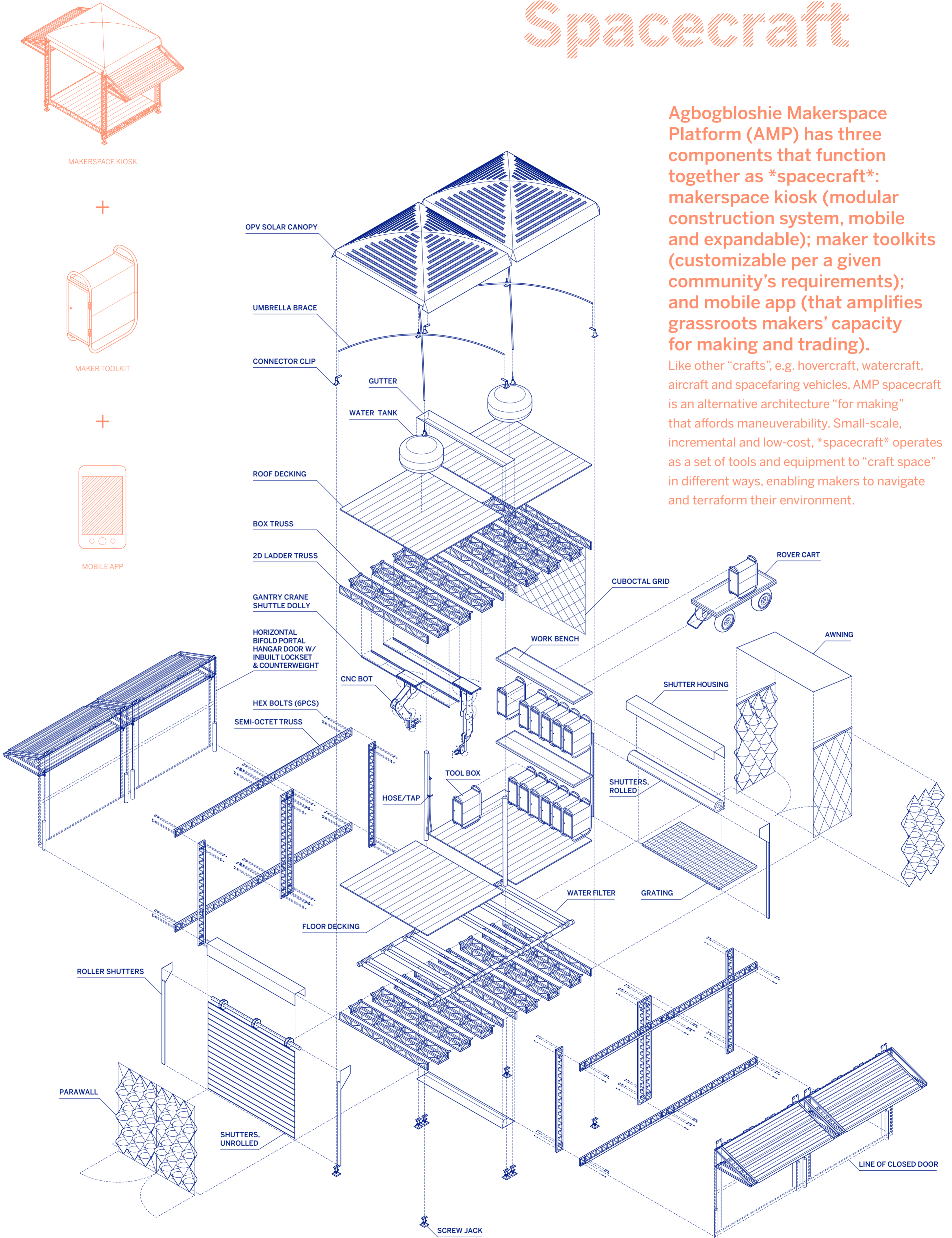


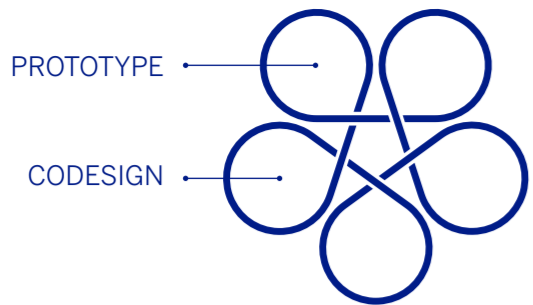
Spacecraft

Agboglobshie Makerspace Platform (AMP) has three components that function together as *spacecraft*: makerspace kiosk (modular construction system, mobile and expandable); maker toolkits (customizable per a given community's requirements); and mobile app (that amplifies grassroots makers' capacity for making and trading).

Like other "crafts", e.g. hovercraft, watercraft, aircraft and spacefaring vehicles, AMP spacecraft is an alternative architecture "for making" that affords maneuverability. Small-scale, incremental and low-cost, *spacecraft* operates as a set of tools and equipment to "craft space" in different ways, enabling makers to navigate and terraform their environment.



