

FABCO PACK, STAGE 1 — THE DOOR AND THE FRAME IT HANGS IN

Three things to make. Everything else on the door is machined blocks and bought hardware that OpenOverland bolts on, so nothing on the door itself is welded.

Item	Piece	Qty	Stock	Size, mm [in]
A1	OPENING FRAME, welded	1		1715.1 [67.52] x 626.0 [24.65] over the tubes
A1-01	Bottom rail	1	Square tube 6061-T6, 1 x 1 x 1/8 in	1715.1 [67.52], mitred 45° both ends
A1-02	Top rail	1	C channel 6063-T52, 1 x 1 x 1/8 in	1715.1 [67.52], mitred; open side DOWN
A1-03	Post	2	Square tube 6061-T6, 1 x 1 x 1/8 in	626.0 [24.65], mitred 45° both ends
A1-04	Edge ring	1	Plate 1/8 in	1715.1 [67.52] x 626.0 [24.65], see sheet 3 and the DXF
A1-05	End web	2	Plate 3/16 in	29.9 [1.18] x 626.0 [24.65]
A1-06	Gusset	2	Plate 3/4 in	triangle, 62.0 [2.44] legs
A1-07	Insert bar	1	Square bar 3/4 in, dressed	18.8 [0.74] square x 180.0 [7.09]
A1-08	End pin block	2	Plate or bar 1 in	28.5 [1.12] x 25.2 [0.99] x 25.4 [1.00]
A2	DOOR CHANNEL, not welded		C channel 6063-T52, 1 x 1 x 1/8 in	
A2-01/02	Bottom and top	1 + 1		1697.5 [66.83], mitred 45° both ends
A2-03/04	Front and rear end	1 + 1		611.8 [24.09], mitred 45° both ends
A3	DOOR PAN	1	Sheet 5052-H32, 0.080 in	1701.6 [66.99] x 613.8 [24.17] x 27.4 [1.08] deep, outside

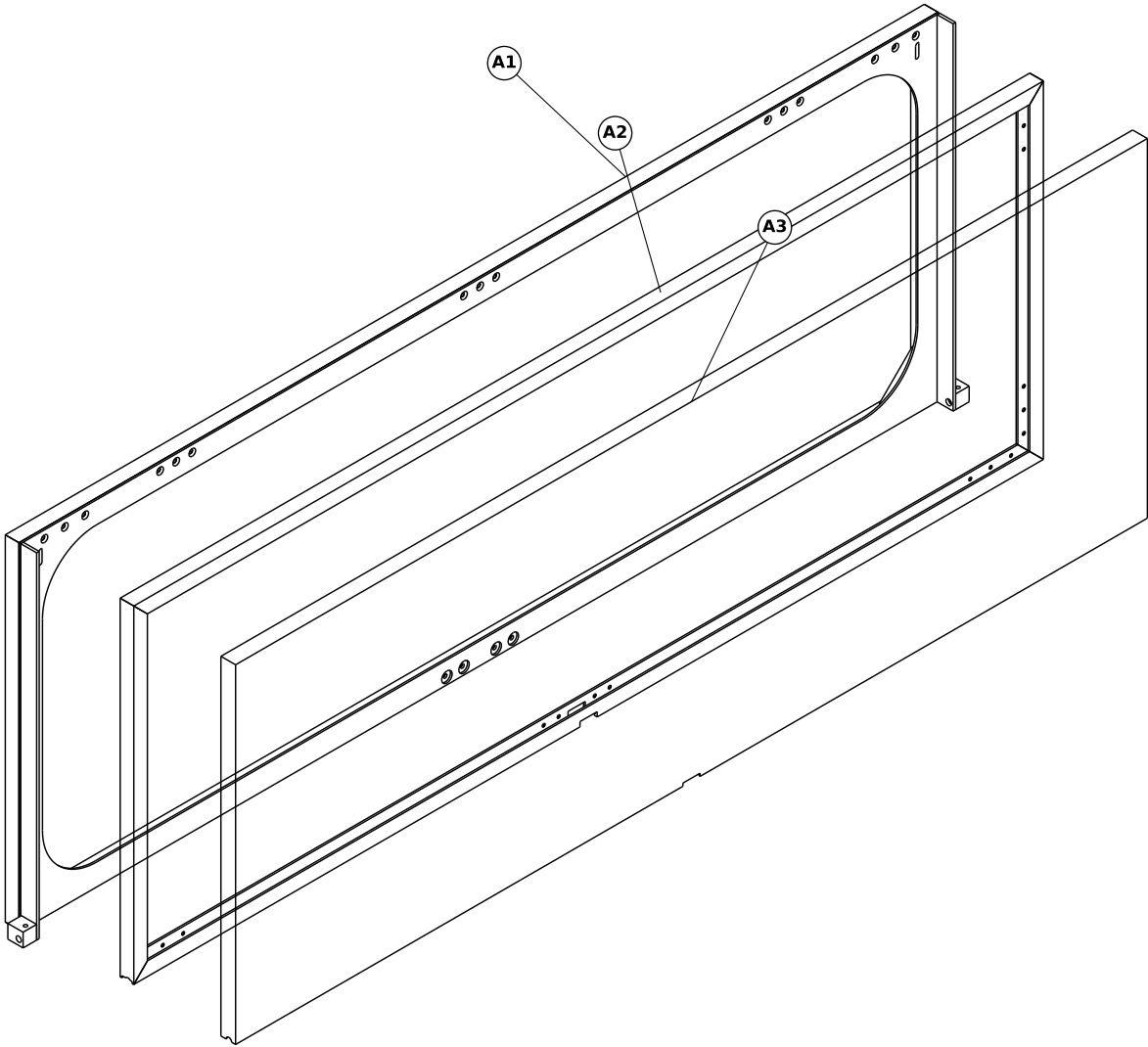
STOCK, FROM RYERSON (the part numbers are links; the whole bill of materials is on sheet 7)

Stock	Ryerson part	Size	Used for
C channel 6063-T52, 1 x 1 x 1/8 in	6063CH1X1/8	252 in	Door channel and top rail: 6333.7 [249.36] in all
Square tube 6061-T6, 1 x 1 x 1/8 in	6061ST1X1/8	240 in	Bottom rail and posts: 2967.1 [116.82]
Sheet 5052-H32, 0.080 in	5052SH080X48X144	48 x 144 in	Door pan
Sheet 5052-H32, 0.125 in	5052SH125X36X96	36 x 96 in	Edge ring
Sheet 5052-H32, 0.190 in	5052SH190X36X96	36 x 96 in	End webs
Square bar 6061, 3/4 in	6061SB3/4	144 in	Insert bar, 180 mm
Plate, 3/4 in and 1 in	offcuts		Two gussets, two end pin blocks

