Moth Record Cleaning Machine
Operating instructions MKII

PLEASE READ THESE INSTRUCTIONS BEFORE UNPACKING OR USING YOUR MACHINE

INITIAL CHECKING:

Save all packaging for future use.
Check for obvious external damage and internal rattles
Check drain tap operation: return tap to closed (Fully anti-clockwise) position
Check vacuum tube position: The tube should be pointing directly at the centre spindle of the platter..
Check switch mechanical operation. Return both switches to the off position (Left hand switch to the centre position, Right hand to the down position)
Check that mains voltage is correct (See carton and serial number label)

IT IS RECOMMENDED THAT AN EARTH LEAKAGE DETECTOR BE USED WITH THE MOTH RCM

FLUIDS:

Various proprietary record cleaning fluids are available. Virtually all are suitable for use with the Moth RCM. An excellent fluid is available from Moth in 1litre and 5litre quantities. Note that alcohol based fluids should not be used for the Cleaning of 78rpm records which should be treated only with water.
ALCOHOL BASED FLUIDS WILL DAMAGE 78rpm RECORDS!

TESTING MACHINE:

Having connected the machine to the mains supply, remove the dust cover and check turntable operation.
The left hand (Outer) switch controls the turntable, up position clockwise rotation, centre position off, down position anticlock rotation.Note, a gearbox is employed to increase torque and reduce speed. Gearbox noise will be noticed.
The vacuum motor is controlled by the right hand (Inner) switch. Note that a noise level similar to that of a domestic vacuum cleaner will be heard ! Check that an airflow exists across the face of the vacuum tube, and that the exhaust port, on the rear of the machine is clear and unobstructed.
Note: A 5cm+ gap should be left at the rear of the machine to allow for efficient air flow.

RECORD CLEANING:

Remove the small red puck, fit a record to the platter and replace clamp. Note, this first record should be dirty but dispensable – you are checking both your cleaning technique and the machine! Switch on the platter. Taking care not to wet the label, apply a small amount of fluid to the surface of the record. Using the brush supplied, working in the area above the vacuum tube, spread the fluid over the whole of the grooved area. Use only enough fluid to wet the surface, excessive fluid application is unnecessary and wasteful. Correct amounts of fluid will depend upon the level of record contamination, and will be found by experience. Having wet the surface, hold the brush on the record, bristles towards the direction of rotation, for as long as is necessary to clean the disc. The amount of 'Scrubbing' required is again dependant upon the level of contamination..Note, always clean 'With' rather than 'Across' the grooves. Use both Clockwise and Anticlockwise rotation of the platter during this 'Scrubbing' cycle.

Switch off the turntable, remove the clamp and turn the record over (Wet side down). Replace the clamp, re start the Turntable, and switch on the vacuum. Allow 2/3 rotations of the disc in a clockwise direction, followed by 2/3 rotations in an anticlock direction. Switch off vacuum,
Switch off turntable, remove record..
Note: Once the cleaning technique has been mastered, fluid can be applied to side two whilst side one is being dried, the clock/anticlock movement of the platter being coordinated for both parts of the cleaning cycle
The use of a new inner sleeve is recommended.

General Tips:

Never use the Moth RCM without fluid.
Ensure that the brush and the surface of the vacuum tube are cleaned between each side. Use the brush to clean the tube surface with the vacuum switched on, and the vacuum to clean the brush.
The life of the velvet surface of the vacuum tube is not infinite. Wear will depend upon the amount of use and the the level of record contamination. Check for wear at regular intervals. Replacement velvet strips are available.
Check reservoir fluid levels at regular intervals. Record cleaning fluids are usually quite volatile, drainage not being required unless many records are cleaned at one sitting.
The vacuum tube is designed to be 'Loose' to enable it to follow the movements of less than perfectly flat records.
Ensure that the slot between the two velvet pads is vertical at the start of each cleaning process.

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Moth MKI & MKII Record Cleaning Machine
Building instruction addendum:

#6 Fan guard is now fitted with 4 x No8 x 12 pan head screws

#12 Ensure that an 'O' ring is fitted to each of the end connectors of the reservoir assembly pipe work prior to final assembly

#14 Terminal block is fixed with a No6 x 20 pan head screw

Electrical Connection:

Earth (Ground) connection from position 3 of the terminal block is established with a No6 x 12 Self tap pan head screw to the hole marked with the earth logo on the underside of the turntable motor gearbox.

Orientation of the black wires of the vacuum motor and the suppressor, and of the leads of the capacitor is not critical.

General

The too large holes into which the switches fit (Drawing No 1, two holes marked 'D', top left hand corner) are designed to 'run' together.
If a more sophisticated approach is thought necessary, fit the switch plate to its four mounting holes, mark the two rectangular profiles and remove the waste material with a fretsaw.

Moth Record Cleaning Machine MKII
Self Build pack contents

Quantity	Item
1	Turntable Motor/spindle assembly
1	Turntable (100mm diameter red)
1	Turntable Clamp (25mm diameter red)
1	Fan Guard (120mm square black)
1	Vacuum Tube/90 degree bend assembly
1	Drain Tap
1	Tap Mounting Plate (Aluminium single large hole)
2	Switches
1	Switch Mounting plate (Aluminium two rectangular holes)
1	Mains Cable (Mains plug to IEC Socket)
1	Terminal Block (Inc capacitor and earth lead)
1	Mains Input Socket/cable assembly
1	Suppressor (Black tubular 3 wires)
1	Vacuum motor fixing plate (Aluminium curved cutout)
1	Dispensing Bottle
1	Application Brush
5	Self adhesive feet
2	M4 x 40 Pan head bolts
3	M4 Spring washers
8	M4 Plain washers
7	M4 Full nuts
4	M4 x 12 Pan head bolts
2	M3 x 25 Pan head bolts
2	M3 Full nuts
2	M3 Spring washer
2	No10 x 12 Panhead self tap screw
4	N08 x 12 Panhead self tap screw
1	No6 x 20 Panhead screw
17	No6 x 12 Panhead screw
22	No8 x 35mm Wood screws
[redacted]	[redacted]
1	22mm Nut/washer (Grey Plastic)
2	Hinge assemblies (Black Plastic)
1	Reservoir assembly (Grey including 20mm pipe work)
1	Lid
1	Vacuum motor

