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Level 3 Module

Train Warning & Protection Systems: Automatic Warning System (AWS)

Endorsement and Authorisation

For endorsement and authorisation, please refer to NR/L3/SIG/11303

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Issue Record

Issue	Date	Comments
1	August 2000	Ist issue
2	September 2010	Reformatted version of previous document incorporating the text of the installation handbook.
3	December 2010	Updated for AWS on steel sleepers

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 04 December 2010.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 4 to continue to comply with the Issue of any relevant Network Rail Standards current when GRIP Stage 4 was reached and not to comply with requirements contained herein, unless the designated Standard Owner has stipulated otherwise in the accompanying Briefing Note.

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1 Inductor Installation: General

Inductors need to be installed in an approved manner, and in the positions specified on signalling layout plans.

An inductor should be installed not less than three sleeper beds from any fishplated rail joint.

Typical inductor layouts are shown in Figures 1 and 2. A parts list is given in Table 1 at the end of this module.

Arrangements for fitting to UIC60 rail are not yet available. Ask your supervisor for details.

2 Fixing To Concrete Sleepers

First determine the type of sleeper to which the inductor is to be fixed.

Refer to Figure 3. If the sleeper has a flat or only slightly dipped top surface, the fixing plate is mounted in position “A”. Use M20 countersunk head bolts for bolting the inductors and ramps to the fixing plate.

Refer to Figure 3. If the sleeper is the type with a well dipped top surface, then the fixing plate is mounted in position “B”. Use M20 cup head bolts for bolting the inductors and ramps to the fixing plate.

Note that the black nibbed M20 bolts referred to on the ATC/T drawings are of hot rolled unplated steel that is susceptible to surface corrosion. It is preferable for equivalent non-corrodable bolts to be used instead.

Figure 3 also gives more details of the sleeper types which suit each of the two mounting positions.

Adjustable fixing plates are available to take account of non-standard sleeper spacing.

If the sleepers are pre-drilled, use 5/8 inch “Seetru” bolts for securing the fixing plates to the sleepers.

If the sleepers require drilling and provided the organisation responsible for the permanent way has been consulted, drill holes to suit the “Hilti” heavy duty fixing bolt HSL-BM 12/50 (Code 67401). This is a pre-set torque anchor with visual inspection facility. Note that these bolts require holes of 18mm diameter through the fixing plates. If the holes are undersize due to the addition of a protective finish, they may need to be enlarged to give adequate clearance.

Beware of flying fragments and dust. Goggles, mask, and gloves should be worn.

Drill the holes right through and in the centre line of the sleeper to avoid the reinforcing wires. A drilling jig is available to assist correct drilling. (See Figure 4.)

Insert the appropriate inductor/ramp fixing bolts through the plates. Bolt down the plates, ensuring that inductor/ramp fixings will match up correctly.

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