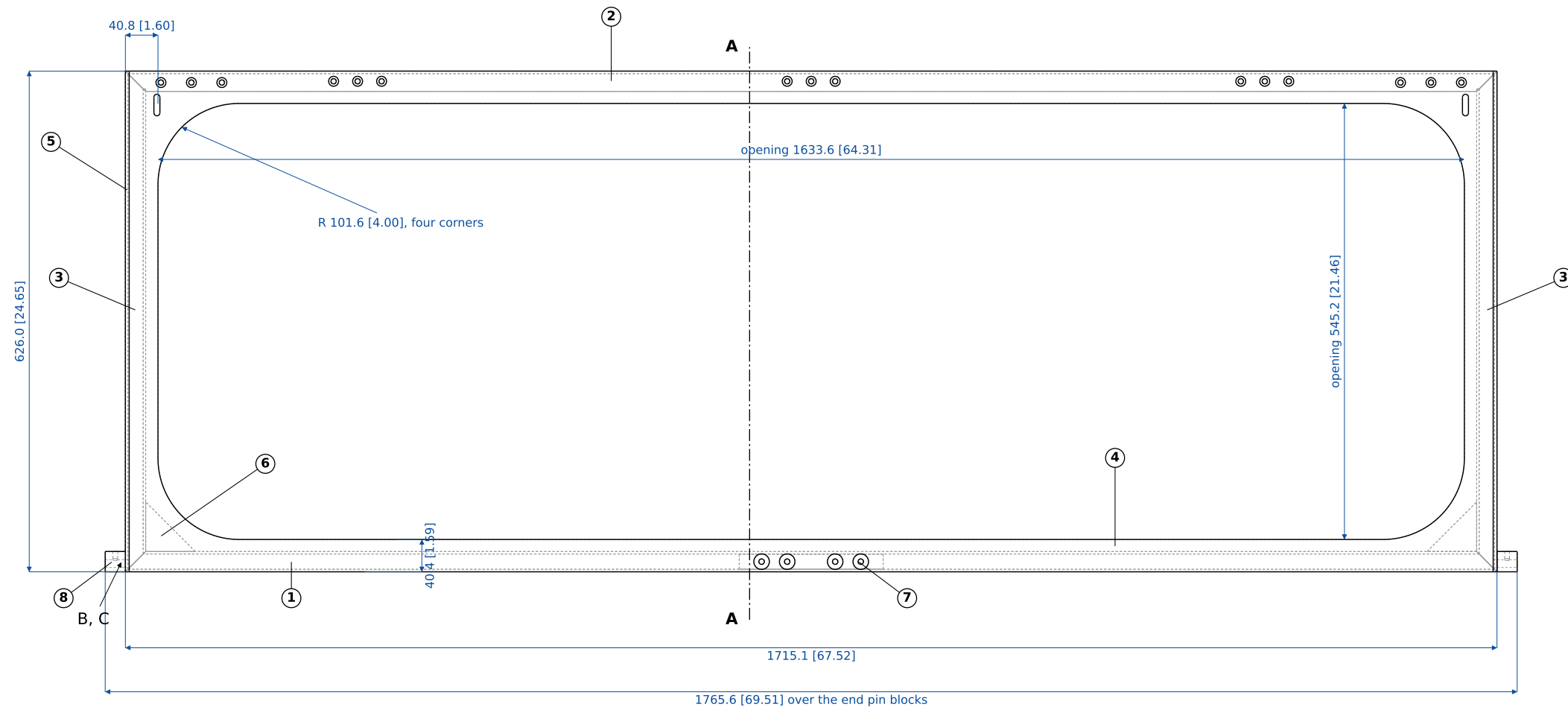
One 252 in length of channel is only just enough for the door and the top rail.

GENERAL

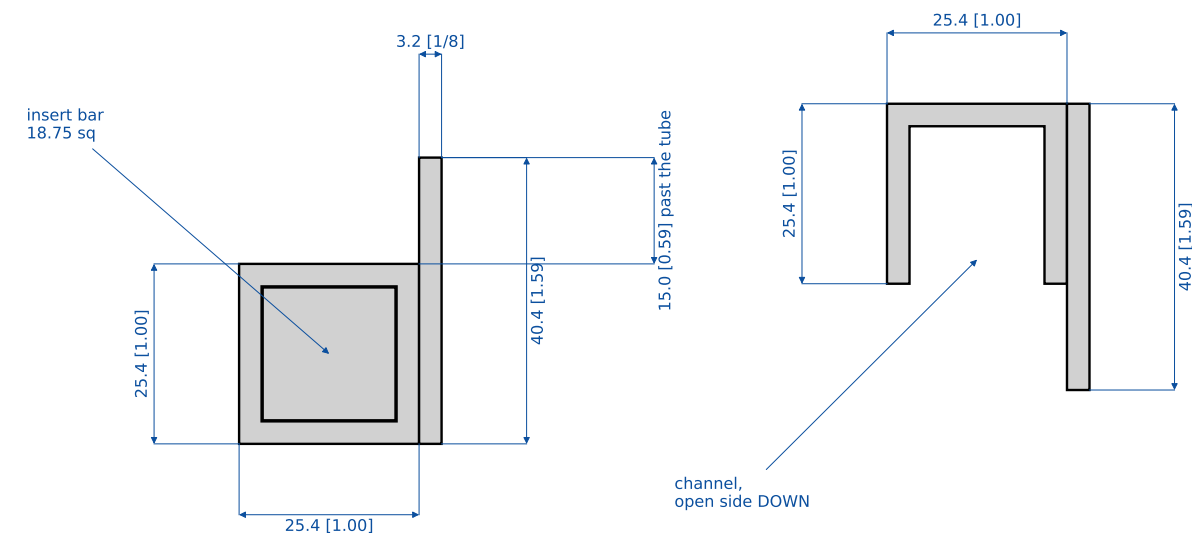
- Sizes are in millimetres with inches in brackets. The STEP files in this pack are the master; these sheets explain them. Do not scale the sheets.
- Draft: nothing has been strength-checked. Weld sizes and sequence are Fabco's call; the sheets say where a weld must not stand proud.
- Screw holes are in the models and on the sheets. Any hole that is easier to match-drill at assembly can be left: say which.
- Finish: everything is to be powder coated black. Agree it with OpenOverland before coating: bores, tongues, tabs and threads have to be masked.
- Sheets: 2 frame assembly and fitting, 3 edge ring and rails, 4 small frame parts, 5 door channel, 6 door pan and the fit of the door in the frame, 7 bill of materials.



