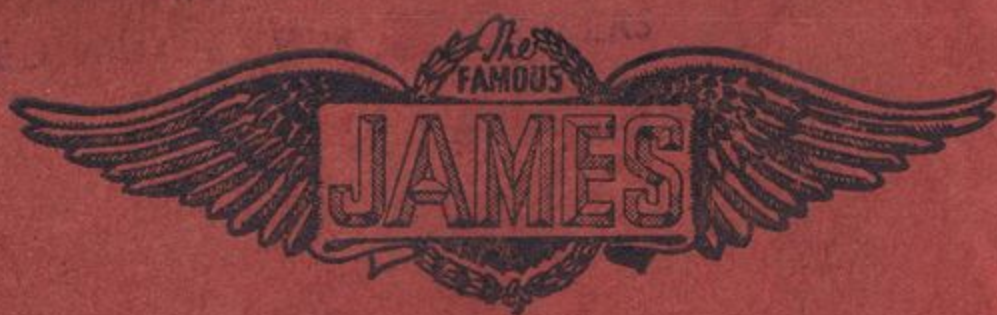


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**DRIVER'S HANDBOOK  
AND LIST**

*of*

**Spare and Replacement Parts**

*for*

**THE FAMOUS  
JAMES**

**No. 98.                      Series 2.F.**

**SUPERLUX  
AUTOCYCLE**

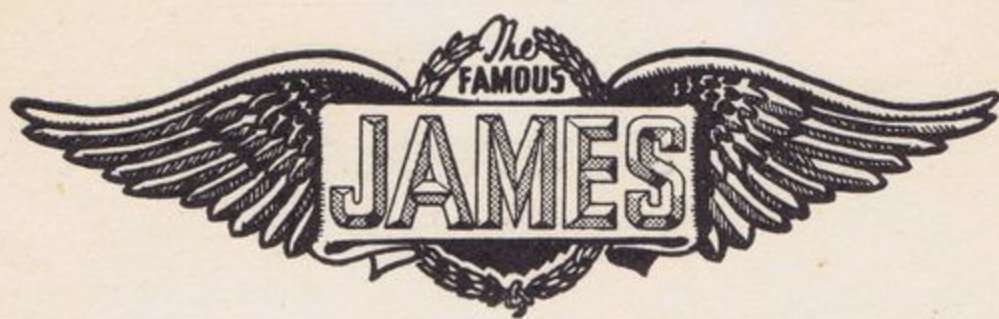
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**THE JAMES CYCLE CO. LTD.  
BIRMINGHAM, ENGLAND**

(Subject to alteration without notice)

**BARNSTORMERS.CO.NZ**  
PRINTED IN ENGLAND





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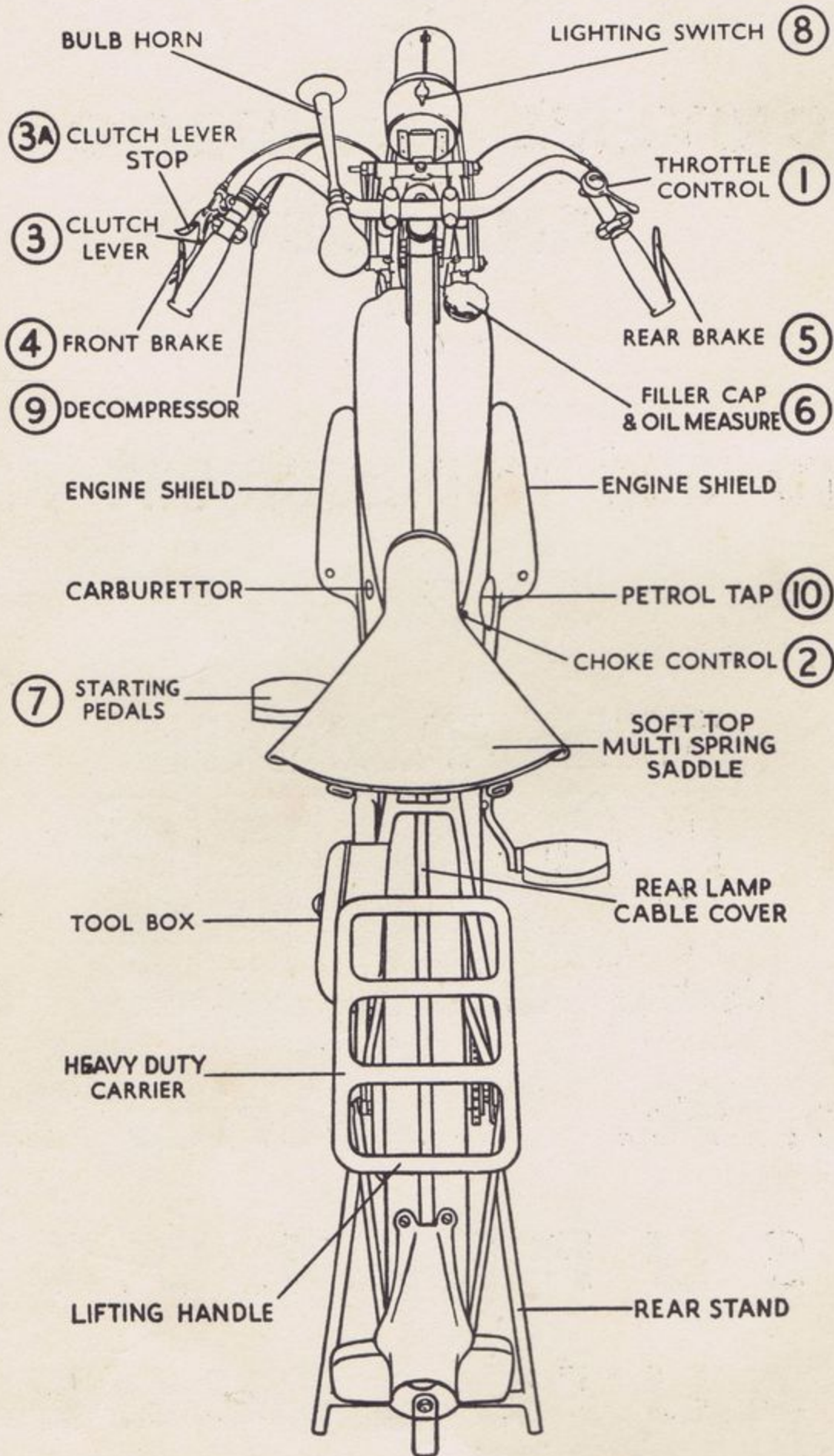
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# The FAMOUS "JAMES" SUPERLUX AUTOCYCLE

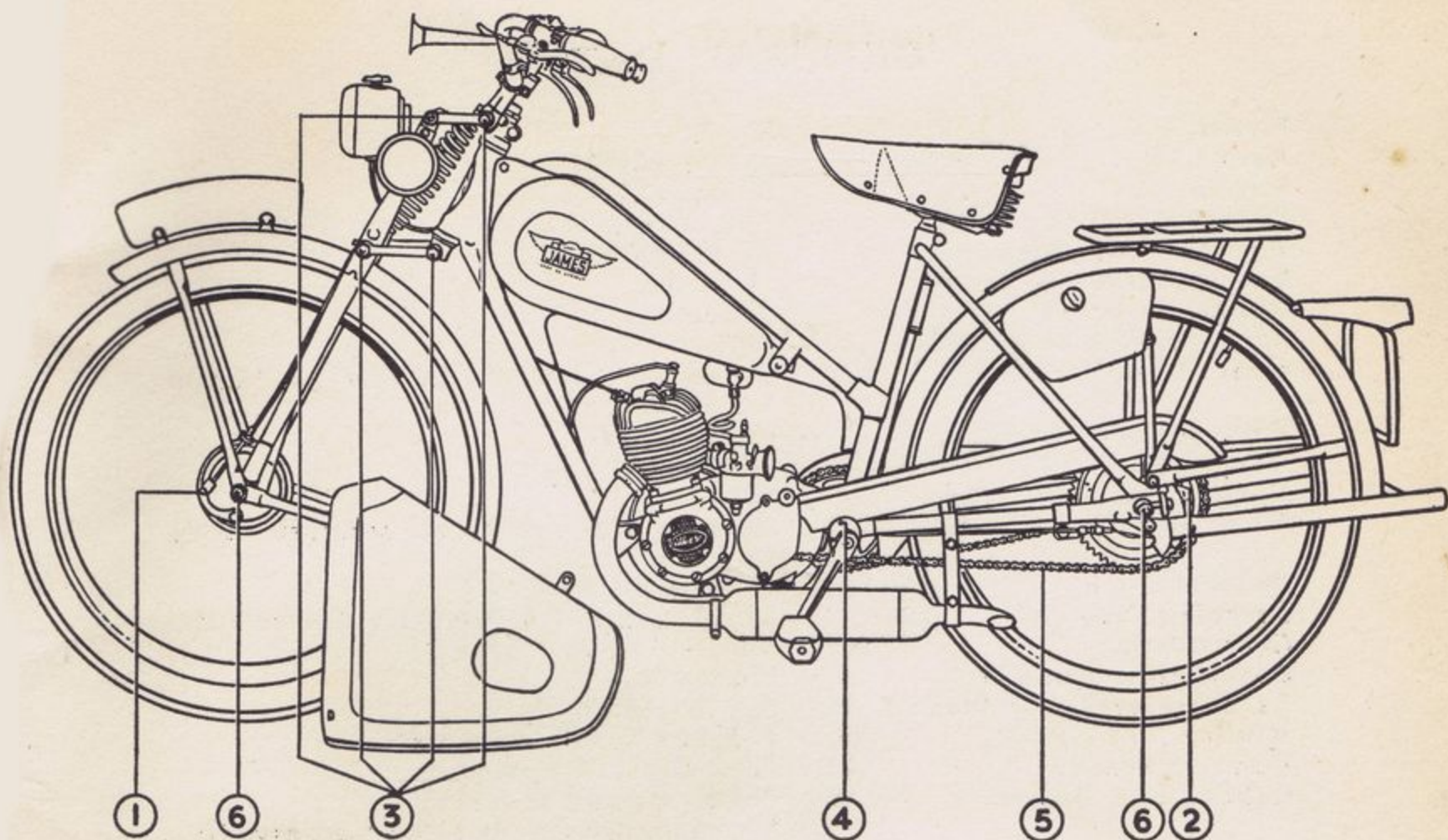
## CONTROLS



## TOOL KIT

- |            |                        |           |                                       |
|------------|------------------------|-----------|---------------------------------------|
| L.1003     | 7/16 Single End.       | M.L. 59   | Tyre Levers (3)                       |
| B.M.L. 27A | Mag. Spanner.          |           | Driver's Handbook<br>and Spares List. |
| M.L. 57    | Exhaust Pipe Spanner.  | B.M.L. 44 | Tool Wallet.                          |
| M.L. 56    | D.E. Spanner 525/601.  |           | Plug Spanner.                         |
| M.L. 55    | D.E. Spanner .338/448. |           |                                       |
| B.M.L. 30A | Screw Driver.          |           |                                       |

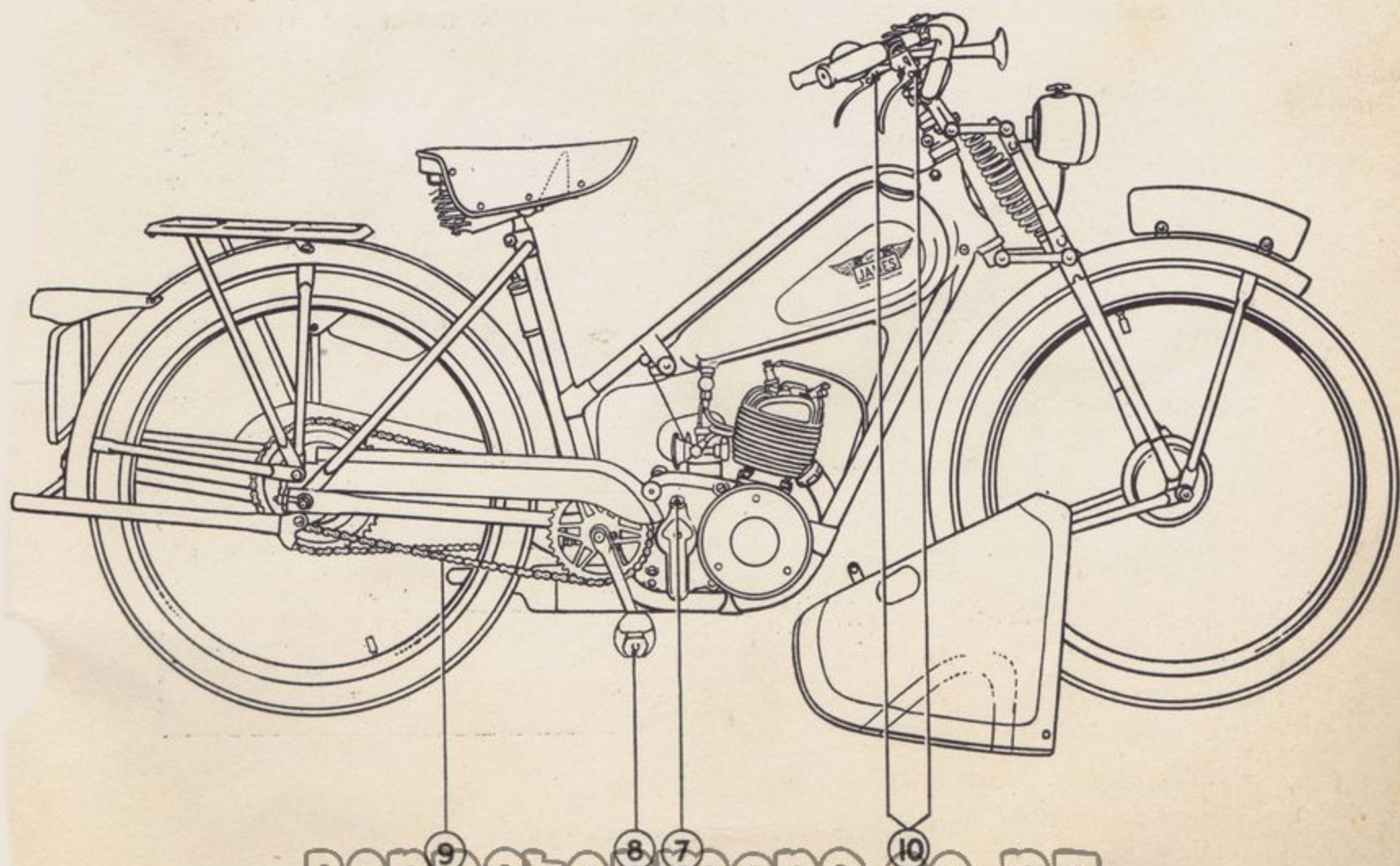




### OILING AND GREASING POINTS ON SUPER-LUX AUTO

Key No.	PART	
1	Front Hub	... .. Light Grease
2	Rear Hub	... .. Light Grease
3	Fork Shafts	... .. Light Grease
4	Bottom Bracket	... .. Light Grease
5	Chain (Driving)	... .. Oil
6	Brake Cams and Rollers (Front and Rear)	... .. Oil
7	Clutch Case	... .. Heavy Oil
8	Pedals	... .. Oil
9	Chain (Pedal)	... .. Oil
10	Clutch and Brake Levers	... .. Oil

FOR RECOMMENDED LUBRICANTS SEE PAGE 38





# GENERAL DATA

Model	...	...	...	Mk. 2.F.
Bore	...	...	...	47 mm. (1.8504").
Stroke	...	...	...	57 mm. (2.244").
Capacity	...	...	...	98 cc. (6 cu. ins.).
Horse Power, Maximum	...	...	...	2.0 at 3,750 r.p.m.
Engine Sprocket	...	...	...	17 Teeth.
Clutch Sprocket	...	...	...	42 Teeth.
Ratio, Engine to Clutch	...	...	...	2.47.
Final Drive Sprocket	...	...	...	11 Teeth, $\frac{1}{2}$ " pitch for "COVENTRY" Chain No. 112045.
Rear Chain Wheel	...	...	...	48 Teeth.
Rear Chain	...	...	...	114 Pitch, $\frac{1}{2}$ " x $\frac{3}{16}$ ".
Chain Line, Final Drive	...	...	...	$1\frac{7}{8}$ ".
Final Gear Ratio	...	...	...	10.76—1 with rear wheel sprocket having 48 Teeth.
Exhaust Pipe	...	...	...	$1\frac{1}{4}$ " external dia.
Sparking Plug	...	...	...	14 mm. Lodge H14, Point Gap .018" to .025".
Carburetter	...	...	...	Villiers "Junior" Type.
Carburetter Jet Size	...	...	...	Marked J8.
Carburetter Taper Needle	...	...	...	No. 2 $\frac{1}{2}$ . Setting $\frac{29}{32}$ " out.
Ignition Timing	...	...	...	$\frac{1}{8}$ " before Top Dead Centre.
Contact Breaker	...	...	...	Point Gap .015" maximum.
Lubrication, Engine	...	...	...	Petrol mixture in fuel tank Recommended Oil see oiling chart page 38.
Lubrication, Chaincase	...	...	...	Recommended Oil (see page 38) filled to level plug. See Fig. 1.
Lighting Set	...	...	...	Head Lamp Bulb, 6 volt 12 watt S.B.C. Head Lamp Pilot Bulb, 4 volt .3 amp. M.E.S. Tail Lamp Bulb, 4 volt .3 amp. M.E.S. Parking, Battery, Ever-Ready No. 1289.
Tyre Size	...	...	...	2.25 x 21"
Tyre Pressures	...	...	...	Front, 17lbs.—Rear, 32lbs.

## LIGHTING SET

The head and tail lamps are fitted with single pole, single contact bulbs, and it is essential that both lamp bodies make metal to metal contact with the cycle frame to ensure a good EARTH for the lighting circuit.

The correct bulbs are listed in the DATA above, and the dry battery fitted in the head lamp is the EVER-READY No. 1289, or one of similar size and capacity.

