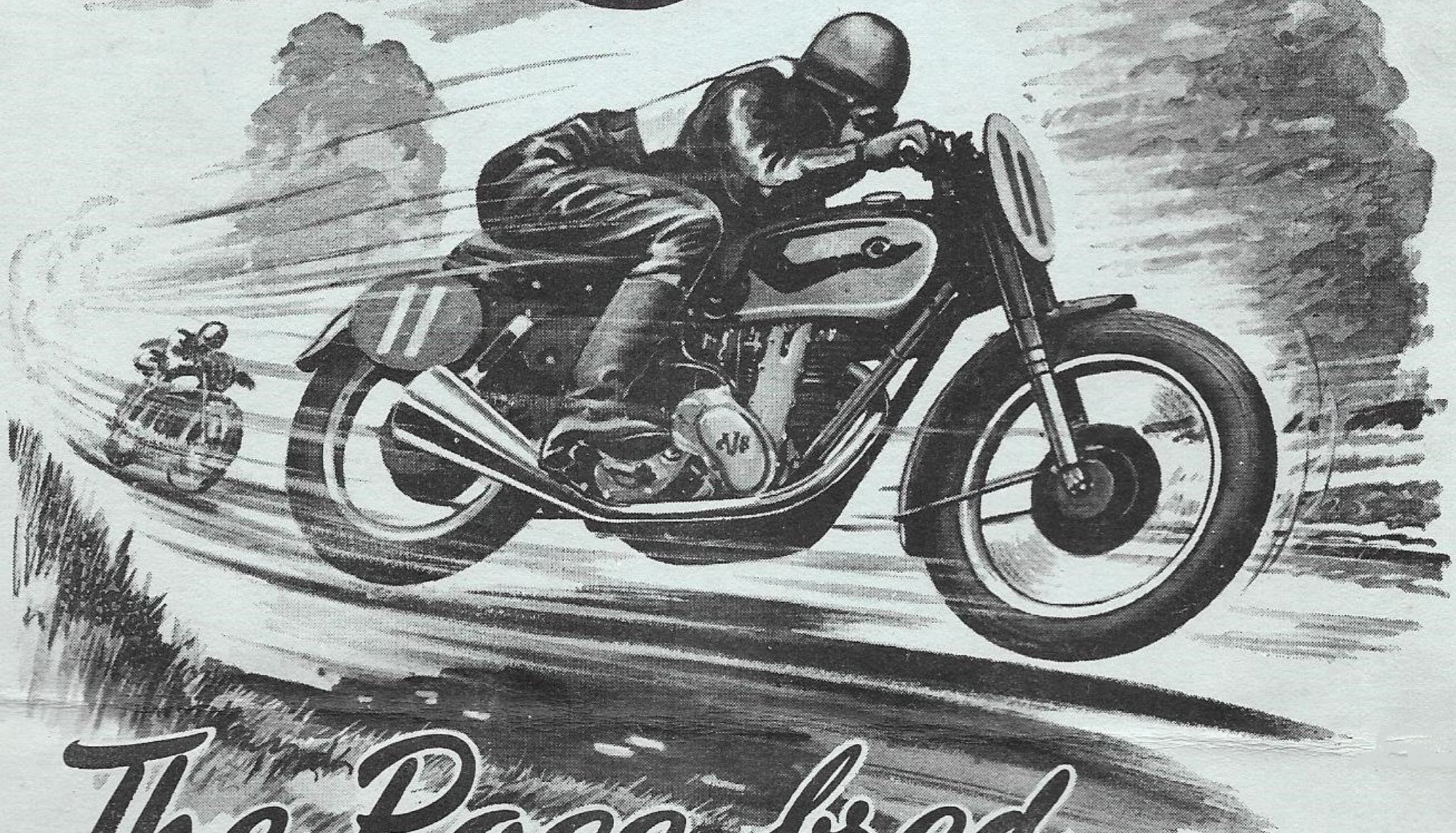
A·J·S



The Race-bred Motor Cycle

A·J·S MOTOR CYCLES • PLUMSTEAD ROAD • LONDON, S.E.18

MODEL 49/7R

PRELIMINARY INSTRUCTIONS

This machine has an entirely new chain-driven Overhead Camshaft Engine.

E N G I N E:
Bore 74 m.m. Stroke 81 m.m. Displacement 348 c.c.
Standard Compression Ratio 8.45 to 1.

Carburettor
Amal 10 T.T. type. $1\frac{1}{8}$" bore V3U choke.
No.109 needle jet. No.440 main jet.
Remote float chamber.
Set at Sea level in dry atmosphere.

Sparking Plug
Lodge R.L.49 - short circuit.
Lodge R.L.51 - fast circuit.

Magneto
Lucas Racing type N.T.T.I.
Ignition advance 40° B.T.D.C.

Valve timing
Inlet opens 62° B.T.D.C. Closes 64° A.B.D.C.
Exhaust opens 63° B.B.D.C. Closes 40° A.T.D.C.
When timing, Tappet clearance Inlet .005 Exhaust .014
Racing Valve clearance cold Inlet .005 Exhaust .014

Approximate Fuel consumption
40/45 m.p.g. at 6800 r.p.m.
Fuel 72 Octane.
Oil consumption 500 m.p.g. approx.
Castor base racing oil.

