the front engine bolt passes. The seat tubes "H," which are also duplex, are securely bolted to the seat lug and engine-gearbox cradle plates.

Each of the chainstays extends as a continuous member to the front, where it unites with one of the front down tubes. The duplex construction of these members prevents frame distortion due to the heavy chain tension which occurs at high speeds, which is liable to absorb power and to cause transmission noise and rapid wear of chains and sprockets.





The B.S.A. Backbone of Forged Steel.

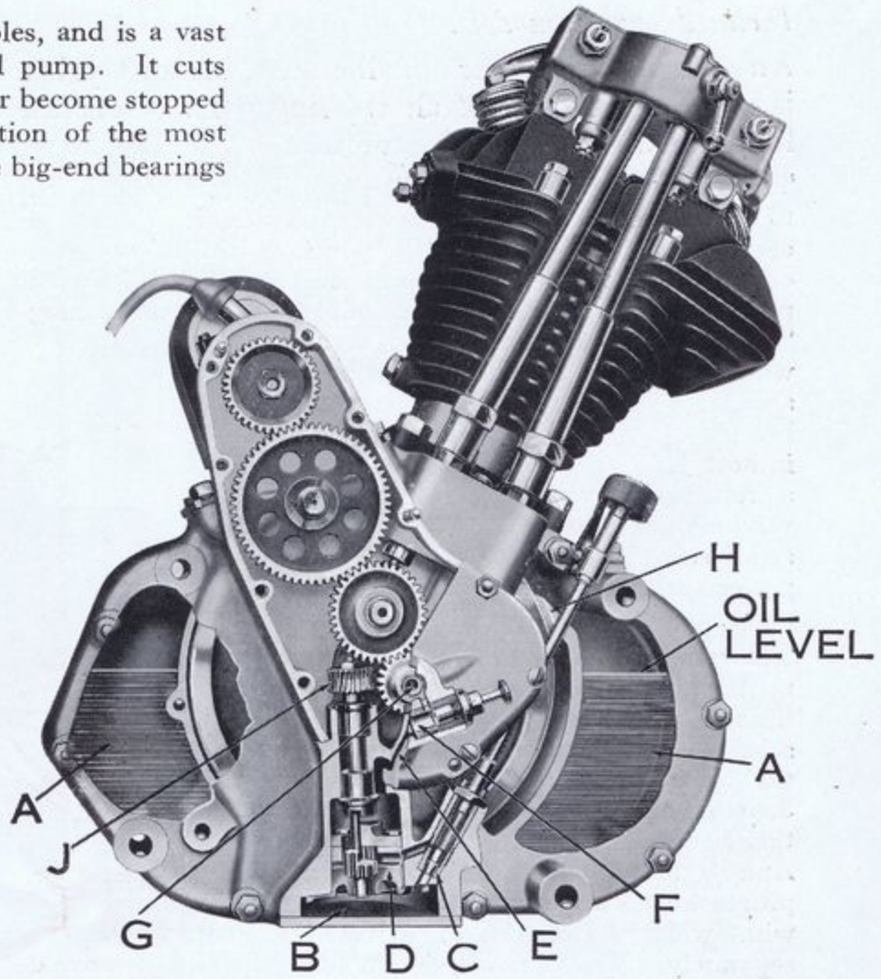
Sump Lubrication *Inclined engine models.*

This system is designed on car lubrication principles, and is a vast improvement over the old type of mechanical oil pump. It cuts out all external oil pipes, which are liable to break or become stopped up, and ensures greater efficiency in the lubrication of the most vital part of the engine—the big-end bearing. The big-end bearings of B.S.A. models equipped with circulating sump lubrication receive 250 times as much oil as the big-ends in engines fitted with the ordinary system. Yet the oil consumption is remarkably economical.

The oil is contained in the double sump "A," passes through the reservoir "B", past the adjustable valve control "C" to the pump "D." It is driven up the passage "E" into the tell-tale chamber "F," forces out the tell-tale plunger, enters the hollow crankshaft "G," and so through holes drilled in the flywheel and crankshaft to the big-end bearing.

After cooling and lubricating this bearing, the oil is thrown on to the cylinder walls and the underside of the piston. It returns to the crankcase and is picked up and carried round by the flywheels. The scraper "H" returns it to the sump. The pump is driven by worm gear "J" from the main shaft, and being submerged, is always full of oil and cannot fail to operate.

Once the correct setting for the control knob is obtained you need never touch it again. So long as you replenish the sump every few hundred miles the pump will faithfully provide perfect lubrication.



Sump Lubrication

Lightweight models.

This system is similar in principle to the sump lubrication on the inclined engine models, differing only in detail.

The oil is contained in the sump "A," passes through the filter "B," up the hole "C" to the pump, forcing out the tell-tale plunger on its way. The pump delivers oil past the adjustable control valve, and through the hollow mainshaft and holes drilled in the flywheel and crankpin to the big-end bearing. A portion of the oil is diverted to the timing and mainshaft bearing. After cooling and lubricating this bearing the oil is thrown on to the cylinder walls and the underside of the piston. It returns to the crankcase and is picked up and carried round by the flywheels. The scraper "D" returns it to the sump. An automatic release valve between the pump and control valve regulates the oil pressure in accordance with the control valve setting. Once the correct setting for the control knob is obtained you need not touch it again. So long as you replenish the sump every few hundred miles the pump will faithfully provide perfect lubrication.

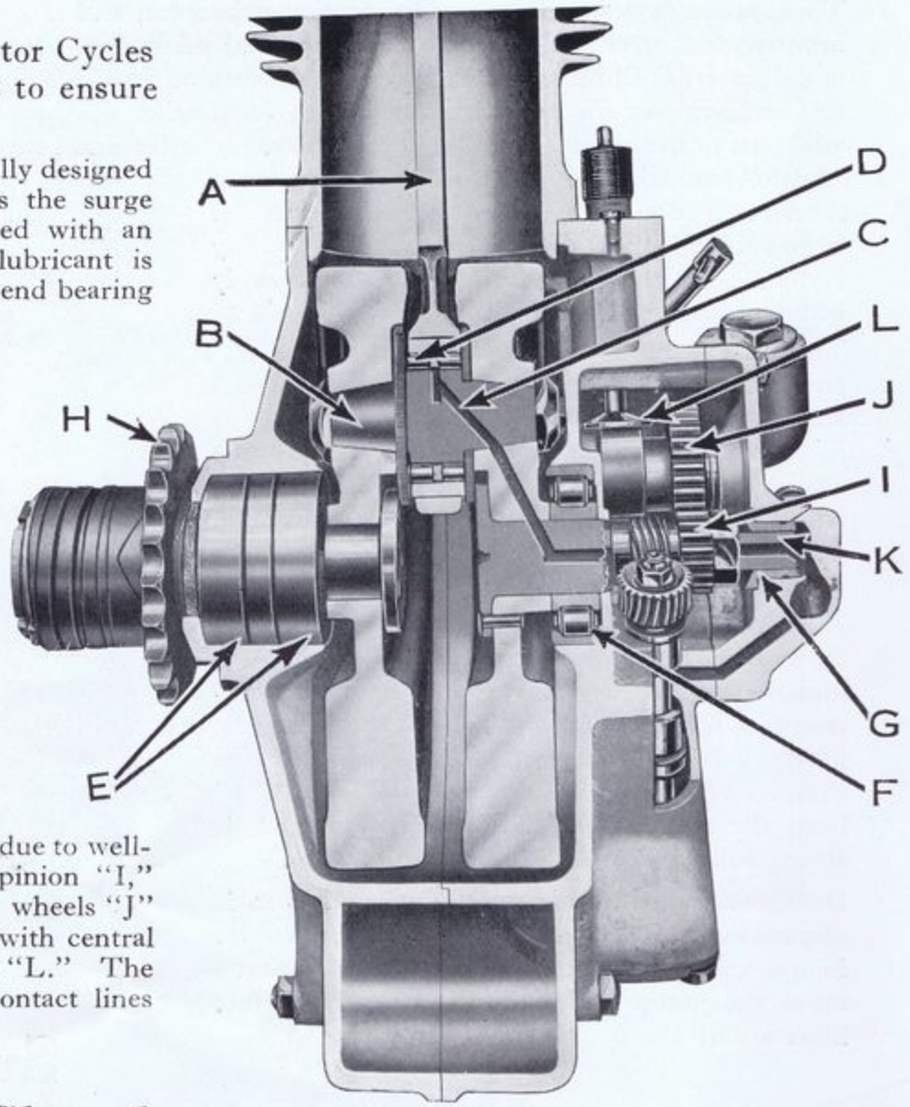
Engine Features.

Inclined engine models.

An outstanding feature of all B.S.A. Motor Cycles is the generous size of all wearing parts to ensure long life with minimum attention.

