



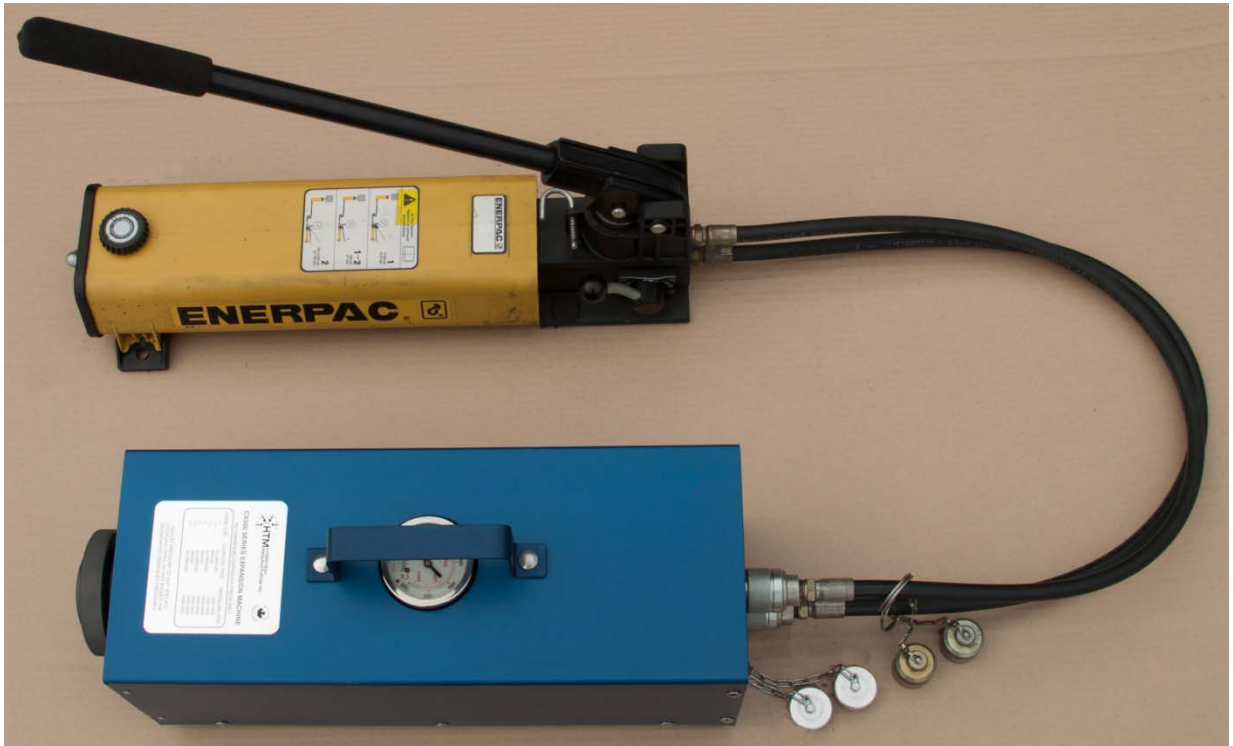
Operating Instructions

For CX300E Internal Expansion Hose Coupling Machine



Machine Setup:

