



# IMPORTANT

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ALL CORRESPONDENCE RELATING TO CUSTOMERS' MACHINES MUST GIVE DATE OF PURCHASE, DEALER'S NAME AND ADDRESS, ENGINE AND FRAME NUMBER.

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OUR SERVICE AND SPARES DEPARTMENT WILL BE UNABLE TO ATTEND TO ANY CORRESPONDENCE NOT GIVING THE ABOVE PARTICULARS.

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ALL ENQUIRIES RE SERVICE OF SPARES TO BE ADDRESSED TO—

**EXCELSIOR MOTOR CO. LTD.**

SERVICE DEPT.

6D

# EXCELSIOR AUTOBYK RUNNING INSTRUCTIONS

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## TO START THE MACHINE.

- (1) Fill the tank with petrol (**never use any fuel containing benzol**; use straight petrol at all times) using two measurefuls of oil to half gallon of fuel, which must be thoroughly shaken up and mixed with the oil before being allowed to pass to the carburetter.
- (2) Turn on the petrol tap to MAIN supply.
- (3) Pull up the strangler wire if engine is cold or initial start is being made.
- (4) Open throttle lever on handlebar R.H.S. (right-hand side) to about one-third open.
- (5) Lift decompressor lever on handlebar L.H.S. using thumb only.
- (6) Lift clutch lever on handlebar L.H.S. and having sat on the saddle pedal off the machine, releasing first the clutch lever (as soon as the machine is moving at walking pace) and then the decompressor, when the engine will start. Continue to pedal till machine gets under way and then open the strangler immediately, or partially if weather is very cold.  
**Note:** It is, of course, possible to make a push start with this machine by following the above directions as to 1, 2, 3, 4, 5 and 6; then push the machine smartly at walking pace, allowing the clutch to engage first, and finally the decompressor, when engine will start **BUT** the clutch lever must immediately be lifted when engine will continue to run with machine standing still, and rider may sit on saddle and glide away by means of releasing the clutch gradually.
- (7) It is important that as soon as engine is warm, the strangler be kept completely open at all times.
- (8) In very cold weather, and when making the initial start for the day, it is advisable to flood the carburetter slightly (**but do not over-flood** or starting may be very difficult due to too rich a mixture).
- (9) If engine is very stiff when making the initial start, due to cold weather, it will be found that this may be freed considerably by opening the throttle half-way, flooding the carburetter slightly, and pushing the machine for a few yards with decompressor open and clutch engaged.

## DRIVING THE AUTOBYK.

- (10) The speed of the machine is governed entirely by the throttle, and will run from 8/25 m.p.h. according to throttle opening and the condition of the road or gradient, a larger throttle opening being necessary when ascending hills.

**Note:** On new machines the speed should not be allowed to exceed 20 m.p.h. for the first 500 miles.

## STOPPING.

- (11) When it is necessary to slow down, close the throttle first and use the engine as a brake, but if a complete stop is necessary—say at traffic lights—nearly close the throttle and use the clutch and brakes; finally put down one foot to balance until ready to start again. This can be accomplished quite easily on the **Autobyk** as the clutch on this type of machine is a feature not always found on motor assisted pedal cycles, and as there are no gears to engage or disengage, an easy start can be made again, there being no reason to stop the engine even if the machine is standing still at the traffic stop.
- (12) If it is necessary to stop the machine quickly due to traffic jam or danger ahead, close throttle immediately and apply both brakes. The machine will then stop in a very few yards, but the engine will also stop, and it will be necessary to start the engine again—see 6.

## CLUTCH START—With Engine Running.

- (13) To accomplish an easy clutch start from the stationary position, open the throttle to at least half way, and as the engine revs. increase, allow the clutch lever slowly to return to its normal position; the machine will then glide off; pedals may be used to assist this start if the machine is on a steep gradient, and to relieve the clutch of some of its work, but good riders will rarely find this necessary.
- (14) All recent models are fitted with a ratchet clutch lever, which enables the clutch to be kept in the withdrawn position when required, without it being necessary to keep the hand upon the lever. When the large lever is pulled up, the ratchet automatically comes into operation. To release, pull up the small trigger lever with the finger, and allow both to resume their normal position, when the clutch will re-engage.