Additional items to be purchased for cabinet construction:

15mm x 229 (9") Construction Board (Conitboard or similar)	1 x 1.6 metre length
15mm x 458 (18") Construction board	1 x 0.9 metre length
21mm Quadrant Moulding	1 x 1.2 metre length
Construction board edging strip	As required
Wood Glue/Silicone sealant	As required

Plastic Laminate and adhesive (Optional, see instructions)
Note, plastic laminate finish is preferred to 'Real wood' veneers. Damp atmospheres are experienced within the machine

Moth Record Cleaning Machine Kit

Instructions for assembly and wiring

1 Prepare the eight 15mm panels to the assembly drawings, 1-7

2 Assemble the eight panels to drawing 9:

Fix front and rear panels to the two sides (No8 Woodscrews and adhesive)
Check for correct orientation (See drg 9)

Insert partitions and fix to front and back (No8 Woodscrews and adhesive)
Note, allow 15mm to top and bottom for insertion of top and bottom panels.
Ensure that distance between the partitions is such that the large diameter fan of the vacuum motor is a 'snug' fit between them.

Position and fix top, No8 woodscrews to outer edges, panel pins to partitions.
Check for correct orientation.

Position and fix quadrent moulding to four outer corners. Allow for the fitting of 15mm bottom panel.

3 Seal all internal joints and seams with a fillet of silicone sealant
Seal all exposed, cut surfaces with an application of silicone sealant.
(Take care re skin contact, see sealant instructions). Include the exposed surface inside all cut holes.

4 Fix drain plug and switch plates into position (N06x10mm screws)

5 Fix laminate to top surface. Cover the whole surface , covering all holes and joints. When adhesive has set, locate holes and cut through laminate from the top.
Note: the laminate is fitted as protection against excess fluid being allowed to flood the top surface of the enclosure, which can cause water damage to the particle board from which the unit has been constructed. Such protection can be achieved with 2/3 coats of varnish or a similar protective coating, obviating the use of laminate.

6 Pushfit air exhaust guard into four holes in rear panel

7 Fit and Fix Mains input socket (M3x24 c/sk screws nuts and washers) onto rear panel

8 Fix turntable motor to case (M4x40 bolts, nuts and washers)

9 Fit turntable (4" diameter red) to motor spindle. Push well hame and fix via M3 grub screw in side hole.

10 Fix vacuum tube assembly to top plate. Ensure that the tube ifs pointing directly at the turntable motor spindle.
Note: Use the 22mm nut and washer to make a temporary fix. It will be found that the nut can be dispensed with once the reservoir tank is fitted

11 Check height of vacuum tube with respect to the height of the top surface of the turntable. Tube should be parallel with the top surface of the machine, with the felt pads being level with the top of the turntable.
Note; the vacuum tube can be moved within the 90degree bend to allow for intimate contact with the disc.
Fit 1x Self adhesive foot under the end of the vacuum tube nearset the turntable.

12 Fit reservoir.
Make the inner, short connection to the underside of the vacuum tube bend first.
Ensure that a good seal is made, and that the vacuum tube is relatively firmly held in position.
Rotate the lower, double bend fitting to align with the tap appature. It may also be found neccessary to rotate the reservoir on its top pipe fixing point to obtain correct alignment. Note that the reservoir tank is suspended between the two sets of pipe, not located on the 'Floor' of the enclosure.
Connect the Drain Tap, ensuring a good seal to the pipework, and a reasonably secure fix for the tap.

13 Fit the vacuum motor into place between the two internal partitions.
Secure with the motor mounting plate (2xNo8x12 selftap screws)
Ensure alignment of fan centre hole with corresponding hole in partition.

14 Fix terminal block into position at a convenient point on the internal partition midway between the vacuum motor and the front panel.

15 Wire the various components as per the wiring diagram (Drg 8)

16 Fix base into position (5xNo8 Woodscrews) Ensure that the edges or the base have been treated with silicone sealant, see item 3.

