caribou3d

01.1. Assembly of the xy-Frame for PanelDue Front

Written By: Caribou3d

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022　　　　　caribou3d.dozuki.com/　　　　　Page 1 of 13
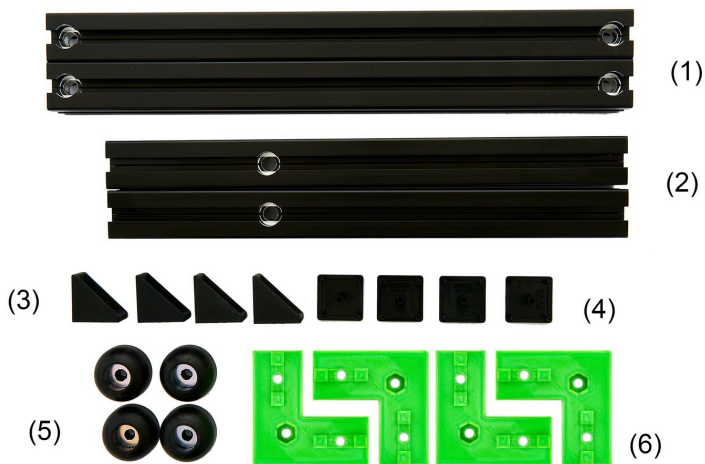
## Step 1 — Required Tools and Aids
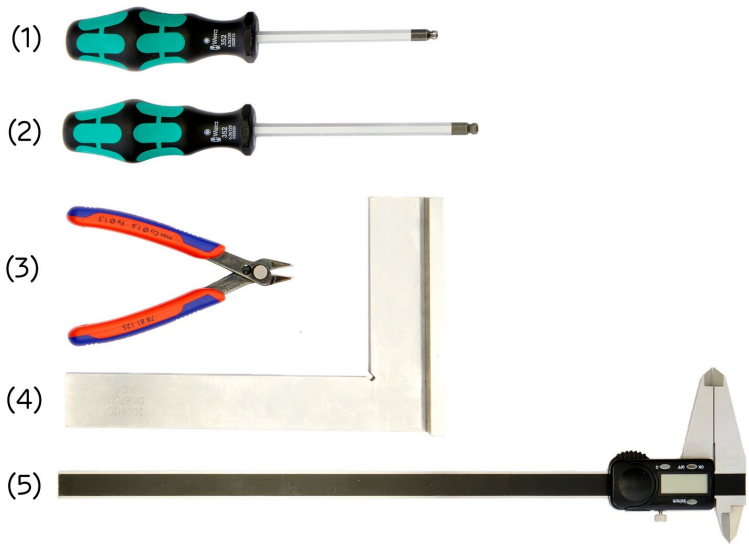
- (1) [5.0x100mm Hexagon Ballend Screwdriver](#)

- (2) [6.0x125mm Hexagon Ballend Screwdriver](#)

- (3) [Electronic Super Knips](#)

- (4) Try Square

- (5) Caliper 300mm

## Step 2 — Required Frame Components

- (1) **2x** [x-Extrusions](#)

- (2) **2x** [y-Extrusions](#)

- (3) **4x** [Corner Brackets](#)

- (4) **4x** [End Caps](#)

- (5) **4x** [Rubber Feet](#)

- (6) **4x** [L-Bracket for Caribou PanelDue Cover Fornt](#)

