

Equipment and Test Data for Rotax Set on 1933 M.G. "Magna" and "Magnette" Cars

EQUIPMENT

Component.	Type.	Component.	Type.
Battery	2-STW.11E	Rear Indicator and Stop Lamp	K.633
Cutout, Fuse and Junction Box Unit	CJF.2	Side Lamps	1130 or 1140
Dynamo	DDS.14	Starter	M.35.AF
Head Lamps	LD.150.S	Starter Switch	ST.200
Horn and Dip Switch	17A	Stop Tail Lamp	40A
Horns	2-HF.317	Switchboard	FT.86
Indicator Switch	SDW.12.SCH.DA	Windscreen Wiper	CW.1
Junction Boxes	2-C30 and C32		

TEST DATA

Battery.—Two 6 volt units in series. Capacity: 63 amp. hrs. at 10 hr. rate. Plates per cell, 11; S.G. in service, 1.285 to 1.300 fully charged; 1.210 about half charged, and 1.150 or less fully discharged. Overall dimensions per unit; 8 $\frac{1}{2}$ in. x 6 $\frac{1}{2}$ in. x 10 $\frac{1}{2}$ in.

Cutout, Fuse, and Junction Box.—Combined unit housing fuses and cutout on one side and sundry terminals on the other. Fuses: dynamo shunt field, head lamps, side and tail lamps, and accessories. Fuse capacities: field fuse, 4.5 amps; others, 25 amps. Cut-in voltage: 14 dynamo volts. Cutout reverse current: 0-3 amps.

Dynamo.—Rotation: anticlockwise viewed from driving end. Field: 4 pole shunt wound with coils connected in series. Armature: wave wound. Brushes: two main set at 90° and one control. Regulation: third brush. Cutting-in speed: 1,150-1,250 r.p.m. at 14 dynamo volts (cold). Output setting: maximum output (cold), 9.5 amps at 2,100-2,200 dynamo r.p.m. and 14 dynamo volts.

Head Lamps.—Bulb holders can be moved backwards or forwards when clamping clip is slackened. Main control: by combined charging and lighting switch in switchboard. Antidazzle control by "dip switch" located on steering wheel; switch controls off side head lamp only.

Horns.—Sound together on depression of switch located in centre of steering wheel.

Indicator Switch.—Operates rear direction indicator lamps and brings indicator pilot lamp into circuit as tell-tale.

Junction Boxes.—All insulated contacts.

Rear Indicator and Stop Lamp.—Combined unit. Bulbs: indicators, four 6 volt in pairs connected in series; stop, one 12 volt—B.A.S. 10S.

Side Lamps.—Bulbs: B.A.S. 10S.

Starter.—Rotation: clockwise viewed from driving end. Field: 4 pole series wound with two paths in parallel. Armature: wave wound; 21 straight slots; 21 commutator bars. Brushes: four set at 90°. Brush tension: 22-27 oz. Lock torque: 9.5-10.5 lbs. ft. at 250 amps and 5 volts. No load: 55 amps at 11-11.5 volts at approximately 10,000 r.p.m.

Starter Switch.—Solenoid type with three terminals. Terminal B+ common for both starting and charging circuits.

Stop Tail Lamp.—Used on Model "K" Tourer. Bulbs: two B.A.S. 10S.

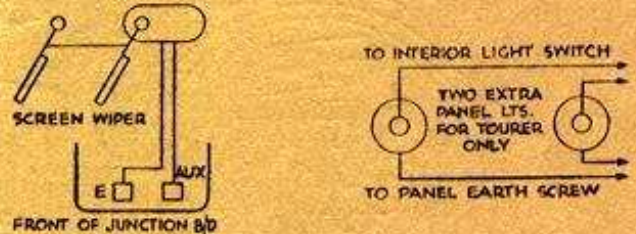
Switchboard.—Houses centre zero scale ammeter, ignition switch, two panel lights and switch, and starter solenoid switch operating switch. Panel bulbs: B.A.S. 10S.

Windscreen Wiper.—Dual arm type. Wiring: across "aux." and "E" terminals of cutout, fuse and junction box unit.

