

**Notes**

For simplicity, only the first four-stroke model of each range has the valve timing written out in full, in other cases just the four values in degrees or otherwise are given. The order is always (1) inlet opens before tdc, (2) inlet closes after bdc, (3) exhaust opens before bdc, (4) exhaust closes after tdc. Where applicable, the clearances have been given to which the valves should be set before checking the timing. Carburetter settings given are those fitted as standard by the manufacturer. Individual models may run better with slightly different settings.

**30 (G11) 1956-58**

**Engine** Valve timing (set with 0.012in clearance), 24°, 65°, 63°, 25°, clearances 0.006in. cold. Lucas magneto and 60W dynamo, ignition timing 3/8 in btdc, contact breaker gap 0.012 in. Positive earth electrical system. Plug N5/B6ES, gap 0.020in.

**Carburetter:** Amal 376/78 (376/6 in 1956) main jet (without air filter), 280, 300 (1957) or 260 (1956) and (with air filter), 240, 220 (1957), or 250 (1956). Slide 3 1/4 (4 in 1956).

**Rear Chain:** 97 pitches (96 in 1956) 3/8 x 3/8 in.

**Brake linings:** 6 1/2 x 7/8 x 3/16 in. Front and rear.

**31 (G12) 1959-**

**Engine** Valve timing (set 0.012in. clearance) 24°, 65°, 63°, 25°. Clearances 0.006in. cold. Lucas RM15 alternator, coil ignition and positive earth system. Ignition timing 3/8 in btdc, contact breaker gap 0.015in. Plug N5/B6ES, gap 0.020in. De Luxe model has magneto and dynamo, contact-breaker gap 0.012in.

**Carburetter:** Amal 389/29, main jet 400, slide 389/3.

**Rear chain:** 97 pitches 3/8 x 3/8 in.

**Brake linings:** 6 1/2 x 7/8 x 3/16 in. Front and Rear.

**18 (G5) 1960-**

**Engine:** 72 x 85 mm = 348cc. Valve timing (set with 0.010 in. clearances) 40°, 75°, 70°, 40°, clearances nil warm. Wipac alternator and positive earth electrical system. Ignition timing 1/4 in. btdc fully advanced, contact-breaker gap 0.012 in. Plug N5/B6ES, gap 0.020in.

**Carburetter:** Amal 389/42, main jet 220.

**Rear Chain:** 125 pitches 1/2 x 0.305 in.

**Brake Linings:** 4 1/8 x 1 3/16 in. Front and rear. Brakes 6 in diameter.

**Frame:** Wheelbase 54 in., weight 340lb, top gear 6.2.

**Tyres:** 3.25 x 18 in. Front and Rear.

**20 (G9) 1955 -**

**Engine:** Valve timing (set with 0.012 in. clearance), 24°, 65°, 63°, 25°. Clearances 0.006 in. cold. Lucas alternator and coil ignition (1959) or Lucas magneto (1955-58, and 1959 de Luxe model). Ignition timing 3/8 in. btdc, contact breaker gap 0.015 in. (coil) or 0.012 in. (magneto). Positive earth electrical system all models. Plug N5/B6ES, gap 0.020 in.

**Carburetter:** Amal 376/209 (1959) main jet 220 (190 with air filter)

or 376/6 (1955-58) main jet 220 (1958) or 240 (1955-57 or 190 and 230 respectively with air filters. needle jet .1065.

**Rear Chain:** 97 pitches (1957-) or 96 pitches (1955-56) 3/8 x 3/8 in.

**Brake Linings** 6 1/2 x 7/8 x 3/16 in. Front and Rear.

**18S (G80) 1955-**

**Engine:** Valve timing (set with 0.016 in. clearance) 18°, 69°, 50°, 30°, clearances nil warm. Lucas alternator and coil ignition (1958-) or Lucas SR1 magneto (1955-57), ignition timing 1/2 in. (39°) btdc, contact breaker gap 0.012 in. (magneto) or 0.015 in. (coil). Plug gap 0.020in. Lucas E3N dynamo (1955-57) and positive earth all models.

