

Book No. 101/EM1

MAINTENANCE MANUAL

for

Excelsior

98 cc.

“WELBIKE”



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101EM1

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INDEX FOR ILLUSTRATIONS.

	PAGE
Steering Column Assembly	4
Folding Handle-bar Assembly	5
Collapsible Saddle Assembly	8
Top View of Machine, showing Controls	8
How the Two-stroke Works	10
Method of holding Engine to Dismantle	13
Sectional Plan View of Engine Unit	15
Sectional Side View of Engine	16
Method of using Hammer-tight Spanner	18
Flywheel Magneto	20
Clutch Fulcrum Lever Assembly	21
Clutch Assemble Jig	23
Crank Case	25
Sectional View of Carburettor	26
Carburettor Float and Mixing Chamber	28
Tank Assembly	30
Chain Spring Link	31
Rear Wheel Assembly	32
Foot Brake Assembly	34
Special Tools	36
Top and Side View Diagrams of Welbike	Folded Back Page

DATA.

MAKE OF MACHINE: Excelsior.

TYPE OR MODEL: Welbike-folding, 98 cc. two-stroke.

No. OF CYLINDERS: One. ARRANGEMENT: Horizontal.

BORE: 50 m/m. STROKE: 50 m/m. CUBIC CAPACITY: 98 cc.

COMPRESSION RATIO: 5.7 to 1.

TYPE OF CYL. HEAD: Detachable. MATERIAL: Aluminium.

METHOD OF SUSPENSION IN FRAME: Bolted to lugs provided on frame.

PISTON: TYPE: Flat top. MATERIAL: Aluminium Alloy.

No. OF RINGS: Two.

MAKER'S CLEARANCE (Piston to Cylinder-cold) Max.: .0063".
Min. .0053".

CONNECTING ROD MATERIAL: Steel.

TYPE OF BIG END BEARING: Roller. SIZE OF ROLLERS: $\frac{3}{16}$ "
dia. \times 23/64".

CRANKSHAFT BEARING: Single row ball. SIZE: Web end S.9,
 $\frac{7}{8}$ " \times $1\frac{1}{8}$ " \times $\frac{1}{8}$ ". Mag. end, S.8 $\frac{3}{4}$ " \times $1\frac{1}{8}$ " \times $\frac{5}{16}$ ".

CARBURETTOR: TYPE: Midget. JET SIZE: 7. CONTROL:
Twist Grip. O.S. Handlebar.

IGNITION, MAGNETO: TYPE: Flywheel. ROTATION: Anti-clock-
wise from flywheel end. TIMING: $\frac{1}{4}$ " before T.D. centre.

LUBRICATION SYSTEM: TYPE: Petroil. W.D. LUBRICANT:
M160.

CYCLE LUBRICATION: Oil.

FUEL SYSTEM: TANK CAPACITY: 6 $\frac{1}{2}$ pints. FILTER, incorpor-
ated in tap, and carb. union.

FILLER CAP: TYPE: Screw embodied in Air Pump. SECURED:
With combination tool.

CLUTCH: TYPE: Double Plate. LOCATION: On countershaft.
FRICTION MATERIAL: Cork.

OVERALL GEAR RATIO: 6.18.

CHAINS, PRIMARY: TYPE: Roller. MAKE: Renold (Roller dia., .250". METHOD OF ADJUSTMENT: None. No. OF LINKS: 54. PITCH: .375". WIDTH: .125".
SECONDARY TYPE: Roller (Roller dia.: .305"). METHOD OF ADJUSTMENT: Slide rear wheel. No. OF LINKS: 76. PITCH: .5". WIDTH: .187".

CHAIN SPROCKETS: No. of teeth: Engine: 17. Driven: 42. DRIVING SPROCKET. 10. REAR WHEEL: 25.

WHEELS: BEARING, FRONT, TYPE: Cup and Cone. SIZE: $\frac{1}{4}$ " dia. balls. BEARING, REAR, TYPE: Cup and Cone. SIZE: $\frac{1}{4}$ " dia. balls. SPOKES, GAUGE: 12. LENGTH: 20, $3\frac{3}{16}$ "; 10, $3\frac{1}{4}$ "; 10, $2\frac{1}{2}$ ". THREAD: 12G x 56 T.P.I. SINGLE OR DOUBLE BUTTED: Plain. ANGLE OF HEAD: 95°. RIMS: SIZE 8" dia.

TYRES: MAKE: Dunlop. TYPE: Carrier. SIZE: $12\frac{1}{2}$ " x $2\frac{1}{4}$ ".
TUBE: MAKE: Dunlop. VALVE No.: 8435. TYRE PRESSURES: FRONT: 25-lbs. per sq. in. REAR: 25-lbs. per sq. in.

BRAKE: HOW OPERATED: Foot pedal. DRUM DIA.: 4". LINER MATERIAL: Ferodo.

FRAME: TYPE: Tubular. WEIGHT: MACHINE WITH TANKS EMPTY: 70-lbs. FRONT FORKS: Tubular Rigid. STEERING DAMPER: Not fitted.

DIMENSIONS: OVERALL HEIGHT (OPEN): $30\frac{3}{4}$ ". WIDTH: .22". LENGTH: 52". WHEEL BASE: $39\frac{1}{2}$ ". max. GROUND CLEARANCE AT LOWEST POINT: 4". LOCATION OF LOWEST POINT: Bottom Rail of Frame.

MAINTENANCE MANUAL.

WELBIKE.

INTRODUCTION.

The Welbike has been designed as a lightweight motor cycle, which can be carried in a very small space. The handle bars, steering column, and saddle are arranged on a collapsible principle, so that, if necessary, the machine can be carried in a space 4-ft. 3-ins. long x 15-in. high x 12-in. broad. The machine has a range of about 90 miles, with one filling of the fuel tanks, and is capable of a maximum speed of about 30 miles per hour. The total weight without fuel is about 70-lbs., so that it can easily be lifted over difficult obstacles, such as ditches, if ridden "cross country." The frame and forks, etc., are capable of standing severe shock. The machine is supplied in a collapsed condition, and the following procedure covers all actions necessary to get the machine running on the road:—

PREPARATION FOR THE ROAD:

- (A) TO SET UP MACHINE. (See illustration at back and pages 4, 5, 6.)
- (a) Raise steering column (1) until supporting member (2) is secured by trunnion locating pin (3), which is spring loaded and will click into position as soon as the hole on the supporting member comes opposite the pin.
 - (b) The handle bars (4) will fall into position automatically, and must be secured by the milled screw (5), which is located on the handle bar pivot (6).
 - (c) Pull up the seat (7) until the spring loaded locating pin (8) clicks into position, this pin ensures that the seat is fixed on the centre line of the machine; the seat column must then be secured by the clamping screw, which is turned by the tommy bar (9). DO NOT RIDE MACHINE until saddle has been securely clamped.
 - (d) Push down foot rests (10).

