

<p><b>Alternator general characteristics.</b></p> <p>Type . . . . .</p> <p>Rated voltage . . . . .</p> <p>Cut-in speed at 12 V at 68° F (20° C) . . . . .</p> <p>Current output at 14 V to battery at 5000 r.p.m. and thermal rate . . . . .</p> <p>Max current output . . . . .</p> <p>Max speed { steady . . . . .           } peak for 15' . . . . .</p> <p>Field winding resistance at 68° F (20° C):</p> <p>— across the two slip rings . . . . .</p> <p>— across plug 67 and ground at 500 r.p.m. . . . .</p> <p>Rotation, drive side . . . . .</p>	<p>FIAT A 12 M 124/12/57</p> <p>12 V</p> <p>1080 ± 50 r.p.m.</p> <p>≥ 57 A</p> <p>70 A approx.</p> <p>13,000 r.p.m. 15,000 r.p.m.</p> <p>2.7 ± 0.05 Ohms</p> <p>2.8 ± <math>\frac{0.2}{0.1}</math> Ohms</p> <p>clockwise</p>
<p><b>Rectifier diode characteristics.</b></p> <p>Type . . . . . { SIEMENS                           } IRCI . . . . .</p> <p>Rated voltage . . . . .</p> <p>Permanent normal current . . . . .</p> <p>Max. inverse peak voltage . . . . .</p> <p>Max. normal current . . . . .</p>	<p>E 11 - E 12 4 AF 2</p> <p>12 V</p> <p>20 A, d.c.</p> <p>150 V</p> <p>25 A, d.c.</p>
<p><b>Voltage regulator test and adjustment.</b></p> <p>Type . . . . .</p> <p>Alternator speed for test and adjustment . . . . .</p> <p>Battery capacity . . . . .</p> <p>Current for thermal stabilization . . . . .</p> <p>Current for checking the 2nd stage . . . . .</p> <p>Regulating voltage for the 2nd stage . . . . .</p> <p>Current for checking the 1st stage . . . . .</p> <p>Regulating voltage for the 1st stage, lower than the voltage read for the 2nd stage by . . . . .</p> <p>Resistance between plug 15 and ground at 77° ± 18° F (25° ± 10° C) . . . . .</p> <p>Resistance between plug 15 and plug 67 with contacts open . . . . .</p> <p>Armature-to-core air gap . . . . .</p> <p>2nd stage contact gap . . . . .</p>	<p>RC 1/12</p> <p>5,000 r.p.m.</p> <p>40 to 50 Ah</p> <p>7 A</p> <p>7 to 10 A</p> <p>14.2 ± 0.3 V</p> <p>45 to 55 A</p> <p>0.2 to 0.7 V</p> <p>27.7 ± 2 Ohms</p> <p>3.75 ± 0.25 Ohms</p> <p>.059" ± .0028" (1.5 ± 0.07 mm)</p> <p>.018" ± .004" (0.45 ± 0.1 mm)</p>

<p>Type . . . . .</p> <p>Voltage . . . . .</p> <p>Nominal output . . . . .</p> <p>Direction of rotation, pinion side . . . . .</p> <p>No. of poles . . . . .</p> <p>Field winding . . . . .</p> <p>Engagement . . . . .</p> <p>Drive . . . . .</p> <p>Diameter inside pole shoes . . . . .</p> <p>Diameter of armature . . . . .</p>	<p>E 100-1.5/12 12 1.5 kW clockwise 4 compound free wheel electromagnetic 2.669" to 2.676" (67.80 to 67.97 mm) 2.632" to 2.634" (66.85 to 66.9 mm)</p>
<p><b>Data for bench test.</b></p> <p>— Running test (at 68° F - 20° C):</p> <p>    Current . . . . .</p> <p>    Speed . . . . .</p> <p>    Voltage . . . . .</p> <p>— Stall torque (at 68° F - 20° C):</p> <p>    Current . . . . .</p> <p>    Voltage . . . . .</p> <p>— No-load test (at 68° F - 20° C):</p> <p>    Current . . . . .</p> <p>    Voltage . . . . .</p> <p>    Speed . . . . .</p>	<p>300 A 1300 r.p.m. 9.3</p> <p>588 A 6.3</p> <p>20 A 12.3 4100 r.p.m.</p>
<p><b>Check on mechanical characteristics.</b></p> <p>— Brush pressure (unworn) . . . . .</p> <p>— End clearance, armature shaft . . . . .</p> <p>— Mica undercut depth . . . . .</p> <p>— Free wheel efficiency: static torque to rotate pinion slowly . . . . .</p>	<p>2.20 ± 0.22 lbs (1 ± 0.1 kg) .0028" to .0276" (0.07 to 0.7 mm) 0.04" (1 mm) ≤ 2.4 in.lbs (2.8 kgcm)</p>
<p><b>Solenoid.</b></p> <p>— Current draw . . . . .</p> <p>— Coil resistance at 68° F (20° C) . . . . .</p> <p>— Contact stroke . . . . .</p> <p>— Core stroke . . . . .</p>	<p>≤ 23 A 0.39 ± 0.02 Ohms .433" to .551" (11 to 14 mm) .551" to .630" (14 to 16 mm)</p>
<p><b>Lubrication.</b></p> <p>— Drive unit splines and shaft bushings . . . . .</p> <p>— Sleeve and disk . . . . .</p>	<p>FIAT VS 10 W oil (SAE 10 W) FIAT MR 3 grease</p>

