

Bill of Materials for the EXIT SUIT Revised 31 Jan 2024

CNC cut ply parts- 18mm birch ply

-Use 6mm wide down spiral cutter for cnc machine

I finish my plywood parts with a Wax-oil with added whitener

Spigot

Solid Nylon Bar - 50mm round bar x 260mm long (to be turned on engineering lathe to fit into base bearing 40mm at bottom and up inside tube for 150mm at top)

‘Kingpin’ Metal support column

x1 45mm id [Bearing pillow block for base](#) (bottom bearing)

x1 [Sealed bearing id 50mm od 90mm width 20mm](#) (top bearing)

Laser cut 3mm stainless steel components

x1 OD 50mm seamless steel tube 3mm wall (or 5mm wall)
(Cold Drawn Seamless in UK or ‘Drawn over Mandrel’ in USA)
steel tube (800mm long - shorten to fit crotch height)

It iOS also possible to use a length of easy to find 48.3mm scaffolding tube. The issue here is that it is not so easy to find a sealed bearing (top bearing in base under floorboard) that fits a scaffold tube, so you’d need to turn an additional nylon bush to fit a larger bearing or add vertical welds to the surface of the tube before grinding them back to fit.

Add additional 70mm Nylon round bar x 40mm long (if using this scaffolding tube with bush option and increase top bearing to 60mm id)

Remember the technical drawing for the plywood cutting will need to be adjusted to fit this new bearing size.

Skin

You will need to add a harness or ‘skin’ part to hold yourself into the spine. The simplest way to do this is with a ‘two

point safety harness', customised by having it's metal hanging point D rings cut off and with holes punched into the belts to enable it to be bolted into the pelvis.

<https://www.ebay.co.uk/itm/335024775861>

Alternatively, you might consider making a leather or canvas version. There are several examples sown in the various EXIT SUIT videos. Fitted custom made skins can be more comfortable and quicker to put on and take off. They might also offer more surface area coverage which is useful if adding haptics and tracking.

Box of 5.0 50mm screws (Torx head)

Box of 5.0 30mm screws (Torx head)

30m [4mm bungee cord](#)

10m 6mm bungee cord

1m of seatbelts webbing

x30 [M6 16mm threaded inserts with flange top](#)

x8 [M6 alan drive stainless countersunk bolts](#) 60mm

X2 [M10 stainless 55mm coach bolts](#)

X2 M10 stainless 75mm coach bolts

x12 M10 Stainless Nyloc Nuts

x14 M10 washers

x4 [M10 60mm countersunk bolts](#)

X8 [30mm OD 10mm ID bearings](#)

x2 [M10 16mm button head bolts](#)

x4 M8 countersunk 40mm bolts, nuts and washers

x8 [38mm rubber feet](#)

Some 1mm leather (softening 'disks' layer for vertebrae feet)