

# PuckChuck Installation & Setup

## Pallet Preparation

You will need to prepare a single pallet with pullstuds installed for proper installation of your PuckChuck receivers. Design guidelines and recommendations for making your own PuckChuck-compatible pallets and fixtures are available here:

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

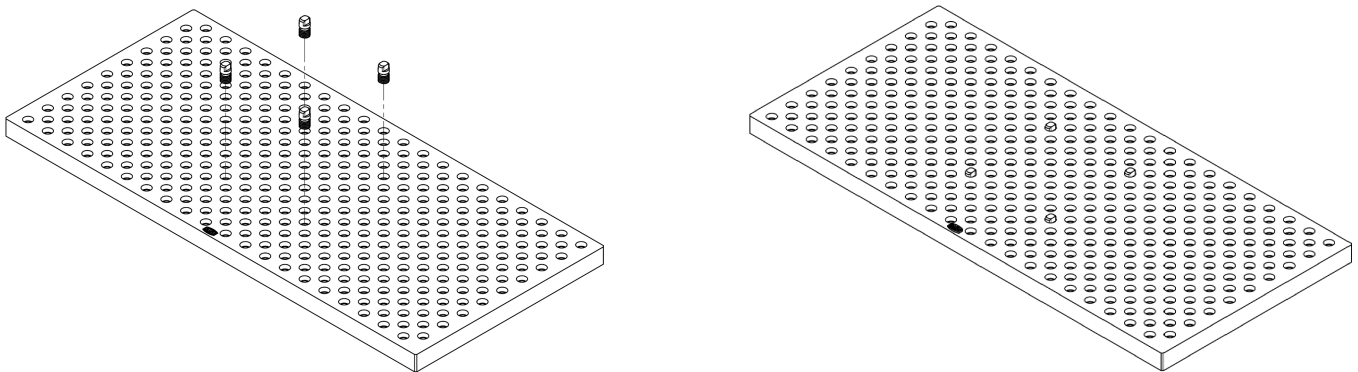
*Optional: if installing more than two receivers, you may choose to temporarily install 'Locating' pullstuds in **all** locations on your fixture. This ensures each receiver is properly located relative to the fixture.*

***Note: Various steps in the following instructions refer to a 'locating' receiver and a 'diamond' receiver. This refers to the receiver which interfaces with the locating-style and diamond-style pullstuds in your fixtures and pallets. Our convention is to always use the top-left receiver as the 'locating' receiver and the bottom-right receiver as the 'diamond' receiver - which you choose for your shop is not important, but remaining consistent in this convention is.***

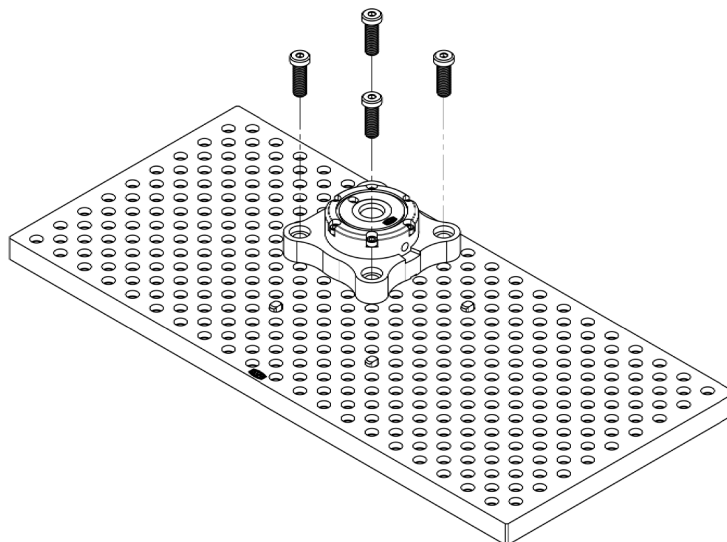
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## Fixture Plate Installation

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 ½" 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 ½" Fixturing Pins](#)).

