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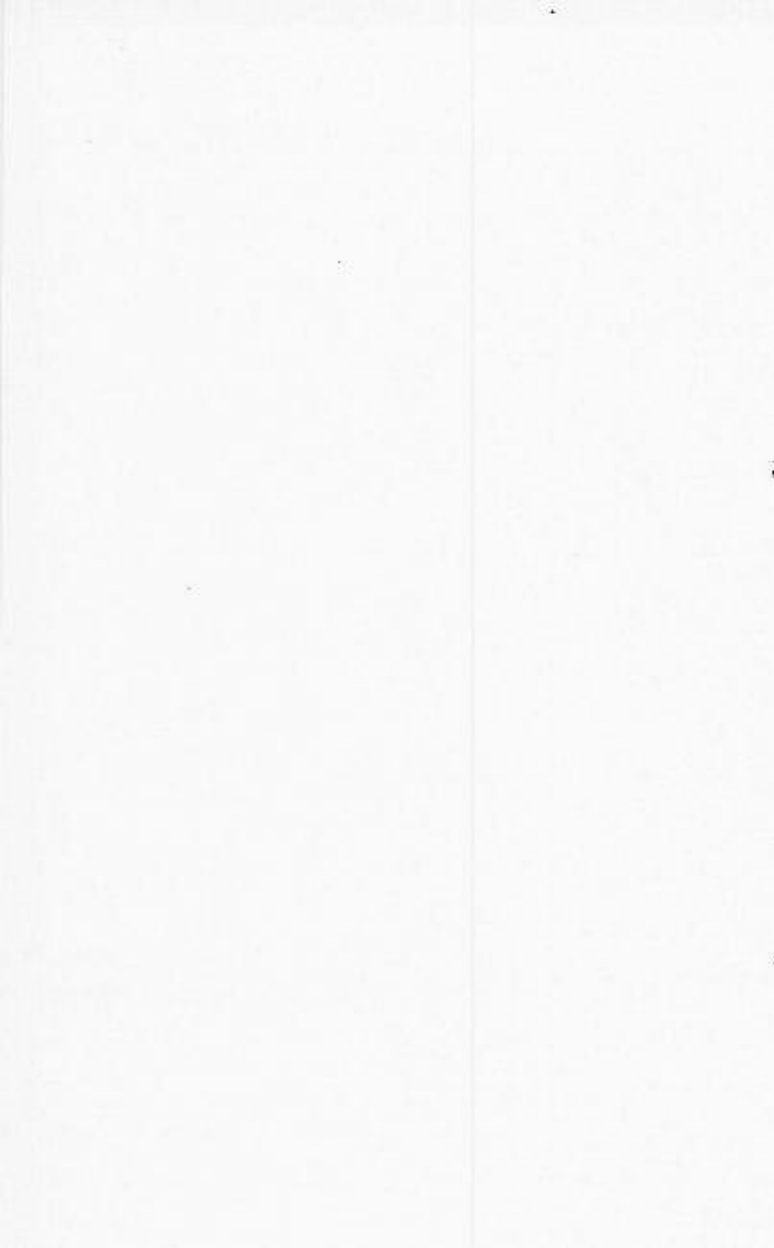


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HANDBOOK
AND
LIST OF
SPARES
FOR
THE FAMOUS
JAMES
AUTOCYCLE



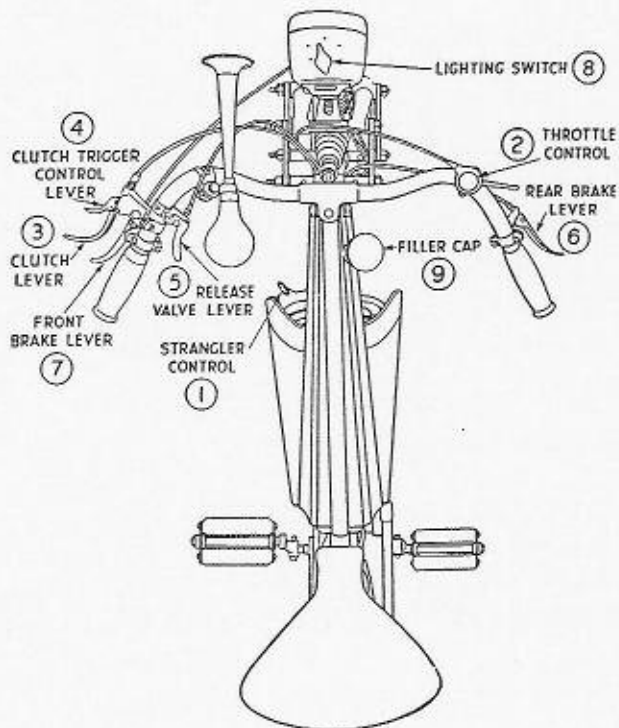
THE JAMES CYCLE CO. Ltd.
GREET . BIRMINGHAM, 11
ENGLAND



INSTRUCTIONS.

RUNNING INSTRUCTIONS.

Before taking your Auto Cycle on the road, it is advisable to make yourself conversant with the controls. See illustration.



TANK.

Fill tank with a mixture of petroil—half-a-pint of lubricating oil to one gallon of petrol—the mixture to be made and well stirred before putting in tank.

STARTING.

When Cold.—Turn petrol on, then flood the carburetter by depressing the tickler ; there is no need to allow any petrol to run to waste. Close the strangler (1) and open the throttle lever (2) about one-third. This lever is situated on right-hand side of handlebar ; the engine is now ready for starting. First of all lift clutch lever (3) which is on the left-side of handlebar, then after pedalling for a few yards and gradually releasing the lever, the engine should start. Gradually push the strangler down to its fully open position as the engine warms. In very cold weather it may not be possible to do this immediately, in which case leave partly closed until engine is warmed up.

