

## For Total Knee Systems:

GENESIS<sup>®</sup> II, LEGION<sup>®</sup> PRIMARY, JOURNEY<sup>®</sup> II or TC PLUS Knee Systems



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## Intended Use/Indications for Use

Smith & Nephew VISIONAIRE Adaptive Guides are intended to be used as a patient-specific surgical instrument to assist in the positioning of total knee replacement components intraoperatively and in guiding the marking of bone before cutting provided that anatomic landmarks necessary for alignment and positioning of the implant are identifiable on patient imaging scans.

The VISIONAIRE Adaptive Guides are intended for use with the following existing Smith & Nephew knee systems and their cleared indications for use: GENESIS<sup>®</sup> II, LEGION<sup>®</sup> Primary, and JOURNEY<sup>®</sup> II Total Knee Systems. VISIONAIRE Adaptive Guides are available for use with TC-PLUS<sup>®</sup> in select markets outside the United States.

### Nota Bene

The following technique is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of treating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgment for each of their patients. For more information on the VISIONAIRE Adaptive Guides, including its indications for use, contraindications, and product safety information, please refer to the product's label and the Instructions for Use packaged with the product.

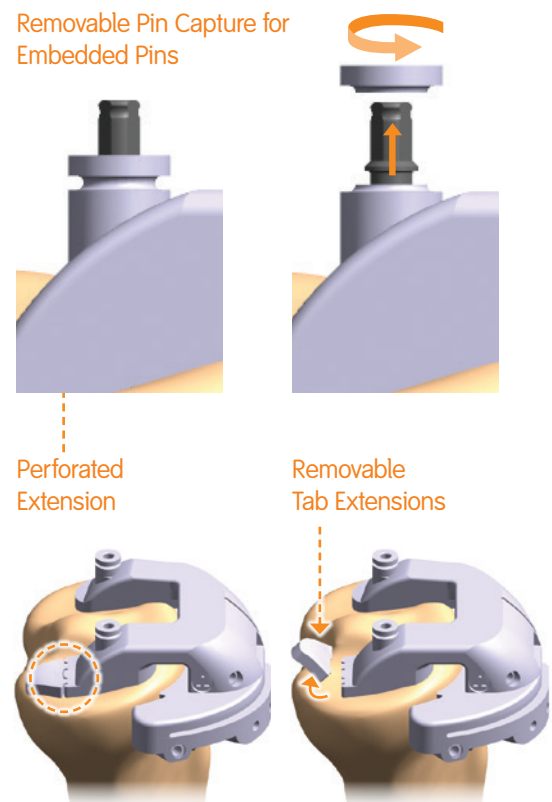
**Note:** It is recommended that a sterile back-up instrument set be made available nearby in the event that an Adaptive Guide is intraoperatively determined to be unsuitable for intended use.

**Tip:** Do not remove osteophytes before evaluating guide fit. If an osteophyte prevents proper fit, remove only the interfering osteophyte before reevaluating fit.

**Tip:** Avoid over-driving rimmed speed pins. If over-driven into the guide, rimmed speed pins can be extracted by removing the pin capture using a rongeur and backing them out with the driver.

**Tip:** Paddle extensions are perforated to allow optional removal prior to placement.

For a full list of guide preferences available refer to Appendix B.



# Femoral Guide

## Positioning and Exposure

1. Flex the knee.
2. Carefully remove only soft tissue from the anterior femur cortex which may prevent proper guide fit.

## Pinning and Drilling

3. Place the femoral guide on the distal femur by pushing the guide into the trochlear groove and down on the distal condyles.

**Note:** The proximal contact area of the femoral guide should contact the anterior cortex to prevent unintended flexion.

**Tip:** The alignment rod may be used to verify alignment before pinning the femur guide (see Step 6).

4. While the femur guide is firmly held in place, secure the femur guide distally by inserting pins into the distal holes.

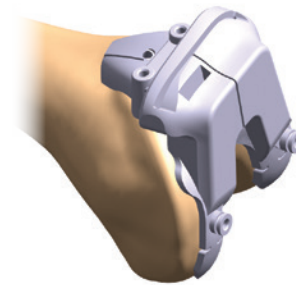
**Note:** The distal pin holes of the femoral guide correspond to the spikes of the femur AP cutting guide associated with the implant. Insert pins deeper than the resection plane.