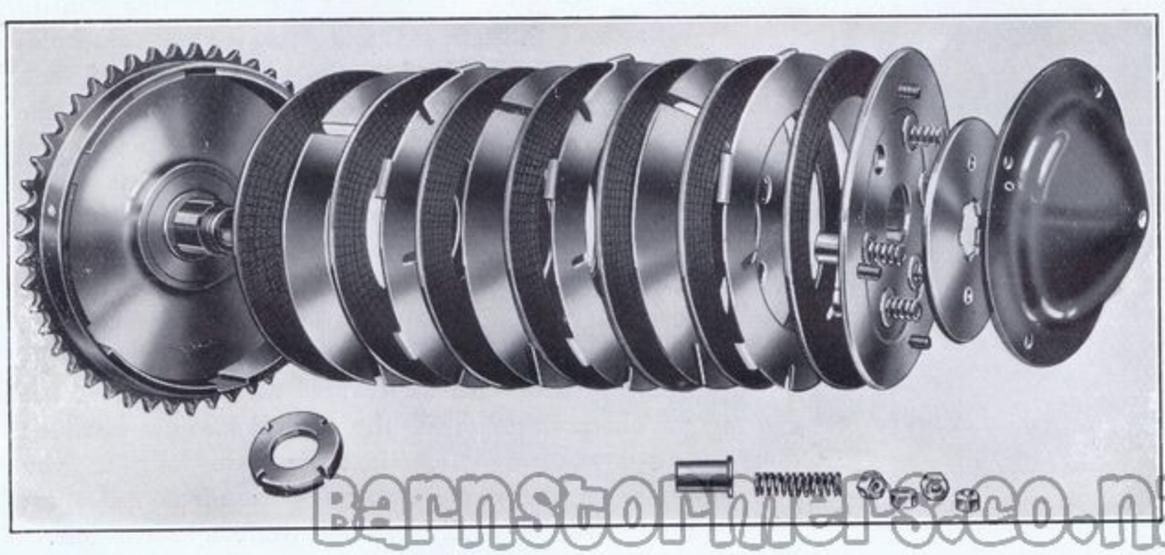
The alloy steel connecting rod "A" is scientifically designed to give strength with lightness. It transmits the surge of power to the crankpin "B" which is drilled with an oil passage "C". A continuous current of lubricant is pumped under pressure to the double row big-end bearing "D." Tapers in the forged steel flywheels grip the crankpin and the whole assembly rigidly rotates in the generous bearings. At "E" the mainshaft is housed in both ball and roller bearings, at "F" in a roller bearing (ball bearing on side valve models), and at "G" the oil feed is arranged. So the sprocket "H" runs in perfect precision, giving a noiseless chain drive.

The patented design of valve gear gives up to 1,000 miles at high speed without the need to set the valve clearance. The scientific springing scheme ensures that the valve follows the cam contour up to 5,400 revolutions per minute—45 perfectly timed openings and closings a second. And all this with commendably quiet operation due to well-proportioned wearing surfaces. The timing pinion "I," with wide working face, drives the cam wheels "J" separately. The cam wheels, on fixed shafts with central oil supply, operate circular flat base tappets "L." The regular rotation of these presents changing contact lines to the cam action, with consequent long life.



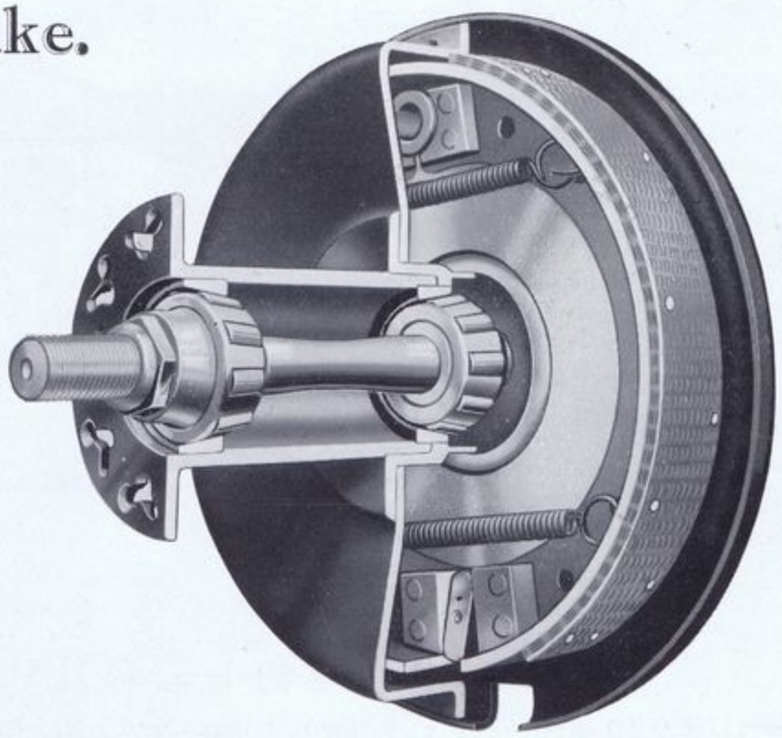
Clutch.

This is of the floating dry plate type. On the larger models it consists of seven friction rings and eight steel plates arranged alternately. There are thus 14 bearing surfaces with a total area of more than 200 square inches—an unusually large area for a motor cycle clutch. Every second steel plate is coupled by splines to the clutch drive which is driven by the primary chain. The other steel plates are splined to the clutch sleeve which is keyed on to the gearbox mainshaft. There are six clutch springs, and when the clutch is engaged these force the steel plates and friction rings together in such a way that the entire assembly rotates as a solid mass transmitting power from the engine shaft to the gearbox mainshaft.



The large bearing area and effective diameter of the plates permit of the use of medium strength springs. The clutch is, therefore, light to handle and sweet in engagement, and it possesses that delicacy of control which contributes so largely to the pleasure of driving. In the smaller models a lighter clutch of similar construction is fitted.

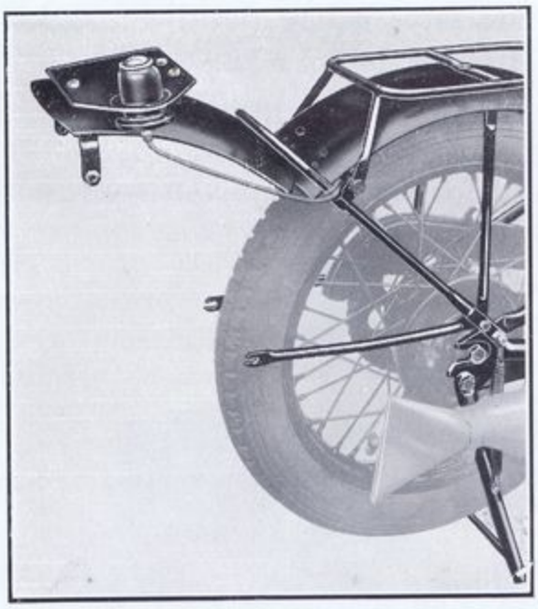
Front Hub and Brake.



The use of taper rollers for the wheel bearings ensures that heavy loads may be carried over rough roads for prolonged periods with the minimum of wear.

Adjustment is easily carried out, but owing to the substantial nature of the bearings, it is only necessary at long intervals. The large diameter high-grade steel spindle is of ample strength to withstand the most strenuous conditions. The brakes are of the internal expanding type. The brake shoes are steel pressings, light and yet sufficiently strong to resist heavy stresses without distortion. The generous width of the linings gives a large contact area, so that a powerful retarding effect is obtained with medium brake shoe pressure. A large range of adjustment is provided for the shoes.

The brake cover plate is specially formed to extend over the brake drum to render the whole weatherproof. Grease and oil from the wheel bearings are excluded from the linings by means of pen steel and felt washers. The quickly detachable front hub fitted to the 9.86 h.p. G 30-16 W.T. model is slightly different in construction, but embodies all the above features.



Hinged Rear Mudguard and Rear Stand.

On 3.49 h.p. O.H.V. and larger models.

The new design of rear mudguard, which is used in conjunction with a low-lift spring-up rear stand, reduces very considerably the amount of exertion required when the rear wheel is removed for any purpose.

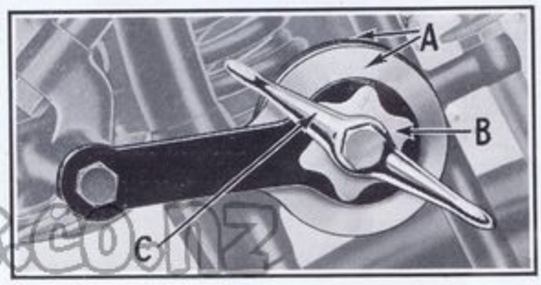
When the machine is on the stand the rear wheel is only raised about three inches from the ground. It is obvious, therefore, that the effort required to raise the machine on to the stand is small.

