HOW TO MAKE 3D CABs

Includes a 3D Cab

A Quick Intro Guide

FOR OPEN RAILS WITH BLENDER 3

By ExRail

GETTING READY

Download blender 3.5 from
WWW.BLENDER.ORG
And learn to use it a bit!

Download S file Exporter plugin by
by Wayne Campbell
SITES.GOOGLE.COM/VIEW/BLENDERTOMSTS

SUPPORT TOOLS

Notepad++ (CVF 3D cab)
NOTEPAD-PLUS-PLUS.ORG

Gimp 2.10 (DDS support)
WWW.GIMP.ORG

Total Commander
WWW.GHISLER.COM

open rails

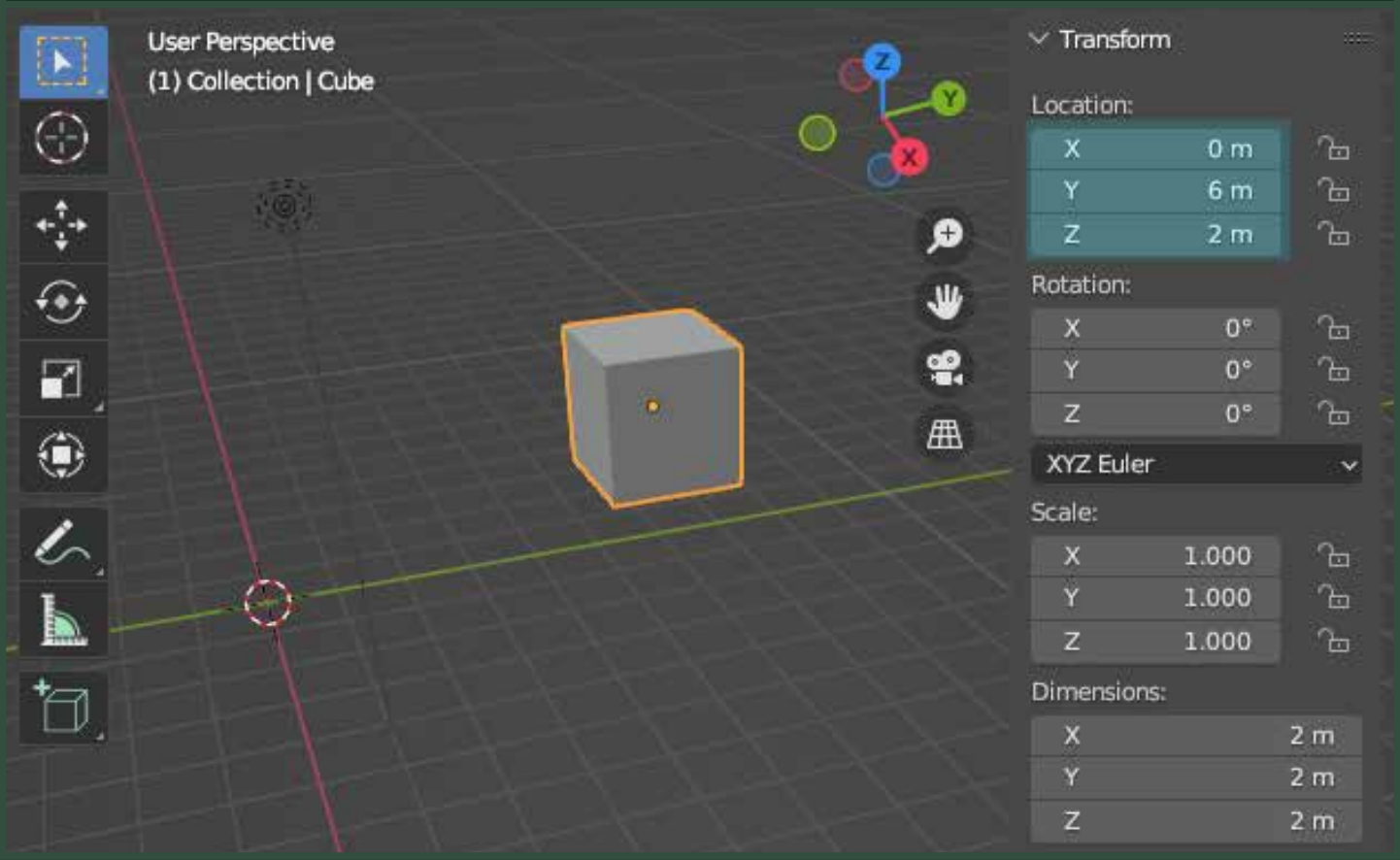
CONTENT

STARTING FROM SCRATCH

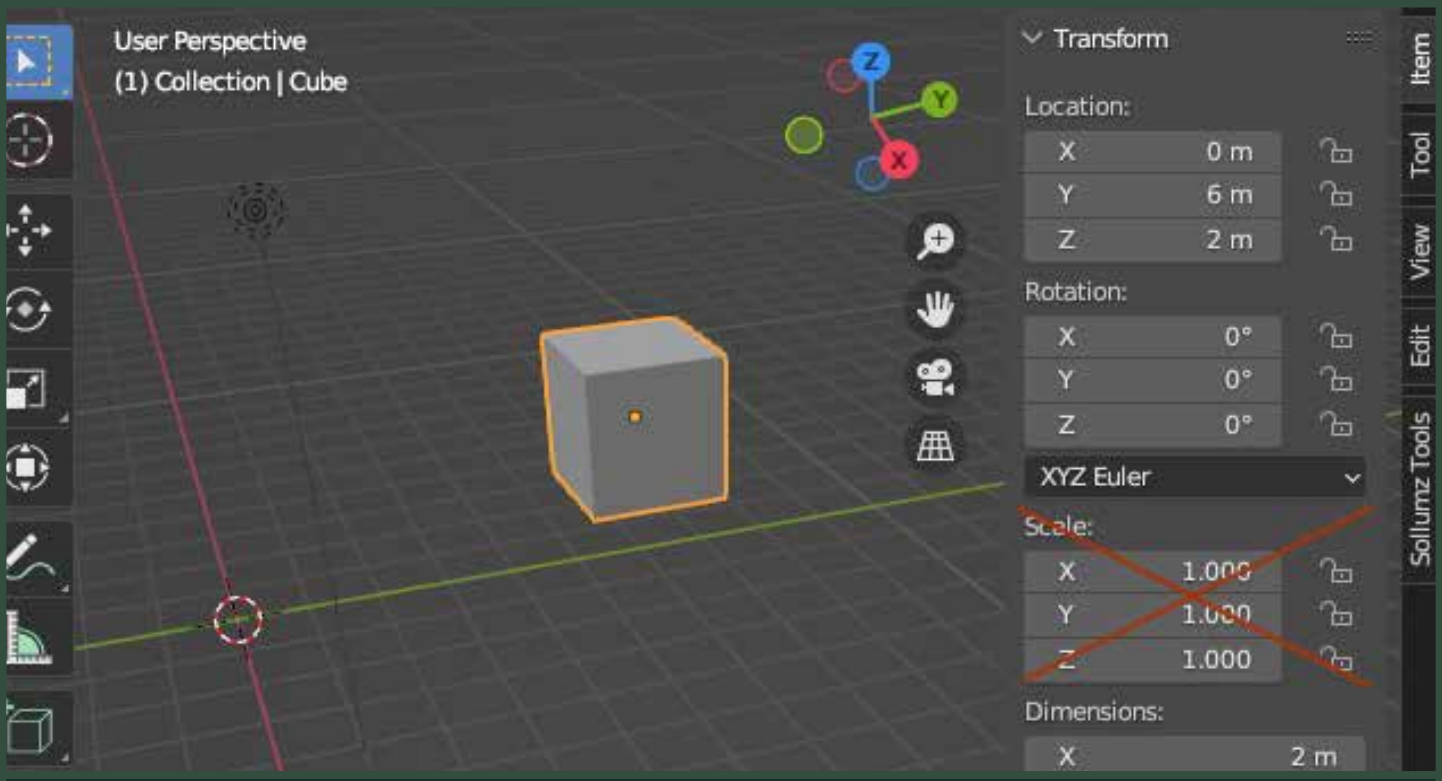
A QUICK GUIDE IN 9 PAGES

open rails

PLACING THE DEFAULT CUBE

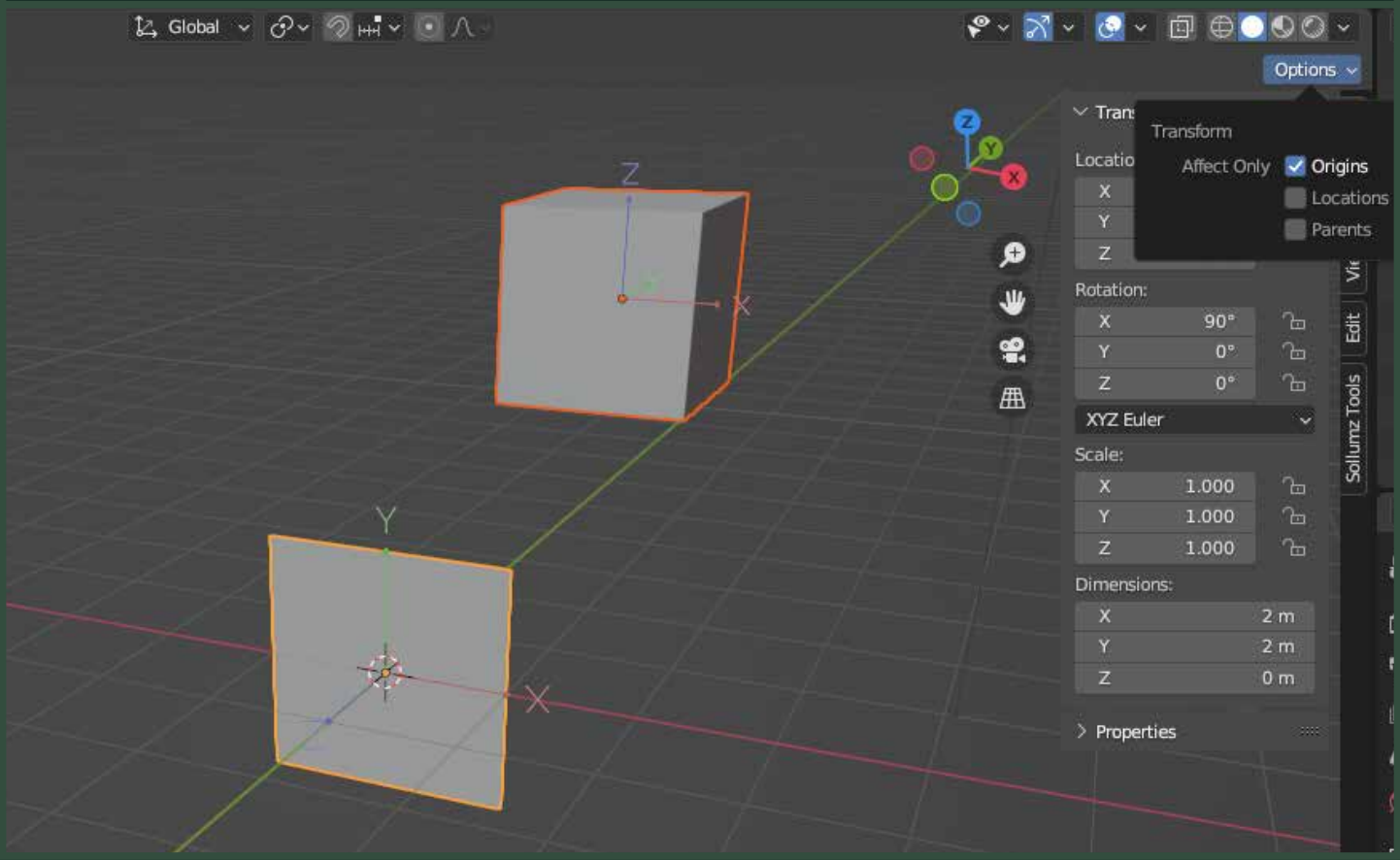