As the engine is fitted with a release valve, this lever (5) is the small one on the handlebar near to the clutch lever, another method of starting can be used. As before, turn petrol on and flood carburetter, then open the throttle about one-third. Lift the release valve lever and wheel the machine forward, then on releasing the lever the engine should fire. Immediately lift the clutch lever and the machine is ready for riding away by gradually letting in the clutch.

When Hot.—Do not flood carburetter, and see that the strangler is in "open" position. The strangler control (1) is situated just forward of the tank.

STOPPING.

To stop the machine the throttle should be brought to the closed position and the clutch lever held up. If the engine is stopped by turning off the petrol tap allowing the carburetter to empty itself, instead of closing the throttle, an easier re-start will be made if the machine has to stand for a number of days.

CLUTCH CASE.

This should be inspected periodically for oil level. Remove filler plug on Magneto side just underneath the drive sprocket and insert as much lubricant (as recommended on chart) as will enter, the plug hole being so placed as to act as a level with the machine standing vertically. This should only be necessary about every 2,000 to 2,500 miles.

LUBRICATION.

Oil Monthly.—Chains, brake joints and cables, bottom bracket and pedals.

Grease every 1,500 miles.—Hubs, head bearings.

There is sufficient grease packed into these bearings when the machine is new to last this number of miles.

The petrol tank holds 5 quarts of petroil mixture.

ADJUSTMENTS.

HEAD.

Unloosen head lock nut then take up any play, by screwing the top ball race, right-hand thread (be careful not to adjust too tight otherwise the balls will lock themselves), re-tighten lock nut after adjustment is completed.

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.

CHAINS.

The main drive chain should be kept correctly adjusted. This is carried out by releasing the clip securing the brake anchor arm and the spindle nuts and bringing the wheel back evenly by means of the chain adjusters. Afterwards tighten spindle nuts and brake anchor clip, also check the brake cable and if same is too tight adjust same by the use of the adjuster at the end of the cable. Chains should be kept well lubricated. The pedal chain is fitted with a tension jockey pulley which automatically adjusts this chain.

BOTTOM BRACKET.

Any slackness in the bottom bracket is taken up by means of the cup and lock ring in the bracket shell

from the left-hand side, to unloosen the ring unscrew in an anti-clockwise direction, the cup is right-hand thread.

BRAKES.

The brakes are operated by levers on the handlebar, the rear brake by the right-hand lever (6). The adjustment is taken up by means of the adjuster on the cables at the hub cover plate end. By undoing the lock nut this adjuster can be used for taking up any slackness in cable. After the correct adjustment has been obtained, be sure and re-tighten lock nut. Do not put any oil in the hubs as same may find its way through to the brake shoe linings and cause them to be ineffective.

DECARBONISING.

First of all detach the following parts: engine shields, carburetter, silencers, sparking plug. After taking off the high tension lead, disconnect the release valve cable and take out release valve. The cylinder head can then be taken off and carbon carefully removed from the inside of the head. When doing this care should be taken to avoid cutting into the metal, as the combustion chamber must be kept as smooth as possible. The cylinder should then be removed after undoing the four holding down stud nuts. Carbon should be scraped from the exhaust ports and then the piston should be attended to. The gudgeon pin is parallel and a sliding fit. It is held in position by circlips at either end, which can be removed with a pair of thin-nosed pliers. Examine the piston rings which must be quite free in their grooves. If they are stuck in, due to carbon, remove the rings very carefully and clean them (a piece of broken hacksaw blade tapered down makes a useful ring remover) also scrape away all carbon from the ring grooves.

It is very important that the exhaust pipes and silencers are thoroughly cleaned out.

Check the piston ring gap in the cylinder before refitting and if this exceeds $1/32$ in. it is advisable to renew. Before re-fitting the cylinder to the piston smear a little oil on the piston skirt.

WARNING.

Make certain that the gudgeon pin circlips are re-fitted correctly in their grooves. If they are not and become loose, the piston and cylinder will receive damage and may require renewing which is costly.

Do not rotate cylinder when withdrawing from or replacing on the piston, otherwise the piston rings may spring into one of the ports and damage will result.

Reassemble all parts the reverse way of dismantling, making certain that all joints are satisfactory and airtight. It is always advisable to fit new gaskets, especially the cylinder base washer.

CLUTCH.

The clutch on this engine is a two-plate cork inserted type, running in oil. All faces and corks are ground, with the result that the clutch is very smooth in action, and has a long life, demanding the minimum of attention. A certain amount of wear is likely to take place after a fairly long period of use on the cork faces, which will result in the necessary slackness of the clutch cable being taken up, and clutch slip will be experienced. This is adjusted by means of the small screw and lock nut at the hand lever end of cable. The adjustment should be made so that there is $1/16$ in. slack movement on the cable itself before lifting the lever.

If the clutch tends to drag and will not free itself properly, the screw in the operating lever on the clutch casing must be adjusted. To do this release lock nut and unscrew the adjusting screw with screw-driver by turning anti-clockwise until the operating lever has approximately $1/8$ in. free movement at its bottom end, then tighten lock nut securely.

FLYWHEEL MAGNETO.

We do not advise any interference with this other than the contact breaker points. These should be checked occasionally to see if the gap is correct. Access to the contact breaker points is obtained by removing the cover from the front of magneto. This is held by three screws which must be perfectly tight when replaced. The correct gap should be $1/64$ in. when the rocker arm is lifted to its highest position on the cam. This is the thickness of the gauge as supplied with the spanner. To adjust the points, first of all the flywheel should be rotated until the rocker arm is lifted to its highest position then the lock nut (bottom one) should be loosened and the other nut turned until the contact faces are $1/64$ in. apart. The screwed point should be carefully held in this position while the lock nut is then securely tightened. If the points are set too close it will result in difficult starting and spasmodic backfiring will occur in the silencer. It is wise to keep the points clean and they should be wiped occasionally with a petrol soaked rag to remove any dust or foreign matter. Do not ever file the points. If they are badly pitted the best method is to rub them down with a smooth oil stone. The condition and accurate adjustment of these points is of importance for the efficient running of the engine.