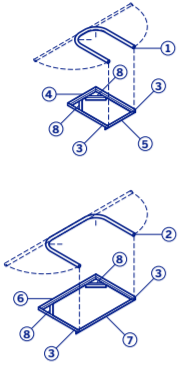
Help grassroots makers make more and better, together!



First Prototype



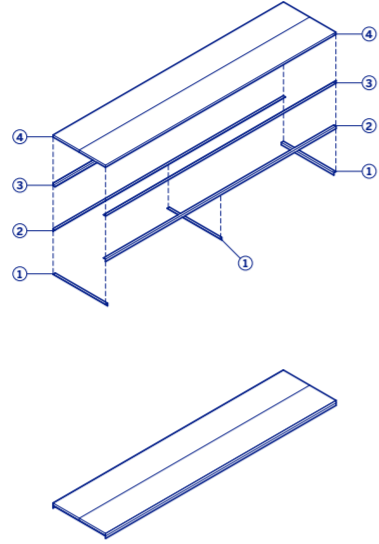
Pipe Bending Measurement Frame



Ø 2.5 CM (1 IN.) GALVANIZED STEEL ROUND PIPE
1 42.5 x 30 cm U-element, 96-104 cm with 10 cm (4 in.) radius of curvature;
2 42.5 x 61.5 cm U-element, 128-136 cm with 10 cm (4 in.) radius of curvature.

2.5 CM (1 IN.) MILD STEEL ANGLE BAR
3 42.5 cm inside length, miter joint cut;
4 30 cm inside length, miter joint cut;
5 30 cm length welded to underside of (3);
6 61.5 cm inside length, miter joint cut;
7 61.5 cm length welded to underside of (3);
8 15.6 cm corner bracing welded to underside of frame.

