

Electrical System — Group 15/54/82

A. Starter

General

Designation	EED 0.8 / 12 R 30
Adjusting dimension for solenoid switch (see Fig. 15 — 2/2)	$a = 32.4 \pm 0.1$

Test Values

Voltage under load Volts	Current amp.	Speed rpm
9.5	160 — 180	1100 — 1250

Note: The test should be made with a well-charged 12 volt battery with a capacity of 135 Amp/h

B. Generator

General

Designation	Generator LJ / GEG 160/12 — 2500 R 8	
	Regulator RS / UA 160/12/15	
Minimum permissible diameter of commutator when reconditioned		31.5
Permissible run-out	of commutator 0.03	of armature core laminations 0.05
Springs for carbon brushes	Brush pressure 450—500 g	

Test Values

Generator LJ/GEG 160/12 — 2500 R 8				Regulator RS/UA 160/12/15	
Regulating voltage Volts	Cut-in speed rpm	Load at rated output watts	Speed rpm	Starting of regulator at rated output (given battery and load conditions) amp.	Return current amp.
engine idling without battery 13.8 — 14.8	2050	160	2560	17.5 — 20.5 cold 19.5 — 22.5 warm	2.5 — 7.5

Note: When the generator is tested, the brushes must be well run in. At normal operating speeds and rated load there must be no arcing of the commutator

C. Ignition Coil

Designation	TK 12 A 3
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Test Values

Spark length	14 mm	Primary current	1.3 amp.
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D. Distributor**General**

Designation	VJU 4 BR 14 m K
Contact gap	0.40 — 0.50
Angle of closure	48° — 52°
The angle of closure must not change by more than 3° over the whole speed range	
Contact pressure of contact breaker	400 — 500 g
Permissible end play of distributor shaft	0.1 — 0.2

Test Values

Angular distance	$90^{\circ} \pm 1^{\circ}$
Movement curve	see Job No. 15 — 23
Leakage test of vacuum control	A vacuum of 600 mm Hg must not fall off by more than 10% within 2 minutes
Continuous run test	15 minutes under standard operating conditions rated voltage 12 volts spark length 7 mm speed $n = 500$ rpm
Test at maximum speed (distributor speed)	Speed (of distributor) $n = 3000$ rpm spark length 7 mm
Test of starting output	Battery voltage 8 volts spark length 9 mm test period $\frac{1}{2}$ minute speed (of distributor) $n = 100$ rpm

E. Spark Plugs

General

Spark plugs without suppressors	Spark plugs with suppressors
Bosch W 175 T 7 "N" Beru 175/14 Lu ₃ Champion 730	Bosch W 175 RT 7 "N" Beru E 175/14 Lu ₃ Champion X 730
Electrode gap	
0.7 — 0.8	0.9 — 1.0

F. Battery

General

Voltage	12 volts	Capacity	55 Ah
Cell voltage		standard	2 — 2.2 volts
		minimum	1.8 volts
Acid level	10 mm above top edge of separators 15 mm above top edge of plates		
Charging current in amp.	initial charging	3.5 amp.	
	ordinary recharging	5.6 amp.	
	quick charging	40 amp.	
Acid temperature	standard	16 — 32° C	
	maximum	40° C	
	maximum (tropics)	50° C	

Acid Density and Specific Gravity

Acid density according to Baumé	Specific gravity	Condition
32° Bé	1.285	fully charged
27—25° Bé	1.23—1.21	semi-charged
18—14° Bé	1.14—1.11	discharged

(The density values are given for + 20° C)

Acid Density (Tropics)

Specific gravity at			Condition
20° C	40° C	60° C	
1.23	1.215	1.200	fully charged
1.16	1.148	1.136	semi-charged
1.09	1.080	1.070	discharged

G. Set of Bulbs

Use	Number	Wattage each	Remarks
Upper beam/lower beam	2	35/35	
Fog lights (optional)	2	35	
Parking beam	2	5	
License and trunk compartment lamps	2	5	tubular
Tail lamp	2	5	tubular
Stop lamp	2	15	tubular
Instrument and clock lamps	4	2	
Beam indicator	1	2	
Charge indicator	1	3	tubular
Choke control indicator	1	2	
Signal indicator	1	2	
Flash signal, front	2	15	
Flash signal, rear	2	15	tubular
Reversing lamp	1	15	tubular
Parking lamp right (front)	1	2	
Parking lamp right (rear)	1	2	tubular
Parking lamp left (front)	1	2	
Parking lamp left (rear)	1	2	tubular
Interior lighting	1	5	tubular