

Installation & Setup

Non-final - subject to change

Pallet Preparation

Below are guidelines for designing and manufacturing your own pallets for use with the PuckChuck system. Some installation processes (below) will require a pallet to best complete the installation of the receivers.

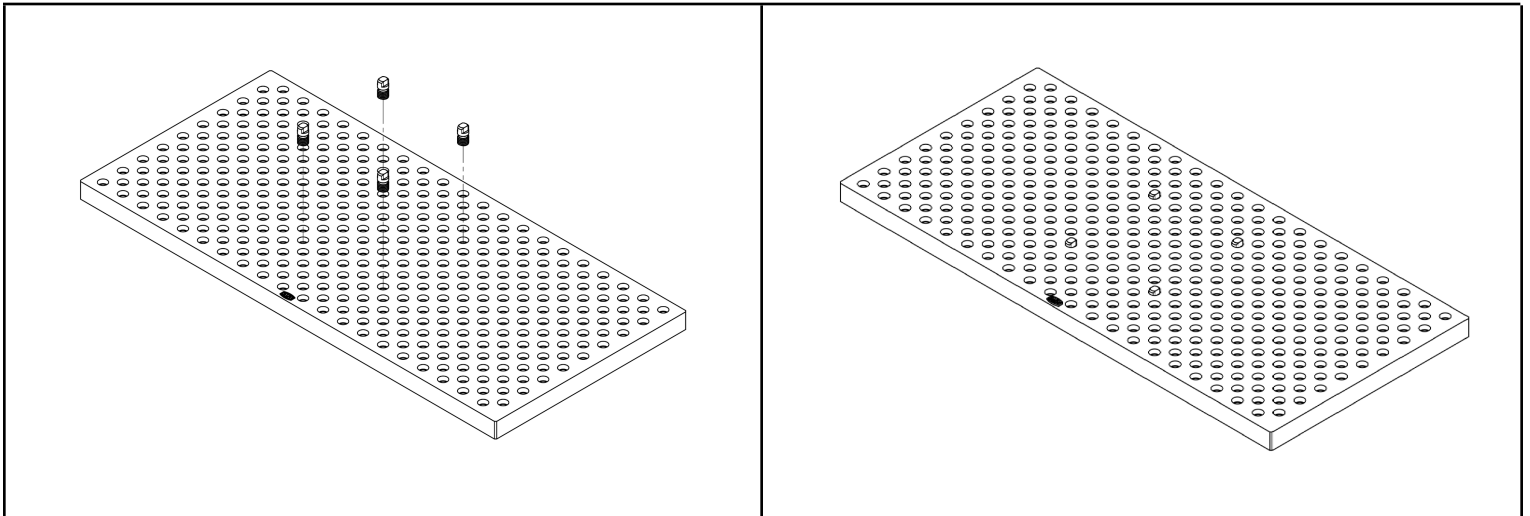
<https://saundersmachineworks.com/pages/pallet-design/>

Fixture Plate Installation (S1768)

