



FHE-03 Portable Fire Hose Expander Procedures

The following procedures are a guide to expanding Fire Hose, Wash Down Hose & Drillers Water Lines with expansion couplings using the FHE-03 Portable Expander. **WARNING:** Extreme care & attention must be used when assembling hose & couplings.

FHE-03 Portable Fire Hose Expander can assemble 1" & 1-1/2" Single or Double Jacket Fire Hose and 1" Red-Lite & Yellow-Lite Drillers Water Lines.

Getting Started:

- Confirm what type of Hose & Coupling combination you are assembling, then determine what the corresponding Expansion Setting is for the combination (see below Expansion Chart).
- Set up portable machine using table top mount or vise mount.

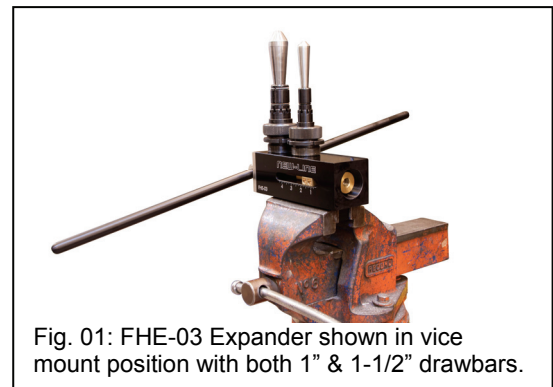


Fig. 01: FHE-03 Expander shown in vice mount position with both 1" & 1-1/2" drawbars.

Expansion Chart

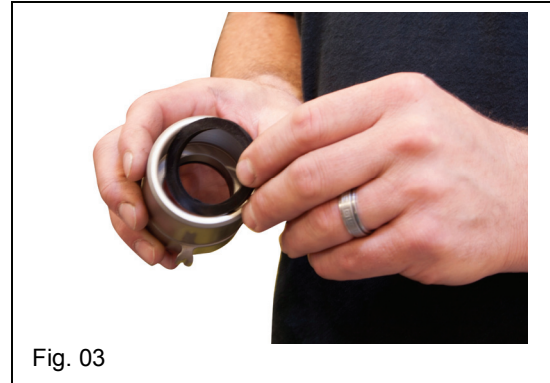
Hose & Coupling Combination	Expansion Scale Setting
1" Drillers Water Line w/ Hardcoat Aluminum NPSH Ends	2-3/4"
1-1/2" Single Jacket w/ Aluminum Forestry Ends	2-1/4"
1-1/2" Single Jacket w/ Hardcoat Aluminum NPSH Ends	2-1/2"
1-1/2" Double Jacket w/ Aluminum Hardcoat Aluminum NPSH Ends	3-1/4"

- Pick the correct size of draw bar required for job and install it on the front of the Portable Fire Hose Expander. Confirm Draw Bar and Knurled Nut are threaded all the way in. (Fig. 02)



Fig. 02

- Remove both Tail Gasket and Sealing Gasket from coupling for draw bar depth set up. (Fig. 03)



- Adjust the “knurled nut collar” on the draw bar by turning it clockwise until it fully bottoms out at the back of the draw bar. With the tail & sealing gaskets removed slide the coupling over the draw bar and butt it up against the “knurled nut collar”. (Fig. 04)



- With the coupling pressed against the “knurled nut collar” slowly turn the control handle clockwise expanding the segments of the draw bar so they are slightly larger than the pathway of the coupling but not touching the inside wall of the coupling (the coupling should move loosely between the “knurled nut collar” and the expanded segments without being able to come off the draw bar). Pull the coupling back toward you until the segments of the draw bar are against the tail gasket back up wall. Hold in place.



- Now turn the “knurled nut collar” counterclockwise until it makes the coupling snug up against to the draw bar segments, then turn the “knurled nut collar” clockwise 1 full turn (or half the tail gasket’s thickness). This will allow the brass expansion ring to make a proper seal on the tail gasket. (Fig. 05)
- **NOTE:** You must cover at least half of the tail gasket to obtain a proper seal with the expansion ring once expanded. Not covering enough of the tail gasket will result in a leaking connection and/or end ejection.

- Turn the control handle counterclockwise to fully retract the draw bar segments allowing you to remove the coupling. Your FHE-003 Portable Fire Hose Expander is now setup & ready to install your couplings!
- **NOTE:** Be sure to install the tail gasket back into your coupling before installing on a hose.

- With the tail gasket inserted back into the coupling, insert the hose into the bowl of the coupling until it is flush against the tail gasket. Ensure the hose is smooth inside the coupling, use your fingers to smooth out, the smoother it is allows for easier insertion over the draw bar. (Fig. 06)



Fig. 06

- Slide a brass expansion sleeve fully onto the draw bar over top of the retracted draw bar segments.
- With the hose inserted into the coupling and bottomed out against the tail gasket slide the coupling and hose over the draw bar (make sure the brass expansion ring is on drawbar) bottoming coupling out against the previously adjusted "knurled nut collar".
- **NOTE:** Make sure hose does not slide out the back of the coupling, it will remain loose until the expansion ring starts to expand against the bowl wall of the coupling.



Fig. 07

- Now turn the control handle slowly clockwise with one hand and hold the hose with your other hand until pressure is applied to the hose wall by the brass expansion sleeve. (Fig. 07)
- Continue to turn the control handle clockwise until you have reached the pre-determined Expansion Scale Setting on the side of the FHE-003 Portable Fire Hose Expander (Fig.08). Refer to Expansion Chart listed on page 1 for correct scale setting.

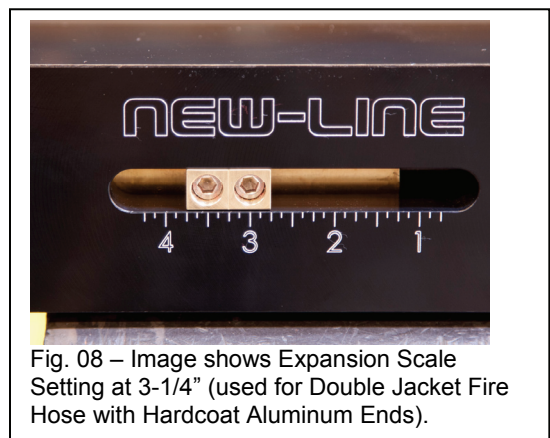


Fig. 08 – Image shows Expansion Scale Setting at 3-1/4" (used for Double Jacket Fire Hose with Hardcoat Aluminum Ends).

- Once you have reached Expansion Scale Setting turn the control handle counterclockwise releasing the pressure enough to turn coupling (3/8" – 1/2") then repeat by expanding to pre-determined Expansion Scale Setting again.
- **NOTE:** This repetitive step is ensures a smooth 360° expansion of the brass expansion sleeve.



- Turn control handle counterclockwise and remove coupling from draw bar.
- Always check your work, look inside coupling to confirm you are on the tail gasket, and there are not cracks in the brass expansion sleeve.
- Final Step; Re-Insert swivel or sealing gasket on female couplings or forestry couplings.