

Standby battery for dynamo lighting

An a.c. bicycle dynamo can be provided with standby battery power by using the circuit shown. The battery supplies current via Tr_3 which should have an h_{fe} of greater than 40 and ΔV_{CEsat} below 100mV at 0.5A collector current. The circuit is activated when the peak dynamo output falls below the battery voltage. The 100 μ F isolating capacitor, C_2/C_3 , provides power factor correction for the dynamo by cancelling its internal inductive reactance. The correction covers a large speed range because the internal inductance falls with increasing dynamo speed. This raises the typical output of a bicycle dynamo, around 4.5V r.m.s., to about 5.5V r.m.s. The optimum value of C_2/C_3 should be found by experimentation.

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