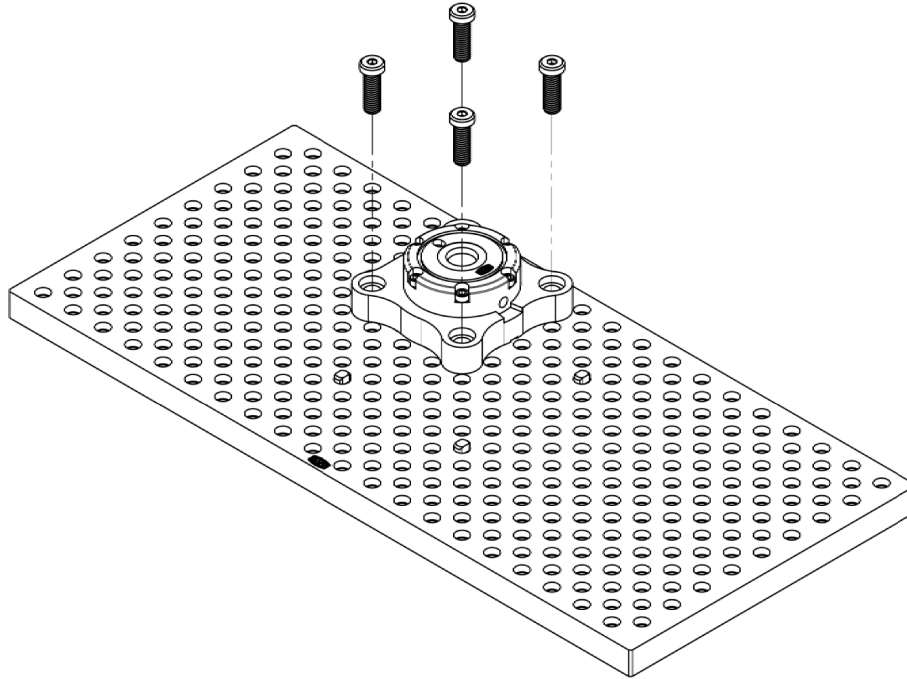
Note: for torque specs for tightening the receiver to your fixture plate, see our Fixture Plate FAQ for torque specs on your specific plate/material.

<https://saundersmachineworks.com/pages/fixture-plate-faq>

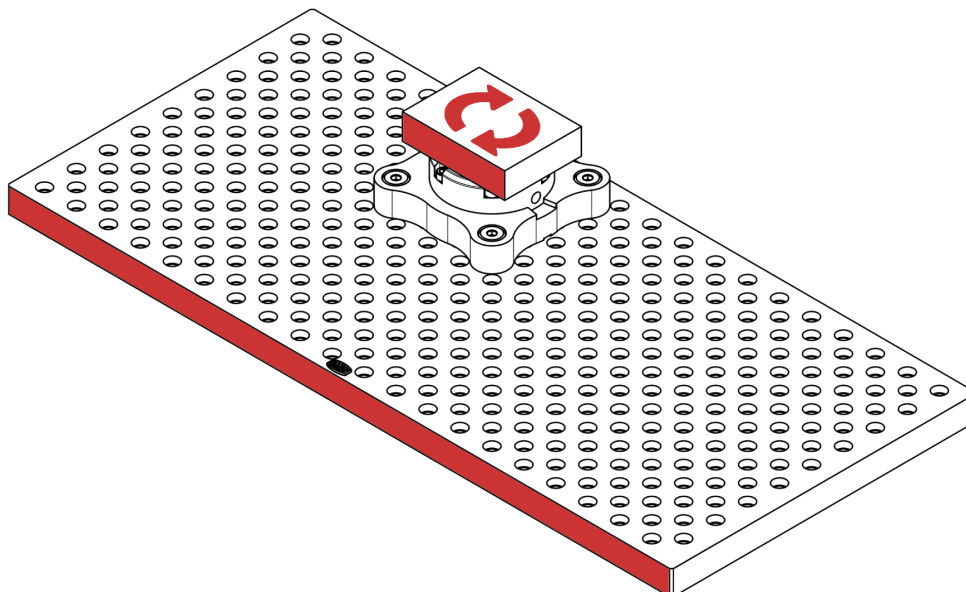
1. Clean the top surface of the fixture plate and the bottom surface of the PuckChuck receivers. Both surfaces should be free of debris, chips, burrs, and/or nicks. Stone surfaces if necessary.
2. Install a 1/2" pin in each location a PuckChuck receiver will be installed. These should not protrude from the fixture plate more than 0.300" (e.g. SMW 1/2" Fixturing Pins). This is optional but will speed up the alignment and installation process.