Motor to be raced as near 6800 r.p.m. as possible.
Maximum r.p.m. for continuous running 7000.
In the interests of safety it is not recommended that the motor should exceed 7250 r.p.m. in the intermediate gears.

F R A M E
The Frame and suspension system has been specially developed for racing.

Front and Rear spring units are filled with mineral oil as follows:

Front Forks	.....	250 c.c's ($8\frac{3}{4}$ fluid ozs) oil each leg.
Rear suspension	...	45 c.c's (1-3/5 fluid ozs) oil each leg.
Recommended brands	..	Castrolite, Single Shell, Mobiloil "Arctic" Essolube 20. Motorine 'E'.

Tyre pressures

Front Dunlop ribbed racing tyre 21" x 3.00" - 21-lbs.
Rear Dunlop studded racing tyre 20" x 3.25" - 21-lbs.

G E A R R A T I O S

Standard gear ratios, 5.24, 5.95, 7.07, 10.14.
Standard sprockets, 21 tooth engine, 55 tooth rear wheel.
44 tooth clutch, 22 tooth gear box.

ALTERNATIVE GEAR RATIOS

Engine Sprocket.		Rear Wheel Sprocket.		Top Gear
22	.....	56	.....	5.08
21	.....	54	.....	5.14
22	.....	57	.....	5.18
21	.....	55	.....	5.24
21	.....	56	.....	5.33
20	.....	54	.....	5.40
21	.....	57	.....	5.43
20	.....	55	.....	5.50
20	.....	56	.....	5.60
19	.....	54	.....	5.68

GEAR BOX RATIOS:

Top	Third	Second	Bottom
1 to 1	1.136 to 1	1.35 to 1	1.936 to 1.

6.750 r.p.m. with top gear of 5.24 represents 100 m.p.h.

GEAR BOX

Correct amount of Lubricant - 1 Pint Summer Grade Mineral Oil.

WEIGHT AND TANK CAPACITIES:

Approximate weight (tanks empty) - 298 lbs or 135 kilos.
Fuel tank capacity ..... - 4 galls or 18.16 litres.
Oil tank not to have more than - 1 gall or 4.5 litres.

ALTERNATIVE HIGH COMPRESSION PISTONS

High compression piston for 50% Petrol - 50% Benzole.
Compression ratio 11 to 1. Part No.014526
Carburettor setting approximately as for "Pool" Petrol.

High compression piston for 75% Methanol - 25% Benzole.
Compression ratio 13.2 to 1 Part No.013484
Carburettor setting -
Needle jet 118/120 Main jet 600/650.
Needle position - third notch from top.

Magneto timing for Petrol/Benzole - 37°B.T.D.C.
Magneto timing for Methanol/Benzole - 35°B.T.D.C.

BRAKES

These are special A.J.S. double leading shoe brakes adjusted and ground before assembly to machine. Link rods between two brake levers on each hub are not to be adjusted except when relining brakes.

Important - The leading ends of the brake liners must be kept well "backed off" and this relief must be maintained at 1½" at all times. The rider must bear in mind that as the liners wear, so the relief becomes less.

The A.J.S. double-leading shoe brakes are exceedingly powerful and light in operation and care should be taken before employing the full braking which is available. The rider is strongly advised to learn the 'feel' of the brakes before taking part in serious racing.

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continued ..

MAINTENANCE - Continued:

3. Setting valve clearance after above operations and before tightening four centre cam box bolts:
Remove long narrow caps, held by 6 screws each, from cam box to permit entry of feelers between rockers and cams.

NOTE: It is only possible to adjust clearance when extended head cam box bolts are loose.

Loosen nut clamping edge of rocker spindle and rotate spindle by means of tommy bar across slots provided in end of spindle. This adjusts rocker clearance. Tighten clamping nut when clearance is correct, tighten cam box bolts and replace covers.

4. A damper is fitted to camshaft chain tension blade and consists of a rectangular steel block slotted to receive the edge of the blade and sliding in a slot in the chain-case casting. It is controlled by a cranked spring blade which retains it in the slot. Adjustment of the damping is by altering pressure of the spring blade which is controlled by screwing the upper retaining screw, which is slotted crosswise, in or out. Chain tensioner blade should take up slack in chain easily but not violently when released.

5. Before removing cylinder barrel from crankcase loosen two crankcase clamping bolts at base of cylinder also upper magneto clamping strap nut and afterwards the top rear crankcase bolt which also retains the strap. Cylinder will then slide out freely.

6. A very slight smear of graphite paste is desirable before assembling exhaust pipe nut, sparking plug and four centre cam box bolts. A liberal quantity should be used on splines and cam face of engine shaft shock absorber when assembling.

7. Apply grease gun to nipple on engine shaft shock absorber each time machine is run.

8. Should oil accumulate in crankcase after motor has been standing remove camshaft chaincover. This will expose the oil pumps, the upper of which is the delivery pump. Remove this and see that ball valve is clean and seating properly before replacing.

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