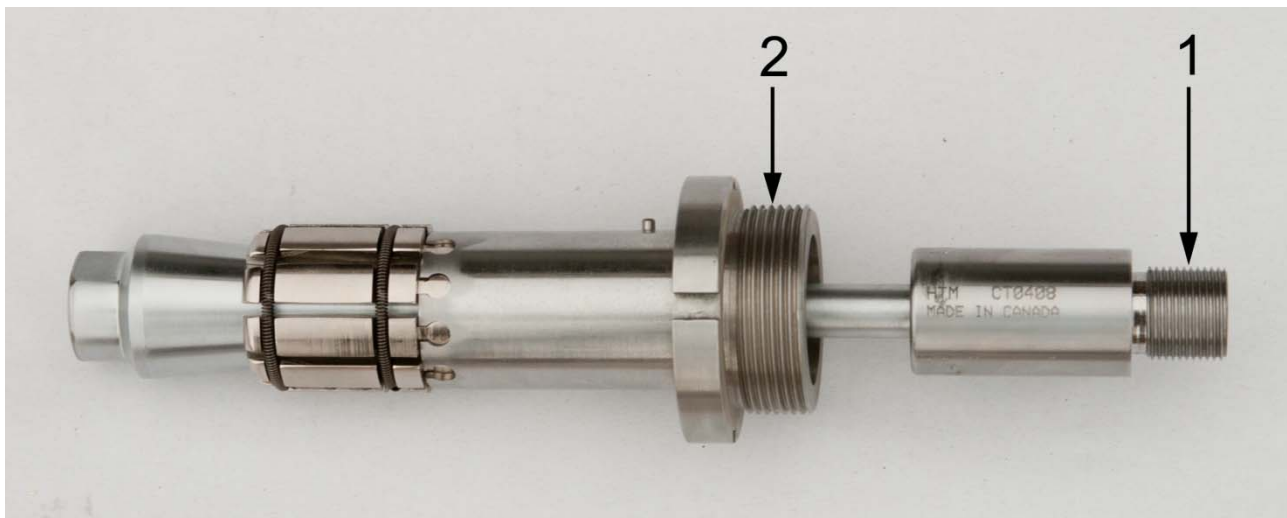
1. Place the CX300E on a flat surface - floor or workbench.
2. Connect the CX300E to both hoses of a bi-directional hydraulic pump.
An Enerpac® Model P-464, Model P-84 or Model P-842 (shown in photo) is recommended.



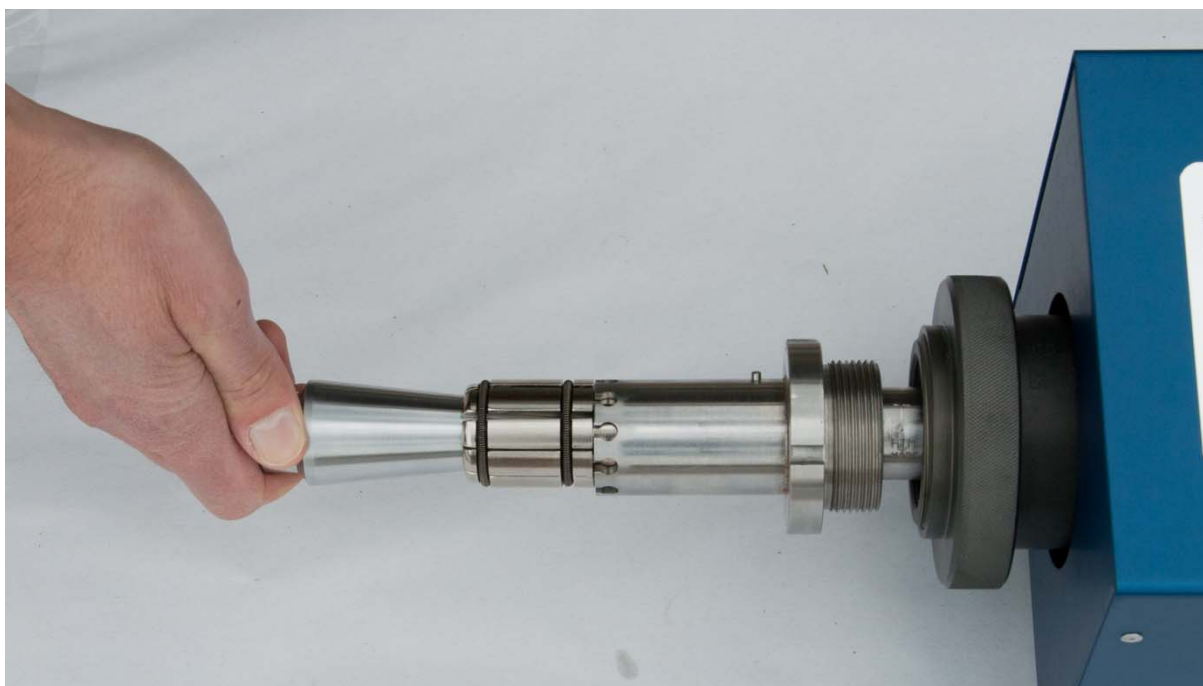
Connect Hose A to the lower quick-connect coupling.
Connect Hose B to the upper quick-connect coupling.

3. With the cylinder of the CX300E in the fully returned (forward) position, attach the proper expansion tool to the CX300E:
 - For 1½" hoses, use the HTM CT150 expansion tool.
 - For 1¾" hoses, use the HTM CT175 expansion tool.
 - For 2" hoses, use the HTM CT200 expansion tool.





