

Ref	NR/GN/SIG/19002
Issue	3
Date	June 2007

Guidance Note

WRSL – Style 63 Point Machine (SIGTAN002)

Endorsement & Authorisation

Endorsed by:



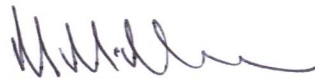
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Published & Issued by: Network Rail 40 Melton Street, London NW1 2EE



Ref:	NR/GN/SIG/19002
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Date:	June 2007

Issue record

Issue	Date	Comments
1	March 1995	First Issue
2	August 1998	Updated to include problems associated with sheared yoke bolts
3	June 2007	Major revision

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1 Purpose

This SIGTAN has been prepared to provide advice on significant problems associated with Westinghouse Signals Style 63 Point Machines.

2 Scope

This SIGTAN applies to Westinghouse Signals Style 63 Point Machines.

It does not address the general personnel and system safety measures necessary for working on the track with signalling equipment.

3 Reference documentation

[NR/SP/SIG/19253](#) Westinghouse Signals Style 63 Point Machine - (SIGWEN002)
[NR/SP/SIG/11231](#) Signal Maintenance Testing Handbook

4 Definitions

SIGTAN	Signalling Equipment Technical Advice Notice
SIGWEN	Signalling Equipment Workshop Engineering Notice

5 On-Site Replacement of Circuit Controllers

The information contained in this section treats the circuit controller as a complete sub-assembly and does not address the further measures necessary to partially/fully strip down and rebuild such controllers. The latter work is considered to require workshop craft training and a workshop environment and is therefore not an activity to be undertaken by first line maintenance/faulting personnel.

5.1 Ordering Details for Replacement Circuit Controllers

Early machines were supplied with a fabricated plastic circuit controller in which the motor cut-off contacts were rotary segments and springs similar to the snubbing contacts. Later versions comprised a steel frame with quick-acting motor cut-off contacts. The steel framed quick-acting controller is the only version currently supplied.

88/027403 -Controller, Circuit complete with quick acting motor contacts (including two new grey pushrods).

The servicing of circuit controllers is carried out in a specialist workshop environment. Although the circuit controller is adjusted as far as practical in the workshop prior to delivery, further on-site adjustments or checks as detailed in this document will be required as part of the replacement process. Only the adjustments detailed in this document can be carried out on-site.

Circuit Controllers supplied ex-works after September 2006, come complete with the following:

- Two new locking plates to secure the four bolts holding the circuit controller in the machine. Locking plates for earlier supplied controllers are available as under:
88/025364 - Locking Plates for Style 63 Circuit Controller.
- Two new grey pushrods.
- A Workshop Test Certificate certifying that the circuit controller contacts have been set and checked in accordance with this document.
- A copy of this document.

5.2 Pushrod Differences

Between 1992 and late 1994, reduced size "red pushrods" were fitted to new and serviced machines. From late 1994, standard sized "dark grey pushrods" were reintroduced on all new/serviced machines. The pushrods are manufactured from square section material and, apart from their colour, can be identified from their dimensions.

Red Pushrods Depth & width - range 0.340" to 0.345" (8.64mm to 8.76mm)

Dark Grey Pushrods Depth & width - range 0.372" to 0.375" (9.45mm to 9.52mm)

The effect of using red pushrods, which were introduced to overcome other perceived problems, was to make the achievement and maintenance of a 2mm open detection contact gap much more difficult. The larger dark grey pushrod has been reintroduced to ease that problem - the achievement and maintenance of the 2mm open detection contact gap is mandatory. Red pushrods may remain in service **provided** that the 2mm minimum contact openings stipulated in this document are maintained. If the circuit controller is changed new grey push rods will be supplied.

The earlier sticking pushrod problem which prompted the introduction of red pushrods is now to be eliminated by careful attention to pushrod alignment into the circuit controller (refer to section 5.7.7 of this document for further details).

5.3 Staff Training

Staff authorised to undertake this work must have been trained and assessed in the particular procedures.

5.4 Tools

The following special tools are necessary to set and check circuit controller contacts and are available as follows:-

88/027176	-	Kit, Tool, Complete Westinghouse Part No. C13946/5
88/027177	-	Gauge, Detection Setting, (2.0mm), BRS-SM 2499/1.
88/027178	-	Gauge, Detection Setting, (3.5mm) BRS-SM 2499/2.
88/027179	-	Gauge, Detection Setting, (5.0mm) BRS-SM 2499/3.
86/032015		2.0mm L shaped gauge J13523/2
88/027167		1.0mm Metal gauge J12129/1

5.5 Preliminary Work

Before commencing the operation, the point machine must be electrically isolated by removal of both the motor drive and detection fuses - **simple insertion of the crank handle is not acceptable.**

5.6 Removal of Old Circuit Controller

5.6.1

Manually operate the machine to an approximate mid-stroke position so as to minimise the risk of damage to the quick-acting contact latches as the controller is removed from the machine.

5.6.2

Disconnect all wiring from the circuit controller, checking that each conductor is identifiable, such that when removed, it can be easily replaced on the correct terminal. If the wiring is not identifiable, each conductor must be marked/identified as it is removed.

5.6.3

Unlock the two locking plates and remove the four bolts securing the circuit controller into the machine. Lift the circuit controller clear of the machine.

5.6.4

Withdraw the two detector pushrods from the circuit controller and package with the old circuit controller.

5.6.5

The faulty controller and detector pushrods should be properly packaged using the packaging provided for the replacement circuit controller and returned to the supplier for workshop repair.