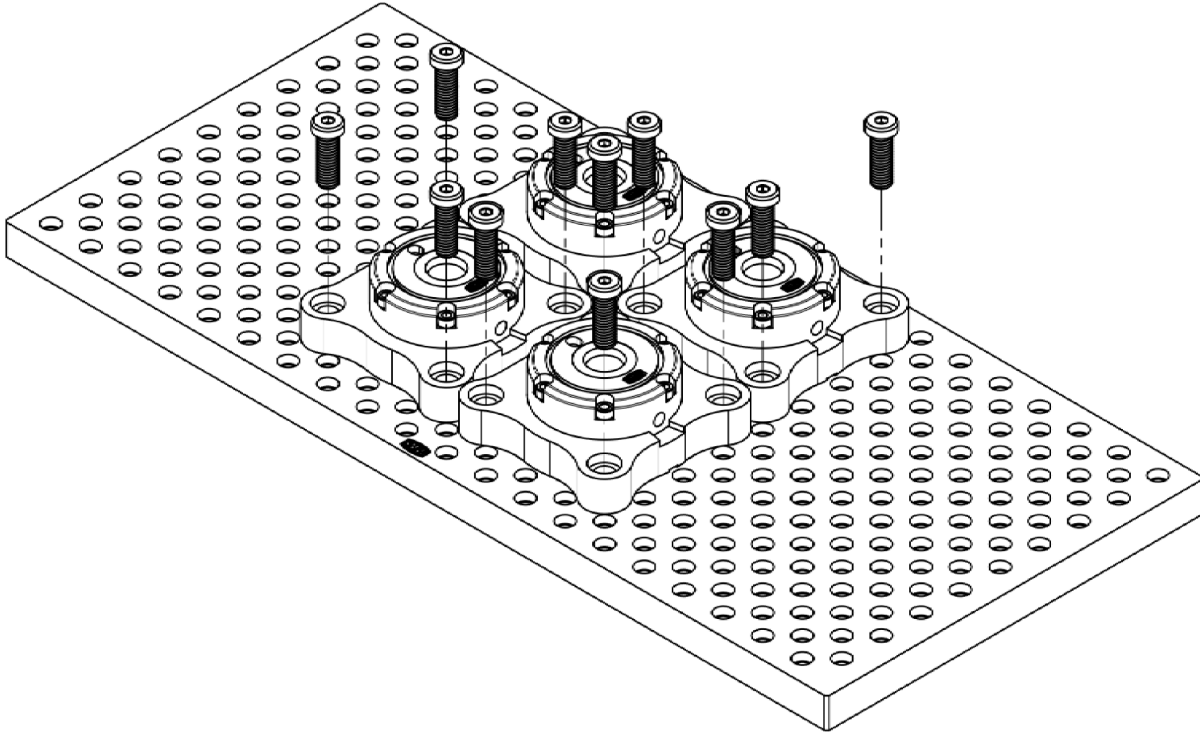
3. Place the 'locating' receiver onto its pin. Our convention is to always treat the top-left receiver as the locating receiver (i.e. pallets will always have the locating pullstud in this location, making this the 'zero point'). Ensure the pneumatic fitting (Automatic PuckChuck) or clamping screw (Mechanical PuckChuck) is facing in the desired orientation for each receiver. Install but do not tighten the four mounting screws.



4. If only installing one receiver:
 - a. Prepare a pallet to be used with this setup with a locating pullstud and clocking pin.
 - b. Unclamp the receiver.
 - c. Place the pallet into and re-clamp the receiver.
 - d. Sweep the desired face of the pallet with a dial indicator, gradually tapping the receiver with a mallet and tightening the mounting bolts in the same way a machine vise is trammed (this trams the receiver to the fixture plate pattern, e.g. ensuring the two red surfaces are parallel in the below photo). If the pallet is larger than the receiver Puck diameter, this will require either clearance features through the pallet or low profile (a.k.a. 'Short-arm' or stubby) hex wrenches to access the mounting bolts.

