

IMPORTANT INFORMATION DO NOT THROW AWAY

SUPPLEMENTAL INSTALLATION INSTRUCTIONS

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION FOR INSTALLATION OF RACI CASING SPACERS. READ AND UNDERSTAND THESE BEFORE INSTALLATION. IN THE EVENT OF DISAGREEMENT BETWEEN THIS DOCUMENT AND ANY OTHER INSTALLATION NOTES, THE INFORMATION IN THIS DOCUMENT SHALL PREVAIL. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY LIMIT THE SUCCESS OF YOUR RACI CASING SPACER INSTALLATION.



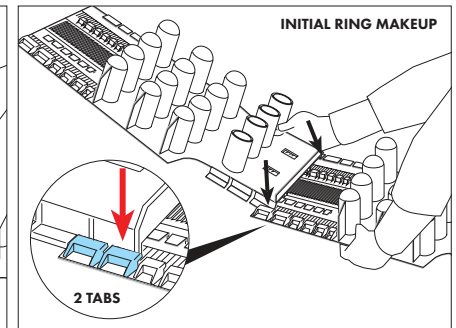
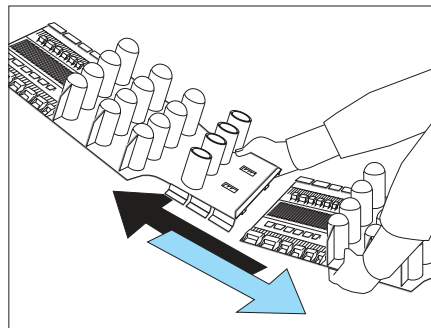
BEFORE YOU BEGIN

- Your ring configuration may include mixed RACI spacer elements (e.g. F & G, or M & N, etc.). Ensure that each ring is assembled in the steps below including the correct **number** and **type** of each element. Consult your Sales Quotation or Sales Order for more information.
- RACI spacer elements are single-use only and cannot be reused if damaged, worn from a previous installation or were disassembled. Ensure all the spacers for the installation are clean, undamaged and in otherwise good condition prior to beginning ring assembly and installation.
- Installation temperatures below 5°C make elements less flexible and harder to install.

STEP 1 - INITIAL MAKE UP

Insert the male end into the slot of the next spacer, engaging it to the 2nd marker tab. Continue in this fashion until you have a belt of elements ready to wrap around the carrier pipe.

- Do not engage any spacer past the 2nd tab at this time. Going beyond 2 tabs may prevent proper tightening at later steps.
- Once inserted, spacer elements cannot be disassembled or backed off without damaging the RACI element.

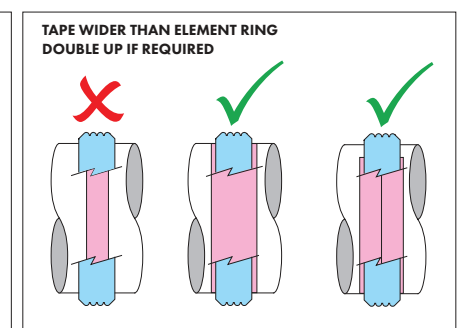
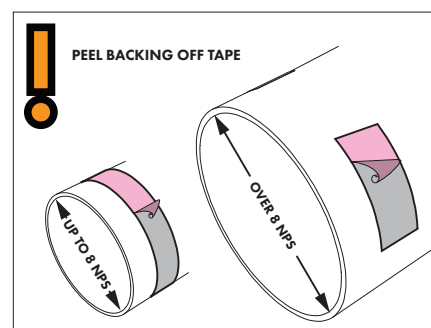
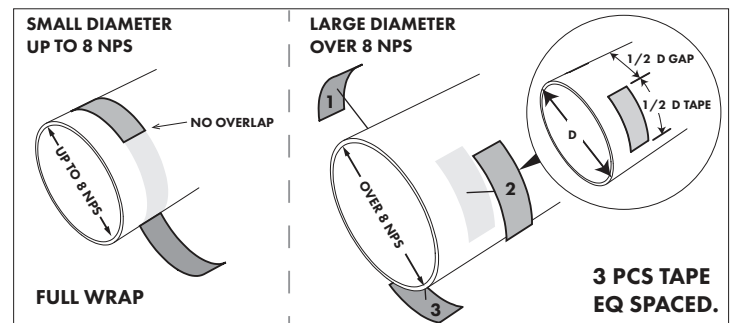


STEP 2 - TAPING

Apply double-sided tape to the outside of the carrier pipe where the spacer ring will be located, via this method:


- Carrier diameter is **GREATER than 8 NPS**:
 - Cut three segments of tape, each $\frac{1}{3}$ of the carrier circumference (or, approximately $\frac{1}{2}$ the carrier pipe outside diameter) long.
 - Stick each tape segment equally spaced around the carrier pipe.
- Carrier diameter is **LESS OR EQUAL to 8 NPS**:
 - Wrap tape all the way around the carrier pipe. Ensure ends of tape do not overlap.
- Peel the tape backing off, exposing the outside face of adhesive. Leave this step until just before you are ready to place the ring on the carrier pipe to keep the adhesive clear of dirt and debris.