A good place to start is properly around **X=0, Y=6, Z=2,** change the numbers to move it there.



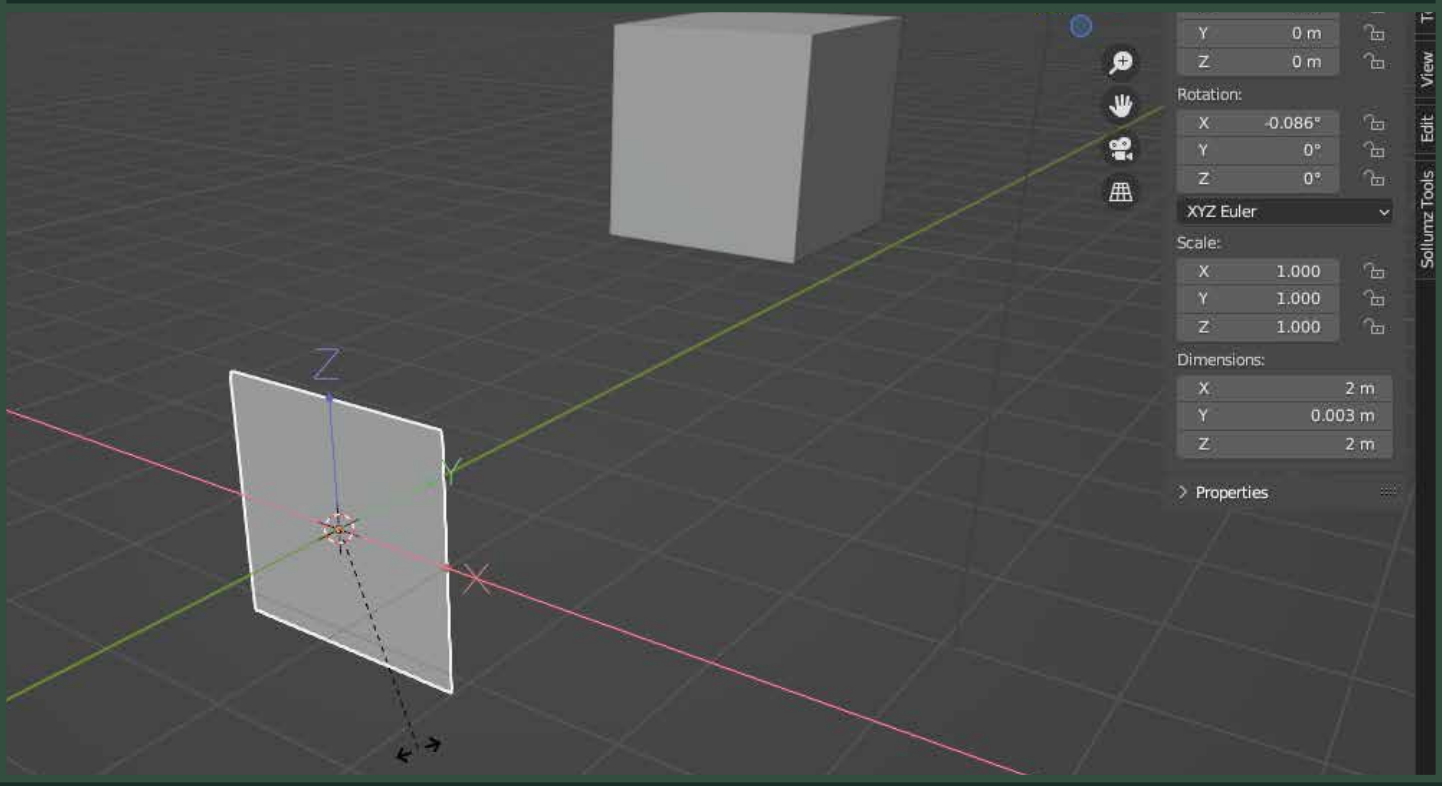
No scaling for objects to be used as instruments !
All instments must be made with a scale 1.0 or they will appear bigger or smaler in Open Rails 3D cab, scaling can be done in Edit Mode.