## SPECIAL NOTE.

- (15) When putting the machine away for a short time, or at the end of the day, it is advisable to turn off the petrol at least 200 to 300 yards before stopping so as to use up any fuel in the float chamber. Thus the carburetter will be filled with fresh fuel before making the initial start the following morning, or after standing for a period. **This is important.**

## LUBRICATION

### ENGINE.

The engine is lubricated by the petrol system—i.e., lubricating oil mixed with petrol and known as the "Petrol" system, and the oil should at all times be thoroughly mixed with the petrol, if possible, before filling the tank. It is advisable, while the engine is new, that the proportion of oil to petrol should be a little more than recommended for general use when engine is run in, although this must never be more than 16 to 1 and never less than 20 to 1.

The following oils are recommended for use with the **Autobyk**: Castrol XL, Mobiloil D, Shell, "Golden Extra Heavy," "Essolube Racer," and Price's Motorine 'B' de luxe.

### CLUTCH.

The clutch requires lubrication and the ordinary oil used for engine may be used for this also. It is necessary to unscrew the plug on the near side of the housing and fill the case with oil, with the machine leaning slightly on its side, until no more oil can be filled into the case, the positioning of the plug giving the correct oil level.

### WHEELS.

The hubs should be lubricated with oil or grease in the same way as the modern bicycle hub is lubricated.

### FREEWHEEL.

Owing to the fact that the freewheel is at work more than 90% of its life, it is necessary to lean the machine on its left-hand side and insert a few drops of good quality light cycle oil occasionally through the hole provided.

### CHAINS.

The chains should be lubricated occasionally with a little oil or one of the graphite compounds sold for this purpose.

## ADJUSTMENTS

### CYCLE BALL HEAD.

This is ball bearing and requires very little attention other than to keep the adjustment close and with no play whatever in the column. There should be no up and down movement when the handlebars are lifted. Adjustment is provided by means of a locking nut above the lamp bracket, but it is necessary to slack off the expander bolt at top of handlebars before making this adjustment.



## CHAINS.

Each chain has its own separate adjustment, the one from the engine countershaft to rear wheel being adjusted by ordinary cycle adjusters fitted to the spindle of the rear wheel. The pedalling chain is fitted with an adjustment at the bottom bracket of the cycle, there being an eccentric bottom bracket adjustable by means of the Cee spanner provided, in exactly the same way as the chain on a tandem.

Keep chains always reasonably tight—about  $\frac{1}{2}$ " up and down movement is allowable.

## TYRES.

Always keep the tyres inflated hard. This is important or the rear tyre will have a tendency to creep.

## CLUTCH.

Adjustment is provided for the clutch in a convenient position on the near side of the machine, near the top of the clutch operating lever, and it is necessary to keep this adjusted so that there is always about  $\frac{1}{16}$ " of play in the clutch operating lever on handlebar. A spot of oil between the clutch operating pin and the push rod itself is advisable.

## HUBS.

These will not require very considerable attention, but it is necessary to keep the hubs reasonably adjusted in the same way as a cycle hub is adjusted.

## IGNITION.

To check ignition take off the lead and remove plug. Replace the lead on the plug and lay same on cylinder head so that no part of the terminal touches the cylinder. Wheel the **Autobyk** forward briskly and a spark should be seen at the plug points. Two things may prevent the spark occurring normally: (1) Too much oil may have been used in the fuel, causing an oily plug; this can be cleaned by washing in petrol thoroughly and with the use of an old toothbrush.

(2) The contact breaker points on the magneto may not be opening due to wear on the heel of the contact breaker arm. Contact breakers tend to close the points in wear, and will require slight adjustment with the special magneto spanner supplied. With the plug removed and cover of magneto removed, when flywheel is revolved by hand the gap between contact breaker points should be equal to the gauge supplied on the spanner. If the gauge cannot be inserted between the points at the open (or broken) position, slacken the locknut and adjust the contact breaker adjusting screw till gauge can be inserted, then tighten lock nut. No other adjustments are necessary.