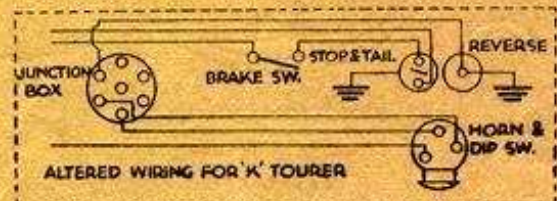
N.B.—1. All units follow standard Rotax design.
2. Connections and rotation of machines in D309 as seen from commutator ends. Change of rotation connections shown below.

3. For mechanical service and test data for 1933/34 M.G. Magna, Series L cars, see *Motor Commerce* for December 1933, or apply to AUTOMOBILE ELECTRICITY for Equipment and Test Data Sheet No. 18.

4. Screen wiper connections and extra panel light connections as used on "Tourer" shown below.



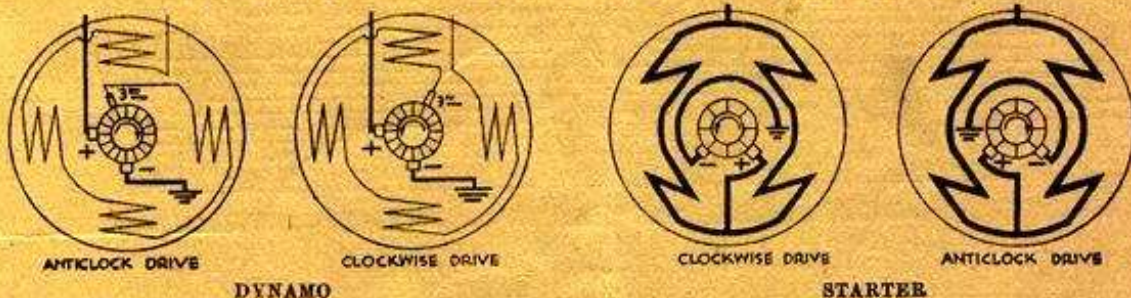
5. Special wiring of stop and combined horn and dip switch on "K" type "Tourer" shown below.



6. Circuits on D309 as follows:—

- V1. Dynamo shunt field circuit.
- V2. Cutout shunt or voltage coil circuit.
- V3. Charging circuit.
- V4. Main discharge via ammeter, where circuit divides into two parallel paths, 4A and 4B.
Path 4A divides at ignition switch into two further paths, 4C and 4D; 4C includes panel lights and switch, and 4D starter solenoid push where further division takes place as per 4E and 4F; 4E includes Petrolift and 4F junction box C32 and the solenoid winding of the starter switch. Hence with ignition "on" paths 4A to 4F are made available as soon as the switches in their circuits are closed.
Path 4B divides at the lighting and charging switch into paths 4G, 4H and 4I; 4G includes the side and tail lamps with fuse; 4H includes the head lamps with fuse where the near side head lamp is fed direct, but the off side via the "dip switch" and junction box C32; 4I includes the fuse "aux." and then divides into four circuits, 4J feeding reverse light switch and dividing thereat into circuits 4K and 4L, feeding reverse lamp via junction box C32, and interior lights via their switch respectively; 4M feeding the rear indicator and pilot lamp via junction box C30, and indicator switch where circuits 4M/O and 4M/N operate the off side and near side indicator lamps respectively; 4N feeding the off side horn via junction box C32 and the horn switch; and 4O feeding near side horn directly but including junction box C32 and the switch. The feed for the stop-light is taken from terminal 1G only when the ignition is "coil." When the ignition is "mag" the feed must be taken from terminal "aux." D309 is, therefore, incorrect in this respect.

Connections for Alternative Direction of Rotation of Dynamo and Starter



CABLE SIZES

Cable size is of the utmost importance when rewiring because cables of too small diameter mean excessive voltage-drop, while those of too large diameter mean a job of higher cost than necessary. Ripaults cables of all kinds are charted on a cable guide in such a manner that the correct cable for a particular job may be selected. The guide is available free of all charge on application to Ripaults Ltd., of King's Road, St. Pancras, London, N.W. [Advt.]