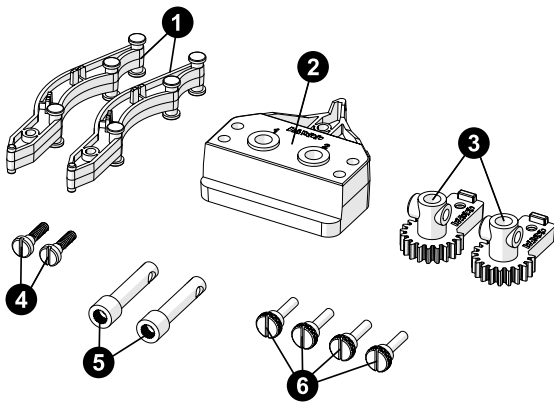# Structures Gripper
ME-7025

Introduction

The Structures Gripper is designed to connect to a Motor Mount (ME-7020) attached to a PASCO structures set. When controlled by a Servo Motor (SE-2975), the arms of the Gripper can be moved so that they open and close around an object, allowing that object to be picked up and moved using a preset program.
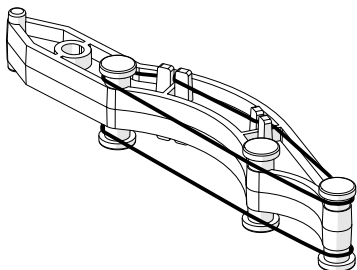
Components

Included equipment:

❶ 2× gripper fingers with rubber bands

❷ Motor Mount (ME-7020)

❸ 2× gripper gears

❹ 2× anti-backlash screws

❺ 2× shaft spline adapters

❻ 4× thumbscrews

❼ 20× rubber bands (not pictured)

❽ 4× 4-40 × ½ Phillips screws (not pictured)
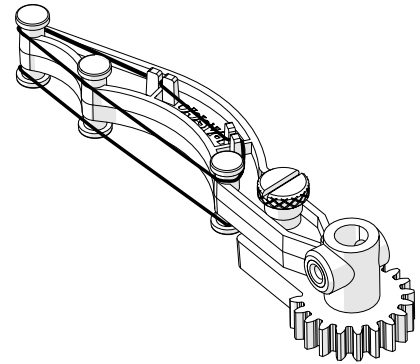
Required equipment:

• Servo Motor (SE-2975)

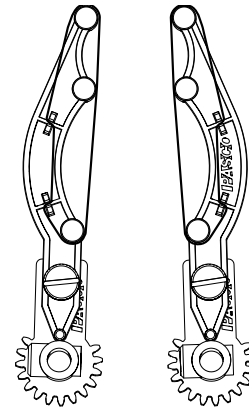• //control.Node (PS-3232)

Assembling the Gripper

1. Stretch rubber bands over the top and bottom surfaces of each gripper finger so that the bands are held in place by the plastic disks and clips, as shown below.
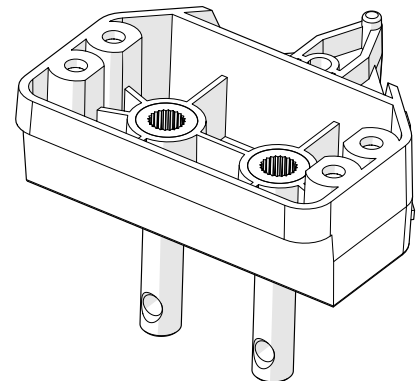

2. Align the hole in one of the gripper fingers with the threaded hole of the same size in the base of one of the gripper gears. (A cylindrical protrusion on the end of the finger will fit smoothly into a groove on the gear's base.) Insert a thumbscrew into the hole and tighten to secure the finger to the gear, as shown below.

3. Repeat Step 2 with the other gripper finger and gripper gear. Make sure that the fingers have the opposite orientation so that, when the two fingers are placed side by side, the interior curves face towards each other.

4. Insert the two shaft spline adapters into the holes on the Motor Mount, as shown below.

5. Slide the gripper gears onto the end of the spline shaft adapters. The gripper fingers should be in the position AND orientation shown in Figure 1.