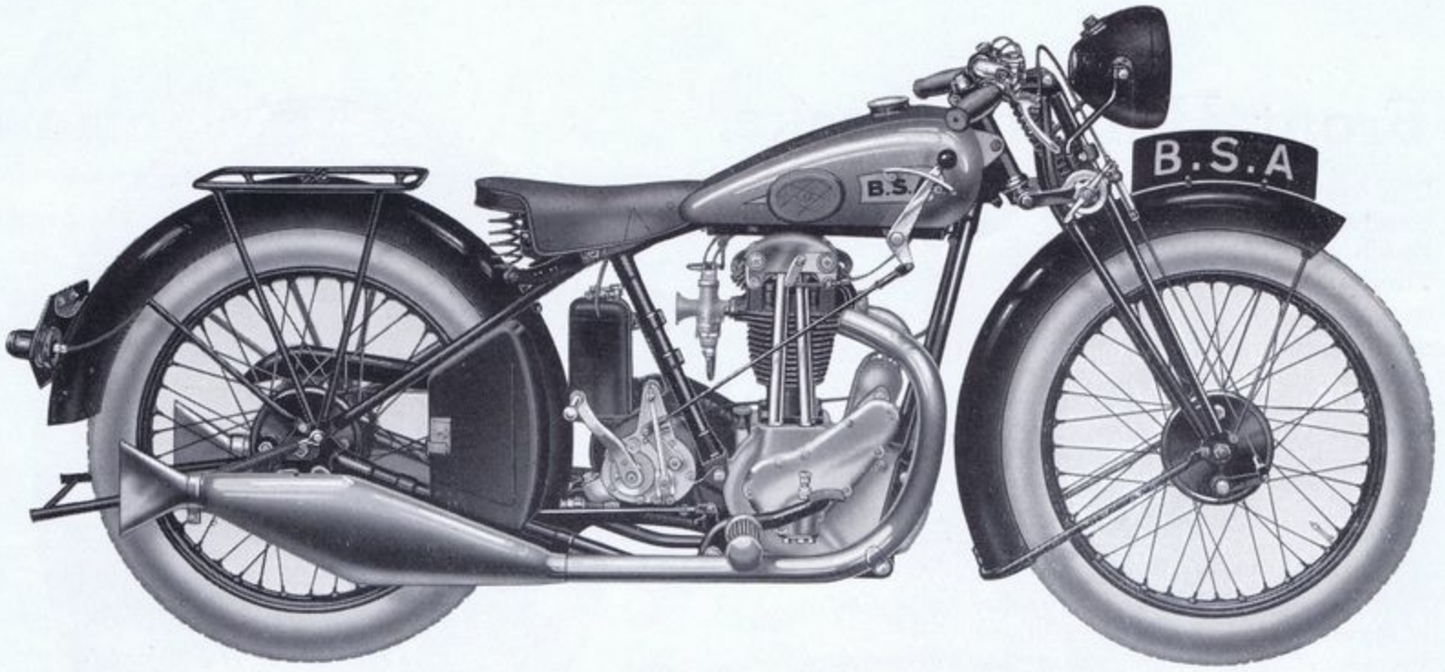
By undoing two nuts at the ends of the lower mudguard stays the hinged portion is released, and it may be swung up as shown in the illustration. The rear wheel may then be drawn clear of the machine with ease.

Shock Absorbers.

The advantages of properly designed shock absorbers are well known to experienced riders. To the new owner the first impression of shock absorbers is very pleasing. Instead of having a strong spring with a harsh rebound the modern spring fork is fitted with a comparatively light and resilient spring, the action of which is controlled by the shock absorbers in such a way that the machine floats over rough surfaces without violent deflection and rapid rebound.

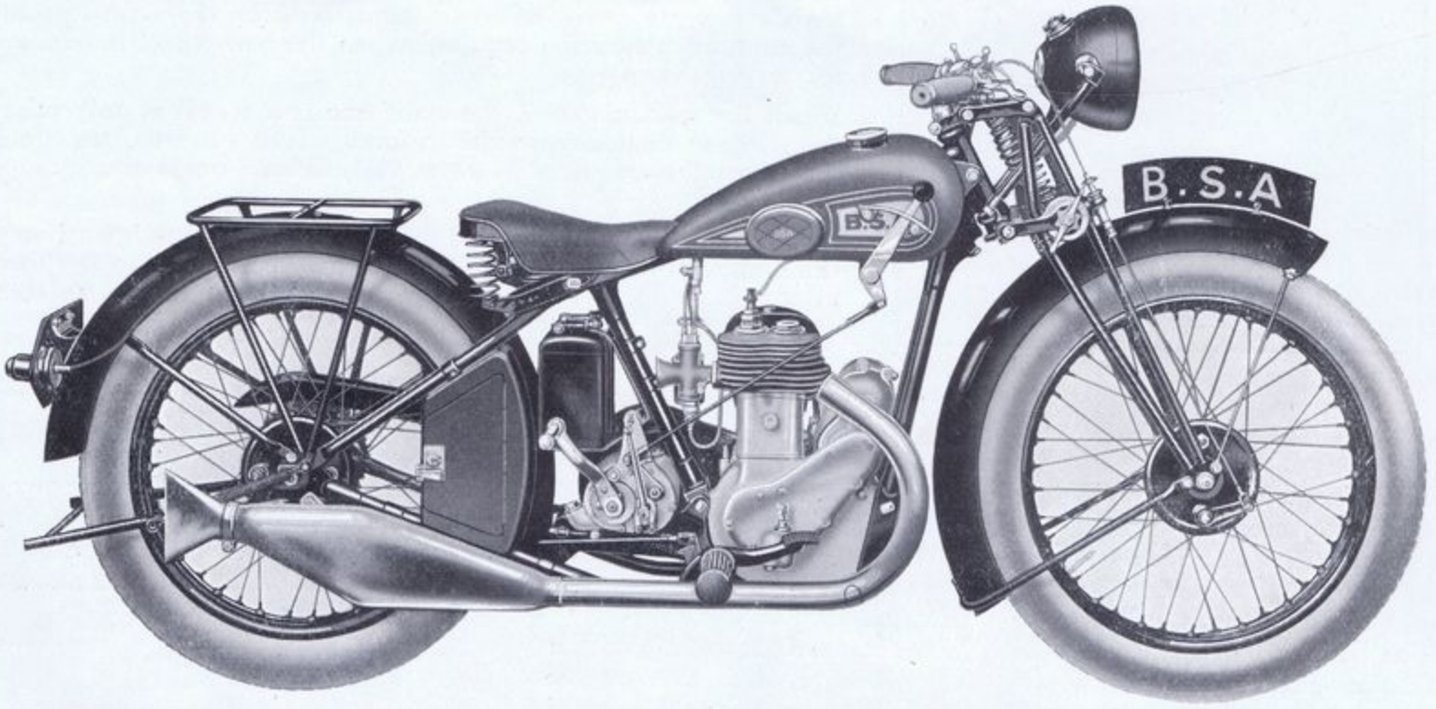
The B.S.A. Shock Absorber consists of two steel discs "A" with a friction disc between them. One of the steel discs is fixed to the forks and the other to the fork link. The three discs are pressed together by means of a star spring "B." When the forks deflect, the rate of movement of the links is governed by the pressure of the star spring, and this in turn is controlled by the quickly adjustable wing nut "C." The quick adjustment is provided in order that the rider may alter the star spring pressure, while riding, to suit the varying road conditions encountered.





B.S.A. 2.49 h.p. O.H.V. Model B 30-4.

THE 2.49 h.p. O.H.V. is an entirely new machine that will make an instant appeal to the motor cyclist who wants a fast lightweight machine. It has a simple highly efficient sump lubrication system designed on exactly the same lines as the system that has been made famous on the B.S.A. 4.93 h.p. O.H.V. model. Other features that every rider will appreciate include Duplex cradle frame with its low comfortable riding position; quickly adjustable shock absorbers to front forks; quick finger adjustment to both brakes; oil supply controllable from saddle; automatic variable oil feed to primary chain; and spring-up rear stand. The 2.49 h.p. and 3.49 h.p. models are similar to the O.H.V. in general design, but are fitted with side valve engines. These three machines are intended for solo and pillion work only.



B.S.A. 2.49 h.p. Model B 30-3. B.S.A. 3.49 h.p. Model L 30-5.

Lucas Acetylene Lamps, Lucas Electric Generator set complete with head and tail lamps and battery, or Lucas Magdyno set can be fitted if specified at an extra charge.

B.S.A. 2.49 h.p. O.H.V. Model B 30-4

Engine. Single cylinder, 2.49 h.p., 63 × 80 mm. bore and stroke. Detachable head with large overhead valves mounted at 90°. Enclosed push rods and rocker gear. Forged steel flywheels. Double row roller big-end bearings. Engine mainshaft driving side mounted on ball bearing, plain bearing on gear side. Timing gear specially designed for silent operation. Two 1⅝in. diameter exhaust pipes, with silencers and fish-tails.

Lubrication. Oil sump integral with crankcase, capacity 2½ pints. Gear-type pump, driven by skew gearing from mainshaft with the output control accessible from saddle. Control is on the delivery side of pump. Oil is supplied to mainshaft and big-end bearings through special oilways. Visible tell-tale on timing cover.

Surplus oil in crankcase returned to sump by scraper acting on flywheels. Oil level indicator fitted to filler plug. Automatic variable oil feed to primary chain.

Transmission. Front and rear chains, ½in. × .305in. Front chain enclosed and lubricated from engine. Rear chain protected by an efficient guard. Cam-faced cush drive on engine shaft. Clutch contained in large chain wheel, with quick adjustment. Floating dry plate type, controlled by lever on left handlebar, with large diameter cable. B.S.A. three-speed gear with kickstarter mechanism enclosed. All gears constantly in mesh. Change-speed lever with gate mounted on right side of tank. Screw adjustment of gear box position for accurately setting chain tension. Gear ratios: 6.6, 9.8, 14.5.

Frame. Of new design. Duplex cradle type. Large diameter top tube and front down tubes brazed in steel head lug. Tubular steel chainstays. B.S.A. new wide type of spring fork with barrel compression spring, and large quickly adjustable shock absorbers. Semi-sporting handlebar, adjustable and reversible for touring or sports position.

Saddle tank for fuel only, capacity 1¾ gallons. Chromium-plated, with top panel in B.S.A. green. New pattern B.S.A. adjustable knee grips. Tyres, 26 × 3.25in., wired-on type, mounted on heavy gauge 19in. × 2½in. rims. Taper roller bearings for hubs. Both brakes 5½in. diameter, internal expanding type, and provided with quick adjustment. Front brake operated by lever on right handlebar, rear by toe pedal on right of machine. Rear spring-up stand, front stand rigidly secured to guard.

