

# Tuff Tank Portal 2.0



## Hardware

Item	Description	Quantity
1	3.5" Bolt	20
2	1" Bolt	8
3	.5" Bolt	20
4	2.5" Bolt	8
5	.25" - 20 Nylock Hex Nuts	56
6	Washer	56



## Tools Required

Crescent Wrench



Thank you for purchasing SATO's Tuff Tank. This page lists all the contents included. Please take time to identify the hardware as well as the individual components of this product. As you unpack and prepare for assembly, place the contents on a padded area to protect them from damage.

## Components

 90-Degree base x 8	 36"h x 20"w Foundation x 2	 24"h x 20" Truss x2	 Reader Plate x 2	 Antenna Bar x 2
 48" Telescoping Channel x 4	 Floor Brace x 4	 Portal Shelves x 4	 Antenna Bracket x 4	 Bar Clasp x 4
			 8 piece bridge assembly x 1	

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## Assembling the Portal

**Step 1-** Lay two 90° base components side by side with the flanges together to form a 180° half-circle (the hole closest to the edge indicates the component top). Butt a single floor brace against the combined flanges. Ensure all holes align. Combine the three pieces together by inserting a .5" bolt through each hole and securing with .25"-Nylock Hex Nuts. (Washers may be used to prevent paint scratches) Repeat step 1 to assemble matching 180° component.



**Step 2-** Set both assembled 180° base components on each side of 36" x 20" Foundation. Ensure all holes align. (Assembler may need to adjust base to allow alignment of holes) Combine the three pieces by inserting a 3.5" bolt through 4 aligned holes and secure with Hex Nuts.



**Step 3-** Insert 48" Telescoping Channel inside Foundation Channel. Telescoping Channel determines the overall height of the portal and should be adjusted to meet user's height requirements. The Telescoping Channel should be adjusted so bolt holes are aligned with those on the foundation. Repeat Step 3, ensure both channels are set to same height. Channels will be secured in Step 4.



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**Step 4-** Slide Portal Support over portal frame. Adjust until support is level and holes align with those in frame and telescoping channel. Combine the three pieces by inserting a 3.5" bolt through aligned holes and secure with Hex Nuts.



**Step 5-** Attach 24" h x 20" w Truss by sliding open ends over the Telescoping Channels. Ensure Truss is level and mounting holes are aligned with those of telescope. Channel will be secured in Step 6.



**Step 6-** Slide Portal Support over portal frame. Adjust until support is level and holes align with holes in frame and telescoping channel. Combine the three pieces by inserting a 3.5" bolt through aligned holes and secure with Hex Nuts.



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**Step 7-**(This step should be completed with the assistance of another person) Lower Antenna Bar through hole in center of bottom Portal Support. Lower the pole low enough so it can fit under the top Portal Support. Raise Antenna Bar through hole in center of top Portal Support. To secure Antenna Bar, align a Bar Clamp with Portal Support Clamp and affix with 1" Bolt and Hex Nuts. Repeat securing steps on bottom portal support.



**Step 8-**Repeat steps 1-7 to complete opposite portal half. After completion of both portal halves, portals should be positioned into production position. Portal sides should face each other and positioned to ensure space optimization and bridge distance requirements. Once portal halves are in position, portal must be anchored to the floor with the use of 4 Concrete Anchor Bolts per portal halves.

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## Assembling Universal Antenna Bracket

Because of the large variety of RFID antennas available, the Tuff Tank Universal Antenna Bracket can be configured in several ways. Before assembling the bracket, inspect the antenna to determine how the bracket should be configured.

**Step 1**-Align 2" L Bracket holes with those on the primary bracket component. Combine the pieces by inserting a .5" bolt through aligned holes and secure with Hex Nuts.

**Step 2**-Align holes on bracket to corresponding holes on antenna. Combine the pieces by inserting a .5" bolt through aligned holes and secure with Hex Nuts.

**Step 3**-To mount bracket to antenna bar, hold bracket in place at determined height. On the opposite side of the antenna bar, hold a bar clamp. Combine the pieces by inserting a 1" bolt through aligned holes and secure with Hex Nuts.

## Assembling Bridge

**Step 1**-Slide bridge post and bridge truss together and align holes. Adjoin pieces with .5" bolt. Secure using Hex Nut. Repeat step 1 to complete matching component.

**Step 2**-Measure the distance between the two portal halves. This measurement should be made from the very center of each portal. This distance will determine the bridge length.

**Step 3**-Insert bridge telescoping piece into channel on both bridge post components. Adjust bridge length so it equals the distance between the portals determined in step 2.

**Step 4**-Slide bridge covers over the top of each 90° bend of bridge.

**Step 5**- Ensure holes in posts and telescoping piece are aligned. Combine the pieces by inserting a 2.5" bolt through aligned holes and secure with Hex Nut.

\*Bridge should not be mounted until plastic components are installed – To install RFID hardware and plastic, see next page

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## Installing RFID Hardware and Components

### Reader

**Step 1-** Align mounting holes on Reader to holes on Reader Plate. Secure in place with .5" Bolts.



**Step 2-** (This step should be completed with the assistance of another person) Align Reader Plate mounting holes to holes on top section of assembled portal. Mount in place by sliding 3.5" bolts through the front side of the portal and out through the portal back and reader plate. Secure with Hex Nuts.

### Antenna

**Step 1-**(This step should be completed with the assistance of another person) Attach Antenna Bracket to antenna. (This method will depend upon antenna brand). Hold the bracket against the Antenna Bar. Align a Bar Clasp so the holes align with bracket. Combine the pieces by inserting a 1" bolt through 4 aligned holes and secure with Hex Nuts.



**Step 2-** Repeat steps 2 and 3 on opposite portal halve.

**Step 3-** Connect antennas (**on reader side portal only**) to reader. Cables should be guided through portal channel using bolts as guides. Antennas on far side will be connected after bridge is mounted.



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## Mounting Bridge

**Step 1-** (This step should be completed with the assistance of another person and not until antenna wires have been placed in bridge channel) To **ensure safety, the bridge should be held by assemblers until secured to portal halves!** Carefully lift bridge and hold on top of each portal. Align holes on bridge base with those on portal top. Combine the pieces by inserting (4) .5" bolts through aligned holes and secure with Hex Nuts.

**Step 2-**Cables from far-side antennas should now be guided through bridge and attached to reader. To do this, the bridge cap can be removed.