**Tip:** It is best for the surgeon to hold the femoral guide while an assistant pins.

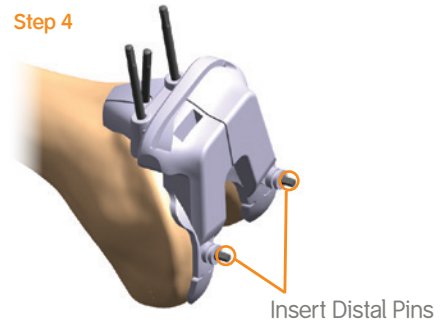
5. Secure the femoral guide anteriorly by inserting headless pins into the appropriate anterior parallel pin holes.

**Tip:** Use of the anterior oblique pin is optional for additional security if desired.

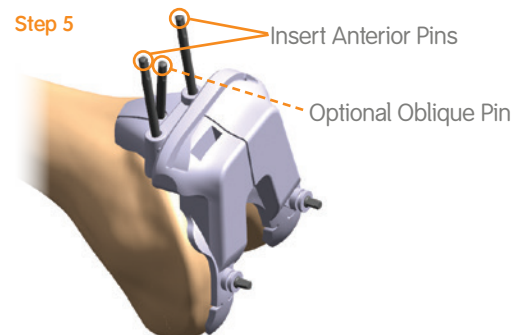
Step 3



Step 4



Step 5



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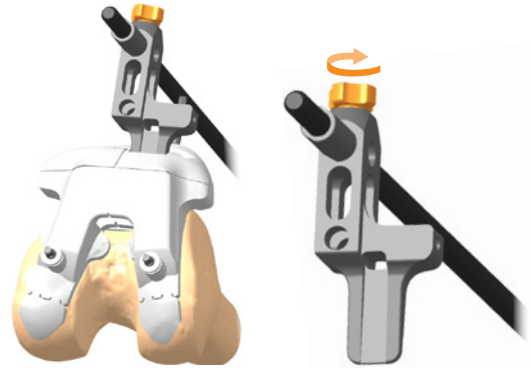
## Resection

6. Use the external alignment rod to verify proper alignment prior to making the distal resection.

**Note:** The AP etch line points to the Rod when assembled correctly and is oriented neutral to the planned alignment of the femur implant. The ML etch line length is equal to the ML width of the planned femur implant. The rotation of the ML etch line is parallel to the preoperatively determined TE Axis.

Step 6

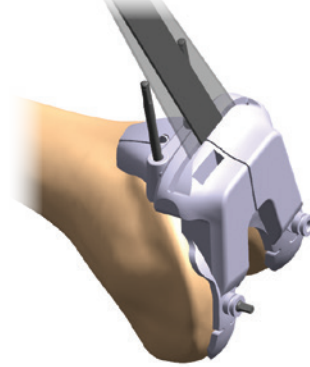
Alignment Rod Assembly



Use light pressure when inserting connector into guide

7. Remove one distal pin prior to beginning the distal resection. To complete the resection, move the remaining distal pin to the opposite side of the femoral guide to preserve three pin attachments.

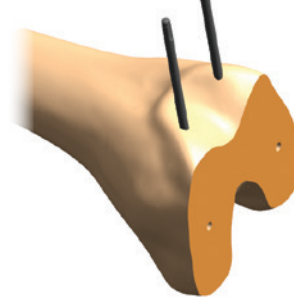
Step 7



8. After completing the resection, remove the femoral guide and complete the procedure per the surgical technique recommended for the implant taking care to ensure resection alignment is acceptable.

**Note:** The anterior parallel pin holes created through the femoral guide correspond to the standard distal cutting associated with the implant. See Appendix A for the list of available standard guides.

Step 8



## Positioning and Exposure

1. Sublux the tibia.
2. Remove the meniscus, including the posterior medial meniscus.
3. Carefully remove only soft tissue from the anterior tibia cortex which may prevent proper guide fit.