Ground clearance 4⅞in. Saddle height 27in.

Equipment. Lucas Magdyno Lighting Set extra. Spring seat saddle, with special fixing, giving low position with fore and aft adjustment. Tool box of increased capacity fitted to chainstay. Complete set of tools, including valve spring extractor and grease gun. Inflator fitted beneath tank.

Carburetter lever controls open inwards. Twist grip controls extra.

Air cleaner extra.

Finish. Chromium plating to petrol tank, silencing system, handlebar and fittings, gear lever and quadrant, etc.

B.S.A. 2.49 h.p. Model B 30-3

The specification of this machine is similar to the B 30-4 model, except on the following points :

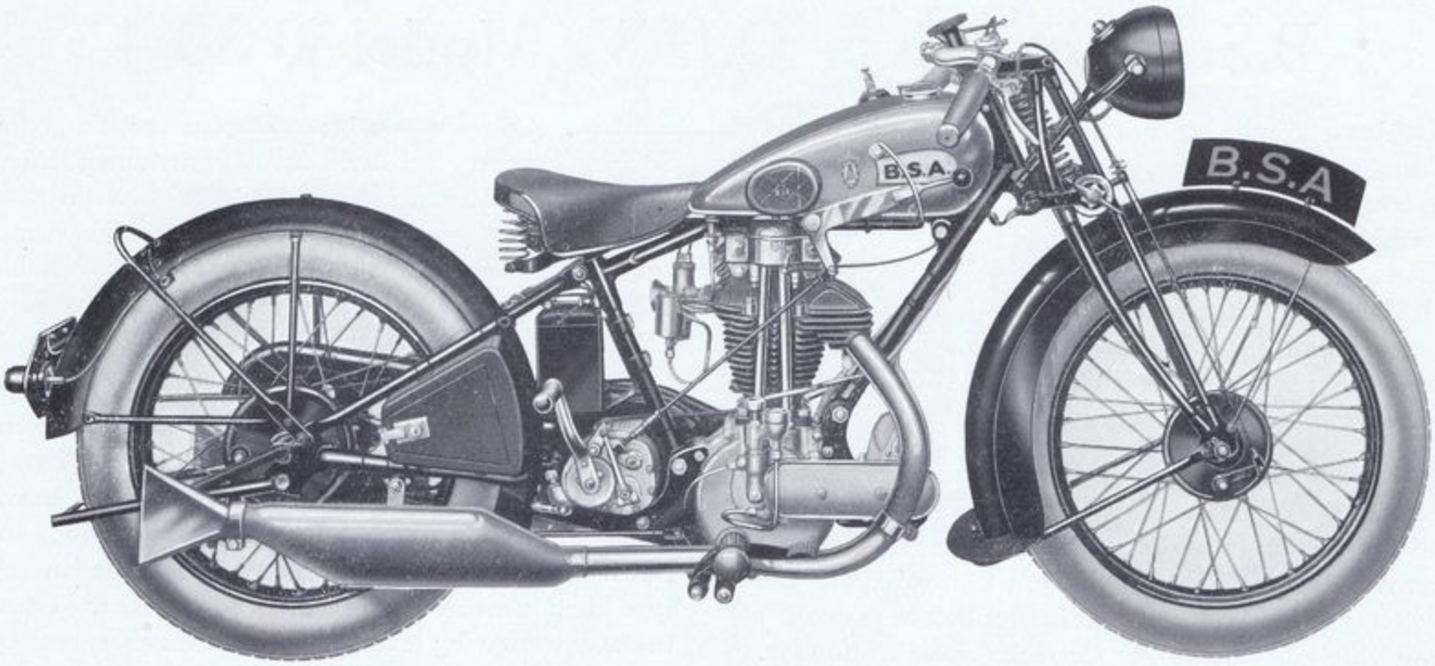
Engine - -	- 249 c.c. Side valve, 63 × 80 mm. bore and stroke.
Ground clearance	- 4⅜in.
Clutch - -	- Smaller type.
Tyres - -	- 25 × 3in. cord. 26 × 3.25in. extra.
Tank - -	- Finish B.S.A. green, with usual transfer.
Footboards	- With rubber mats. Extra.

Handlebar and other bright parts heavily nickel-plated.

B.S.A. 3.49 h.p. Model L 30-5

This machine, now designed for solo work only, embodies the same frame and crankcase as model B 30-3, but gives an improved performance. The specification is similar to the B 30-3 model, except for :—

Engine - -	- 3.49 h.p., 72 × 85½ mm. bore and stroke.
Ground clearance	- 4⅞in.
Clutch - -	- Larger, as B 30-4.
Tyres - -	- 26 × 3.25in.
Gear Ratios	- 5.9, 8.7, 12.8.

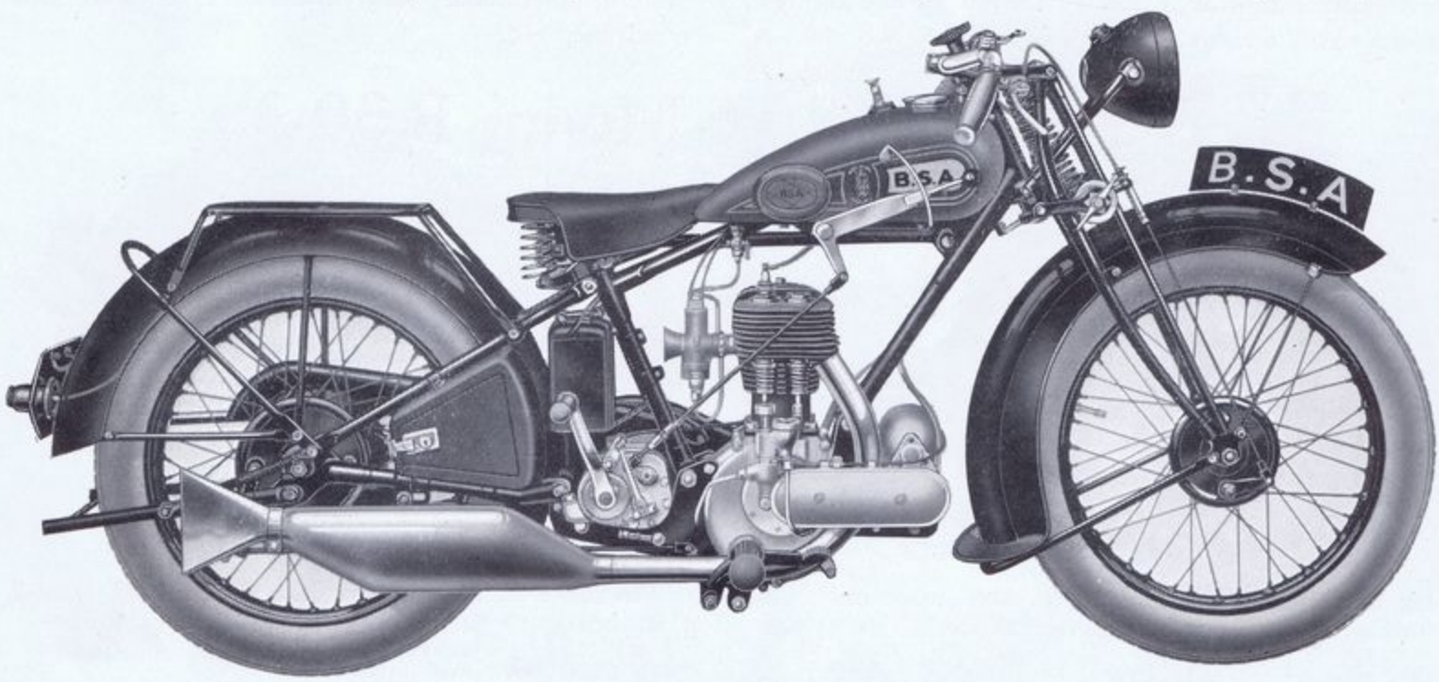


B.S.A. 4.93 h.p. O.H.V. Light Model S 30-19

THESE TWO B.S.A. MOTOR CYCLES are designed to meet the requirements of those riders who want a light, economical and easily handled machine either for solo riding or for light sidecar work.

The 4.93 h.p. O.H.V. Light is comfortable to ride and easy to control. It is remarkably quiet, very economical in petrol and oil, has rapid acceleration, and can maintain high speeds over long distances without overheating and loss of engine power. Such features as hinged rear mudguard and low-lift spring-up stand for easy removal of back wheel, and finger adjustment to brake, clutch, shock absorbers and steering damper, prove how thoroughly every little detail has been studied to provide comfort and convenience for the rider.

The 4.93 h.p. Light model meets the needs of riders who prefer the simplicity of the side-valve engine. Its performance satisfies the demand for reasonable speed and hard pulling combined with remarkable economy. It is comfortable and easily handled when ridden solo, whilst it has ample power to maintain good touring speeds with a moderate sidecar load. It has the further advantage that very little attention is required to maintain its performance.



B.S.A. 4.93 h.p. Light Model S 30-18

Lucas Acetylene Lamps or Lucas Magdyno Set can be fitted if specified at an extra charge.

B.S.A. 4.93 h.p. O.H.V. Light Model S 30-19

Engine. Single cylinder, 4.93 h.p., 80 × 98 mm. bore and stroke. Detachable head with large overhead valves, mounted at 90°, and push rods enclosed. Rockers mounted on roller bearings and provided with return springs. Silent timing gear with flat base tappets and wide cams. Mainshaft mounted on ball bearings. Aluminium alloy piston. Two silencers, with fish-tails, mounted on chainstays.