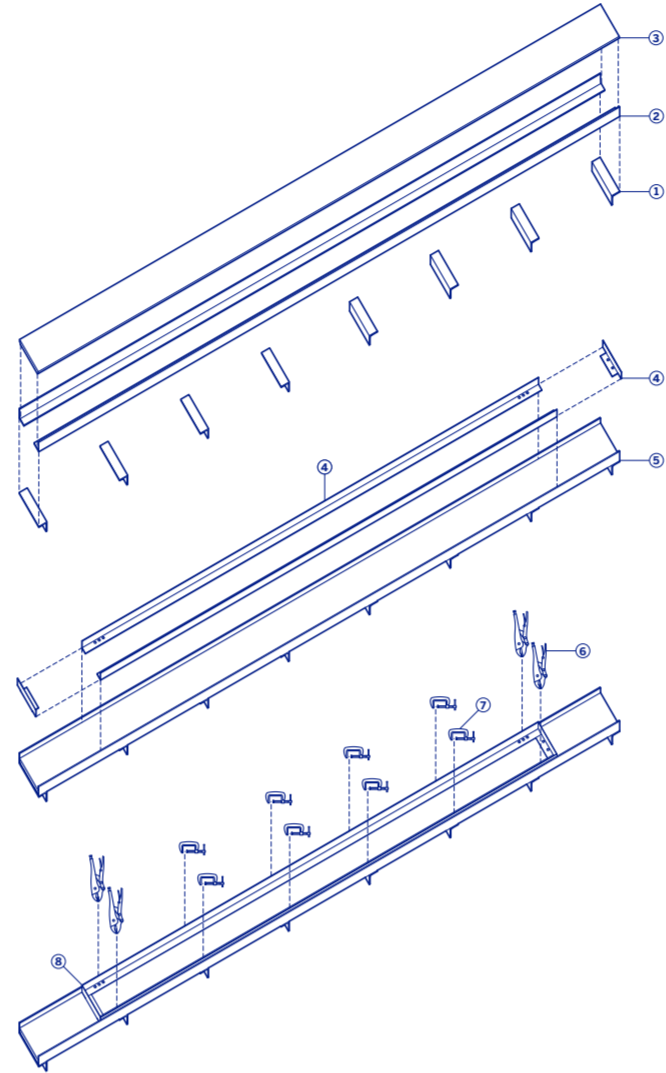
Work Bench



2.5 CM (1 IN.) GALVANIZED ANGLE BAR
1 56.3 cm — 3 pcs;
2 247.5 cm — 2 pcs;
3 247.5 cm — 2 pcs;

HARDWOOD BOARDS
4 2 cm x 28 cm x 247.5 cm screwed together through T&G joint at center and to steel angle bar — 2 pcs.

2D Truss Frame



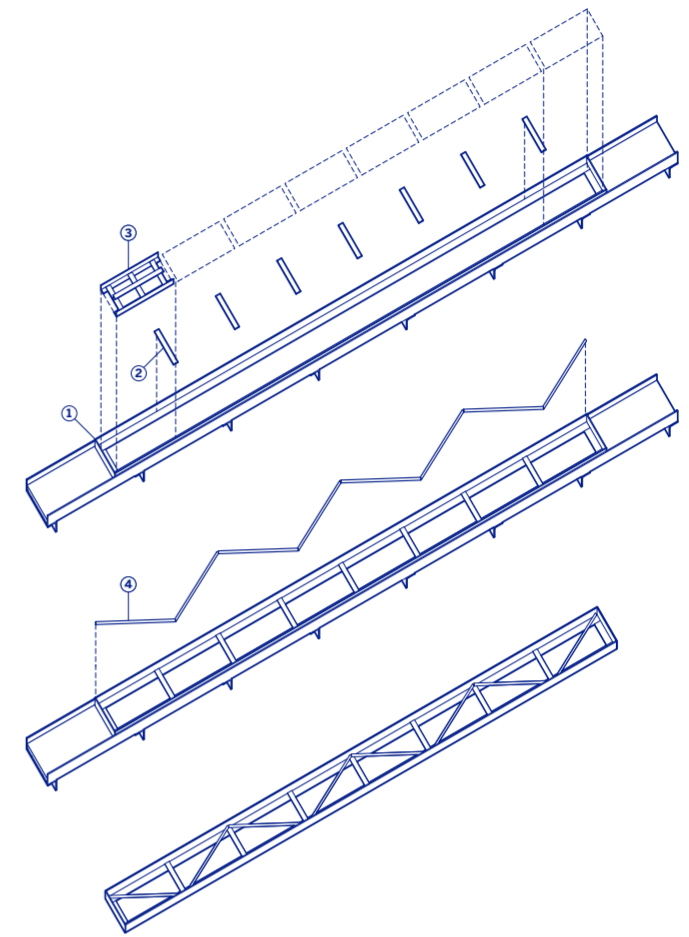
5 CM (2 IN.) MILD STEEL ANGLE BAR

1 21 cm, set at 50 cm center-to-center — 8 pcs;
2 259.5 cm, set 20 cm apart (inside dimension) — 2 pcs;
3 20 cm x 2 cm hardwood board with chamfered edges, planed and squared;

4 1 in., 1-1/4 in. or 1-1/2 in. steel angle bar of desired length, pre-drilled per requirements;

5 2D truss fixture — used to hold metal in place during welding;
6 lock clamps to hold angle bar to 2D truss fixture, both sides and ends;
7 C-clamps to hold angle bar to 2D truss fixture, 50 cm length-wise;
8 2D truss frame.

