

A PRACTICAL GUIDE COVERING OVER 20 MODELS

LIGHTWEIGHT AUTOCYCLES (M O P E D S)

F. W. MILLS

ROYAL NORD

N. S. U. • NORMAN • B. T. S.

HEINKEL • KREIDLER • ZUNDAPP
CYCLEMATE • MOSQUITO • MOBYLETTE

PHILLIPS • HERCULES • VINCENT

BOWN • R. S. I. • BERINI

VELOSOLEX

MOTOR CYCLE MAINTENANCE

Barnstormers.co.nz

AND REPAIR SERIES

TECHNICAL DATA

TECHNICAL DATA

(Compiled from information supplied by the various manufacturers.)

| | Achilles Lido | B.T.S. Credette |
|-----------------------------------|---------------------|---|
| Engine | Sachs 50 | ILO G.50 |
| | 47 c.c. | 49 c.c. |
| Bore and stroke, mm. | 1.496 × 1.653 | 38 × 43 |
| Compression ratio. | 6 to 1 | 6.5 to 1 |
| B.h.p. | 1.6 at 4,750 r.p.m. | 1.7 |
| Rebore sizes | — | — |
| Piston-ring gap | — | — |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Noris |
| Type | LM/UK | ELZJ 17/11/R |
| Contact-breaker gap | 0.3-0.4 mm. | 0.3-0.4 mm. |
| Generator output, watts | 17 | 17 |
| Headlamp bulb | 6 V. 15 W. | 6 V. 15/15 W. |
| Tail-lamp bulb | 6 V. 1.8 W. | 6 V. 1½ W. |
| Sparking-plug | Bosch 14/1/1 | Beru 240/14U28 |
| Sparking-plug gap, in. | 0.4-0.5 mm. | 0.016-0.020 |
| Ignition timing | 2-25 mm. B.T.D.C. | 0.1 B.T.D.C. |
| Carburetter: | | |
| Make | Bing | Pallas or Bing |
| Type | 1/12/22 | Pallas C12/118 or Bing 1/12/41 |
| Carburetter settings: | | |
| Needle jet | 210 | 215 (Bing) |
| Main jet | 56 | 56 (Bing); 52 (Pallas) |
| Silencer | Demountable | Box with separate baffle plates |
| Primary transmission | Chain | Chain |
| Ratio | 3.78 : 1 | 1 : 24 |
| Clutch. | Two-plate | Wet multi-plate |
| Gearbox | Two-speed | Two-speed |
| Gearbox ratio: | | |
| 1st | 2.78 : 1 | 13.8 : 1 |
| 2nd | 1.77 : 1 | 7 : 1 |
| Final gear ratio: | | |
| 1st | — | 29.7 : 1 (23 in. wheels); 32.1 : 1 (26 in. wheels); 15.1 : 1 (23 in. wheels); 16.3 : 1 (26 in. wheels) |
| 2nd | — | — |
| Secondary transmission | ½ × ⅜ in. chain | ⅜ × ½ in. chain |
| Petrol-oil ratio | 25 : 1 | 25 : 1 |
| Grade oil (engine) | SAE 80 | SAE 30 |
| Gearbox oil grade | SAE 80 | SAE 50 |
| Tyre size | 23 × 2.5 in. | 23 in. or 26 × 2 in. |
| Tyre pressure, lb./sq. in.: | | |
| Front | 28 | 28 |
| Rear | 44 | 30 |
| Total weight, lb. | 114 | 90 |
| Wheelbase | 47 in. | — |
| Overall width | 27 in. | 25 in. |
| Overall length | 69½ in. | 75 in. |
| Ground clearance | 6 in. | 6 in. |
| Fuel consumption, m.p.g. | 180-200 | 200 |
| Maximum speed, m.p.h. | 35 | 35 |
| Cruising speed, m.p.h. | 27 | 26 |