ADDING A PLANE

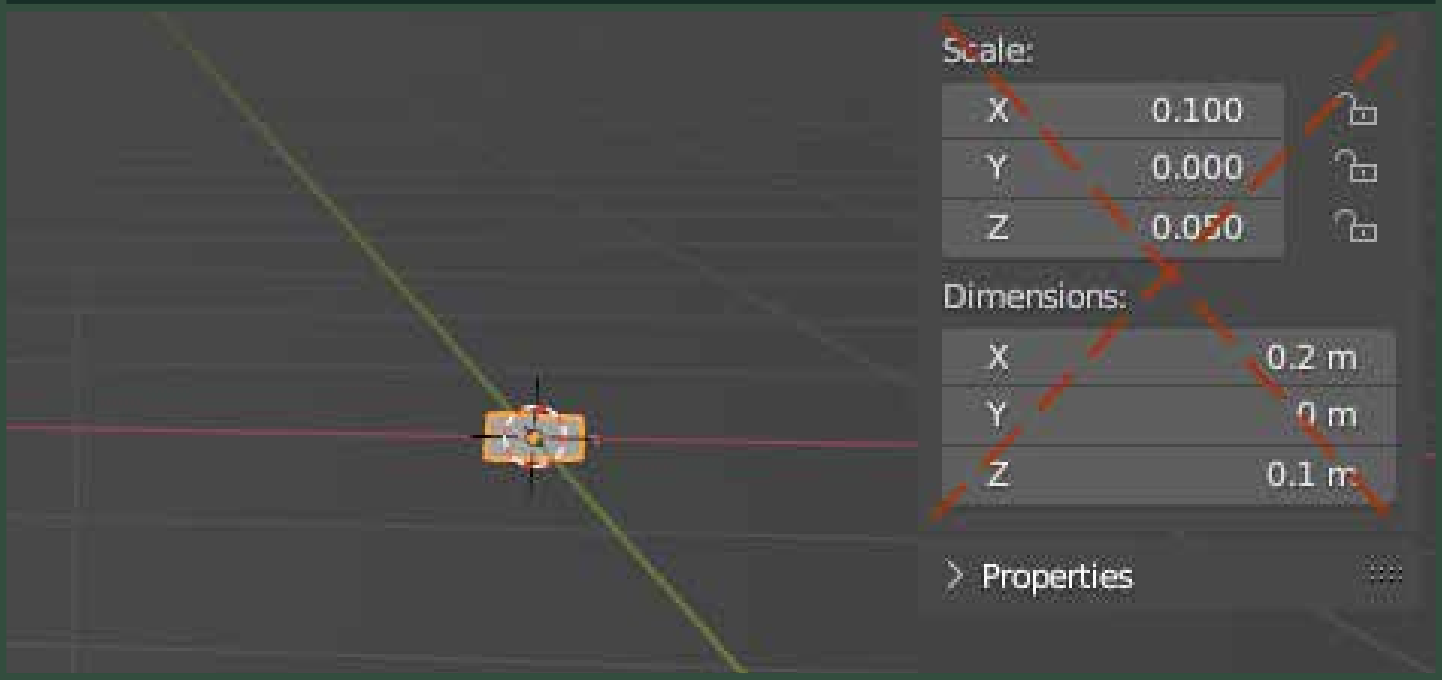


Add a plane and **Rotate it Into X=90°** to be used as a Digital clock.
Note that the orientation of the privot point is wrong! **Enable 'Affect Only'**

Rotate the privot point 90° to match the cubes so **Z is up, Y forward** and
Remember To Disable 'Effect Only' again