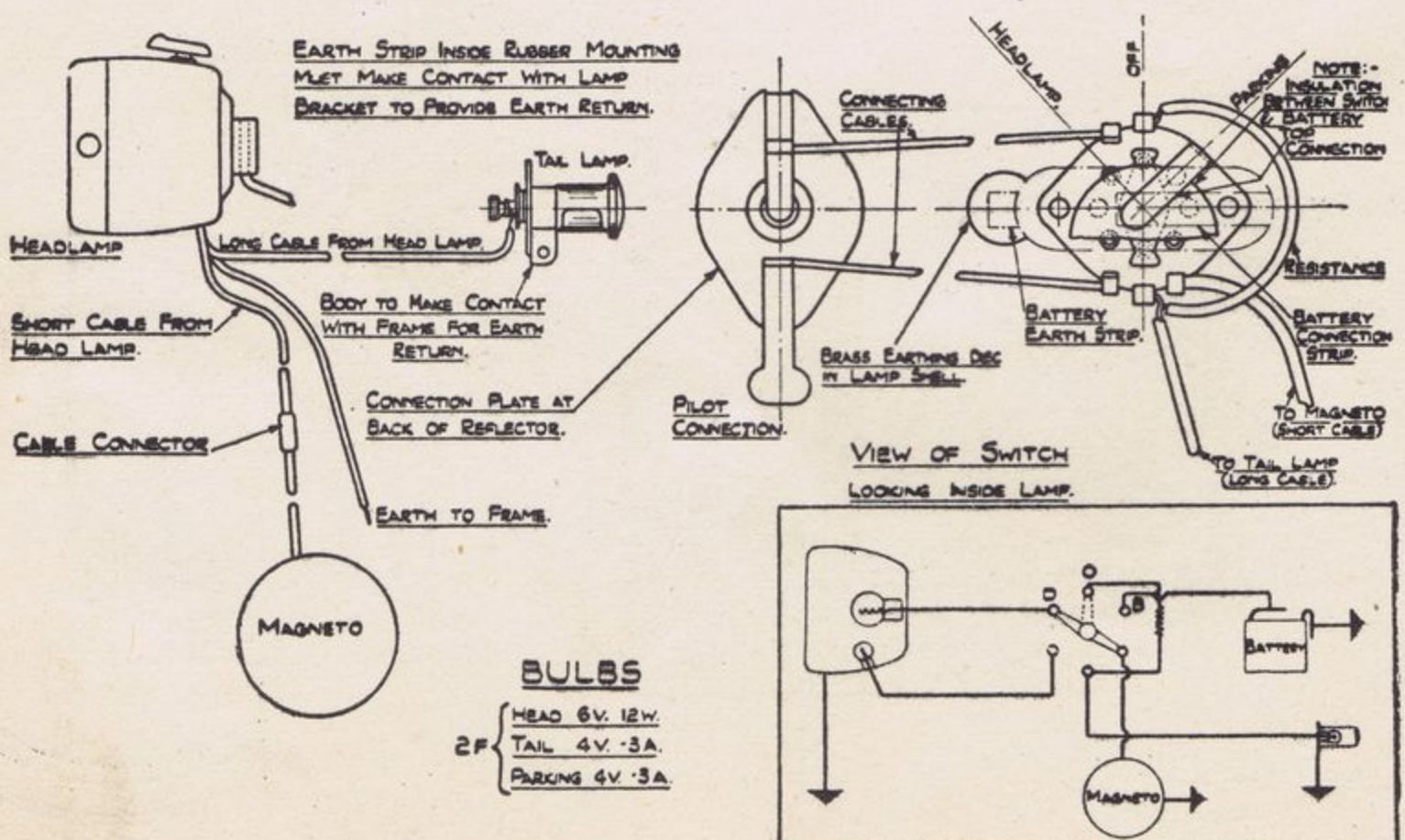


Fig. 3.

WIRING DIAGRAM Mk. 2.F.



# The FAMOUS "JAMES" SUPERLUX AUTOCYCLE

## SPECIFICATION

Fitted with the Mark 2.F. Engine, has built in unit with a countershaft clutch, the drive from engine crankshaft being by an endless roller type chain running in an oil bath case.

A deeply finned cast iron cylinder with one exhaust and two transfer ports of unique design is used, the carburetter being mounted on a stub at the rear.

Secured to the cylinder by four bolts is an aluminium alloy head in which is fitted a 14 mm. sparking plug (Lodge H14). The aluminium flat topped piston carries a floating gudgeon pin located endways by circlips. The "big end" bearing consists of two rows of steel rollers running on a crankpin fitted in double crankwebs carried by a large ball journal bearing on each side.

Power is taken through a two plate cork insert clutch, control being by Bowden cable and lever fitted on handlebar.

Final drive to rear wheel is by a roller chain. A Villiers Junior pattern carburetter is fitted at the rear of cylinder, control being by a single lever. A strangler for easy starting, and within the reach of the rider, is provided, and a gauze type air filter prevents the entry of dirt and water.

A decompressor to assist in starting the engine is fitted in the cylinder head, control being by Bowden cable and lever fitted on the handlebar.

The ignition and lighting current is provided by the Villiers flywheel magneto, a special model giving increased output having been developed. The headlamp now carries a 6 volt 12 watt bulb.

## INSTRUCTIONS FOR USING THE "JAMES" SUPERLUX AUTOCYCLE FITTED WITH VILLIERS MARK 2.F. UNIT BEFORE USE

**CHAINCASE.** Remove the chaincase oil filler and oil level plugs, see Fig. 1, and with the cycle off the stand, pour in recommended Oil (see page 38) until it runs out at the level plug hole. Refit plugs securely. Examine every 500 miles and top up if necessary.

### ENGINE LUBRICATION AND FUEL SUPPLY SYSTEM

**FUEL TANK.** Capacity 1½ gallons approximately. Fill up tank with "Petroil" mixture made by mixing thoroughly half a pint recommended Oil (see page 38) with one gallon of Petrol, or four measures of Oil to one gallon of Petrol (measure incorporated in filler cap). On no account must the oil be put into the tank before mixing, and it is advisable to pour the mixture through a fine mesh gauze when putting into tank.

If these instructions are followed, lubrication of all parts of the engine is automatic and efficient.

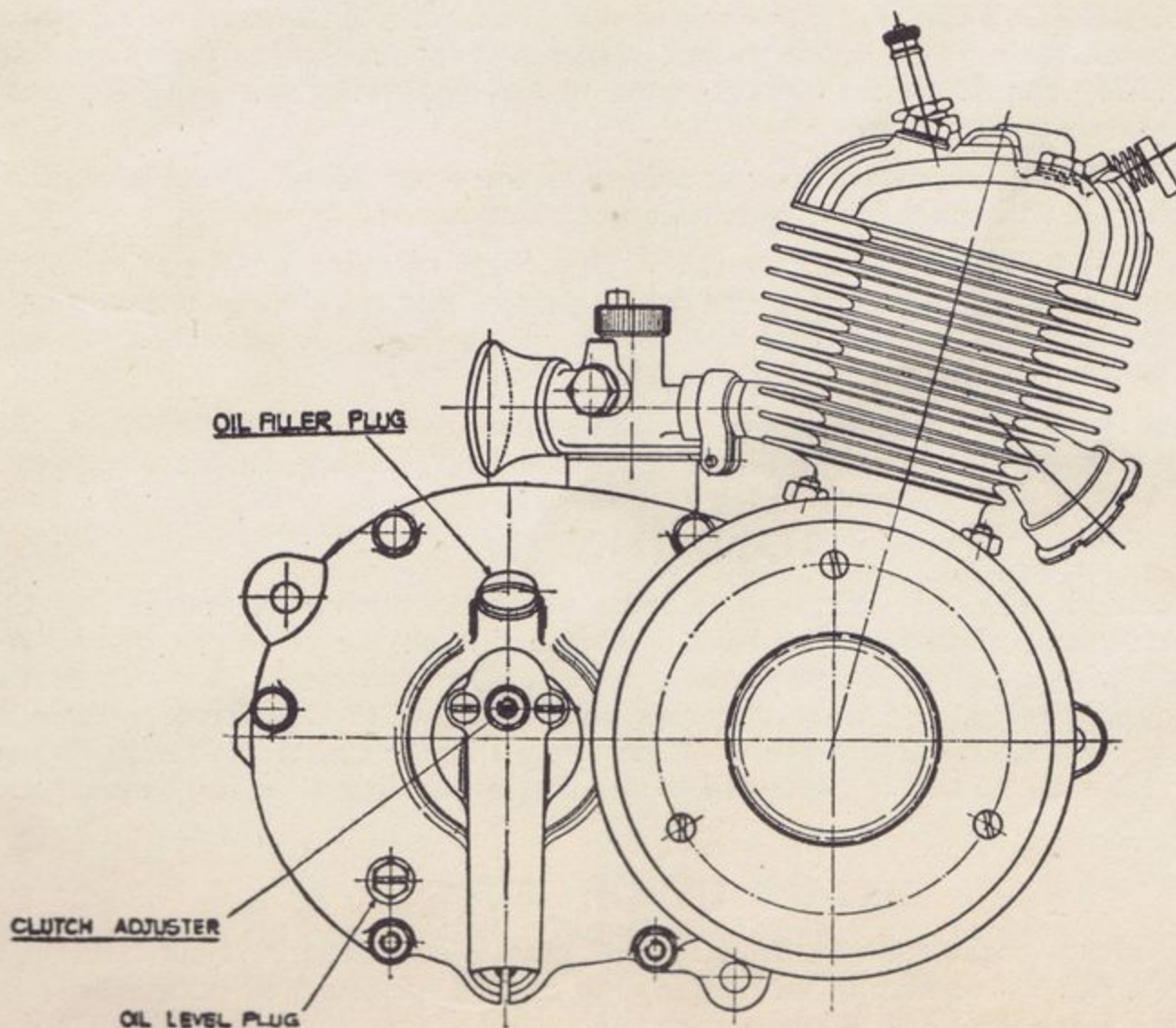


Fig. 1.



## STARTING THE ENGINE

Where the owner has had no previous experience of driving it is advisable to become accustomed to the use of the various controls and, therefore, before attempting to start the engine, the cycle should be put on its stand, the rear wheel being off the ground.

The carburetter control lever is moved by the right hand and opens inwards to increase the speed of the engine.

The decompressor or compression release valve, as it is sometimes called, is controlled by a small lever usually fixed on the underside of the left handlebar and immediately in front of the clutch control lever.

The function of the decompressor is to release the pressure in the cylinder head so making it possible to rotate the engine by means of the pedalling gear when starting by this method.

The fuel tap can now be turned to the ON position, and the strangler closed by lifting the lever at rear of carburetter. Open the carburetter control lever about one third its total movement, and flood the float chamber by depressing tickler. Rotate engine by pedalling whilst sitting on the saddle, and the engine should start when the decompressor lever is released. As the engine warms up after running for half a minute or so, the strangler can be gradually moved to the fully open position. In very cold weather it may not be possible to do this immediately, in which case leave strangler partly closed until engine is warmed up, if opened up too quickly spitting back through carburetter will occur. When the engine is warm from previous running, it should not be necessary to either flood the carburetter or use strangler when restarting.

Having started the engine by the pedals, the machine still being on the stand, withdraw clutch by pulling up the clutch control lever.

The lever is held in the "OUT" position by a spring loaded trigger. The machine can now be pushed off the stand, the rider still being astride the saddle, and a get away can be made by gently letting in the clutch at the same time opening the throttle to take the load.

An alternative method of starting is by pushing the machine. Flood the carburetter, open the throttle and depress the compression release valve as before, wheel the machine forward a couple of yards and release the valve control lever, and then as the engine fires, pull up the clutch control lever. With the clutch disengaged and the engine running, the rider can then mount the machine and move off by clutch and carburetter control.

## STOPPING THE ENGINE

The engine is stopped by moving the control lever to the closed position, and just before coming to rest the release valve should be used to prevent the engine jerking over compression.

## FAILURE TO START

**FAILURE TO START.** If the engine will not start after a reasonable number of attempts, ascertain if this is due to lack of compression, no fuel or faulty ignition. **COMPRESSION** should be felt whilst rotating the engine by the pedalling gear, with the throttle partly open.

**FUEL SUPPLY.** Depress tickler at side of carburetter body. If fuel is reaching float chamber, it will spurt from vent hole in tickler cap.

**FAULTY IGNITION.** Unscrew spark plug from cylinder head and with the ignition cable attached place on a flat metal part of engine. When the engine is rotated a spark should be visible at the points. If no spark, detach cable and hold end  $\frac{1}{8}$ " from cylinder whilst rotating engine.

If these preliminary tests prove negative a more detailed examination will have to be made, and reference should be made to "Tracing Engine Troubles" on pages 14—15.

## RUNNING IN

For the first 500 miles the engine must not be over-driven, and during this period the throttle should not be fully opened. The engine must not be allowed to race, or run at a high speed under a light load. Do not exceed 20 m.p.h. during the running-in period, and after covering about 500 miles it will very likely be necessary to weaken off the mixture by lowering slightly the taper needle in carburetter. How to do this is explained in the section dealing with the carburetter.

## CHAIN LUBRICATION

The primary chain runs in an oil bath case. See page 4 chaincase. The rear chain is not automatically lubricated, and should be removed occasionally for lubrication; a graphited oil is recommended.



# PERIODICAL ATTENTIONS

## WEEKLY

**TYRES.** Check pressures frequently, and keep inflated to 17 pounds for the front and 32 pounds for the rear. When using the machine on wet or greasy roads, it is better to apply BOTH brakes together, because sudden or harsh application of either brake only, under such conditions, may result in a skid.

**SPARKING PLUG.** Clean once a week.

## MONTHLY

Clean carburetter pipe and filter.

Check rear chain for adjustment. Normal slack  $\frac{3}{8}$ " to  $\frac{1}{2}$ " at tightest place.

## EVERY 1,000 MILES

**BRAKE CAMS.** Lubricate with oil can. An excessive quantity of oil should not be used, otherwise this may get through to the brake linings.

**FORKS.** Check adjustment of fork links and spindles. To adjust the fork shafts, release the nuts at each end, and turn shaft by the square end anti-clockwise to take out play caused by wear ; afterwards tighten locknuts securely. A knurled washer is placed on each fork shaft, and it should just be possible to revolve this when the adjustment is correct.

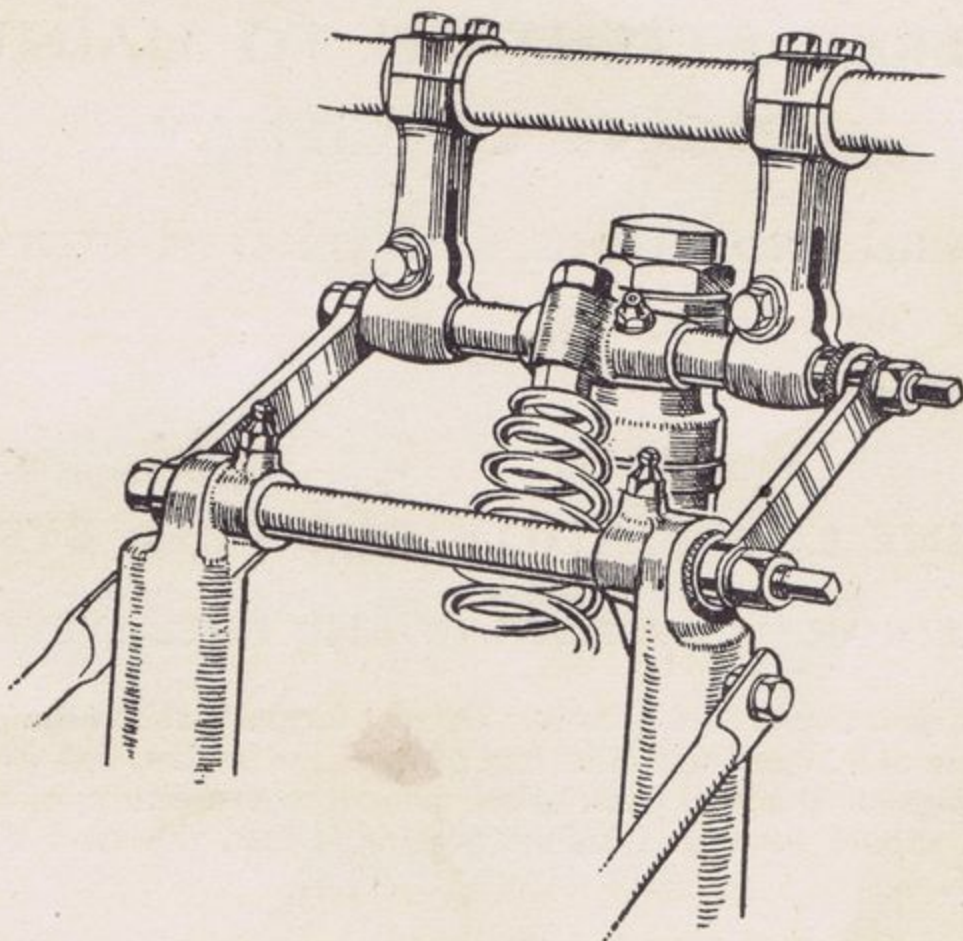


Fig. 2

## EVERY 5,000 MILES (or more frequently under extremely wet or muddy conditions)

**HUBS.** The hubs are packed with grease during assembly, to lubricate the bearings and prevent the entry of mud and water. A grease nipple on the hub is provided for the periodical injection of fresh grease. The quantity injected must not be excessive—one or two shots of the grease gun will be sufficient—or there will be a tendency for the surplus to work into the brake drum and so cause inefficiency.

---

It is advisable, in order to enjoy trouble-free riding, that the engine and machine should have periodical attention, and the following hints will help to keep the engine in good running order :—

Every 500 miles inspect level of oil in clutchcase by removing level screw. (See Fig. 1). Top up if necessary with grade of oil previously recommended.

Examine the contact breaker points after the first 500 miles have been completed as the points may require slight adjustment after initial bedding in. The correct gap when points are fully open is .015". They should also be kept free from oil.



Every 2,000 miles remove cylinder head and scrape out carbon. The edges of the exhaust port in the cylinder can be cleaned when the piston is at the bottom of the stroke. Clean piston top.

It should not be necessary to remove barrel and piston every 2,000 miles, every 4,000 miles should be sufficient.

Every 2,000 miles remove and clean silencer, exhaust pipe, and carburettor air filter.

Occasionally check clutch control cable adjustment. There should be a very small amount of slack in the clutch cable when clutch is engaged. Adjust clutch cable by means of adjustment screw on clutch bridge casting (see Fig. 1). Screw adjuster in until there is just a trace of slack in the cable ; this is essential, otherwise the clutch may be slightly disengaged and cause slipping. Tighten locknut after adjustment.

Periodically examine joints, cylinder head, cylinder base, crankcase and clutchcase for gas or oil leaks, and tighten if necessary. Examine all visible nuts, bolts and screws for looseness.

Check tyre pressure weekly and keep inflated at 17 pounds front, 32 pounds rear.