Lubrication. Gravity feed to mechanical pump, then to sight feed on timing case, and feeding direct to big-end bearing. Oil control valve on sight feed. Hand pump feeding to crankcase. Oil is supplied to primary chain by depressing spring by-pass valve on sight feed. Hubs, fork links, etc., fitted with grease gun nipples. An auxiliary oil tank with pedal-operated force feed pump mounted on the seat tube and feeding oil direct to the cylinder wall can be fitted to magneto models at an extra charge.

Transmission. Front chain ½in. × .305in. totally enclosed in two-part chain case. Rear chain ⅝in. × ⅜in. protected by an efficient guard. Cam-faced cush drive on engine shaft. Clutch contained in large chain wheel with quick adjustment. Floating dry plate type, indestructible, controlled by lever on left handlebar. B.S.A. three-speed gearbox, with screw adjustment for front chain tension. Kick-starter mechanism enclosed in gearbox, and spindle increased in diameter. Pressed aluminium casing enclosing mechanism on end cover of gear box extra. Inclined gear lever on right-hand side of tank. Gear Ratios: Solo, 5.0, 6.9, 11.9 to 1; Sidecar, 5.6, 7.6, 13.2 to 1.

Frame. Designed to give low riding position. High-grade weldless steel tubing and forged steel lugs throughout. Head lug of continuous type, giving great strength. Fitted with special integral lugs to take B.S.A. Sidecars. Head fitted with B.S.A. steering damper. Reversible handlebar mounted behind steering head. Saddle tank, nickel-plated, with top panel in B.S.A. green; capacity, petrol 2 gallons; oil 3¼ pints. New pattern B.S.A. adjustable knee-grips. Tyres, 26in. × 3.25in., mounted on heavy gauge 19 × 2½in. rims. Brakes quickly adjustable; front 5½in. diameter; rear 7in. diameter. Brake cams increased in width. Front mudguard with flared side wings; rear guard hinged to allow easy removal of wheel in conjunction with new low-lift spring-up stand.

Ground clearance 4¾ins. Saddle height 29½ins.

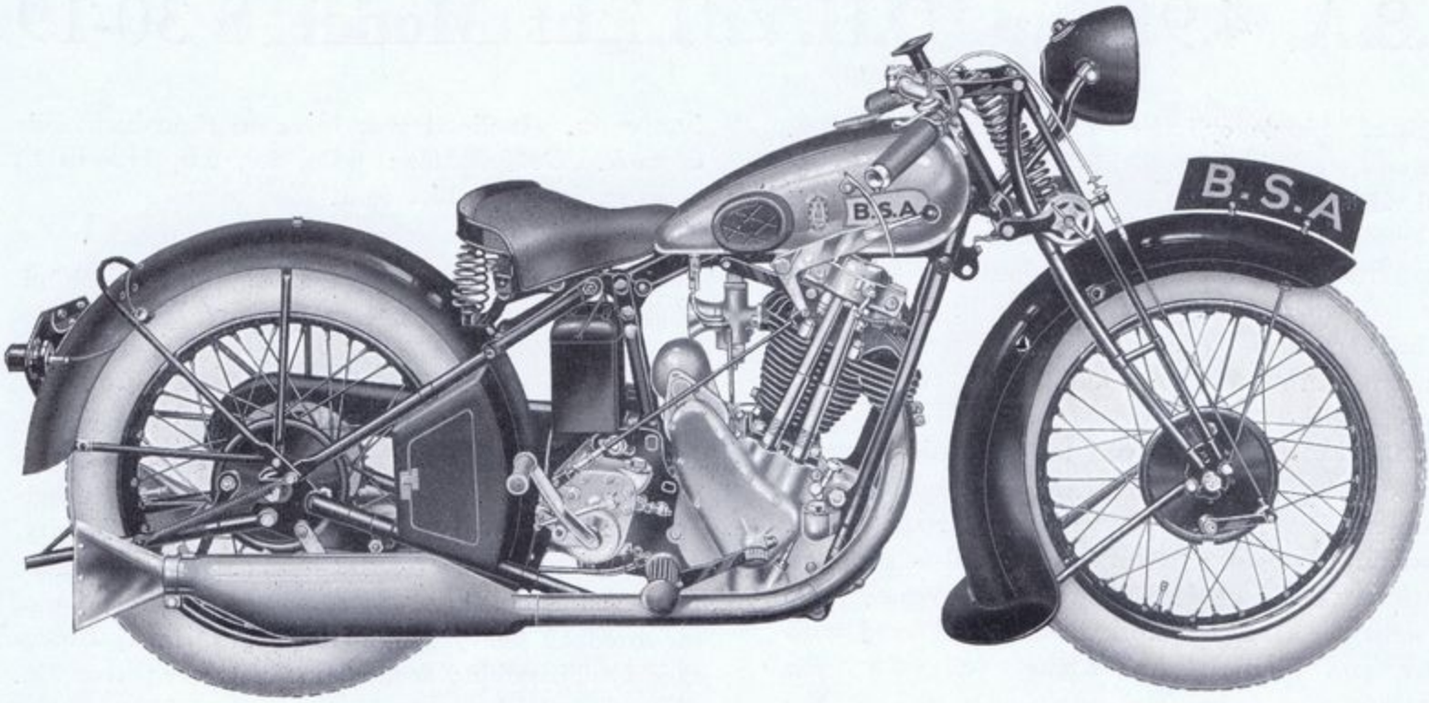
Equipment. Lucas Magdyno Lighting Set extra. Spring seat saddle. Tool box of increased capacity and improved appearance to conform to the lines of the machine. Complete set of tools, including valve spring extractor. Inflator. Carburetter levers open inwards. Long twist grip controls for throttle and ignition extra. Detachable carrier extra. Air cleaner extra.

B.S.A. 4.93 h.p. Light Model S 30-18

This machine has a similar specification to model S 30-19 O.H.V. Light, except for :—

Engine	493 c.c. side valve.
Clutch	Lighter type.
Rear Chain	⅝in. × ¼in.
Detachable Carrier	Included in the specification.
Tank	Finish, B.S.A. green, with usual transfer.
Lubrication	Oil delivered from sight-feed to crankcase. Auxiliary oil tank cannot be supplied.
Gear Ratios	Solo, 5.2, 7.1, 12.3 to 1; Sidecar, 5.7, 7.8, 13.5 to 1.

For an extra charge model S 30-19 O.H.V. Light can be fitted with a specially tuned engine (high compression piston, special cams, racing magneto), and supplied with a spare low compression piston, complete with rings and gudgeon pin, spare racing plug, valve, valve springs and engine sprocket.



A BACKBONE OF FORGED STEEL—that's one of the outstanding features of these new B.S.A. O.H.V. models. Motor cyclists will recognise the significance of this unique feature in motor cycle construction, which means super-strength in one of the most vital parts of the motor cycle—the frame. It means rigidity—absolute stability on the roughest roads—and greater safety. There are many other points which will appeal to the motor cyclist. The power-output of the B.S.A. inclined engine ensures a perfect top gear performance, and makes possible the maintenance of high average speeds over long distances without overheating. The car-type sump system means highly efficient engine lubrication, and economy in oil consumption. The B.S.A. exhaust system subdues the exhaust note to a pleasant, mellow burble, whilst scientific design has reduced mechanical and valve gear noise to a minimum. The duplex cradle frame and saddle tank give a low, comfortable riding position, while rock-steady steering and efficient internal expanding brakes give a maximum degree of safety at all speeds.

B.S.A. 4.93 h.p. O.H.V. de Luxe Model S 30-13

B.S.A. 4.93 h.p. O.H.V. Model S 30-12

B.S.A. 3.49 h.p. O.H.V. Model L 30-11

Lucas Acetylene Lamps or Lucas Magdyno Set can be fitted if specified at an extra charge.

B.S.A. 4.93 h.p. O.H.V. de Luxe Model S 30-13

Engine. Inclined single cylinder, 4·93 h.p., 80 × 98 mm. bore and stroke. Detachable head with large overhead valves, mounted at 90° and push rods enclosed. Return springs to rockers and push rods. Silent timing gear with flat base tappets and wide cams driven separately from crankshaft. Steel flywheels with shafts running on generous ball and roller bearings. Double row roller big end bearing fed with oil direct from mechanical pump.

Lubrication. Oil sump integral with crankcase ; capacity 3 pints. Submerged gear pump with accessible control knob. Oil supplied direct to big end. Visible tell-tale on timing cover. Surplus oil in crank case returned to sump by scraper acting on flywheels. Quick release oil level indicator of dipper type. An auxiliary seat tube oil tank with pedal operated force-feed pump feeding to the cylinder wall can be fitted to magneto models only at an extra charge.

Transmission. Front chain ½in. × ·305in., totally enclosed and lubricated from engine. Rear chain ⅝in. × ⅜in., protected by an efficient guard. Cam-faced cush drive on engine shaft. Clutch contained in large chain wheel with quick adjustment. Floating dry plate type, indestructible, controlled by lever on left handlebar. B.S.A. three-speed gearbox with pivot mounting for chain adjustment. Kickstarter mechanism enclosed in gearbox and spindle increased in diameter. Pressed aluminium casing enclosing mechanism on end cover of gearbox extra. Inclined gear lever on right side of tank. Gear Ratios. Solo, 5·0, 6·9, 11·9; Sidecar, 5·6, 7·6, 13·2.

