

TECHNICAL INSTRUCTION

TI 100
Issue 1
June 2008
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NETWORK RAIL - SIGNAL ENGINEERING Use of LED Long Range and Medium Range Signal Heads for Flashing Aspects

Relevant Standard: Typical Circuits T28330, T28333

Purpose of TI

The LED signal head has been designed as a like for like replacement of a conventional filament head. In most cases there is no need to alter the fixed wiring when installing this type of head, however if the signal is capable of displaying a flashing aspect then an alteration is required.

Scope

This instruction applies where a filament head is replaced by an LED head without prior design controlled from an SSI or relay installation.

Background

The flashing aspect circuits shown on typical circuits for filament lamps incorporate "dim" resistors which maintain a low current through the filament in the off cycle which reduces mechanical stressing.

An LED head typically includes electronic circuitry which means that it is able to provide a satisfactory output with lower voltages and hence if the "dim" resistor remains in circuit the degree of flash may be reduced or non-existent. When replacing a filament head with an LED head, it is therefore necessary to disconnect the "dim" resistor from the circuit.

Testing Regime

Disconnecting the "dim" resistor may be undertaken utilising the SMTH test plan attached to this instruction as an addition to the testing plan which is used for changing the filament head to an LED unit.

Modifications to SSI Installations

The wire from the FHGEO or FHHGEO to the fuse feeding the head should be removed and bombed, see diagram A.

Modifications to Relay Installations

The two wires should be removed from terminal L of the flasher unit and through crimped, see diagram B.

A suitable label must be attached adjacent to the through crimp stating "Wires disconnected from flasher in accordance with TI100".

Originator's Details:-

John Alexander

Network Rail

John.alexander3@networkrail.co.uk

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Records update

Where the change is not part of a project and a design is not produced, the site records shall be amended to show the changed wiring and arrangements made to update the master records. The project or maintenance organisation shall utilise the proforma on Page 3 to record each change and arrange for the master records to be updated in a timely manner.

Compliance Requirements

This instruction shall be complied with for all replacements of filament heads with LED heads where a flashing aspect is provided with immediate effect.

Action Required

All future replacements of signal heads shall comply with this instruction where design is not undertaken in advance. Area Signal Engineers shall review all signal heads replaced without design, identify those where a flashing aspect is provided and arrange for the circuits to be modified by 01/12/08.

Staff to be Briefed

Area Signalling Staff, Signal Designers and Signalling Project Engineers.

Diagram A – extract from T28333

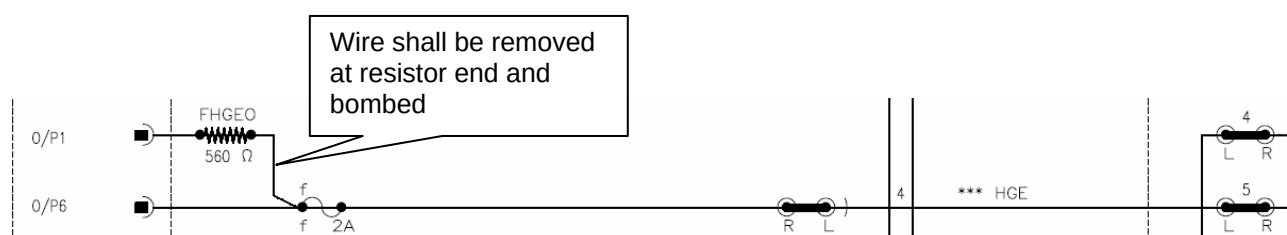
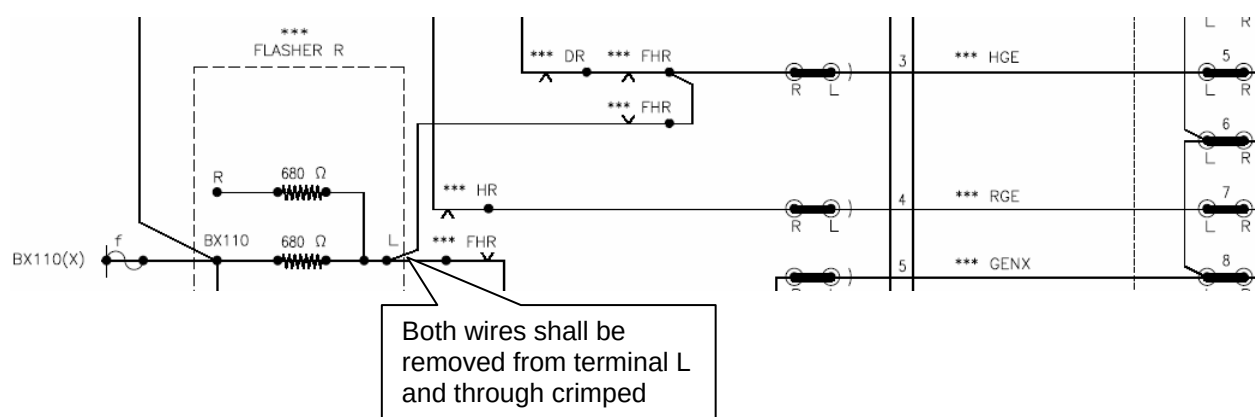


Diagram B – extract from T28330



(N.B. Examples show circuits for flashing yellow, similar changes required for double yellow and where flashing green is provided)