LIGHTWEIGHT AUTOCYCLES

| | Berini M.21 | Berini M.22 |
|-----------------------------------|---|--|
| Engine | Pluvier | Pluvier |
| | 48 | 48 |
| Bore and stroke, mm. | 40 × 38 | 40 × 38 |
| Compression ratio. | 6.5 : 1 | 6.5 : 1 |
| B.h.p. | 1.7 at 4,800 r.p.m. | 1.7 at 4,800 r.p.m. |
| Rebore sizes | — | — |
| Piston-ring gap | 2.8 mm. | 2.8 mm. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Bosch |
| Type | LM/UP. 1/115/8 R1 | LM/UP. 1/115/8 R1 |
| | 8 watts | 8 watts |
| Contact-breaker gap | 0.45 | 0.45 |
| Generator output, watts | 8 | 8 |
| Headlamp bulb | 6 V. 6 W. | 6 V. 6 W. |
| Tail-lamp bulb | 6 V. 1.8 W. | 6 V. 1.8 W. |
| Sparking-plug | KLG F/50 | KLG F/50 |
| Sparking-plug gap, in. | 0.40 | 0.40 |
| Ignition timing | 2 mm. B.T.D.C. | 2 mm. B.T.D.C. |
| Carburetter: | | |
| Make | Encarwi | Encarwi |
| Type | Single lever | Single lever |
| Carburetter settings: | | |
| Needle jet | — | — |
| Main jet | 58 (running in) 56 (normal) | 58 (running in) 56 (normal) |
| Silencer | Demountable | Demountable |
| Primary transmission | Gear | Gear |
| Ratio | 1 : 14.7 | 1 : 14.7 |
| Clutch. | Wet multi-plate | Wet multi-plate |
| Gearbox | None | None |
| Gearbox ratio: | | |
| 1st | — | — |
| 2nd | — | — |
| Final gear ratio: | | |
| 1st | — | — |
| 2nd | — | — |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. chain | $\frac{1}{2} \times \frac{1}{8}$ in. chain |
| Petrol-oil ratio | 25 : 1 | 25 : 1 |
| Grade oil (engine) | SAE 30 or 40 | SAE 30 or 40 |
| Gearbox oil grade | SAE 30 | SAE 30 |
| Tyre size | 23 × 2 in. | 23 × 2 in. |
| Tyre pressure, lb./sq. in.: | | |
| Front | 28 | 28 |
| Rear | 44 | 44 |
| Total weight, lb. | 92 | 96 |
| Wheelbase | 45½ in. | 45 in. |
| Overall width | 28 in. | 28 in. |
| Overall length | 68½ in. | 68½ in. |
| Ground clearance | 6½ in. | 6½ in. |
| Fuel consumption, m.p.g. | 180-200 | 180-200 |
| Maximum speed, m.p.h. | 35 | 35 |
| Cruising speed, m.p.h. | 25 | 27 |

