

BPK-S INTEGRATION

REVISION KNEE SYSTEM



SURGICAL TECHNIQUE
CROSS-OVER-TECHNIQUE (CEMENTED)



PETER BREHM
Die Präzision in Titan
für den Menschen

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1 Product description

Introduction

This surgical technique describes a procedure for preparing an ANCHORING STEM Straight after primary tibial and femoral resection. In principle, the stem preparation is aligned with the primary resections, whereby the orientation of the stems is determined by the outer resection surfaces. And therefore, in contrast to the intramedullary technique, the technique described here does not offer the option for creating an implant site to apply cementless stems. The Cross-Over-Technique is limited to cemented stems 10 to 14 mm in diameter and 40 and 80 mm lengths.

Tibial versions

The tibial preparation procedure depends on which TIBIA Component is selected. If merely stabilization with a semi-constrained system (SC) is desired, the TIBIA Component UC/SC can be used. This component requires a tibial resection with a 3° slope and is not augmentable. Preparation for TIBIA Components SC and RH/TH requires a resection with 0° slope, which allows the use of augments.



TIBIA Component UC/SC
with ANCHORING STEM Straight



TIBIA Component SC
with ANCHORING STEM Straight
and optional AUGMENTS Tibia



TIBIA Component RH/TH
with ANCHORING STEM Straight
and optional AUGMENTS Tibia

TIBIA Component UC/SC

- Asymetric TIBIA Component
- 3° slope
- Not augmentable

TIBIA Component SC und RH/TH

- Symetric TIBIA Component
- 0° slope
- Augmentable

1 Product description

Preparatory steps with the BPK-S Integration Primary

The resections on the tibia and femur are performed according to the surgical technique for primary implants.

After extramedullary guided tibial resection, primary instruments (for 3° UC/SC) or revision instruments (for 0° SC/RH/TH) are used to prepare the medullary canal.

At least the anterior, posterior, and distal resections of the femur must be performed in order to continue with the Cross-Over-Technique.



Special instruments for the Cross-Over-Technique

Drills and drill guides for the medullary preparation

- ① Handle with AO Coupling short
- ② Reamer cem. Stems with AO Coupling Size: Ø 10 x 40 mm
- ③ Reamer cem. Stems with AO Coupling Size: Ø 12 x 40 mm
- ④ Reamer cem. Stems with AO Coupling Size: Ø 14 x 40 mm
- ⑤ Reamer cem. Stems with AO Coupling Size: Ø 10 x 80 mm
- ⑥ Reamer cem. Stems with AO Coupling Size: Ø 12 x 80 mm
- ⑦ Reamer cem. Stems with AO Coupling Size: Ø 14 x 80 mm
- ⑧ Tibial Drill Guide
- ⑨ Femoral Drill Guide

