

## TWIN BEAM HEAD LIGHT

(WITH 24V HALOGEN LAMPS AND DC-DC CONVERTER)

### **INTRODUCTION:**

The Twin Beam Head light has been produced in Indian Railways by Railway Board/RDSO to achieve higher illumination at lower power and to eliminate dependency on non-standard 32V incandescent Head Light lamp. The 24V halogen lamps used in this system is an automotive industry standard with easier availability. The idea of twin beam is to have both lamps connected in parallel so that in the event of one lamp failure the other lamp keeps glowing.

The DC-DC converter used in this system is 72V DC to 24V DC, 500 W connected from the battery. Further, a complete standby unit is housed inside the same cabinet for necessary backup incase of any failure. (Operation by change over switch mounted in front of the DC-DC converter).

### **Replacement of damaged bulb:**

At long hood side head light, open the back lid from inside the Loco by opening the door lock. Identify the defective lamp. Pull out the wire loom by holding 3-way nylon connector, press the lamp holder a little inwards and rotate anti-clockwise. The spring loaded holder will pop out. Remove the old lamp.

Observe that there is a notch on the reflector body, and a small raised portion on the halogen bulb rim. Put back the old bulb 2/3 times to understand its matching.

If fitted in mis-matched position, the pre-focusing effect will get disturbed resulting in low lumen output and the dimmer light instead of pointing downwards will point anywhere.

After practicing with old bulb remove the new bulb from the box fitted on the back door by unscrewing one knurled lock nut by hand and fold the bulb retaining plate. Then pull out one new bulb and close the bulb retaining plates by screwing the knurled lock.

Connect back the wire loom.

Put a new bulb in the holder.