TECHNICAL DATA

| | Bown 50 | Cyclemate |
|-----------------------------------|---|--|
| Engine | Sachs | Cyclemaster |
| Bore and stroke, mm. | 47 c.c. 38 × 42 | 32 c.c. 36 × 32 |
| Compression ratio | 6 — 1 | 6.2 — 1 |
| B.h.p. | 1.25 at 4,100 r.p.m. | 0.8 at 4,500 r.p.m. |
| Rebore sizes | | |
| Piston-ring gap | 0.006 in. | 0.006 in. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Wico-Pacy |
| Type | LM/URI/115/17R3 | — |
| Contact-breaker gap | 0.012 in. | 0.015 in. |
| Generator output, watts | 17 | 9 |
| Headlamp bulb | 6 V. 15 W. | 6 V. 6 W. |
| Tail-lamp bulb | 6 V. 2 W. | 6 V. 3 W. |
| Sparking-plug | KLG F70 | KLG CF50 |
| Sparking-plug gap, in. | 0.018 | 0.018 |
| Ignition timing | 2 to 2.5 mm. B.T.D.C. | $\frac{1}{8}$ in. B.T.D.C. |
| Carburetter : | | |
| Make | Bing | Bec |
| Type | 1/12/20 | A |
| Carburetter settings : | | |
| Main jet | 54 | 48 |
| Needle jet | 2.10 | — |
| Silencer | Detachable type | Box type |
| Primary transmission | Chain | Chain |
| Ratio | 3.7 to 1 | 3.25 to 1 |
| Clutch | Plate | Plate |
| Gearbox | Two-speed | Single-speed |
| Gearbox ratio : | | |
| 1st | 2.78 | — |
| 2nd | 1.62 | — |
| Final gear ratio : | | |
| 1st | 24.6 | 18.0 |
| 2nd | 15.7 | — |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. Chain | $\frac{1}{2} \times \frac{1}{8}$ in. Chain |
| Petrol-oil ratio | 25 to 1 | 25 to 1 |
| Grade oil (engine) | SAE 50 | SAE 30 |
| Gearbox oil grade | SAE 90 | SAE 140 |
| Tyre size | 23 × 2 in. | 26 × 2 in. |
| Tyre pressures, lb./sq. in. : | | |
| Front | 35 | 25 |
| Rear | 35 | 40 |
| Total weight, lb. | 88 | 84 |
| Wheelbase | 45 $\frac{1}{4}$ in. | 46 in. |
| Overall width | 26 in. | 24 in. |
| Overall length | 71 in. | 74 in. |
| Ground clearance | 4 $\frac{1}{2}$ in. | 4 $\frac{3}{4}$ in. |
| Fuel consumption, m.p.g. | 210 | 180 |
| Maximum speed, m.p.h. | 35 | 25 |
| Cruising speed, m.p.h. | 25-30 | 18-20 |

LIGHTWEIGHT AUTOCYCLES

| | Heinkel Perle | Hercules Her-Cu-Motor |
|-----------------------------------|--|--|
| Engine | Heinkel | JAP |
| Bore and stroke, mm. | 49 c.c. 39 × 41.8 | 49 c.c. 42 × 35.5 |
| Compression ratio | 6 to 1 | 6.5 to 1 |
| B.h.p. | 1.5 at 5,000 r.p.m. | 1.38 at 5,000 r.p.m. |
| Rebore sizes | None | — |
| Piston-ring gap | — | 0.005 in. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Miller |
| Type | W225/T11 | (BS9)HU10 |
| Contact-breaker gap | 0.015 in. | 0.018 in. |
| Generator output, watts | 17 | 9 |
| Headlamp bulb | 6 V. 15/15 W. | 6 V. 6 W. |
| Tail-lamp bulb | 6 V. 2 W. | 12 V. 2.2 W. |
| Sparking-plug | M14 | KLG F50 |
| Sparking-plug gap, in. | 0.018 | 0.020 |
| Ignition timing | 23-24° B.T.D.C. | 27-30° B.T.D.C. |
| Carburetter : | | |
| Make | Amal-Fischer | Amal |
| Type | 10DA-23 | 360/4 |
| Carburetter settings : | | |
| Main jet | 34 | 30 |
| Needle jet | 13-24 | 0745 |
| Silencer | Barrel type with baffles | Detachable type |
| Primary transmission | Gear | Shaft |
| Ratio | — | 1 to 1 |
| Clutch | Plate | Plate |
| Gearbox | Two-speed | Two-speed |
| Gearbox ratio : | | |
| 1st | 1.8 | 1.65 |
| 2nd | 1.15 | 1.0 |
| Final gear ratio : | | |
| 1st | 28.0 | 24.86 |
| 2nd | 15.0 | 15.07 |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. Chain | $\frac{1}{2} \times \frac{3}{16}$ in. Chain |
| Petrol-oil ratio | 25 to 1 | 20 to 1 |
| Grade oil (engine) | SAE 40/50 | SAE 30 |
| Gearbox oil grade | SAE 80 | SAE 30 |
| Tyre size | 23 × 2 in. | 23 × 2 in. |
| Tyre pressures, lb./sq. in. : | | |
| Front | 29 | 28 |
| Rear | 33 | 34 |
| Total weight, lb. | 70 | 88 |
| Wheelbase | 35 in. | 45 in. |
| Overall width | 28 in. | 25 in. |
| Overall length | 70 in. | 70½ in. |
| Ground clearance | 6 in. | 5½ in. |
| Fuel consumption, m.p.g. | 150 | 180 |
| Maximum speed, m.p.h. | 25 | 35 |
| Cruising speed, m.p.h. | 15 | 27 |