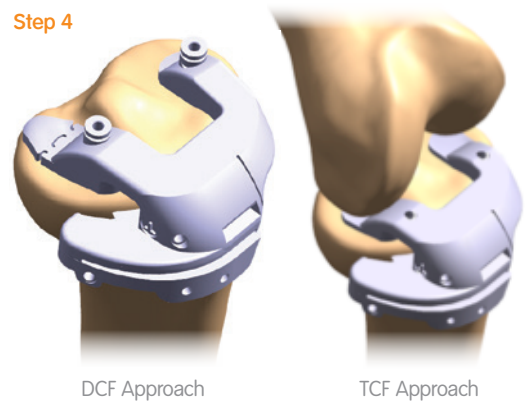
## Placement and Pinning

4. Place the tibial guide on the proximal tibia. The primary key contact area for the tibial guide is the anterior medial tibial cortex, the secondary contact area are the medial and lateral plateau.

**Note:** The key contact areas of the tibia guide should be mated flush to the corresponding anatomy. If not, remove only osteophytes or soft tissue which may be preventing proper fit.

**Tip:** The alignment rod may be used to verify alignment before pinning the tibia guide (see Step 7).

Step 4

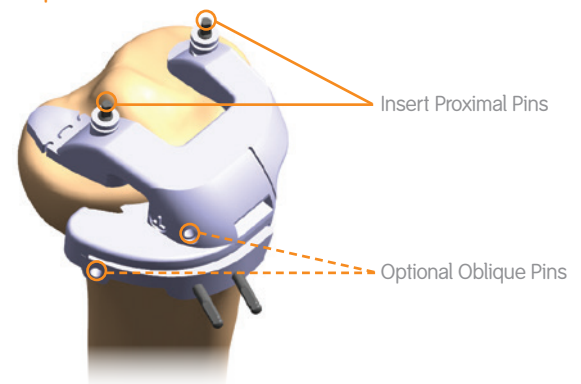


5. While the tibia guide is firmly held in place, secure the tibial guide proximally by inserting pins into the proximal holes.

**Note:** With the exception of the TCF Guide, the proximal pin holes correspond to the pin holes of the tibial baseplate trial associated with the implant. Insert pins deeper than the resection plane.

**Tip:** It is best for the surgeon to hold the tibia guide while an assistant pins.

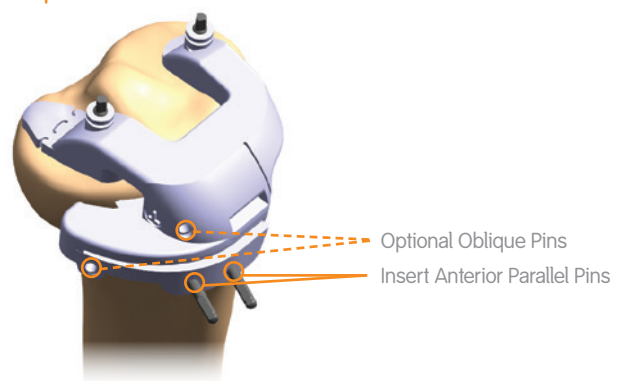
Step 5



6. Secure the tibia guide anteriorly by inserting headless pins into the appropriate anterior parallel pin holes.

**Tip:** Use of one or more oblique anterior pin holes with short headed pins is optional for added security if desired.

Step 6

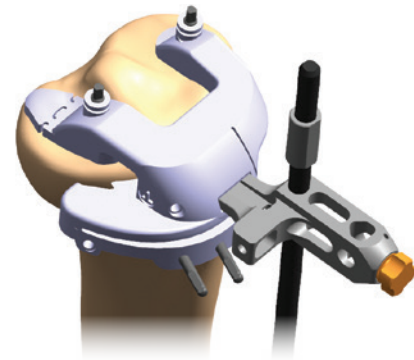


- 
7. Use the external alignment rod to verify proper alignment prior to making the proximal resection.

**Note:** The anterior line corresponds to the sagittal mid-plane of the tibial implant and the intended ML position of the alignment rod.

**Tip:** The medial side of the guide includes a symbol which indicates that the Alignment Rod will align either Parallel  $\parallel$  to the tibia mechanical axis or Perpendicular  $\perp$  to the cutting slot.