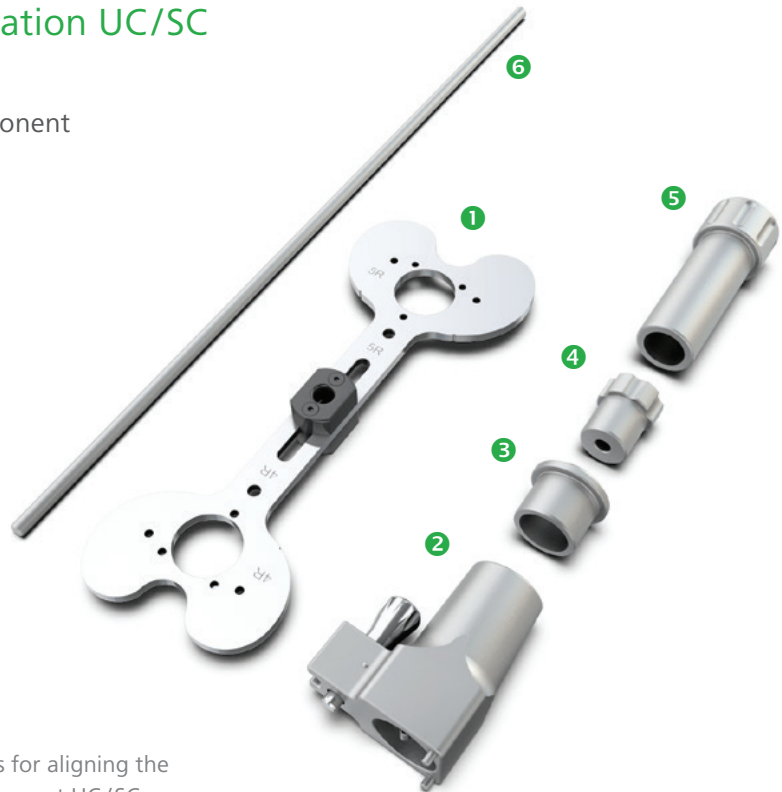


2 Tibial preparation

Tibial alignment and preparation UC/SC

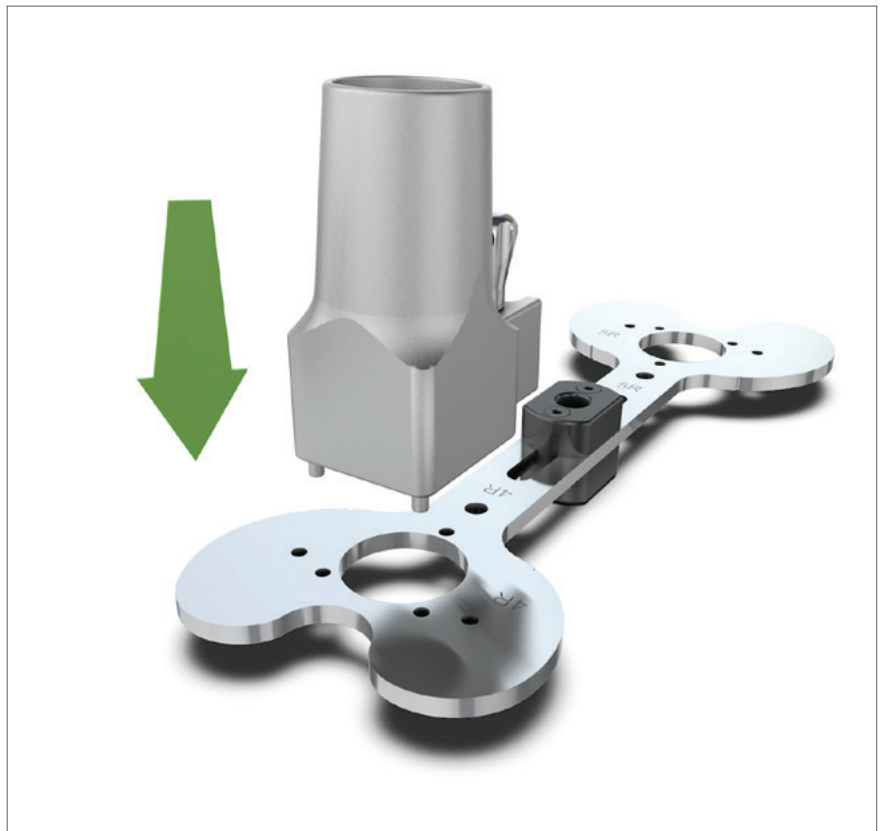
Procedure for aligning the TIBIA Component UC/SC (primary instruments)

- ❶ Tibial Template Sz. 1-8
- ❷ Cancellous Bone Punch Sleeve
- ❸ Reduction Sleeve Tibial Alignment UC/SC
- ❹ Centralizer Bushing 0 mm
- ❺ Tibial Drill Guide
- ❻ Liner for Alignment Rod