TECHNICAL DATA

| | Kreidler J.51/1 | Mobylette |
|-----------------------------------|--|----------------------------|
| Engine | Kreidler 49 c.c. | Motobecane 49 c.c. |
| Bore and stroke, mm. | 38 × 44 | 39 × 41.75 |
| Compression ratio | 6.25 to 1 | 6 to 1 |
| B.h.p. | 2 at 5,500 r.p.m. | — |
| Rebore sizes | — | — |
| Piston-ring gap | 0.008 in. | 0.006 in. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Siba | Novi |
| Type | — | 120 & 120U |
| Contact-breaker gap | 0.012–0.015 in. | 0.015 in. |
| Generator output, watts | 17 | 8 |
| Headlamp bulb | 6 v. 15/15 W. | 6 V. 1 A. |
| Tail-lamp bulb | 6 V. 2 W. | 12 V. 0.5 A. |
| Sparking-plug | Bosch W240T11 | Eyquem 118 |
| Sparking-plug gap, in. | 0.015–0.018 | 0.015 |
| Ignition timing | 28° B.T.D.C. | — |
| Carburetter : | | |
| Make | Pallas | Gurtner |
| Type | H10/101 | S-10-D |
| Carburetter settings : | | |
| Main jet | 57 | 19 |
| Needle jet | 8409 | — |
| Silencer | — | — |
| Primary transmission | Gear | V-Belt |
| Ratio | 4.166 to 1 | 3.22 to 1 |
| Clutch | — | Automatic on DL models |
| Gearbox | Two-speed | None |
| Gearbox ratio : | | |
| 1st | 5.86 | — |
| 2nd | 3.36 | — |
| Final gear ratio : | | |
| 1st | 24.4 | — |
| 2nd | 14 | — |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. Chain | 0.511 × 0.315 in. Chain |
| Petrol-oil ratio | 20 to 1 | 16 to 1 |
| Grade oil (engine) | SAE 40/50 | SAE 20 |
| Gearbox oil grade | { Summer SAE 20/30 { Winter SAE 10 | — |
| Tyre size | 23 × 2 in. | 600 × 50 mm. |
| Tyre pressures, lb./sq. in. : | | |
| Front | 30 | — |
| Rear | 40 | — |
| Total weight, lb. | 73 | 62 |
| Wheelbase | 1,190 mm. | 43 in. |
| Overall width | 600 mm. | 22 in. |
| Overall length | 1,810 mm. | 71 in. |
| Ground clearance | 125 mm. | 5 in. |
| Fuel consumption, m.p.g. | 190 | 200 |
| Maximum speed, m.p.h. | 29 | 28 |
| Cruising speed, m.p.h. | 25 | 20 |