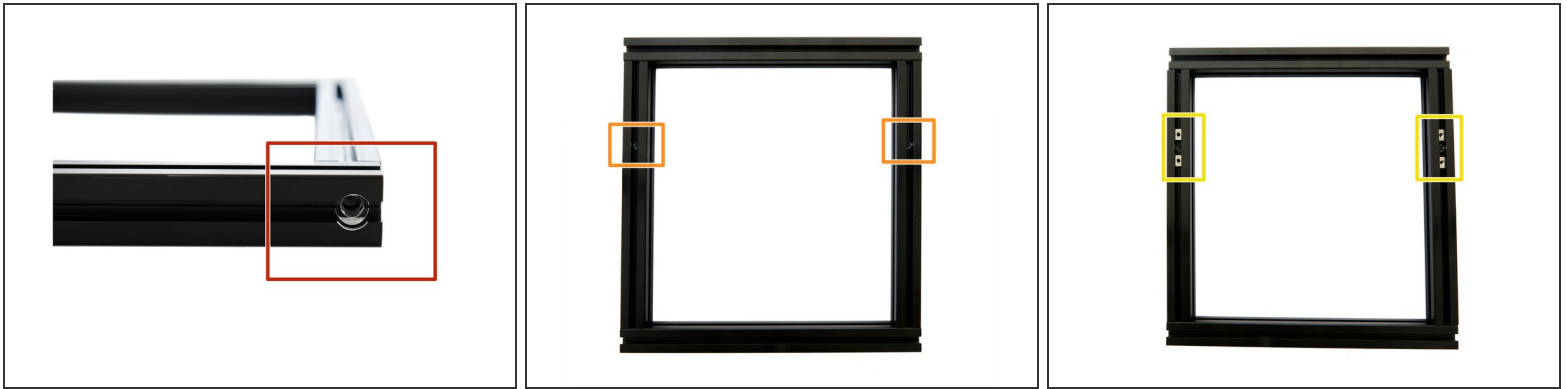This document was generated on 2022-12-19 01:26:26 AM (MST).

Step 3 — Required Screws
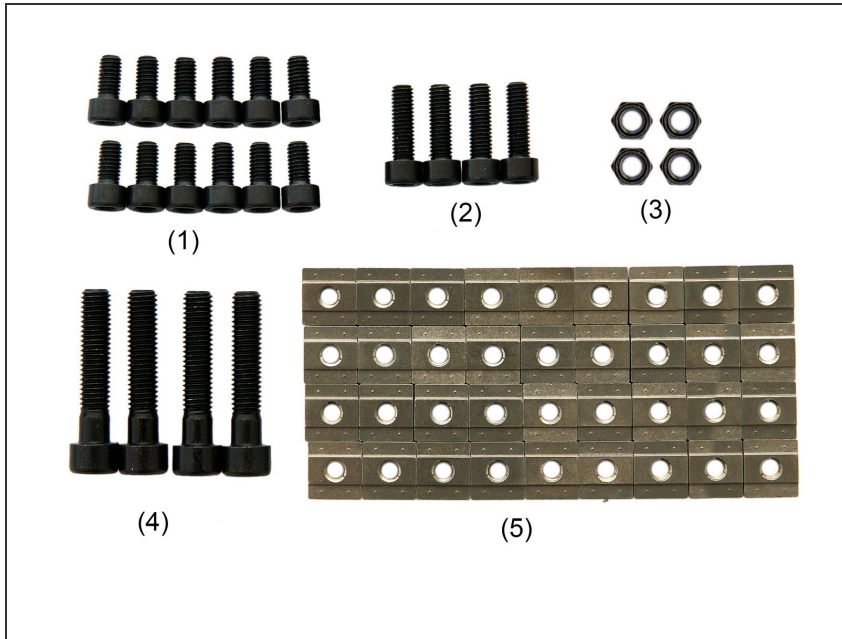
- (1) **8x** M6x12mm Hexagon Socket Head Cap Screws