- ❖ Step 1:
Thread the Drawbar Adapter of the expansion tool (No. 1 in the illustration) into the smaller thread inside the end of the CX300E.
**! Note: The Drawbar Adapter must be fully threaded into the CX300E.
The Drawbar Adapter must be only hand-tightened – do not use a wrench!**



❖ Step 2:

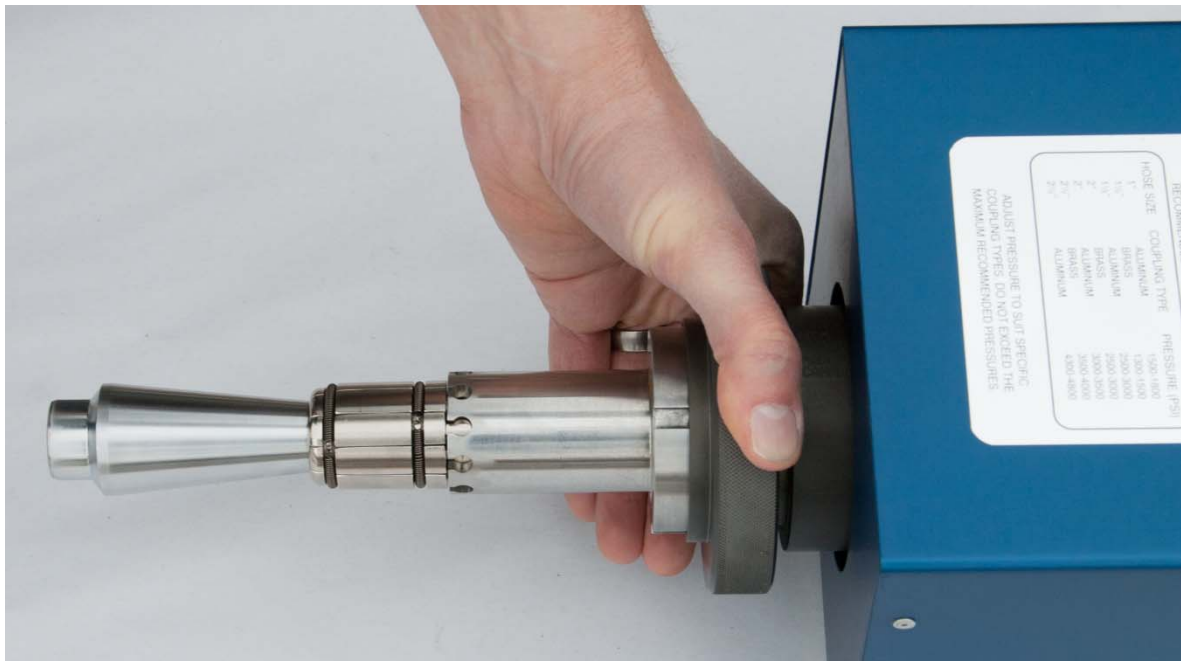
Thread the Segment Holder of the expansion tool (No. 2 in the illustration) into the larger thread of the spring housing of the CX300E. The Segment Holder should be threaded in until it is almost tight against the spring housing.



❖ Step 3:

Tighten the Backstop Nut of the CX300E against the Segment Holder of the expansion tool to fully secure the tool to the CX300E.

**! Note: The Backstop Nut must be firmly tightened against the Segment Holder.
The Backstop Nut must be only hand-tightened – do not use a wrench!**



Machine Operation:

The Directional Control Valve on the Hydraulic Pump will control the expansion and retraction of the Expansion Tool segments:

- ❖ The segments will expand when hydraulic pressure is applied using the pump with the valve in the "A" position.
- ❖ The segments will close when hydraulic pressure is applied using the pump with the valve in the "B" position.
- ❖ The CX300E has a return spring, so only minimal pump effort is required to retract the Expansion Tool.

Hose Preparation:

- ❖ Cut the hose square, with no threads left hanging from the hose.



- ❖ The hose must be pushed all the way into the coupling, so that it contacts the tail gasket in the coupling.