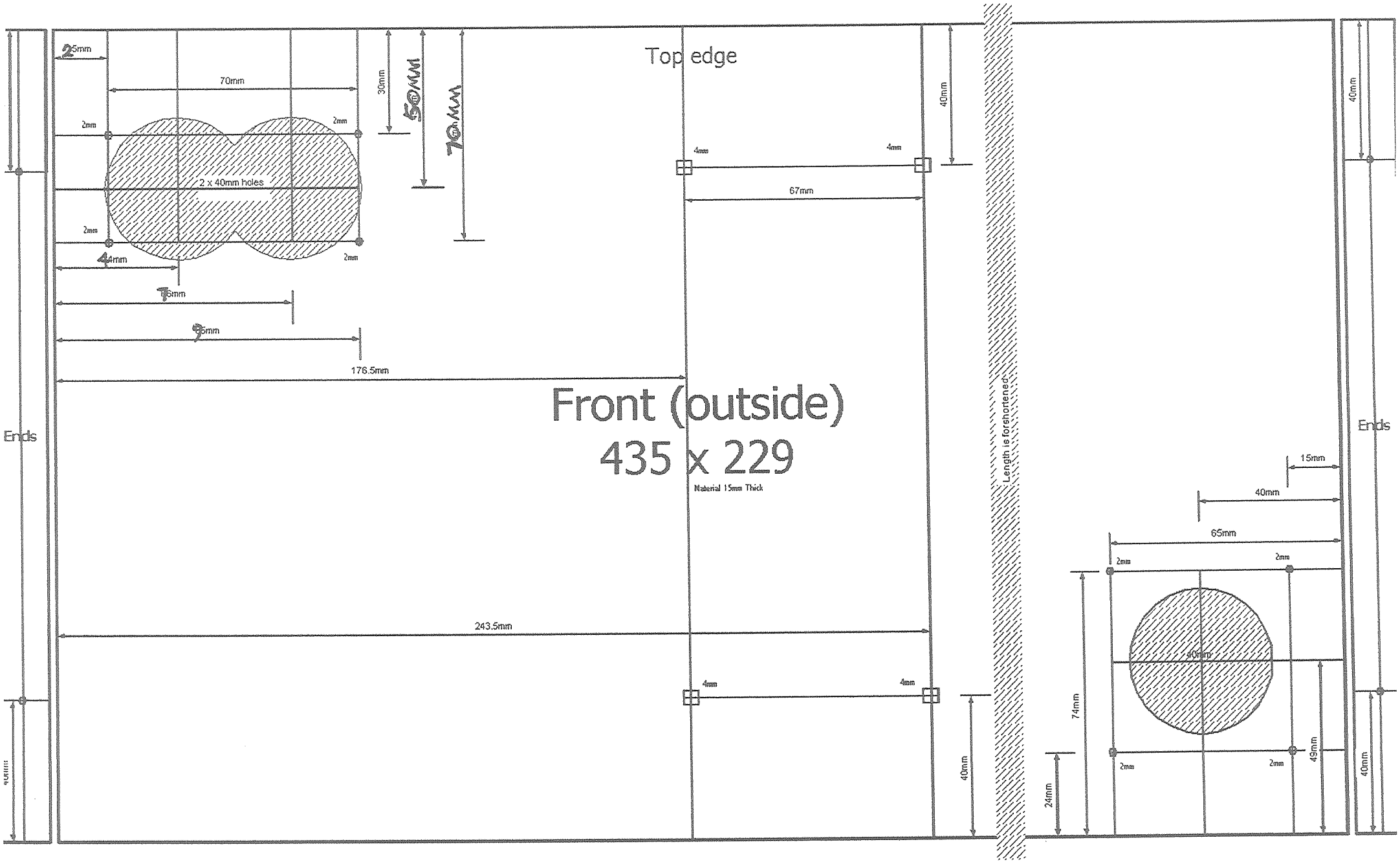
17 Seal base with silicone sealant or with vinyl tape.

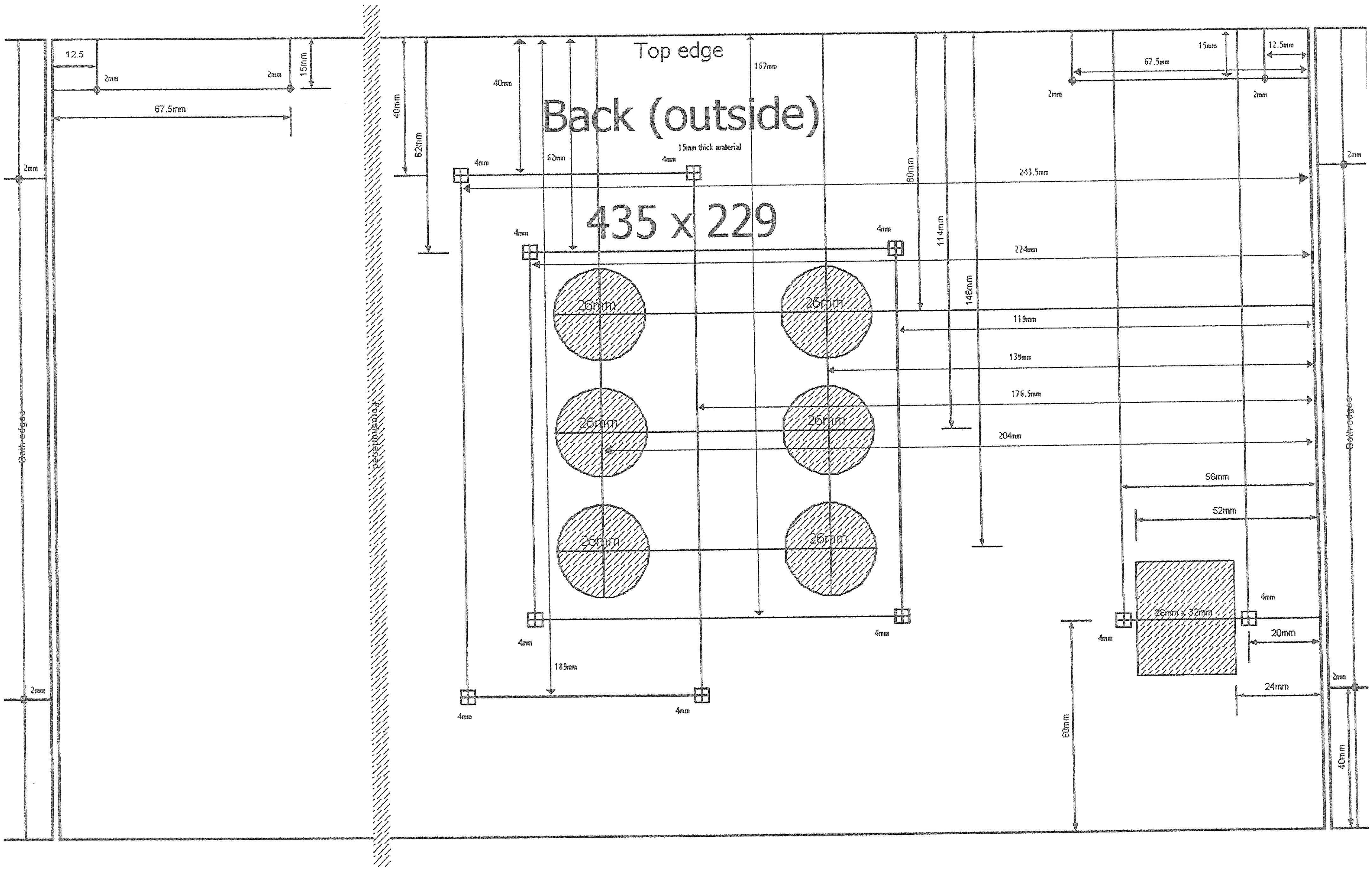
18 Fix 4x self adhesive feet to corners of base.