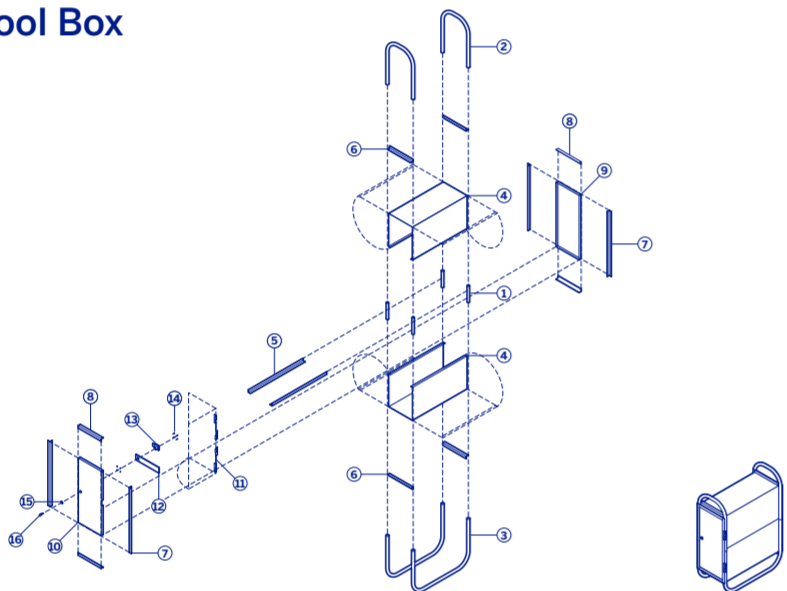
2D Truss



1 1-1/2 in. galvanized steel angle bar 2D truss frame, 20 cm x 280.8 cm pre-drilled for bolted connections both ends;
2 2.5 cm (1 in.) galvanized steel flat bar, 18.8 cm spaced at 35 cm center-to-

center and welded to 2D truss frame — 7 pcs;
3 spacing guide, 32.5 cm;
4 ø 10 mm or 12 mm iron rod webbing, 39.4 cm long welded to modified 2D ladder subassembly.

Tool Box



Ø 2 CM (3/4 IN.) GALVANIZED STEEL ROUND PIPE
1 15 cm — 2 pcs;

Ø 2.5 CM (1 IN.) GALVANIZED STEEL ROUND PIPE
2 42.5 x 30 cm U-element — 2 pcs;
3 42.5 x 61.5 cm U-element — 2 pcs;

2.5 CM (1 IN.) GALVANIZED STEEL ANGLE BAR
4 23 in. — 2 pcs;
5 25 cm long (10 in.) — 4 pcs;
6 60 cm long — 4 pcs;
7 24.6 cm long — 4 pcs;

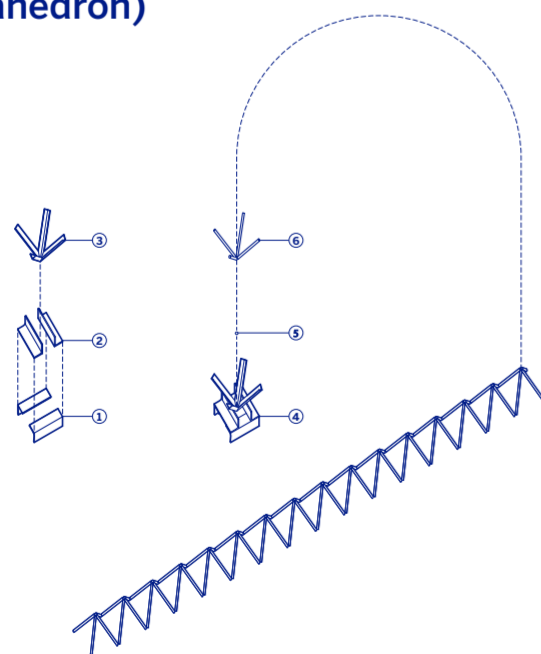
1.25 MM GALVANIZED STEEL SHEET
8 23 in. long box, folded per 3/4 in. + 12 in. + 10 in. + 12 in. + 3/4 in. edge lengths — 2 pcs;