Safety Warnings:

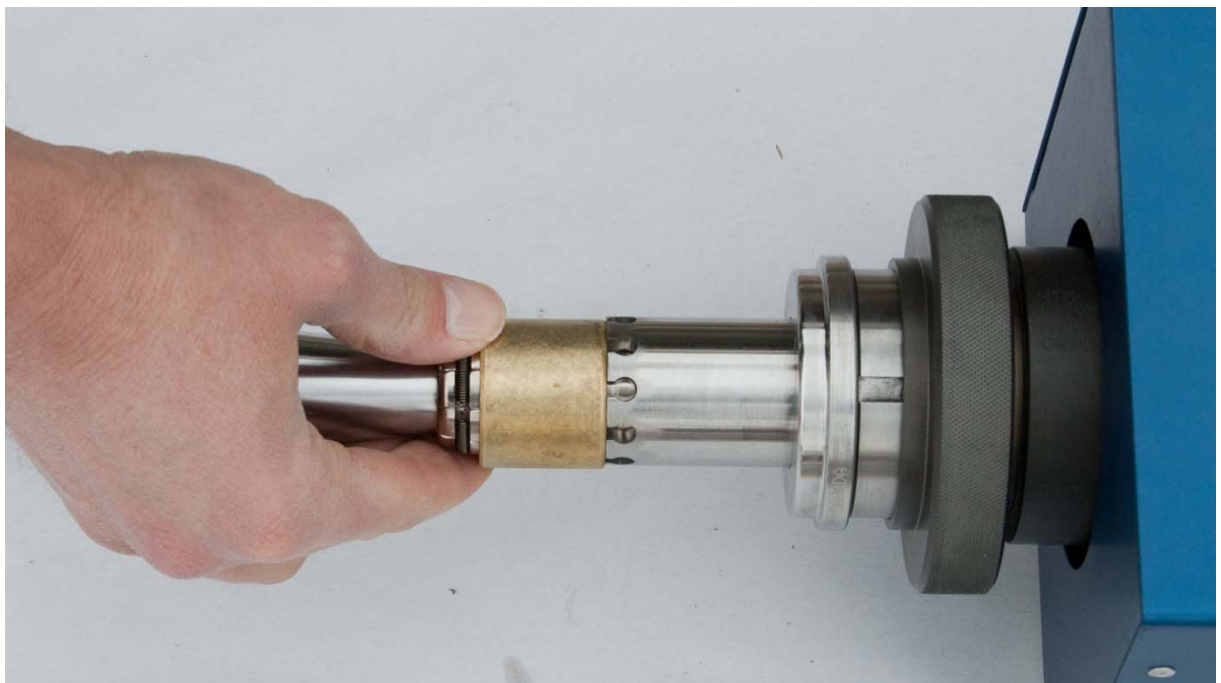
- 1. Do not exceed the recommended hydraulic pressures for each hose size (as listed on the CX300E enclosure).**
- 2. Do not expand the segments completely without a hose coupling and expansion ring properly in place on the Expansion Tool. This may result in damage or breakage of the drawbar, segment holder, or segments.**
- 3. Ensure that the hose coupling bowl size is correct for the hose to be attached.**
- 4. Do not place your fingers inside the edge of the hose coupling when operating the CX300E.**
- 5. The hose must always be pressure-tested after attaching couplings, before putting the hose into service.**

To attach 1½" or 2" Type C & Type E (Camlock) Couplings to 1½" hose:

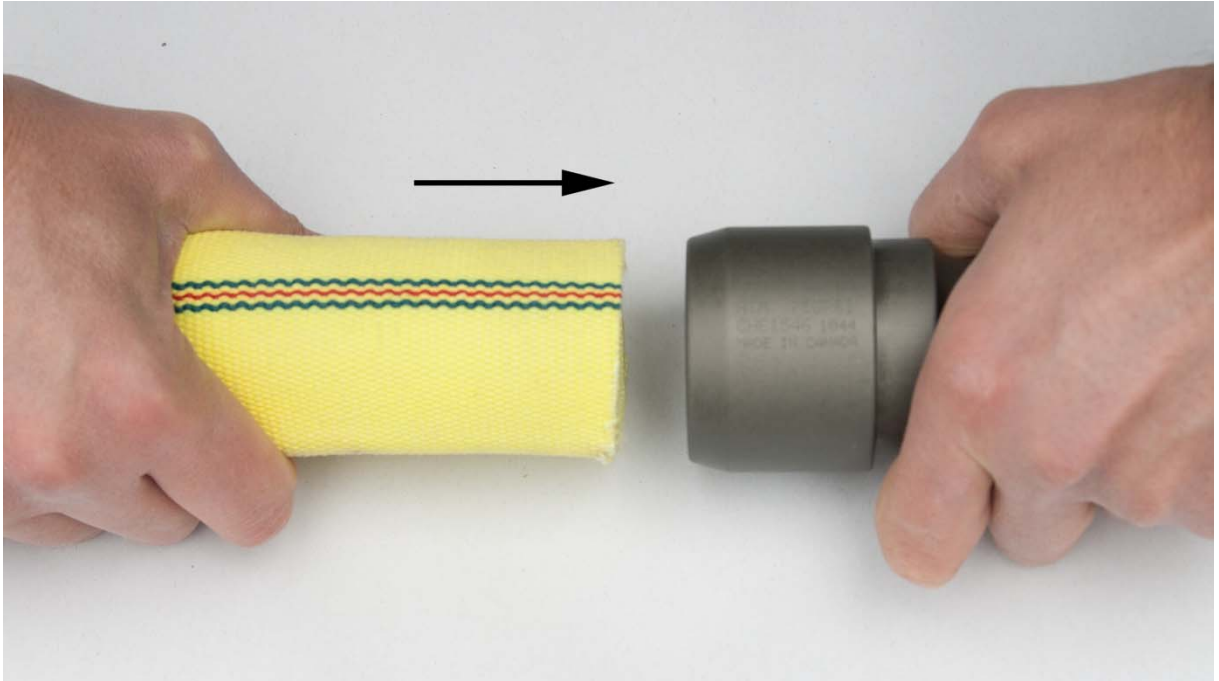
- ❖ Ensure that the coupling has the correct bowl size for the hose to be attached.
- ❖ With the CT150 Expansion Unit in the CX300E machine, install the 1½" Camlock spacer (part no. CT0706) on the CT150.



- ❖ Place the 1½" (Ø38mm) brass expansion ring over the CT150 expansion segments, exactly as shown in the photo.



- ❖ Push the hose fully into the coupling, so that the hose contacts the coupling tail gasket squarely.



- ❖ Slide the hose and coupling over the CT150, and push it firmly into the Camlock Coupling Spacer, ensuring that the hose is still pushed fully into the coupling.



- ❖ Using the hydraulic pump with the valve in the "A" position, expand the ring to the recommended pressure.

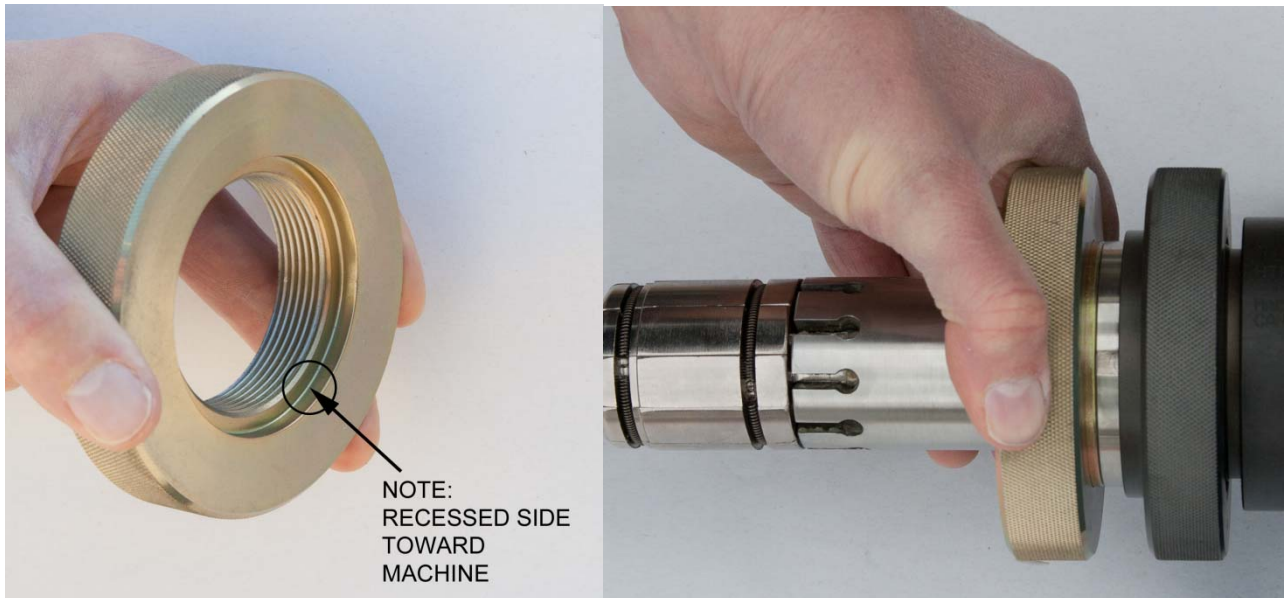
- ❖ Retract the segments slightly, using the hydraulic pump with the valve in the "B" position.
- ❖ Rotate the coupling slightly, about 15°.
- ❖ With the hydraulic pump valve in the "A" position, expand the ring once again to the recommended pressure.
- ❖ Retract the segments completely, then remove the hose and coupling from the machine.
- ❖ **Note: The hose should always be pressure-tested after coupling attachment is complete, before putting the hose into service.**