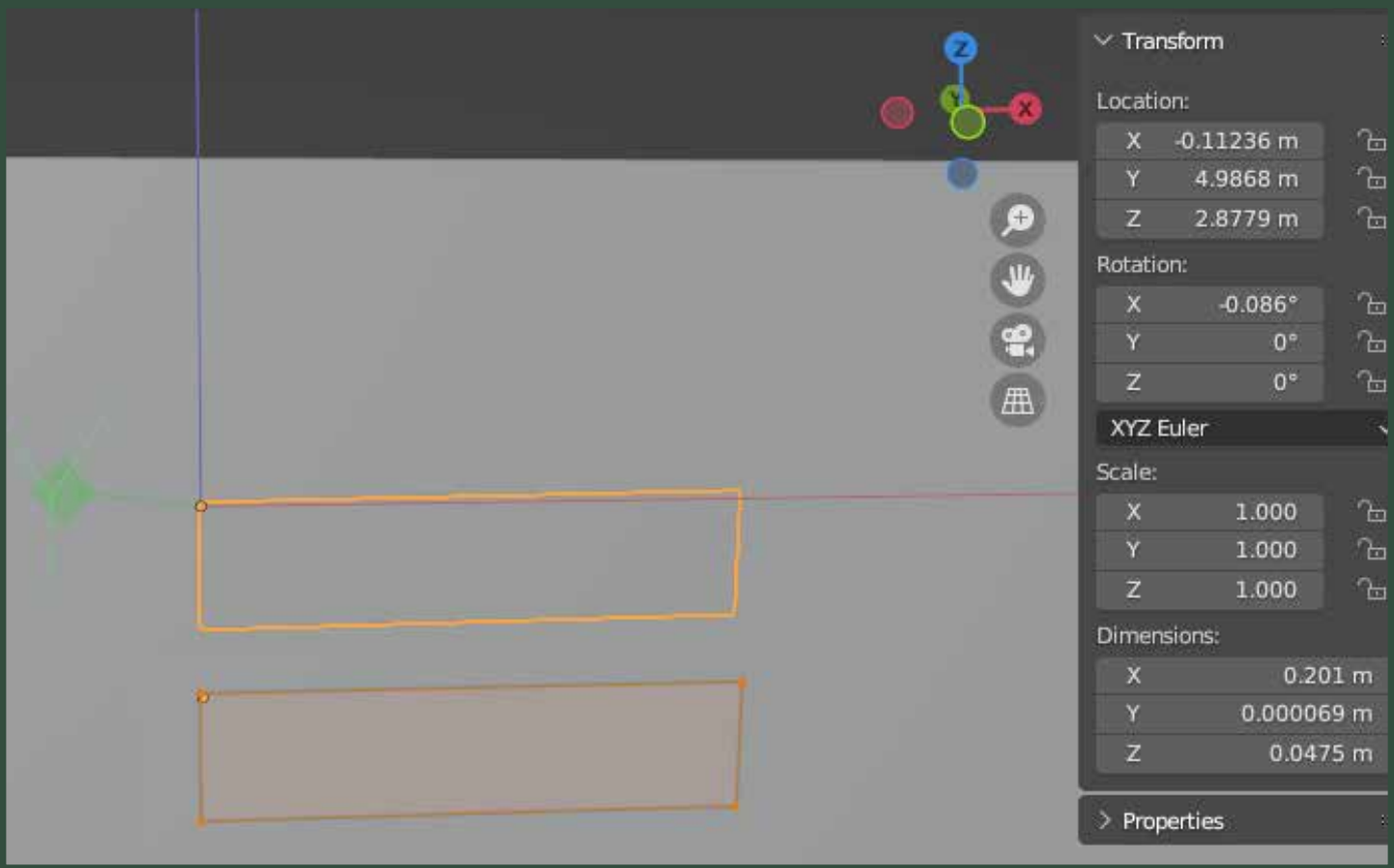


CHANGING THE PLANES DIMENSIONS



In Object mode altering the Dimensions also effect the scaling. **CTRL+A Scale set it to 1.0**

NB: Much time can be spend on fault finding where it turns out to be caused by scaling or privot orientation.



