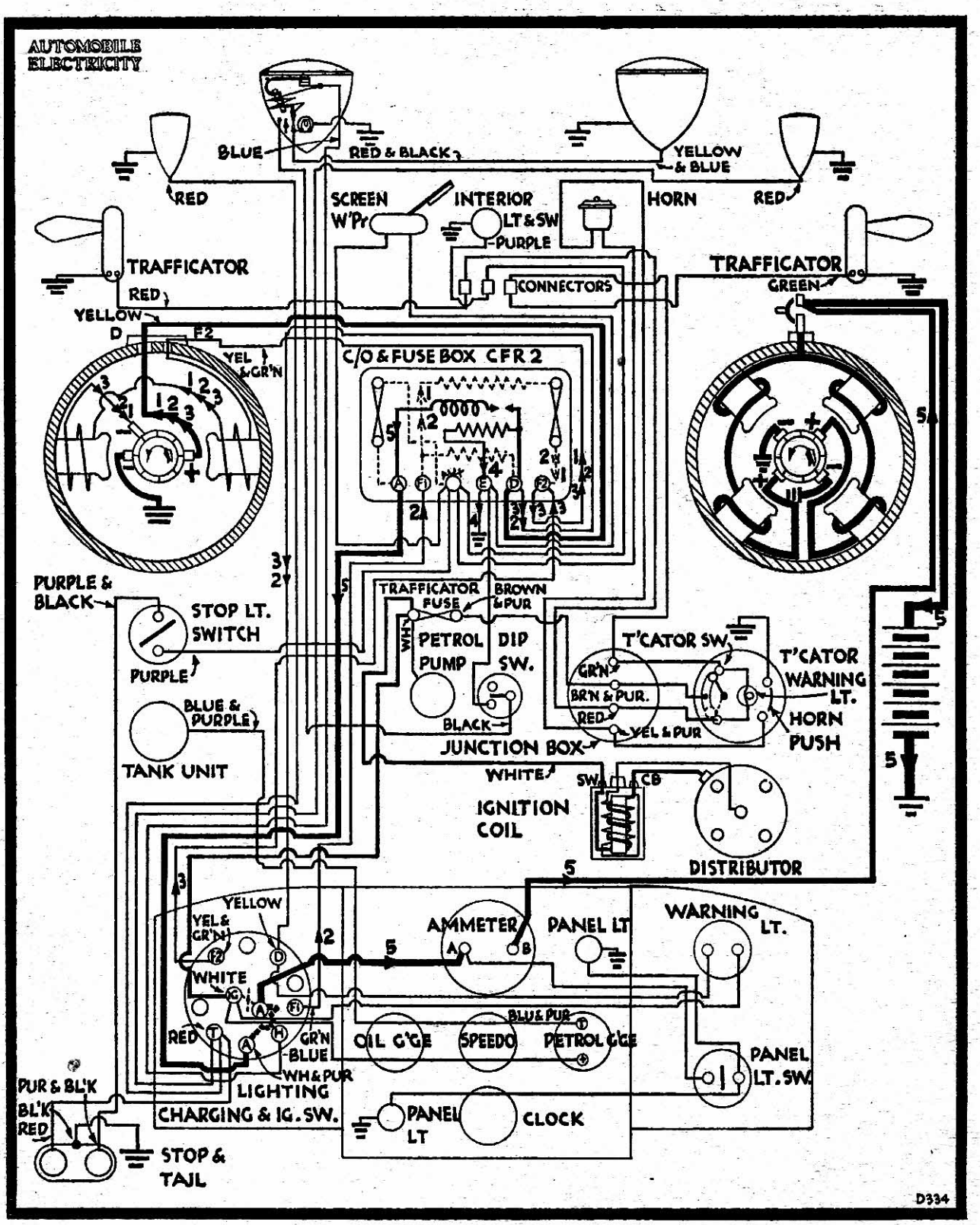
Automobile Electricity Wiring Diagram—D.334



1936 Morris 10 and 12

CABLES REQUIRED. Meeting all requirements in the way of high conductivity, flexibility, mechanical strength, insulation and finish, the Ripaults cables drafted below are in every way the most suitable for a service job on this set.