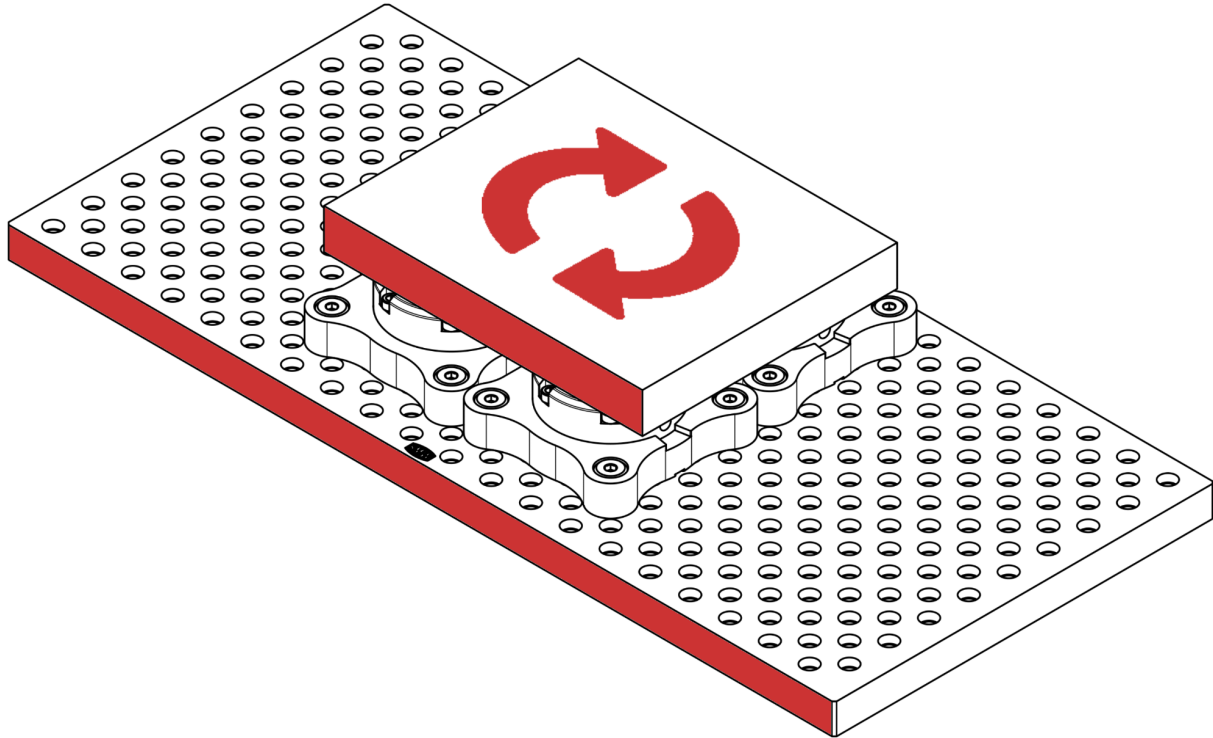


- e. Once adequately trammed and tightened by hand, remove the pallet and fully tighten the mounting bolts.
5. If installing multiple receivers:
- a. Prepare a pallet to be used with this setup, installing only the locating and diamond pullstuds (optional: instead, temporarily install locating studs in *all* pullstud locations for best results).
 - b. Place the remaining receivers in the desired location. Again, ensure pneumatic fittings / clamping bolts are facing the correct direction. Install but do not tighten the (4) mounting bolts per receiver.



- c. Unclamp all receivers.
- d. Place the pallet into and re-clamp the receivers.

- e. Sweep the desired face of the pallet with a dial indicator, gradually tapping receivers with a mallet and tightening the mounting bolts in the same way a machine vise is trammed (this trams the receiver to the fixture plate pattern, e.g. ensuring the two red surfaces are parallel in the below photo). If the pallet extends past the receiver Puck diameter, this will require either clearance features through the pallet or low profile (a.k.a. 'Short-arm' or stubby) hex wrenches to access the mounting bolts. If the desired tram is not reached the fixturing pin below the 'diamond' receiver may need to be removed before tramping.