LIGHTWEIGHT AUTOCYCLES

| | Centro | Mosquito |
|-----------------------------------|------------------------|--|
| Engine | HMW 50N | Mosquito |
| Bore and stroke, mm. | 49.9 c.c. 38 × 44 | 38.5 c.c. 35 × 40 |
| Compression ratio. | 6.5 : 1 | — |
| B.h.p. | 2.2 at 6,100 r.p.m. | — |
| Rebore sizes | — | + 20° (1st); + 30° (2nd); + 40° (3rd) |
| Piston-ring gap | — | 4° |
| Ignition system | — | Fly/Mag |
| Make | — | Mosquito |
| Type | — | Moving Magnet |
| Contact-breaker gap | — | 0.016 in. |
| Generator output, watts | 17 | None |
| Headlamp bulb | 6 V. 17 W. | — |
| Tail-lamp bulb | — | — |
| Sparking-plug | — | KLG F50 or F70 |
| Sparking-plug gap, in. | — | 0.020 |
| Ignition timing | — | 25° |
| Carburetter: | | |
| Make | — | Del Orto |
| Type | — | Single-lever |
| Carburetter settings: | | |
| Needle jet | — | Fixed |
| Main jet | — | 38-46 |
| Silencer | — | Centre baffle packed with fibre glass |
| Primary transmission | Chain | Roller chain |
| Ratio | — | 2 : 1 |
| Clutch. | — | Centrifugally-operated |
| Gearbox | Two-speed | None |
| Gearbox ratio: | | |
| 1st | 1 in 4 (Hill climbing) | — |
| 2nd | 1 in 4 (Hill climbing) | — |
| Final gear ratio: | | |
| 1st | — | — |
| 2nd | — | — |
| Secondary transmission | — | Direct roller contact |
| Petrol-oil ratio | — | 16 : 1 |
| Grade oil (engine) | — | SAE 30 |
| Gearbox oil grade | — | — |
| Tyre size | 23 × 2 in. | 26 × 1½ in. |
| Tyre pressure, lb./sq. in.: | | |
| Front | — | Inflate hard |
| Rear | — | Inflate hard |
| Total weight, lb. | — | 72-76 |
| Wheelbase | — | 46 in. |
| Overall width | — | 23 in. |
| Overall length | — | 73 in. |
| Ground clearance | — | 2½ in. |
| Fuel consumption, m.p.g. | 200 | 200 |
| Maximum speed, m.p.h. | — | 20-25 |
| Cruising speed, m.p.h. | — | 15-18 |

TECHNICAL DATA

| | Mosquito | Puch MS 50L |
|-----------------------------------|--|-----------------------------|
| Engine | Mosquito | Puch |
| | 49 c.c. | 49 c.c. |
| Bore and stroke, mm. | 40 × 39 | 38 × 43 |
| Compression ratio. | — | 1:6.5 |
| B.h.p. | — | — |
| Rebore sizes | + 20 (1st); + 30 (2nd); + 40 (3rd) | 1 mm. (1st); 2 mm. (2nd) |
| Piston-ring gap | 5° | — |
| Ignition system | Mag/Dynamo | Fly/Mag |
| Make | Mosquito | Bosch |
| Type | Moving Magnet | — |
| Contact-breaker gap | 0.014 or 0.018 in. | — |
| Generator output, watts | 17 W. | 15 W. |
| Head-lamp bulb | 6 V. 5 amp. | Bilux 15/15 W. |
| Tail-lamp bulb | 6 V. 0.04 amp. | 6 V. 2 W. |
| Sparking-plug | KLG F50 or F70 | Bosch/Champion |
| Sparking-plug gap, in. | 0.020 | — |
| Ignition timing | 27° 30' | 2.5 mm. (advance) |
| Carburetter: | | |
| Make | Del Orto | Bing |
| Type | Single lever | — |
| Carburetter settings: | | |
| Needle jet | Fixed | 2nd notch from top |
| Main jet | 48-52 | 62 |
| Silencer | Centre baffle packed with fibre glass | — |
| Primary transmission | Roller chain | Gear |
| Ratio | 2:1 | — |
| Clutch. | Centrifugally-operated | Multi-plate in oil bath |
| Gearbox | None | Two-Speed |
| Gearbox ratio: | | |
| 1st | — | 2.8:1 |
| 2nd | — | 1.44:1 |
| Final gear ratio: | | |
| 1st | — | 31.4:1 |
| 2nd | — | 16.1:1 |
| Secondary transmission | Direct roller chain | — |
| Petrol-oil ratio | 16:1 | 1:2.5 |
| Grade oil (engine) | SAE 30 | SAE 50 |
| Gearbox oil grade | — | SAE 40 or 50 |
| Tyre size | 26 × 1 $\frac{3}{8}$ in. | 23 × 2.25 in. |
| Tyre pressure, lb./sq. in.: | | |
| Front | Inflate hard | 25 |
| Rear | Inflate hard | 32 |
| Total weight, lb. | 76 | 86 |
| Wheelbase | 46 in. | 45 in. |
| Overall width | 23 in. | 24.6 in. |
| Overall length | 73 in. | 71.3 in. |
| Ground clearance | 2 $\frac{1}{2}$ in. | 5.5 in. |
| Fuel consumption, m.p.g. | 200 | 200 |
| Maximum speed, m.p.h. | 25 | 38 |
| Cruising speed, m.p.h. | 18-20 | 25 |

