

# Placement of geofencing devices

This guide covers the placement of Tended geofencing devices across a range of machinery and equipment used in rail environments.

For Virtual Worksite Marker Board (VWSMB) guidance, please refer to [this document](#).

## General placement principles

To ensure optimal performance and safety, adhere to the following positioning requirements:

Longitudinal Center line: Position the device as high and as close to the longitudinal center line (centre of the 4-foot when on rails) of the machine as is feasible.

- The device should be positioned as close to the leading end of the machine as possible to ensure timely alerts relative to hazards.
- Devices may need to be repositioned if the machinery changes its direction of travel (e.g., reversing), especially if there are multiple operating positions.
- Ensure the device is placed in an open and unobstructed position to maximise signal strength and visibility for the operator.

## Signal integrity and interference

OTP often contain antennas and high-power electronics that can interact with geofencing equipment.

The following points are suggested to maximise the performance of the equipment:

- Install the device at least 2 metres away from high-power radio transmission or reception equipment, including cellular, Wi-Fi, or Bluetooth systems.
- Keep the device at least 4 metres away from large components such as pantographs, climate control units, or other significant mounted equipment.
- Avoid placing the device near obstructions that cause signal interference or reflection, as these degrade quality.

## Safety and installation

- Ensure neither the device nor any of its associated cabling presents a snagging hazard.
- Fasten the full length of any cabling securely.
- Ensure the equipment does not occlude reflectors or lighting required for safe vehicle operation.
- If installation requires working at height, use safe arrangements for fixing equipment.

When mounting devices inside a cab, the following additional criteria apply:

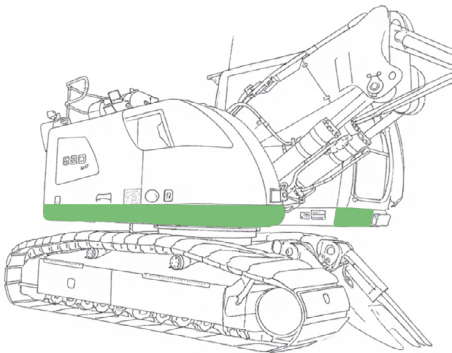
- Mount the device so that all alerts and status indications are clearly perceptible and continuously visible to the operator.
- The equipment must not impede the operator's line of sight to:
  - Other in-cab displays or controls.
  - The external environment necessary for safe operation.

## Recommended placement zones

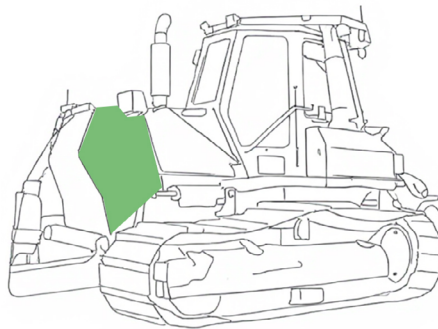
Green highlighted areas indicate recommended mounting locations.

Devices must always be unobstructed, facing upward, and have a clear view of the sky.

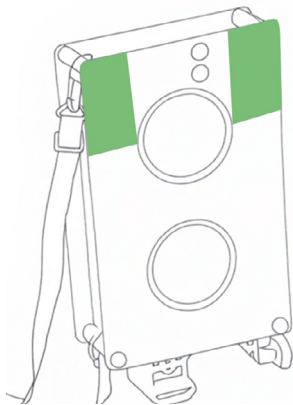
Excavator/crane - external



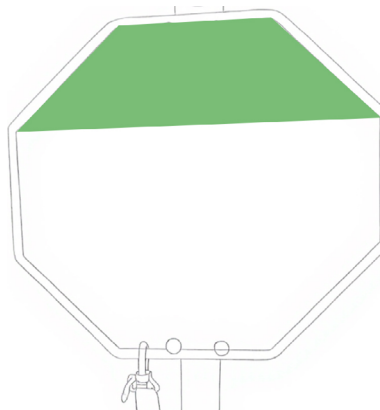
Dozers/dumpers



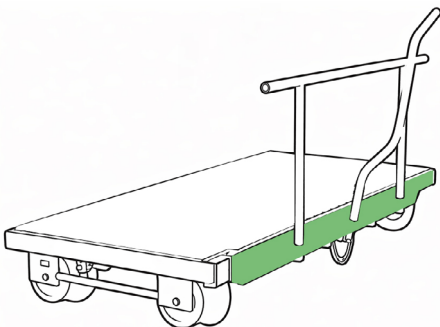
Worksite marker board (WSMB)



Possession limit board (PLB)



Link trolley



Trolley type A or B