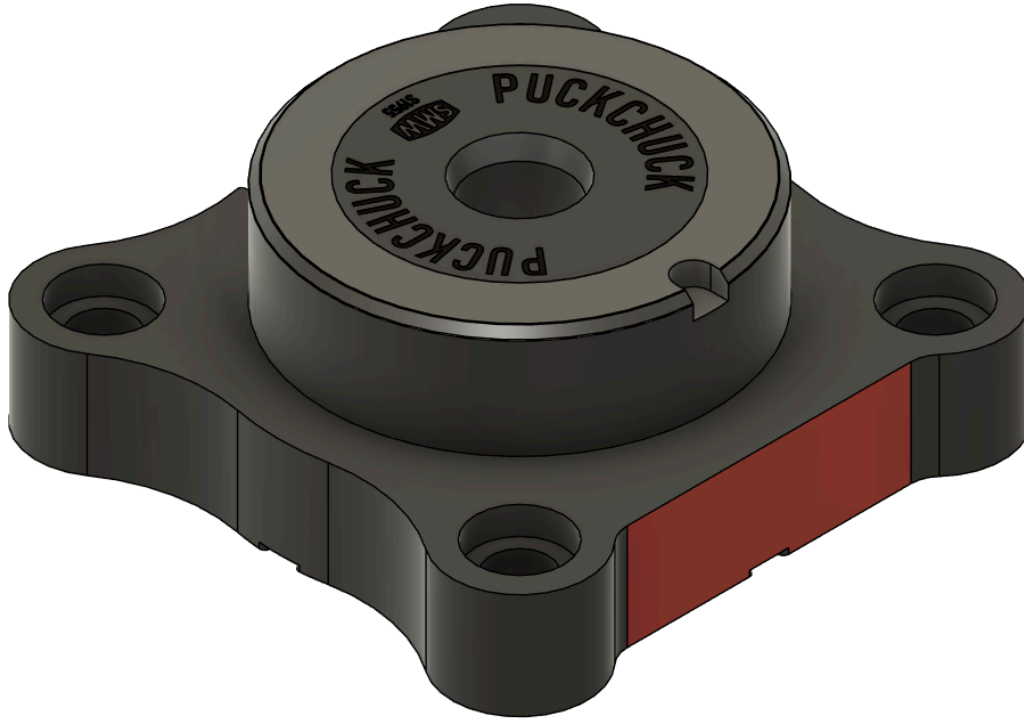


3. Place the 'locating' receiver onto its pin. Ensure the pneumatic fitting (Automatic PuckChuck) or clamping screw (Mechanical PuckChuck) is facing in the desired orientation. Install but **do not fully tighten** the four mounting screws.



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4. If installing only a single receiver:
  - a. Lightly snug the four mounting bolts.
  - b. Sweep the **straight edge** of the PuckChuck receiver's base with a dial indicator.