If it is absolutely necessary to remove the magneto, then it is advisable to use the special hammer tight

spanner which can be supplied for this purpose. This spanner fits the centre nut which has a right-hand thread and therefore unscrews in an anti-clock direction. After about one turn the nut will be found to tighten. This is when the extracting flange commences to withdraw the flywheel. The end of the nut should then be sharply tapped with a wooden mallet, after which the nut can be unscrewed without difficulty and the flywheel withdrawn.

When refitting the flywheel, screw the centre nut until just finger tight, then take out the sparking plug and rotate the engine shaft until the piston is at the extreme end of its stroke, nearest the cylinder head. This position can be felt through the sparking plug hole. Then position the flywheel by hand with the mark on the rim of the flywheel, in line with the mark on the edge of the armature plate, near the high tension terminal. Hold the flywheel firmly in this position and lock up the centre nut with the "hammer tight" spanner.

If the above is carried out correctly the magneto will be timed so that the contact breaker points are just opening with the piston $\frac{1}{4}$ in. before top dead centre.

LIGHTING SET.

A connection is provided in the lighting cable a short distance from the magneto. Unscrew this when removing engine from frame. Do not attempt to remove lighting cable from inside magneto. Keep the rubber sleeve in position over the connection, otherwise a short circuit may occur.

Make certain that all the wire connections are secure, especially the earth wire from lamp to frame. If this is faulty it may cause the bulbs to blow.

The correct bulbs to use are as follows :—

Sets fitted with Parking Bulb.—Main Head Bulb, 6v. 1-amp. (single contact) ; Pilot Bulb, 4v. 3-amp (screw cap) ; Tail Bulb, 4v. 3-amp. (screw cap).

CARBURETTER.

The carburetter is set at the works before the machine is sent out, but after the engine has run itself in, it might need adjusting.

To do this proceed as follows :—

First remove throttle by unscrewing the top ring of the carburetter. At the top of the throttle there is a small screw : turning this in a clockwise direction—which lowers the needle—will give a weaker setting. Turning the screw in an anti-clockwise direction will give a richer setting.

For adjustment, give approximately half a turn at a time until the correct setting is found.

On no account must the engine be used without the dome and gauze. If the float chamber has to be removed at any time for cleaning, etc., do not use too much force in tightening the bottom nut when re-assembling.

Periodically see that the gauze in the petrol pipe connection is free from dirt. This gauze is fitted to the bolt which attaches the petrol pipe to the carburetter.

GENERAL.

- (1) On steep or severe hills assist the engine with the pedals if necessary.
- (2) To obtain the best petrol consumption the machine should be driven at approximately 17 to 18 m.p.h., also drive on the throttle by opening and closing, and do not use the clutch lever for this purpose as this will have a great effect on the consumption and it is also detrimental to the clutch as the plates will burn out the corks.
- (3) Run the machine in carefully for the first 500 miles, and during this period do not run the engine full out. If same is overdriven it is liable to cause a piston seizure.
- (4) Do not use the release valve lifter as a governor.
- (5) After the machine has been standing for any length of time, before turning on the petrol tap, **shake the machine well** to ensure the oil being well mixed with petrol.
- (6) Avoid all sharp bends in the control wires otherwise the inner cables will not work freely.
- (7) Common causes for irregular running are as follows :—
 - (a) A dirty sparking plug.
 - (b) An obstruction in petrol supply pipe or filter.
 - (c) Incorrect timing of magneto.
 - (d) Contact breaker points pitted and badly adjusted (remove pitting by polishing with oilstone) and adjust to 1/64in. gap.

After the running-in period check and adjust this gap if necessary.

- (8) A common cause for loss of power is obstruction in the silencers and tail pipe. These should be kept clear of carbon, etc. A flue brush is a very useful thing to remove soot from the tail pipe. Do not allow a heavy deposit of carbon to accumulate in these silencers as this would cause back pressure.
- (9) The makers really know which is the best type of sparking plug to suit each engine, and it is never advisable to experiment with cheap plugs.
- (10) (a) Use both brakes and apply gradually, also keep them properly adjusted.
- (b) Let your clutch in gently.
- (c) Don't drive on full throttle for any length of time.
- (d) Keep the tyres reasonably hard.
- (e) Lubricate the cycle parts of your machine regularly.
- (f) Keep an eye on the chains and don't run with them too tight or too slack.
- (g) Keep the silencer outlet clear of mud.
- (h) Pack your toolbox tightly.
- (i) Clean your machine thoroughly and often if you wish it to look and wear well.
- (j) It is false economy to fit cheap imitation spare parts, they usually cost more in the long run, and the guarantee becomes void if any parts are fitted that are not supplied by the makers.

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price				
		£	s.	d.		
FRAME SET.						
A.1	Frame Complete with all Nuts, Pins, Washers and Bolts	3	15	0		
A.2	Seat Pillar		2	0		
A.3	Seat Pillar Bolt			4		
A.4	Seat Pillar Bolt Nut			2		
A.5	Seat Pillar Bolt Nut Washer			1		
A.6	Bottom Frame Race		1	6		
A.7	Top Frame Race		1	6		
FORK AND HEAD SET.						
A.8	Spring Forks, complete	4	10	0		
A.9	Fork Girder only	3	0	0		
A.10	Fork Column		14	6		
A.11	Fork Spring		7	6		
A.12	Head Clip		10	6		
A.13	Top Fork Shafts		2	0		
A.14	Top Fork Links, Fixed		3	0		
A.15	Top Fork Links, Adjusting		3	6		
A.16	Fork Shaft Nuts, $\frac{3}{16}$ in. Top or Bottom			2		
A.17	Fork Shaft Nuts, $\frac{5}{16}$ in. Top or Bottom			2		
A.18	Fork Shaft Knurled Washers, Top or Bottom			3		
A.19	Fork Shaft Shakeproof Washers $\frac{3}{16}$ in. Top or Bottom			1		
A.20	Fork Shaft Shakeproof Washers, $\frac{5}{16}$ in. Top or Bottom			1		
A.21	Bottom Fork Shafts		2	3		
A.22	Bottom Fork Link, Adjusting		3	6		
A.23	Bottom Fork Link, Fixed		3	0		
A.24	Fork Lubricators, Small			3		
A.25	Fork Lubricators, Large			3		
A.26	Head Lock Nut		1	6		
A.27	Head Lock Nut Washer			2		
A.28	Nut, Fork Spring Pin			2		
A.29	Head Clip Ballrace		1	6		
A.30	Fork Crown Ballrace		1	6		
A.31	Head Clip Bolt			9		
A.32	Head Clip Sleeve		1	0		
A.33	Head Clip Washer			1		
A.34	Head Clip Washer, Shakeproof			1		
A.35	Head Clip Bolt Nut			2		

