

GENERAL**Includes:****AHBC Level Crossing Equipment****Excludes:**

Train detection equipment, telephones, cable tests (TC3 certs), location cases/ERs/REBs (TC2/2, TC4 certs). Test certificates/documentation for crossing surface, track, civil engineering, E&P, electrification equipment (these are generally provided as deliverables under the entry into service process).

Related Test Specifications:

None.

Recording of Testing:

Completion of tests shall be by application of check marks and recording of values on test copy diagrams, by recording of values on the appropriate record card (also, where indicated in this test specification), and by signing the appropriate test certificate. This specification is formatted to provide a tick box next to each item so that an auditable record of tests is produced. Different coloured checkmarks shall be utilised where more than one tester is involved. Note: at the end of each section, testers are required to record their name and sign for corresponding tests.

This test specification comprises of the following sections, which correlate with the competency levels identified in NR/L2/SIG/30014/B410 for this type of equipment or testing.

1. Inspection
2. Wire Count
3. Function Tests
4. Mechanical and Set-Up Tests
5. Layout
6. Interlocking (Control Tables and Principles Tests)
7. In-Service Check

General definitions of terms are given in NR/L2/SIG/30014. Terms specific to this specification are defined in "Specific Definitions" after Section 7 of this specification.

These testing requirements are based on the equipment at the level crossing, including the supervising point indications and alarms. It is understood that the equipment identified in the "Excludes" section above are covered by other test specifications/certificates which would form part of the overall test/test & commissioning plans.

This specification provides for current standard designs/installations. Where alterations are made to existing AHBCs, which may have alternative arrangements/equipment, some sections of this specification may not apply and a supplementary testing specification will be produced, approved and appended to this specification.

Throughout the categories of tests, the tester(s) shall make reference to any Technical Instructions, Notice Boards, SINS, Standards and Guidance Notes applicable to this type of installation. Where an item in the level crossing order conflicts with RSP&G, then the level crossing order shall be complied with.

Any non-compliance to be referred to the Tester-in-Charge.

PLACE/CONTROL CENTRE:

PROJECT:

MASTER TEST CERTIFICATE No.:

NAME OF CROSSING:

1. Inspection

1.1 Crossing Nomenclature

1. Check that the crossing layout/ equipment (Y and Z sides) is compliant in relation to Up/Down directions (see "Specific Definitions" after Section 7 of this specification).

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1.2 Local Control Unit (LCU)

1. Check that the unit is positioned as identified on the ground plan and there is an adequate view of the crossing and road approaches.
2. Check that the base/post fixings are secure.
3. Check that the correct lock is fitted – RKB222.
4. Check the door microswitch is intact and operable.
5. Open the LCU door. Check when unlocked the key is retained in the lock and cannot be withdrawn unless the door is re-locked.
6. Check that the unit is waterproof and undamaged.
7. Check that it is not possible to close the door unless the local control unit is set for the "AUTO" mode.
8. Check that the unit has a permanent label fixed inside the door, bearing the words "Have you received authority from the Signaller to operate this crossing?"
9. Check that the switch labelling is correct. ("RAISE-AUTO-LOWER/HAND", left to right).

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1.3 Road Traffic Light Signals

1. *Check that the road traffic light signals are positioned as identified on the ground plan.*
2. *Check that the structures are stable, undamaged and are treated against rust.*
3. *Check that signal units are undamaged and that correct hoods are securely fitted.*
4. *Check that lenses are clean, undamaged and, where appropriate, correctly orientated.*
5. *Check that signals are of LED type or, alternatively, are quartz halogen lamps 50-watt (Check against specific designs). Check that approved lamp units are all the same type.*
6. *Check that all cables and conduits are undamaged and secure.*
7. *Check that caps are fitted to all posts.*
8. *Check that the posts are earth bonded, if required.*

YN	YO	ZN	ZO	Aux 1	Aux 2

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If auxiliary road traffic light signals are fitted (in addition to YN, YO, ZN and ZO), list the additional signal identification below:

Signal no.	Road traffic light signal identification / position
Aux 1	
Aux 2	

1.4 Pedestrian Signals (where provided)

1. Check that the pedestrian signals are positioned as identified on the ground plan.
2. Check that the structures are stable, undamaged and are treated against rust.
3. Check that pedestrian signal units are undamaged and that correct hoods are securely fitted.
4. Check that lenses are clean, undamaged and correctly orientated.
5. Check that all cables and conduits are undamaged and secure.
6. Check that caps are fitted to all posts.
7. Check that the posts are earth bonded, if required.

YN	YO	ZN	ZO	Aux 1	Aux 2

1.5 Lineside Notice Boards

1. Check that signage is compliant, with respect to positioning and display. (Reference to signalling scheme plan and signal sighting forms).
2. Check that posts where used, are stable, undamaged and treated against rust.
3. Check that all signs and notices are secure, clean, legible and of the correct material.
4. Check that signs are not obscured, e.g. vegetation, foliage etc.

