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BULLET ELECTRICS – 12v ACDC

In this article we show you how to check the battery charging and headlight circuits on the post June 1999 AC/DC export Bullets. These are identified by a 4-wire alternator, with the ignition switch on the casquette rather than the toolbox.

TOOLS NEEDED

A wiring diagram/workshop manual/service guide, a multimeter with both ac and dc volts scales, insulation tape, connectors and wire cutter/pliers, and a tin of 'contact cleaner'. Watching the Enfield India "Trouble Shooting Video" will greatly help those who find electrics a difficult subject.

All Bullets feature an ammeter to enable the rider to keep a check on battery charging, this should show a small charge at all loads at or above a fast tick-over.

If problems occur, then a methodical check starting either at the battery or alternator will be necessary to locate the fault. From the battery, check the connections, fuse, electrolyte levels, and earth lead. Now follow the wiring back, via the ammeter to the regulator/rectifier and on to the alternator. Pull all the connections apart, clean and replace ensuring a good, tight fit without damaged insulation or broken wires. If this fails to find the reason for the lack of charge then remove the seat to gain access to the wiring. Disconnect the two (violet) wires from the alternator either at the bullet connectors or the 4 block connector, and with your multimeter set on ac volts, check for output across these 2 violet wires. *(photo 1)* This should rise rapidly to over 30 volts at half revs. If this is ok, replace the wires, then test the output from the regulator / rectifier, across the black and red/yellow wire, but on the dc volts scale. This should be between 13 and 14.7 volts at the same revs. *(photo 2)*

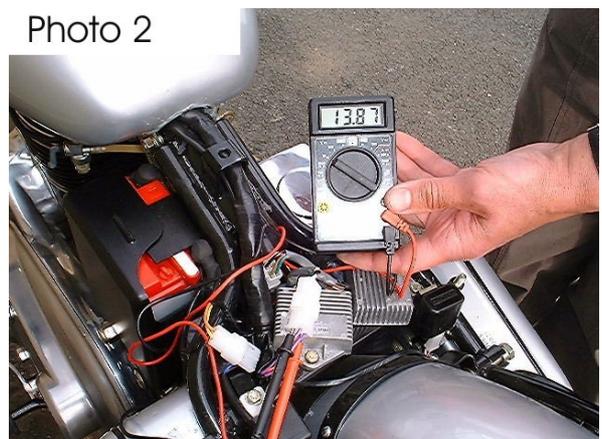
PHOTO 1



regulator / rectifier, across the black and red/yellow wire, but on the dc volts scale. This should be between 13 and 14.7 volts at the same revs. *(photo 2)*

If there is little or no output from the alternator, drain the oil and remove the outer chaincase cover. If the alternator has burnt out due to the rotor or stator becoming loose or wrongly fitted then

Photo 2



replacement is the only remedy. Be certain that there is an equal air gap between the rotor and all 6 alternator coils, before the 3 mounting nuts are fully tightened and that the chain cannot come into contact with the output wires.

The other possibility is overcharging due to a faulty regulator, this will be shown by a high charge rate on the ammeter, with a frequent need to top up your battery and blown bulbs.

On these machines the headlight is a separate circuit fed by the yellow and amber wires from the alternator via the small black ac regulator mounted under the seat. Naturally at very low revs the headlight will dim, but at all normal speeds the ac regulator will control the maximum voltage to approximately 13.4-14 volts with the correct bulb fitted. Check this in 2 places, with the multimeter across the yellow and amber wires in the 4 block connector at the small regulator under the seat. (*photo 3*) and at the bulb. (*photo 4*) Also check the alternator output which should show over 30 volts ac with the wires disconnected at the regulator. Blowing bulbs could be caused by a faulty regulator or poor earth.

Photo 3



Photo 4



Regular attention to the battery will prevent many problems and avoid poor lights or starting difficulties. Always top up with distilled water and keep the connections clean and tight.

Battery voltage should be over 12 volts, rising to over 14volts (*photo 5*) when being charged by the engine.

Earlier 12v Bullets (with a 3 wire alternator) and ignition switch mounted on the toolbox, and the alternator or mag/dyno equipped machines are covered in a different article.

Photo 5