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No.	Description	Price		
		£	s.	d.
BOTTOM BRACKET, CHAINS AND GUARDS SET.				
A.36	Bottom Bracket Axle	5	6	
A.37	Bottom Bracket Cup, R.H.	1	0	
A.38	Bottom Bracket Cup, L.H.	1	0	
A.39	Bottom Bracket Cup Lock Ring		6	
A.40	Bottom Bracket Lubricator		4	
A.41	Bottom Bracket Ball Bearings		6	
A.42	Chain Wheel and Crank, R.H.	10	6	
A.43	Crank, L.H.	7	0	
A.44	Crank, Cotter, Nut and Washer		4	
A.45	Pedals	10	0	
A.46	Driving Chain Guard only	4	6	
A.47	Driving Chain Guard Fixing Pin and Washer to Seat Stay		4	
A.48	Pedal Chain Guard	4	6	
A.49	Pedal Chain	4	6	
A.50	Driving Chain	9	6	
A.51	Spring Connecting Link for Pedal Chain		4	
A.52	Spring Connecting Link for Driving Chain		6	
A.53	Half Link for Pedal Chain		6	
A.54	Half Link for Driving Chain		8	
A.55	Inner Link for Pedal Chain		3	
A.56	Inner Link for Driving Chain		4	
A.57	Spring Fastener only for Pedal Chain		2	
A.58	Spring Fastener only for Driving Chain		2	
A.59	Jockey Sprocket complete with Cone	3	9	
A.60	Jockey Sprocket Swivel Arm	1	6	
A.61	Jockey Sprocket Lubricator		3	
A.62	Handlebar Complete with Grips, Expander, Bolt, Brake Levers, Clutch Levers, Release Valve and Cables	3	0	0
A.63	Handlebar Bend with Grips		8	6
A.64	Handlebar only with Grips, Stem Type	19	0	
A.65	Handlebar Grips, per pair		2	0
A.66	Handlebar Expander Bolts		1	0
A.67	Handlebar Expander Bolt Plug		4	
A.68	Handlebar Expander Bolt Plug Washer		1	
A.69	Handlebar Clutch Lever complete	8	6	
A.70	Handlebar Clutch Lever only	3	6	
A.71	Handlebar Clutch Lever Body with Half Clips		1	0
A.72	Handlebar Clutch Lever Body, Half Clips only		5	
A.73	Handlebar Pin and Nut Fixing Half Clips		4	

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No.	Description	Price		
		£	s.	d.
A.74	Handlebar Clutch Lever Pivot, Rivet and Washer			5
A.75	Handlebar Clutch Lever Trigger with Rivet	1	6	
A.76	Handlebar Clutch Lever Trigger Spring ...			4
A.77	Handlebar Clutch Lever Side Plates ...			6
A.78	Handlebar Release Valve Lever complete	3	6	
A.79	Handlebar Release Valve Lever only ...	1	3	
A.80	Handlebar Release Valve Lever Saddle Clip	1	3	
A.81	Handlebar Release Valve Lever Saddle Half Clip			9
A.82	Handlebar Release Valve Lever Saddle Half Clip Pin and Nut			4
A.83	Handlebar Release Valve Lever Pivot Rivet and Washer			3
A.84	Handlebar Brake Levers complete, Front or Rear	6	4	
A.85	Handlebar Brake Lever only	2	11	
A.86	Handlebar Brake Lever Saddle Clip Cpte.	1	7	
A.87	Handlebar Brake Lever Half Saddle Clip ...			7
A.88	Handlebar Brake Lever Pivot Pin and Nut and Washer			8
A.89	Handlebar Saddle Half Clip Pin and Nut and Washer			5
A.90	Rear Brake Cable complete	6	6	
A.91	Rear Brake Inner Wire only, with Nipple	1	6	
A.92	Rear Brake Outer Cable Cup Stop ...			2
A.93	Brake Cable Adjuster, complete, Front or Rear			9
A.94	Front Brake Cable complete	5	6	
A.95	Front Brake Cable Inner Wire, with Nipple	1	6	
A.96	Clutch Cable complete	4	6	
A.97	Clutch Cable Inner Wire, with Nipple ...	1	6	
A.98	Clutch Cable Adjuster, Handlebar End ...			6
A.99	Clutch Cable Adjuster, Cup Holder ...			2
A.100	Release Valve Cable complete	3	6	
A.101	Release Valve Inner Wire, with Nipples ...	1	3	
A.102	Cable Cylindrical Nipples			2
A.103	Cable Barrel Nipples			2
MUDGUARDS, CARRIER, STAND AND NUMBER PLATES.				
A.104	Front Mudguard, complete with Stays ...	10	0	
A.105	Front Mudguard Stays	1	6	