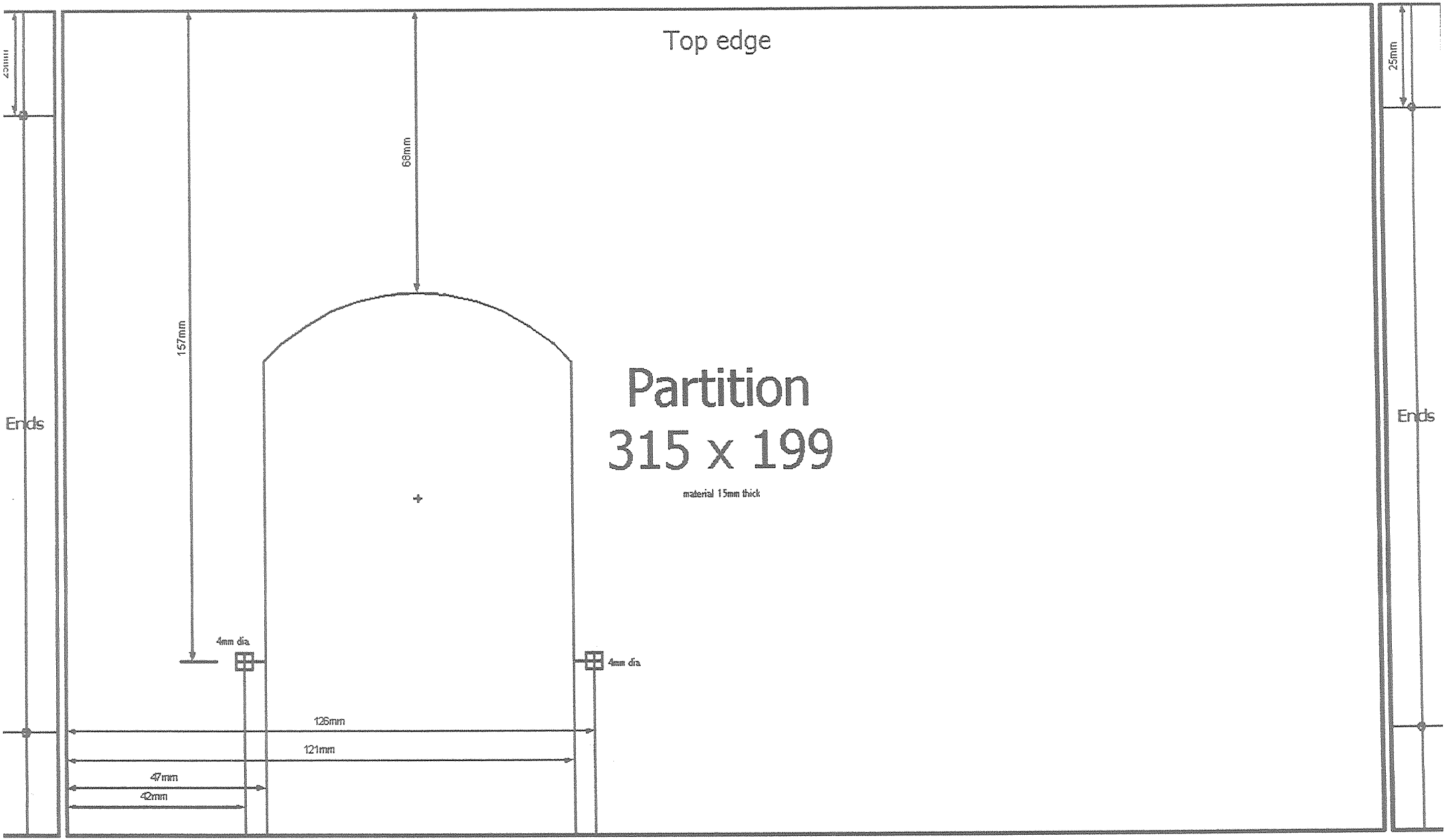
19 Fit hinges to lid (4xM4x12mm screws/washers/nuts)