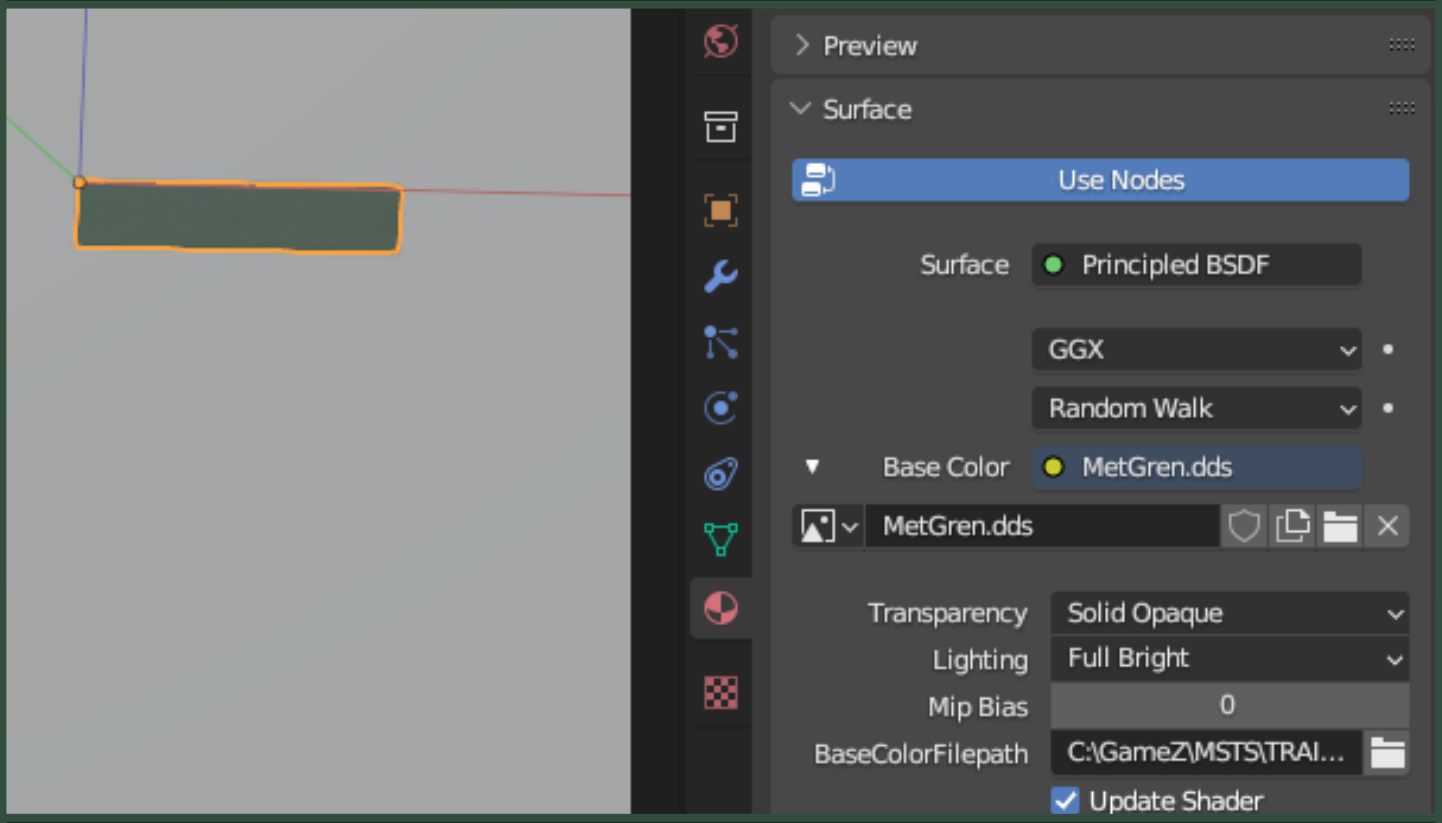
Go into Edit Mode

Change the vertex positions to get a **20 cm wide** and **5 cm high** rectangle, either by scaling or movement.

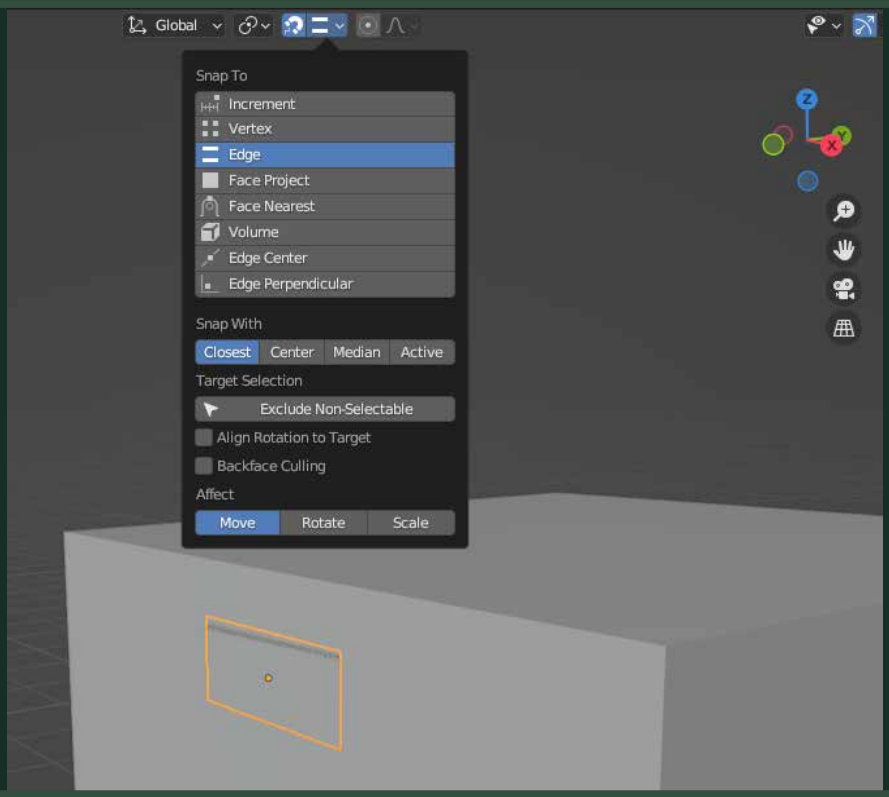
Go into Object Mode

Enable 'Affect Only' and move the privot point to the top left cornor **Disable 'Affect Only'**

