

Messrs F.^{LLI} BENELLI G. F. & C. Ltd.

Manufacturers of Precision Motor Cycles,
Scooters and Mopeds

**MOTOBI 48 cc - 2 STROKE
AUTOMATIC AND 3 SPEED MOPEDS**



SOLE CONCESSIONAIRES U.K. :

EUROPA IMPORTS LTD.

63 - 65 READING ROAD,

PANGBOURNE, BERKSHIRE.

MOTOBI 48 cc - 2 STROKE

RUNNING INSTRUCTIONS

MOTOR: Single cylinder two stroke, loop scavenged. Bore 40mm.; Stroke 39mm.; Capacity 48 cc.

TRANSMISSION: Primary Drive - Helical gears. Final Drive by chain which is enclosed. Automatic Clutch. This is a complete departure from the usual automatic unit in that the clutch itself runs in an oil bath with the starting engagement operated by a twist grip on the left-hand handlebar. The oil bath ensures that the clutch does not wear, and the oil acting as a coolant prevents the clutch from over-heating. Unlike other automatics, this machine employs only one rear chain and no free wheel.

3-SPEED MODEL: This unit is similar to the automatic model except for a manually operated clutch and 3-speed gear box in place of the plain transmission shaft in the automatic machine. This unit incorporates a starting mechanism on the pedal shaft and also incorporates a rear brake mechanism operated by rotating the pedals in the reverse direction.

ENGINE LUBRICATION: This should be 16 parts petrol to 1 part oil ($\frac{1}{2}$ pint SAE 40 to 1 gallon of petrol).

IMPORTANT NOTE: When two stroke self-mixing oil is used, one pint of self-mixing oil to one gallon petrol should be used. This is because self-mixing

oils contain a mixing agent which is not a lubricant in itself and therefore the self-mixing oil quantity must be increased to ensure that sufficient lubrication is in use.

After 1,000 miles the petrol/oil ratio can be changed to 20 parts petrol to one part oil. This can be supplied by forecourt dispensers and this method should be used wherever possible, as the oil content is guaranteed correct.

GEAR BOX LUBRICATION: Use SAE 30 grade oil to the mark on the dip stick attached to the filler plug. Check oil level every thousand miles and top up if necessary to the level. Drain and refill gear box every 3,000 miles. This is done by removing the drain plug on the under-side of the engine unit, replacing the drain plug when all the oil has drained off, and refilling to the mark on the dip stick. This should be done with the engine hot after a run and flushing oil should not be used.

MOST IMPORTANT: Every 3,000 miles the tube in the silencer should be removed and cleaned, as the choking of this tube by carbon will greatly reduce the power of the engine. At 5,000 mile intervals remove the cylinder head and remove the carbon and, with the piston at top dead centre, scrape off any carbon deposits from the piston crown. The best method of doing this is with a piece of solder hammered into the shape of a screw driver. This will ensure that no scratches are formed in the piston crown which would later act as a key to further carbon deposits.

SPARKING PLUG: This is a very important component in your machine because the engine works at extremely high pressures and a good sparking plug is essential. However, even good sparking plugs gradually wear out. That is to say they change their resistance to heat, and a worn sparking plug will cause pre-ignition which is very bad for your engine.

Sparking Plugs should be renewed between 3 and 4,000 miles and any sparking plug used should be not less than 225 heat value. The recommended plug is a W.225.T2 "Bosch". The dealer from whom you purchased your machine will be able to supply you with replacements. Remember that a sparking plug which is designed to run at a lower temperature can in some cases burn a hole through the crown of the piston.

STARTING (AUTOMATIC MODEL)

This can be carried out in two ways :

- Apply the automatic choke, place the machine on the stand, turn on the fuel and bring the pedal crank to a position which will provide a full stroke; rotate the left-hand twist grip towards you to engage the starting shoe and press down the pedal. This will rotate the engine, thus starting it. Immediately the engine fires, the grip should be released to disengage the starting shoe.

The other method is to pedal the machine forward like a cycle and when sufficient forward speed has been obtained, (that is to say fast enough to ensure good balance), rotate the grip towards you and

slightly open the throttle. Again, immediately the motor fires, release the grip. The machine can then be accelerated away up to its maximum speed. **IMPORTANT NOTE:** The automatic choke does not release itself until the throttle has been fully opened once. Therefore, do not ride the machine too far before quickly opening and closing the throttle to its fullest extent. This will cancel the choke and thus save fuel.

STARTING (3-SPEED MODEL)

This machine, by having a manually operated gear box, is provided with a neutral position which will allow the machine to be started by the pedals with both wheels on the ground. It can also be started in neutral on the stand. This machine also has an automatic choke which must be released as soon as possible - in this case before the first gear is engaged. Before changing gear the clutch lever must be fully operated to prevent damage to the gears. The clutch cable must be kept adjusted so that the lever has $\frac{1}{16}$ " free play when measured at the handlebar lever end. Gear adjustment is carried out by the two adjusters situated below the gear change twist grip. There should be no undue play or free movement in these cables; on the other hand they should not be adjusted too tightly as this will cause binding and stiff gear change operation.

