

NUMMECH PRODUCTS

INVERT MINI / EMPIRE AXE DROP FORWARD

This drop forward is intended to mimic the stock bottomline mount, but with an altered mounting method. Please read these instructions before your installation. An installation video can be found on our website www.nummech.com

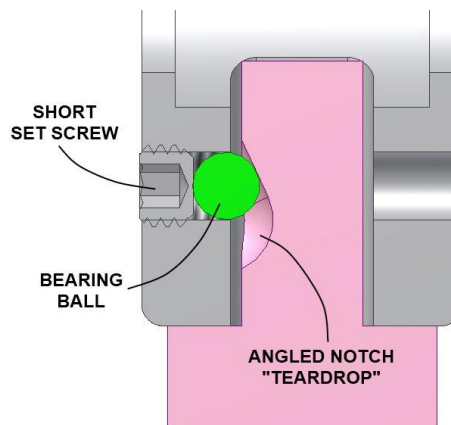
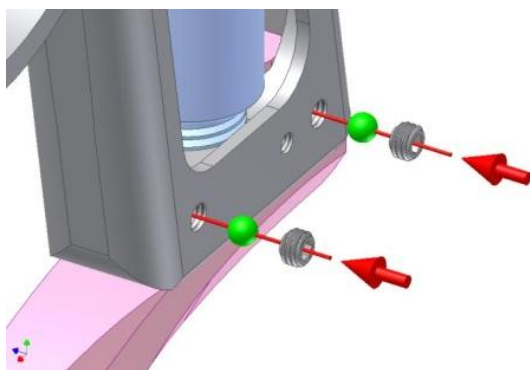
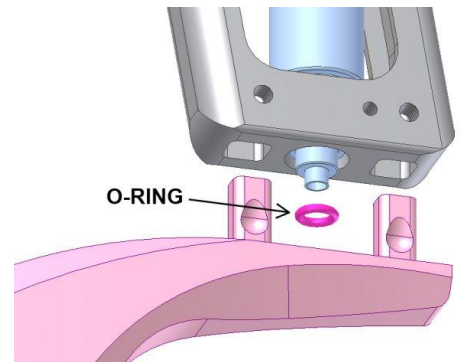
Included components:

- Invert Mini/Axe drop forward
- Air transfer tube o-rings (three sizes)
- Steel bearing balls (5/32" diameter)
- Bearing ball set screws (short)
- Dovetail mount screws (long) - preinstalled in the drop forward

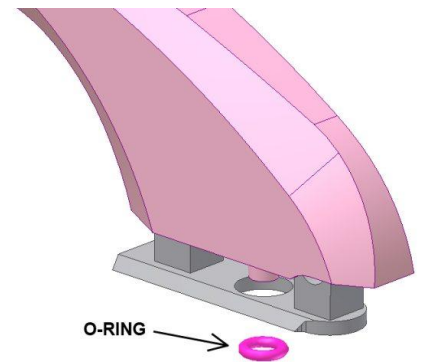
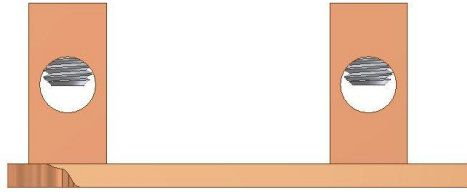
Installation:

Note: the bottomline mounting method used by Minis and Axes can be difficult to adjust so please be patient during the procedure.

1. Remove the marker's grip panels.
2. Remove the stock bottomline dovetail mount by loosening the set screws located on the left side of the frame. Please remove these screws now, as they are not going to be used with the drop forward (however you should keep them for future use).
3. Ensure the o-ring is installed on the bottom of the air transfer tube (see picture to the right). The stock o-ring is a size 9/70 and a replacement is provided. The drop forward also comes with larger and smaller o-rings in case you need them (see "troubleshooting").
4. Slide the drop forward into the holes located on the bottom of the marker frame. Note - if the drop forward cannot sit flush on the bottom of the frame, the air transfer tube is sticking out too far. Screw it with your hand to make it recede further up into the frame.
5. When fully seated up against the frame, drop each of the steel bearing balls into the empty screw holes in the LEFT side of the frame (see pictures below). Next, install the new pair of shorter set screws (1/8" length) into the same holes containing the bearing balls. Tighten down the set screws hand-tight; this should eliminate any drop forward side-to-side movement. Using a small amount of loctite on these set screws is optional.



6. You will now install the regulator onto the drop forward. Ensure the o-ring is installed on the bottom of the drop forward's transfer boss (see picture to the right). Again, the stock o-ring is a 9/70 but other sizes are also included in case you need them.
7. Before installing the regulator, reset the dovetail's vertical set screws so they are floating in the middle of the cross-holes, as seen in the picture below...



Test fit the dovetail into the bottom cavities in the drop forward. If the fit is too tight, use a file to remove a small amount of material from the side of the dovetail mount. Marker tolerances might require you to file the part in order to obtain the perfect fit (this modification won't affect the stock parts).

8. Slide the stock dovetail/regulator onto the bottom of the drop forward, then slowly tighten the drop forward's two set screws until the regulator has no more side-to-side wiggle. If the regulator doesn't sit straight enough for your liking, loosen the screws and re-tighten them by going back and forth between the two. Tightening the front screw will make the regulator point more downwards, and vice versa. Try to balance them out to your liking.
NOTE: If there is a large gap between the regulator and drop forward, remove the regulator and unscrew the two vertical set screws located in the dovetail mount by a small amount. This will help bring the regulator closer to the drop forward when the side set screws are tightened.
Also note that a small gap is acceptable! The most important thing is that the air transfer connection is made.
9. The drop forward is now ready to be tested - see the "testing" section below.

Testing & Troubleshooting:

You are now ready to test out the new air connections. If you hear any leaks, you may be required to make some minor adjustments to the mounting system. These are explained below:

- **Problem: Leak between the frame and drop forward**

Cause: The internal air transfer tube is not sticking out far enough for its o-ring to make the seal. In other words, the tube needs to stick out slightly further downward.

To fix this, loosen the drop forward from the frame (via the two screws on the side of the frame), and twist/screw the air transfer tube so it will stick out further under the frame. Usually a quarter turn will be enough. After adjusting the air transfer tube, re-tighten the drop forward and test it out again.

- **Problem: Leak between the regulator and drop forward**

Cause: The regulator isn't tight enough against the drop forward for its o-ring to make the seal. In other words the regulator needs to be tighter against the drop forward.

To fix this, loosen the two set screws in the drop forward which will loosen the regulator connection. Remove the regulator and unscrew the vertical set screws located in the dovetail mount. Reinstall and test it out again. Remember you may have to go back and forth between the two screws when tightening the regulator.

A variety of different o-rings are included with the drop forward. The stock size is a 9/70 but a pair of smaller (8/70) and larger (10/70) o-rings are also included. Every marker is different within a certain range of sizes, so there's a chance you will need to use a different size than the stock one.