

## VASL LOS HELP

### About LOS checking:

VASL provides an integrated tool you can use to check line of sight (LOS).

Version 6 and later boards support LOS checking. All MMP geo boards, including the double-sided a/b boards, the SK boards, and the deluxe boards support LOS checking. For HASL boards, Red Factories boards (RB and RO), Dinant and Singling currently support LOS Checking. For third party products, only BFP and LFT boards currently support LOS checking.

You can flip and crop boards (both to half-hex and full-hex) and LOS Checking will continue to work.

LOS checking can apply ETO terrain rules or PTO terrain rules. DTO terrain rules now apply to the boards themselves (25-31 and LFT3-8) and for certain overlays, starting in VASL6.6.3.

PTO terrain rules are applied when you choose and apply the PTO Transformations option in the Terrain Transformations dialog. The following transformations are available:

- Dense Jungle
- Bamboo
- Palm Trees
- Swamp
- Wooden building to huts

If the Dense Jungle box is not checked when other boxes in the PTO Transformations are checked, woods are treated as Light Jungle.

LOS checking now applies to most overlays and terrain counters. Exceptions still remain and are being worked on. LOS checking does not detect hindrances along a Continuous Slope. LOS checking also does not work correctly in board edge half-hexes where abutting half-hexes have different terrain types.

The LOS engine does not enforce the rule that terrain must be visible on both sides of the thread to affect LOS. If the thread touches an obstacle or hindrance, LOS will be affected.

### Checking LOS:

To check LOS:

1. Click on a LOS button.

**NOTE:** To clear the LOS Check when finished, left-click on a spot on the map with no counter. DO NOT click on the LOS Button itself. This can cause problems with your opponent's los buttons.

Counters on the board are hidden with the exception of those that create LOS Hindrances or Obstacles (Vehicles, Smoke, etc). These counters will remain on board. A preference can be used to toggle whether such counters are displayed or Hidden (File-> Preferences-> LOS).

2. Click on the center dot or a vertex of one of the hexes for which you want to check LOS.

This hex is considered the source or origin hex of the LOS.

3. Drag your mouse cursor to the other hex for which you want to check LOS.

This hex is considered the target hex for the LOS check. The thread snaps to either the center dot of the target hex, or to the nearest hex vertex.

4. LOS is checked at the lowest level of the hex by default. If the source (origin) or target hex have additional levels, you can move the LOS thread to those levels using the following key combinations:

Keystroke	Moves...
Up arrow	the target location up.
Down arrow	the target location down.
Ctrl+up arrow	source location up.
Ctrl+down arrow	source location down.

If set in Preferences, the LOS thread indicates the state of the line of sight, using different colors:

- LOS is clear.
- LOS is hindered.
- LOS is blocked.

The range between the source (origin) and target hexes is shown as a label.

You can check multiple los, one after another, by simply continuing to select a source location and dragging the mouse to a target location.

### LOS checking preferences:

Several options are available for configuring LOS checking. These are found on LOS tab of the Preferences dialog (File -> Preferences -> LOS).

The following configuration options are available:

- Changing thread color

You can change the thread color for each condition. Click the button for the condition for which you want to change the color. VASL displays a color picker. Pick the new color you want to use for the condition.

- Counter LOS hindrances

By default, all counters are removed from the board when you click a LOS button. Check the Retain LOShindrance counters box to retain counters that affect LOS on board when checking LOS. Counters that affect LOS include SMOKE counters, including Smoke Grenades; blazes; OBA counters; Vehicles, wrecks, and burning wrecks; and rubble counters.

- Snap to grid

By default, the thread snaps to the nearest hex center dot or hex vertex. Check the Snap Thread to grid? Box to disable this behavior. When you uncheck this box, the thread stays at the drag point, and does not snap to the nearest center dot or hex vertex.

- Enable and disable LOS checking behavior

Checking this box enables LOS checking behavior. When this box is unchecked, you can still click the LOS buttons to draw LOS, but the color of the thread does not change to indicate condition of the LOS, and range and other information is not reported in the VASL interface.

- Verbose LOS checking

By default, LOS checking only reports the range and displays different threat colors depending on whether LOS is clear, hindered, or blocked. When you check the Verbose LOS mode box, LOS checking also reports:

- hex coordinates of the source hex and the target hex
- level of the source hex and target hex for which LOS is being checked
- range from the source hex to the target hex
- number of hindrances, if any
- reason for LOS being blocked, if any