Frame. Of new design, immensely strong. The top member is a single high tensile steel forging with integral head and seat lugs, scientifically proportioned to give increased strength at every point. Weldless steel tubing for remainder of frame. Duplex front down tubes terminate in steel forgings, which are bolted to registers on the top frame member. Duplex seat tubes thrown further forward to accommodate battery under saddle. B.S.A. spring forks with quickly adjustable shock absorbers of increased size. Head fitted with B.S.A. steering damper. Integral lugs for sidecar attachment. Reversible handlebar mounted behind steering head. Saddle tank, chromium plated, with top panel in B.S.A. green, for fuel only ; capacity 2¼ gallons. New pattern B.S.A. adjustable knee-grips. Tyres 26 × 3·25 in., mounted on heavy gauge 19 × 2½in. rims. 27 × 4in. tyres (with open type front guard) can be fitted to same rims at an extra charge. Both brakes 7in. diameter and quickly adjustable. Brake cams increased in width. Front mudguard with flared side wings, rear guard hinged to allow easy removal of wheel in conjunction with new low-lift spring-up stand.

Ground clearance 4⅝in. Saddle height 27in.

Equipment. Lucas Magdyno Lighting Set extra. De Luxe type spring seat saddle. Large pan seat saddle extra. Toolbox of increased capacity and improved appearance to conform to the lines of the machine. Complete set of tools, including valve spring extractor. Inflator. Carburetter lever controls open inwards. Long twist grip control for throttle if specified. Twist grip for ignition extra. Air cleaner fitted to carburetter. Detachable carrier extra.

Finish. Chromium plating to petrol tank, silencing system, handlebar and fittings, gear lever and quadrant, engine tappet tubes, etc.

B.S.A. 4.93 h.p. O.H.V. Model S 30-12

This is a lighter model than the 4·93 h.p. S30-13 O.H.V. de Luxe, but is generally similar in specification. The following are the main points of difference :—

Tank - - Finish, B.S.A. green, with usual transfer.
Front Brake - 5½in. diameter.
Front Fork - New design to suit 5½in. brake.
Saddle - - Standard spring seat.
Air Cleaner - Extra.
Push Rods - Enclosed in plain tubes without return springs.
Finish - - Bright parts nickel-plated.
Twist grip control to throttle extra.

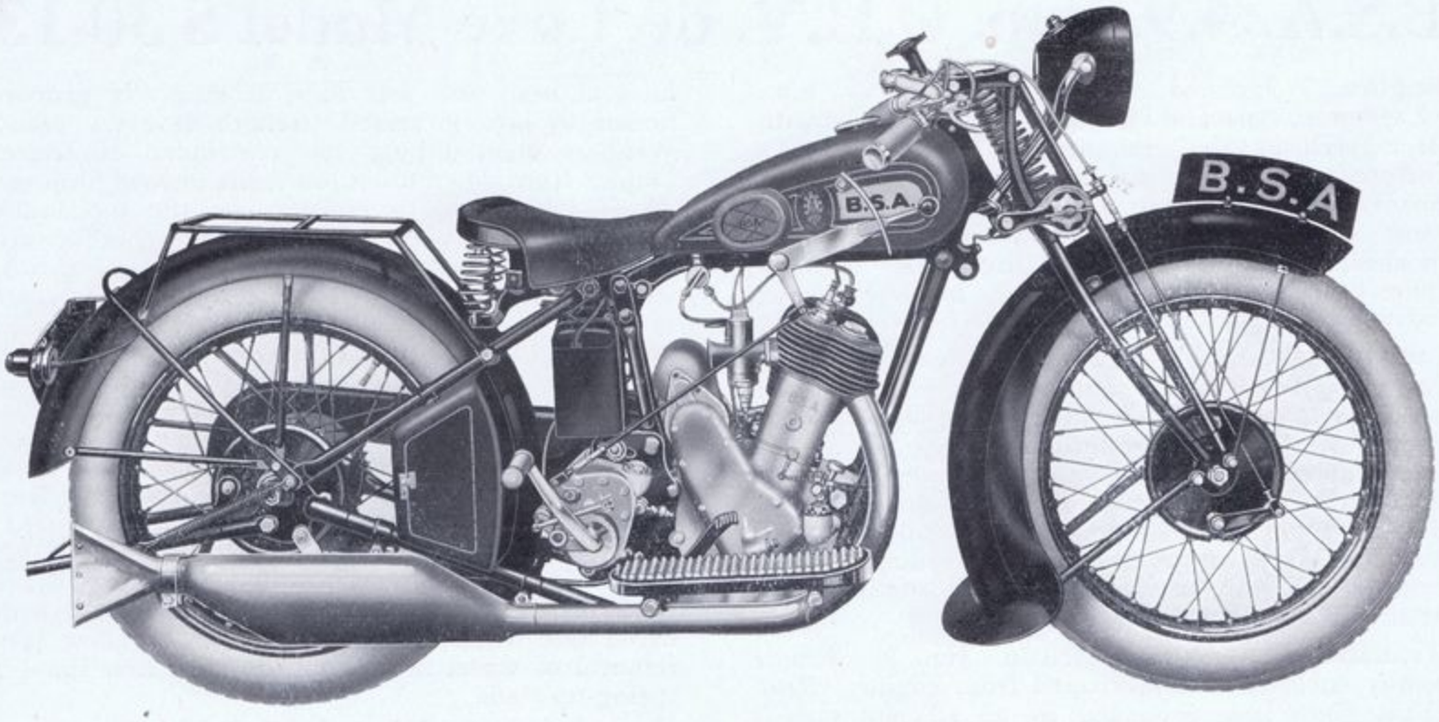
B.S.A. 3.49 h.p. O.H.V. Model L 30-11

This machine has a similar specification to model S30-13 O.H.V. de Luxe except for :—

Engine - - 72 × 85½mm. bore and stroke, 3·49 h.p.
Ground clearance 4½in.
Push Rods - Enclosed in plain tubes without return springs.
Front Brake - 5½in. diameter.
Front Fork - New design to suit 5½in. brake.
Air Cleaner - Extra
Saddle - - Standard spring seat.
Clutch - - To suit smaller engine.
Rear Chain - ⅝in. × ¼in.
Gear Ratios - Solo, 5·7, 7·8, 13·5 ; Sidecar, 6·0, 8·2, 14·3.

Any of these machines can be fitted with a specially tuned engine (high compression piston, special cams, racing magneto) and supplied with a spare piston (low compression-high compression, with cylinder base shim in the case of the 3.49 h.p. model), complete with rings and gudgeon pin, spare racing plug, valve, valve springs, and engine sprocket at an extra charge.

A special close or wide ratio gearbox can be fitted to these models if specified.



HERE IS A MOTOR CYCLE TO DELIGHT THE HEART OF EVERY MOTOR CYCLIST. Powerful, speedy, safe, quiet, economical and consistently reliable—backed by 70 years' reputation for high class craftsmanship which has made the B.S.A. name famous throughout the world. Look at its graceful, powerful, sporting lines—a motor cycle you will be proud to own and more than pleased to ride. Consider its outstanding features ; the rigid duplex cradle frame with the New Forged Steel Backbone ; the low riding position that is so comfortable and safe ; the rock-steady steering and powerful internal expanding brakes ; the famous B.S.A. sump lubrication system, simplicity itself from the rider's point of view and so amazingly economical ; the wonderful reputation for silence ; and the hundred and one other details of refinement that make it impossible to find greater value than this latest B.S.A.—the motor cycle for you.

B.S.A. 4.93 h.p. de Luxe Model S 30-9

B.S.A. 4.93 h.p. Model S 30-7

B.S.A. 5.57 h.p. de Luxe Model H 30-10

B.S.A. 5.57 h.p Model H 30-8

Lucas Acetylene Lamps or Lucas Magdyno Set can be fitted if specified at an extra charge.

B.S.A. 4.93 h.p. de Luxe Model S 30-9

Engine. Inclined single cylinder side valve, 4.93 h.p., 80 × 98 mm. bore and stroke. Valves protected by aluminium cover. Silent timing gear with flat base tappets and wide cams driven separately from crankshaft. Mainshafts mounted on generous ball and roller bearings. Double row roller big-end bearing fed with oil direct from mechanical pump. Cylinder priming device for easy starting.

Lubrication. Oil sump integral with crankcase, capacity 3 pints. Submerged gear pump with accessible control knob. Oil supplied direct to big-end. Visible tell-tale on timing cover. Surplus oil in crankcase returned to sump by scraper acting on flywheels. Quick release oil level indicator of dipper type.

Transmission. Front chain ½in. × .305in., totally enclosed and lubricated from engine. Rear chain ⅝in. × ⅜in., protected by an efficient guard. Cam-faced cush drive on engine shaft. Clutch contained in large chain wheel, with quick adjustment. Floating dry plate indestructible type, controlled by lever on left handlebar. B.S.A. three-speed gearbox with pivot mounting for chain adjustment. Kickstarter mechanism enclosed in gearbox, and spindle increased in diameter. Pressed aluminium casing enclosing mechanism on end cover of gearbox extra. Inclined gear lever on right-hand side of tank. Gear Ratios: Solo, 5.3, 7.2, 12.6 to 1; Sidecar, 5.9, 8.0, 13.9 to 1.