- f. Once adequately trammed and tightened by hand, remove the pallet and tighten mounting bolts fully.
g. Install and tighten any 'clearance' receivers if they were not installed in the previous steps.

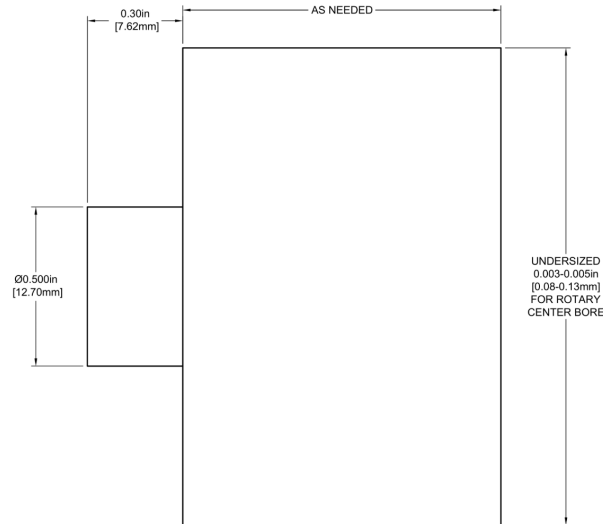
T-Slot Table Installation

1. Clean the top surface of the table and the bottom surface of the PuckChuck receivers. Both surfaces should be free of debris, chips, burrs, and/or nicks. Stone surfaces if necessary.
2. Using (2) low-profile bolts and t-nuts per PuckChuck receiver, place the receivers on the table in approximately the location they should be installed in. The mounting hardware should be loose so that the receiver positions can be easily adjusted.
3. Select one receiver to be the 'locating' receiver (the PuckChuck which will interface with the locating pullstuds on your pallets). Fully tighten this receiver in the desired location.
4. Prepare a pallet to be used with this setup. For best setup results and alignment, temporarily install locating pullstuds in **all bores** on the underside of this pallet.
5. Route air lines to all receivers (Automatic PuckChucks only).
6. Unclamp all receivers.
7. Place the pallet onto the receivers and clamp each receiver.
8. Sweep an edge of the pallet and tram using a dial indicator and mallet. Select the receiver *furthest* from the locating receiver (this is the receiver which interfaces with the 'diamond' pullstud) to tram the setup, gradually tightening the mounting bolts on this receiver as you go.
9. Once the diamond receiver is tightened, tighten all remaining receivers. If the pallet extends past the receiver Puck diameter, this will require either clearance features through the pallet or low profile (a.k.a. 'Short-arm' or stubby) hex wrenches to access the mounting bolts.

10. Unclamp the receivers and remove the pallet.
11. Ensure all receivers are adequately tightened (as high as 60 ft-lbs for ½-13 or M12 t-nut threads).

Rotary Installation

1. Clean the top surface of the rotary table and the bottom surface of the PuckChuck receivers. Both surfaces should be free of debris, chips, burrs, and/or nicks. Stone surfaces if necessary.
2. Using mounting bolts and t-nuts, install the PuckChuck receiver approximately in the center of your rotary table. Bolts should be finger-tight to allow for final adjustment.
 - a. Optional: an installation bushing can be machined (or 3D printed) which interfaces with the 0.5005" bore on the underside of the receiver and the center bore of your rotary table. We recommend the rotary table side be slightly undersized to allow for final adjustment.



3. With an indicator on the conical surface of the bushing in the center of the PuckChuck, begin spinning the rotary table and tapping the receiver with a mallet to align the center of this bushing with the centerline of your rotary. Gradually tighten the mounting bolts as you go until they are fully tightened (as high as 60 ft-lbs for ½-13 or M12 t-nut threads).