<p><b>Ignition Distributor.</b></p> <p>Type . . . . .</p> <p>Static advance . . . . .</p> <p>Centrifugal advance . . . . .</p> <p>Contacts gap . . . . .</p> <p>Terminal-to-ground insulation at 500 V d.c. . . . .</p> <p>Condenser capacity at 50-100 Hz . . . . .</p> <p>Condenser insulation at 212° F (100° C) and at 100 V d.c. . . . .</p>	<p>MARELLI S 130 BX</p> <p>10°</p> <p>30° ± 2°</p> <p>.0145" to .0169" (0.37 to 0.43 mm)</p> <p>&gt; 10 MΩ</p> <p>0.20 to 0.25 μF</p> <p>≥ 1 MΩ/μF</p>	
<p><b>Ignition Coil.</b></p> <p>Type . . . . .</p> <p>Primary winding ohmic resistance at 68° F (20° C) . . . . .</p> <p>Secondary winding ohmic resistance at 68° F (20° C) . . . . .</p> <p>Resistance of resistor . . . . .</p> <p>Ground insulation at 500 V d.c. . . . .</p>	<p>MARELLI</p> <p>BZR 202 A</p> <p>1.64 to 1.76 Ohms</p> <p>7650 to 9350 Ohms</p> <p>0.75 to 0.85 Ohms</p> <p>≥ 50 MΩ</p>	<p>MARTINETTI</p> <p>G 37 SU</p> <p>2.6 to 2.95 Ohms</p> <p>7000 to 8500 Ohms</p> <p>—</p> <p>≥ 50 MΩ</p>
<p><b>Spark Plugs.</b></p> <p>Type . . . . .</p> <p>Thread diam. and pitch, metric . . . . .</p> <p>Gap . . . . .</p>	<p>MARELLI</p> <p>CW 240 LP</p> <p>M 14 x 1.25</p> <p>0.020" to 0.024" (0.5 to 0.6 mm)</p>	<p>CHAMPION</p> <p>N 9Y</p> <p>M 14 x 1.25</p> <p>0.020" to 0.024" (0.5 to 0.6 mm)</p>

# FIAT 130

## ELECTRICAL SYSTEM LIGHTING EQUIPMENT

### TABLE IV-4

<b>Headlamps (dual installation)</b> . . . . . Iodine bulb: — high beam . . . . . — low beam . . . . . Aiming . . . . .	four  55 W 55 W see Table IV-a
<b>Front parking and direction signal lamps</b> . . . . . Bulbs . . . . . — parking . . . . . — direction signal . . . . .	two four 5 W 21 W
<b>Side direction signal lamps</b> . . . . . Bulbs (two) . . . . .	two 4 W
<b>Rear parking, direction signal and stop lamps (with reflector lens)</b> . . . . . Single-filament bulb . . . . . — direction signal . . . . . Double-filament bulb . . . . . — parking . . . . . — stop . . . . .	two four 21 W four 5 W 21 W
<b>Rear license plate lamp</b> . . . . . — bulbs (two) . . . . .	one 5 W
<b>Back-up lamp</b> . . . . . — bulb . . . . .	one 21 W
<b>Outer lighting (and parking light) control</b> . . . . .	master switch on steering column
<b>Headlight shifting</b> . . . . .	selector switch on left side under steering wheel
Door open warning light (four bulbs) . . . . . Rear interior light (two bulbs) . . . . . Engine compartment light (two bulbs) . . . . . Trunk compartment light . . . . . Glove compartment light with button switch . . . . . Front dome light (two bulbs) . . . . . Instrument light (five bulbs) . . . . . Cigar lighter spot light . . . . . Gear indicator (automatic transmission only) . . . . . Fuel reserve supply indicator . . . . . Low oil pressure indicator . . . . . No-charge indicator . . . . . Parking light indicator . . . . . High beam indicator . . . . . Direction signal repeater light (two bulbs) . . . . . Service brake failure and parking brake « on » warning light . . . . . Choke « on » warning light . . . . . Electric fan « on » warning light . . . . . Rear window demister « on » warning light . . . . .	4 W 4 W 5 W 5 W 4 W 5 W 3 W 4 W 4 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W 3 W