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No.	Description	Price		
		£	s.	d.
A.106	Front Mudguard Front Stays, Fixing Pin and Nut			5
A.107	Front Mudguard Fixing Pin and Washer to Fork Girder			2
A.108	Rear Mudguard, complete with Stays and Standclip	12	6	
A.109	Rear Mudguard Stays, Rear	1	6	
A.110	Rear Mudguard Stays, Front	1	6	
A.111	Rear Mudguard Standclips, complete	2	6	
A.112	Rear Mudguard Standclips only	1	6	
A.113	Rear Mudguard Standclip Spring			9
A.114	Rear Mudgd. Standclip Joint Pin & Cotter			3
A.115	Rear Mudguard Fixing Pin and Washer, to Chain Stay Bridge Lug			3
A.116	Rear Mudguard Stay Fixing Nut $\frac{3}{8}$ in. to Seat Stay			2
A.117	Rear Carrier	15	0	
A.118	Rear Mudguard and Carrier Fixing Pin, Nut and Washer to Seat Stay			3
A.119	Rear Mudguard Pin and Nut Fixing Front Stay and Carrier			4
A.120	Rear Mudguard Pin, Nut and Washer Fixing Carrier			4
A.121	Front Number Plate	1	3	
A.122	Front Number Plate Fixing Bolt and Nut			3
A.123	Front Number Plate Clips			6
A.124	Rear Number Plate	3	6	
A.125	Rear Mudguard Pin, Nut and Washer Fixing Rear Number Plate			4
A.126	Rear Mudguard Bolt Fixing Rear No. Plate and Mudguard Stay			2
A.127	Rear Stand	10	0	
A.128	Rear Stand Fixing Nut to Frame			2
A.129	Rear Stand Fixing Nut Washer			1
A.130	Rear Stand Frame Bolt (Welded)			6
WHEELS AND HUBS, Etc.				
A.131	Front Wheel complete with Hub and Brake	2	7	6
A.132	Front Wheel Rim		8	6
A.133	Front Wheel Spokes, per set 32		4	0
A.134	Front Wheel Spoke Nipples, per set 32		2	8
A.135	Front Wheel Spoke Nipple Washers, per set 32			6

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No.	Description	Price		
		£	s.	d.
A.136	Front Hub complete with Spindle and Brake complete	1	8	6
A.137	Front Hub Shell only with Brake Drum only	10		6
A.138	Front Brake Cover Plate complete with Shoes and Anchor Arm	17		6
A.139	Front Brake Cover Plate only with Anchor Arm	7		6
A.140	Front Brake Shoes with Linings	7		0
A.141	Front Brake Shoe Linings and Rivets	4		0
A.142	Front Brake Shoe Lining Rivets			6
A.143	Front Brake Shoe Springs			4
A.144	Front Brake Cam	2		0
A.145	Front Brake Cam Bush			6
A.146	Front Brake Cam Lever and Yoke	2		0
A.147	Front Brake Cam Yoke only			6
A.148	Front Brake Fulcrum in Cover Plate			6
A.149	Front Hub Spindle complete with Cones	3		6
A.150	Front Hub Spindle only	1		3
A.151	Front Hub Spindle Fixed Cone	1		0
A.152	Front Hub Spindle Adjustable Cone	1		0
A.153	Front Hub Spindle End Nut			2
A.154	Front Hub Spindle End Nut Washer			1
A.155	Front Hub Spindle Cone Locknut			2
A.156	Front Hub Spindle Cone Packing Washer			1
A.157	Front Hub Spindle Distance Collar			2
A.158	Front Hub Cup			6
A.159	Front Hub Dust Cap			4
A.160	Front Hub Lubricator			3
A.161	Front Hub Felt Washer, Brake Side			2
A.162	Front Hub Steel Washer			2
A.163	Front Hub Side Plate Lock Nut			3
A.164	Front Hub Ball Bearings, per set 18			6
A.165	Rear Wheel complete with Hub and Brake	3	15	0
A.166	Rear Wheel Rim	8		6
A.167	Rear Wheel Spokes, per set 36	6		6
A.168	Rear Wheel Spoke Nipples, per set 36	3		0
A.169	Rear Whl Spoke Nipple Wshrs., per set 36			6
A.170	Rear Hub complete with Spindle, Brake Drum and Sprocket	2	16	0
A.171	Rear Hub only, with Brake Drum	17		6
A.172	Rear Brake Cover Plate, complete with Shoes and Anchor Arm	1	2	6
A.173	Rear Brake Cover Plate only with Anchor Arm	10		6

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No.	Description	Price		
		£	s.	d.
A.174	Rear Brake Cover Plate Anchor Arm and Rivets	2	6	
A.175	Rear Brake Shoes with Linings	10	6	
A.176	Rear Brake Linings and Rivets	4	11	
A.177	Rear Brake Lining Rivets			6
A.178	Rear Brake Shoe Spring			4
A.179	Rear Brake Cam	3	0	
A.180	Rear Brake Cam Bush			4
A.181	Rear Brake Cam Lever	2	6	
A.182	Rear Brake Fulcrum Pin in Cover Plate			4
A.183	Rear Hub Spindle complete with Cones	8	3	
A.184	Rear Hub Spindle only	3	6	
A.185	Rear Hub Spindle Fixed Cone	2	4	
A.186	Rear Hub Spindle Adjustable Cone	2	7	
A.187	Rear Hub Spindle End Nut			6
A.188	Rear Hub Spindle End nut Washers			1
A.189	Rear Hub Spindle Packing Nut, Brake Side			3
A.190	Rear Hub Locking Nut for Adjustable Cone			3
A.191	Rear Hub Spindle Dist. Piece, Brake Side			3
A.192	Rear Hub Cup	1	4	
A.193	Rear Hub Cup Dust Cap			6
A.194	Rear Hub Ball Bearings			9
A.195	Rear Hub Lubricator			3
A.196	Rear Hub Sprocket	7	6	
A.197	Rear Hub Sprocket Rivets			9
A.198	Rear Wheel Chain Adjuster complete	1	2	
A.199	Rear Wheel Chain Adjuster only			9
A.200	Rear Wheel Chain Adjuster Cap			3
A.201	Rear Wheel Chain Adjuster Nut			1
A.202	Free Wheel complete	5	6	
ENGINE SHIELD ASSEMBLY.				
A.203	Engine Shield, R.H.	15	0	
A.204	Engine Shield, L.H.	15	0	
A.205	Engine Shield Fixing Stud, R.H. (Top)	1	0	
A.206	Engine Shield Fixing Stud, L.H. (Top)	1	0	
A.207	Engine Shield to Silencer Fixing Stud (Short), 2 per set			6
A.208	Engine Shield to Silencer Fixing Stud (Long), 2 per set			8
A.209	Engine Shield Fixing Plate (with Springs) R.H.	2	6	
A.210	Engine Shield Fixing Plate (with Springs) L.H.	2	6	