BATTERY TO STARTER.	Ripaults Braided No 436/3	HEAD LAMPS.	Ripaults "S" Type No. S2a76/1	STOP TAIL LAMP.	Ripaults "S" Type No. S276/1
COIL.	Ripaults "S" Type No S2a76/1	HIGH TENSION.	Ripaults "S" Type No. S266	TRAFFICATORS.	Ripaults "S" Type No. S276/1
DYNAMO.	Ripaults "S" Type No. S2a12/2	SIDE LAMPS.	Ripaults "S" Type No.S276/1		[4dw.

Equipment and Test Data for Lucas Sets on 1936 Morris Ten and Twelve Series 2

Equipment

Component.	Model No.	Type No.
Batteries	9TW11E.	—
Coil	Q12	L
Cutout and Fuse Unit	CFR2	L5
Distributor Head	DK4A-0	A84
Dynamo	C45NV-0	L
Head Lamps	LBD147EDS.	—
Horn	HF935	—

Component.	Model No.	Type No.
Junction Box	4 Terminal.	—
Lighting and Ignition Switch	PLC2	A84
Side Lamps	1130	—
Starter	M418A-3	A84
Stop Tail Lamp	8T38A.	—
Trafficators	8F34	—
Windscreen Wiper	CW.	—

Test Data

Battery.—Lead acid in two 6-volt units connected in series. Capacity: 50 amp hr. at 10 hr. rate. Plates per cell: 11. S.G. in service: 1·285 fully charged, 1·210 about half discharged and 1·150 or less fully discharged. Overall dimensions per unit: 8¾ in. × 6¾ in. × 7¼ in.

Coil.—Hermetically sealed type with secondary circuit completed via battery, ammeter, switch and primary. Stall current: 2·0 to 2·5 amps. Current at normal running speed: 1 amp approximately.

Cutout and Fuse Unit.—Combined unit embodied on bakelite moulding and comprising cutout, fuses, and sundry terminals; under side of moulding recessed for housing of dynamo field resistance and sundry strip connections for surface mounted units. Cutout: Cut-in voltage, 14 dynamo volts; reverse current, 0–8 amps. Fuses: Two. Dynamo field at 4·5 amps and accessories at 25 amps; replacements should always be same size as originals. Resistance: Provides "summer," "winter," and "night" charging rates through medium of lighting switch; extremities connected across terminal D and top or input side of field fuse on right; centre tap connected to terminal F1.

stributor Head.—Rotation: anti-clockwise viewed from driving end. Advance: Centrifugal; cutting in at 180–400 distributor r.p.m., and giving maximum advance at 11°–13° distributor at 1,500 distributor r.p.m. Contact setting: ·010 to ·012 in. Lubri- : Shaft by oiler; add one or two drops of thin machine oil every 1,000 miles; cam by the slightest smear of vaseline applied every 3,000 miles; breaker pivot by a spot of oil every 5,000 miles; centrifugal advance mechanism by lifting moulded rotor from top of spindle and adding a few drops of thin machine oil every 3,000 miles. N.B.—When effecting the latter it is not necessary to remove the screw exposed to view, as there is a clearance between the screw and the inner face of the spindle, through which the oil passes to lubricate the mechanism.

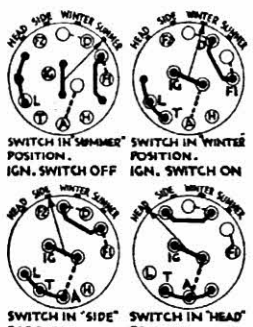
Dynamo.—Rotation: Clockwise as viewed from driving end. Regulation: By third brush supplemented by three rate charging resistance. Poles: 2. Armature: Wave wound with 14 skewed slots and 28 commutator bars. Brushes: Three, two main under tension of 23–31 oz. and set at 180° and one control under tension of 8–11 oz. Dynamo-Engine Ratio: 1½: 1; 1,000 engine r.p.m. = 15·5 m.p.h. Ventilation: By centrifugal fan integral with pulley at drive end and drawing air right through machine from inlet holes in commutator end plate. Cold Output Settings: "Summer," cutting-in speed 1,400 to 1,500 dynamo r.p.m. at 14 dynamo volts; output 7 amps at 3,100 to 3,300 dynamo r.p.m. at 14 dynamo volts. "Winter," cutting-in speed, 1,250 to 1,350 dynamo r.p.m. at 14 dynamo volts. Output: 9·5 amps at 2,800 to 3,000 dynamo r.p.m. at 15·5 dynamo volts. "Night," cutting-in speed, 1,050 to 1,150 dynamo r.p.m. at 14 dynamo volts. Output: 11·5 amps at 2,100 to 2,300 dynamo r.p.m. at 13 dynamo volts.

