

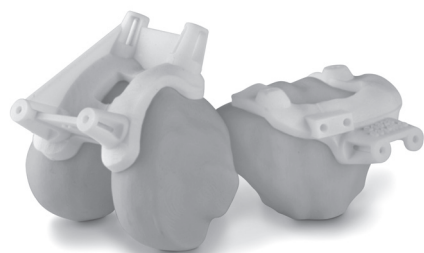


**PERSONA**

THE PERSONALIZED  
KNEE SYSTEM

Patient Specific Instruments

Surgical Technique





## Introduction

### General Considerations

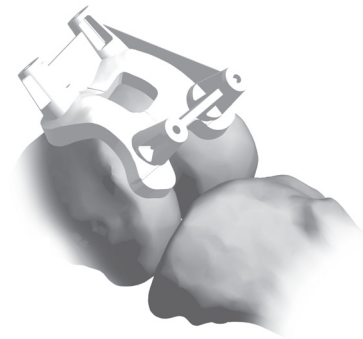
- Zimmer<sup>®</sup> Patient Specific Instruments (PSI) are not designed for use with the *Zimmer MIS Quad-Sparing*<sup>™</sup> Total Knee Procedure.
- Zimmer PSI should be used in conjunction with a femur first technique.
- Verify stability and fixation of all pins. When securing the conventional cutting guides, avoid the use of spring pins as these may cause stress / unwanted shift on the cutting guide.

Persona®	Table of Contents	
The Personalized		
Knee System Patient	Femoral Technique	1
Specific Instruments	Tibial Technique	3
Surgical Technique		

## Femoral Technique

### Position Femoral Pin Guide

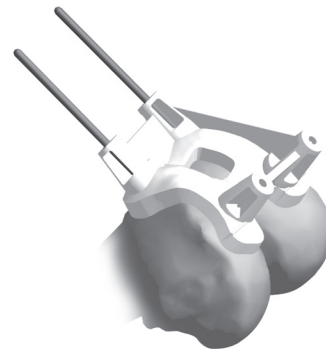
- Do not remove osteophytes from the femur.
- Position the Pin Guide on the distal femur (**Fig. 1**).
- Pin Guide will be captured by the anterior ridge of the femur.
- The epicondylar axis and A/P axis reference lines on the Pin Guide can be used to assess alignment.
- Apply posterior pressure to the Pin Guide and verify secure fit.



**Fig. 1**

### Drill and Pin the Anterior Pin Holes

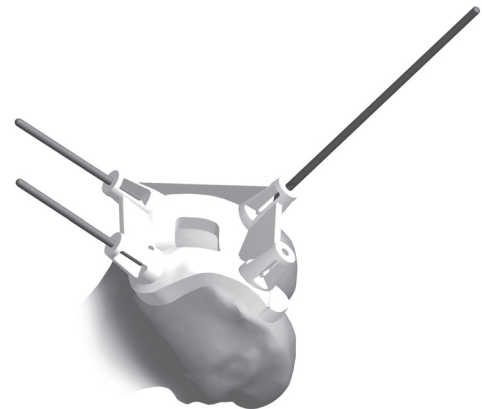
- Drill and pin the anterior medial and lateral pin holes of the Pin Guide using the Universal Disposable Drill (2001-00-000) (**Fig. 2**).



**Fig. 2**

### Drill Distal Pin Holes

- Drill the distal pin holes of the Pin Guide (do not place pins) (**Fig. 3**).



**Fig. 3**

#### TECHNIQUE TIP

**1.A**

*When drilling the distal pin holes, ensure the holes are deep enough for visibility after the distal cut occurs.*

#### Instruments



PSI Femoral  
Pin Guide  
00-5970-000-  
25/ 29/ 33/ 36



Universal Pin  
and Drill Kit  
2001-00-000

### Place Distal Cut Guide and Cut Femur

- Remove the Pin Guide by sliding it off the pins, leaving the anterior pins in the bone.
- Secure the *Persona*® 0° Captured / Uncaptured Cutting Head (42-5099-010-00).
- Verify the distal resection on the medial and lateral side with a resection guide. Check alignment if desired, and make the cut (Fig. 4).