LIGHTWEIGHT AUTOCYCLES

| | Norman Nippy | N.S.U. Quickly |
|-----------------------------------|--|-------------------------|
| Engine | Sachs 50 | N.S.U. |
| | 47 c.c. | 49 c.c. |
| Bore and stroke, mm. | 38 × 42 | 40 × 39 |
| Compression ratio | 6 to 1 | 5.5 to 1 |
| B.h.p. | 1.6 at 4,100 r.p.m. | 1.4 |
| Rebore sizes | — | — |
| Piston-ring gap | 0.006 in. | — |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Bosch or Norris |
| Type | LM/UR1/115 | — |
| | 17R3 | |
| Contact-breaker gap | 0.012 in. | 0.012 in. |
| Generator output, watts | 17 | 17 |
| Headlamp bulb | 6 V. 15/15 W. | 6 V. 15/15 W. |
| Tail-lamp bulb | 6 V. 2 W. | 6 V. 2 W. |
| Sparking-plug | KLG F70 | Bosch W240T11 |
| Sparking-plug gap, in. | 0.018 | 0.020 |
| Ignition timing | 2 to 2.5 mm. B.T.D.C. | 24° B.T.D.C. |
| Carburetter : | | |
| Make | Bing | Bing |
| Type | 1/12/20 | 1/12/1 |
| Carburetter settings : | | |
| Main jet | No. 54 | 56 |
| Needle jet | 2.10 | 2.10 |
| Silencer | Burgess | Extractable- |
| | Absorption | baffle type |
| Primary transmission | Chain | Gear |
| Ratio | 3.7 to 1 | 5.33 to 1 |
| Clutch | Plate | Plate |
| Gearbox | Two-speed | Two-speed |
| Gearbox ratio : | | |
| 1st | 2.78 | 1.88 |
| 2nd | 1.77 | 1.0 |
| Final gear ratio : | | |
| 1st | 24.5 | 30.06 |
| 2nd | 15.6 | 15.99 |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. Chain | 12.7 × 4.9 mm. Chain |
| Petrol-oil ratio | 25 to 1 | 25 to 1 |
| Grade oil (engine) | SAE 50 | SAE 50 |
| Gearbox oil grade | SAE 90 | SAE 20/30 |
| Tyre size | 23 × 2 in. | 26 × 2 in. |
| Tyre pressures, lb./sq. in. : | | |
| Front | 25 | 22 |
| Rear | 37 | 26 |
| Total weight, lb. | 91 | 76 |
| Wheelbase | 46½ in. | 46 in. |
| Overall width | 23 in. | 25¼ in. |
| Overall length | 72 in. | 74½ in. |
| Ground clearance | 4¾ in. | 4½ in. |
| Fuel consumption, m.p.g. | 180 | 180 |
| Maximum speed, m.p.h. | 30 | 35 |
| Cruising speed, m.p.h. | 20-25 | 23 |