- (2) **4x** M6x20mm Hexagon Socket Head Cap Screws

- (3) **4x** M6 Self Securing Nuts

- (4) **4x** M8x40mm Hexagon Socket Head Cap Screws

- (5) **36x** T-Nuts

Step 4 — Preparing the Corner Brackets
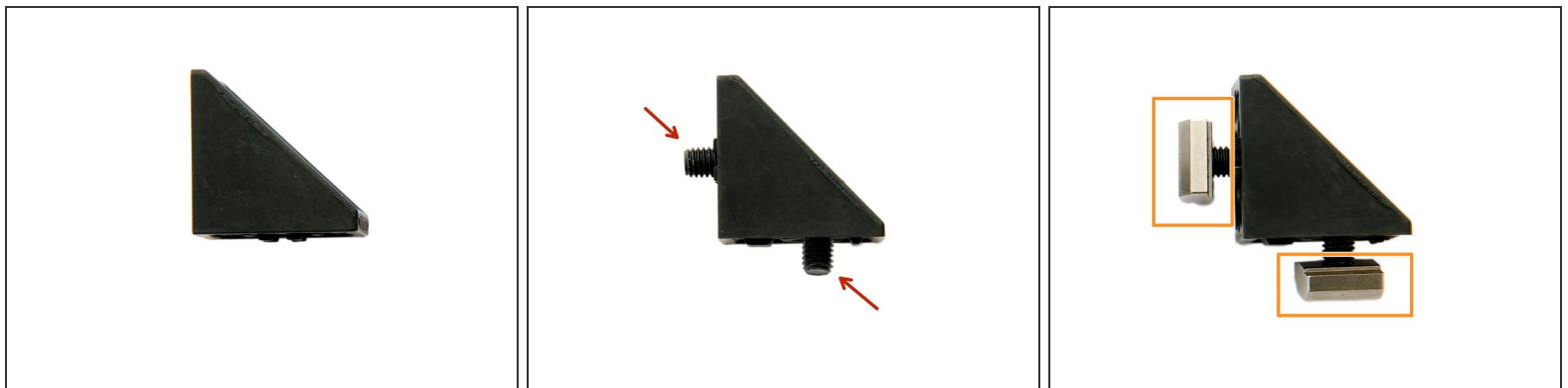
- Insert **2x M6x12mm hexagon socket head cap screws** into a corner bracket.

- Screw them loosely into the corner bracket and secure it with **2x T-Nuts**.

⚠ Pay attention to the alignment of the T-Nuts (see figure 3)

- Repeat these steps for the other three corner brackets.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 3 of 13

Step 5 — Positioning the Extrusions

⚠ Make sure that the surface, on which you are working, is perfectly flat.

- Lay out the extrusions as follows:
  - The x-extrusion lies horizontally (viewed from above) and has to be aligned so that the large holes point outward.
  - The y-extrusion lies vertically (as seen from above) and has to be aligned so that the small holes are pointing upwards.
- Place **2x T-Nuts** in each of the **upper** slots of the y-extrusions.
- Place **2x T-Nuts** in each of the **lower** slots of the y-extrusions.

⚠ Check again whether you have inserted two T-Nuts in each of the lower and upper slots of both y-aluminum profiles. If these are missing, the frame must be disassembled again later.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 4 of 13
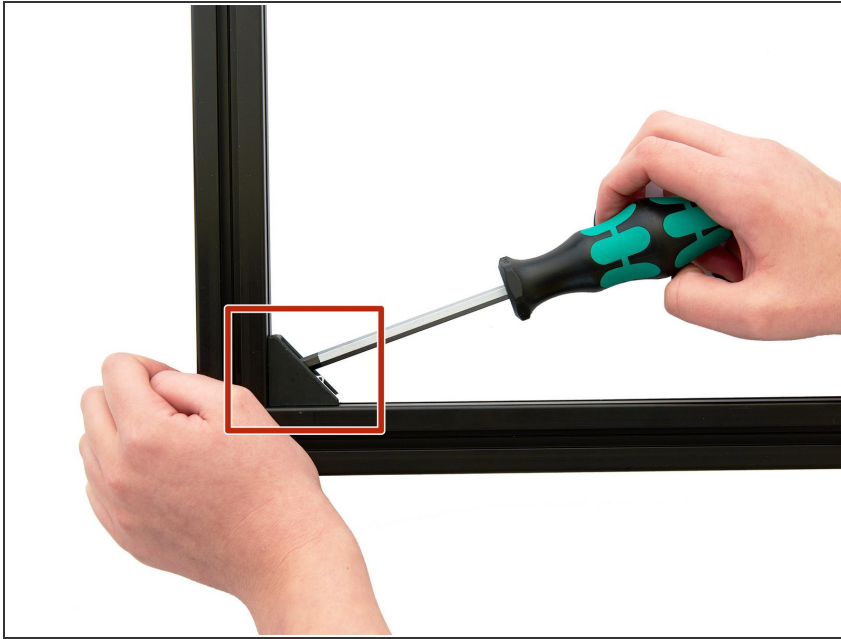
Step 6 — Installing the Corner Brackets

- Insert one corner bracket into each of the y-extrusions.