Clean plug weekly.

Clean petrol pipe and filter monthly.

Check rear chain adjustment monthly.

## **GENERAL ATTENTION TO MAINTAIN ENGINE EFFICIENCY**

### **INSPECT ENGINE MOUNTING, AND TIGHTEN IF NECESSARY**

1. Engine frame bolts (3).
2. Crank case bolts.

## **ENGINE LUBRICATION AND FUEL SYSTEM**

### **ENGINE "PETROIL" LUBRICATING AND FUEL SYSTEM**

1. Check quantity of fuel in tank. Do not forget that the fuel also serves the purpose of lubricating all internal parts of the engine, and always remember to replenish the fuel tank with the correct mixture of oil and petrol, which should be mixed before putting it into the tank if possible. See page 5.
2. Security of tank fixing bolts (2).
3. Leaks at taps and unions. Do not over-tighten where fibre washers are fitted. Tighten petrol tap. If petrol tap is loose, slacken petrol pipe before tightening. Check banjo union at carburettor end of pipe. Check nut on base of float chamber.
4. Throttle cable frayed or sharp bends in cable run. Alter position of clips if necessary.

## **STEERING, BRAKES, WHEELS AND TYRES**

### **EXAMINE CONTROLS**

1. Examine handlebar control levers for tightness on handlebar, freedom of operation of clutch, brake.
2. Put a spot of oil on the end of each control wire and on the pivot pins for clutch and brake.
3. See that there is a small amount of slack in the clutch control, when in the off position. Adjust if necessary. Do not take adjuster screw out of casting.



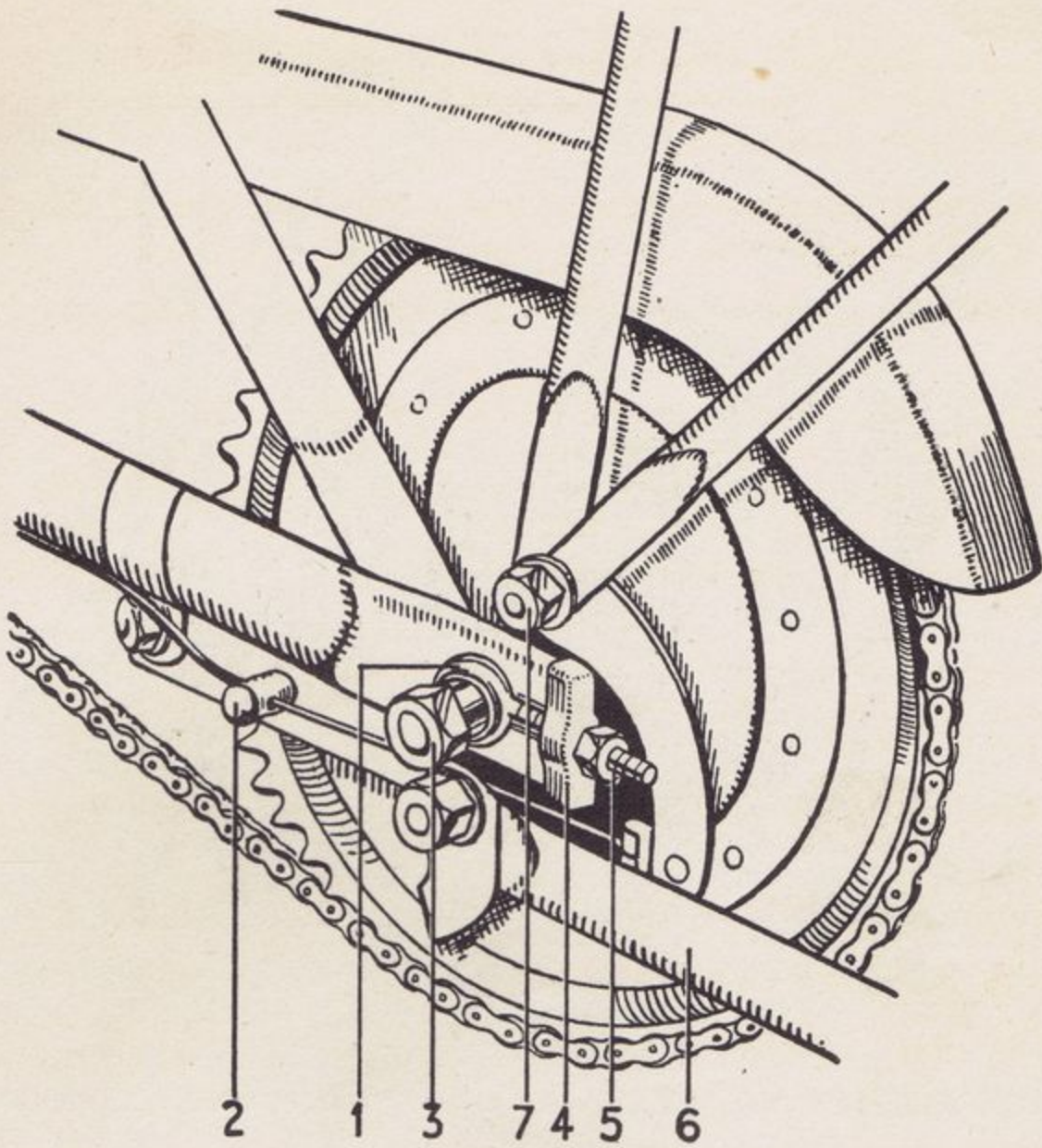


Fig. 3

### TO ADJUST CHAIN

Release nut holding Brake Anchor Bolt, slack off spindle nuts (3), both sides. To tighten chain, draw wheel back by means of nut 5, an equal turn on each to keep the wheel central. After the adjustment has been carried out tighten nuts (3), check position of the rim. This should be central, in the chain stays. Do not forget to secure Rear Brake anchorage.

### TO ADJUST TENSION AND PEDAL CHAIN

1. Release the 2 cotters by unscrewing the  $2\frac{3}{16}$ " nuts found on the underside of the bottom bracket.
2. Turn the eccentric bracket, by means of the flats milled on the left hand side, clockwise to tighten the tension on the chain and vice versa.
3. Re-tighten nuts when the correct tension is obtained.

### SECURITY

1. Examine each control cable inner wire for fraying.
2. Examine each control outer cable and see that there are no sharp bends, and cables are not kinked or chafed.
3. Wheel mounting nuts (2 on front axle, 2 on rear axle).

### LUBRICATION

**Before applying gun, carefully clean exterior of nipples. Wipe off all excess lubricant when finished.**

1. Wheel hubs (1 nipple on each hub). Periodical attention only. See page 7.
2. Grease fork shafts (5 nipples).
3. Moving parts—Oilcan—
  - Brake levers, front and rear.
  - Rear brake joint.
  - Rear stand.
  - Brake cams. Periodical attention only. See page 7.

### WEAR AND ADJUSTMENT

1. Test for up and down play in steering head.
  - (a) Grip the handlebar head clip lug where it meets the main frame head lug with the fingers of the left hand, and at the same time hold the forward end of the front mudguard with the right hand and lift. Movement of the head clip lug felt with the left hand indicates slackness.
  - (b) Adjust if necessary by releasing head clip nut, and screwing down the large head locknut. Do not use excessive force. Finally, tighten head clip pin locknut.



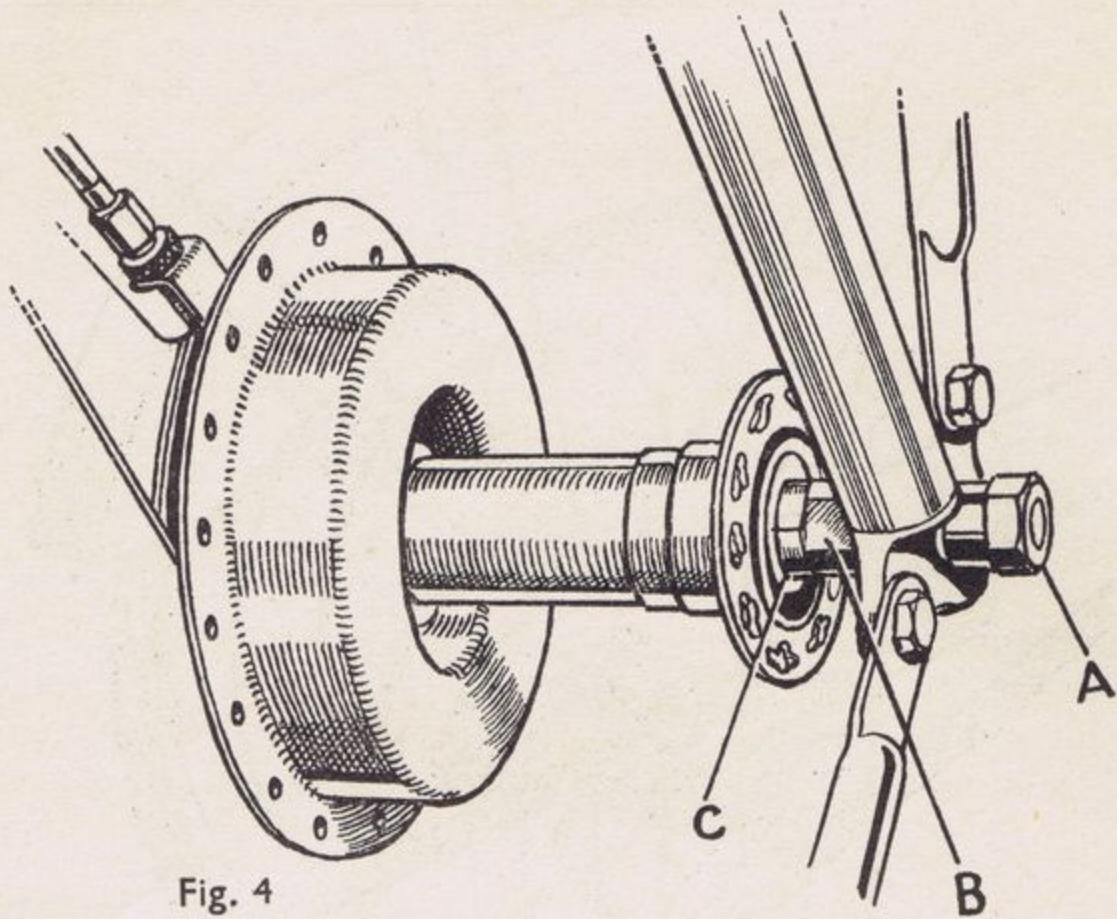


Fig. 4

### TO ADJUST FRONT WHEEL

First slacken nuts A, then nut B and the adjustment is quite easily made by the adjusting cone C. When the correct adjustment is obtained no side play should be felt, but the wheel should revolve quite freely.

Brake adjustment. Tighten by screwing knurled adjuster clockwise on brake plate.

### SILENCER

The silencer fitted on this machine provides for a clear passage of the exhaust gas and is designed to give the utmost power output from the engine ; it should not be interfered with in any way with the exception of an occasional clean, say every 2,000 miles. To do this first undo the screw which holds the collar, then detach the complete silencer from the frame of the machine. Afterwards undo the three small screws at the tail pipe end of the silencer, pull apart and take off the old glass wool and replace with either glass wool or if this is not available, wire wool, which should be wrapped round the interior of the silencer so that no holes are exposed. Replace this by pushing it back into the body making sure that the screw holes in the end cap correspond with the small holes in the body of the silencer. Re-insert the three small screws and assemble on to the machine.

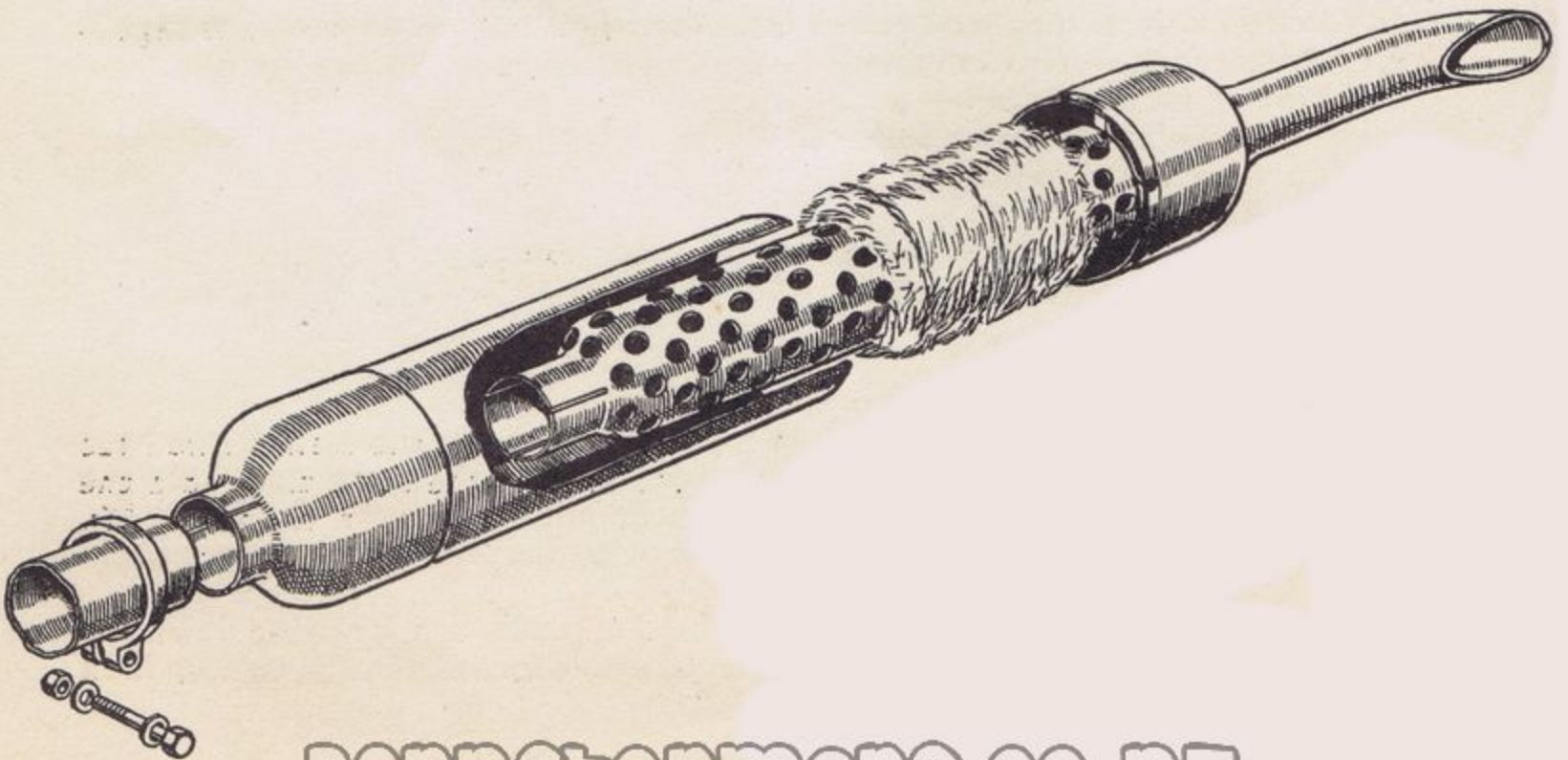


Fig. 5



## CARBURETTER

The Villiers Junior Carburetter is used with the Mark 2.F. Engine, and it should not be necessary to alter the setting obtained by the maker (except for needle adjustment), after road testing the machine.

### OPERATION OF CARBURETTER

The function of the carburetter is to supply a mixture of petrol and air in correct proportion under all conditions. In the Villiers carburetter the float chamber surrounds the jet and centrepiece, and in the chamber an annular float rises as the fuel enters the chamber until the correct level is obtained, then the forked lever which rests on the top of the float lifts the fuel needle which has a conical end and shuts off the fuel supply by closing the hole in the bush fitted in carburetter body.

Fuel enters the centrepiece through a hole in the side and passes through the calibrated jet fitted in the bottom of centrepiece.

The throttle operated by the cable is fitted with a taper needle which extends below the throttle and into the centrepiece. When the throttle slide closes the air supply the largest diameter of the needle nearly closes the fuel outlet, but when the slide is lifted admitting more air, the smaller diameter of the needle now in the centrepiece allows more fuel to pass. A suitable combination jet size, needle position and taper will give a correct mixture strength on all throttle openings.

The fuel level is maintained by a float and needle valve, and under no circumstances should any alteration be made either to the above or to the float lever.

The amount of fuel supplied to the engine is controlled by one jet which is fixed in the bottom of the centrepiece, and by the taper needle which is carried in the throttle and operates in the top end of the centrepiece.

The jet is not detachable from the centrepiece and is not supplied separately.

The carburetter is automatic in action and gives a correct mixture over the whole range of throttle openings, the only available adjustment being the position of the taper needle in the throttle (which controls the size of the jet orifice), and is necessary to suit individual engines.

The needle controls the mixture strength from tickover to approximately two-thirds throttle, the jet controls the remainder.

The position of the taper needle in the throttle is determined during testing at the works, but should it be necessary to alter the setting this is done by the needle adjusting screw situated in the centre and top of throttle. Screw in to weaken mixture, (i.e. lower needle), the screw should not be loose in the throttle slide as it is likely to move and alter the setting. It is split to make it grip the hole. should the screw be loose the split portion should be gently prised apart before fitting.

**NOTE.**—The taper needle spring should be fitted with the small coil under the head of needle.

### TO DISMANTLE CARBURETTER

#### TO REMOVE THROTTLE FROM BODY

Open throttle to full open, undo top ring, throttle can now be withdrawn. Take care not to damage or bend the taper needle. Return throttle to fully closed position, the guide peg attached to top disc will then be exposed and, if necessary, the control cable can be detached by compressing throttle spring, the inner cable then being lifted out through the slot.

#### TO REMOVE CENTREPIECE AND FUEL NEEDLE

Unscrew the bottom nut underneath the float chamber cup. Next remove the fibre washer, the cup with float inside, and if loose, the fibre washer between cup and carburetter body. Then remove the small centrepiece locking screw situated below and to the rear of the banjo petrol pipe union, the centrepiece with fibre washer under head can now be pushed up through the throttle bore.

When the centrepiece is removed the fuel needle lever can swing round and will thus allow the fuel needle to drop out of its seating ; the needle should therefore be removed at the same time as the centrepiece and kept in a safe place until required for reassembly. No attempt should be made to remove the fuel needle lever from the carburetter body.



## TO REMOVE TICKLER

This should not be necessary unless the vent hole in base of body is blocked, in which case remove the split cotter pin at end of tickler which will release the tickler and its spring. One vent hole is at the bottom of the hole where the spring fits, the other being in the side of the tickler cap.

