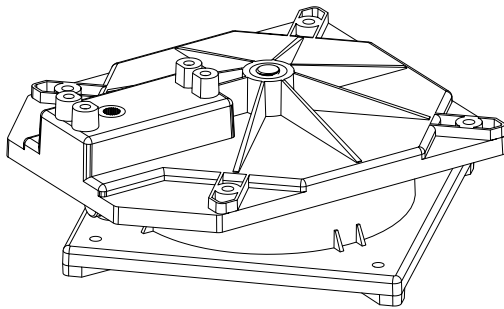# Turntable
## ME-7024

## Introduction

The Turntable is designed to be attached to a PASCO motor, including the High Speed Stepper Motor (PS-2976), Low Speed Stepper Motor (PS-2978), Servo Motor (SE-2975), or Continuous Rotation Servo (SE-2977). When attached, the Turntable will rotate in response to the rotation of the motor, allowing it to serve as a rotating base for certain PASCO Structures sets, such as cranes. The Turntable comes with all of its components already connected; with the exception of attaching the motor, no assembly is required.
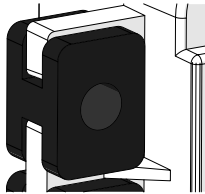
**Included equipment:**

- Turntable (ME-7024)
- 4× 4-40 screws

## Attaching the motor

Follow the steps below to connect the Turntable to a PASCO motor.

1. Ensure that the four black grommets are attached to the motor with the flat side facing out, as shown below. If they are not, install them.

2. Turn the Turntable over so that the socket of the shaft spline adapter included in the Turntable faces upward.

3. Align the motor with the four threaded holes on the underside of the Turntable, then insert the motor spline into the shaft spline adapter socket, as shown in Figure 1. Note that, because of the placement of the socket, the motor has only one valid orientation for attachment.

4. Insert four 4-40 screws into the threaded holes in the Turntable through the black grommets on the motor, as shown in Figure 1. Tighten the screws to secure the motor to the Turntable.
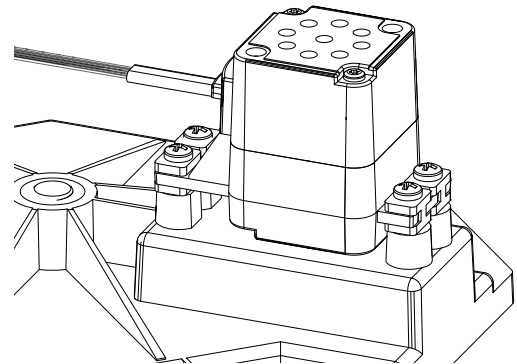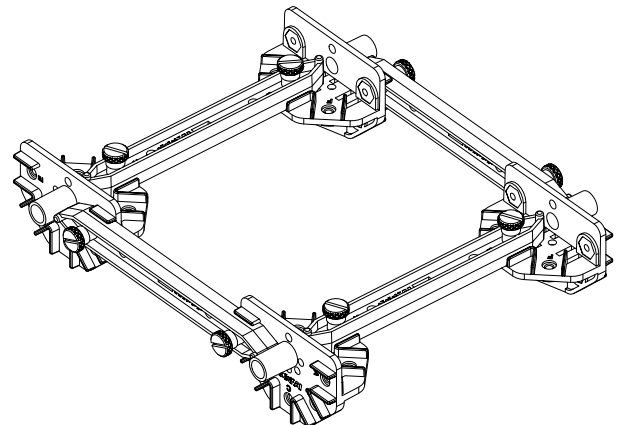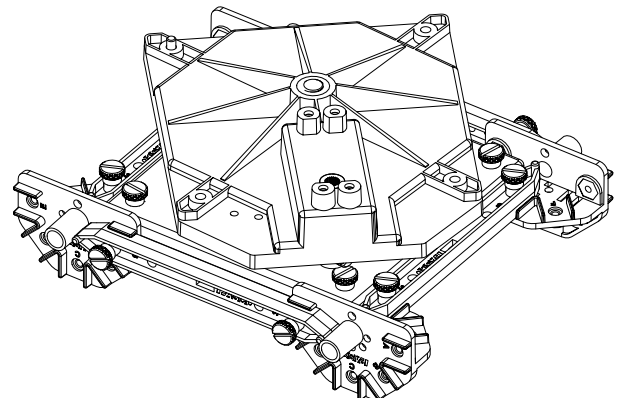
*Figure 1: Attaching a motor to the Turntable.*