- Now, insert the front x-extrusions into the corner brackets.

- Repeat the last two steps with the rear x-extrusions at the back of the frame.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 5 of 13
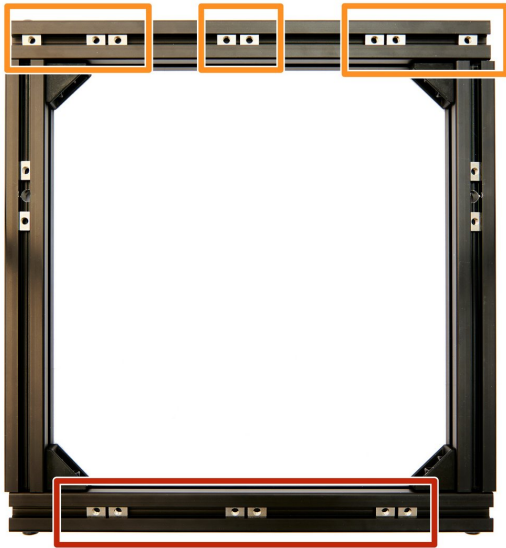
Step 7 — Frame Alignment (1 / 3)

- **2x T-Nuts** must be inserted into the front slot of the x-extrusion.

- Now insert **2x M8x40mm hexagon socket head cap screws** into the front and rear x-extrusion. Tighten the screw slightly.

- Align two extrusions at a 90° angle using a Try square. While doing so, tighten the **M8x40mm hexagon socket head cap screws**.

- Repeat this last step for the other three corners of the frame.

- (i) The frame should now be flat and it should not wobble at any of its sides.

- ⚠ If this is not the case repat the alignement process above.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 6 of 13

Step 8 — Frame Alignment (2 / 3)

- Press the corner brackets into the corners and fasten the **4x M6x12mm hexagon socket head cap screws** to the y-extrusions.

- (i) The **4x M6x12mm hexagon socket head cap screws** in the corner brackets at the x-extrusions remain loose.

- Now loosen the **4x M8x40mm hexagon socket head cap screws** by approx. 2-3mm.

- (i) Each corner bracket should now be flush with the end of the corresponding y-extrusion.

- ⚠ If this is not the case repat the alignement process above.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 7 of 13

Step 9 — Inserting the T-Nuts

- Insert **6x T-Nuts** into the upper slot of the front x-extrusion.

- Insert **8x T-Nuts** into the upper slot of the rear x-extrusion.

Step 10 — Attaching the End Caps
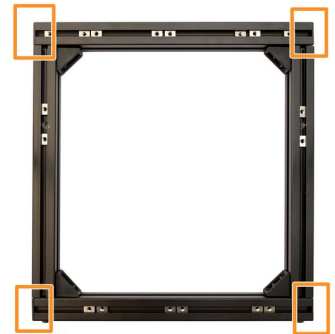
- Prepare the 4x end caps by shortening the center part by half (e.g. using a side cutter).

  ⚠ Be careful not to shorten the end caps too much, otherwise the end caps will not hold on the extrusions.

- Now attach the 4x end caps to the ends of the x-extrusions.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 8 of 13
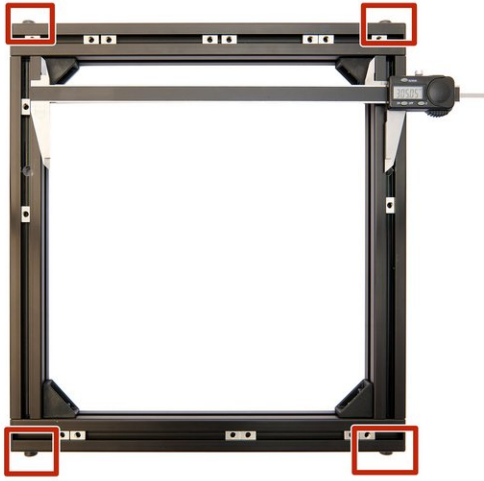
Step 11 — Frame Alignment (3 / 3)

- Use a try square to ensure that in one of the four corners the two extrusions are at a 90° angle to each other.