- Tape must be as wide or wider than the RACI element. Use wider tape, or run a second course of tape segments next to the first course if additional width required.

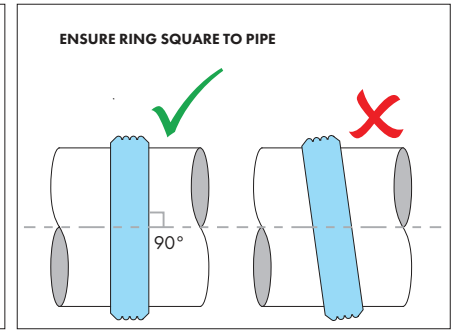
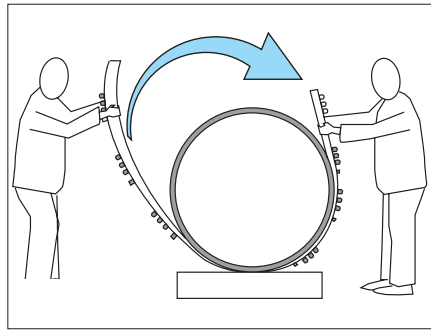


STEP 3 - WRAPPING

Wrap the spacer belt loosely around the pipe and close the ends by hand up to the 2nd tab, same as in **Step 1**.

 **Ensure the spacer ring is aligned with the tape, and is not at an angle. For proper engagement, the spacer ring *must* be square to the carrier pipe.**

 **Tape backing must be removed prior to this step.**

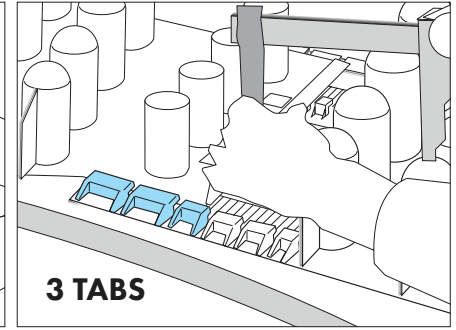
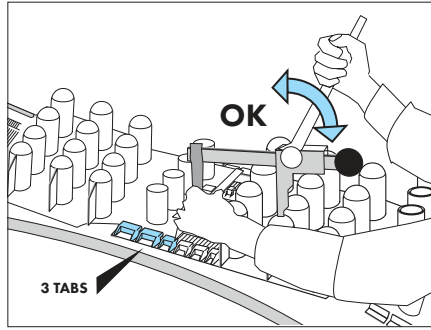


STEP 4 - INITIAL TIGHTENING

Use the RACI Tool to tighten each spacer element connection evenly up to the 3rd tab.


Periodically check alignment to make sure the spacer ring is still square to the carrier pipe, and is on the tape applied in **Step 2**.

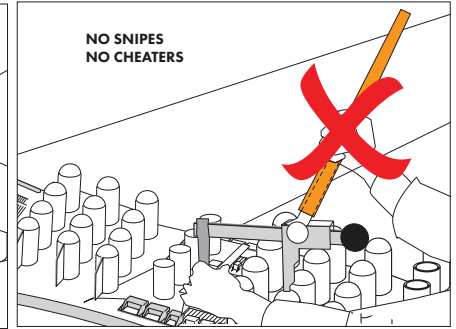
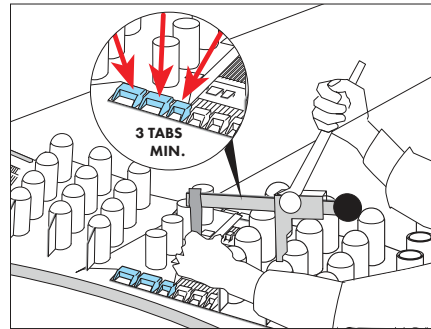
 **Tightening past the 3rd tab at this step may prevent all elements from connecting properly.**



STEP 5 - FINAL TIGHTENING

Continue to work around the spacer ring with the RACI tool to gradually and *evenly* tighten the ring around the carrier pipe. Each element should have about the number of tabs engaged.

 **Do not use a snipe or cheater bar on the handle of the RACI tool.**




STEP 6 - CONTINUE INSTALLATION

Repeat **Steps 1 - 5**, spacing the element rings out per the spacing information provided with the Sales Quotation or Sales Order until the entire carrier pipe has spacer rings installed. Once tightened, the spacer ring and carrier pipe are ready to be installed into the casing.

CARRIER INSERTION NOTES

If carrier pipe is pushed into the casing, note the required number of lead and tail rings on the push, and ensure that these are installed prior to starting.

 **Casing Lubrication is strongly recommended. Periodic re-lubrication may be required.**

 **Make sure the casing interior and elements are free of dirt, mud and debris prior to push.**