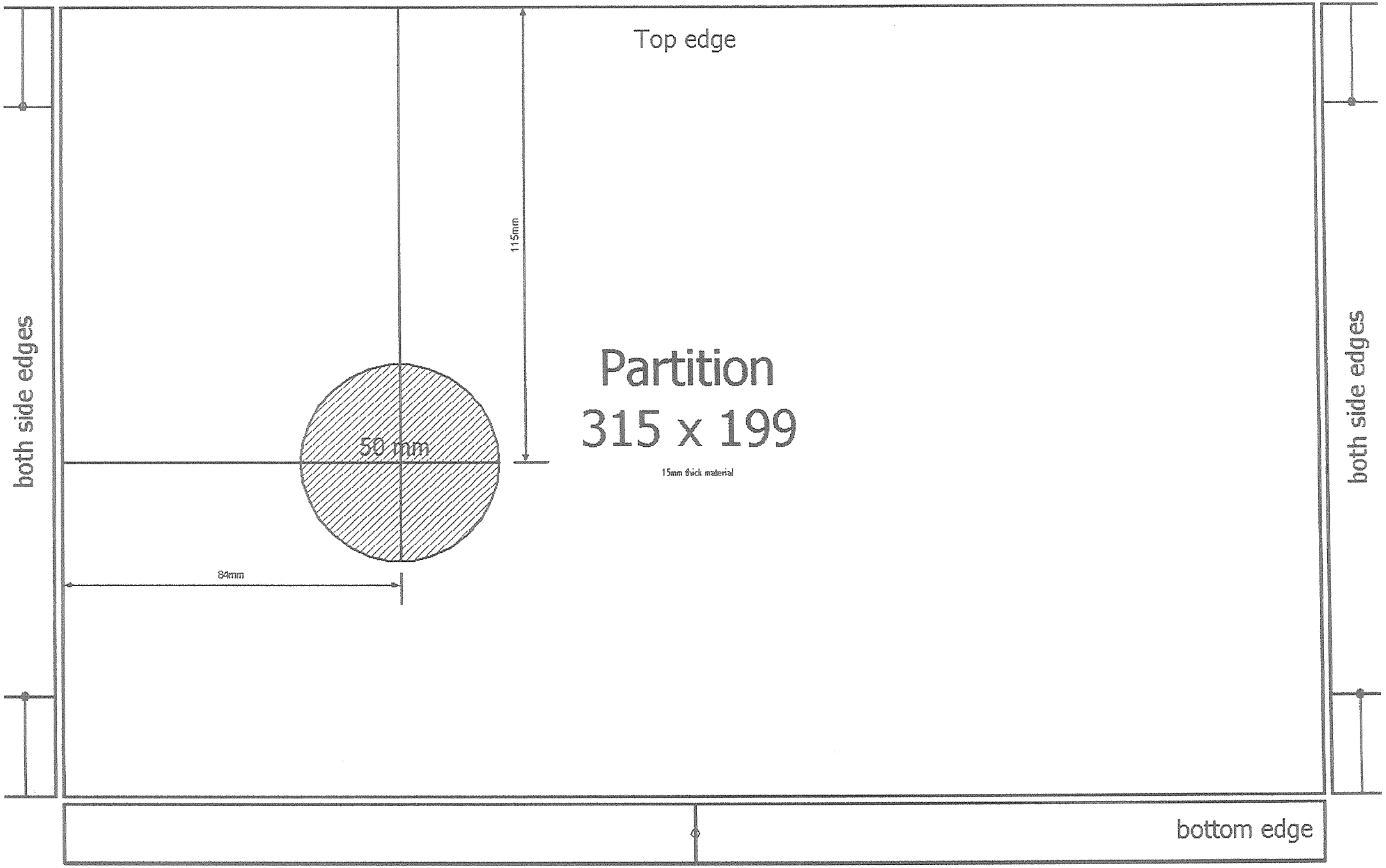
20 Fit hinge sockets to rear of enclosure (4xNo6x20 c/sk screws)