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No.	Description	Price		
		£	s.	d.
A.211	Distance Washers for Engine Shield Fixing Plate, R. and L.H., 4 per set ...			3
A.212	5/16in. Bolt for fixing			9
A.213	5/16in. Nut			1
A.214	5/16in. Washer			1
A.215	1/4in. Large Washers			1
A.216	1/4in. Wing Nuts			6
PETROL TANK.				
A.217	Petrol Tank only	3	0	0
A.218	Petrol Filler Caps, with Measure ...		5	6
A.219	Petrol Tap, Standard		5	6
A.220	Petrol Tap, Reserve Type		6	9
A.221	Petrol Tap Plunger		2	0
A.222	Petrol Tap Cork			4
A.223	Petrol Tap Washer			1
A.224	Petrol Pipe complete	3	6	
A.225	Petrol Tank Fixing Bolt, Bottom ...			4
A.226	Petrol Tank Fixing Bolt, Rubber ...			4
A.227	Petrol Tank Fixing Bolt Washer ...			1
A.228	Petrol Tank Fixing Bolt, Top			4
A.229	Petrol Tank Fixing Bolt, Top, Nut ...			2
A.230	Petrol Tank Fixing Bolt, Top, Washer ...			1
A.231	Petrol Tank Fixing Pin Washers			1
EQUIPMENT, ETC.				
A.232	Tool Box	12	0	
A.233	Tool Box Lid Knurled Fixing Screw and Washer		1	0
A.234	Tool Box Fixing Pin, Nut and Washer ...			4
A.235	Tool Box Fixing Pin, Nut and Washer to Mudguard Stay			4
A.236	Set Tools complete	9	0	
A.237	Oil Gun	3	9	
A.238	Screwdriver	1	9	
A.239	D.E. Box Spanner	2	0	
A.240	Plug Spanner	1	6	
A.241	C. Spanner			6
A.242	Peg Spanner			6
A.243	4-Hole Spanner			9
A.244	Magneto Spanner			6
A.245	Flywheel Hammertight Spanner	3	6	

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
A.246	Saddle complete	1	16	0
A.247	Saddle Spring (State L. or R. Hand) ...		2	0
A.248	Tyre Inflator		4	6
A.249	Horn, complete with Clip		6	6
A.250	Licence Holder		1	6
A.251	Licence Holder Fixing Pin, Nut & Washer			4
A.252	Cable Clips			4
A.253	Transfers, Tank, Large	1		6
A.254	Transfers, Mudguard, Small			6

**LIST OF SPARES FOR THE "VILLIERS"
98 c.c. AUTO CYCLE ENGINE.**

A.255	Cylinder	1	15	0
A.256	Cylinder Head		16	0
A.257	Cylinder Head Washer			4
A.258	Cylinder Head Bolt			7
A.259	Cylinder Head Bolt Washer			2
A.260	Inlet Manifold	8		9
A.261	Inlet and Exhaust Washer			5
A.262	Exhaust Manifold Washer			4
A.263	Cylinder Stud, Long			3
A.264	Cylinder Stud, Short			3
A.265	Cylinder Stud Nut			2
A.266	Cylinder Stud Nut Washer			2
A.267	Release Valve Bracket	2		0
A.268	Release Valve Lever	1		6
A.269	Release Valve Lever Split Pin, 1/8 x 3/16			2
A.270	Release Valve Stem	1		6
A.271	Release Valve Spring			5
A.272	Release Valve Stem Split Pin, 3/32 x 9/16			2
A.273	Release Valve Bracket Screw			2
A.274	Release Valve Body	2		3
A.275	Release Valve Body Washer			2
A.276	Release Valve Outer Cover			4
A.277	Release Valve Inner Cover			4
A.278	Release Valve Lever Adjusting Screw ...			5
A.279	Lock Nut for Adjusting Screw			2
A.280	Release Valve Complete	10		0
A.281	Piston only, with Bushes	18		6
A.282	Piston Ring		1	9
A.283	Gudgeon Pin		2	3
A.284	Gudgeon Pin Circlip			4
A.285	Connecting Rod, less Bush	12		6