## Attaching to a structure

The Turntable has points of attachment that fit a square formed of #3 I-beams, of the kind found within a PASCO Structures set. To attach the Turntable in this way, follow these steps:
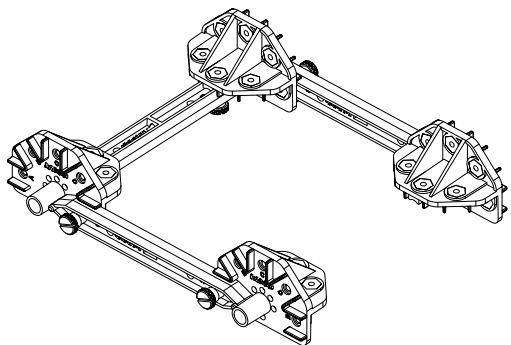
1. Create a square of #3 I-beams, connected to each other using connector components and screws (supplied with the structures set), as shown below.
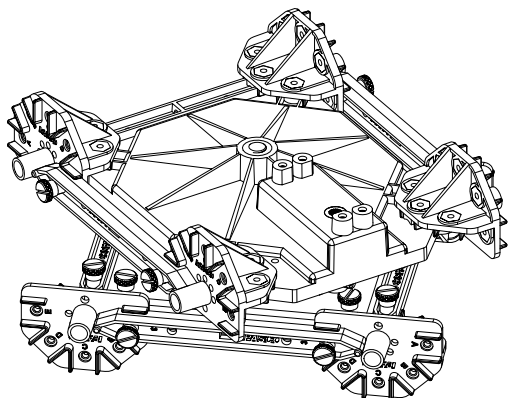
2. Place the Turntable onto the square of I-beams so that the four holes in the lower portion of the Turntable align with holes in the connector components. Insert four screws into these holes as shown below.
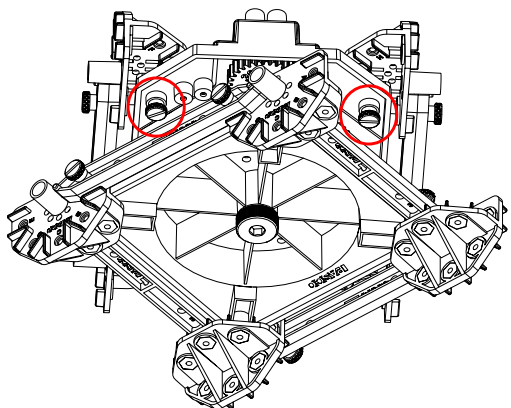
3. Construct a second square of #3 I-beams using connectors and screws. This time, leave out one of the I-beams to create an opening, as shown below.



4. Place the second square of I-beams onto the top of the Turntable as shown below. The gap in the square will provide space for the part of the Turntable which connects to the motor.



5. Insert screws into the four holes on the underside of the top portion of the Turntable, as shown below (circled in red). Tighten to secure the Turntable to the connector components.
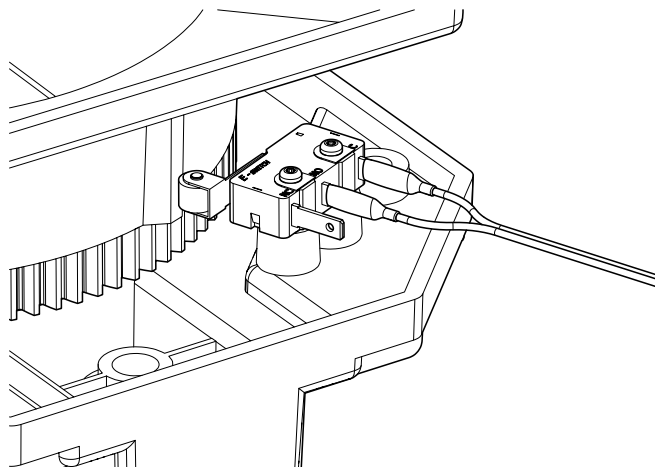


## Attaching a Limit Switch

You can also connect a Limit Switch (PS-3351) to the Turntable via a pair of threaded holes on the underside. When properly mounted, the Limit Switch will be pressed once every time the Turntable completes a full rotation. You can then connect the Limit Switch to a //control.Node Voltage Sensor (PS-3349), allowing you to monitor the rotation of the Turntable via PASCO Capstone or SPARKvue data collection software.

To connect the Limit Switch to the Turntable:

1. Turn the Turntable over and rotate the base until the two small threaded holes in the underside of the upper portion are visible.

2. Align the small holes in the Limit Switch with the threaded holes in the Turntable. Make sure the switch is oriented so that the head of the lever is nearer to the left hole, as shown in the illustration below.

3. Insert the switch mounting screws into the holes in the switch, then tighten the screws with a Phillips screwdriver to secure the switch in place.

4. Connect the Limit Switch to PASCO Capstone or SPARKvue as described in the Limit Switch manual.

The Limit Switch will now be in a position where, once per full rotation, the tab on the Turntable will press the lever against the switch, as shown below. This will output a digital signal which can be detected by PASCO Capstone or SPARKvue. For more information, see the Limit Switch manual.



## Technical support

Need more help? Our knowledgeable and friendly Technical Support staff is ready to answer your questions or walk you through any issues.

| | | |
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