The three pieces, pulled apart: A1 opening frame, A2 door channel, A3 door pan (from outside the truck, front of the box on the left)

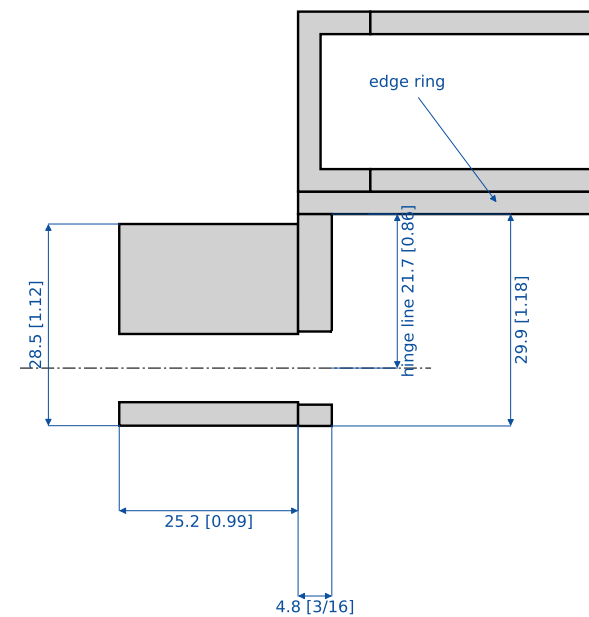


A1 from the door side (outside the truck), front of the box on the left. 1 bottom rail 2 top rail 3 posts 4 edge ring 5 end webs 6 gussets 7 insert bar (inside the bottom rail) 8 end pin blocks

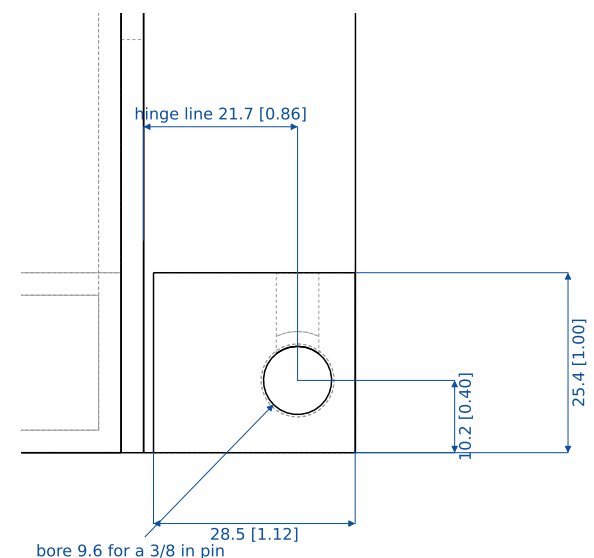


A-A bottom rail, through the insert bar

A-A top rail



B plan through the hinge line, front end



C front end, looking rearwards

FITTING, IN THIS ORDER

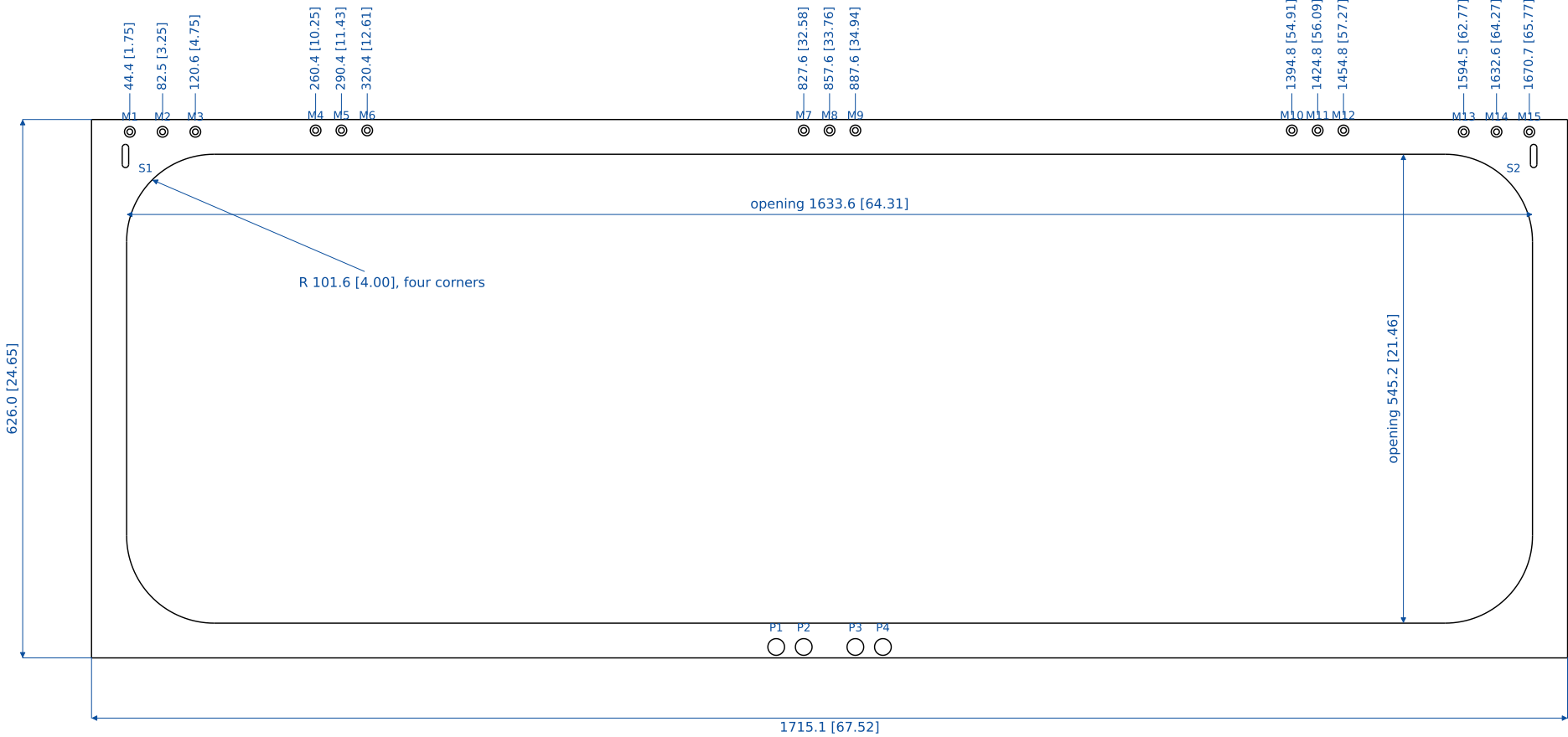
1. Cut and mitre the three tubes and the top channel. The top rail is channel with its open side DOWN: blocks go up into it later.
2. Slide the insert bar (7) into the bottom rail before anything is welded: near end 767.6 [30.22] from the rail's front tip. Hold it so it cannot move.
3. Weld the four members flat and square: 1715.1 [67.52] x 626.0 [24.65], diagonals equal (1825.8 [71.88]).
4. Edge ring (4) on the door-side face, its outside edges flush with the outside of the tubes, countersinks facing the door. It stands 15.0 into the opening all round. Keep its opening edge and its door-side face clean: the door seal pushes onto that edge.
5. Gussets (6) in the two bottom corners, behind the ring, set 3.2 back from both faces of the tube so the welds stay below the surface.
6. End webs (5) across each end, on the door side of the ring and flush with the end of the frame, pin hole at the bottom.
7. End pin blocks (8) on the outside of each web, tapped hole up. THE HINGE LINE: both bores and both web holes on one straight line, 21.7 [0.86] in front of the ring's door-side face and 10.2 [0.40] above the underside of the bottom rail. Set both ends up on one straight 3/8 in bar before welding.
8. Holes: sheet 3. The four 6.8 holes go through the bottom rail and the bar together.
9. Check: flat, square, hinge line straight.