21 Fit lid to machine.

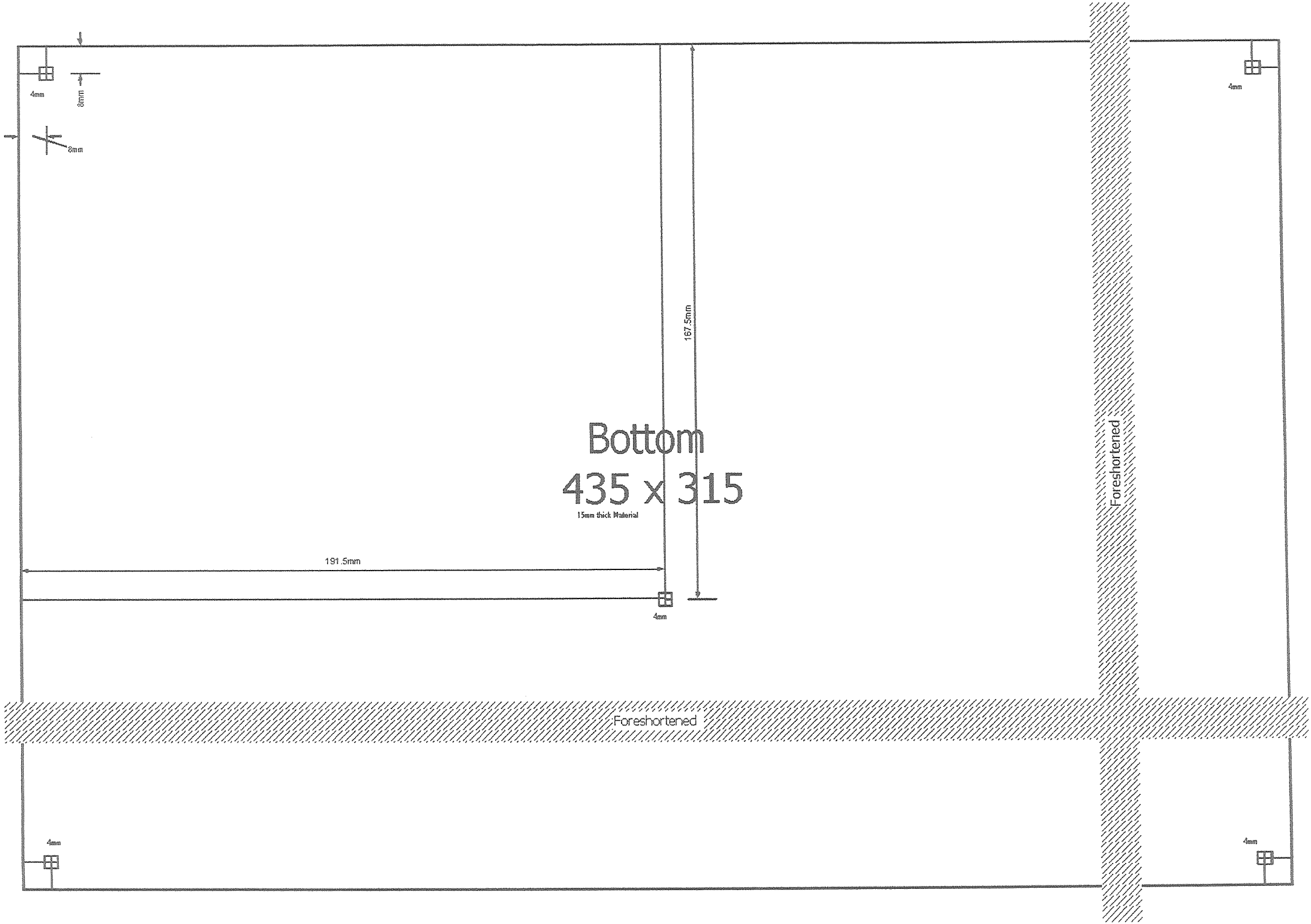

Top edge
Front (outside)
435 x 229
Material 15mm Thick
Length is foreshortened
Ends
Ends
25mm
70mm
30mm
50mm
70mm
2mm
2mm
2 x 40mm holes
2mm
2mm
4mm
75mm
95mm
176.5mm
243.5mm
40mm
4mm
4mm
67mm
4mm
4mm
40mm
40mm
15mm
40mm
65mm
2mm
2mm
40mm
74mm
24mm
2mm
2mm
49mm
40mm

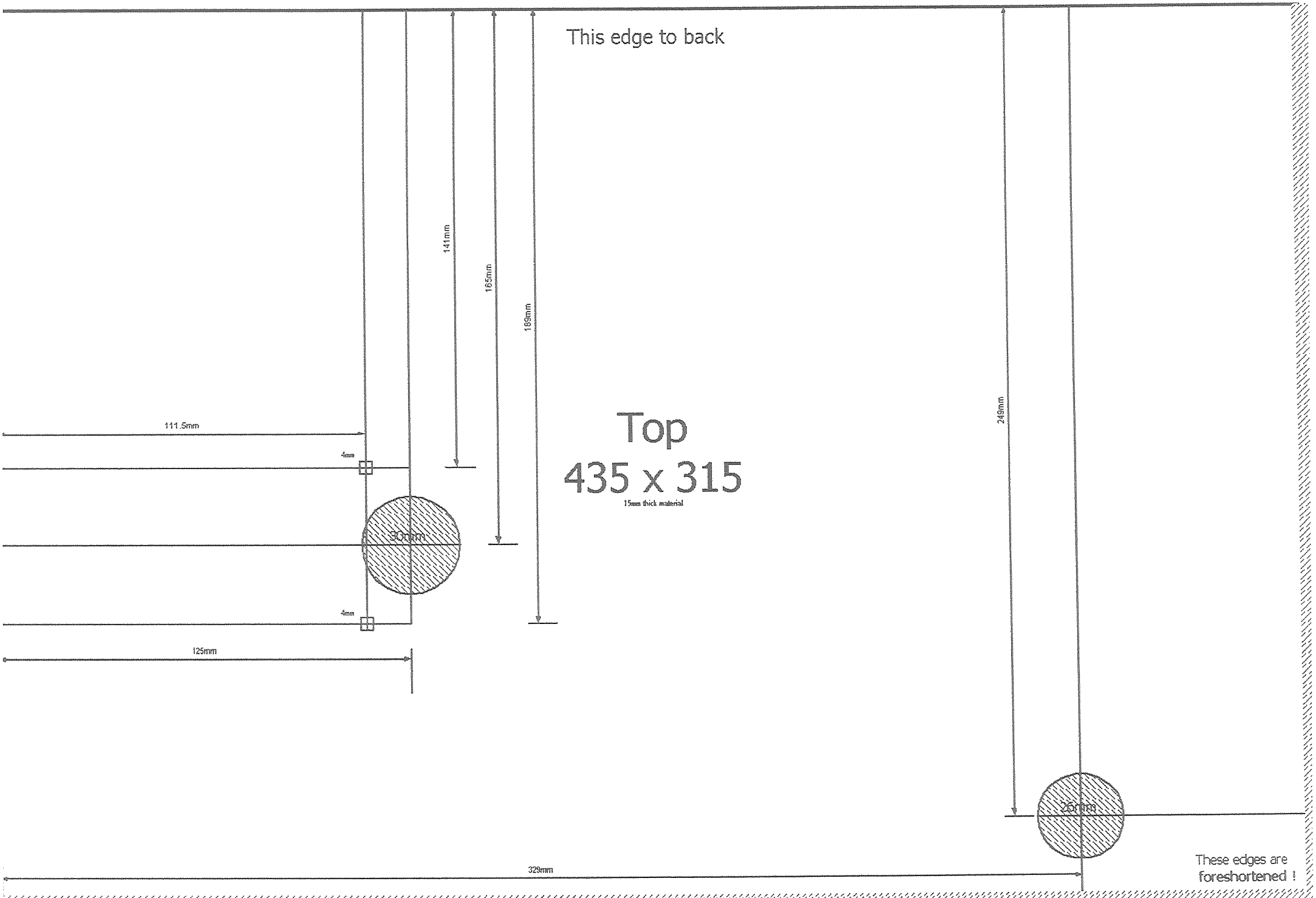

Top edge
Back (outside)
15mm thick material
435 x 229
Both edges
Foreshortened
12.5
67.5mm
15mm
2mm
40mm
62mm
167mm
243.5mm
224mm
80mm
114mm
148mm
119mm
139mm
176.5mm
204mm
189mm
4mm
26mm
56mm
52mm
26mm x 32mm
20mm
24mm
60mm
12.5mm