#### TECHNIQUE TIP

1.B

When performing the cuts, excessive force (considering the pressure being applied to the guide) on the medial or lateral side of the cut guide could influence the amount of varus/valgus in the cut.

#### TECHNIQUE TIP

1.C

If more fixation is required, insert a 3.2mm trocar tipped pin in the oblique hole on the cutting head.

### Remove Distal Cut Guide

- Locate the drilled pin holes.
- Remove the anterior pins (Fig. 5).

#### TECHNIQUE TIP

1.D

In the event the drilled distal holes are covered up following the distal cut, clean the area. Alternatively, prior to removing the anterior pins, place the Pin Guide back over the anterior pins and locate the distal pins through the distal Pin Guide holes.

### Place the *Persona* 4-in-1 Femoral Cut Guide

- Secure the *Persona* 4-in-1 Cut Guide (42-5099-085-54\_74 for Anterior Referencing or 42-5099-044-54\_74 for Posterior Referencing) and insert 3.2mm Trocar-tipped pins through the oblique holes of the cut guide. Verify resections using a resection guide.
- Finish the femur following the instructions from the *Zimmer Persona* The Personalized Knee Surgical Technique (Fig. 6).

Fig. 4

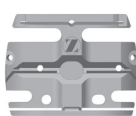
Fig. 5

Fig. 6

#### Instruments



0° Captured /  
Uncaptured  
Cutting Head  
42-5099-010-00



*Persona* 4-in-1  
Cut Guide  
42-5099-085-54\_74  
OR  
42-5099-044-54\_74



Resection Guide  
00-5977-084-00



3.2mm x 75mm  
Trocar Tipped  
Drill Pin  
(2.5mm hex)  
00-5901-020-00



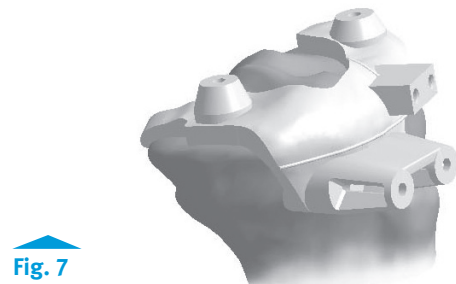
Pin / Screw  
Insertor  
00-5901-021-00

## Tibial Technique

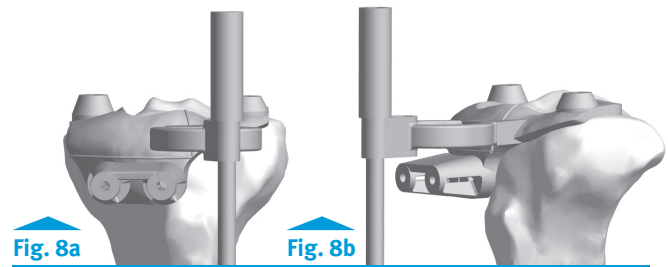
### Position Tibial Pin Guide

- Remove the meniscus.
- Do not remove osteophytes from the tibia. Remove any soft tissues that may prevent proper placement of the Pin Guide.
- Position the Pin Guide on the tibia (**Fig. 7**).
- Ensure the posterior medial hook goes over the posterior ridge of the tibia.
- The mechanical axis and proximal resection lines may be used to assess the alignment.

**Note:** The tibia alignment may be verified by inserting the Tibia Alignment Adapter and Alignment Rod into the Tibia Pin Guide alignment holes (**Fig. 8a & 8b**).