## CARBURETTER SETTING

The carburetter is fitted with a taper needle marked  $2\frac{1}{2}$  on the parallel portion under the head, a centrepiece marked J8 on the head, and the jet (which is not detachable) marked 8 on the hexagon portion. The normal taper needle setting is  $\frac{29}{32}$ " from the bottom of the throttle to the end of the needle, but this is usually a matter of individual adjustment to suit each engine.

## REASSEMBLY OF CARBURETTER

This, of course, is the reverse process to that already described ; the fuel needle should be fitted point first, the fuel needle lever should then be placed so that it holds the needle in position whilst the centrepiece is replaced. Care should be taken to see that the centrepiece complete with fibre washer is fitted so that the locking screw locates in the slot in the head of the centrepiece. When refitting float do not overtighten bottom nut as this may distort the jet.

## FLYWHEEL MAGNETO

The Villiers 6-Pole Flywheel Magneto provides alternating current for both ignition and lighting. A connector is fitted to the lighting cable and this must be unscrewed should the engine be removed. Keep the rubber sleeve in position over the connector, otherwise a short circuit may occur.

The armature plate which carries the ignition coil, lighting coils, and contact breaker mechanism is secured to the engine crankcase by four screws. The H.T. lead from ignition coil to sparking plug is detachable by unscrewing from armature plate and when refitting it is important to make sure that the brass pad carried by the spring and secured to the terminal makes contact with the soldered disc on the outside of the ignition coil.

In the magneto flywheel are fitted four permanent magnets and two dummies, and it is very important should these be removed at any time that they are replaced in the original position in relation to the peak of the cam profile ground on the centre boss which is rivetted to the arms of the flywheel.

## CONTACT BREAKER ASSEMBLY

This is of the latest improved type requiring a screwdriver only to adjust the contact points. To adjust the contact points proceed as follows :—

Turn flywheel until rocker pad is on top of cam profile of flywheel boss. Release the screw " A," see illustration, Fig. 6.

Position Bracket " B " with .015" feeler gauge between contact points, tighten screw, taking care not to use too much force. It is not necessary to disturb screw " C " when adjusting point gap.

A felt pad is used to keep the cam in a slightly oily condition, and is impregnated when new with grease. This can, if visibly dry, be oiled with a small amount of the heaviest oil available. It is better, however, to soak the pad in a molten high temperature grease if it is convenient to detach the box itself for this operation. If too much oil is put on the felt pad it may creep along the Rocker Arm, get on the contact points and so cause ignition trouble.



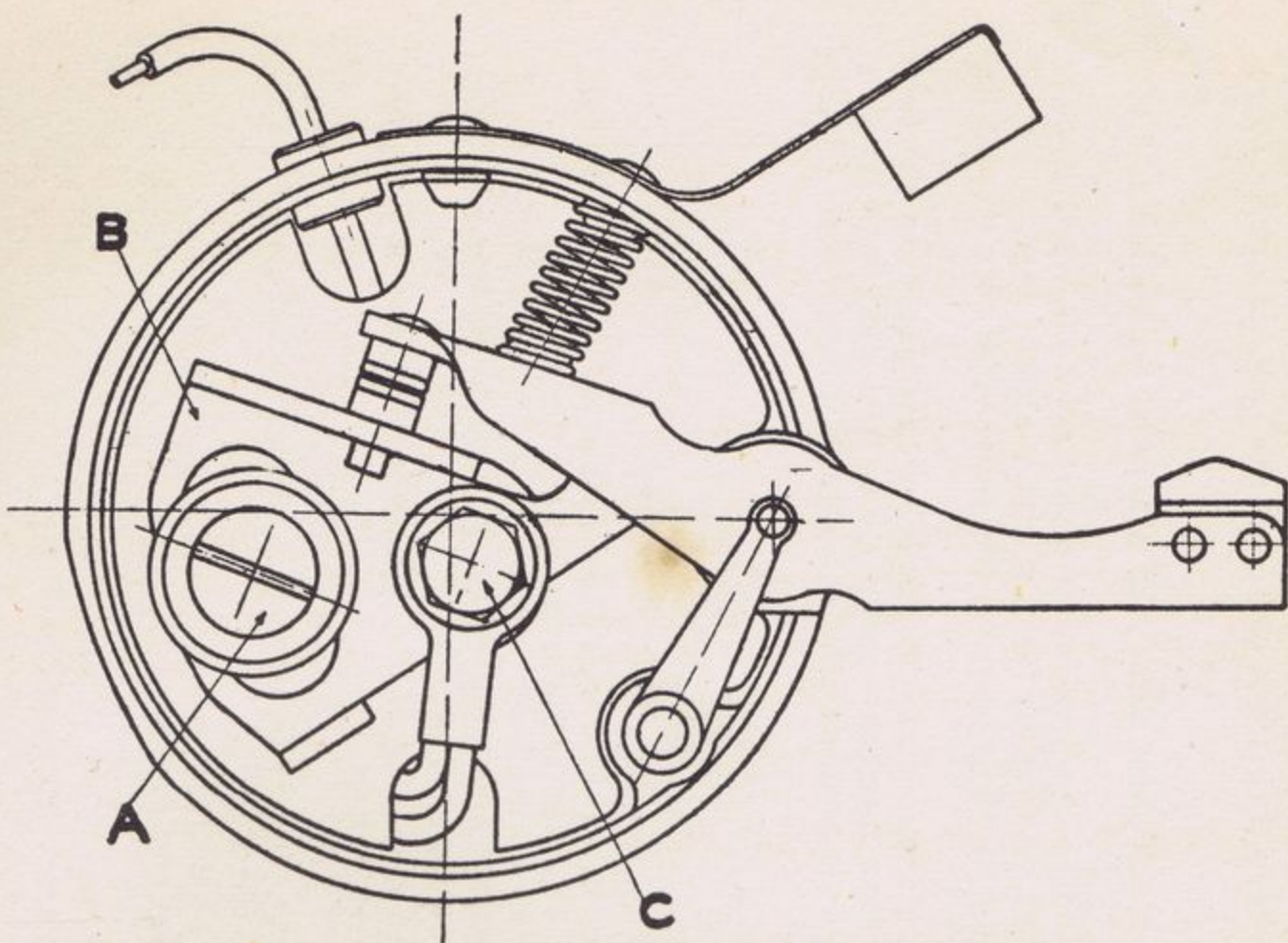


Fig. 6.

### CONTACT BREAKER ASSEMBLY

The flywheel should not be removed unless absolutely necessary, and then it is advisable to use a Villiers hammer tight spanner for the centre nut. The nut is imprisoned in the flywheel and acts as an extractor when turned anti-clockwise looking at the magneto.

Before access can be made to the nut, of course, the flywheel cover has first to be removed by releasing the three screws holding cover to flywheel.

### TIMING OF THE MAGNETO

The contact breaker points should commence to open when the piston is  $\frac{1}{8}$ " before top of stroke. Timing marks are stamped on both the armature plate and flywheel rim.

The mark on the armature plate is stamped on a small boss on the rim of the armature plate, and the mark on the flywheel rim coincides with this mark when the piston is at the top of the stroke. On checking timing it is only necessary to remove the sparking plug; turn flywheel until the two marks are opposite when the piston should be at top of stroke.

When timing ignition after dismantling loosely fit the flywheel to shaft and, having set piston  $\frac{1}{8}$ " from top of stroke, rotate flywheel without turning the crankshaft until the contact points commence to open. Tighten up flywheel centre nut sufficiently tight for crankshaft to be rotated. Check to see that the flywheel has not slipped. Finally tighten the centre nut with the special hammer tight spanner, refit cover and screws.



## TRACING TROUBLES

For the satisfactory running of any Villiers Engine it is essential that three main conditions are fulfilled, and by making a systematic and intelligent investigation the faults can usually be located and rectified. Usually when the engine stops, symptoms give a clue to the cause, but where this is not the case, the trouble can be more easily diagnosed by following a definite method of investigation.

The three conditions mentioned above are as follows :—

1. The required quantity of combustible mixture (petrol and air) must enter the engine, which means that a sufficient supply of fuel must be available at the carburetter and that the throttle should open and close freely.
2. There must be a good spark at the plug points, when under compression, and at the correct time in relation to the position of piston on its upward stroke.
3. The engine must be in good mechanical condition, there must be good compression in cylinder and crankcase, and no air leaks at the various joints.

When cause of the trouble is not evident carry out a preliminary examination covering the following points, but if this fails to trace the cause reference should be made to the Fault Finding Charts.

Having made sure that there is "petroil" in the tank, and tap is in the ON position, depress tickler to check if there is any stoppage or obstruction in the fuel supply either in the tap, fuel pipe, banjo union or fuel needle seating. Being satisfied that fuel is reaching the carburetter, next unscrew sparking plug and with high tension lead attached lay on cylinder head. Test by turning engine by pedals with cycle on stand, and if the spark is satisfactory it is possible that the timing is incorrect. Finally examine the carburetter controls to make certain the throttle is actually opening when the control lever is moved.

## ENGINE WILL NOT START

Sequence of Testing.	Possible Trouble.	Remedy.
Depress tickler on carburetter to check whether fuel is reaching carburetter.	No fuel reaching carburetter, air lock in petrol pipe.	Turn tap to ON, refill tank, clear air vent in filler cap. Turn on reserve tap where fitted.
If no fuel, even when tap is on and fuel is in tank.	Choked petrol pipe, filter on tap, filter in banjo. Fuel needle sticking in seating.	Remove and clean out. Dismantle carburetter and fit new needle.
Test for spark by holding sparking plug body on cylinder head.	Leak along insulation of plug or high tension lead.	Try a new plug of the type recommended and/or new H.T. lead.
If still no spark : Test for spark at end of H.T. lead held $\frac{1}{8}$ " from cylinder fins.	Plug points may be oily or sooted up. If no spark at end of H.T. lead, contact breaker point gap may be too narrow or points pitted or dirty or oily. Moisture on insulation of condenser box. High tension pick-up not making good contact on ignition coil due to corrosion or misplacement. Cracked insulation of adjustable contact breaker point. Damaged insulating sleeving on wires connecting contact breaker to coil or condenser. Faulty connection to low tension wire of ignition coil. Faulty condenser. Faulty ignition coil.	Clean plug or fit new one. Adjust point gap to .105" Clean. Clean and dry out. Clean and correct. Renew. Replace with new sleeving.
If above tests are O.K. but engine will not start.	Mixture may be too rich due to use of strangler, or incorrect setting of taper needle.	Correct. Replace. Replace. Open throttle wide and depress kickstarter several times to clear engine of petroil mixture, adjust taper needle, drain crankcase.



Air leaks at carburettor stub or manifold joint, causing weak mixture.  
Incorrect ignition timing due to flywheel having slipped on driving shaft taper.

### ENGINE FOUR OR EIGHT STROKES

Mixture too rich.

Engine may four stroke for a little while after standing due to accumulation of oil in crankcase.

Flooding of carburettor.

### ENGINE LACKS POWER

Engine out of tune, bearings worn. Unsuitable sparking plug. Loss of compression.

Incorrect "Petrol" mixture.

Excessive carbon deposit on piston crown, and cylinder head.

Exhaust system choked with carbon.

Incorrect carburettor setting.

Air cleaner choked.

Obstruction in fuel supply.

Incorrect ignition timing.

Brakes binding.

Driving chains too tight.

### ENGINE WILL NOT RUN SLOWLY

Weak mixture due to air leaks at carburettor stub or manifold joint, crankcase and cylinder base joints.

Crankcase drain screw loose or missing.

Worn crankshaft bearing or leaking compression gland.

Ignition timing too far advanced.

### ENGINE SUDDENLY STOPS FIRING

Sparking plug lead detached.

Plug points bridged by oil, carbon, or deposit caused by use of leaded petrol.

Short circuit of high-tension current by water on H.T. lead.

Correct.

Check, following instructions given for respective type of engine.

Lower taper needle by moving to "WEAK" position.  
Lower needle by adjuster screw fitted in throttle.

Usually ceases when engine has been running for a few minutes unless too much oil has been mixed with the petrol.

Persistent flooding is usually due to dirt under fuel needle seating, or sticking fuel needle, or damaged seating or punctured float.

Overhaul. Replace with recommended type.  
Tighten cylinder head bolts. Renew piston rings.  
Correct mixture is 1 part oil, 16 parts petrol.

Decarbonize.

Clean out silencer and exhaust pipes.

Check with setting chart.

Wash in petrol, drain and dip in thin oil.

Clean out tap, fuel pipe and filters.

Check against timing chart.

Adjust.

Adjust.

Tighten all joints.

Tighten or replace.

Replace.

Correct.

Replace and tighten nut.

Clean or replace.

Dry out.

Strangler may not be fully open or taper needle in the "RICH" position. Air filter where fitted may need cleaning.

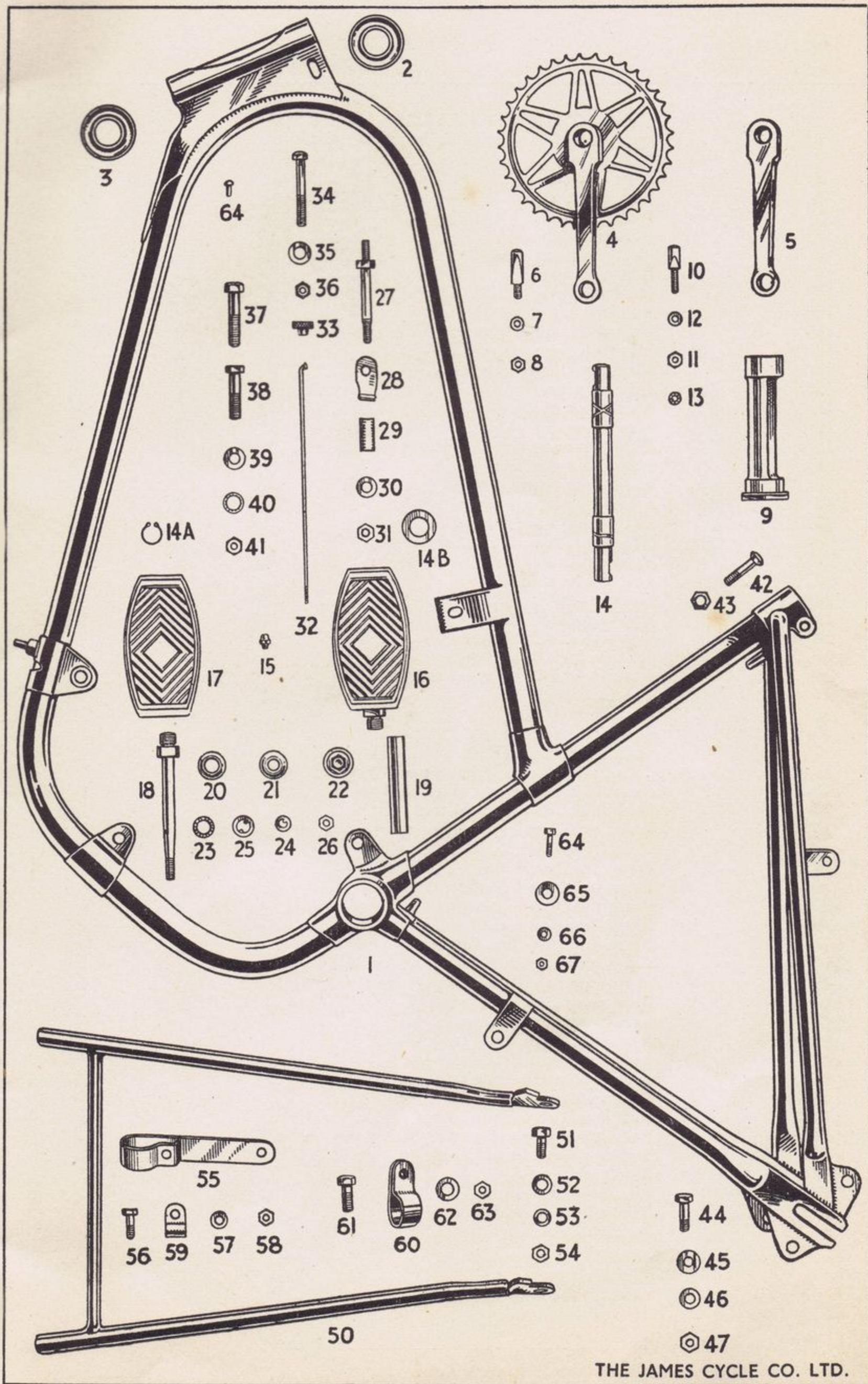
Check by watching for excessive smoke from exhaust pipe or silencers.



SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE I.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>FRAME, STAND and PEDALS</b>			
1		Frame complete	
2		Top Frame race	
3		Bottom Frame race	
4		Chain wheel and crank	
5		Crank, left hand	
6		Crank cotter	
7		Crank cotter washer	
8		Crank cotter nut	
9		Bracket eccentric	
10		Bracket cotter (driving side)	
11		Crank cotter nut	
12		Crank cotter washer (plain)	
13		Crank cotter washer (shakeproof)	
14		Bracket, axle	
14A		Bottom bracket circlip	
14B		Bottom bracket spindle washer	
15		Grease nipple	
16		Pedals (pair)	
17		Pedals, rubber	
18		Pedals, spindle	
19		Pedals, centre tube	
20		Pedals, cup, inner	
21		Pedals, cup, outer	
22		Pedals, cap	
23		Pedals, ball cage	
24		Pedals, cone peg washer	
25		Pedals, cone	
26		Pedals, cone, spindle nut	
27		Rear tank fix bolt and strangler rod	
28		Choke rod clip	
29		Distance collar	
30		Shake proof washer	
31		Nut	
32		Choke rod	
33		Choke rod knurled nut	
34		Front pin, tank fixing	
35		Washer, tank fixing	
36		Nut, tank fixing	
37		Pin, engine fixing, long	
38		Pin, engine fixing, short	
39		Washer, plain	
40		Shake proof washer	
41		Nut, engine fixing	
42		Seat bolt	
43		Seat nut	
44		Pin, carrier fixing	
45		Washer (large) carrier fixing	
46		Washer (small) carrier fixing	
47		Nut, carrier fixing	
50		Rear stand (less pins, nuts and washers)	
51		Pin, rear stand fixing	
52		Washer, rear stand fixing (shakeproof)	
53		Washer, rear stand fixing (plain)	
54		Nut, rear stand fixing	
55		Tailpipe attachment bracket	
56		Pins, tailpipe fixing	
57		Washer, tailpipe fixing	
58		Nut, tailpipe fixing	
59		Bracket, rear brake cable fixing	
60		Rear brake anchor clip	
61		Pin, rear brake anchor plate	
62		Washer, rear brake anchor plate	
63		Nut, rear brake anchor plate	
64		Pin, toolbox fixing	
65		Washer (large) toolbox fixing	
66		Washer (small) toolbox fixing	
67		Nut, toolbox fixing	





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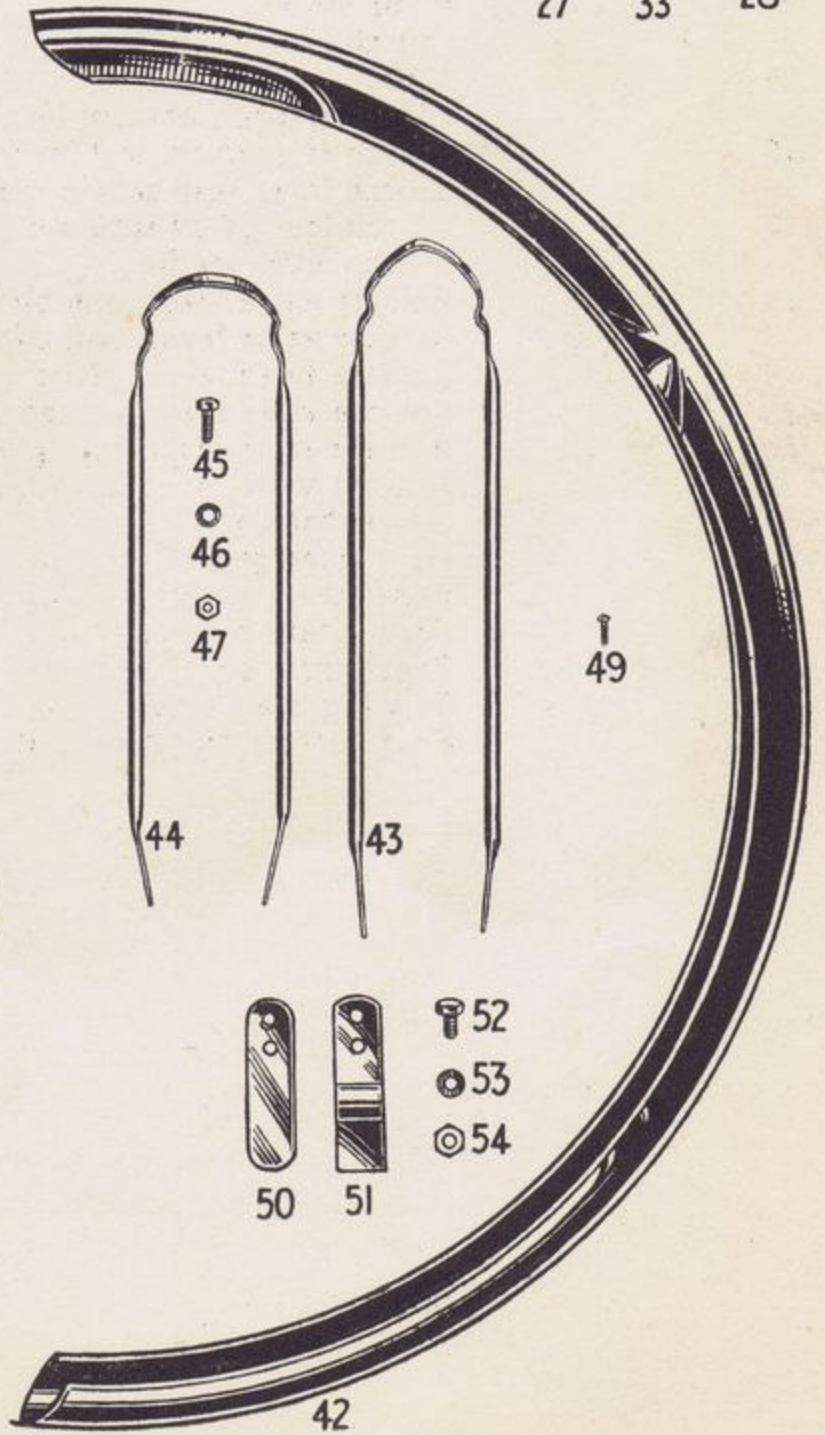
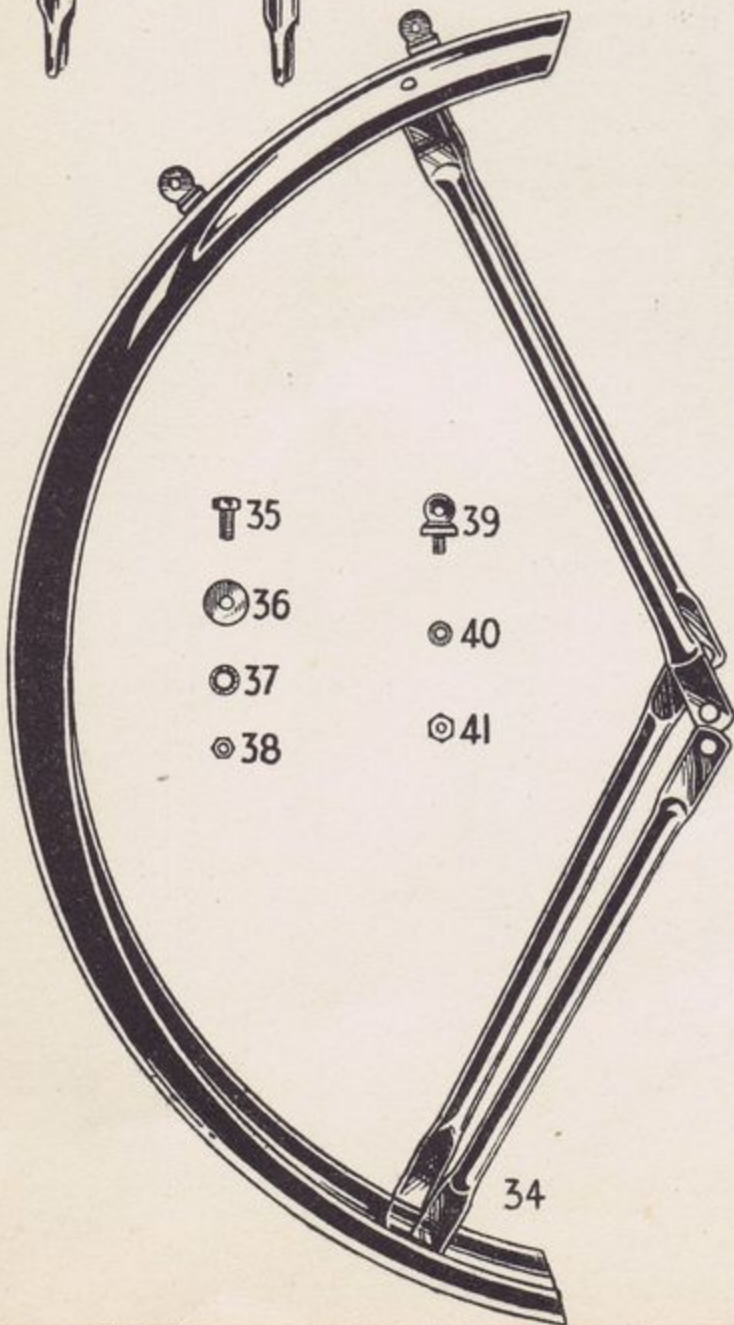
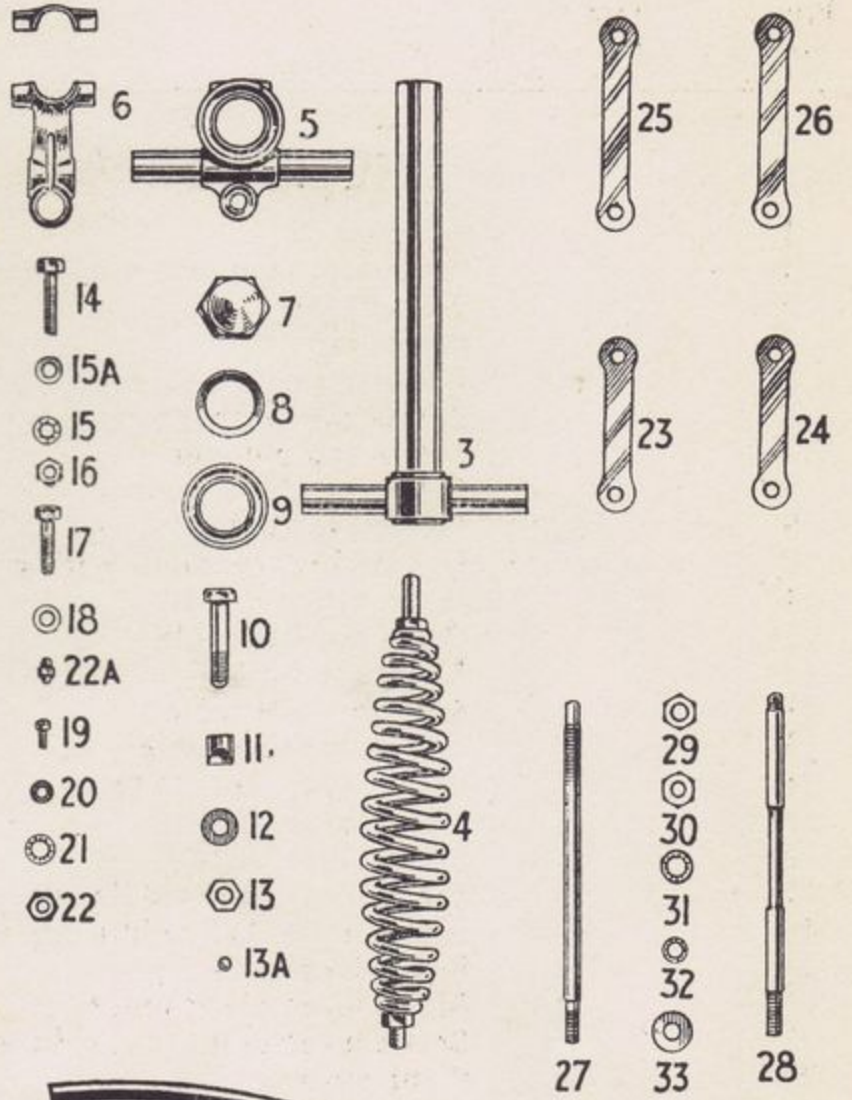
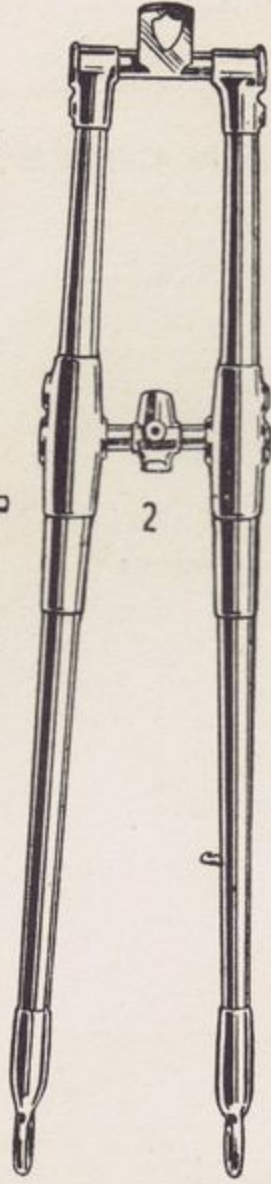
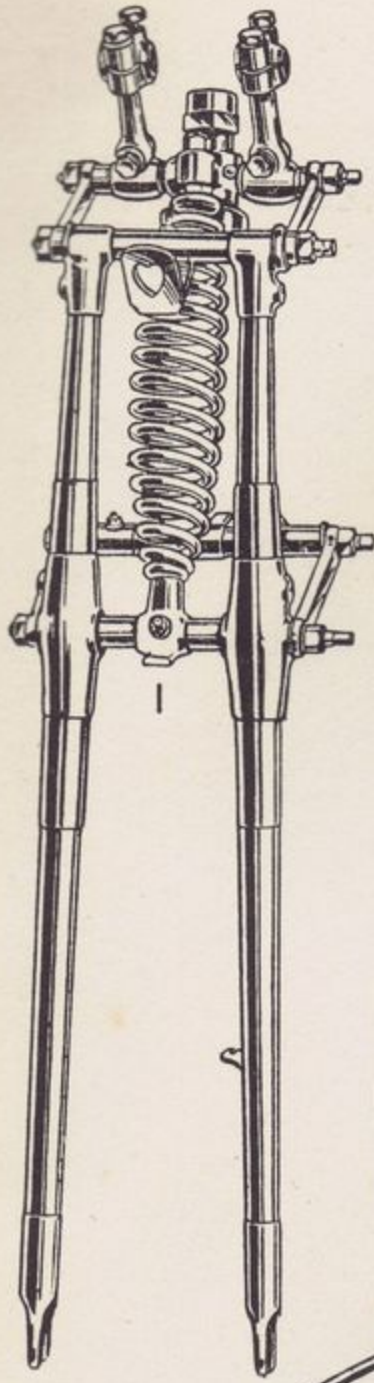
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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 2.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>FORK &amp; MUDGUARDS</b>			
1		Fork, complete (including handlebar clips)	...
2		Fork girder	...
3		Fork column	...
4		Fork springs	...
5		Head clip ...	...
6		Handlebar clip	...
7		Head lock nut	...
8		Distance rings	...
9		Headclip race	...
10		Headclip clamping bolt	...
11		Headclip clamping piece	...
12		Headclip clamping washer	...
13		Headclip clamping nut	...
13A		Head bearings	...
14		Handlebar clip pin	...
15		Handlebar clip washer (shake proof)	...
15A		Handlebar clip washer (plain)	...
16		Handlebar clip nut	...
17		Handlebar clamp pin	...
18		Handlebar clamp washer	...
19		Pin, brake cable fixing	...
20		Washer (small) brake cable fixing	...
21		Washer (large) brake cable fixing	...
22		Nut, brake cable fixing	...
22A		Grease nipple	...
23		Top fork link (fixed)	...
24		Top fork link, (adjusting)	...
25		Bottom fork link (fixed)	...
26		Bottom fork link (adjusting)	...
27		Top fork shaft	...
28		Bottom fork shaft	...
29		Fork shaft nut, large	...
30		Fork shaft nut, small	...
31		Fork shaft washer, (shakeproof) large	...
32		Fork shaft washer, (shakeproof) small	...
33		Fork shaft washer, (knurled)	...
34		Front mudguard (complete with stays, number plate fixing lugs)	...
35		Front mudguard pin	...
36		Front mudguard washer, large	...
37		Front mudguard washer, small...	...
38		Front mudguard nut	...
39		Front number plate fixing lug	...
40		Front number plate fixing clip washer	...
41		Front number plate fixing clip nut	...
42		Rear mudguard, with stays	...
43		Rear mudguard rear stays	...
44		Rear mudguard front stays	...
45		Rear mudguard front stay pin	...
46		Rear mudguard front stay washer	...
47		Rear mudguard front stay nut	...
48		Rear mudguard cable cover	...
49		Rear mudguard cable cover fixing pin	...
50		Striking plate (rear stand)	...
51		Retaining clip	...
52		Retaining clip pin	...
53		Retaining clip washer	...
54		Retaining clip nut	...





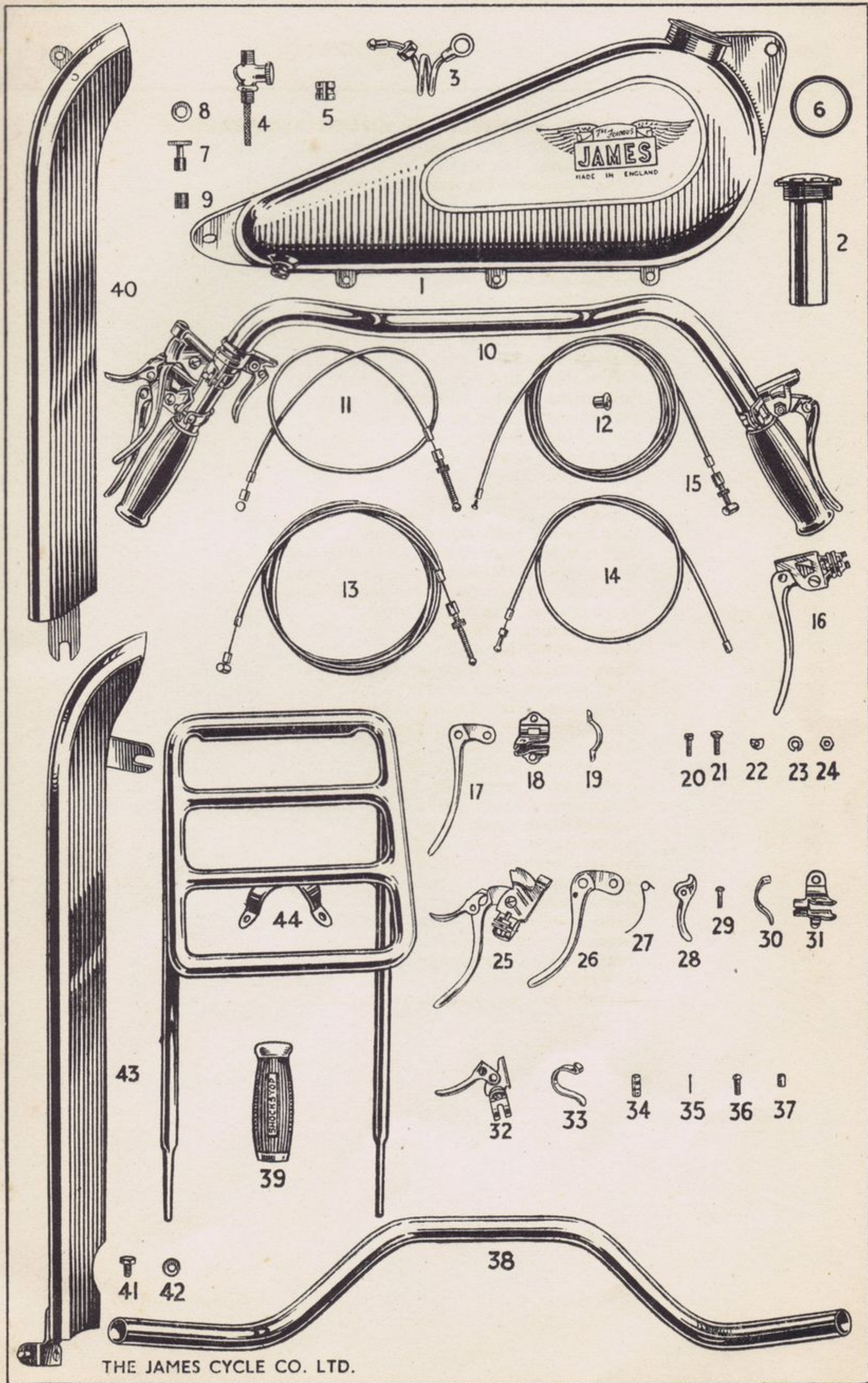
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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 3.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>TANK, HANDLEBAR, CHAIN COVER AND CARRIER</b>			
1		Petrol tank ... ..	
2		Filler cap, complete with messure ... ..	
3		Petrol pipe ... ..	
4		Petrol tap ... ..	
5		Cable clip ... ..	
6		Petrol cap washer ... ..	
7		Petrol tap plunger ... ..	
8		Petrol tap fibre washer ... ..	
9		Petrol tap cork ... ..	
10		Handlebar, complete with grips and levers ... ..	
11		Front brake cable ... ..	
12		Cable barrel nipple ... ..	
13		Rear brake cable ... ..	
14		Release valve cable ... ..	
15		Clutch control cable ... ..	
16		Brake lever, complete ... ..	
17		Brake lever, only ... ..	
18		Brake lever, saddle ... ..	
19		Brake lever, half saddle clip ... ..	
20		Brake lever, half saddle clip pin ... ..	
21		Brake lever, pivot pin ... ..	
22		Brake lever pivot pin, nut ... ..	
23		Brake lever pivot pin, split washer ... ..	
24		Pivot pin nut ... ..	
25		Clutch lever, complete ... ..	
26		Clutch lever only ... ..	
27		Clutch trigger, control lever spring ... ..	
28		Clutch trigger control lever ... ..	
29		Clutch lever, half saddle clip pin ... ..	
30		Clutch lever, half saddle clip ... ..	
31		Clutch lever saddle ... ..	
32		Release valve lever, complete ... ..	
33		Release valve lever, half clip ... ..	
34		Release valve lever, pivot ... ..	
35		Release valve lever, cotter ... ..	
36		Release valve lever, fixing pin ... ..	
37		Release valve lever, pivot pin nut ... ..	
38		Handlebar bend ... ..	
39		Handlebar grips ... .. pair	
40		Pedal chain cover ... ..	
41		Pedal chain cover pin ... ..	
42		Pedal chain cover washer ... ..	
43		Driving chain cover ... ..	
44		Rear carrier, less pins, nuts and washers ... ..	



