

# Important Information

## SUPPLEMENTAL INSTALLATION INSTRUCTIONS



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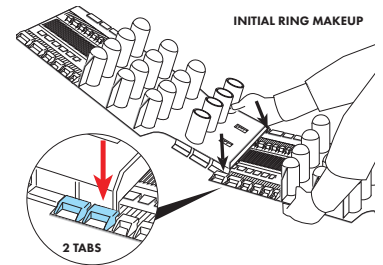
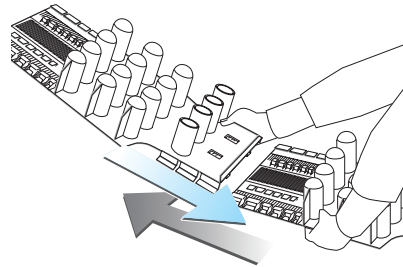
This document contains important information for installation of Raci Casing Spacers. Read and understand these before installation. In the event of disagreement between this document and any other installation notes, the information in this document shall prevail. Failure to follow these instructions 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 41°F / 5°C make elements less flexible and harder to install.
- Choose the installation tool suitable for the type and height of the spacer element before starting.
- Before starting with the installation, check the number of elements for each spacer ring is correct and of the right type.

### STEP 1 - INITIAL MAKE UP

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

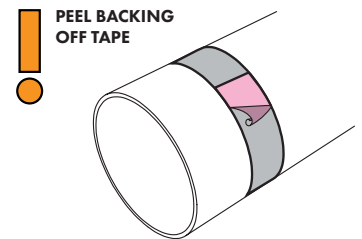
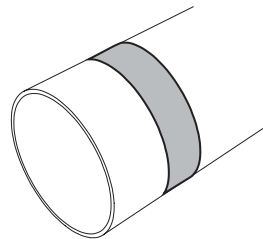


- ⚠ Do not engage any spacer past the 2<sup>nd</sup> tab at this time. Going beyond 2 tabs may prevent proper tightening at later steps.
- ⚠ Once inserted, spacer elements cannot be disassembled or backed off without damaging the Raci element.

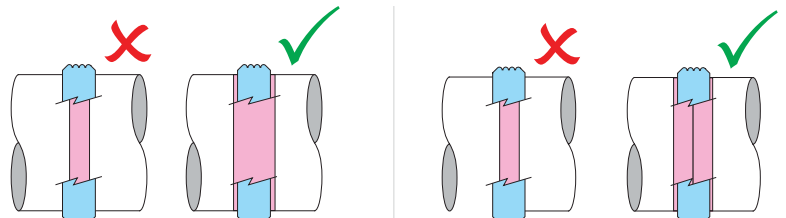
### STEP 2 - TAPING

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

- Wrap the tape around the entire circumference of the pipe, ensuring that the width of the tape is equal to or wider than the width of the Raci element being used.
- Peel the tape backing off to exposing the outside face of adhesive. Leave this step until just before you are ready to place the ring on the carrier.



TAPE WIDER THAN ELEMENT RING DOUBLE UP IF REQUIRED

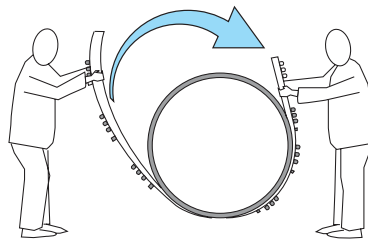


- ⚠ Tape must be as wide or wider than the Raci element. Use wider tape, or run a second course of tape segments next to the first course if additional width required.

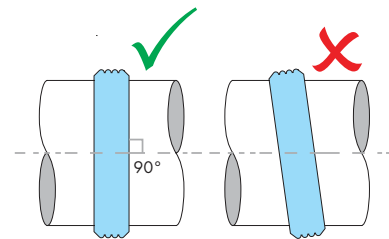
## STEP 3 - WRAPPING

Wrap the spacer belt loosely around the pipe and close the ends by hand up to the 2<sup>nd</sup> 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.



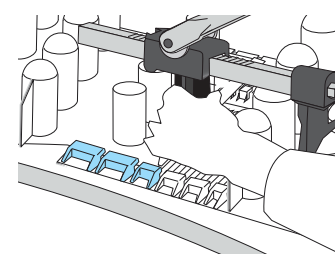
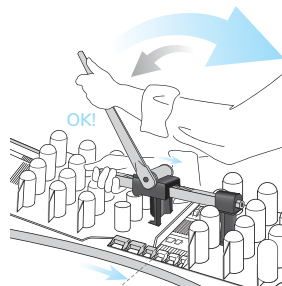
ENSURE RING SQUARE TO PIPE



## STEP 4 - INITIAL TIGHTENING

Use the Raci Tool to tighten each spacer element connection evenly up to the 3<sup>rd</sup> 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**.

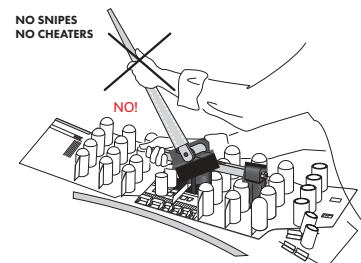
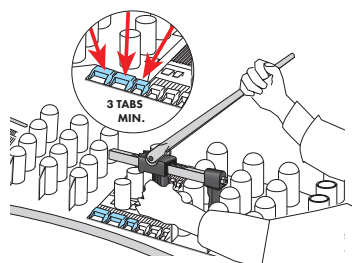
- ⚠ Tightening past the 3<sup>rd</sup> tab at this step may prevent all elements from connecting properly.



## 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 same number of tabs engaged.

- ⚠ Do not use a snipe or cheater bar on the handle of the Raci tool.



## STEP 6 - CONTINUE INSTALLATION

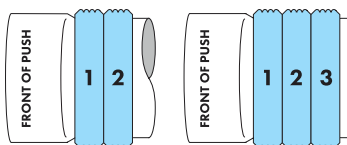
Repeat **Steps 1 - 5**, spacing the element rings out per the spacing information provided with the Sales Quotation or Sales Order until the entire carrier pipe has spacer rings installed. Once tightened, the spacer ring and carrier pipe are ready to be installed into the casing.

## 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.
- ⚠ Just prior to inserting the pipe lengths, make sure to re-tighten each spacer ring just before they are inserted into the casing.

### LEAD RING CONFIGURATION



← **PUSH**

0 - 200 ft  
[0 - 60 m]  
2 LEAD RINGS

Regular spacing.

← **PUSH**

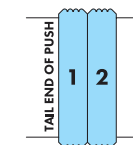
200 - 400 ft  
[60 - 120 m]  
3 LEAD RINGS

Reduce spacing to 70% for first 200 ft (60 m) and use regular spacing for the 2<sup>nd</sup> 200 ft (60 m).

Please contact your distributor for Raci engineering recommendations for spacing and special recommendations.

400 ft +  
[120 m +]

### TAIL RING CONFIG .



← **PUSH**

2 TAILING RINGS  
AT END OF PUSH