- Now place the try square on the extrusions and tighten the **M6x12mm hexagon socket head cap screws** on the x-extrusions in the corner bracket.

⚠ Make sure that the frame does not twist when you tighten the screws.

- After repeating this step on the other three corners, check again that all the extrusions are at a 90° angle to each other.
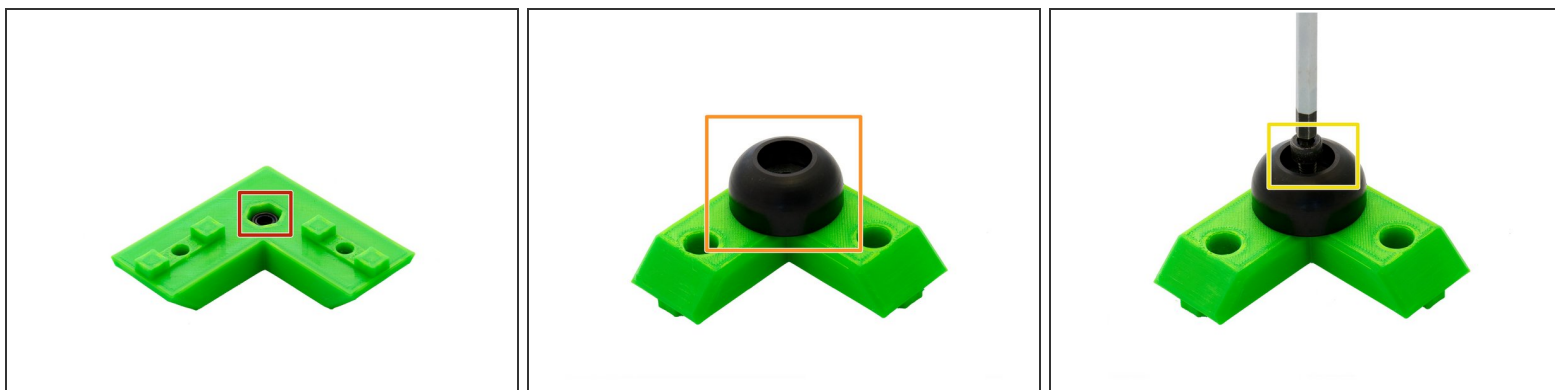
⚠ If this is not the case, you will have to align the extrusions again.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 9 of 13
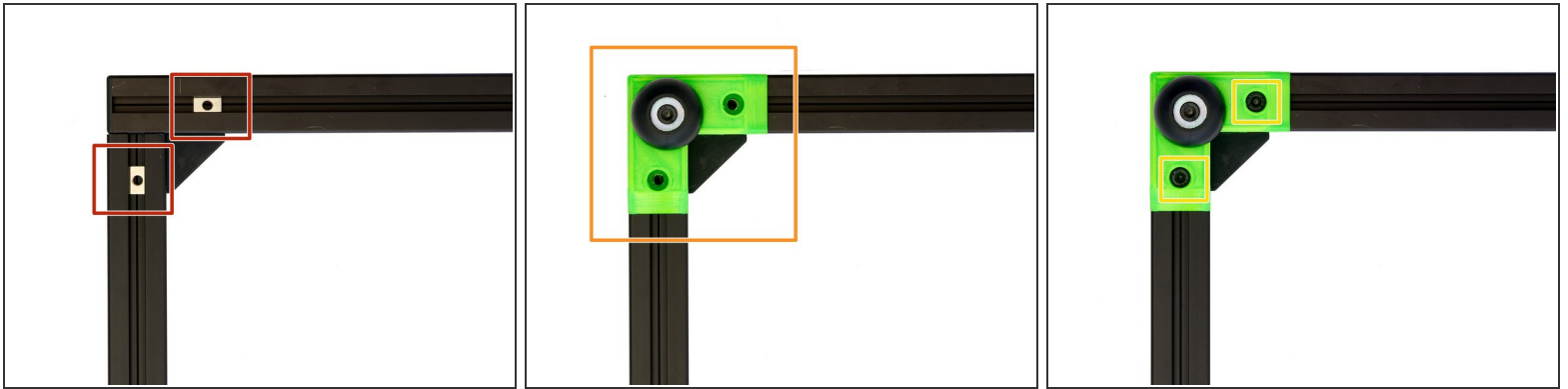
Step 12 — Measuring the Frame

- After you have successfully aligned your frame, measure the distance between the two y-profiles with a caliper.