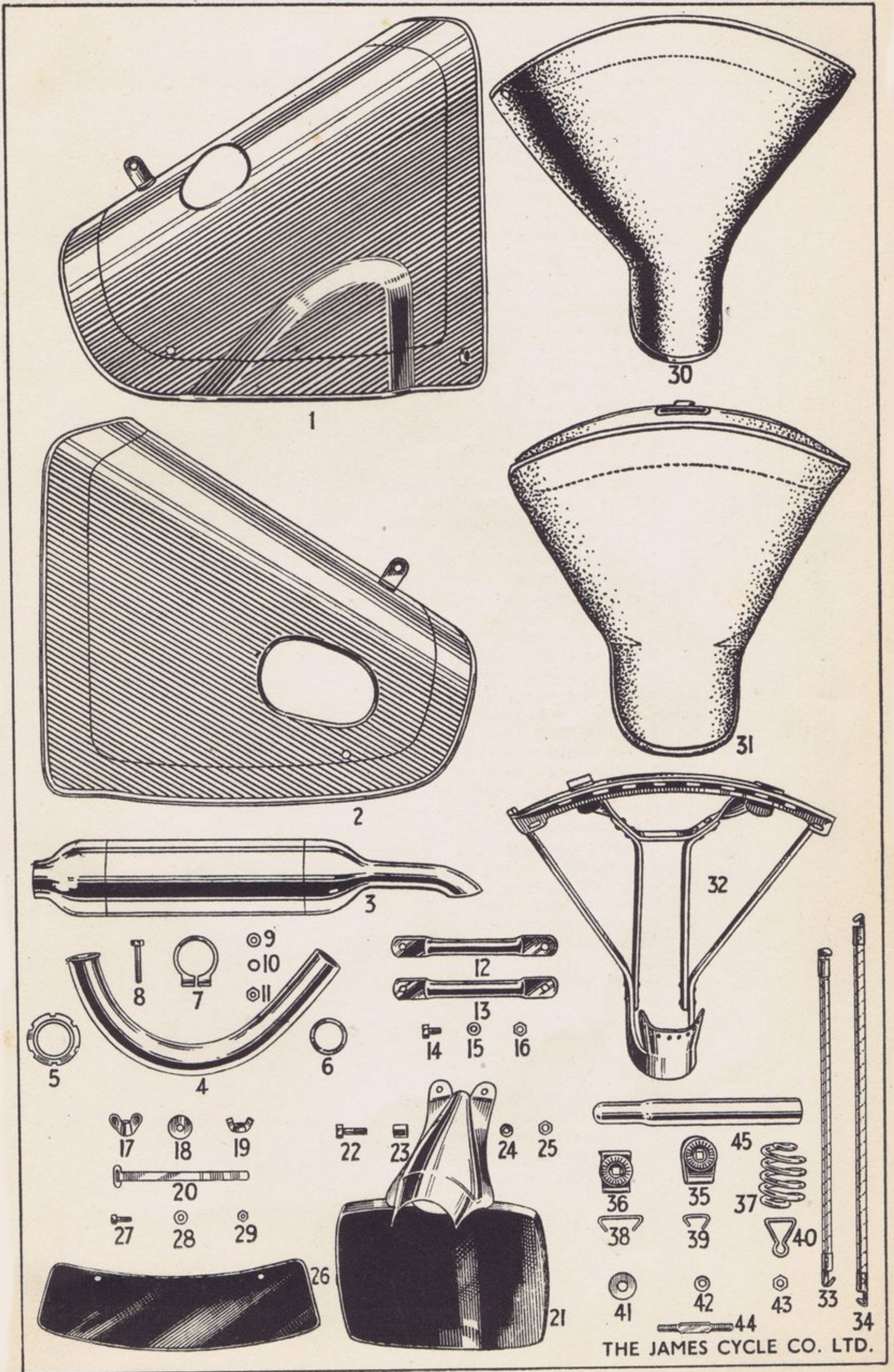




SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 4.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>ENGINE SHIELD, SILENCER AND SADDLE</b>			
1		Engine shield, right hand ... ..	
2		Engine shield, left hand ... ..	
3		Exhaust silencer, complete ... ..	
4		Exhaust pipe ... ..	
5		Exhaust pipe nut... ..	
6		Exhaust pipe washer ... ..	
7		Exhaust pipe clip ... ..	
8		Exhaust pipe pin ... ..	
9		Exhaust pipe clip washer, large ... ..	
10		Exhaust pipe clip washer, small ... ..	
11		Exhaust pipe clip nut ... ..	
12		Engine shield fixing strap, left hand ... ..	
13		Engine shield fixing strap, right hand ... ..	
14		Engine shield fixing strap pin ... ..	
15		Engine shield fixing strap washer ... ..	
16		Engine shield fixing strap nut ... ..	
17		Engine wing nut $\frac{3}{8}$ " ... ..	
18		Engine shield, large washer ... ..	
19		Engine shield wing nut, $\frac{5}{16}$ " ... ..	
20		Cable strap ... ..	
21		Rear number plate, complete ... ..	
22		Rear number plate fixing pins (mudguard fixing) ... ..	
23		Rear number plate fixing pin, fibre washer ... ..	
24		Rear number plate fixing pin washer ... ..	
25		Rear number plate fixing pin nut ... ..	
26		Front number plate ... ..	
27		Front number plate pin ... ..	
28		Front number plate washer ... ..	
29		Front number plate nut ... ..	
30		Saddle, complete... ..	
31		Saddle top ... ..	
32		Saddle frame ... ..	
33		Saddle spring, short ... ..	
34		Saddle spring, long ... ..	
35		Saddle clamp, inner ... ..	
36		Saddle clamp, outer ... ..	
37		Saddle spring ... ..	
38		Spring clip, long ... ..	
39		Spring clip, short ... ..	
40		Saddlebag clip ... ..	
41		Saddle clamp washer, large ... ..	
42		Saddle clamp washer, small ... ..	
43		Saddle clamp pin nut ... ..	
44		Saddle clamp bolt ... ..	
45		Seat pillar ... ..	



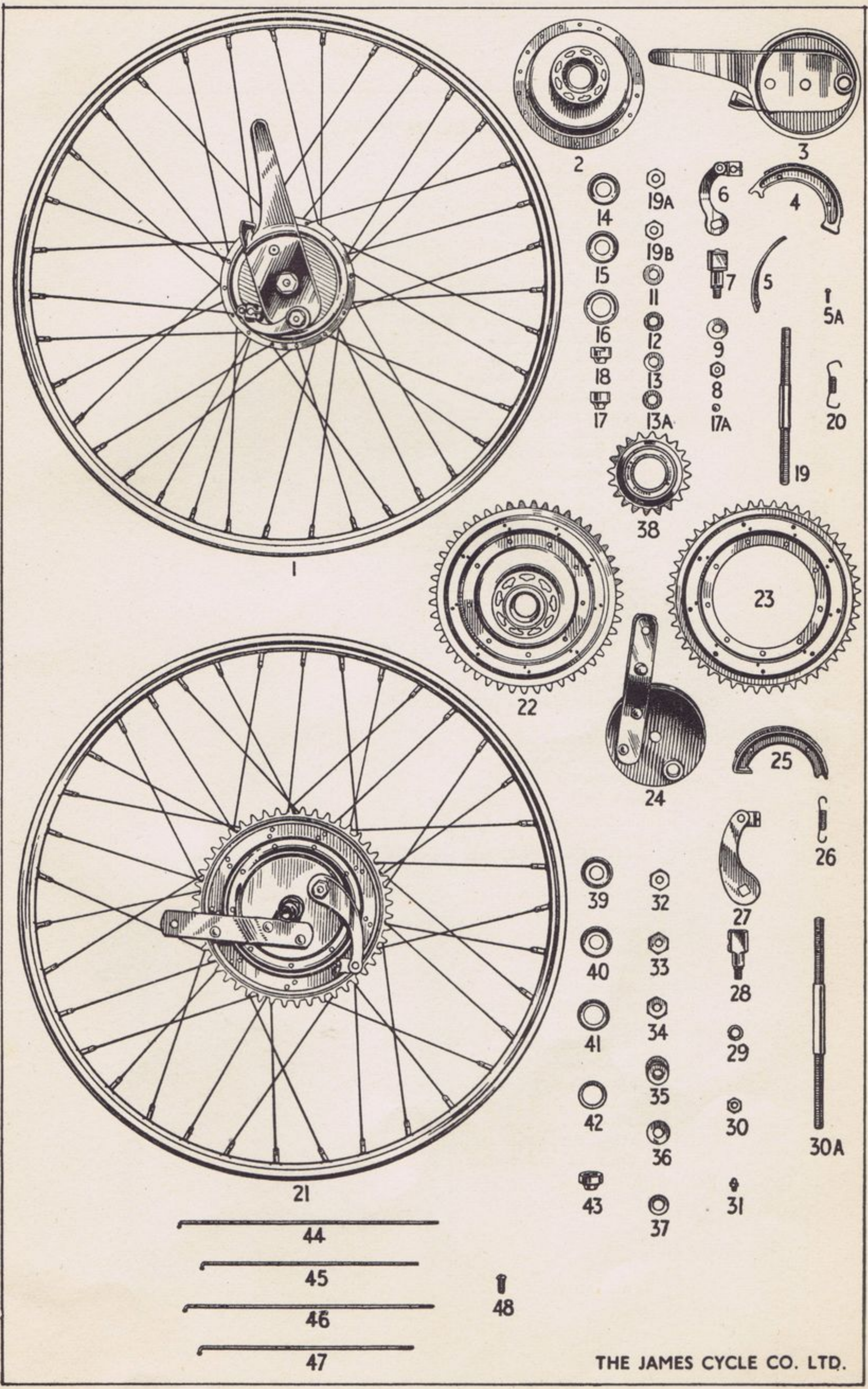




SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 5.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>WHEELS AND HUBS</b>			
1		Front wheel, complete ... ..	
2		Front hub shell, with cups ... ..	
3		Front hub cover plate ... ..	
4		Front hub brake shoe ... ..	
5		Front hub brake lining ... ..	pair
5A		Front hub brake lining rivet ... ..	
6		Front hub brake cam lever ... ..	
7		Front hub brake cam ... ..	
8		Nut for brake cam lever ... ..	
9		Washer for brake cam lever ... ..	
10		Washer for brake cam lever (not illustrated) ... ..	
11		Peg Washer for hub spindle ... ..	
12		Packing Washer for hub spindle, brake side ... ..	
13		Distance Piece ... ..	
13A		Spindle washer ... ..	
14		Front hub cup, deep ... ..	
15		Front hub cup, shallow ... ..	
16		Front hub dust cap ... ..	
17		Front and rear hub cone, fixed... ..	
17A		Ball bearings ... ..	set
18		Front and rear hub cone, adjusting ... ..	
19		Front hub spindle ... ..	
19A		Front hub spindle, end nut ... ..	
19B		Locknut, adjusting, cone ... ..	
20		Front hub brake shoe spring ... ..	
21		Rear wheel, complete ... ..	
21A		Rear Hub complete ... ..	
22		Rear hub shell, complete with chain wheel ... ..	
23		Rear chain wheel ... ..	
24		Rear hub cover plate ... ..	
25		Rear hub brake shoe ... ..	pair
26		Rear hub brake shoe spring ... ..	
27		Rear hub brake cam lever ... ..	
28		Rear hub brake cam ... ..	
29		Split washer for brake cam ... ..	
30		Nut for brake cam ... ..	
30A		Rear hub spindle... ..	
31		Lubricator for hub shell ... ..	
32		Rear hub spindle nut ... ..	
33		Lock nut, adjusting cone ... ..	
34		Lock nut, brake side ... ..	
35		Distance collar for brake side ... ..	
36		Peg washer ... ..	
37		Spindle washer ... ..	
38		Freewheel ... ..	
39		Rear hub cup, deep ... ..	
40		Rear hub cup, shallow ... ..	
41		Dust cap, enclosure ... ..	
42		Dust cap, packing ring ... ..	
43		Distance piece ... ..	
44		Rear wheel spokes, plain, front ... ..	
45		Rear wheel spokes, brake, front ... ..	set
46		Rear wheel spokes, plain, rear ... ..	set
47		Rear wheel spokes, brake, rear ... ..	set
48		Spoke nipple ... ..	set





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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 6.

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>CHAINS AND EQUIPMENT</b>			
1		Pedal chain ... ..	
2		Driving chain ... ..	
3		Half link (pedal chain) ... ..	
4		Inner link (pedal chain) ... ..	
5		Spring fastener (pedal chain) ... ..	
6		Connecting link (pedal chain) ... ..	
7		Half link (driving chain) ... ..	
8		Inner link (driving chain) ... ..	
9		Spring fastener (driving chain) ... ..	
10		Connecting link (driving chain) ... ..	
11		Chain adjuster eye ... ..	
12		Chain adjuster cap ... ..	
13		Chain adjuster washer ... ..	
14		Chain adjuster nut ... ..	
15		Licence holder ... ..	
16		Tool box ... ..	
17		Tool box button ... ..	
18		Tool box pin ... ..	
19		Tool box washer ... ..	
20		Tool box nut ... ..	
21		Tool box fixing pin, large ... ..	
22		Tool box fixing pin distance piece ... ..	
23		Tool box fixing pin washer ... ..	
24		Tool box fixing pin nut ... ..	
25		Tool wallet ... ..	
26		$\frac{7}{16}$ " spanner ... ..	
27		$\frac{3}{16}$ " spanner ... ..	
28		$\frac{3}{8}$ " spanner ... ..	
29		Plug spanner ... ..	
30		Exhaust pipe and cone spanner ... ..	
32		Tyre lever ... ..	
33		Screw driver ... ..	
34		Magneto spanner ... ..	
35		Tyre pump ... ..	
36		Bulb horn ... ..	
<b>JAMES SPECIAL DIVIDED RUBBER PEDAL</b> (not illustrated)			
		Pedal, complete ... ..	
		Spring clip ... ..	
		Pedal frame ... ..	
		Spindle ... ..	
		Cone ... ..	
		Locknut for cone ... ..	
		Lock washer for cone ... ..	
		Pedal rod ... ..	
		Washer for rod ... ..	
		Nut for rod ... ..	
		Distance piece ... ..	
		Rubber ... ..	
		Dust cap ... ..	
		1 set $\frac{1}{8}$ " dia. balls. ... ..	
		1 set $\frac{5}{32}$ " dia. balls. ... ..	