Top edge
25mm
68mm
157mm
Ends
Partition
315 x 199
material 15mm thick
4mm dia
4mm dia
126mm
121mm
47mm
42mm
25mm
Ends

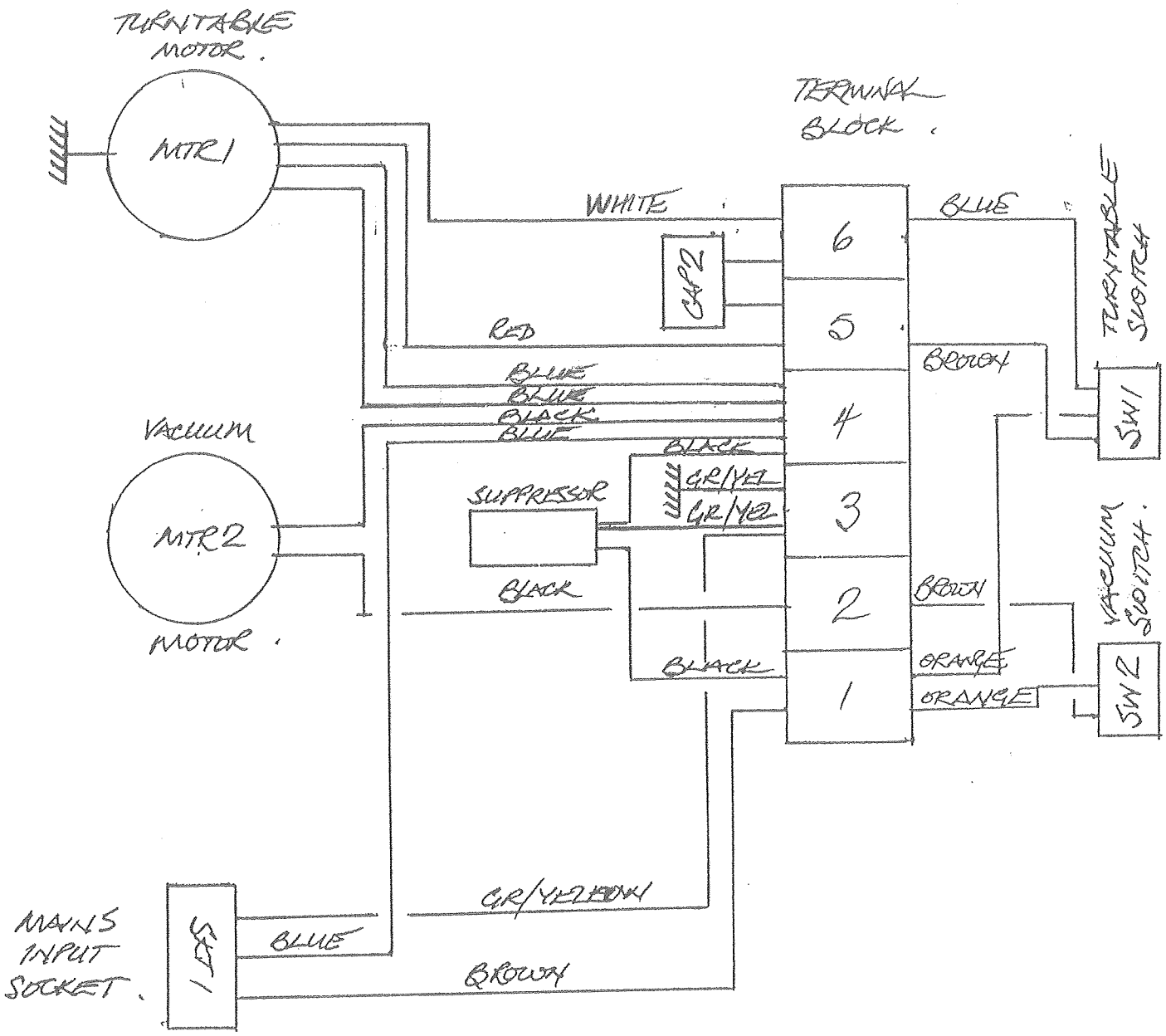

Top edge
115mm
Partition
315 x 199
15mm thick material
50 mm
84mm
both side edges
both side edges
bottom edge


40mm
4mm
7.5mm
Sides
345 x 229
iron-on laminate to ends
15mm thick Material
4mm
4mm
40mm