- To do this, place the calipers at the inner corners of the frame.

- (i) The distance between the two y-extrusions must be between *305.00 - 305.50mm*.

- (i) The measured values of the front and rear part of the frame, must not have a greater difference than *0.05mm*.

  ⚠ If the difference in their values is *> 0.05mm*, you must realign the frame (see Step 10).

  - If the difference in their values is *< 0.05mm*, tighten the **4x M8x40mm hexagon socket head cap screws** in the x-extrusions.

    (i) If necessary, tighten these four screws with a torque wrench (set to 2.5Nm).

- To check this, measure the distance between the front and rear y-extrusions again. If these values are *< 0.05mm*, note the measured values for later and continue with Step 12. If not you have to loosen the **4x M8x40mm hexagon socket head cap screws** again and align the frame again (see Step 10).

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 10 of 13
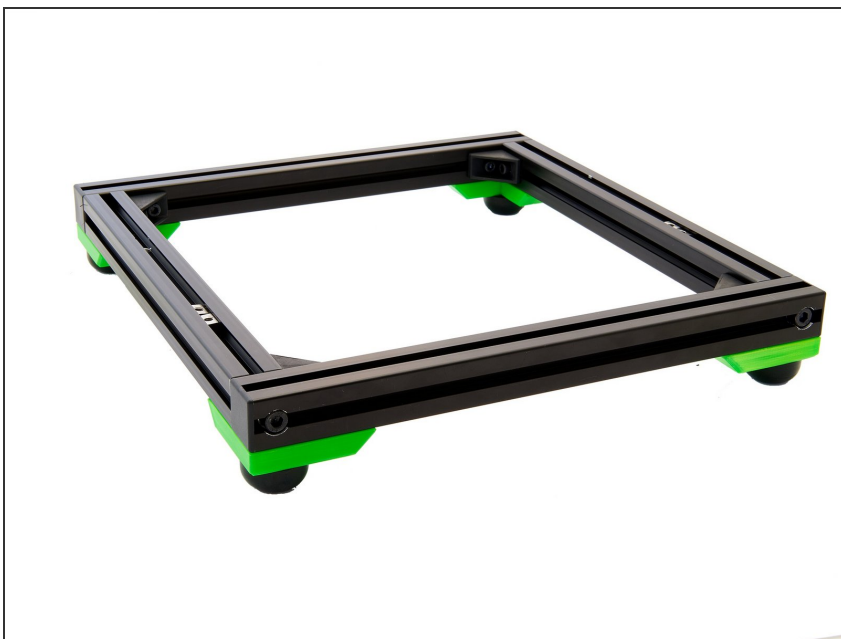
Step 13 — Preparation of the Rubber Feet

- Insert an **M6 self securing nut** into the L-bracket.

- Turn the L-bracket over and place a rubber foot on it.

- Screw this in place using a **M6x20mm hexagon socket head cap screw** .

- Repeat the steps for the other three L-angles.

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 11 of 13

Step 14 — Installing the Rubber Feet

- Turn the frame over.

- Position one of the already inserted **T-Nuts** in one of the corners of the frame.

- Place an L-bracket on the corner (see Fig. 2).

- Screw it tight with the help of **2x M6x12mm hexagon socket head cap screws** .

- Repeat these steps on the three remaining corners of the frame.

- Turn the frame over again.

Step 15

- (i) The frame is now completely assembled.

- (i) Continue with manual [02. Assembly of the y-Axis](#).

This document was generated on 2022-12-19 01:26:26 AM (MST).

© 2022   caribou3d.dozuki.com/   Page 12 of 13

This document was generated on 2022-12-19 01:26:26 AM (MST).