9 24.6 x 60 cm fixed panel inset, with 3/4 in. tabs;
10 24.6 x 60 cm door panel inset notched and drilled to match lockset, with 3/4 in. tabs;

DOOR HARDWARE

11 1 pair of stainless steel hinges;
12 5 cm (2 in.) galvanized steel flat bar, 24.6 cm long drilled ø 2 cm to match lockset;
13 stainless steel lockset with ø 1.8 cm cylinder;
14 set of four Alu-Zinc bolts and nuts to fix lockset to steel flat bar;
15 lock ring washer to close 1 mm gap;
16 key.

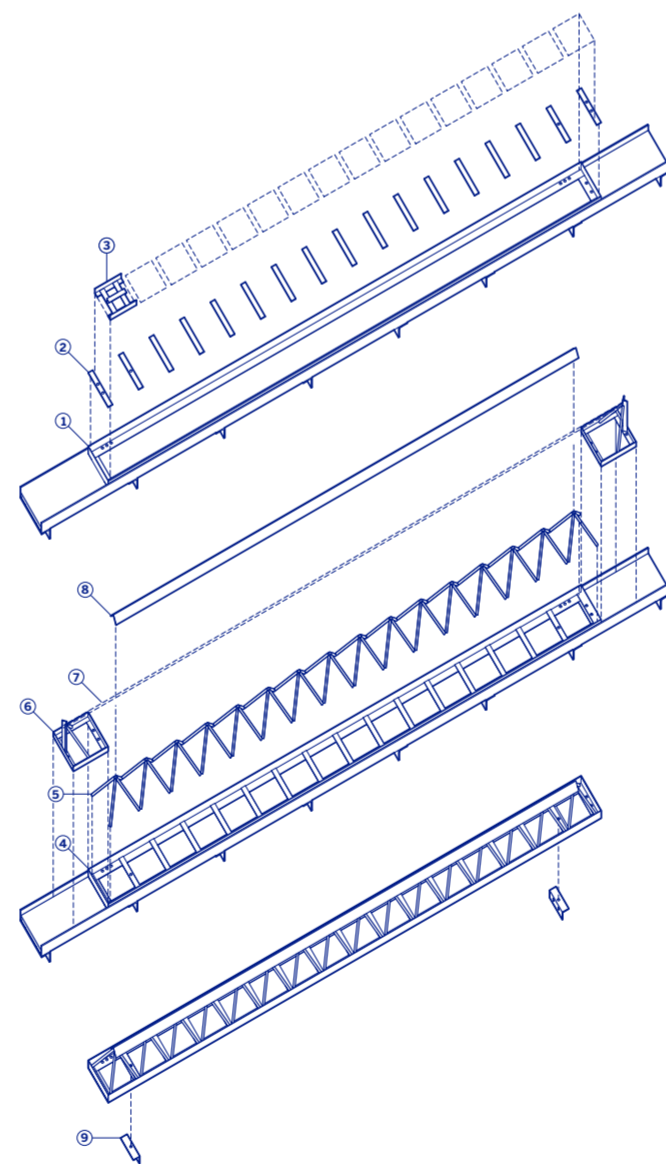
Square Pyramid (Half-Octahedron)



5 CM (2 IN.) MILD STEEL ANGLE BAR
1 17.5 cm, oriented down — 2 pcs;
2 17.5 cm, oriented upward — 2 pcs;
3 2.5 cm (1 in.) mild steel angle bar, 20 cm cut taper to form half-octahedron — 4 pcs;

4 square pyramid (half-octahedron) welding stand;
5 1 cm glass marble;
6 ø 10 mm or 12 mm iron rod square pyramid (half octahedron) — 16 pcs required for semi-octet truss.