TYRE PRESSURES

FRONT : 20 LBS/SQ.IN. REAR : 35 LBS/SQ.IN. SINGLE
FRONT : 20 LBS/SQ.IN. REAR : 40 LBS/SQ.IN. TWO UP

POSSIBLE FAULTS AND THEIR REMEDIES

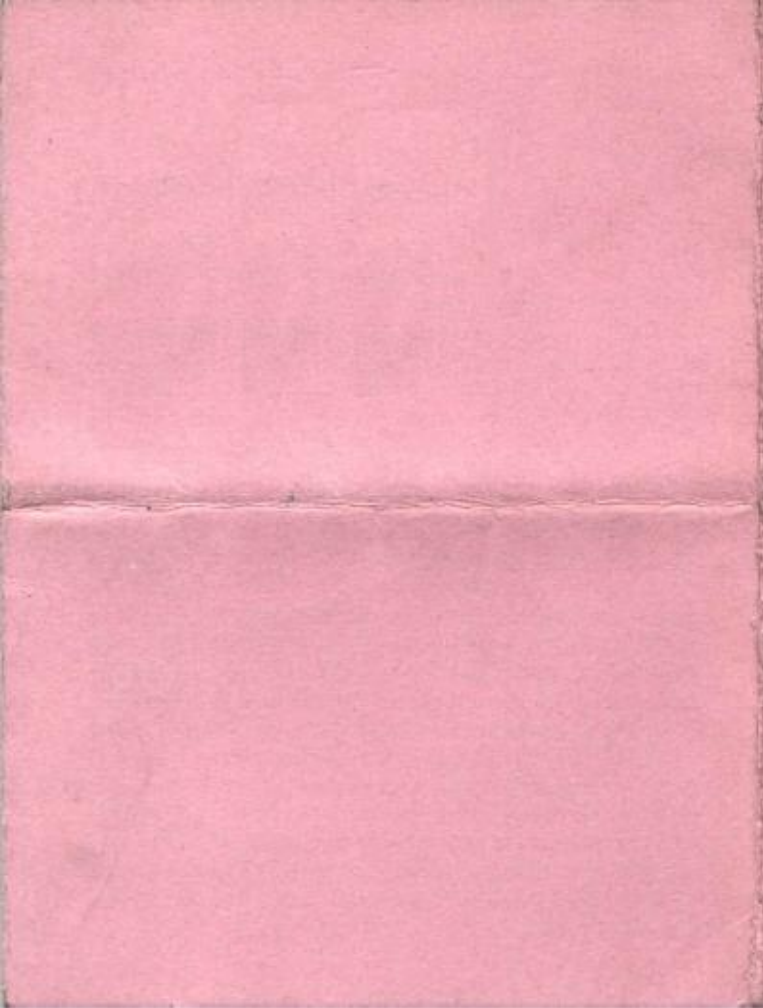
FAULT	CURE
Engine will not run unless the choke is applied.	Remove and clean out main jet by blowing through it.
Engine will not run even with choke applied.	Blocked petrol tap filter, or blockage at the float needle seating.
Engine will run, but will not gain revs.	Choked air-intake filter; wash in petrol.
Petrol runs from the carburettor as soon as the tap is turned on.	Dirt on the float needle seating.
Engine cuts out.	Sparking Plug worn and pre-ignition causing whiskering. Remove material from between the points and replace plug as soon possible.
Engine will not start.	Remove sparking plug, connect it to the lead and lay it on the top of the cylinder head; rotate the engine by the pedals; check for spark.

POSSIBLE FAULTS AND THEIR REMEDIES - (Continued)

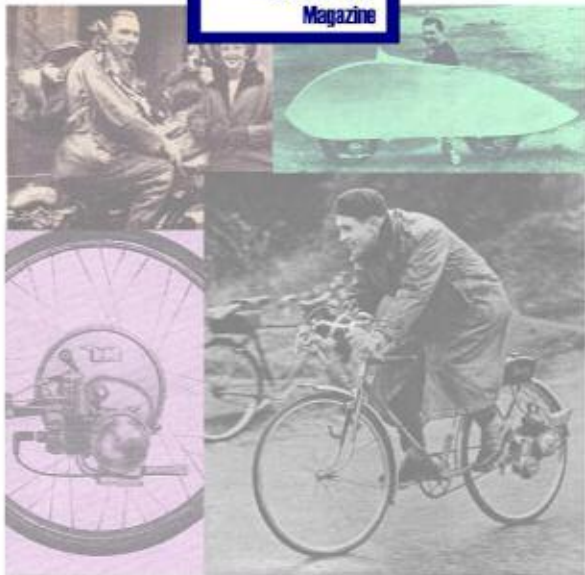
FAULT	CURE
No spark at the plug when tested.	Check for sticking or shorting ignition cut-out incorporated in the combined horn and dip switch.
Engine locks or seizes.	Incorrect petrol/oil mixture, or badly worn sparking plug causing pre-ignition. In the case of incorrect fuel mixture, drain off the tank and refill with the correct mixture.
Engine gradually loses power over a long period.	Clean silencer.

IMPORTANT:

DO NOT fill the tank with the petrol tap turned on.
DO NOT pour oil into the petrol tank and then add petrol. Except for fuel from forecourt dispensers, all fuel should be mixed in a separate container, well shaken up and then poured in the tank to ensure that it is thoroughly mixed.



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