Frame. Of new design, immensely strong. The top member is a single high tensile steel forging with integral head and seat lugs, scientifically proportioned to give increased strength at every point. Weldless steel tubing for remainder of frame. Duplex front down tubes terminate in steel forgings which are bolted to registers on top frame member. Duplex seat tubes set forward to accommodate battery under saddle. B.S.A. spring forks with quickly adjustable shock absorbers of increased size. Head fitted with B.S.A. steering damper. Integral lugs for sidecar attachment. Handlebar, touring or sports; special mounting behind head. Saddle tank finished in usual B.S.A. colours, for fuel only; capacity, 2¼ gallons. New pattern B.S.A. adjustable knee-grips. Tyres 26 × 3.25in. mounted on heavy gauge 19 × 2½in. rims. 27 × 4in. tyres (with open type front guard) can be fitted to same rims at an extra charge. Both brakes 7in. diameter and quickly adjustable. Brake cams increased in width. Front mudguard with flared side wings, rear guard hinged to allow easy removal of wheel in conjunction with new low-lift rear spring-up stand.
Ground clearance 4⅞in. Saddle height 27in.

Equipment. Lucas Magdyno Lighting Set extra. De Luxe type spring seat saddle. Large pan seat saddle extra. Complete set of tools in neat leather roll. Toolbox of increased capacity and improved appearance to conform to the lines of the machine. Inflator. Carburetter lever controls open inwards. Long twist grip controls for throttle and ignition extra. Footrests standard. Fixed or hinged footboards extra. Air cleaner extra.

Finish. Chromium Plating to silencing system, handlebar and fittings, gear lever and quadrant, etc.

B.S.A. 4.93 h.p. Model S 30-7

This is a lighter model than the 4.93 h.p. S 30-9 de Luxe, but is generally similar in specification. The following are the main points of difference:—

Front Brake - 5½in. diameter.
Front Fork - New design, to suit 5½in. brake.
Saddle - Standard spring seat.
Rear Chain - ⅝in. × ½in.
Clutch - Lighter type.
Priming Device Not fitted.
Finish - Bright parts nickel-plated.
Gear Ratios - Solo, 5.2, 7.1, 12.3 to 1; Sidecar, 5.7, 7.8, 13.5 to 1.

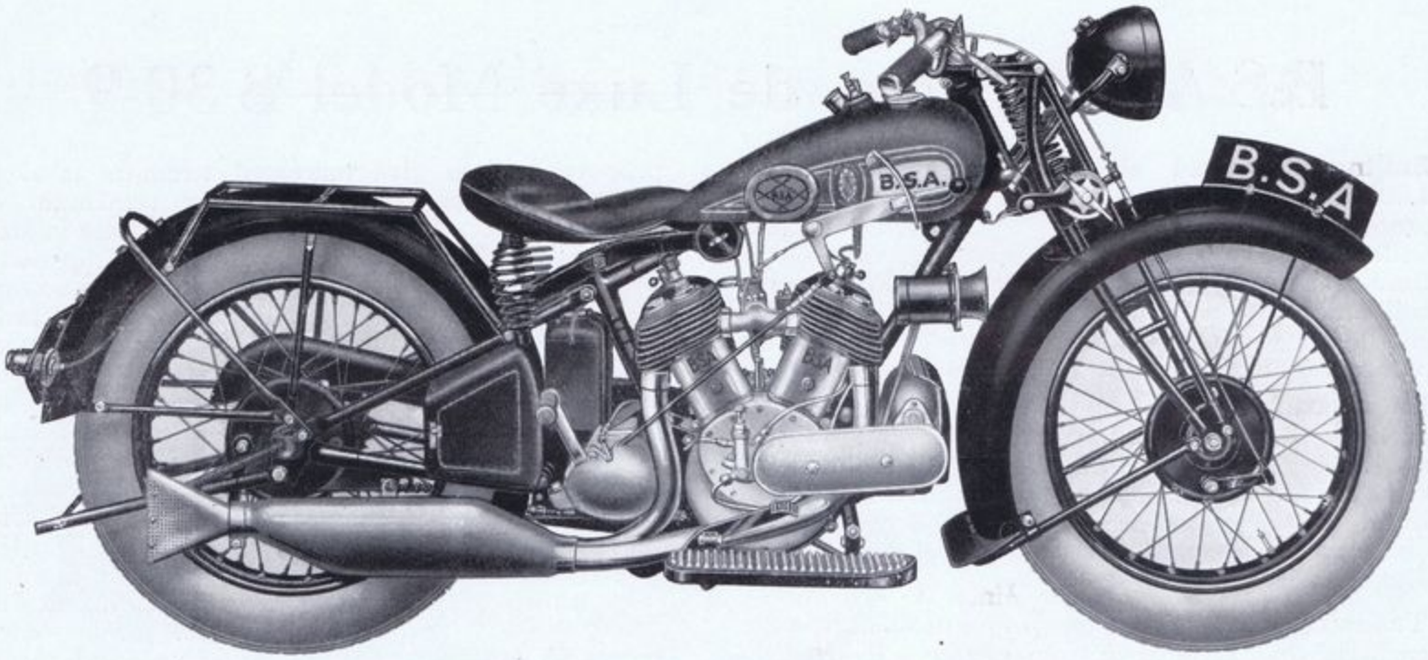
B.S.A. 5.57 h.p. de Luxe Model H 30-10

The only points of difference between this model and the 4.93 h.p. S 30-9 de Luxe are:—

Engine - 557 c.c. side valve, 85mm. × 98 mm. bore and stroke.
Gear Ratios - Solo, 5.0, 6.9, 11.9 to 1; Sidecar, 5.9, 8.0, 13.9 to 1.
Footboards - Fixed type, of pressed steel construction, with pyramid rubber mats. Hinged type extra.

B.S.A. 5.57 h.p. Model H 30-8

As 4.93 h.p. model S 30-7, but with 5.57 h.p. engine, 85 mm. × 98 mm. bore and stroke.
Gear Ratios - Solo, 5.0, 6.8, 11.8 to 1; Sidecar, 5.7, 7.8, 13.5 to 1



B.S.A. 7.70 h.p. Model E 30-14 (Australian)

As illustrated.

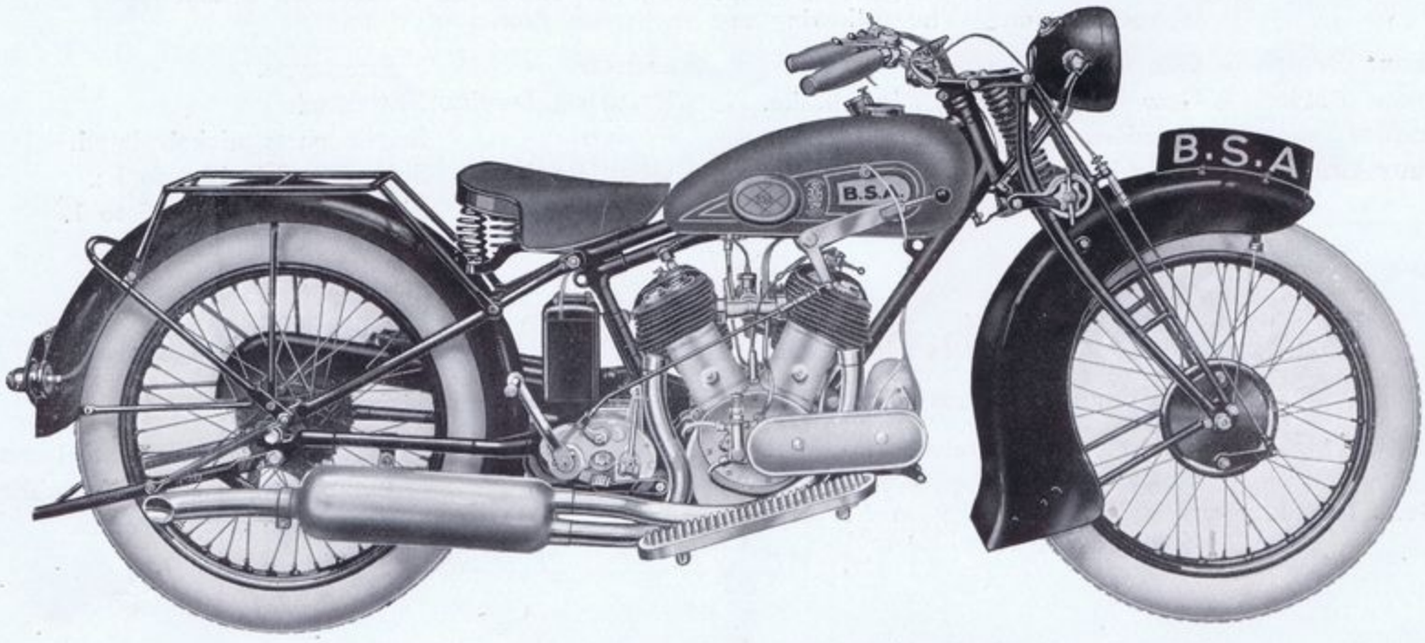
HERE IS THE NEW B.S.A. TWIN CYLINDER MOTOR CYCLE that has been specially designed and built to give that first-class performance and exceptional service needed by riders throughout the world.

The sturdy and powerful engine, which is wonderfully docile and flexible, will tick over almost at walking pace in top gear, yet at a touch of the throttle phenomenal acceleration is obtained. It has a remarkable top gear performance, pulls smoothly, and will maintain high average speeds over long distances with heavy sidecar loads, without overheating and loss of power.