Semi-octet Truss



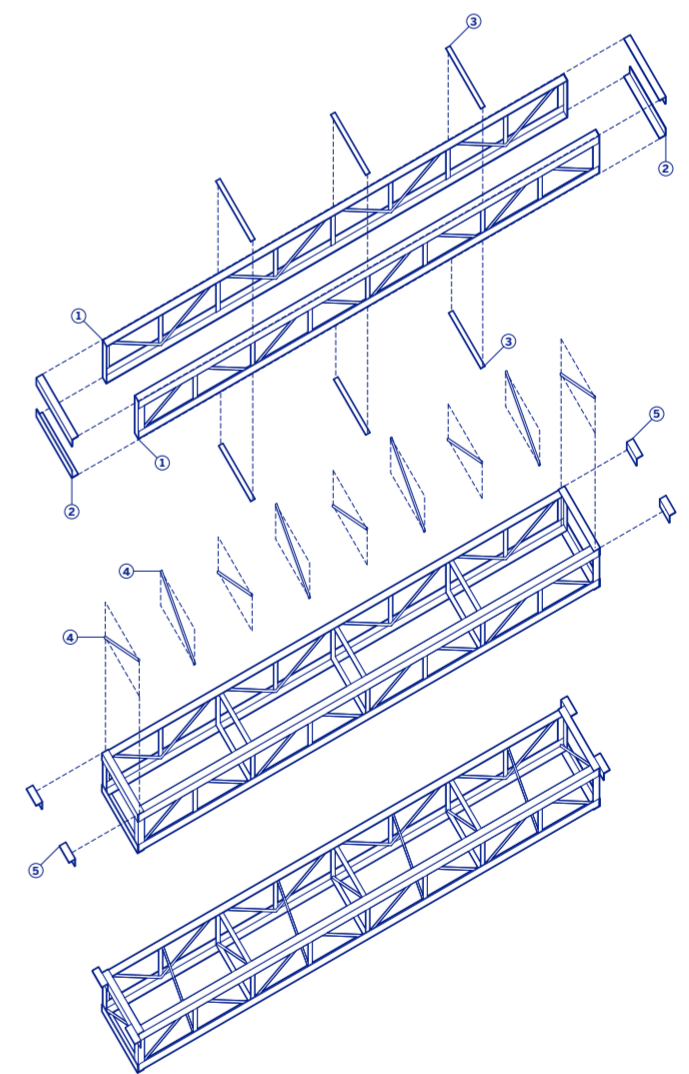
1-1/2 IN. GALVANIZED STEEL ANGLE BAR

1 2D truss frame, 20 cm x 282.5 cm pre-drilled for bolted connections both ends;
2 19.6 cm x 2.5 cm (1 in.) galvanized steel flat bar spaced at 20 cm center-to-center, pre-drilled for bolted connections both ends — 17 pcs;
3 spacing guide, 17.5 cm;
4 2D ladder subassembly;

5 square pyramids (half-octahedron) formed out of ø 10 mm or 12 mm iron rods — 16 pcs;

6 top chord welding guide — 2 pcs (1 pair) set on either side of 2D ladder truss;
7 string line used as a guide when setting square pyramid elements;
8 265 cm, welded to span apexes of square pyramids;
9 pre-drilled flanges welded to underside of semi-octet truss — 2 pcs.

Box Truss



1 1-1/2 in. galvanized steel 2D truss — 2 pcs mirrored and oriented in opposite directions;
2 1-1/2 in. galvanized steel angle bar, 37.5 cm long — 4 pcs;
3 1 in. galvanized steel flat bar, 36.7 cm long — 6 pcs;

4 ø 10 mm or 12 mm iron rod diagonal cross bracing, 40 cm long welded to interior corner of angle bars at 35 cm center-to-center, typically — 9 pcs;
5 1-1/2 in. galvanized steel bar, 10 cm (4 in.) bracket welded to all four top corners of box truss — 4 pcs.



First prototype of AMP spacecraft under construction in Agbogbloshie.