The ignition timing is set at Works, and should not be interfered with, altered, advanced or retarded.

## REASONS FOR AUTOBYK ENGINE FAILING TO START

- (1) No fuel in petrol tank, or the main supply has become exhausted and it is necessary to turn the petrol tap the opposite direction to that normally used on MAIN, which brings in the RESERVE SUPPLY.
- (2) If machine is pedalled with decompressor open for any length of time, it is likely that too much fuel has been drawn into the engine and crankcase will have pure petrol in it. It is necessary to remove plug and drain crankcase.
- (3) Throttle too wide open for effective starting.
- (4) Pushing or pedalling the machine too slowly.
- (5) Magneto points too close or contact breaker not even breaking.
- (6) Plug oiled up or insulation cracked, due to blow or faulty use of spanner.
- (7) Fuel supply blocked up due to dirt from fuel in lower portion of tank, the petrol tap, the petrol pipe, or the point where the petrol pipe joins carburetter.
- (8) Plug terminal missing and wire not attached to plug.

## DECARBONISING

The engine may be decarbonised without removal from the frame, it only being necessary to remove the four cylinder bolts, the two bolts passing through the aluminium silencer into the exhaust port, the decompressor and the carburetter, when the cylinder can be withdrawn from the crankcase and the whole engine can be decarbonised.

This should be necessary with new engines after the first 2,000 miles, and subsequently every 2/3,000 miles, according to the care of the user in mixing the correct amount of fuel and the type and quality of fuel used—i.e., cheap petrols produce more carbon.

**IMPORTANT.** It is essential that the Rear silencer is cleared of carbon regularly, otherwise back-pressure will cause heavy petrol consumption, over-heating, and possibly even a seizure. The 1938 pattern silencer has an easily detachable spiral baffle, which is best cleaned by burning off the carbon in a fire.

On the latest silencer, it is only necessary to withdraw the tail pipe baffle tube and clear the slots with an old knife, or burning out as above.

# SPARE PARTS LIST FOR AUTOBYK

1938, 1939, and 1940 (Series I. and II.)

		£	s.	d.
<b>FORKS (Solid).</b>				
Pair of forks with column ....	15			6
Balls for steering head ....			per set	8
Ball race—fork crown ....				9
“ “ —top adjusting ....			1	2
Spacing rings ....				4
Lamp bracket ....				9
Top Locking Nut ....			1	0

## SPRING FORKS.

		Code No.		
Spring fork complete ....	1			0
Main fork crown with column (bushed) ....		AT1	18	6
Right hand fork blade with brazed stud ....		AT2	7	6
Left hand fork blade with brazed stop and anchor lug ....		AT3	8	0
Top bridge casting ....		AT4	4	9
Compression spring—long ....		AT5	1	1
Rebound spring—short ....		AT6	1	1
Top spring cover—large dia. ....		AT7	1	6
Bottom spring cover with washer—small dia. ....		AT8	1	6
Spring bolt ....		AT9	1	3
Spring adjusting nut (top) ....		AT10		4
Spring bolt shouldered nut (centre) ....		AT11		4
Spring bolt lock nut (plain nut) ....		AT12		4
Acorn nut for fork blade ....		AT13	1	3
Phosphor bronze bush for main casting ....		AT14	1	0
Dust covers ....		AT15		3
Grease nipple ....		AT16		3

## FRAME.

Frame complete, black enamelled ....	3		15	0
Top steering head race—cone ....			1	0
Bottom steering head race—frame cup ....				9
Transfer for ball head ....				6
Seat pillar ....			3	0
“ “ bolt ....				6
Bottom bracket eccentric ....			6	6
“ “ locking bolts and nuts ....		each		4
“ “ spindle ....			3	0
“ “ fibre washer ....		each		2
“ “ spring washer ....		each		2
Fork end adjuster bolt and nut ....		each		6



**REAR STAND.**

	£	s.	d.
Rear stand complete		6	6
"    "    fixing bolts	each		6
"    "    spring clip complete		1	6