3

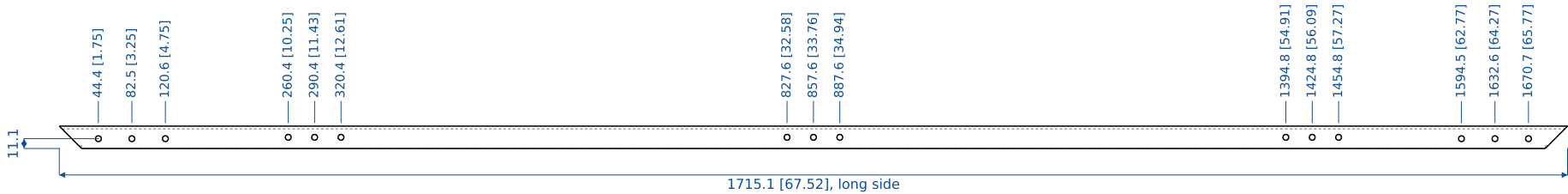
A1 OPENING FRAME — edge ring, rails and posts

Parts A1-01 to A1-04: cut lengths, mitres and every hole

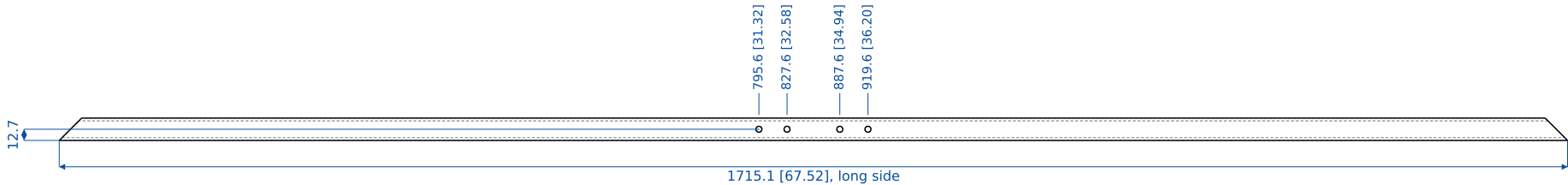
Fabco pack, stage 1 · mm [in] · do not scale



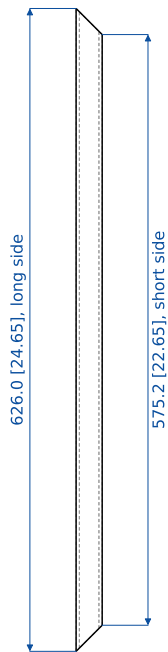
A1-04 edge ring, 1/8 in plate, from the door side (DXF in the pack). X from the front end, Y from the bottom edge



A1-02 top rail: C channel, open side down. 15 holes 6.6 through both legs



A1-01 bottom rail: square tube. 4 holes 6.8 through both walls and the insert bar