To attach 2" Type C & Type E (Camlock) Couplings to 2" hose:

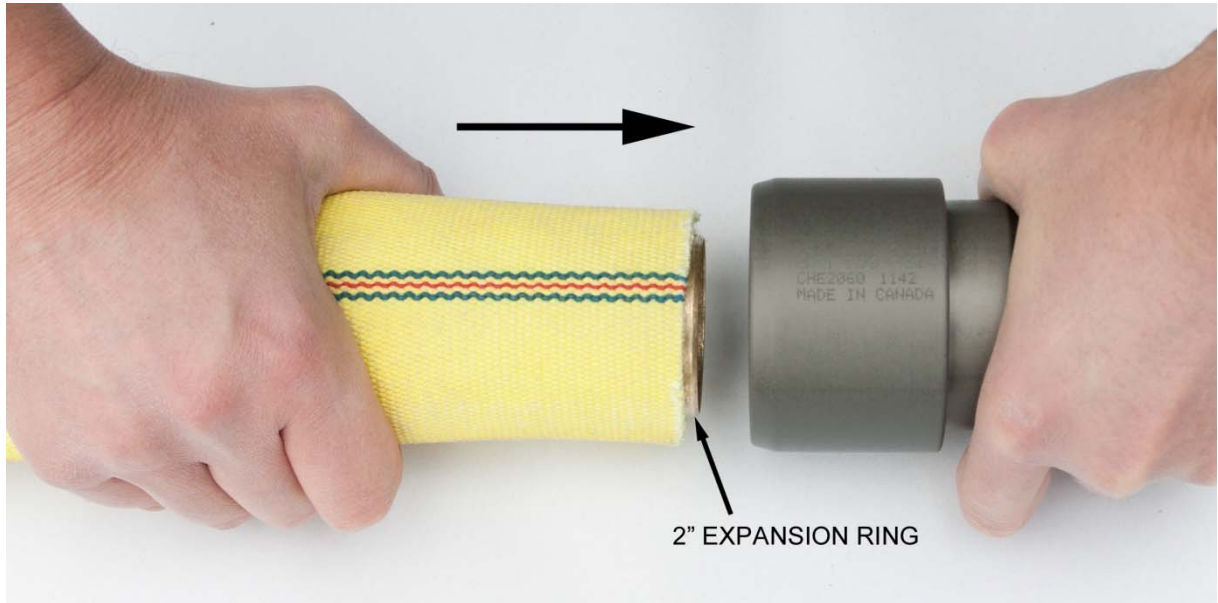
- ❖ Ensure that the coupling has the correct bowl size for the hose to be attached.
- ❖ With the CT200 Expansion Unit in the CX300 machine, ensure that the 2" Camlock back spacer is installed on the CT200 behind the adjustment wheel.
(The Camlock back spacer is the thin, gold colored ring.)



- ❖ Tighten the adjustment wheel against the back spacer. This will maintain the correct depth of the expansion ring inside the hose coupling.



- ❖ Place the 2" Brass Expansion Ring inside the hose.
- ❖ Push the hose all the way into the coupling, so that the hose contacts the coupling tail gasket squarely.
- ❖ The Brass Expansion Ring must be positioned inside the hose so that it will expand into the tail gasket of the coupling.



- ❖ Slide the hose and coupling over the CT200, ensuring that the hose is pushed all the way into the coupling.
- ❖ Use firm thumb pressure on the hose near the end of the coupling, to keep the expansion ring in place.