# FIAT 130

## ELECTRICAL SYSTEM INSTRUMENTS

### TABLE IV-5

<p>Speedometer, with odometer. . . . .</p> <p>Clock . . . . .</p> <p>Tachometer . . . . .</p> <p>Water temperature gauge . . . . .</p> <p>Oil gauge with low oil pressure indicator . . . . .</p> <p>Fuel gauge with reserve supply indicator . . . . .</p> <p>No-charge indicator . . . . .</p> <p>Parking light indicator . . . . .</p> <p>High beam indicator . . . . .</p> <p>Direction signal repeater light (blinking), R. &amp; L. . . . .</p> <p>Warning light { blinking, parking brake « on » . . . . .</p> <p>                  { steady, service brake failure . . . . .</p> <p>Choke « on » warning light . . . . .</p> <p>Electric fan « on » warning light . . . . .</p> <p>Rear window demister « on » warning light . . . . .</p>	<p>trip and total</p> <p>electric</p> <p>electronic</p> <p>electric</p> <p>red light</p> <p>red light</p> <p>red light</p> <p>green light</p> <p>blue light</p> <p>green</p> <p>red</p> <p>yellow</p> <p>violet</p> <p>orange</p>
<p><b>Blinking direction signals.</b></p> <p>Number of cycles per minute of flasher unit with a nominal load of 67 W totally:</p> <p>— at a nominal voltage of 12 and at 68° F (20° C) . . . . .</p>	<p>85 ± 8</p>
<p><b>Windshield wiper unit . . . . .</b></p> <p>Operation . . . . .</p> <p>Control . . . . .</p> <p>Sweeps per minute . . . . .</p>	<p>cable-operated</p> <p>steady or at intervals</p> <p>lever situated on right side under steering wheel</p> <p>60 to 80</p>
<p><b>Windshield washer . . . . .</b></p> <p>Control . . . . .</p>	<p>actuated by electric pump</p> <p>lever situated on right side under steering wheel</p>

**FIAT  
130****ELECTRICAL SYSTEM  
FUSES****TABLE  
IV-6**

<b>FUSES</b> 10 eight-Amp. fuses 3 sixteen-Amp. fuses 3 twenty-five-Amp. fuses	<b>PROTECTED CIRCUITS</b>
<b>A (*)</b>	— Electric fuel pump, pump relay switch and relay switch field winding.
<b>B (*)</b>	— Voltage regulator. — Alternator field winding.
<b>C (*)</b>	— L. H. high beam. — High beam indicator.
<b>D (*)</b>	— R. H. high beam.
<b>E (*)</b>	— L. H. low beam.
<b>F (*)</b>	— R. H. low beam.
<b>G (*)</b>	— L. H. front parking light. — Parking light indicator. — R. H. rear parking light. — L. H. license plate light. — Cigar lighter spot light. — Back-up light. — Instrument lights.
<b>H (*)</b>	— R. H. front parking light. — L. H. rear parking light. — R. H. license plate light. — Trunk compartment light. — Engine compartment lights.
<b>I (*)</b> (16-Ampere)	— Rear window demister. — Rear window demister « on » warning light. — Rear window demister relay.
<b>L (*)</b> (25-Ampere)	— Cooling radiator fan motor. — Electric fan relay switch and relay switch field winding.
<b>M (*)</b> (25-Ampere)	— Electric window regulators (extra).

(\*) With ignition « on ».

# FIAT 130

## ELECTRICAL SYSTEM FUSES

### TABLE IV-7

<b>FUSES</b> 10 eight-Amp. fuses 3 sixteen-Amp. fuses 3 twenty-five-Amp. fuses	<b>PROTECTED CIRCUITS</b>
<b>N (*)</b> (25-Ampere)	— Electric window regulators (extra).
<b>O (*)</b> (16-Ampere)	— Direction signals and their repeater lights. — Stop lights. — Heater fan motor. — Heater fan « on » warning light. — Windshield wiper. — Windshield washer pump.
<b>P (*)</b>	— Tachometer. — Fuel gauge and reserve supply indicator. — Choke « on » warning light. — Oil gauge. — Low oil pressure indicator. — Temperature gauge. — Warning light: parking brake « on » (blinking) and service brake failure (steady). — Glove compartment light.
<b>Q</b>	— Interior lights. — Door open warning light: R. H. front and L. H. rear. — Clock.
<b>R</b> (16-Ampere)	— Dome light. — Door open warning light: L. H. front and R. H. rear. — Inspection lamp outlet. — Horns. — Cigar lighter.
<b>Unprotected circuits</b>	— Ignition, starting, generator, starting relay, battery charge relay and no-charge indicator. — Main power relay switch. — High beam relay switch and relay switch field winding.
(*) With ignition « on ».	