Step 7



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## Resection for Cruciate-Retaining (CR), Posterior-Stabilized (PS) or Bi-Cruciate-Stabilized (BCS) Tibia

8. Remove one distal pin prior to beginning the distal resection. To complete the resection, move the remaining distal pin to the opposite side of the femoral guide to preserve three pin attachments.

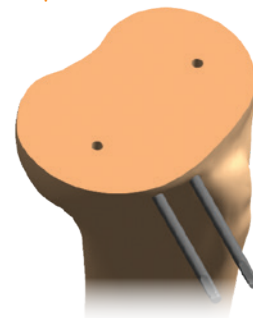
Step 8



9. After completing the resection, remove the femoral guide and complete the procedure per the surgical technique recommended for the implant taking care to ensure resection alignment is acceptable.

**Tip:** The anterior parallel pin holes created through the tibia guide correspond to the standard proximal tibia cutting guide specified for the case. See Appendix A for the list of available standard guides.

Step 9

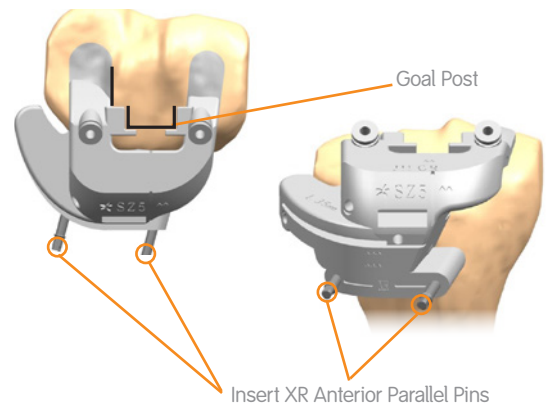


## Pin Positioning for Bi-Cruciate Retaining (XR) Tibia

**Note:** Verify that the ACL is viable before proceeding. If not, continue with the JOURNEY® II CR or JOURNEY II BCS technique using the non-XR anterior parallel pin holes.

10. Mark the tibia with the ML and AP position of the tibial eminence to be preserved using the 'goal post' feature of the guide. Mark the IE rotation of the tibia eminence to be preserved using the straight inside edge of the proximal medial paddle. Pin through the XR anterior parallel pin holes labelled 'XR'

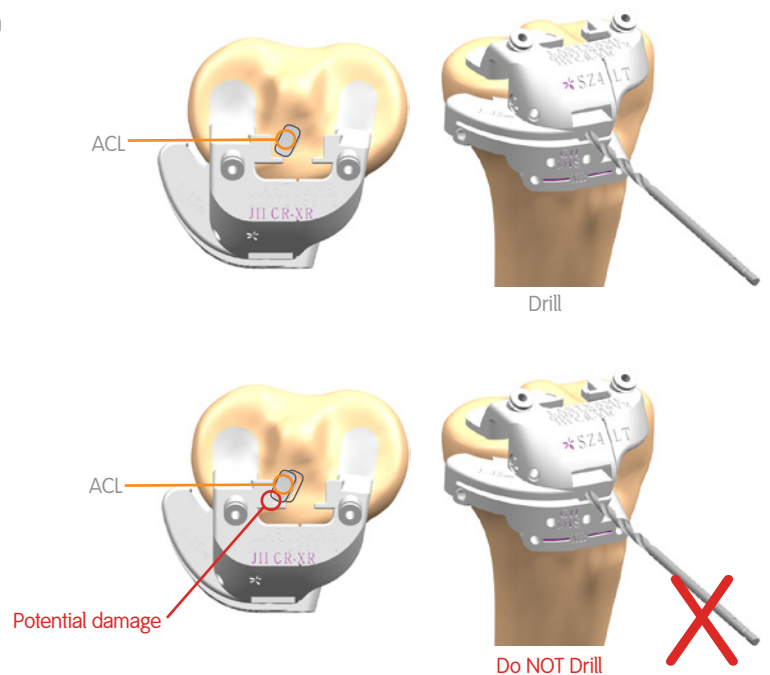
### Step 10



11. If satisfied with the position and rotation of the tibia eminence to be preserved relative to the ACL footprint, predrill through the pin hole lateral to the cut slot using a 1/8" (3.2mm) drill or 110mm Headless Speed Pin.