**Fig. 7**

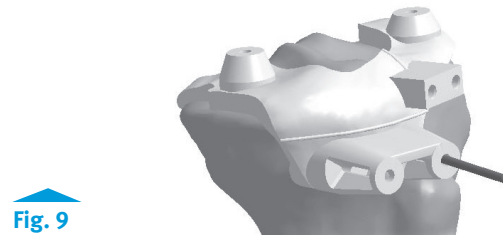


**Fig. 8a**

**Fig. 8b**

### Drill and Pin Anterior Lateral Pin Hole

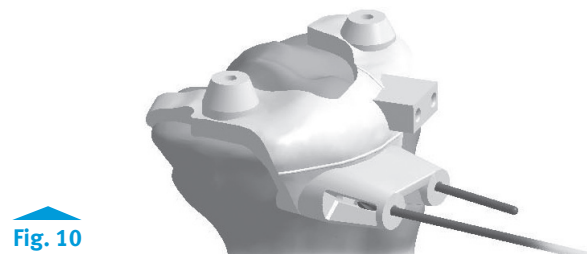
- Drill and pin the lateral hole of the Pin Guide (**Fig. 9**).



**Fig. 9**

### Drill Anterior Medial Hole

- Drill the medial hole of Pin Guide (do not place pin) (**Fig. 10**).



**Fig. 10**

#### Instruments



PSI Tibia  
Pin Guide  
00-5970-000-  
25/ 29/ 33/ 36



Alignment  
Adapter  
42-5399-006-00



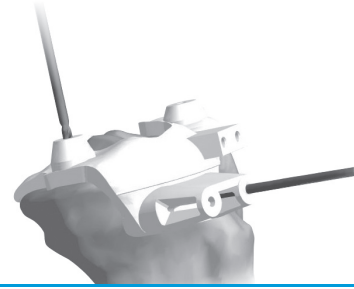
Alignment Rod  
with Coupler  
00-5785-080-00



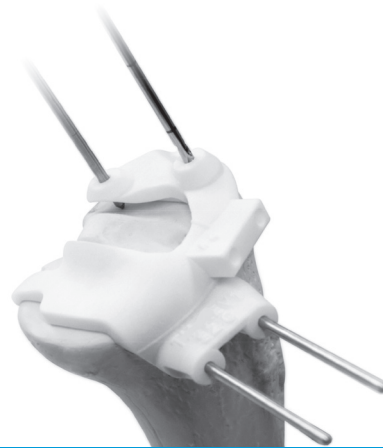
Universal Pin  
and Drill Kit  
2001-00-000

**Establish Tibia Rotation (Drill Proximal Holes)**

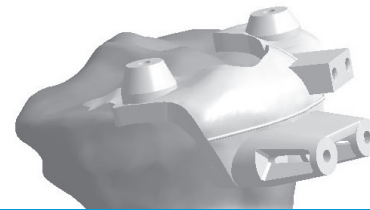
- Tibia rotation may be established through the Pin Guide per surgeon discretion.
- Drill the proximal medial and lateral holes of the Pin guide (do not place pins). Drill deep enough to ensure visibility after the proximal resection (**Fig. 11**).

**Fig. 11****TECHNIQUE TIP****2.A****Trabecular Metal™ Tibia Only (Fig. 12)**

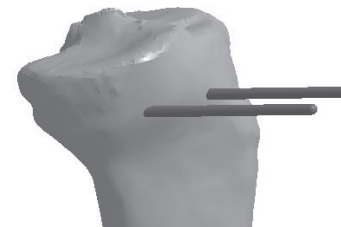
1. Gently insert a fixation pin into the floating posterior pinhole to use as a visual reference while drilling the lateral anterior rotational pin hole.
2. Drill the posterior pin hole, using as a visual reference the previously drilled anterior rotational pin.

**Fig. 12****Remove Tibial Pin Guide**

- Remove the Pin Guide by lifting the medial hook off the posterior ridge and sliding off the anterior lateral pin (**Fig. 13**). Do not pry the Pin Guide from the tibia as this could shift the pins. (It may be necessary to remove the previously placed pin from the anterior lateral hole.)

**Fig. 13****Place Pins in Anterior Holes**

- Ensure both pins are placed in the drilled anterior holes (**Fig. 14**).

