

SSIT-1001(e)5 Warning System - Approaches

Purpose

These instructions describe the tests required to verify the condition of the approach tracks to grade crossing warning systems.

Test Intervals

Tests are performed when installed, as required, and at least once every twelve (12) months as prescribed in *SSIT-7 Signal System Inspection and Test Intervals*.

Rail Safety

Employee shall ensure the site is safe for employees, the public, vehicular traffic and train operations as defined in *SSIT-8 Protecting Train Operations* prior to performing tests and inspections. **Do not make adjustments to motion sensing circuits without first confirming there are no rail-to-rail short circuits.**

Equipment Manuals

A copy of the constant warning time and/or motion sensing device manufacturer's manual should be on hand for reference when performing tests.

Procedure

The following tests are to be performed at each crossing warning system location equipped with either a constant warning time or motion sensing device:

Step	Procedure
1. Visually Inspect Approaches	<ul style="list-style-type: none"> Walk or highrail each approach from termination point to crossing. → Check there are no foreign objects that may short tracks. → Check there are no rail grindings around track hardware. → Check ties and insulating materials are in good condition. <p>If there is a potential path for short: Clean and/or remove prior to tests.</p>
2. Test Track Hardware Insulation	<ul style="list-style-type: none"> Perform hardware insulation tests for rail-to-rail Track hardware, as outlined in <i>SSIT-701 Insulated Track Hardware</i>.
3. Test CW/MS Approach Shunting (if applicable)	<p>For Constant Warning or Motion Sensing:</p> <ul style="list-style-type: none"> Measure "distance" voltage (or equivalent). Place 0 ohm shunt at 90% of crossing approach. → Check voltage drops to within its normal range. Remove shunt. → Check voltage returns to its previous value. Place 0.06 ohm shunt 20 to 30 feet beyond termination shunt. → Check voltage does not drop. Repeat for each train approach.

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**ONR Signal Standards
Signal System Inspections & Tests (SSIT)**

Step	Procedure
4. Test DC Approach Shunting (if applicable)	<p>For DC Style:</p> <ul style="list-style-type: none"> Place 0.06 ohm shunt at 100% of crossing approach. → Check crossing activates. Remove shunt. → Check crossing is restored. Place 0.06 ohm shunt 20 to 30 feet beyond termination shunt. → Check crossing does not activate. <p>Repeat for each train approach.</p>
5. Test Shunts (if feasible)	<p>For Constant Warning or Motion Sensing:</p> <ul style="list-style-type: none"> Observe “distance” voltage (or equivalent) with the termination shunts in place. Disconnect each termination shunt one at a time, if they are equipped with a terminal or equivalent that allows for easy disconnect. → Check voltage increases to a noticeably higher voltage level. Reconnect termination shunt. → Check voltage returns to previous value once reconnected. <p>If voltage not changing: There is an issue with the shunt or track connection. Make arrangements for repair or replacement.</p>
6. Verify Standby parameters (if applicable)	<p>→ Check parameters are same for main and standby.</p> <ul style="list-style-type: none"> Perform steps 3 and 4 on standby, if there is any doubt or discrepancy. <p>If parameters do not align: Refer to manufacturer’s manual and perform necessary adjustments.</p>
7. Update Log Book	<ul style="list-style-type: none"> Add any notes of issues observed, or adjustments made.
8. Complete Test Form	<ul style="list-style-type: none"> Record the test as completed on Grade Crossing Warning System Test Form.