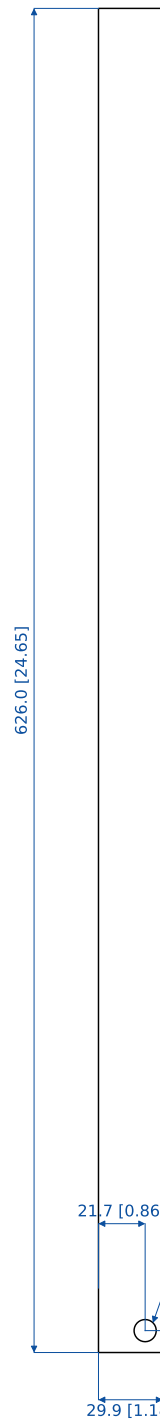
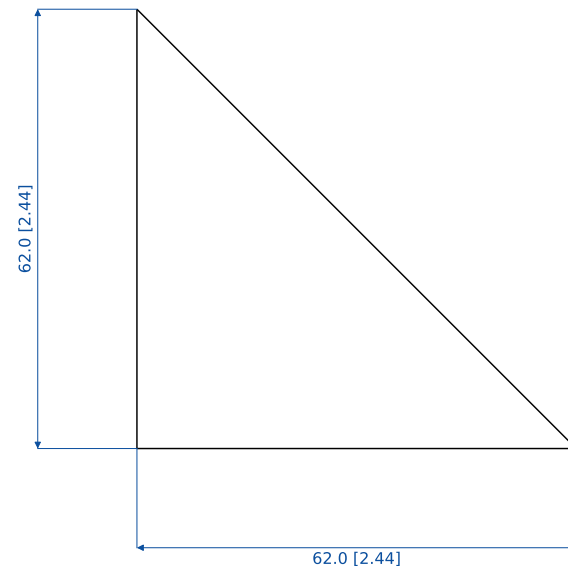
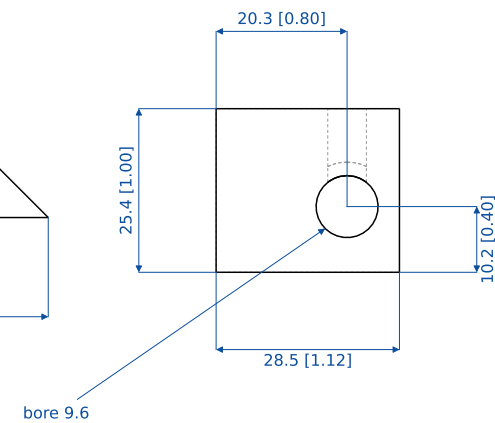
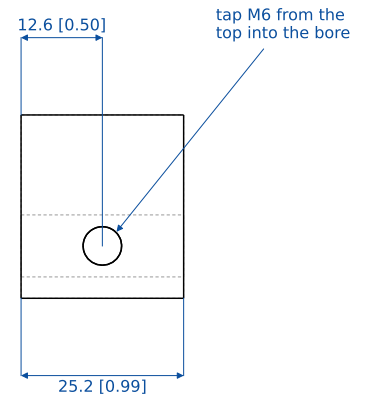
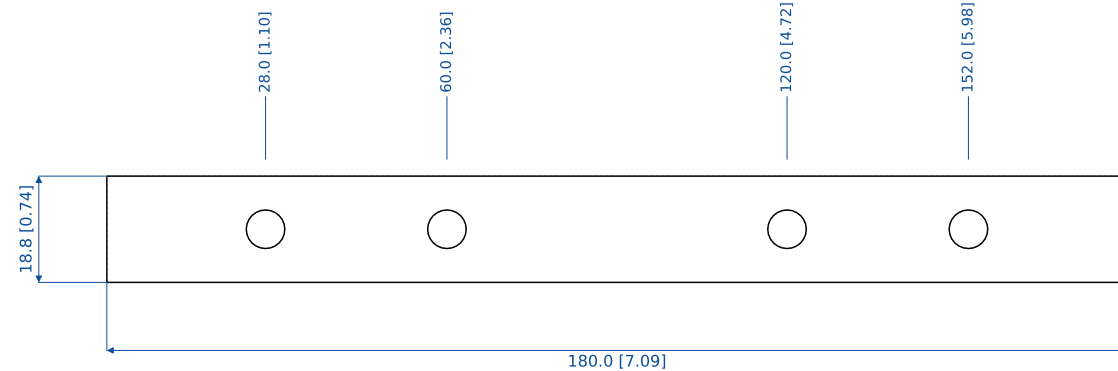


A1-03 post, 2 off: square tube, no holes

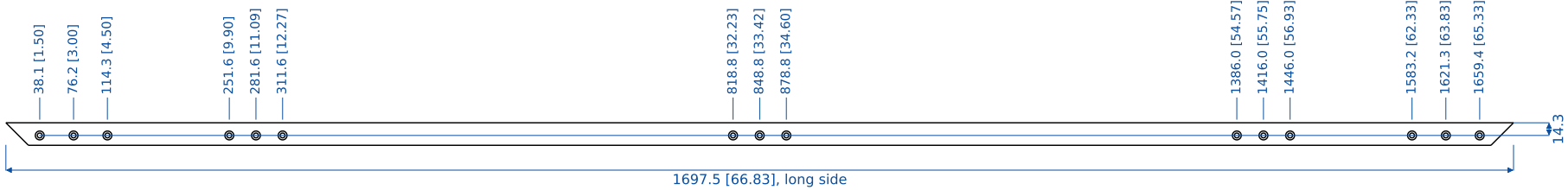
Tag	X	Y	Hole
M1	44.4 [1.75]	611.7 [24.08]	6.6, countersunk for M6 on the door side
M2	82.5 [3.25]	611.7 [24.08]	6.6, countersunk for M6 on the door side
M3	120.6 [4.75]	611.7 [24.08]	6.6, countersunk for M6 on the door side
M4	260.4 [10.25]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M5	290.4 [11.43]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M6	320.4 [12.61]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M7	827.6 [32.58]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M8	857.6 [33.76]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M9	887.6 [34.94]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M10	1394.8 [54.91]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M11	1424.8 [56.09]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M12	1454.8 [57.27]	613.3 [24.15]	6.6, countersunk for M6 on the door side
M13	1594.5 [62.77]	611.7 [24.08]	6.6, countersunk for M6 on the door side
M14	1632.6 [64.27]	611.7 [24.08]	6.6, countersunk for M6 on the door side
M15	1670.7 [65.77]	611.7 [24.08]	6.6, countersunk for M6 on the door side
P1	795.6 [31.32]	12.7 [0.50]	19.4, plain
P2	827.6 [32.58]	12.7 [0.50]	19.4, plain
P3	887.6 [34.94]	12.7 [0.50]	19.4, plain
P4	919.6 [36.20]	12.7 [0.50]	19.4, plain
S1	39.4 [1.55]	570.1 to 597.1	slot 7.5 wide, round ends, edges rounded
S2	1675.7 [65.97]	570.1 to 597.1	slot 7.5 wide, round ends, edges rounded

M1–M15 also go through both legs of the top rail, on the same centres: drill the rail through the ring. P1–P4 sit over the four 6.8 holes through the bottom rail and the insert bar.

