



### Mounting the payload

1. Extend the arm or dock it securely. Do not mount or dismount the payload when you are using the built-in dock, unless there is no alternative.
2. Loosen the two-piece collar with a  $\frac{3}{32}$ -inch Allen wrench.
3. If this is a top-mount (shown), position the collar for the desired height and tighten it.
4. If this is an underslung mount, remove the collar.
5. Insert the gimbal post into the socket at the end of the arm.
6. If this is an underslung mount, have an assistant help you position and tighten the collar.
7. Dress hoses and cables with zip-ties to the gimbal post and the elbow hinge block.



**DO NOT MOUNT AND DISMOUNT THE PAYLOAD WHEN THE BUILT-IN DOCK IS IN USE.**

### Adjusting the rest position

The dynamic and preset mounting interface blocks have different adjustment mechanisms, but the process of adjustment is the same. *Pitch* adjustment moves the bracket up and down, in a head-nodding motion. *Roll* adjustment rotates the bracket, as viewed from the front.

1. With the tool mounted and the arm undocked, let the arm extend toward the work area and, without letting go completely, let it move freely.
2. If the arm consistently drifts to the same side, adjust the pitch down and the roll away from the direction of drift.
3. If the arm drifts to either side, adjust the pitch down. Pitch should be as far up as possible without causing the arm to be unstable.

#### Adjust a dynamic mounting interface block

The block can be adjusted with the arm extended, as you move around, to compensate for flex in the support or for uneven floors.

- Adjust pitch by turning the crank on the top of the mounting interface block. Cranking clockwise pitches the bracket down.
- Adjust roll by turning the crank on the side of the block. Cranking clockwise rolls the bracket counterclockwise.

#### Adjust a preset mounting interface block

Adjustments are made with pairs of set screws.

1. To adjust pitch, use the screws on the back of the block:
  - a. If necessary, unload the bottom set screw by moving the tool toward the back of the mounting interface block.
  - b. Back off one of the screws to create slack in the direction you want to move the bracket
  - c. Tighten the other screw to move the bracket.
2. Adjust roll with the side screws, and unload the set screw by moving the tool to one side or the other.
3. Tighten both screws in each pair snugly.

### Adjust lift

Lift is the force that the links of the arm exert to hold up the weight of the tool. The usual lift floats the tool with the links almost level. Some operators prefer to set the links at a higher angle, to help with the work. To change the lift:

1. With the payload in place, extend the arm.
2. Move the payload so that the spring of the forearm link is perpendicular to the adjusting mechanism. The link should be slanting at about 5° above level and the Lift knob should turn easily.
3. Turn the Lift knob until the link balances at the 5° slant:
  - a. Turn the knob clockwise to increase lift, if you lifted the payload.
  - b. Turn the knob counterclockwise to decrease lift, if you pulled the payload down.
4. In the same way, adjust the upper-arm link so it balances at the 5° slant.
5. When the links are adjusted, carefully move the tool up and down to the full extent of its range. The links should track smoothly as you move the tool up and down.



Lift knob with Rate knob behind

6. Hold the arm pointed toward the work area and without letting go completely, let it move freely:
  - a. If the arm drifts consistently to one side, adjust the pitch down and the roll away from the direction of drift.
  - b. If the arm drifts to either side, adjust the pitch down.
7. If a link locks in the full up or down position, adjust the rate.

**Hint:** Adjust lift for a lighter tool before you remove the heavier tool.

### Adjust Rate

The arm is isolastic, that is, it requires almost the same force to move it up and down throughout its vertical range. As the tool moves, the arm compensates for changes in the links' angles. This compensation is called rate. The usual setting is to have the Rate knob turned fully counterclockwise for maximum isolasticity. To change the rate:

1. Raise the link to the full up position.
2. To decrease isolasticity and make it harder for the operator or the arm to raise or lower the tool, turn the Rate knob clockwise.
3. To increase isolasticity and make it easier to move the tool through the full range of vertical motion, turn the Rate knob counterclockwise.
4. When the link no longer locks up, adjust the lift so the arm floats in the proper attitude.

### Safety notes

The zeroG arm is made to flex effortlessly and follow you as you work, and it uses very strong springs to support the payload. Because the arm can move very fast and powerfully on its own, you must take care to keep it under control.

LEANING OR HANGING	Do not lean or hang from the zeroG arm.
 PINCH POINTS	<ul style="list-style-type: none"> <li>• Keep fingers, clothing, tools, work pieces, and other items away from the labeled pinch points on the zeroG arm.</li> <li>• During operation, use the tool's grips and avoid touching the arm, except the adjustment cranks of the dynamic mounting interface block.</li> <li>• When the arm is not docked, handle it only by the end blocks and the adjustment knobs.</li> <li>• Use of protective covers is recommended.</li> </ul>
MAXIMUM LOAD	Maximum payload capacity is 36 lbs., including the gimbal-tool-post assembly and cables and hoses. Do not load more than 36 lbs. on your zeroG arm.
ENVIRONMENTAL ELEMENTS	Keep liquids, gels, dust, paint, and debris away from the zeroG arm, or protect arm segments with disposable or permanent arm covers from Equipois.
DOCKING & POSITIONING	Dock the zeroG arm in a horizontal position when it is not in use. Do not leave the zeroG arm free or floating where it can easily swing or move.
 UNDOCKING AN UNLOADED zeroG ARM	An unloaded zeroG arm RISES FORCEFULLY and can cause injury if it is released suddenly from its docked position. Never undock a zeroG arm unless it is loaded with its intended payload or the spring tension is balanced by restraints or a counter weight.
PAYLOAD REMOVAL	Do not mount or dismount the payload from the zeroG arm when the built-in dock is in use.