Head Lamps.—Near side fitted with electrically operated dip and switch reflector. Dipper unit: Solenoid type with two windings, high and low resistance, the latter for initial operation, and the former for hold-on and current economy; protected by 4·5 amp cartridge fuse. Bulbs: Lucas No. 54.

Horn.—High frequency type.

Instrument Panel.—Houses combined lighting, charging and ignition switch, centre zero ammeter, ignition warning discharge lamp, two panel lamps and switch and petrol gauge, together with clock, speedometer and oil gauge.

Lighting Switch: Four positions: "summer," giving all lights off but summer charge; "winter," giving all lights off but winter charge; "side," giving side and tail lights on and winter charge; and "head," giving all driving lights on and night charge; head lamps have further control through medium of dip-switch, which when closed causes dipper unit to function, and so dip near side lamp while blacking out off side lamp; in all positions ignition switch may be operated off or on. Ignition warning bulb: No. 252.M.E.S. Panel bulbs: Lucas No. 207. Petrol gauge: Brought into circuit by closure of ignition switch; in series with tank unit.



Side Lamps.—Bulbs: Lucas 207.

Starter.—Rotation: Clockwise as viewed from driving end. Pinion: 11 tooth inward meshing. Poles: 4, with series field winding in two parallel paths. Armature: Wave-wound with 37 slots and 37 commutator bars. Brushes: Four, set at 90° and under tension of 22–27 oz. No load: 30–40 amps at approximately 9,000 r.p.m. Lock torque: 15 to 16 lb./ft. at 480 amps at 6·9 starter volts.

Stop Tail Lamp.—Bulbs: Lucas 207.

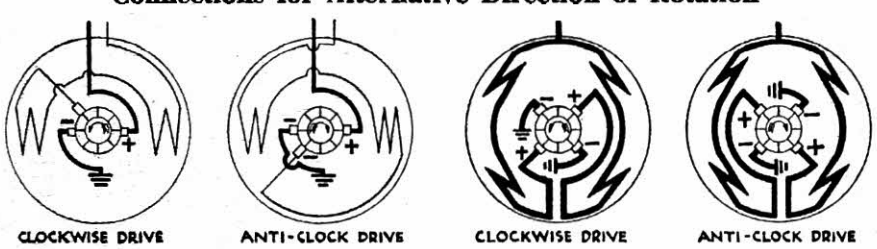
Trafficators.—Flush-fitting type. Bulbs: Lucas No. 256 (12 volt, 3 watt); fed from ignition switch through independent 25 amp fuse.

Windscreen Wiper.—Current draw: 1 amp (approx.). Fed from terminal AUX on cutout and fuse unit with earth to E terminal thereon.

N.B.—1. All units follow standard Lucas design.

2. Connections and rotations of machines on D334 as seen from commutator ends.
3. Connections for change of rotations shown below.
4. Circuits:
   - V1. Weak field for "summer" charge.
   - V2. Medium field for "winter" charge.
   - V3. Full strength field for "night" charge.
   - V4. Cutout shunt.
   - V5. Charging.
5. Field fuse in circuit only on summer and winter charge.
6. Negative battery earth.

Connections for Alternative Direction of Rotation



DYNAMO STARTER

Earth Return Constant Current Equipment. Being an earth return constant current system the battery to chassis frame connection should make for perfect and lasting contact under excessive road vibration, thus ensuring the minimum of voltage rise under conditions of high speed or maximum load. To effect such a connection use a Ripaults earthing strap. This is of plaited copper for flexibility, and heavily tinned for permanent chassis connection. *[Adv.*