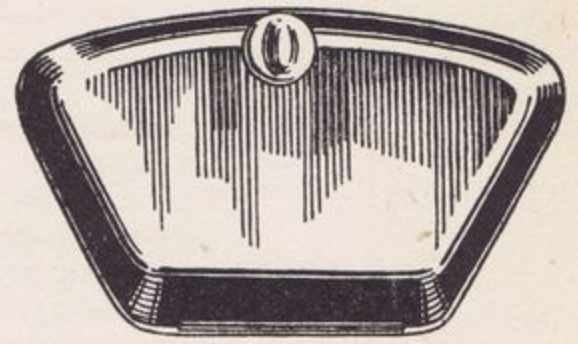




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2



16



6



4



5



3



11



12



13



14



15



10



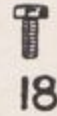
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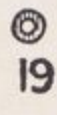
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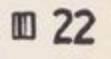
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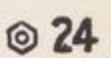
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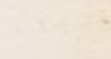
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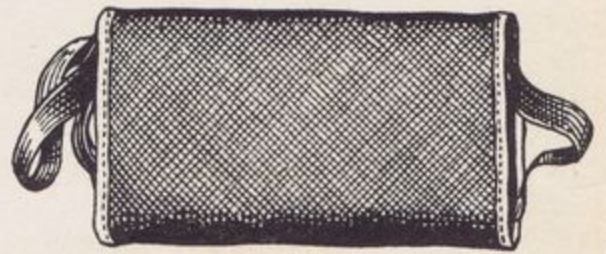
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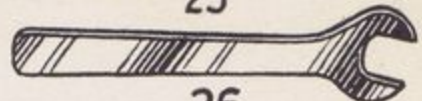
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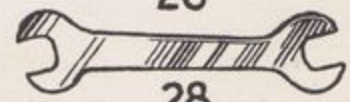
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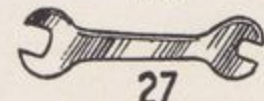
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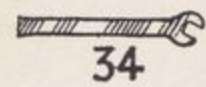
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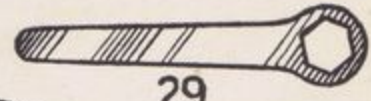
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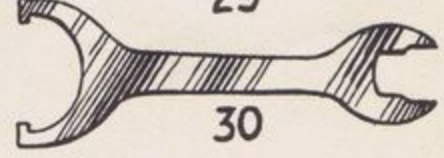
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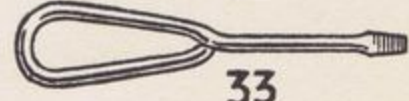
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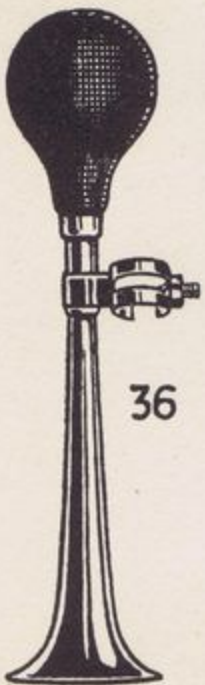
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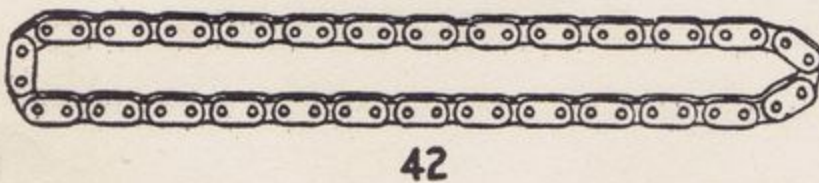
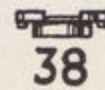
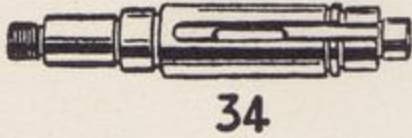
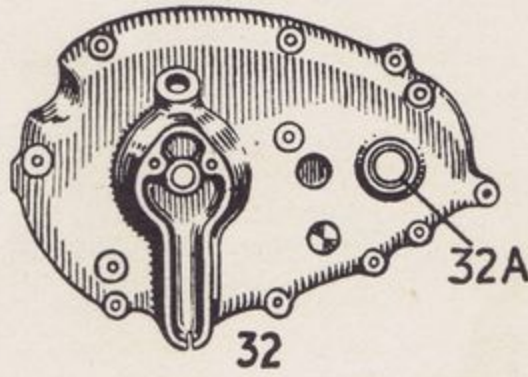
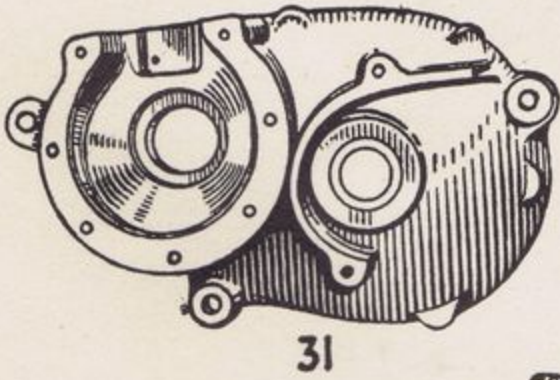
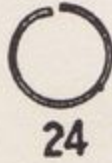
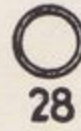
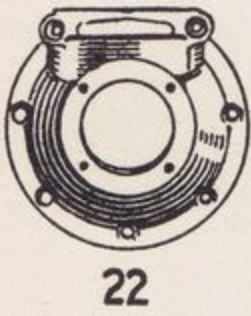
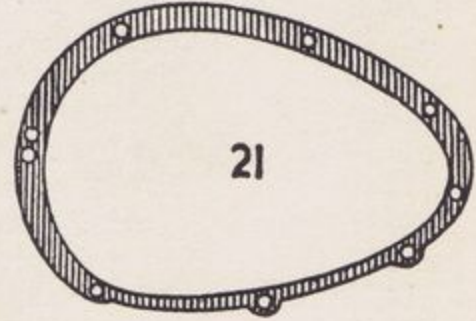
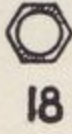
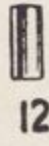
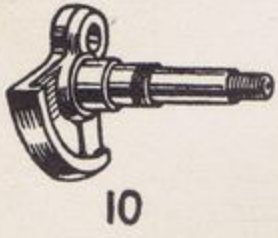
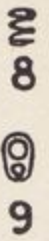
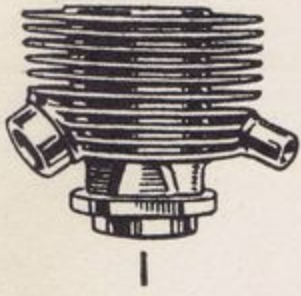
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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 7

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>ENGINE</b>			
1	B7261/2	Cylinder ... ..	
2	B7455	Cylinder Head ... ..	
3	E3907	Cylinder head bolt ... ..	
4	C7045	Piston, bushed, standard size ... ..	
5	E6141	Piston, ring, standard size ... ..	
	E7516	Piston, ring, .015" oversize ... ..	
	E7518	Piston, ring, .03" oversize ... ..	
6	E3064	Body, release valve ... ..	
7	E1280	Stem, release valve ... ..	
8	E1163	Spring, release valve ... ..	
9	E1276	Nut, release valve ... ..	
10	D7266	Driving shaft, right hand ... ..	
11	D7267	Driving shaft, left hand ... ..	
12	E7493	Crankpin, .001" oversize ... ..	
13	6205	Ball bearing, driving shaft ... ..	
14	D7494	Con. rod, .001" oversize ... ..	
15	E7198	Gudgeon pin ... ..	
16	E6192	Gudgeon pin, small end bush ... ..	
17	E6725	Engine sprocket ... ..	
18	E6930	Engine sprocket, nut ... ..	
19	E6221	Crankcase gland spring ... ..	
20	E7168	Joint washer, cylinder base ... ..	
21	C7417	Clutch cover, washer ... ..	
22	B7262	Crankcase, left hand ... ..	
23	E6724/1	Crankcase, left bush ... ..	
24	E7189	Crankcase bearing circlip ... ..	
25	E7197	Crankcase, bearing, lock washer ... ..	
26	E7276	Lock washer end plate ... ..	
27	E3934	Nut, exhaust pipe ... ..	
28	E4453	Washer for nut ... ..	
29	E7275	End plate ... ..	
30	D7410	Clutch bridge ... ..	
31	A7408	Crank and clutchcase ... ..	
32	A7409	Clutch cover ... ..	
32A	E7385	Clutch cover bush ... ..	
33	D7413	Chain cover ... ..	
33A	E3222	Clutch cover bolt and drain screw (not illustrated) ... ..	
34	C7411/1	Clutch shaft ... ..	
35	D7412	Clutch lever ... ..	
36	6204	Clutch shaft, ball bearing ... ..	
37	D6125	Clutch shaft, lockwasher ... ..	
38	E4944	Clutch cotter ... ..	
39	E4104	Oil filler plug ... ..	
40	E3931	Drive sprocket nut ... ..	
41	D7415	Drive sprocket, 11 teeth ... ..	
42	I10037	Primary chain, 54 pitches ... ..	





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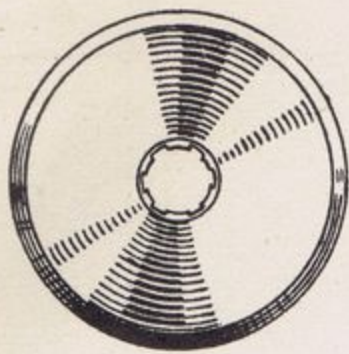
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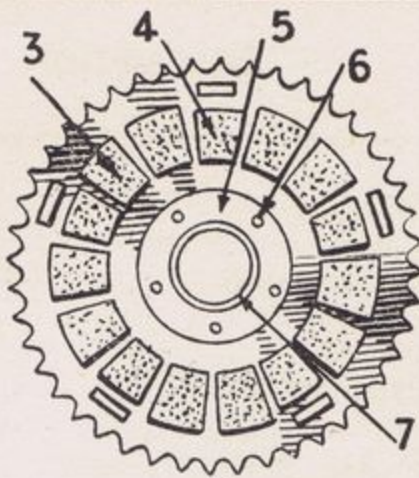
SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 8

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>ENGINE—Continued</b>			
1	D5433	Clutch plate, outer ... ..	
2	D5232	Clutch sprocket, assembly ... ..	
3	E5220	Clutch cork, small ... ..	
4	E4960	Clutch cork, large ... ..	
5	E4955	Clutch sprocket side plate ... ..	
6	E5001	Rivet for side plate ... ..	set
7	E4948	Sprocket ball race ... ..	
8	D5233	Clutch plate, corked ... ..	
9	D4951	Clutch plate, outer ... ..	
10	D4954	Clutch plate, centre, dished ... ..	
11	E5558/1	Clutch spring ... ..	
12	E7608	Clutch spring bush Short ... ..	
13	E5556	Clutch spring bush, long ... ..	
14	E7454	Clutch spring, circlip ... ..	
15	E36e3	Cylinder base stud ... ..	
16	E3961	Nut for stud ... ..	
17	E1545	Clamp, release valve ... ..	
18	E6737	Clamp, screw, release valve ... ..	
19	E1962	Oil level plug ... ..	
20	E7530	Screw, crankcase end plate ... ..	
21	E5218	Circlip, gudgeon pin ... ..	
22	E5581	Key, drive sprocket ... ..	
23	E3318	Joint washer, release valve ... ..	
24	VI07 × 3	Joint washer, oil filler plug ... ..	
25	E1905	Joint washer, level screw ... ..	
26	V476	Joint washer, crankcase drain screw ... ..	
27	E5808	Washer, cylinder head bolt ... ..	
28	E7271	Crankcase screw, $1\frac{5}{16}'' \times 90^\circ$ ... ..	
29	E7128	Crankcase screw, $\frac{3}{4}'' \times 90^\circ$ ... ..	
30	E4934	Clutch bridge screw, $\frac{13}{16}'' \times 60^\circ$ ... ..	
31	E7326	Clutch cover screw, $1'' \times 90^\circ$ ... ..	
32	E3222	Clutch cover bolt and drain screw ... ..	
33	E5107	Stud clutch cover $\frac{1}{4}'' \times 1\frac{5}{16}''$ ... ..	
34	E2539	Nut for stud, small hex... ..	
35	E7414	Clutch operating rod ... ..	
36	E6567	Clutch adjuster screw ... ..	
36A	E401	Nut for clutch adjuster screw ... ..	
37	E1050	Spring washer, $\frac{5}{16}''$ ... ..	
38	E2924	Plain washer, $\frac{1}{4}''$ ... ..	
39	E7619	Dowel, clutch case ... ..	
40	E2677	Dowel, crankcase ... ..	
41	E7452	Crankpin roller ... ..	
42	E5124	Key, engine sprocket ... ..	

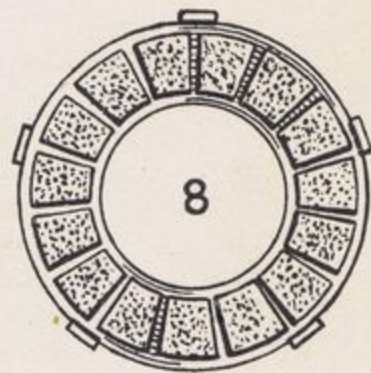




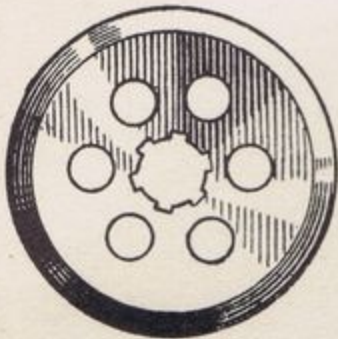
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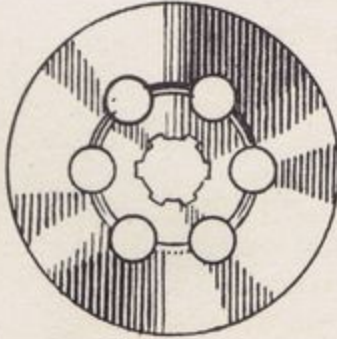
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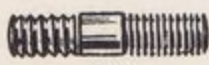
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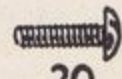
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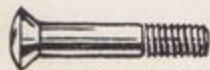
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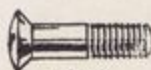
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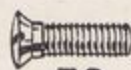
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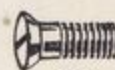
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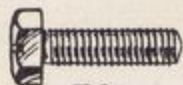
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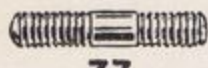
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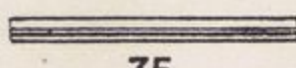
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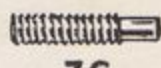
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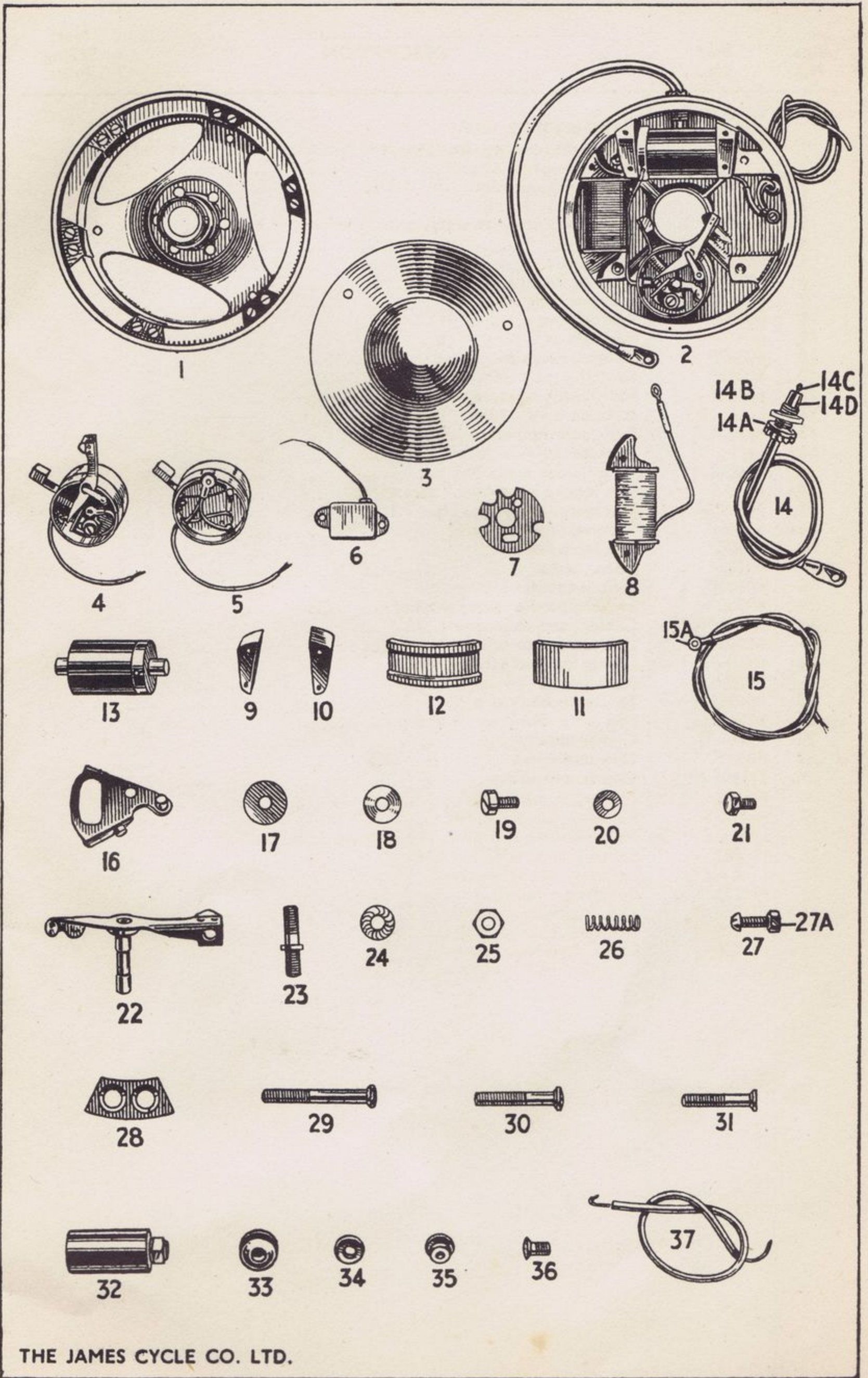
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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 9

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
<b>MAGNETO</b>			
1	R110	Flywheel assembly, less cover	...
2	A107	Armature plate assembly	...
3	M1580	Flywheel cover	...
4	M1864	Con. box assembly	...
5	M1872	Con. box only with oil pad	...
6	M1750	Condenser	...
7	M1803	Insulating pad, con. box	...
8	M2049	Lighting coil assembly	...
9	M1855	Coil end, left hand	...
10	M1856	Coil end, right hand	...
11	M1354	Magnet	...
12	M1553	Dummy magnet	...
13	M1361	H.T. coil	...
14	1148 × 4	H.T. lead, complete	...
14A	1124 × 8	H.T. terminal	...
14B	E869	H.T. terminal, felt washer	...
14C	1010 × 11	H.T. spring	...
14D	1046 × 13	H.T. spring pad	...
14D	$\frac{5}{8}$ " × No. 2	H.T. spring, screw (not illustrated)	...
15	125/114	Lighting lead	...
15A	M129	Lighting lead, terminal	...
16	M1873	Point bracket	...
17	M1805	Fibre washer	...
18	M1802	Brass washer	...
19	M18011	Locking screw, point bracket	...
20	1113 × 5	Contact screw washer	...
21	1006 × 3	Contact screw, point bracket	...
22	M1714	Rocker arm with point and pad	...
23	1053 × 1	Stud, con. box fixing	...
24	1002 × 13	Spring washer for stud	...
25	1002 × 15	Nut for stud	...
26	1047 × 3	Rocker arm spring	...
27	M1670	Terminal screw	...
27A	1113 × 4	Nut for screw	...
28	M1822	Top plate, pole shoe	...
29	1002 × 9	Fixing screw, pole shoe	...
30	1124 × 9	Fixing screw, arm plate and lighting coil	...
31	M1383	Fixing screw, H.T. coil ends	...
32	1106 × 14	Lighting lead connector...	...
33	M1232	Rubber grommet	...
34	1013 × 13	Terminal bush, inside	...
35	1013 × 12	Terminal bush, outside	...
36	M1228	Screw, flywheel cover	...
37	482	L.T. lead, H.T. coil to point bracket	...