Such features as hinged rear mudguard ; low-lift spring-up rear stand ; and finger adjustment to both brakes clutch, fork shock absorber, and steering damper prove how thoroughly every little detail has been studied to give greater convenience to the rider. Here indeed is a machine, bearing a trade-mark that is a household word all over the world, that will give its owner the mastery of the road by its high speed performance.

B.S.A. 7.70 h.p. Model E 30-14
B.S.A. 9.86 h.p. Model G 30-15 (Australian)
B.S.A. 9.86 h.p. Model G 30-15

Not illustrated.



B.S.A. 9.86 h.p. W.T. Model G 30-16

As illustrated.

Lucas Acetylene Lamps or Lucas Magdyno Set can be fitted if specified at an extra charge.

B.S.A. 7.70 h.p. Model E 30-14 (Australian)

Engine. 50° Vee Twin Cylinder, with side valves, 7.70 h.p. (770 c.c.) 76 × 85 mm. bore and stroke. Engine actually develops 18 brake horse-power. Two rows of caged roller bearings to each connecting rod big end. Valves protected by aluminium covers. Mainshafts mounted on ball bearings. Special hard aluminium alloy pistons. Twist grip controls to carburetter and ignition.

Lubrication. Gravity feed from tank to mechanical pump then to sight feed on tank, and feeding to crankcase. Hand pump is also fitted. Oil supplied to front chain by depressing spring by-pass valve on timing case.

Transmission. Front chain ½in. × .305in., totally enclosed. Rear chain ⅝in. × ⅜in., protected by an efficient guard. Cam-faced cush drive on engine shaft. Dual control of clutch by left toe pedal and lever on left handlebar. B.S.A. Three Speed Gearbox. Casing enclosing mechanism on end cover extra. Gear Ratios: Solo, 4.4, 6.0, 10.4 to 1; Sidecar, 4.6, 6.3, 10.9 to 1.

Frame. All lugs machined from high tensile steel forgings. Special heavy gauge weldless steel tubing throughout. Wheelbase 57¾in. B.S.A. spring forks with quickly adjustable shock absorbers of increased size. Head fitted with B.S.A. steering damper. Lugs for sidecar attachment, integral with frame. Handlebar touring or sports, adjustable, mounted behind head. Saddle tank, 2¼ gallons petrol, oil 3½ pints, with gear change lever mounted on right. A tank containing 3 gallons of petrol, oil 3½ pints, and with left or right-hand gear change lever can be fitted at an extra charge. Tyres 27in. × 4in. with open type front guard. Rear guard 7in. wide, with rear portion hinged to allow easy removal of wheel in conjunction with new low lift spring up rear stand. Both brakes 7in. diameter with quickly adjustable control. Hinged footboards. Detachable rear carrier, steel shield fitted under crankcase. Ground clearance 5¼in. Saddle height 28in.

Equipment. Lucas Magdyno fitted with shield, with battery carried under saddle, extra. Electric horn mounted on front down tube extra. Special saddle with large rubber cushioned pan seat, with hinge point well forward under tank and provided with shock absorbers adjustable to rider's weight. Improved design of toolbox with complete set of tools in neat roll. Inflator.

B.S.A. 7.70 h.p. Model E 30-14

This model has a similar specification to the 7.70 h.p. model E 30-14 (Australian) with the following exceptions :— Fixed footboards (or footrests if specified). Hinged footboards extra. Clutch control by hand operation only. Tyres 26in. × 3.25in., with semi-valanced front guard inside forks. Spring seat saddle, de luxe type. Steel shield not fitted under crankcase. Lever type controls. Twist grip controls extra.

B.S.A. 9.86 h.p. Model G 30-15 (Australian)

This model is similar to the 7.70 h.p. model E 30-14 (Australian), but is fitted with a 986 c.c. engine, 80 × 98 mm. bore and stroke. (Engine actually develops 24 brake horse-power).

B.S.A. 9.86 h.p. Model G 30-15

This model is similar to the 7.70 h.p. model E 30-14, but is fitted with a 9.86 h.p. engine, 80 × 98 mm. bore and stroke. (Engine actually develops 24 brake horse-power).

B.S.A. 9.86 h.p. Model G 30-16 W.T.

This model is suitable for heavy sidecar duty, and has a similar specification to the 7.70 h.p. model E 30-14 (Australian), except on the following main points :—

Engine - - 9.86 h.p. (986 c.c.), 80 × 98 mm. bore and stroke. Engine actually develops 24 brake horse-power. Lever type controls. Twist grip controls extra.

Frame - - Wheelbase 63in. instead of 57¾in. Extra heavy construction throughout with massive forged steel chainstay bridge and wide forks. Fixed footboards. Hinged footboards cannot be fitted. Ground clearance 5¼in. Saddle height 29in.

Transmission - Extra heavy gearbox suitable for large passenger and commercial loads. Primary chain ⅝in. × ⅜in. Clutch control by hand operation only. Gearbox end cover cannot be fitted.

Wheels - - Quickly detachable and interchangeable, with 28in. × 3.5in. tyres.

Tank - - Saddle type, petrol capacity 3 gallons, oil 3½ pints.

Equipment - Spring seat saddle, de luxe type. Pan seat saddle extra. Steel shield not fitted under crankcase.

Gear Ratios - Solo, 4.5, 7.1, 11.4 to 1. Sidecar, 4.9, 7.9, 12.7 to 1.

Copy of B.S.A. Motor Cycle and Sidecar Guarantee

which is given by B.S.A. Cycles Ltd. to Dealers in B.S.A. Motor Cycles and Sidecars

Every motor cycle and/or sidecar which is sold by us carries the following express agreements, which take the place of and exclude all conditions, warranties, and liabilities whatsoever which exist either by Common Law, statute, or otherwise. Any statement, description, condition, or representation contained in any catalogue, advertisement, leaflet, or other publication shall not be construed as enlarging, varying, or overriding these.

1. We give no guarantee as to performance, quality, or fitness for any particular purpose. Should any defect be alleged in material or workmanship within six calendar months after purchase of a motor cycle or sidecar from us or our accredited Dealers we undertake, on the immediate return of the part which is alleged to be defective to our Works, carriage paid, within such period, to examine the same, and should any fault be found by us on examination to be solely due to defective material or workmanship, we will repair the defective part or supply a new part in the place thereof free of charge. We do not undertake to bear the cost of any work involved in reinstating a repaired or inserting a new part.
2. This guarantee as to material or workmanship does not extend to (1) a second-hand motor cycle and/or sidecar, or (2) to a motor cycle and/or sidecar which has been used for "hiring-out" purposes, or any motor cycle and/or sidecar used for any dirt track, cinder track, or grass track racing or competitions (or any competition of any kind within an enclosure for which a charge is made for admission to take part in or view the competition) or (3) a motor cycle and/or sidecar from which our trade marks or manufacturing numbers have been removed, or (4) to a motor cycle to which has been attached a sidecar by any form of attachment not provided, supplied or approved by us, or (5) to a motor cycle to which has been attached a sidecar in such a manner as to cause damage or render the cycle unsafe when ridden, or (6) to a motor cycle or combination which has carried more persons or a greater weight than they are designed to bear. And this guarantee does not extend to defects caused by racing, wear and tear, dirt, neglect, misuse, or accident.
3. Our responsibility is limited to the terms of this guarantee, and we will not be answerable for any contingent or resulting liability or loss arising through any defect or from any claim for labour, material, or other expenditure incurred in remedying any defect.
4. When claiming under this guarantee the claimant must furnish us with the number of the machine and engine (which will be found stamped on the seat lug and crankcase respectively), the name of the Dealer from whom he purchased, and the date of purchase.
5. This guarantee shall apply to parts repaired or replaced under Clause 1, and such guarantee shall run concurrently with, and shall terminate on the same date as the guarantee given under Clause 1, all the aforesaid implied conditions liabilities, and warranties being excluded.
6. When returning machine for repairs all accessories should be removed. This guarantee shall not apply to any parts of a motor cycle or sidecar which are not manufactured by us and all conditions, warranties, and liabilities whatsoever implied either by Common Law, statute, or otherwise relating to such parts are hereby excluded, but we will assist the purchaser by any guarantee given to him by the manufacturer of such parts as shall not have been made by us.

Conditions of Sale

1. We do not appoint agents for the sale of our Motor Cycles or other goods. We assign to Motor Cycle Dealers who carry on business on their own account, areas in which they have the exclusive or other right to sell goods purchased from us. A Dealer purchasing from us, or a Sub-dealer purchasing from him, may, on our behalf (as our agent for this purpose only) give the guarantee printed above. Any such Dealer is not authorised to advertise, incur any debts, or transact any business whatsoever on our account, nor is he authorised, so as to bind us, to give any warranty or make any representation on our behalf, or to sell subject to or with any conditions other than those contained in such guarantee.
2. B.S.A. Cycles Limited point out that they cannot hold themselves responsible for delivery. All orders received will be charged for at the prices ruling at the time of delivery.
3. B.S.A. Cycles Limited reserve the right to alter the designs or any constructional details of their manufactures at any time without giving notice.

B.S.A. CYCLES LIMITED

Small Heath, Birmingham

(*Proprietors*: THE BIRMINGHAM SMALL ARMS COMPANY LIMITED)

Directors: SIR EDWARD MANVILLE, P. MARTIN (U.S.A.), SIR HALLEWELL ROGERS, A. EADIE, COM. G. HERBERT, D.S.O. (MANAGING)

Telephone No. Central 6440 (9 lines)

Telegrams: SELCYC, Birmingham

B.S.A.

These Trade-marks your safeguard.

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