TECHNICAL DATA

| | Phillips Gadabout | Royal Nord |
|-----------------------------------|----------------------------|-------------------------|
| Engine | — | Royal Nord |
| Bore and stroke, mm. | 49 c.c. 40 × 39.5 | 49 c.c. 39 × 41.8 |
| Compression ratio | 6.8 to 1 | 7.5 to 1 |
| B.h.p. | 2.1 at 6,000 r.p.m. | 1.8 at 5,000 r.p.m. |
| Rebore sizes | — | 1st 39.45 2nd 39.95 |
| Piston-ring gap | 0.008 in. | 0.012 in. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Bosch | Bosch |
| Type | — | LM/UR/1-115/17LI |
| Contact-breaker gap | 0.015 in. | 0.016 in. |
| Generator output, watts | 17 | 17 |
| Headlamp bulb | 6 V. 15/15 W. | 6 V. 15/15 W. |
| Tail-lamp bulb | 6 V. 2 W. | 6 V. 0.15 A. |
| Sparking-plug | Bosch 14 mm. | KLG F70 |
| Sparking-plug gap, in. | 0.020 | 0.018 |
| Ignition timing | 3.2 mm. B.T.D.C. | 4 mm. B.T.D.C. |
| Carburetter : | | |
| Make | — | Bing |
| Type | — | — |
| Carburetter settings : | | |
| Main jet | 52 | 64 |
| Needle jet | — | — |
| Silencer | Full-length baffle type | Straight-through |
| Primary transmission | Gear | Chain |
| Ratio | — | — |
| Clutch | Two-disc | Plate |
| Gearbox | Two-speed | Two-speed |
| Gearbox ratio : | | |
| 1st | 2.78 | — |
| 2nd | 1.8 | — |
| Final gear ratio : | | |
| 1st | 22.6 | 22.0 |
| 2nd | 14.9 | 14.1 |
| Secondary transmission | Chain | ½ in. 7.75 mm. Chain |
| Petrol-oil ratio | 20 to 1 | 25 to 1 |
| Grade oil (engine) | SAE 20 | SAE 50 |
| Gearbox oil grade | — | SAE 70 |
| Tyre size | 23 × 2 in. | 600 × 50 mm. |
| Tyre pressures, lb./sq. in. : | | |
| Front | 27 | 14 |
| Rear | 40 | 28 |
| Total weight, lb. | 96 | 93 |
| Wheelbase | 44 in. | 44 in. |
| Overall width | 30 in. | 25 in. |
| Overall length | 70 in. | 70½ in. |
| Ground clearance | 7½ in. | 7¼ in. |
| Fuel consumption, m.p.g. | 180 | 180 |
| Maximum speed, m.p.h. | — | 30 |
| Cruising speed, m.p.h. | — | 28 |

LIGHTWEIGHT AUTOCYCLES

| | R.S.I. Motobloc | VeloSolex |
|-----------------------------------|--|--|
| Engine | Motobloc | VeloSolex |
| Bore and stroke, mm. | 49.9 c.c. 38 × 44 | 45 c.c. 38 × 40 |
| Compression ratio | 6.3 to 1 | 6.4 to 1 |
| B.h.p. | 1.8 at 4,000 r.p.m. | 0.4 |
| Rebore sizes | — | Not recommended |
| Piston-ring gap | — | 0.010 in. |
| Ignition system | Fly/Mag | Fly/Mag |
| Make | Coprema | SEV |
| Type | VM15 | Solex |
| Contact-breaker gap | — | Immaterial |
| Generator output, watts | — | — |
| Headlamp bulb | 6 V. 0.8 A. | 6 V. 1 A. |
| Tail-lamp bulb | 12 V. 1 A. | 6 V. 0.04 A. |
| Sparking-plug | AC44L | Champion L8 |
| Sparking-plug gap, in. | 0.016 | 0.018 |
| Ignition timing | — | 2 mm. B.T.D.C. |
| Carburetter : | | |
| Make | Gurtner | VeloSolex |
| Type | C12D | 7 Li and 6 Li |
| Carburetter settings : | | |
| Main jet | — | 7 Li 22 c.c. |
| Needle jet | — | 6 Li 28 c.c. |
| Silencer | — | VeloSolex |
| Primary transmission | 3 | — |
| Ratio | — | — |
| Clutch | Automatic | — |
| Gearbox | Single-speed | None |
| Gearbox ratio : | | |
| 1st | — | — |
| 2nd | — | — |
| Final gear ratio : | | |
| 1st | — | — |
| 2nd | — | 12 to 1 |
| Secondary transmission | $\frac{1}{2} \times \frac{3}{16}$ in. Chain | — |
| Petrol-oil ratio | 19 to 1 | 16 to 1 |
| Grade oil (engine) | SAE 30/40 | SAE 10 |
| Gearbox oil grade | — | — |
| Tyre size | 24 × 2 in. | 26 × 1 $\frac{3}{4}$ × 1 $\frac{1}{2}$ in. |
| Tyre pressures, lb./sq. in. : | | |
| Front | — | 28 |
| Rear | — | 28 |
| Total weight, lb. | 80 | 60 |
| Wheelbase | 46 in. | 43 in. |
| Overall width | — | 21 in. |
| Overall length | — | 71 $\frac{1}{2}$ in. |
| Ground clearance | 7 in. | 7 $\frac{1}{2}$ in. |
| Fuel consumption, m.p.g. | 180 | 300 |
| Maximum speed, m.p.h. | 30 | 20 |
| Cruising speed, m.p.h. | 20-25 | 16-18 |