**Fig. 14****Instruments**

PSI Tibia  
Pin Guide  
00-5970-000-  
25/ 29/ 33/ 36



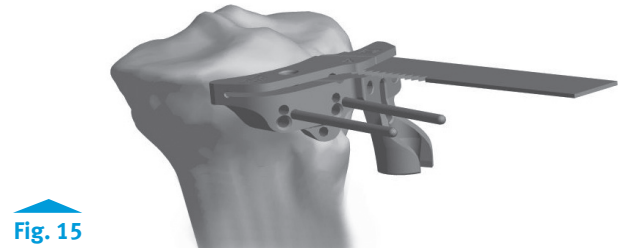
Universal Pin  
and Drill Kit  
2001-00-000



### Secure Cut Guide and Cut Tibia

- Secure the *Persona* Tibial Cut Guide. If more fixation is required, insert a 3.2mm Trocar-tipped pin in the oblique hole on the cutting head. Verify resections using the resection guide. Make tibial cut (**Fig. 15**).
- Use the appropriate right or left tibia cut guide.

3° <i>Persona</i> Left Cut Guide	42-5399-051-03
7° <i>Persona</i> Left Cut Guide	42-5399-051-07
3° <i>Persona</i> Right Cut Guide	42-5399-052-03
7° <i>Persona</i> Right Cut Guide	42-5399-052-07



**Fig. 15**

- Insert the Alignment Adapter into the Tibial Cut Guide, insert the Alignment Rod and check alignment (**Fig. 16**).

Alignment Adapter	42-5399-006-00
Alignment Rod	00-5785-080-00



**Fig. 16**

#### TECHNIQUE TIP

**2.B**

When fixating the Cut Guide, excessive force from screws can alter the planned location and could influence the amount of varus/valgus in the cut.

#### TECHNIQUE TIP

**2.C**

When performing the cuts, excessive force (considering the pressure from leaning on the guide) on the medial or lateral side of the cut guide could influence the amount of varus/valgus in the cut.

#### Instruments



*Persona* Tibia  
Cut Guide  
42-5399-051-03/07  
42-5399-052-03/07



Alignment  
Adapter  
42-5399-006-00



Alignment Rod  
with Coupler  
00-5785-080-00



3.2mm x 75mm  
Trocar Tipped  
Drill Pin  
(2.5mm hex)  
00-5901-020-00



Pin / Screw  
Inserter  
00-5901-021-00

### Position Tibial Sizing Plate

- Place tibial sizing plate on the cut surface. Align the first hole on the tibia plate to the hole on the tibia. Place the pin. Rotate the tibia plate until the second pin hole aligns with the remaining pre-drilled holes (Fig. 17).
- The sizing plate options are referenced in (Fig. 18) on the following page.

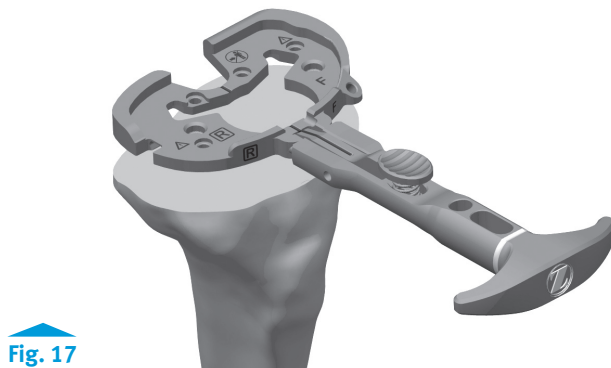


Fig. 17

#### TECHNIQUE TIP

2.D

*In the event the drilled proximal holes are covered up following the proximal cut, clean the area. Alternatively, prior to removing the anterior pins, place the Pin Guide back over the anterior pins and locate the proximal holes through the tibial Pin Guide.*

### Follow Persona The Personalized Knee System Surgical Technique

- Following the positioning of the tibial component, proceed with the surgery as suggested in the *Zimmer Persona The Personalized Knee System Surgical Technique*.