**HANDLEBAR.**

Handlebar complete		1	1	3
"    bend only			6	3
"    expander complete			2	3
"    "    bolt			1	3
"    rubber grips	pair		1	6
Brake lever (R.H. or L.H.)	each		3	6
Ratchet clutch lever			4	3
Carburettor control lever assembly complete			5	3
Decompressor lever			3	3
Front brake cable complete with adjuster			1	9
Rear brake cable complete with adjuster			1	9
Clutch cable complete			1	9
Decompressor cable complete			1	6
Bolts for clutch or brake lever	each			4

**TANK.**

Tank complete with fittings		1	7	6
"    only, less fittings			18	0
"    oil measure and filler cap			2	3
"    "    filler cap			1	3
"    petrol tap			3	0
"    "    pipe complete			2	6
"    "    tap washer				2
"    transfer	each			9
"    oil drain tap			1	3
"    clips and nuts	each			4

**TANK (1940—Series II.).**

Tank complete with fittings		1	10	6	
"    only, less fittings			1	4	0

**SADDLE.**

Saddle complete		10	6
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**MUDGUARDS (Front).**

Mudguard blade only		3	9
"    stays only—each			10
"    pins and nuts for stays	each		3
Front number plate		1	3
Front number plate pins and nuts	each		1
Front mudguard flap		1	7

**MUDGUARDS (Rear).**

Mudguard blade only		3	9
"    stays—each			10
"    "    pins and nuts	each		3
Rear number plate		1	9
"    "    pins and nuts			1
Carrier assembly complete		4	6

**TOOLBOX.**

Toolbox complete		3	6
"    clip			6
"    pins and nuts	each		2

## PEDALS.

	£	s.	d.
Pedals complete .... pair	6	0	
Rubbers only .... each		9	

## CHAIN WHEELS AND CRANKS.

Chain wheel and crank ....	6	3	
L.H. bent crank ....	2	3	
Cotters for cranks .... pair			9

## EXHAUST SYSTEM.

Rear Silencer and Tail Pipe complete ....	6	6	
"    "    Body only ....	4	0	
"    "    Tail Pipe Baffle only ....	2	0	
Clip for " " " ....			6
Silencer support strip ....			8
Primary aluminium exhaust silencer ....	12	6	

## WHEELS (Front and Rear).

	Front.			Rear.		
	£	s.	d.	£	s.	d.
Wheel complete less tyre ....	1	3	6	1	13	9
Hub complete ....	19	10		1	1	10
Cups ....		8			8	
Cones ....	1	4		1	4	
Balls .... per set		9			9	
Nuts ....		4			4	
Spindle ....	1	6		1	6	
Brake plate complete ....	5	0		5	0	
Spindle complete with cones, nuts and washers....	5	0		5	0	
Spoke and nipple .... each		3			3	
Rim—chromium plated ....	6	3		6	3	
Rear wheel hub sprocket ....				7	6	
Free wheel ....				9	6	
Brake linings .... per pair	1	6		1	6	

