

ROBERT BOSCH TERMINAL CODE SYSTEM

(BMW MOTORCYCLE APPLICATION)

<u>Terminal No.</u>	<u>Application</u>
1	Ignition - primary (contact breaker - coil)
2	Ignition switch - ground (magneto ignition)
15	Positive, primary (ignition coil)
30	Positive from battery
31	Negative (return to battery neg. or ground)
51	Positive to light switch
54	Brake stop light - directional signal light
56	Lights, speedometer
56a	High beam
56b	Low beam
57	Parking light
58	Lights (accessory, sidecar, rear)
61	Indicator charge light
D+	Positive - generator output (armature)
DF(F)	Generator field
B+	Battery (positive) on regulator

VOLTAGE SETTING

To check the generator output, disconnect the battery ground cable. Connect the voltmeter to 30/51 on the Twin (B₊ on the R 27) and to ground. Start the engine and rev to approximately 2,000 rpm. The voltage output without load should be

No Load: 7.2 - 7.9 volts

Turn on the headlight and stoplight, the reading should then be

Load (60W): 6.5 - 7.4 volts

Cut out relay setting: (reverse current relay) Connect the voltmeter to 61 and ground. Disconnect the battery wire at the generator terminal 30/51 and connect the ammeter (double reading) between this wire and terminal 30/51. Start the engine, slowly increase the rpm and observe both gauges. When the ammeter shows a positive movement, read the voltmeter. It should read between 6.4 - 7.1 volts. This is the cut in voltage.

Increase the rpm to approximately 2,000 rpm, then turn the throttle completely off. Observe the ammeter, it will go to zero and to negative (if necessary, reduce idling speed). When the reverse current attains a value of from 2 to 7.5 amps, the needle of the ammeter will kick back to zero. This is the cut out current.

TEST SPECIFICATIONS:

Cut in voltage: 6.4 - 7.1 volts

Reverse current: 2.0 - 7.5 amps

REGULATOR SETTINGS:

No load: 7.2 - 7.9 volts

Load (60W): 6.5 - 7.4 volts

Load current: 11.5 amps

Resistor "B" (mounted on generator): 3.0 - 3.5 ohms

If the generator does not perform within the above specified limits, you may adjust the regulator or reverse current relay by carefully bending the arm where it is riveted to its holding support.

MECHANICAL SETTINGS:

Cut-out relay (at standstill)

Air gap between armature and coil .024" - .048"

Air gap between contact points .016" - .039"

Voltage regulator

At standstill:

Air gap upper contact points .008" - .016"

Air gap coil to armature .032" - .048"

In operation:

Air gap coil to armature .008" minimum

TESTING OF GENERATOR (removed from motorcycle)

TEST ARMATURE ON A GROWLER

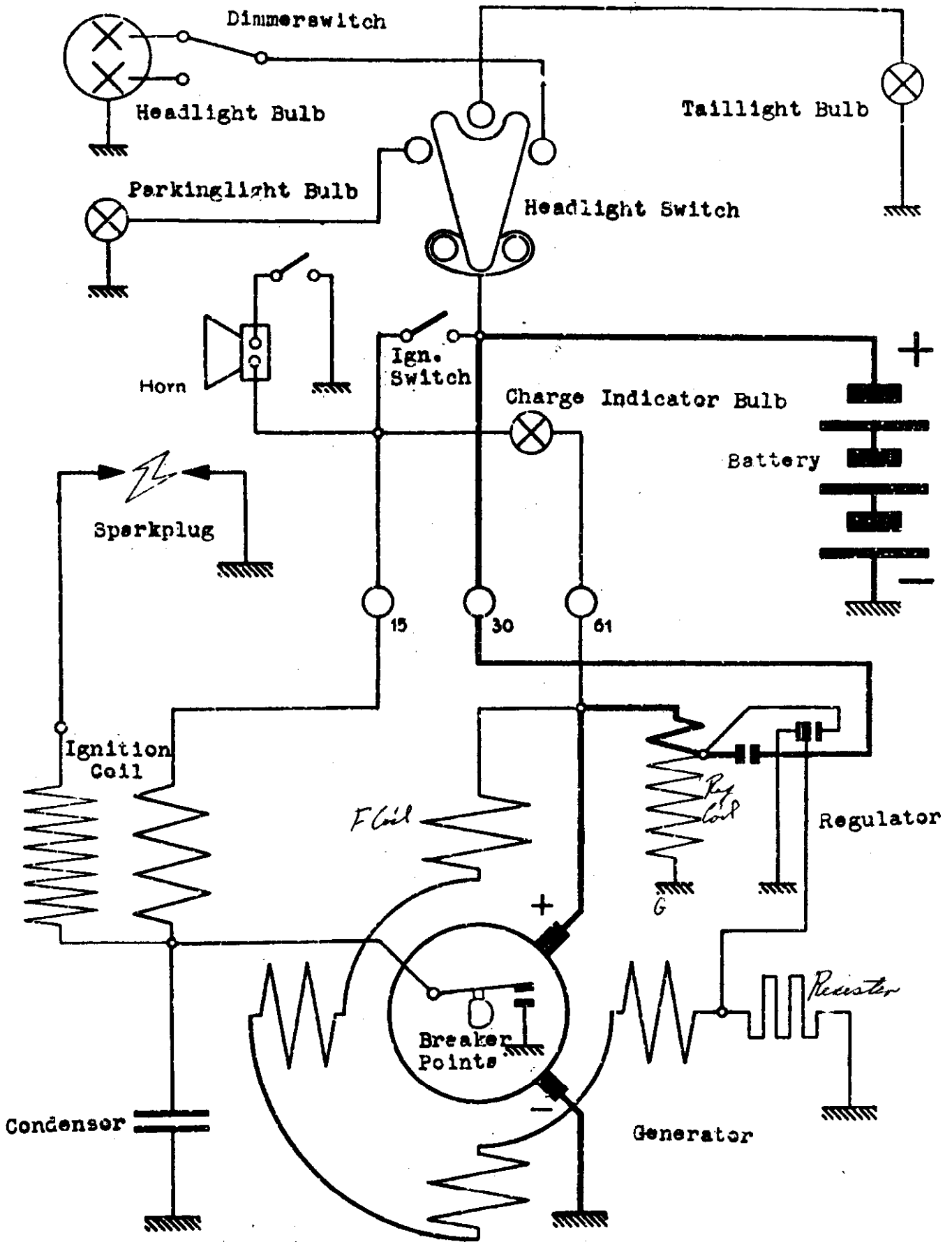
To test field coils: connect the ammeter to terminal No. 61 and to the positive pole of a 6-volt battery. Connect the negative pole of the battery to the field frame. The ammeter should then indicate 2.7 amps and a screw driver should be evenly attracted to each pole shoe (field core).

To test the resistor: press the regulator down, the resistor is O.K. if the ammeter recedes slightly during this test. The resistor is defective if the ammeter goes to zero.

Grounded coil is indicated if the ammeter shows substantially more than 2.7 amps.

Short circuit within a coil is indicated if the ammeter reads slightly more than 2.7 amps.

Open circuit in one of the field coils is indicated if the ammeter shows current only when the regulator is depressed (unless the resistor is also defective).



INNER WIRING DIAGRAM

Battery - Ignition System

Ignition Switch and Charge Indicator in Headlight