

# Lightweight Survey -User Manual

## Introduction

Lightweight Survey is a plugin for Rhino 6, designed to be used on a windows 10 tablet. It's purpose is to write down every excess or missing masses in a ship, then process the data into various reports.

## Definitions

- MassPoint: Custom rhino object with mass and location
- Lightweight Survey (LWS): A rhino doc is considered to be a Lightweight Survey if it has at least one Deck
- Deck: Special Layer with LWS related data (Height, Room names, etc...)

## Interface

### Skin

The skin is a custom interface for your plugin. When you launch the skin, you'll have a rhino interface customized just for the Lightweight Survey Plugin. Any change to this interface will not be applied to rhino main interface.



### Panels

#### Main Panel

The main panel is where you will find every available information on the selected MassPoint(s).



#### Result Panel

The result panel displays real time computed information concerning the model and the current deck, such as the Mass Points global centroid.



### Magic Toolbar

The “magic toolbar” is a panel that mimics classic Rhino ToolBar but with dynamic and contextual display. This toolbar will be your best friend while working on a touchscreen.



## Rhino ToolBar

The toolbar is only meant to be used when preparing the model on a desktop computer.



## Annotations

The annotations system displays MassPoints related data in text dots. In the Options panel, you can define the colors (For excess and missing masses), size and content of the annotations.



They can be shown/hidden anytime through the magic toolbar or the command `LWS_HideAnnotations` and `LWS_ShowAnnotations`

## Installation

### Plugin



TODO

### Toolbar



TODO

### Skin



TODO

## Features and commands

### Change deck



TODO

### Unselect all



TODO

### Autosave




TODO

### LWS\_About

This command can be used only from the command line prompt. It displays Lightweight Survey's current revision and license status.

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### LWS\_AddMassPoint

Icon: 

This command creates a new MassPoint in the current deck.


### Rhino Toolbar shortcut

The command is cancelled if the document is not a valid Lightweight Survey.

### Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey.

## Usage

1. Start the command
2. (Optionnal)
3. Pick the selection method with the 3 buttons on the right corner:  
  
The location can be picked with a point (default), a line's middle or a rectangle's center.
4. Pick the MassPoint's location. If the command was started from the MagicToolBar, the selection helper will be displayed.
5. Select the appropriate data for your MassPoint on the edition window:




The light-red buttons are shortcuts to reuse the values existing in the model. The light-blue buttons are presets values defined in the LWS\_Options.

The camera button on the bottom-right corner is a shortcut to windows camera app. While this "MassPoint Editor" window is open, any picture added or created in windows picture directory will be linked the the MassPoint.

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## LWS\_Copy

Icon: 


This command relocates a MassPoint to a new location.

### Magic Toolbar button only

This button is grayed out if the document is not a valid Lightweight Survey. The command asks for a MassPoint then a new location, and the touchscreen helpers are displayed.

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## LWS\_CsvReport

Icon: 

This command generates a CSV (Semicolon Separated Value) report.

### Rhino Toolbar shortcut


The command is exited if the document is not a valid Lightweight Survey. In scripted mode, the command saves the report as "MyRhinoDocName.csv"

## Magic Toolbar button

No button on the MagicToolBar. To create a csv report, you have to use the visual report report's window menu instead.

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## LWS\_EditMassPoint

Icon: 

This command is similar to LWS\_AddMassPoint, except that the values are applied to a previously selected MassPoint.

Other than that, the main difference is that the “Remove” button is enabled, allowing a MassPoint's removal:



## Rhino Toolbar shortcut


The command is exited if the document is not a valid Lightweight Survey.

## Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey. The helpers are displayed to select the MassPoint on touchscreen.

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## LWS\_HideAnnotations

Icon: 

This commands hides every MassPoints annotations.


## Rhino Toolbar shortcut

The command is exited if the document is not a valid Lightweight Survey.

## Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey. Else it works as a switch (Grayed when disabled, Green colored when enabled)


## LWS\_ImportPictureDoc

Icon: 

This commands imports a .jpg file to the doc, and helps you to scale it and split it into several layers. This will make it easier to create your decks from a scanned drawing.

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## LWS\_Move

Icon: 

### Magic Toolbar button only


This command does basically the same thing as the Rhino Move command, but it only considers MassPoints. The helpers are displayed to select the MassPoint and the new location on touchscreen.

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## LWS\_Options

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## LWS\_Refresh

Icon: 

This command refresh most LWS related display and data. You normally don't need it.

### Rhino Toolbar shortcut

The command is exited if the document is not a valid Lightweight Survey.

### Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey.

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## LWS\_RelocateDecksToOrigin

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### LWS\_Select

#### Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey.

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### LWS\_ShowAnnotations

Icon: 

This commands shows every MassPoints annotations.

#### Rhino Toolbar shortcut


The command is exited if the document is not a valid Lightweight Survey.

#### Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey. Else it works as a switch (Grayed when disabled, Green colored when enabled)

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### LWS\_VisualReport

Icon: 

This command displays a visual HTML report on the current Lightweight Survey.



From the menu, the report can be printed, or exported as HTML, XLSX or CSV.



#### Rhino Toolbar shortcut

The command creates an empty report if the document is not a valid Lightweight Survey.

## Magic Toolbar button

This button is grayed out if the document is not a valid Lightweight Survey.

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