- ❖ Ensure that the Brass Expansion Ring is properly positioned over the Expansion Segments. Do not allow the Expansion Ring to slide back inside the hose.
- ❖ **Do not place your fingers inside the coupling bowl when operating the machine!**
- ❖ Using the hydraulic pump with the valve in the "A" position, expand the ring to the recommended pressure.
- ❖ Retract the segments slightly, using the hydraulic pump with the valve in the "B" position.
- ❖ Rotate the coupling slightly, about 15°.
- ❖ With the hydraulic pump valve in the "A" position, expand the ring once again to the recommended pressure.
- ❖ Retract the segments completely, then remove the hose and coupling from the machine.
- ❖ **Note: The hose should always be pressure-tested after coupling attachment is complete, before putting the hose into service.**

To attach 1½" or 2" Type T (Threaded) Couplings to 1½" hose:

- ❖ Ensure that the coupling has the correct bowl size for the hose to be attached.
- ❖ With the CT150 Expansion Unit in the CX300E machine, ensure that the 1½" Camlock Spacer is removed and install the correct CT1006 Adapter Sleeve in front of the Segment Holder.



- ❖ Place the 1½" (Ø38mm) brass expansion ring over the CT150 expansion segments, exactly as shown in the photo.



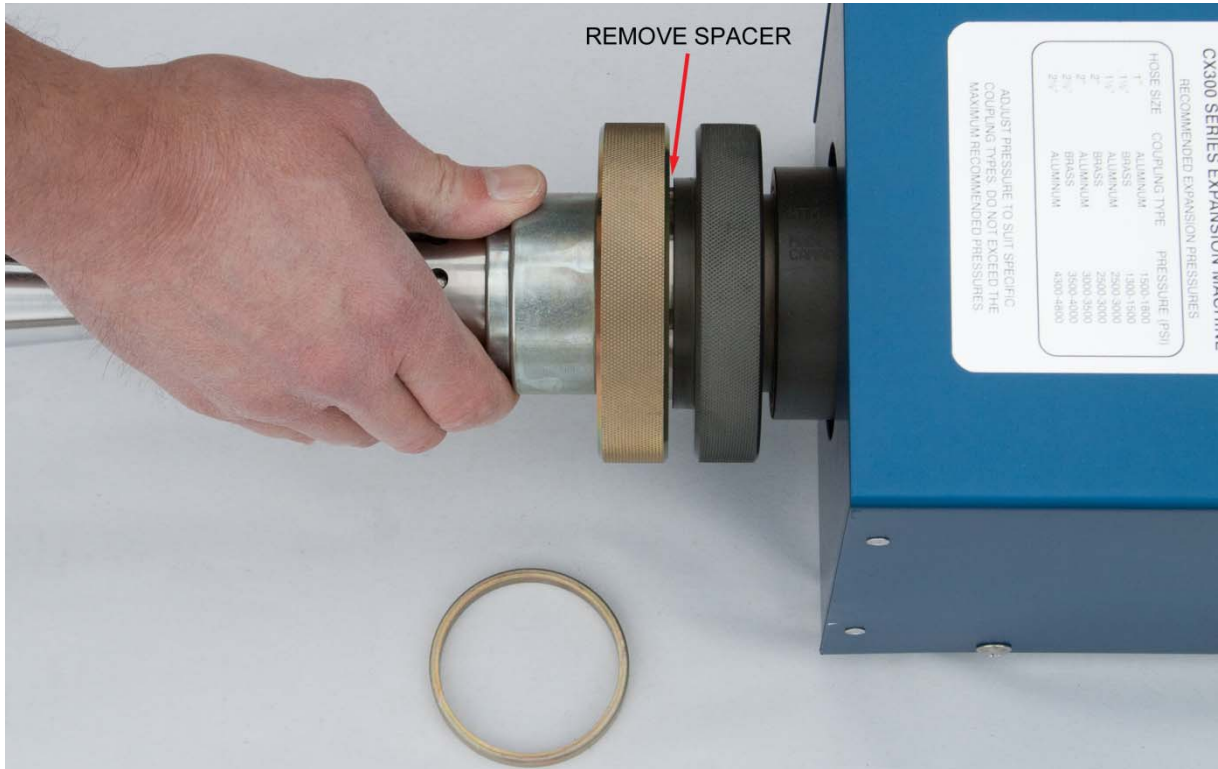
- ❖ Ensure that the Hose Coupling is properly positioned over the Expansion Segments of the CT150 Expansion Unit. Some couplings may require the use of a longer or shorter version of the CT1006 Adapter Sleeve.