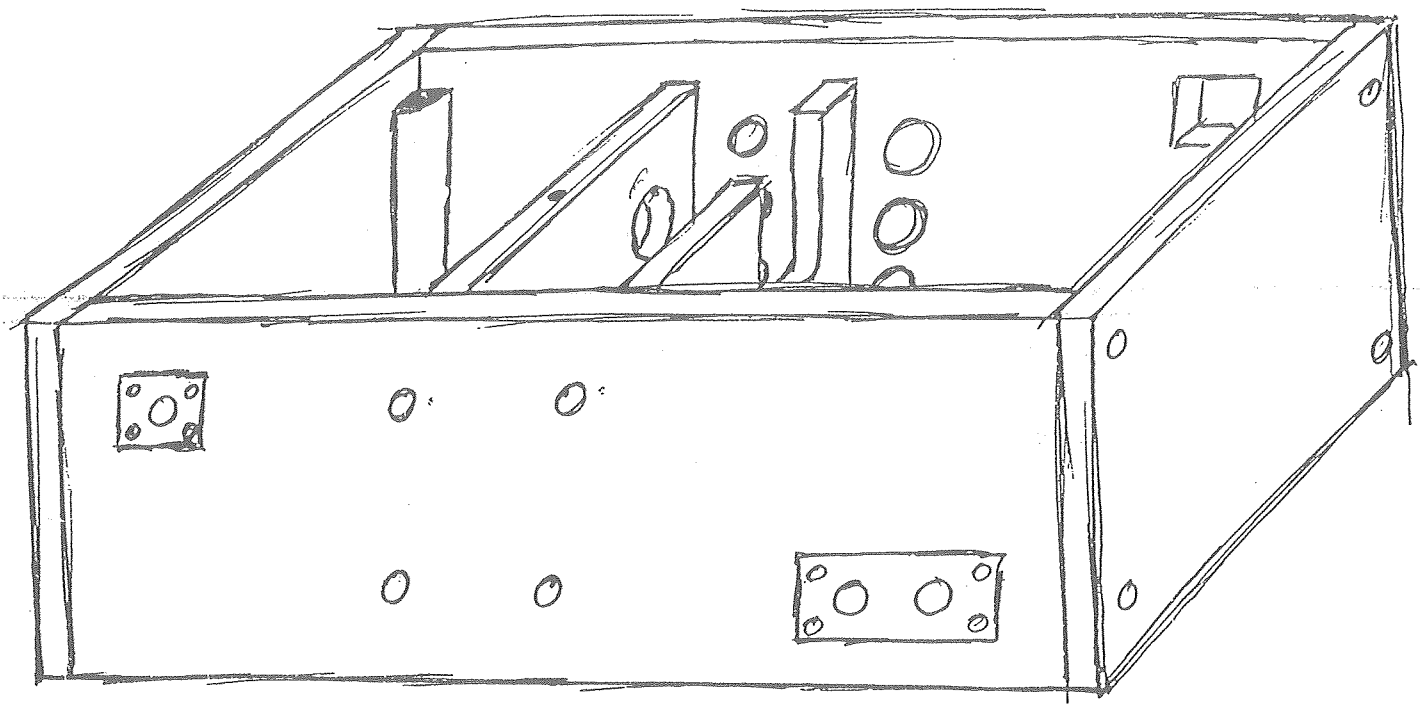

4mm
8mm
8mm
4mm
167.5mm
Bottom
435 x 315
15mm thick Material
191.5mm
4mm
Foreshortened
Foreshortened
4mm
4mm


This edge to back
Top
435 x 315
15mm thick material
111.5mm
4mm
141mm
165mm
189mm
30mm
4mm
125mm
249mm
26mm
329mm
These edges are
foreshortened !

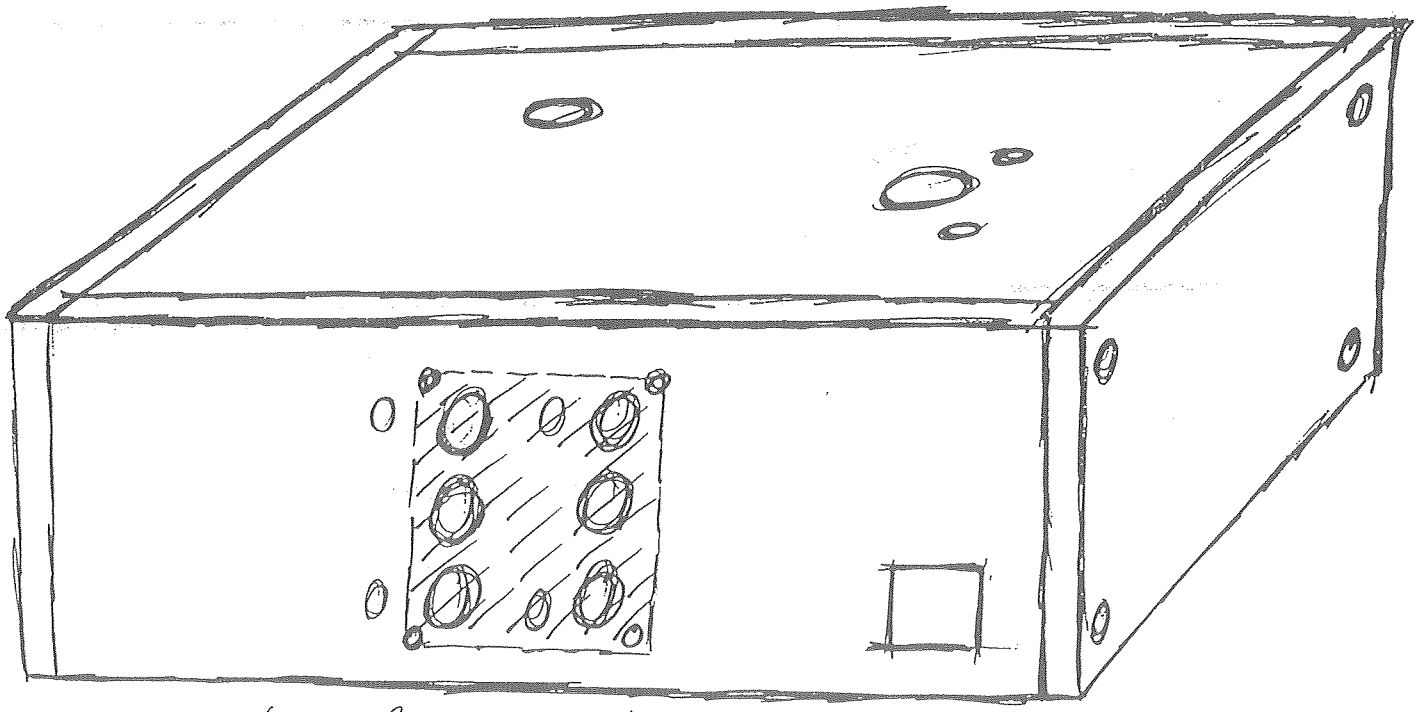
Wiring Diagram
Drawing No 8



MOTH RCM!
DRAWING No 9! CABINET ASSEMBLY.



VIEW FROM FRONT / BOTTOM.



VIEW FROM REAR / TOP.