#### Instruments

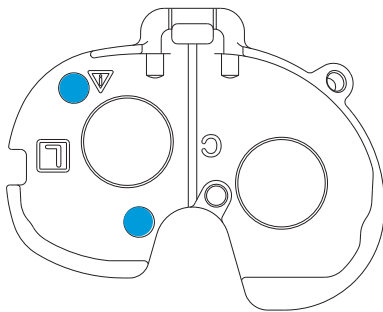


Persona Tibial  
Sizing Plate  
(See Fig. 18)

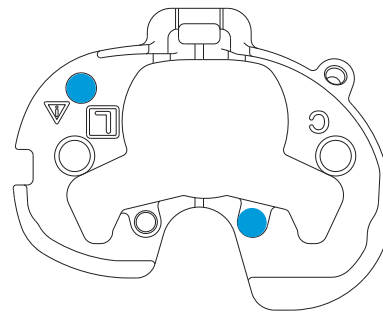


Persona Tibial  
Sizing Plate  
Handle

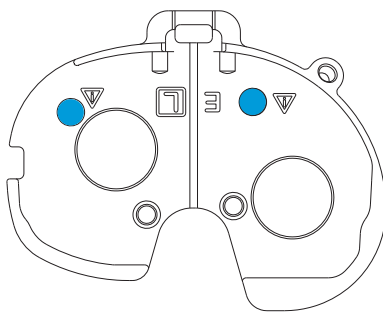
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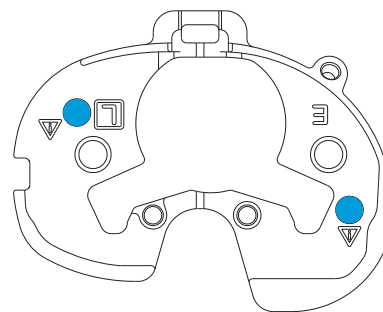
<i>Persona Trabecular Metal Tibial Sizing Plate Left C</i>	42-5398-064-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right C</i>	42-5398-064-02
<i>Persona Trabecular Metal Tibial Sizing Plate Left D</i>	42-5398-067-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right D</i>	42-5398-067-02



<i>Persona Cemented Tibial Sizing Plate Left C</i>	42-5399-064-01
<i>Persona Cemented Tibial Sizing Plate Right C</i>	42-5399-064-02
<i>Persona Cemented Tibial Sizing Plate Left D</i>	42-5399-067-01
<i>Persona Cemented Tibial Sizing Plate Right D</i>	42-5399-067-02



<i>Persona Trabecular Metal Tibial Sizing Plate Left E</i>	42-5398-071-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right E</i>	42-5398-071-02
<i>Persona Trabecular Metal Tibial Sizing Plate Left F</i>	42-5398-075-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right F</i>	42-5398-075-02
<i>Persona Trabecular Metal Tibial Sizing Plate Left</i>	42-5398-079-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right G</i>	42-5398-079-02
<i>Persona Trabecular Metal Tibial Sizing Plate Left H</i>	42-5398-083-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right H</i>	42-5398-083-02
<i>Persona Trabecular Metal Tibial Sizing Plate Left J</i>	42-5398-088-01
<i>Persona Trabecular Metal Tibial Sizing Plate Right J</i>	42-5398-088-02



<i>Persona Cemented Tibial Sizing Plate Left E</i>	42-5399-071-01
<i>Persona Cemented Tibial Sizing Plate Right E</i>	42-5399-071-02
<i>Persona Cemented Tibial Sizing Plate Left F</i>	42-5399-075-01
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<i>Persona Cemented Tibial Sizing Plate Right G</i>	42-5399-079-02
<i>Persona Cemented Tibial Sizing Plate Left H</i>	42-5399-083-01
<i>Persona Cemented Tibial Sizing Plate Right H</i>	42-5399-083-02
<i>Persona Cemented Tibial Sizing Plate Left J</i>	42-5399-088-01
<i>Persona Cemented Tibial Sizing Plate Right J</i>	42-5399-088-02

**Fig. 18**

*Persona Trabecular Metal and Persona Cemented Tibial Sizing Plates*

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