**Note:** The ACL may be obscured in the MRI, therefore the VISIONAIRE Engineer sets the rotation and placement as a result of best fit for the asymmetric base plate.

### Step 11





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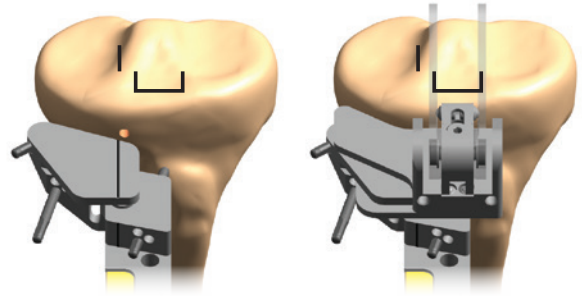
12. Remove the guide and mate the 3° Datum Block to the anterior parallel pins. Center the XR Orientation Stylus on the 'goal post' mark and orient the arms parallel with the medial line. Complete the procedure using the JOURNEY II XR surgical technique taking care to ensure resection alignment is acceptable.

**Note:** The Adaptive Guide XR pin guide is designed to match the 3° XR Datum Block. If additional slope is needed, the 5° XR Datum Block should be used as a recut guide.

**Tip:** If predrilled, the pin hole in-line with the cut slot can be used to position and rotate the Orientation Stylus.

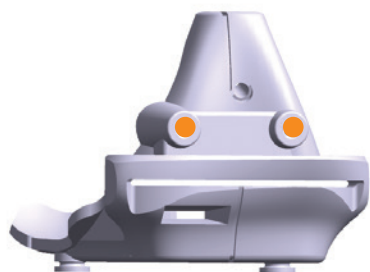
**Tip:** Later in the XR Technique, use the 'goal post' marking to position the XR Anterior Eminence Chisel.

Step 12



# Appendix A: Standard Distal Femur and Proximal Tibia Resection Guides

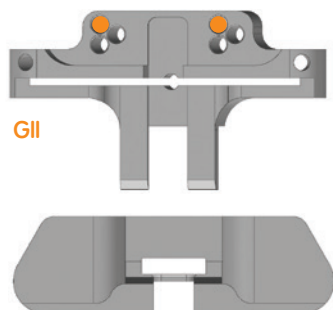
VISIONAIRE® Adaptive Guides provide anterior parallel pin holes which correspond to Smith & Nephew conventional distal femur and proximal tibia resection guides. On the anterior face of each Adaptive Guide, the conventional resection guide intended for use is labelled. Below are pictured the standard resection guides which correspond to each text label.