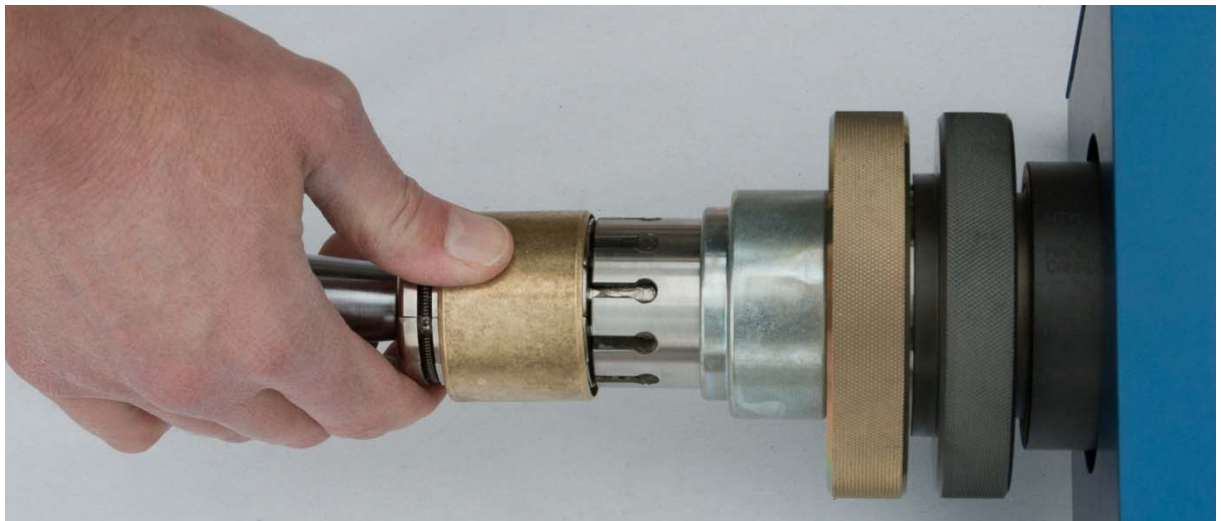
- ❖ Slide the hose and coupling over the CT150, and push it firmly against the CT1006 Adapter Sleeve, ensuring that the hose is still pushed fully into the coupling.
- ❖ Using the hydraulic pump with the valve in the "A" position, expand the ring to the recommended pressure.
- ❖ Retract the segments slightly, using the hydraulic pump with the valve in the "B" position.
- ❖ Rotate the coupling slightly, about 15°.
- ❖ With the hydraulic pump valve in the "A" position, expand the ring once again to the recommended pressure.
- ❖ Retract the segments completely, then remove the hose and coupling from the machine.
- ❖ **Note: The hose should always be pressure-tested after coupling attachment is complete, before putting the hose into service.**

To attach 2" Type T (Threaded) Couplings to 2" hose:

- ❖ Ensure that the coupling has the correct bowl size for the hose to be attached.
- ❖ With the CT200 Expansion Unit in the CX300E machine, ensure that the 2" Camlock Back Spacer is removed and install the CT1008 Adapter Sleeve in front of the Adjustment Wheel.



- ❖ Use the Adjustment Wheel if necessary to ensure that the Hose Coupling is properly positioned over the Expansion Segments of the CT200 Expansion Unit..
- ❖ Place the 2" (Ø50mm) brass expansion ring over the CT200 expansion segments, exactly as shown in the photo.



- ❖ Using the hydraulic pump with the valve in the "A" position, expand the segments of the CT200 slightly, just enough to hold the brass expansion ring in place.
- ❖ Slide the hose and coupling over the CT200, and push it firmly against the CT1008 Adapter Sleeve, ensuring that the hose is still pushed fully into the coupling.



- ❖ Using the hydraulic pump with the valve in the "A" position, expand the ring to the recommended pressure.
- ❖ Retract the segments slightly, using the hydraulic pump with the valve in the "B" position.
- ❖ Rotate the coupling slightly, about 15°.
- ❖ With the hydraulic pump valve in the "A" position, expand the ring once again to the recommended pressure.
- ❖ Retract the segments completely, then remove the hose and coupling from the machine.
- ❖ **Note: The hose should always be pressure-tested after coupling attachment is complete, before putting the hose into service.**

