

technical memorandum

road safety hardware series



Installation of slip base sign fixings

TM-2006

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Purpose

To advise on the required practice for installation of slip base sign fixings to ensure safe operation and compliance with [NZ Transport Agency P24 specification](#) and [RMSA Compliance Standard for Traffic Signs 2008](#).

Background

Slip base signs designed to fail when impacted by an errant vehicle.

Incorrect installation or maintenance practices can create a hazard with the risk of the errant vehicle snagging on the exposed sign support. This can cause rapid, uncontrolled deceleration leading to serious injury or fatality.

Required practice

Sign supports should always be carefully located to ensure that the breakaway devices perform properly and to minimise the likelihood of impacts by errant vehicles, e.g. sign supports should not be placed in drainage ditches where erosion and freezing might affect proper operation of the breakaway mechanism.

Supports placed on roadside slopes should not allow impacting vehicles to snag on either the foundation or any substantial remains of the support. The surrounding terrain should always be graded to permit vehicles to pass over any non-breakaway portion of the installation that remains in the ground or rigidly attached to the foundation. The non-breakaway portion of any sign support should not exceed 100mm in height.

Breakaway support mechanisms are designed to function properly when loaded primarily in shear. Mechanisms are designed to be impacted at bumper height, typically 500mm above the ground. If impacted at a significantly higher point, the bending moment in the breakaway base may be sufficient to bind the mechanism resulting in non-activation of the breakaway device.

Therefore it is critical that breakaway supports not be located in ditches, on steep slopes or in similar situations where a vehicle is likely to be partially airborne at the time of impact.



Figure 1 Correctly installed slip base sign supports

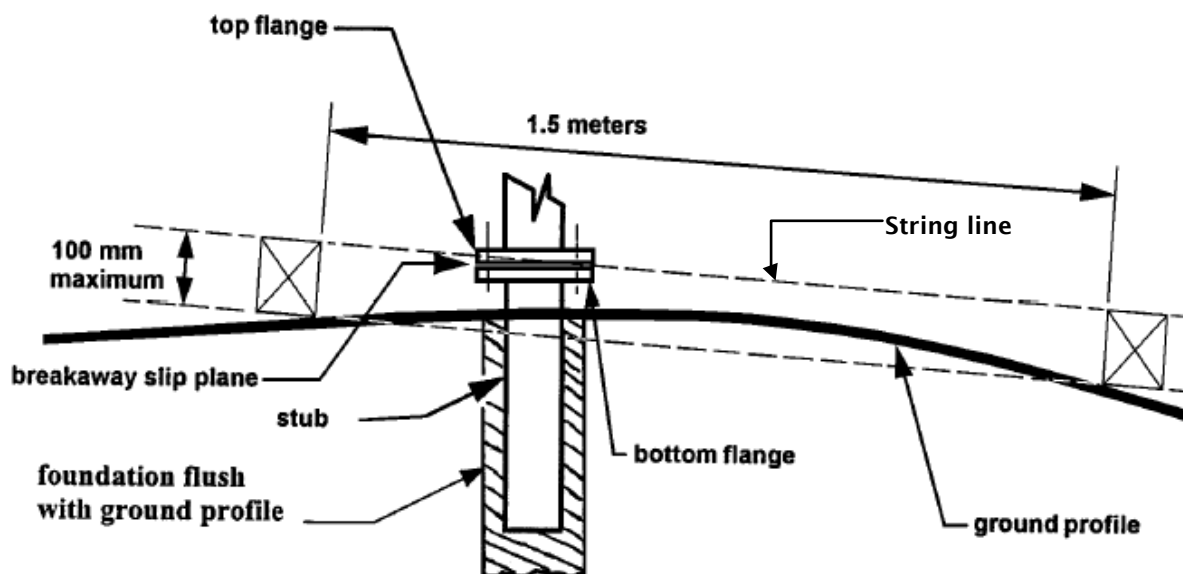


Figure 2 Method used to measure correct stub height

All slip base sign fixings must be installed in accordance with NZ Transport Agency State Highway Geometric Design Manual Figure 7.5 (or Austroads equivalent) to ensure correct performance. Figure 2 illustrates the method used to measure the required 100mm maximum stub height.

The manufacturer's instructions should reflect these requirements where a product is promoted as compliant with the RSMA Compliance Standard for Traffic Signs 2008.

Endorsed by: National Manager Traffic & Safety