## CHAINS.

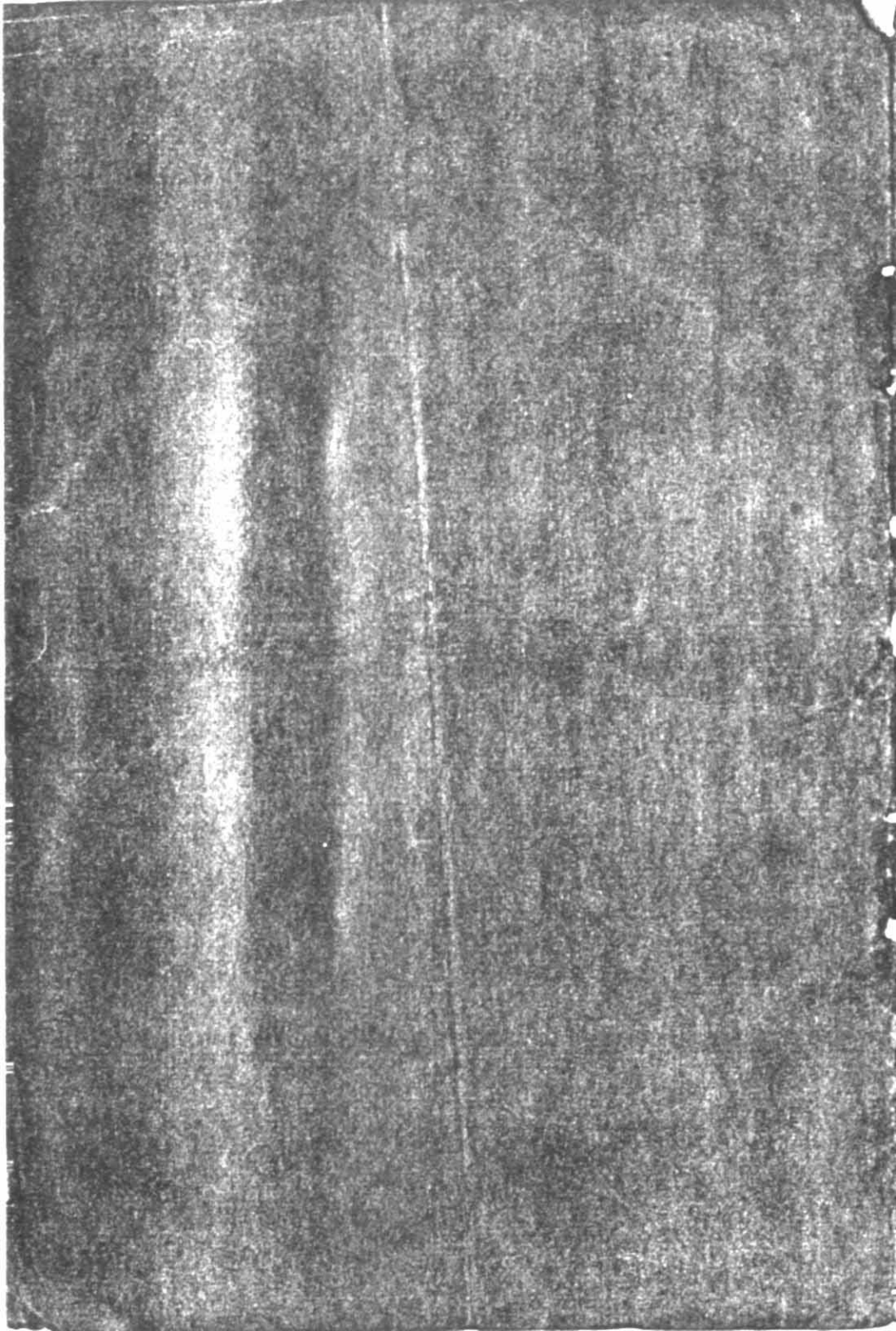
Replacement cycle chain ....	4	6	
"    driving chain ....	5	2	
Rear chain guard ....	2	6	

## EQUIPMENT.

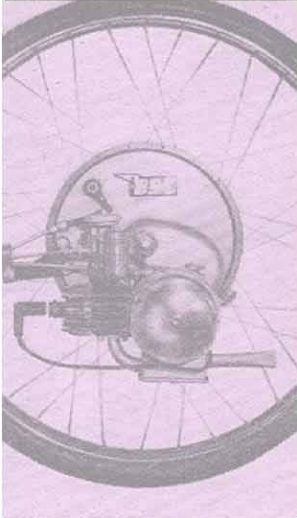
Headlamp complete ....	13	6	
Rear lamp ....	3	6	
Inflator ....	2	3	
Bulb horn ....	3	6	
Licence holder ....	1	0	
Grease gun and tin of grease ....	4	0	
Tool kit complete with roll....	4	3	
Cee spanner ....	1	2	
Screw driver ....		6	
Fan shape set of spanners, inc. tyre lever ....		9	
Plug spanner ....		9	
Mag. spanner ....		4	
Autobyk touring bag to fit on carrier ....	10	6	

FOR ENGINE PARTS, SEE SEPARATE LIST.





# IceniCAM Information Service



[www.icenicam.org.uk](http://www.icenicam.org.uk)