Corresponding  
Standard Femur Guides

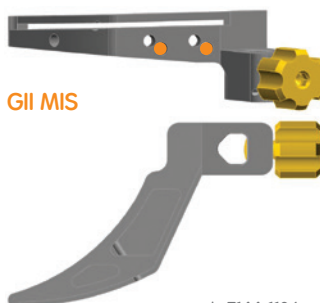


Corresponding  
Standard Tibia Guides



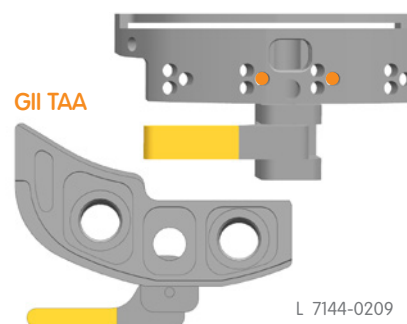
GII

7144-1147



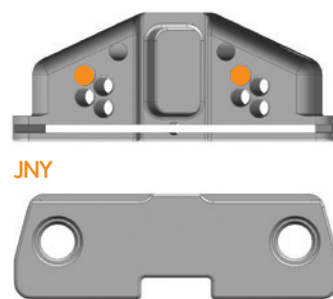
GII MIS

L 7144-1136  
R 7144-1137



GII TAA

L 7144-0209  
R 7144-0205



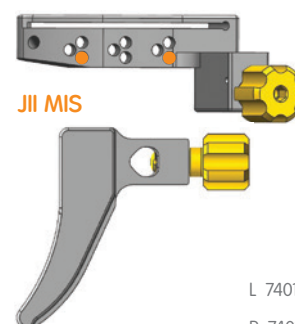
JNY

7401-2233



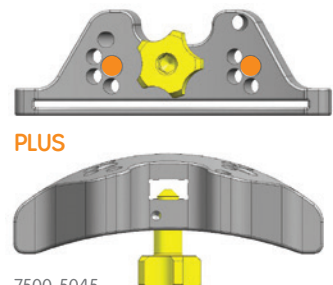
JNY MIS

L 7401-8411  
R 7401-7411



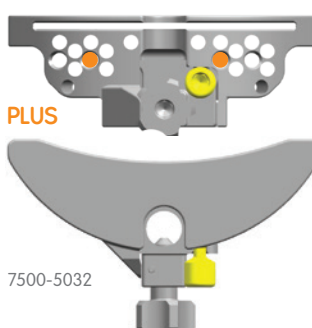
JII MIS

L 7401-4473  
R 7401-4474



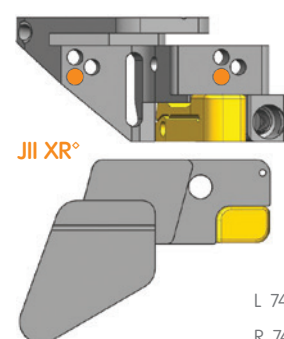
PLUS

7500-5045



PLUS



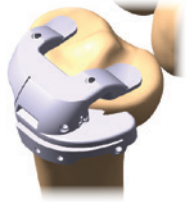







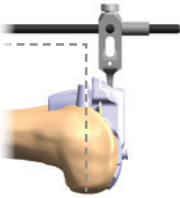

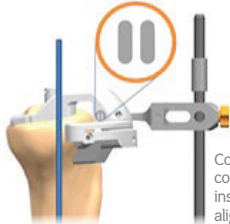







7500-5032



JII XR°

L 7401-4463  
R 7401-4464

# Appendix B: Adaptive Femur and Tibia Guide Surgeon Design Preferences

| Femur   |  | Options  | Tibia   |   |
|---|--|--|---|---|
|  <p style="text-align: center;"><b>DCF</b></p>             |  | <p>To accommodate techniques with tighter joint spaces, a lower profile tibia guide with angled proximal pins is available. These pin holes do not set rotation.</p> |  <p style="text-align: center;"><b>DCF</b></p>  |  <p style="text-align: center;"><b>TCF</b></p>   |
|  <p style="text-align: center;"><b>Tab</b></p>             |  <p style="text-align: center;"><b>No Tab</b></p>       |  | <p>Guides can be designed with extended contact tabs or without.</p>  <p style="text-align: center;"><b>Tab</b></p>   |  <p style="text-align: center;"><b>No Tab</b></p>  |
|  <p style="text-align: center;"><b>MIS</b></p>            |  | <p>Along, with the standard MIS cutting slot, the tibia is offered with an elongated TAA cutting slot.</p>   |  <p style="text-align: center;"><b>MIS</b></p>   |  <p style="text-align: center;"><b>TAA</b></p>  |
|  <p style="text-align: center;"><b>Perpendicular</b></p> |  |  | <p>The guide can be designed to position the drop rod parallel to the mechanical axis or perpendicular to the cutting slot.</p>  <p style="text-align: center;"><b>Perpendicular</b></p> <p><small>Compare to VISIONAIRE legacy alignment</small></p> |  <p style="text-align: center;"><b>Parallel</b></p> <p><small>Compare to conventional instrument alignment</small></p> |
|  <p style="text-align: center;"><b>JOURNEY II CR</b></p> |  | <p>The Adaptive Guide for JOURNEY<sup>®</sup> II supports BCS, CR, and XR-CR.</p>  |  <p style="text-align: center;"><b>CR-XR</b></p>  |  <p style="text-align: center;"><b>CR</b></p>  |
|  <p style="text-align: center;"><b>Rimmed</b></p>        |  <p style="text-align: center;"><b>Non Rimmed</b></p> |  | <p>Rimmed pin holes are offered for use with headed speed pins.</p>  <p style="text-align: center;"><b>Rimmed</b></p>   |  <p style="text-align: center;"><b>Non Rimmed</b></p>  |

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07684 V2 71282151 REVA 09/18

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