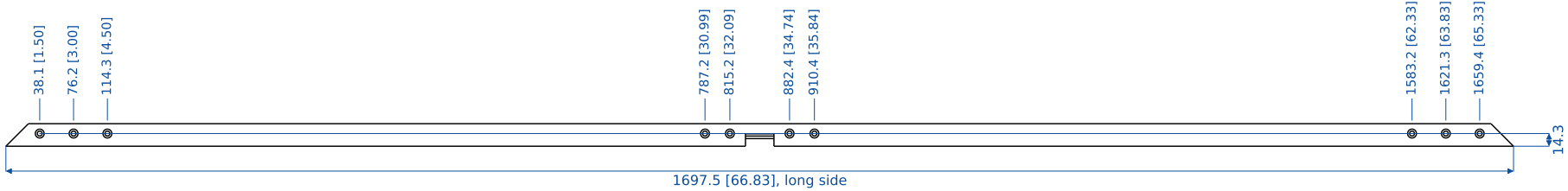
Mitres are 45°, long point to long point. The short side of each rail is 1664.3 [65.52]; the three receiver and two stay blocks that go up into the top rail are held by M1–M15.

ring side
door side**A1-05 end web, 3/16 in plate, 2 off (flip one). DXF in the pack****A1-06 gusset, 3/4 in plate, 2 off. DXF in the pack.**
It sits 3.2 back from both faces of the 1 in tube**A1-08 end pin block, 2 off: along the pin****A1-08 from above****A1-07 insert bar, 6061: 18.75 square x 180.0, to slide inside the bottom rail (inside is about 19.05 square: break the corners for the tube's inside radius). 4 holes 6.8 on the centre line, drilled through rail and bar together**

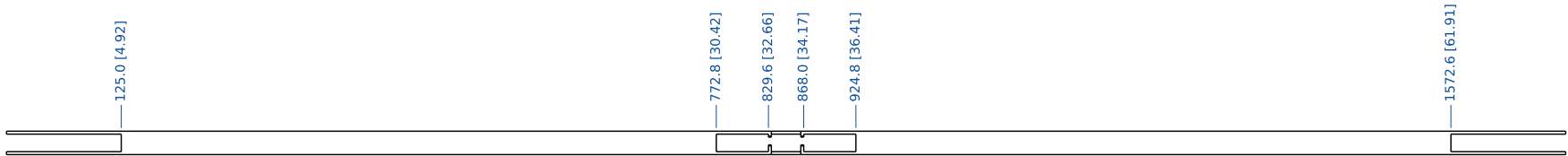
The pin is 3/8 in (9.525) stainless and has to slide in the bore: ream to suit. The bore is 20.3 [0.80] from the block's inner (ring-side) face, which leaves 3.3 of metal outside it; the block is welded to the end web, and later to the box's front sheet as well.



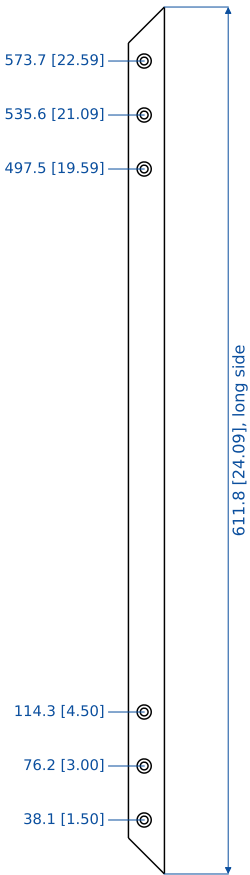
A2-02 top: 15 holes 5.5 in the inner leg, countersunk on this face for M5 flat heads. Seen from inside the box; positions from either end (the pattern is the same from both)



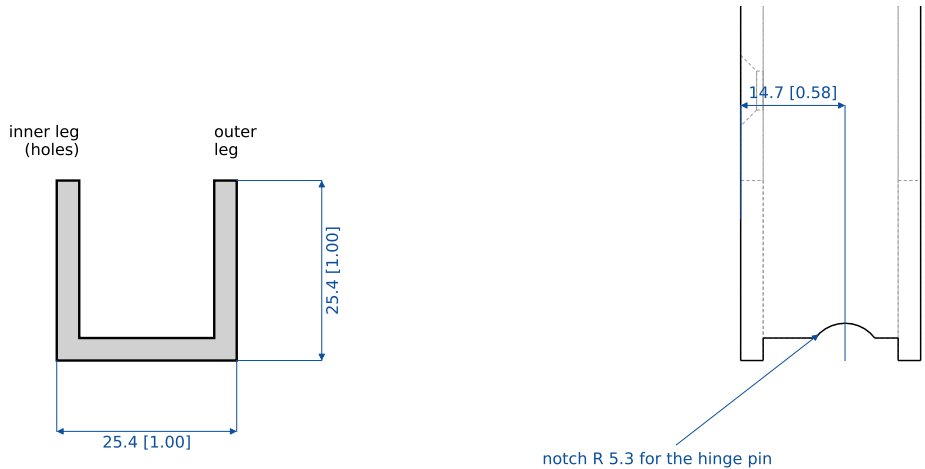
A2-01 bottom: 10 holes 5.5 in the inner leg, countersunk on this face for M5 flat heads. Seen from inside the box; positions from either end (the pattern is the same from both)



A2-01 bottom, seen from below: the web is cut out between the legs for the hinge (legs stay whole). Positions from the front end; the slots are 19.0 wide, the full width between the legs