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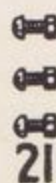
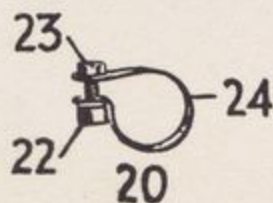
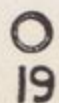
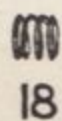
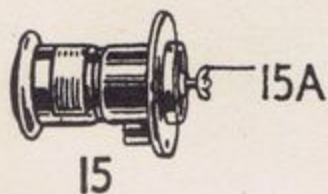
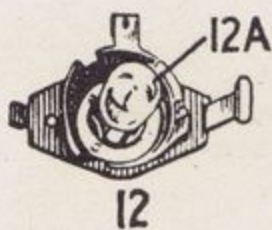
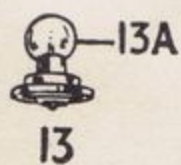
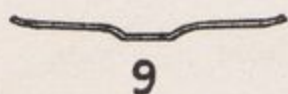
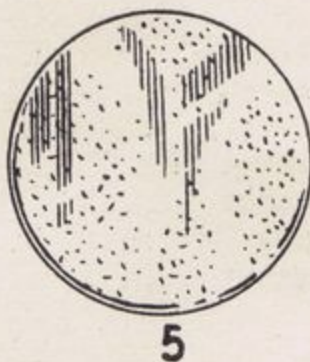
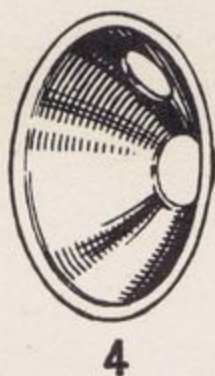
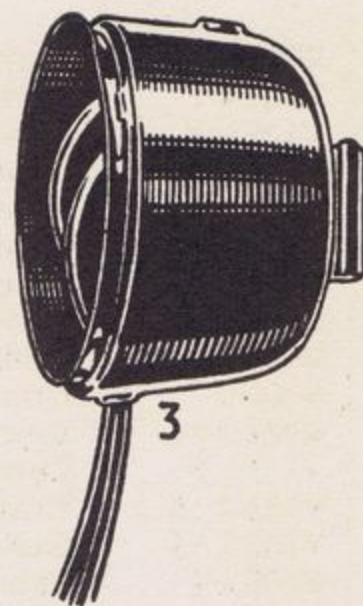
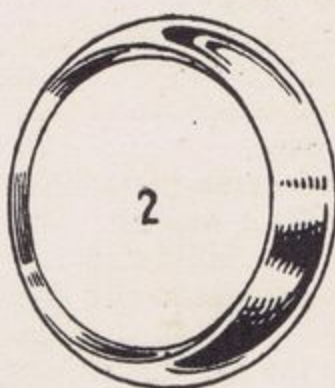
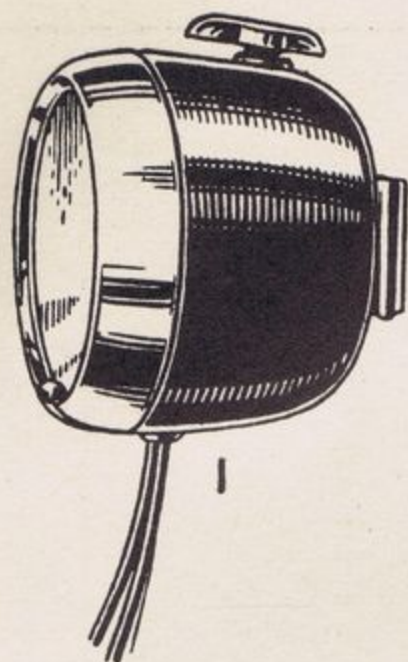


SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE 10

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
		<b>LIGHTING SET</b>	
	VRS.304	Complete lighting set with head lamp, tail lamp, bulbs and cables ... ..	
1	64004B & D	Head lamp complete with cables ... ..	
2	608254	Front rim ... ..	
3	608094	Head lamp body assembly with bracket and cables ... ..	
4	608552	Reflector ... ..	
5	608340	Front glass ... ..	
6	600307	Rubber packing for glass ... ..	
7	608190	Front aim clip ... ..	
8	608033	Switch arm ... ..	
9		Aim clip retaining wire... ..	
10	608073	Reflector retaining wire ... ..	
11	608179	Switch knob assembly ... ..	
12	601036	Main bulbholder assembly ... ..	
12A		Main bulb 6V—12W ... ..	
13	608025	Pilot bulb holder ... ..	
13A		Pilot bulb 4V—3A screw cap ... ..	
14	606207	Bulb holder assembly, tail ... ..	
14A		Tail lamp bulb 4V—3A screw cap ... ..	
15	606212A	Tail lamp, complete, type V.T.31 ... ..	
15A	630050	Terminal nut ... ..	
16	601082	Tail lamp body ... ..	
17	601084	Fixing plate ... ..	
18	608030	Switch spindle spring ... ..	
19	699009	Switch spindle spring washer ... ..	
—	601087A	Cable, head to magneto, 23" ... ..	
—	608076F	Cable, head to tail, 82" ... ..	
—	631067A	Cable, head to earth, 29" ... ..	
—	601081	Resistance ... ..	
20	606216	Tail lamp body clip ... ..	
21	608177	Tail lamp fixing screw and nut... .. set 3	
22	126520	Clip screw ... ..	
23	165190	Clip screw nut — (set) ... ..	
24	G1405	Clip screw washer — ... ..	

These prices are subject to 15% increase





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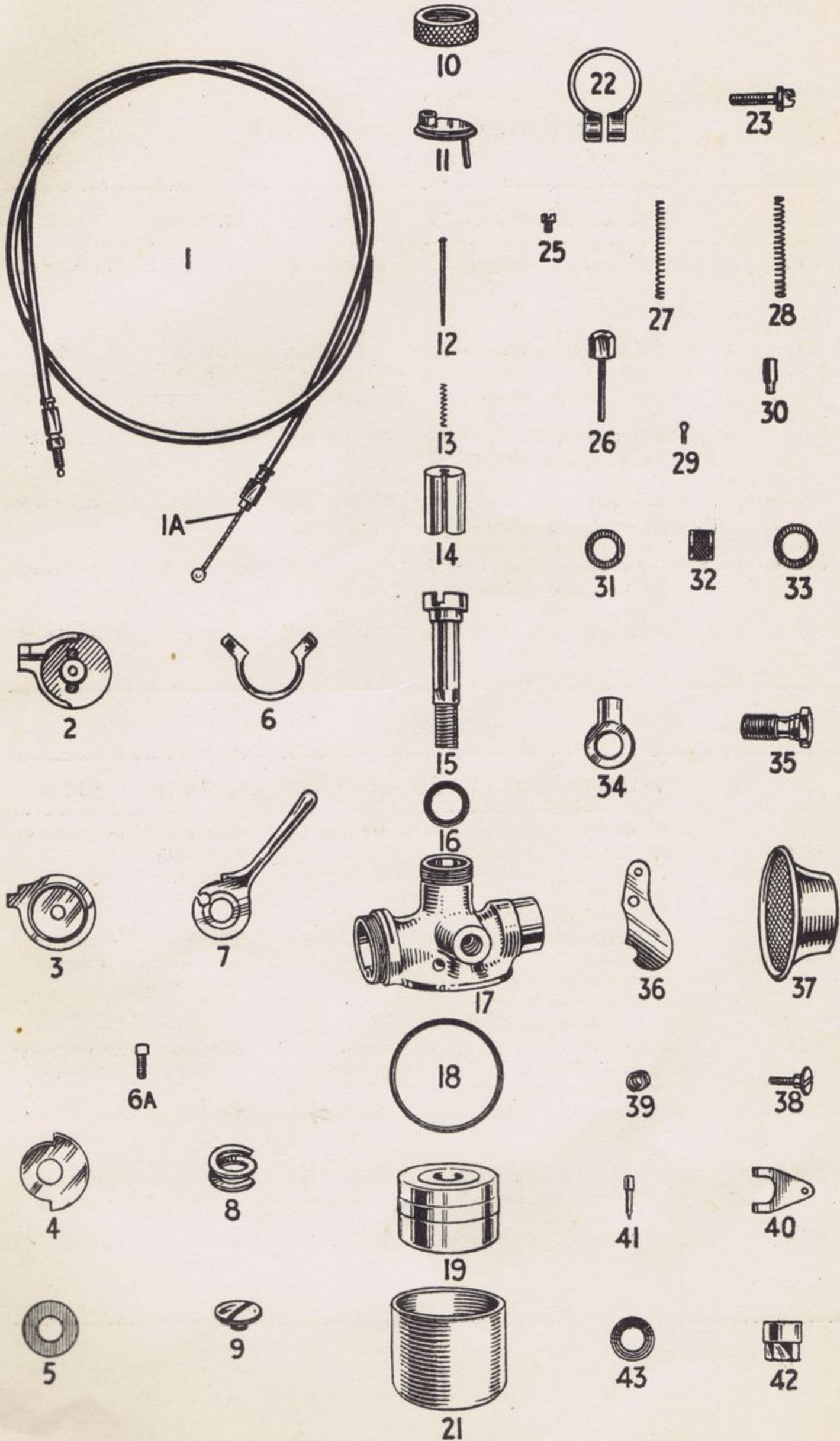
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SPARES LIST FOR SUPERLUX AUTOCYCLE  
PLATE II

Illus. No.	Part No.	DESCRIPTION	Nett Selling Price
1	V234B.C.G.	Control cable, complete	...
1A	V105×1	Cable adjuster	...
1B	V105×2	Cable adjuster, locknut	...
2	V405	Control body	...
3	V387	Control top cover	...
4	V429	Control body friction plate	...
5	V142×10	Control body fibre washer	...
6	V142×7	Control body handlebar clip	...
6A	V142×5	Control body handlebar clip screw	...
7	V406	Control lever	...
8	V142×11	Control lever spring washer	...
9	V117×5	Control lever top screw	...
	V123×15	Cable nipple, control end	...
	V145×16	Cable nipple, throttle end	...
	V108×4	Cable nipple, sleeve	...
10	V367	Top ring	...
11	V665	Top disc	...
12	V651	Taper needle, No. 2½	...
13	V107×7	Taper needle, spring	...
14	V365	Throttle	...
15	V408	Centrepiece and Jet J.8	...
16	V107×3	Centrepiece washer	...
17	V508	Carburetter body	...
18	V107×2	Carburetter washer	...
19	V107×1	Float	...
21	V146×6	Float cup	...
22	V326	Body clip	...
23	V107×16	Body clip screw	...
25	V424	Body clip locating screw	...
26	V207	Tickler	...
27	V369	Throttle spring	...
28	V21	Tickler spring	...
29	V111×2	Tickler split pin	...
30	V413	Taper needle adjuster	...
31	V383	Banjo union fibre washer, small hole	...
32	V404	Banjo union filter gauze...	...
33	H104×8	Banjo union fibre washer, large hole	...
34	V381	Banjo union	...
35	V382	Banjo union, bolt	...
36	V373	Strangler plate	...
37	V148×3	Air cleaner	...
38	V626	Strangler plate screw	...
39	V146×2	Strangler plate screw washer	...
40	V257	Fuel needle, lever and pin	.....
41	V355	Fuel needle	...
42	V172	Bottom nut	...
43	V107×4	Bottom nut washer	...





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## RECOMMENDED LUBRICANTS

(U.K.)

A.C.

	SHELL	WAKEFIELD	VACUUM	PRICE'S	ESSO
ENGINE ... (All Seasons)	Double Shell	Castrol XL	Mobiloil A	Energol SAE 40	Essolube 40
CLUTCH UNIT... ..	Shell Dentax 140	Castrol D	Mobilube C	Energol SAE 140	Esso Gear Oil 140
EXPOSED CHAINS ...	Shell Retinax CD	Castrol Graphited	Mobilgrease No. 2	Belmoline C	Esso Grease
GREASE GUN	Shell Retinax CD	Castrol CL	Mobilgrease No. 2	Belmoline C	Esso Grease
WHEEL HUBS	Shell Retinax RB	Castrol Heavy	Mobil Hub Grease	Belmoline C	Esso Grease
OIL CAN ...	Double Shell	Castrol XL	Mobiloil A	Energol SAE 40	Essolube 40

(OVERSEAS)

	SHELL	WAKEFIELD	VACUUM	ENERGOL	ESSO
ENGINE ... (All Seasons)	Shell X-100 SAE 30	Castrol XL	Mobiloil A	Energol Motor Oil SAE 40	Essolube 40
CLUTCH UNIT... ..	Shell Dentax 140	Castrol D	Mobilube C	Energol Transmission SAE 140	Esso Gear Oil 140
EXPOSED CHAINS ...	Shell Retinax CD	Castrol Graphited	Mobilgrease No. 2	Energol C3	Esso Chassis Grease
GREASE GUN	Shell Retinax CD	Castrol CL	Mobilgrease No. 2	Energol C3	Esso Chassis Grease
WHEEL HUBS	Shell Retinax RB	Castrol Heavy	Mobil Hub Grease	Energol C3	Esso Bearing Grease
OIL CAN ...	Shell X-100 SAE 30	Castrol XL	Mobiloil A	Energol Motor Oil SAE 40	Essolube 40

2F.



# THE JAMES GUARANTEE AND CONDITIONS OF SALE.

We give the following guarantee with our motor cycles, motor cycle combinations, and sidecars, including all accessories and component parts other than tyres, saddles, chains, and lighting and electrical equipment, and other than accessories and component parts supplied to the order of the Purchaser and differing from those comprised in the standard specifications supplied with our motor cycles, motor cycle combinations and sidecars, but including accessories and parts supplied by way of exchange as hereinafter provided. This guarantee is given in place of any implied conditions or warranties or any liabilities whatsoever statutory or otherwise; no guarantee except that hereinafter contained and no conditions or warranty whatsoever statutory or otherwise is given or is to be implied, nor are we to be under any liability whatsoever except under the guarantee hereinafter contained. Any statement, description, condition, or representation contained in any catalogue advertisement, leaflet or other publication shall not be construed as enlarging, varying or overriding anything herein contained. In the case of machines (a) which have been used for "hiring out" purposes or (b) 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 (c) machines from which the trade mark, name or manufacturing number has been altered or removed or (d) any machines in which parts have been used not supplied by or approved by the motor cycle manufacturer, or (e) any machine from which the silencing system as fitted by the manufacturer has been partially or wholly removed or interfered with, no guarantee, condition or warranty of any kind statutory or otherwise is given or is to be implied nor are we to be under any liability whatsoever in respect of any such machine.

We guarantee, subject to the conditions mentioned below, that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, but this guarantee is to extend and be in force for six months only from date of purchase, or date of exchange in case of any accessory or part supplied by way of exchange as hereinafter provided, and damages for which we make ourselves responsible under this guarantee are limited to the free repair of or supply of a new part or accessory in exchange for the part of the motor cycle, motor cycle combination or sidecar or accessory which may have proved defective. We undertake, subject to the conditions mentioned below, to make good in manner aforesaid any part or accessory covered by this guarantee which has proved defective within the said period of six months. We do not undertake to replace or refix, or bear the cost of replacing or refixing any such new part or accessory in the motor cycle, motor cycle combination or sidecar. As motor cycles, motor cycle combinations and sidecars are easily liable to derangement by neglect or misuse, this guarantee does not apply to defects caused by wear and tear, misuse or neglect.

The term "misuse" shall include, amongst others, the following acts :—

1. The attaching of a sidecar to a motor cycle in such a manner as to cause damage or calculated to render the latter unsafe when ridden.
2. The use of a motor cycle or of a motor cycle and sidecar combined, when carrying more persons or a greater weight than that for which the machine was designed by the manufacturers.
3. The attaching of a sidecar to a motor cycle by any form of attachment not provided, supplied, or approved by the manufacturers, or to a motor cycle which is not designed for such use.

We do not guarantee tyres, saddles, chains or lighting and electrical equipment or any accessories or component parts supplied to the order of the Purchaser differing from those comprised in the standard specifications supplied with our motor cycles, motor cycle combinations or sidecars. As regards all such tyres, saddles, chains, lighting and electrical equipment, accessories and component parts, no guarantee, condition or warranty of any kind statutory or otherwise is given or is to be implied, and we are to be under no liability whatsoever in respect thereof.

## CONDITIONS OF GUARANTEE

If a defective part or accessory should be found in our motor cycle, motor cycle combinations or sidecars, or in any part or accessory supplied by way of exchange as before provided, it must be sent to us CARRIAGE PAID, and accompanied by an intimation from the owner that he desires to have it repaired or exchanged free of charge under our guarantee and he must also furnish us at the same time with the number of the machine, the date of the purchase or the date when the alleged defective part or accessory was exchanged as the case may be.

Falling compliance with the above, such articles will lie here at THE RISK OF THE OWNER, and this guarantee and any implied guarantee, warranty or condition shall not be enforceable.

## REPAIRS

Any motor cycle, motor cycle combination or sidecar sent to us to be plated, enamelled or repaired will be repaired upon the following conditions, i.e., we guarantee that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, such guarantee to extend and be in force for three months only from the time such work shall have been executed, and this guarantee is in lieu and in exclusion of all conditions and warranties statutory or otherwise and all liabilities whatsoever and the damages recoverable are limited to the cost of any further work which may be necessary to amend and make good the work found to be defective.

## MAINTAINANCE MANUAL AND INSTRUCTION BOOK

Of particular value to mechanics and owners carrying out their own overhaul and repair work, a comprehensive volume dealing with the 122cc. and 197cc. models is now available at 10s. 6d.

## LAPEL BADGES

Neat and distinctive lapel badges are offered to James owners at 1s. 0d. each.



**WHEN ORDERING  
REPLACEMENTS  
PLEASE QUOTE  
YOUR ENGINE  
AND  
FRAME NUMBER**