TECHNICAL DATA

| | Vincent " Firefly " | Zundapp Combinette |
|-----------------------------------|--------------------------|------------------------------------|
| Engine | Vincent | Zundapp |
| | 49 c.c. | 50 c.c. |
| Bore and stroke, mm. | 39 × 42 | 39 × 41.8 |
| Compression ratio. | 5 : 1 | 6.5 : 1 |
| B.h.p. | 0.9 at 4,200 r.p.m. | 1.5 at 4,200 r.p.m. |
| Rebore sizes | +20° | — |
| Piston-ring gap | — | 0.024 in. |
| Ignition system | A.C. Gen. and Coil | Fly/Mag |
| Make | — | Norris |
| Type | — | — |
| Contact-breaker gap | 0.018 in. | 0.015 in. |
| Generator output, watts | — | 17 W. |
| Headlamp bulb | 6.6 V. | 6 V. 15 W. |
| Tail-lamp bulb | 6 V. 3 W. | 6 V. 3 W. |
| Sparking-plug | KLG | Bosch W175T1 or Beru 175/14 N2 |
| Sparking-plug gap, in. | 0.020 | 0.028 in. |
| Ignition timing | 4.2 mm. B.T.D.C. | 0.104 in. B.T.D.C. |
| Carburetter: | | |
| Make | Amal 308 | Bing 1/12/51 |
| Type | — | — |
| Carburetter settings: | | |
| Needle jet | — | 2.12 |
| Main jet | — | 54 |
| Silencer | — | — |
| Primary transmission | Roller chain | Gear |
| Ratio | — | 1.3, 72-1.5, 38 |
| Clutch. | — | Three plate dry |
| Gearbox | None | Two-speed |
| Gearbox ratio: | | |
| 1st | — | 1.3, 72-1.5, 38 |
| 2nd | — | — |
| Final gear ratio: | | |
| 1st | — | 1.22, 5 |
| 2nd | — | 1.15, 5 |
| Secondary transmission | Roller chain | Roller chain |
| Petrol-oil ratio | 16 : 1 | 26 : 1 |
| Grade oil (engine) | SAE 30 | SAE 30 |
| Gearbox oil grade | SAE 30 | SAE 30 (Winter) SAE 40 (Summer) |
| Tyre size | 26 × 1 $\frac{3}{8}$ in. | 23 × 2.25 |
| Tyre pressure, lb./sq. in.: | | |
| Front | — | 17 |
| Rear | 60 | 22 |
| Total weight, lb. | 72 | — |
| Wheelbase | 44 $\frac{3}{4}$ in. | 45 in. |
| Overall width | 22 in. | 24 in. |
| Overall length | — | 72 in. |
| Ground clearance | 4 $\frac{1}{2}$ in. | 5 |
| Fuel consumption, m.p.g. | 160 | 200 |
| Maximum speed, m.p.h. | 35 | 30 |
| Cruising speed, m.p.h. | 25-28 | 25 |