MATRIAL

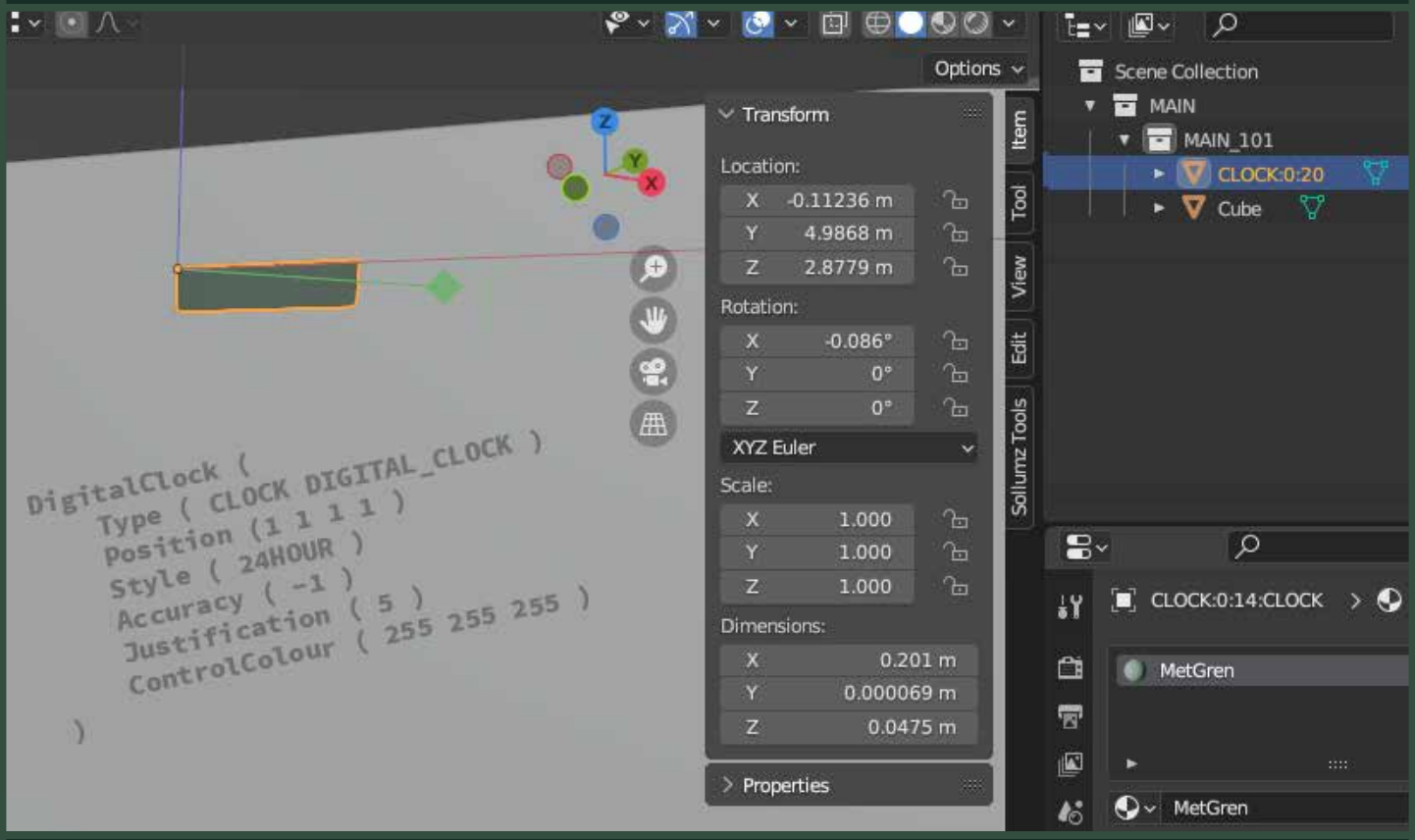


Create and assign a image texture material and set the illumination to **Full Bright** and point to the texture.



Enable Snap to Edge and move the plane close to the cube to snap it.
Note the flickering Z collision, move it a bit out from the cube to avoid that.

COLLECTION AND INSTRUMENT NAMING



Rename the default 'Collection' to MAIN
Create a new collection inside it with the name MAIN_0101
and **Move the objects into it.**

Rename the plane object to **CLOCK:0:20**

Tip: CLOCK uses the texture clock.ace by default, it can be changed by using:
CLOCK:n:fontsize:myfont

Tip: MAIN_XXXX = LOD Distance in meters, the 3D cap becomes invisible after 101 m

Look at:
Decoding CabViewControls 1.5 on page xxx for a list of controls, states and data.

THE 3D CAB .CVF FILE

```
SIMISA@@@@@@@@@@JINX0h0t______

Tr_CabViewFile (
    Position ( 0.0 0.0 0.0 )
    Direction ( 13 -17 0 )
    EngineData ( My 3D cab )
    CabViewControls ( 1

        DigitalClock (
            Type ( CLOCK DIGITAL_CLOCK )
            Position (1 1 1 1 )
            Style ( 24HOUR )
            Accuracy ( -1 )
            Justification ( 5 )
            ControlColour ( 255 255 255 )
        )   COMMENT( CLOCK:0:18 )

    )

)
```

Create a cvf file for the 3D cab - or copy the 2D cabs.

- *If the train already has a 2D cab, the name of the 3D cab cvf must be the same* or the 2D cab is not functionel - since the ENG file only has one entry.

Edit the text so it contains the following .

```
SIMISA@@@@@@@@@@JINX0h0t______
Tr_CabViewFile (
   Position ( 0.0 0.0 0.0 )
   Direction ( 0 0 0 )
   EngineData ( My3Dcab )
   CabViewControls ( 1
        DigitalClock (
             Type ( CLOCK DIGITAL_CLOCK )
             Position (1 1 1 1 )
             Style ( 24HOUR )
             Accuracy ( -1 )
             Justification ( 5 )
             ControlColour ( 255 255 255 )
        )
   )
)
```

```
    CabView ( "My3Dcab.cvf" )
    HeadOut ( -2 3 7 )

    AirBrakesAirCompressorPowerRating( 1.6 )
```

The .ENG file has the entry so be sure the filenames match.

THE 3D CAB & THE ENG FILE

```
569
570
571
572     ORTS3DCab(
573             ORTS3DCabFile ( Cab.s )
574             ORTS3DCabHeadPos ( 0.655 2.2 5.025 )
575             RotationLimit ( 40 60 0 )
576             StartDirection ( 0 0 0 )
577             Sound ( "Vectron_eng.sms")
578     )
579
580   )
581 Engine ( DSB_Vectron
582     Wagon ( DSB_Vectron )
583     Type ( Electric )
584     MaxPower ( 6400kW )
585     MaxForce ( 350kN )
586     MaxContinuousForce ( 300kN )
587     RunUpTimeToMaxForce ( 4.0 )
588     MaxVelocity ( 200km/h )
589     MaxCurrent ( 1640A )
590     WheelRadius ( 0.62m )
591     MaxSandingTime( -1s )
592     Sanding  ( 30km/h )
593     NumWheels ( 1 )
594
595     CabView ( "My3Dcab.cvf" )
596     HeadOut ( -2 3 7 )
597
598     AirBrakesAirCompressorPowerRating( 1.6 )
```