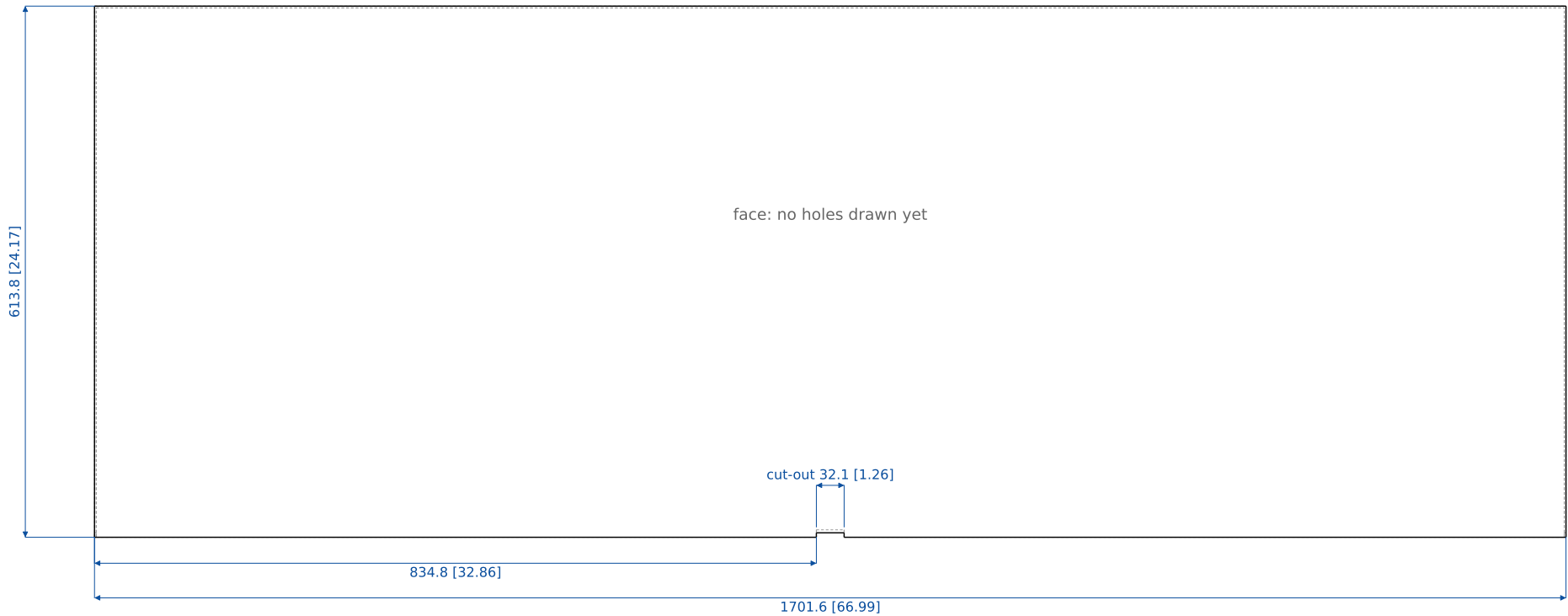
A2-03 front end, A2-04 rear end (mirror image): 6 holes 5.5, countersunk, heights from the bottom. Seen from inside the box



Profile: 1 x 1 x 1/8 in, open side into the door

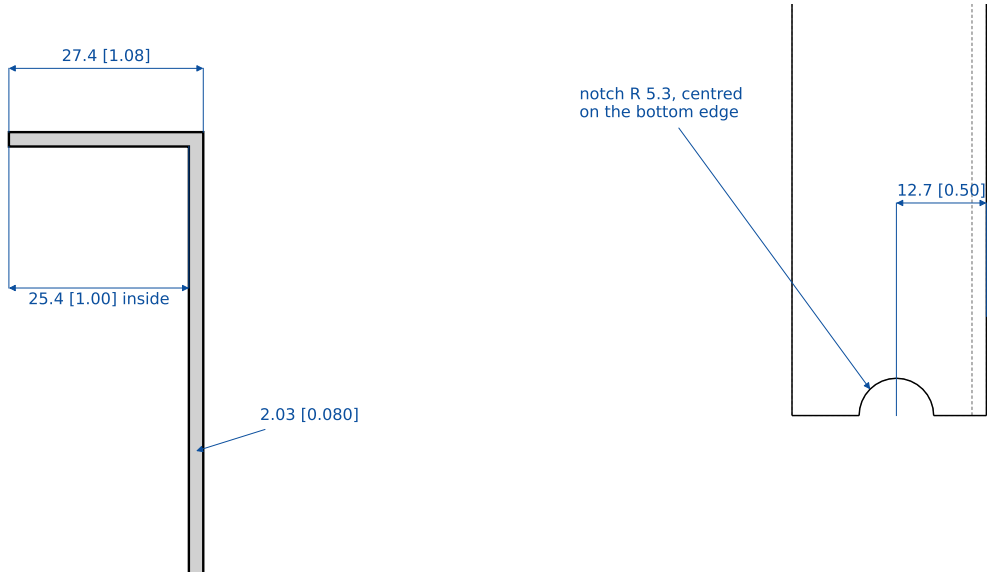
A2-03 / 04: pin notch in the web at the bottom

1. Four lengths, mitred 45° at both ends, open side into the door. Laid mitre to mitre they make a frame 1697.5 [66.83] x 611.8 [24.09] outside.
2. They are NOT welded: a screwed aluminium block in each corner holds them, so the door comes apart again.
3. The screw holes go through the inner leg only. They can be left for OpenOverland to match-drill with the blocks: agree it first.
4. The bottom length carries the hinge: its web is cut away at each end and in the middle, and saddled for the fixed hinge barrel. The model has the exact shape.



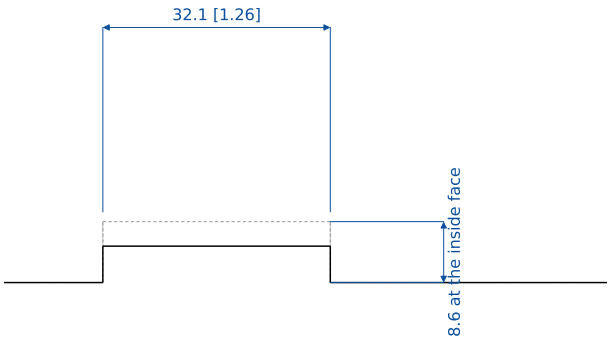
A3 door pan, 0.080 in 5052-H32, from the door side. The top edge and both ends fold back; the bottom edge stays open

PAN DETAILS



Top edge, section

Front end flange, looking rearwards: pin notch (the same at the rear end)

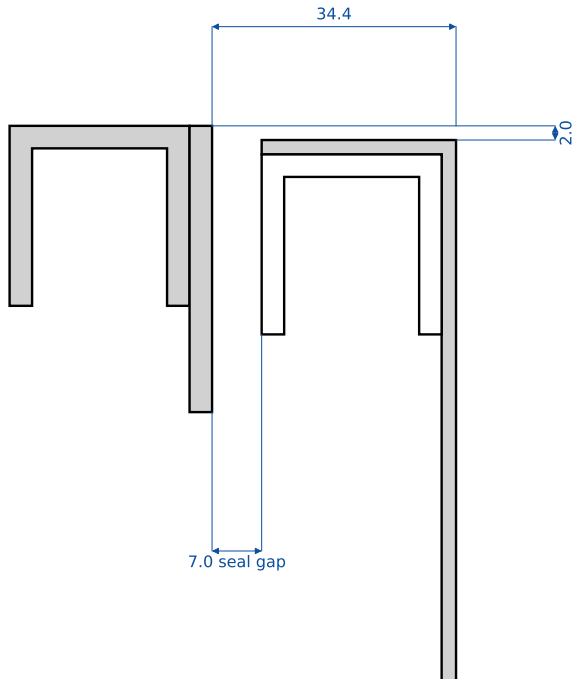


Cut-out for the fixed hinge barrel, middle of the bottom edge (the model shows its curved edge)