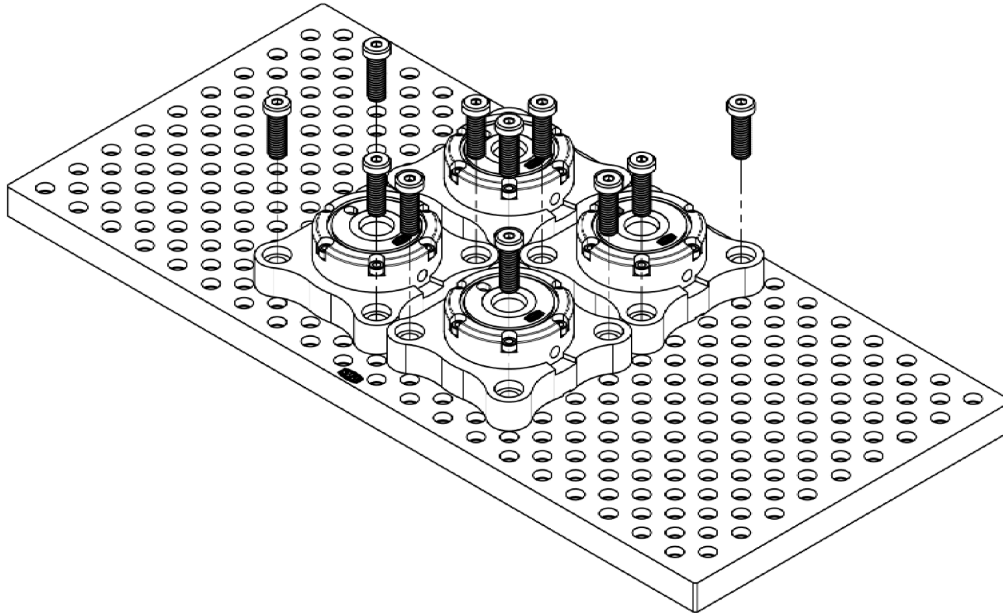


Much like you would tram a standard machine vise, gradually tap the receiver base with a mallet, tighten the mounting bolts, and re-indicate the surface until it is trammed parallel to your machine's axis.

- c. Fully tighten all mounting bolts. See <https://saundersmachineworks.com/blogs/knowledge-base/fixture-plate-torque-specs> for recommended torque specs for the mounting bolts in your specific fixture plate material.
- d. *Automatic receivers only: route 1/4" pneumatic tubing.*

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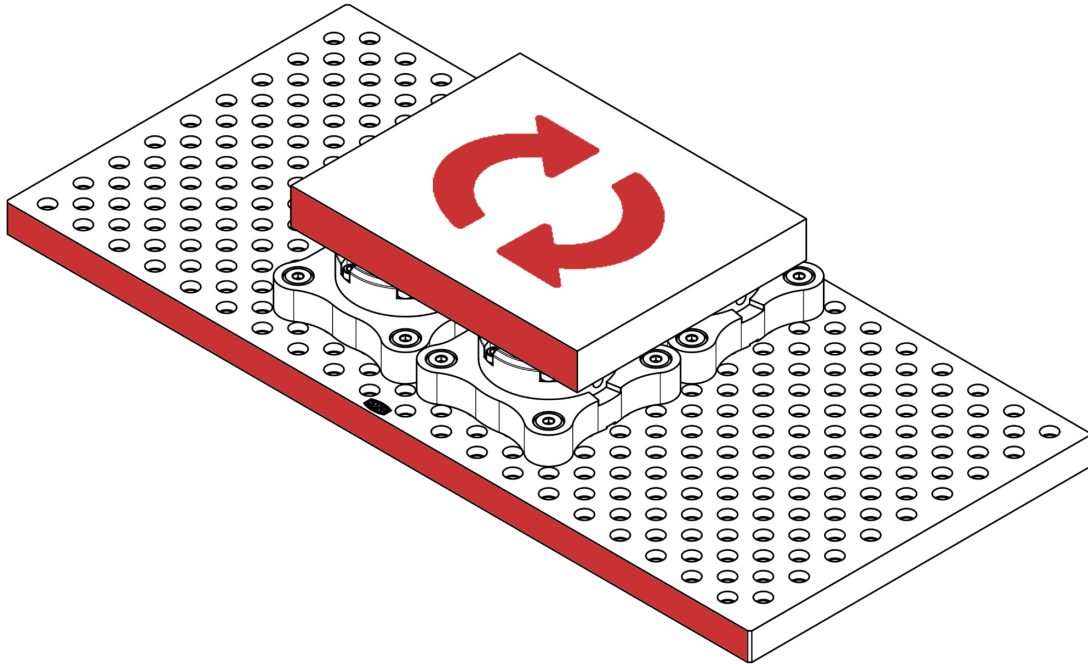
5. If installing multiple receivers:
  - a. Place the remaining receivers in the desired location. Ensure pneumatic fittings / clamping screws are facing the correct direction. Install but do not tighten the (4) mounting bolts per receiver.



- b. *Automatic receivers only: route 1/4" pneumatic tubing.*
    - c. Fully tighten the mounting bolts for your 'locating' receiver. See <https://saundersmachineworks.com/blogs/knowledge-base/fixture-plate-torque-specs> for mounting bolt torque for your specific fixture plate material.
    - d. Unclamp all receivers.
    - e. Install your prepared pallet and re-clamp the receivers.