1.6 Road Traffic Signage - at the Crossing (Approach Signage covered under Section 5.4)

1. Check that signage is compliant, with respect to positioning and display. (Reference to ground plan)
2. Check that posts, where used, are stable, undamaged and treated against rust.
3. Check that all signs and notices are secure, clean, legible, and of the correct material.
4. Check that signs are not obscured, e.g. vegetation, foliage etc.

1.7 Barrier Machine BR Spec. 843 cont.

	YN	ZN
15. Check that the wiring, plugs, clamps and terminations are undamaged.		
16. Check that circuit controllers are of the correct type and that they are fitted with RKB221 padlocks.		
17. Check that lock down valves are set to "Auto" and sealed.		
18. Check that the speed control valve (damping) adjusting screw is sealed.		
19. Check stroke setting is correct for the length of boom fitted.		
20. Check that lock, door microswitches, seals and hinges are undamaged and also check correct locks are fitted, i.e. RKB222 on operator's side and RKB221 on technician's side.		
21. Check the pack fastenings (top and bottom trunnion block mountings and lock washers; bolts through the trunnion to the operating lever are correct length and spiro pins are fitted; the ram adjusting screw and lock washer are tight).		
22. Check the external dimension between the pedestal and the outer face of the barrier side arm is 95 – 105mm. (<i>Measure adjacent to spindle</i>)		
23. Check the internal dimension between the pedestal and the left hand face of the operating arm is 148 – 152mm.		
24. Check that all cabling and wiring is clear of moving parts and clamped.		

1.8 Barriers

YN	ZN

1. Check that each barrier is correctly aligned, stable and is of the correct length and commences with red at the tip.

Record - YN:.....

- ZN:.....

2. Check that reflective strips are undamaged, clean and positioned correctly. (both sides, red/white 600mm long with reflective strip 50mm wide along full length of each band).

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3. Check that the lamps, hoods, brackets and fastenings are undamaged and in good condition. Confirm correct number and that one lamp within 150mm from the barrier tip.

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4. Check that the fixing bolt "E" clips are undamaged, the bolt is seated correctly and the whole shear bolt assembly is greased. Check the M6 pan head screws have been removed.

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5. Check correct counter weights fitted (for specific barrier lengths), against manufacturer's certificate provided with equipment.

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6. Check the wiring plugs, clamps and terminations are undamaged. Check that the 4-pin connector is on the "boom" side of the clamp.

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7. Check support frame ("A" frame), if required, is secure and undamaged.

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1.9 Audible Warnings

1. Check that the audible warning devices are of the correct type. (Refer to diagrams to confirm). Also check that they are mounted in a manner that provides an adjustment in both the vertical and horizontal planes to facilitate focusing of the sound.

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2. Check that any exposed cable and conduit are undamaged and secure.

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3. Check that there is no ingress of water/dirt into the device.

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4. Check the position of the audible warning device is correct to the ground plan and the level crossing order.

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SECTIONS 1.1 – 1.9, TESTS CARRIED OUT BY: (use different colour checkmarks)

(1)(Name) (Signature) (Date)

(2)(Name) (Signature) (Date)

2 Wire Count

Using the circuit diagrams, "Wire Count" the external equipment listed below. Record tests completed on the wiring diagrams and in the check boxes below.

2.1 WIRE COUNT the following equipment;

1. Local Control Unit.

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2. Road Traffic Light Signals.

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3. Pedestrian Signals (where provided).

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4. Barrier Machines.

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5. Audible Warning Devices.

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SECTION 2.1, TESTS CARRIED OUT BY: (use different colour checkmarks)

(1)(Name) (Signature) (Date)

(2)(Name) (Signature) (Date)

3. Function Test

The purpose of these tests is to confirm that all equipment operates within specification/design parameters. Any requirement to adjust equipment is covered under Section 4 with reference to NR/GN/SIG/19044. Where specific timings are identified, record at end of section.

3.1 Circuit Function Test

Using the circuit diagrams, function test the circuit operation to fully integrate correspondence of the external equipment to respective control circuitry.

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| 1. Power supplies, batteries and chargers. | <input type="text"/> |
| 2. Track repeat/treadle controls. | <input type="text"/> |
| 3. Local control unit. | <input type="text"/> |
| 4. Barrier detection, barrier pack door proving arrangements, contactor cut-off, and flasher initiation (RER). | <input type="text"/> |
| 5. Boom lights. | <input type="text"/> |
| 6. Motor/valves. | <input type="text"/> |
| 7. Road traffic light signals. | <input type="text"/> |
| 8. Audible warning devices. [Including increased warble rate for Another Train Coming(ATC)] | <input type="text"/> |
| 9. Pedestrian lights (where provided). | <input type="text"/> |
| 10. Supervising Point indications/alarms. | <input type="text"/> |
| 11. Timer settings. | <input type="text"/> |
| 12. Earth leakage detectors (ELDs). | <input type="text"/> |
| 13. Monitoring (event recorder) tests. | <input type="text"/> |

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