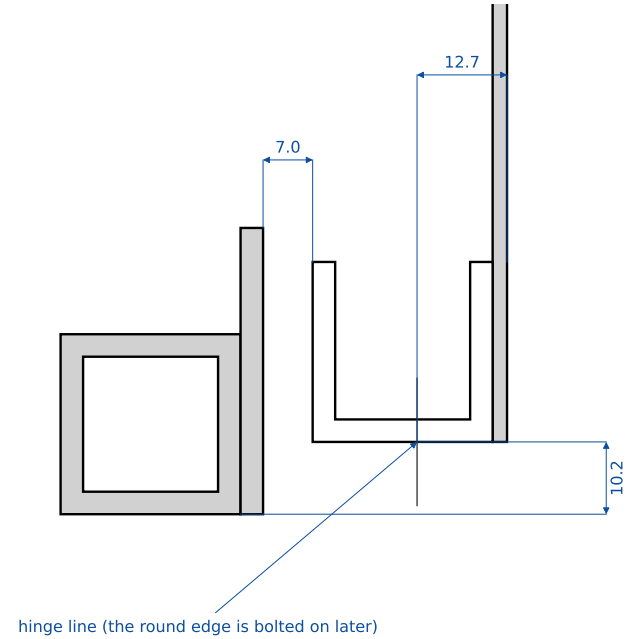
PAN. Outside 1701.6 [66.99] x 613.8 [24.17], 27.4 [1.08] deep; inside it is 1697.5 [66.83] x 611.8 [24.09] x 25.4, and the four channel lengths fill it size for size. Fold it to the channel frame, not only to the numbers: lay the four lengths in the pan as the check. The model has sharp folds: develop the flat with Fabco's own bend radius, the outside size governs. Close the two top corners. DOOR IN THE FRAME. The finished door has to pass between the two end webs, which are 1705.6 [67.15] apart: 2.0 clear at each end.

With the door shut the pan's face is 34.4 in front of the ring's door-side face, its top edge is 2.0 below the top of the frame, and the door's inner face is 7.0 from the ring: that gap is the seal's.

THE DOOR SHUT IN THE FRAME



Door shut in the frame, top: section (frame, ring, door channel, pan)



Door shut in the frame, bottom: section (frame, ring, door channel, pan)

A STOCK FOR THE FABCO PIECES — Ryerson

Stock	Ryerson part	Size	Used for
C channel 6063-T52, 1 x 1 x 1/8 in	6063CH1X1/8	252 in	Door channel and top rail: 6333.7 [249.36] in all
Square tube 6061-T6, 1 x 1 x 1/8 in	6061ST1X1/8	240 in	Bottom rail and posts: 2967.1 [116.82]
Sheet 5052-H32, 0.080 in	5052SH080X48X144	48 x 144 in	Door pan
Sheet 5052-H32, 0.125 in	5052SH125X36X96	36 x 96 in	Edge ring
Sheet 5052-H32, 0.190 in	5052SH190X36X96	36 x 96 in	End webs
Square bar 6061, 3/4 in	6061SB3/4	144 in	Insert bar, 180 mm
Plate, 3/4 in and 1 in	offcuts		Two gussets, two end pin blocks

B MADE PARTS — machined from the 3D model, not in this pack

Part	Qty	Material
B1 Top corner blocks	2, a mirrored pair	Aluminium
B2 Bottom corner blocks, with the hinge barrel	2, a mirrored pair	Aluminium, hard-anodised
B3 Middle hinge blocks	2	Aluminium, hard-anodised
B4 Hinge plates, 191.6 x 114.6	2	Aluminium plate 1/8 in
B5 Fixed pivot	1	Aluminium
B6 Striker blocks	3	Aluminium
B7 Strikers	3	316 stainless
B8 Latch receivers	3	Aluminium
B9 Stay corner blocks	2, a mirrored pair	Aluminium

All hardware is stainless steel. Quantities are for one door and its frame. "Candidate" means the nearest catalogue part: the model draws a slightly different size. Anti-seize on every stainless thread, isolating paste where stainless touches aluminium, polyurethane sealant under the 15 top-rail bolt heads.

C BOUGHT PARTS AND FASTENERS

Item	Supplier and part	Qty	Where, notes
Latch, stainless, with kick-out	Southco R4-EM-732-173-B	3	
Door seal, push-on	McMaster 12335A55	25 ft	
Half round, 6061, 1 in, 6 ft	McMaster 8242T71	1	two pieces of 647.8
Hinge pin: 316 dowel pin 3/8 x 6 in	McMaster 97395A935	3	cut to 5-1/2 in
Thrust washer, acetal, for a 3/8 in pin	McMaster 2795T12	2	candidate: 3/4 in OD x 1/16 in
Flush grease fitting, 303 stainless, M6 x 1	McMaster 10595K37	5	candidate
Door panel, 1 in cored board	not chosen (Coosa Bluewater 26)	1	about 1691 x 605
Stay cord, about 6 mm nylon	not chosen	2	about 1 m each
M5 x 12 Torx flat head, 18-8	McMaster 92703A162	41	door, from the inner face
M6 x 45 Torx flat head, 18-8	McMaster 92703A471	15	top rail, bolted right through
M6 x 30 Torx flat head, 18-8	McMaster 92703A467	6	strikers
M6 x 35 Torx pan head, 18-8	McMaster 90362A186	6	latches to their receivers
M6 nylon-insert lock nut, 18-8	McMaster 93625A250	27	top rail, strikers, latches
M6 washer, 18-8	McMaster 93475A250	27	top rail, latches
1/4-20 x 1-1/2 in carriage bolt, 316	McMaster 93180A230	4	fixed pivot
1/4-20 serrated flange nut, 316	McMaster 91343A100	4	fixed pivot
1/4 in washer, 316	McMaster 90107A029	4	fixed pivot
M6 x 10 cup-point set screw, 316	McMaster 92029A254	2	end pins
M3 x 8 flat head, 18-8, Torx Plus	McMaster 92703A149	about 110	door pan; not drawn yet (hex drive: 92125A128)