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- f. Sweep the desired face of the pallet with a dial indicator, gradually tapping the 'diamond' 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, i.e. 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.*

- g. Once adequately trammed, tighten all mounting bolts by hand.
- h. Remove the pallet and tighten mounting bolts fully. See <https://saundersmachineworks.com/blogs/knowledge-base/fixture-plate-torque-specs> for mounting bolt torque for your specific fixture plate material.

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## T-Slot Table Installation

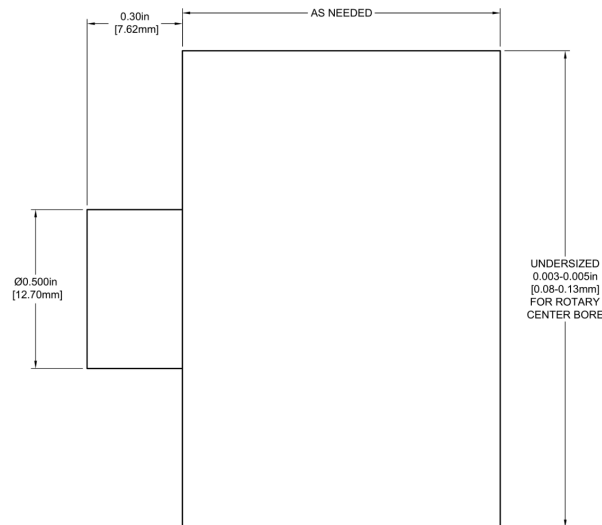
*Note: PuckChuck receivers are shipped with QTY4 ½-13 x 1.25" low-profile SHCS (QTY6 for rotary-style receivers). You will need to source the appropriate t-nuts and/or bolts for mounting to your machine table.*

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 their final location. The mounting hardware should be loose so that the receiver positions can be easily adjusted.
3. Fully tighten your 'locating' receiver in its desired location.
4. *Automatic receivers only: route ¼" pneumatic tubing.*
5. Unclamp all receivers.
6. Place your pallet onto the receivers and clamp each receiver.
7. Sweep the desired face of the pallet with a dial indicator, gradually tapping the 'diamond' receiver with a mallet and tightening the mounting bolts in the same way a machine vise is trammed. This trams the receiver to your machine axis. *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.*
8. Once the diamond receiver is tightened, tighten all remaining receivers by hand.
9. Unclamp the receivers and remove the pallet.
10. Ensure all receivers are adequately tightened (as high as 60 ft-lbs for ½-13 or M12 t-nut threads).

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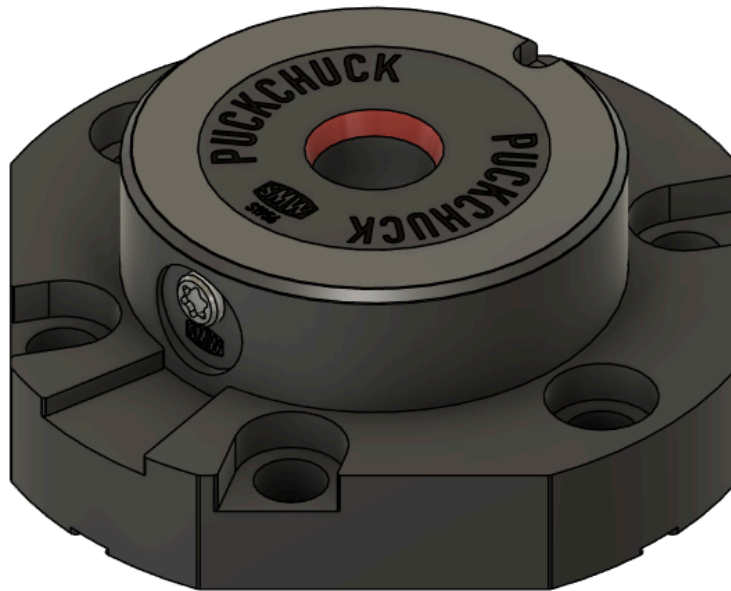
## Rotary Table Installation

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.*



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3. With an indicator on the **conical bore** 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). *Neither the outside diameter of the puck nor the receiver base are precision surfaces, it is recommended to only use the center tapered bore for centering the receiver.*