Open the ENG file of the loco you're desided to create a 3D cab for and add the following in the wagon section:

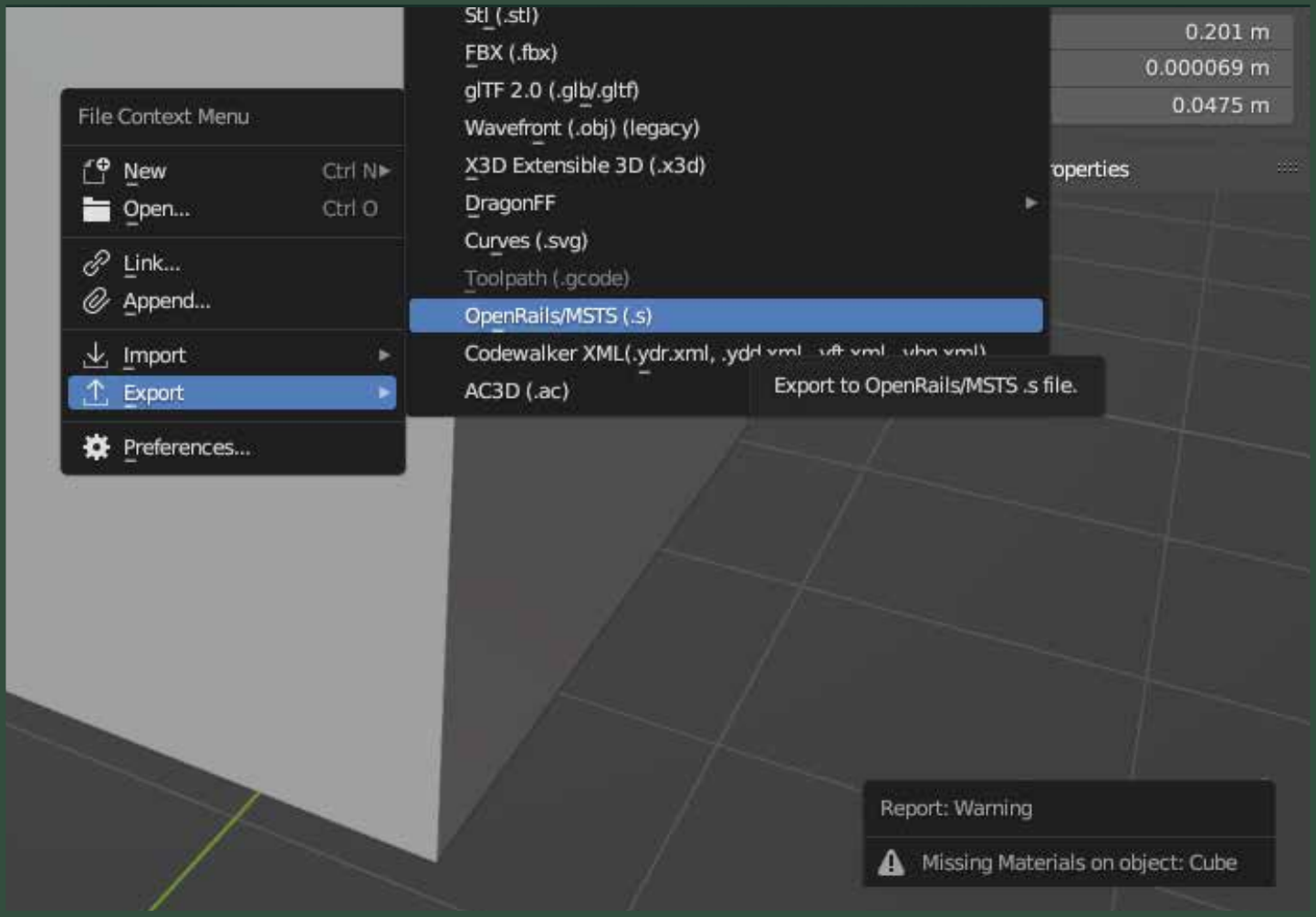
```
ORTS3DCab(
          ORTS3DCabFile ( MyCab.s )
          ORTS3DCabHeadPos ( 0.655 2.2 5.025 )
          RotationLimit ( 40 60 0 )
          StartDirection ( 0 0 0 )
          Sound ("Mytraincab_eng.sms")
)
```

CabFile (MyCab.s)
The exported shape file.

CabHeadPos (0.0 2.4 4.0)
Camera position - 2.2 m up and 5 meter forward from the locos center point

Direction (14.5 0 0)
- up / + down - looking 14.5° down

EXPORT



Exporter warning
Create a materiel texture for the cube to remove it.

THE FOLDER STRUCTURE

Train
- **.eng** - The train definition
- **.s** - The trains shape file/ Freight animation
- **.ace/dds** - The trains texture files
- **Cabview**
  - **.cvf** - The trains 2D Cab definition
  - **.ace/dds** - The 2D cabs texture files
- **3Dcabview**
  - **.cvf** - The trains 3D Cab definition
  - **.s** - The 3D Cab shape file
  - **.ace/dds** - The 3D Cab texture files

TESTING

Train -Use the key page up/down .....