**Carburetter:** Amal 389/1, main jet 260 (250 with air filter).

**Rear Chain:** 98 pitches 3/8 x 3/8 in.

**Brake Linings:** 6 1/2 x 7/8 x 3/16 in. Front and Rear.

**(G80) 1950-54**

**Engine:** Valve timing 32°, 63°, 65°, 30° (set with 0.016 in. clearance), clearances nil warm. ignition timing 1/2 in. btdc, contact breaker gap 0.012 in. Plugs (alloy head ) N5, gap 0.020 in. (Iron Head) L82/B7HS

**Carburetter:** Amal 89, main jet 180, 29/4 Slide Needle

**16MS (G3) 1955-**

**Engine:** Valve timing (set with 0.016 in. clearance) 36°, 51°, 50°, 30°, clearances nil warm. Lucas alternator and coil ignition (1958-) or Lucas SR1 magneto, ignition timing 1/2 in. (39°) btdc, contact braker gap 0.015 in. (coil) or 0.012 in. (magneto). Plug gap 0.020 in. Lucas E3N dynamo (1955-57), positive earth all models.

**Carburetter:** Amal 376/5, main jet 210 (220 in 1957) or 200 with air filter, slide 3 (1955-56) or 3 1/2 (1957-)

**Rear Chain:** 98 pitches 3/8 x 3/8 in.

**Brake Linings:** 6 1/2 x 7/8 x 3/16 in. Front and Rear.

**(G3) 1950-54**

As for model 18 (1950-54), carburetter main jet 150.

**(G2) 1959**

**Engine:** Valve timing (set with 0.010 in clearance) 40°, 75°, 70°, 40°, clearances nil warm. Wipac generator and coil ignition, ignition timing 1/4 in. (39°) btdc, contact breaker gap 0.012-0.015 in. plug gap 0.020 in. Positive earth electrical system.

**Carburetter:** Amal 376/99, main jet 180

**Rear Chain:** 125 pitches 1/2 x 0.305 in.

**Brake Linings:** 5 1/4 x 1 x 3/32 in. Front and Rear.

**CSR SPORTS MODELS (1957-)**

**Engine:** Valve timing (G9CSR, 20CSR, G12CSR, 31CSR) set with 0.006 in. clearance, 36°, 66°, 68°, 34°, (G11CSR, 30CSR as G11, 30) clearances 0.006 in. cold. Ignition timing 3/8 in. (35°) btdc, contact breaker gap 0.012 in. Lucas K2F magneto and E3L dynamo, positive earth. Plug gap 0.020 in.

**Carburetters:** As for respective roadsters

**Rear Chains:** 97 pitches 3/8 x 3/8 in. (1957 30 CSR, G11CSR 96

MAKE	A.J.S. (MATCHLESS)						
	31 CSR (G12 CSR)	31 (G12)	30 (G11)	20 (G9)	18 (G80)	16 (G3)	14 (G2)
MODEL YEARS	1959-	1959-	1956-58	1955-	1955-	1955-	1959-
ENGINE TYPE	ToAh	ToAh	ToAh	ToAh	soAh	soAh	soAh
BORE, STROKE (mm)	72 x 79.3	72 x 79.3	72 x 72.8	66 x 72.8	82.5 x 93	69 x 93	70 x 65
CAPACITY (cc)	646	646	592	498	498	347	248
OUTPUT (b.h.p. at r.p.m.)							
TOP GEAR	4.8	4.8	5.2	5.2	5	5.8	6.9
WHEELBASE (in)	55 1/2	55 1/2	55 1/2	55 1/2	55 1/2	55 1/2	53
WEIGHT (lb)	380	396	396	392	387	375	325
SUSPENSION	F	T	T	T	T	T	T
	R	TF	TF	TF	TF	TF	TF
BRAKES (in)	F	7	7	7	7	7	6
	R	7	7	7	7	7	6
TYRE SIZES (inches)	F	3.25 x 19	3.25 x 19	3.25 x 19	3.25 x 19	3.25 x 19	3.25 x 17
	R	3.50 x 19	3.50 x 19	3.50 x 19	3.50 x 19	3.25 x 19	3.25 x 17

ENGINE TYPE: 2—two-stroke. Ae—alloy engine. Ah—alloy head. C—overhead camshaft, E—electric starter.

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