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
A.286	Small End Bush		2	0
A.287	Crankcase Half & Clutch Case (less Brgs.)	1	15	0
A.288	Outer Crankcase Half		9	0
A.289	Clutch Cover, with Bush	1	9	0
A.290	Bush only		2	3
A.291	Crank Case Joint Washer			4
A.292	Clutch Cover Joint Washer			4
A.293	Crank Case Stud, Long			4
A.294	Crank Case Stud, Short			3
A.295	Crank Case Stud Nut			2
A.296	Crank Case Stud Washer			2
A.297	Clutch Cover Bolt for Top Two Bosses ...			4
A.298	Clutch Case Stud, Short			3
A.299	Clutch Case Stud, Long			4
A.300	Clutch Case Stud Nut			2
A.301	Clutch Case Stud Washer			2
A.302	Cylinder Base Stud			3
A.303	Cylinder Base Stud Nut			2
A.304	Cylinder Base Stud Washer			2
A.305	Clutch Case Bearing Plate			7
A.306	Clutch Case Bearing Plate Screw			2
A.307	Clutch Case Stud, Silencer Support ...			5
A.308	Clutch Case Stud Nut			2
A.309	Crank Case Drain Plug			4
A.310	Crank Case Drain Washer			2
A.311	Oil Filler Plug			10
A.312	Oil Filler Plug Washer			2
A.313	Driving Shaft Assy., with Connecting Rod	2	0	0
A.314	Driving Shaft with Crankpin	1	3	0
A.315	Crankpin Roller (Set of 16)		2	6
A.316	Ball Bearing Type E.E.8		9	3
A.317	Gland Spring			9
A.318	Gland Bush		3	0
A.319	Engine Sprocket		5	9
A.320	Engine Sprocket Key			3
A.321	Engine Sprocket Lock Washer			4
A.322	Engine Sprocket Nut			4
A.323	Ball Bearing Type E.E.6		9	3
A.324	Clutch Shaft		8	9
A.325	Clutch Shaft Sliding Cotter			10
A.326	Clutch Push Rod, Long Inner			7
A.327	Steel Ball, 3/16			2
A.328	Clutch Push Rod, Short Centre			4
A.329	Clutch Push Rod, Outer			5

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
A.330	Spring Locating Bush, Short	1		2
A.331	Clutch Spring	1		2
A.332	Spring Locating Bush, Long	1		6
A.333	Outer Clutch Plate, Boss on Inside ...	5		3
A.334	Clutch Plate Corked	5		9
A.335	Set of Corks for Clutch Plate	1		2
A.336	Clutch Plate Centre	5		3
A.337	Clutch Sprocket, Corked, with Ballrace ...	11		6
A.338	Set of Corks for Sprocket	1		3
A.339	Clutch Sprocket Ballrace	2		3
A.340	Clutch Sprocket Side Plate			5
A.341	Set of 33 $\frac{1}{8}$ in. Balls			7
A.342	Outer Clutch Plate, Boss on Outside ...	5		3
A.343	Ball Bearing, Type L.S.7.	9		3
A.344	Final Drive Sprocket	4		6
A.345	Set of Five Rivets, Sprocket Side Plates ...			2
A.346	Final Drive Sprocket Nut			5
A.347	Final Drive Sprocket Key			3
A.348	Final Drive Sprocket Lock Washer			4
A.349	Primary Drive Chain	11		6
A.350	Clutch Bridge	4		6
A.351	Clutch Bridge Fixing Screw			3
A.352	Clutch Operating Lever	2		3
A.353	Fulcrum Pin			3
A.354	Fulcrum Split Pin, 1/16 x 7/16			2
A.355	Clutch Adjusting Screw with Lock Nut ...			5
A.356	Clutch Case End Plate	1		2
A.357	Clutch Case End Plate Joint Washer ...			2
A.358	Clutch Case End Plate Fixing Screw ...			2
A.359	Silencer Body	1	3	0
A.360	Exhaust Manifold		8	9
A.361	Exhaust Manifold Joint Washer			3
A.362	Silencer Bolt			9
A.363	Silencer Nut			2
A.364	Silencer Washer			2
A.365	Tail Pipe with Flange	2		3
A.366	Tail Pipe Joint Washer			4
A.367	Tail Pipe Flange Stud			3
A.368	Silencer Support Link			5
A.369	Support Link Stud			3
A.370	Support Link Nut			2
A.371	Clutch Assembling Jig	1	1	0
A.372	Clutch Assembly	2	16	0

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
3-POLE FLYWHEEL MAGNETO.				
A.373	Complete Magneto, comprising Flywheel and Armature Plate Assemblies ...	6	0	0
A.374	Flywheel complete, comprising Flywheel, Cam, Balance Weight, Magneto Pole Shoe and Screws ...	2	17	6
A.375	Flywheel, with Cam and Centre Nut ...	1	1	6
A.376	Flywheel Balance Weight ...		5	3
A.377	Pole Shoe ...		2	3
A.378	Magnets, per pair ...		17	3
A.379	Screw, Pole Shoe ...			3
A.380	Armature Plate Assembled, with Lighting Coils ...	3	9	0
A.381	Armature Plate only ...		13	0
A.382	Armature Plate Fixing Screws ...			3
A.383	Ignition Coil ...	1	0	0
A.384	Flywheel Cover, Flat ...		4	0
A.385	Flywheel Cover, Domed ...		4	0
A.386	Flywheel Cover Fixing Screw ...			3
A.387	Condenser Box only ...		4	6
A.388	Condenser Box Assembled, with Condenser	18	6	
A.389	Condenser Box Stud ...			3
A.390	Condenser Box Nut ...			2
A.391	Condenser Box Washer ...			2
A.392	Condenser Box with Condenser and Studs	9	9	
A.393	Condenser only ...	4	6	
A.394	Point Clamp ...			10
A.395	Point Clamp Screw and Washer ...			3
A.396	Point Clamp Top Bush ...			3
A.397	Point Clamp Bottom Bush ...			3
A.398	Screwed Point, with Lock Nut ...	3	0	
A.399	Rocker Arm, with Point and Pad ...	4	6	
A.400	Rocker Arm Spring ...			3
A.401	Lighting Coils, per pair ...	13	6	
A.402	Lighting Term. Screw with Nut & Washers			7
A.403	Lighting Cable from Magneto ...			7
A.404	Cable Connector with Sleeve ...			7
A.405	Low Tension Lead with Sleeve ...			6
A.406	High Tension Lead complete ...	4	6	
A.407	High Tension Terminal ...	1	0	
A.408	High Tension Terminal Washer ...			3
A.409	High Tension Screw ...			2
A.410	High Tension Spring ...			2
A.411	High Tension Spring Pad ...			2