6. Insert an anti-backlash thumbscrew into the non-threaded hole on the shaft of each gripper gear, as shown in Figure 1. Tighten the screws to secure the gears to the shaft spline adapters.
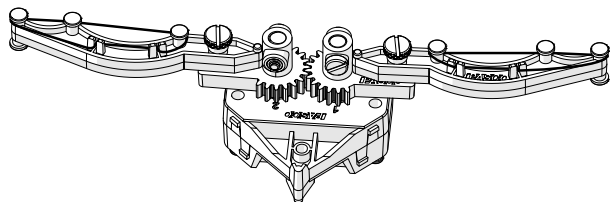

Figure 1. Attaching the gripper fingers to the Motor Mount.

7. Bring the fingers together, making sure they are centered on the Motor Mount, as shown in Figure 2.
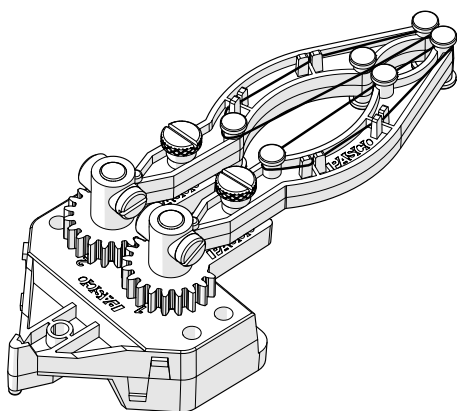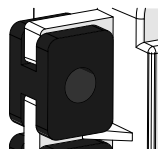

Figure 2. The Structures Gripper, fully assembled.

Connecting a servo motor

A Servo Motor (SE-2975) is required in order to operate the Structures Gripper remotely. To attach a Servo Motor to the Gripper:

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

2. Set the Servo Motor to its zero position.

3. With the gripper fingers touching as shown in Figure 3, attach the spline of the Servo Motor to the base of one of the shaft spline adapters.

> ✎ **NOTE:** Pay attention to which adapter the Servo Motor is connected to, as the orientation of the motor will determine which polarity of the motor will cause the Structures Gripper to open and which will cause it to close.

4. Insert four 4-40 screws into the threaded holes in the Motor Mount so that they pass through the grommets, as shown in Figure 3. Tighten to secure the Servo Motor to the Motor Mount.
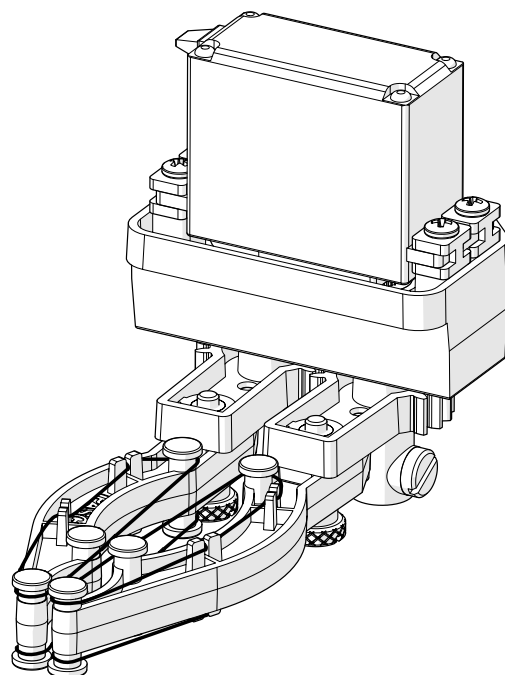

Figure 3. Connecting the Servo Motor to the Motor Mount.

From here the Structures Gripper can be connected to a PASCO Structures set via the Motor Mount. The //control.Node (PS-3232) and PASCO Capstone or SPARKvue software can be used to control the Servo Motor, allowing you to open and close the Gripper automatically.

Technical support

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

⬜	Chat	pasco.com
📞	Phone	1-800-772-8700 x1004 (USA)
		+1 916 462 8384 (outside USA)
✉	Email	support@pasco.com

PASCO®