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
A.412				
A.413				
A.414				
A.415	Rubber Grummet Lighting Lead			2
NEW TYPE CONTACT BREAKER SET.				
A.416	Condenser Box complete, for 2 and 6 Pole Magnetos	18	6	
A.417	Condenser Box complete, for 3 Pole Magnetos	18	6	
A.418	Condenser Box only, with Rocker Clip, Insulating Bushes	5	0	
A.419	Ditto, but including Condenser, Fixing Studs, Nuts and L.T. Lead	11	0	
A.420	Bracket with Tungsten Point and Pivot Pin Rocker with Point and Pad:—	2	3	
A.421	For 2 and 6 Pole Magnetos	4	6	
A.422	For 3 Pole Magnetos	4	6	
A.423	Rocker Spring		3	
A.424	Insulating Pad		3	
A.425	Lock Screw, Point Bracket		4	
A.426	Brass Washer for Screw		2	
A.427	Insulating Washer for Screw		2	
A.428	L.T. Lead Connection Screw		2	
A.429	4BA Washer for Screw		1	
A.430	L.T. Lead with Sleeve		6	
A.431	Condenser only	4	6	
A.432	Condenser Fixing Stud		3	
A.433	Condenser Fixing Stud Nut		2	
A.434	Condenser Fixing Stud Washer		2	
LIGHTING SET.				
A.435	Complete Lighting Set, with Head Lamp, Tail Lamp, Bulbs and Cables	1	13	5
A.436	Head Lamp complete with Sw. and Cables	1	7	7
A.437	Head Lamp Body Shell with Bracket		17	3
A.438	Front Rim, less Front Glass		5	9
A.439	Front Glass		1	9
A.440	Rubber Washer for Front Glass			4
A.441	Front Rim Clip and Pivot		1	2
A.442	Reflector		5	9
A.443	Reflector Retaining Spring (Set 3)			7

No.	Description	Price		
		£	s.	d.
A.444	Pilot Bulb Holder			10
A.445	*Pilot Bulb, 4v., .3 amp., plus Pur. Tax ...	1	9	
A.446	Main Bulb Holder, with Contacts ...	2	11	
A.447	*Main Bulb, 6v. 1 amp., plus Pur. Tax ...	1	7	
A.448	Dry Battery Insulator			3
A.449	Switch with Contacts	5	9	
A.450	Switch Lever with Spindle and Split Pin	2	3	
A.451	Switch Spindle Spring			3
A.452	Switch Spindle Washer			2
A.453	Switch Contact Wiper			4
A.454	Resistance	2	3	
A.455	Tail Lamp complete, Fixing Plate & Screws	5	9	
A.456	Tail Lamp Body	2	3	
A.457	Tail Lamp Body Clip			5
A.458	Tail Lamp Fixing Plate			7
A.459	Tail Lamp Fixing Plate Screw, with Nut and Washer			4
A.460	*Tail Lamp Bulb, 4v. .3 amp., plus Pur. Tax	2	3	
A.461	Tail Lamp Bulb Holder	1	5	
A.462	Tail Lamp Cable Terminal Nut			3
A.463	Tail Lamp Fixing Screw and Nut (Set of 3)			5
A.464	Cable from Magneto to Headlamp ...	1	2	
A.465	Cable from Headlamp to Tail	2	11	
A.466	Earth Wire	1	5	
A.467	Earth Wire Terminal			5
A.468	Earth Wire Nut			3
CARBURETTER.				
A.469	Body	9	3	
A.470	Top Ring	1	3	
A.471	Top Disc	1	6	
A.472	Throttle	2	3	
A.473	Throttle Spring			6
A.474	Taper Needle	1	0	
A.475	Taper Needle Adjuster			6
A.476	Taper Needle Spring			3
A.477	Centre Piece and Jet	4	0	
A.478	Centre Piece Washer			2
A.479	Centre Piece Locating Screw			3
A.480	Bottom Nut	1	0	
A.481	Bottom Nut Washer			2
A.482	Float	3	6	
A.483	Float Cup	3	3	

JAMES AUTOCYCLE fitted with the VILLIERS 98 c.c. ENGINE

No.	Description	Price		
		£	s.	d.
A.484	Float Cup Washer			6
A.485	Fuel Needle			9
A.486	Fuel Needle Tongue and Pin			7
A.487	Body Clip	2	0	
A.488	Body Clip Screw			6
A.489	Strangler Plate			9
A.490	Strangler Plate Screw			3
A.491	Strangler Plate Spring Washer			2
A.492	End Cap	2	6	
A.493	Air Intake Gauze	1	6	
A.494	Banjo Union	1	9	
A.495	Banjo Union Bolt	1	0	
A.496	Banjo Filter Gauze			6
A.497	Banjo Fibre Washer, Large Hole			3
A.498	Banjo Fibre Washer, Small Hole			3
A.499	Tickler			
A.500	Tickler Spring			
A.501	Tickler Split Pin			9
A.502	Control Cable complete	4	6	
A.503	Control Adjuster and Locknut			9
A.504	Control Body	3	6	
A.505	Control Body Handlebar Clip	1	6	
A.506	Control Body Handlebar Clip Screw			2
A.507	Control Lever	3	0	
A.508	Control Top Plate	1	3	
A.509	Control Body Friction Plate			6
A.510	Control Body Spring Washer			3
A.511	Control Body Fibre Washer			3
A.512	Control Body Top Screw			6
A.513	Control, complete	10	9	

CONDITIONS OF GUARANTEE.

We give the following guarantee with our motor cycles, including all component parts other than tyres, saddles, chains and lighting and electrical equipment accessories and component parts supplied to the order of the Purchaser and differing from those comprised in the standard specifications. This guarantee is given in place of any implied conditions or warranties or any liability whatsoever statutory or otherwise ; no guarantee except that hereinafter contained and no condition 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.

We guarantee, subject to the conditions mentioned below, that all precautions which are usual and reasonable have been taken 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 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. As motor cycles 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 :—

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.

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. 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.

If a defective part or accessory should be found in our motor cycles, 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.

Failing 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.