Instruments for aligning the TIBIA Component UC/SC

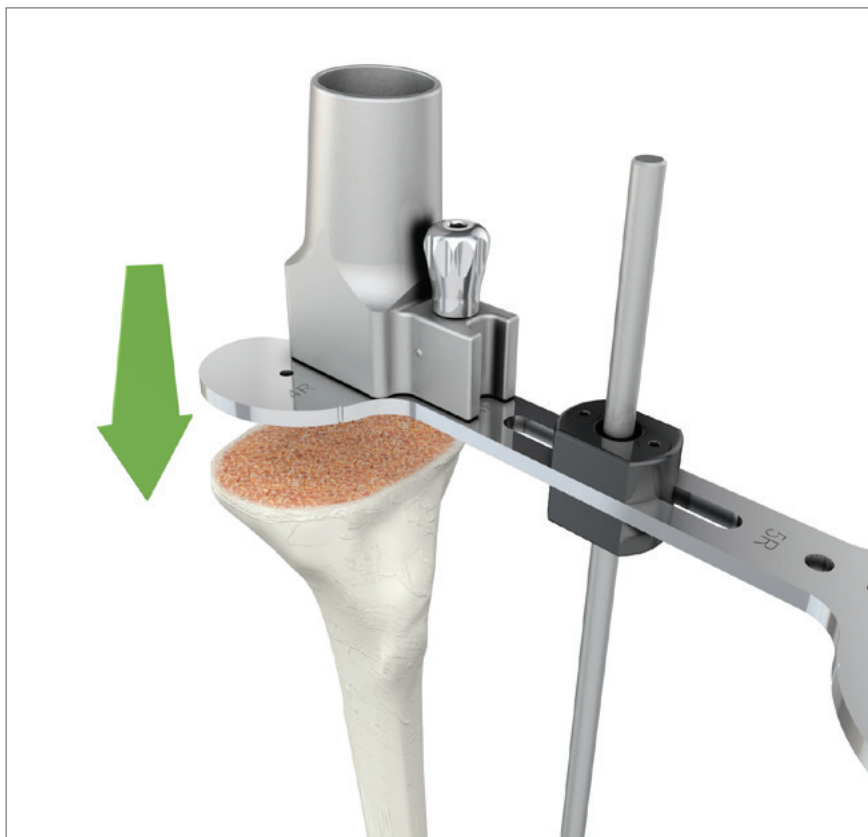
The *Cancellous Bone Punch Sleeve* is attached to the respective *Tibial Template*.



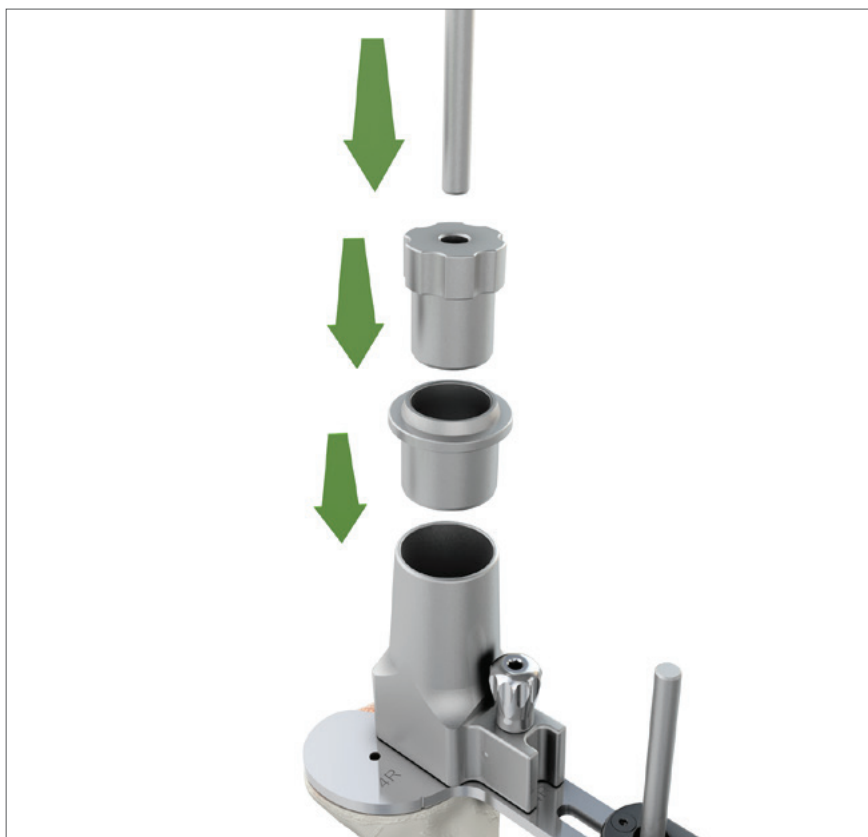
2 Tibial preparation

Tibial alignment and preparation UC/SC

The *Tibial Template* with the attached *Cancellous Bone Punch Sleeve* is placed on the tibial resection (3° slope).



Then the *Reduction Sleeve Tibial Alignment UC/SC* is inserted into the *Cancellous Bone Punch Sleeve* and centered in the medullary canal with the *Liner for Alignment Rod* inserted through the *Centralizer Bushing 0 mm*. The size of the TIBIA Component and the rotational alignment are selected so as to achieve the best possible cortical coverage.



2 Tibial preparation

Tibial alignment and preparation UC/SC

Achieve sufficiently satisfactory coverage of the cortical tibia with the *Liner for Alignment Rod* being completely centered. Should this not be possible, find the best compromise between centering, TIBIA Component size, and rotational alignment.



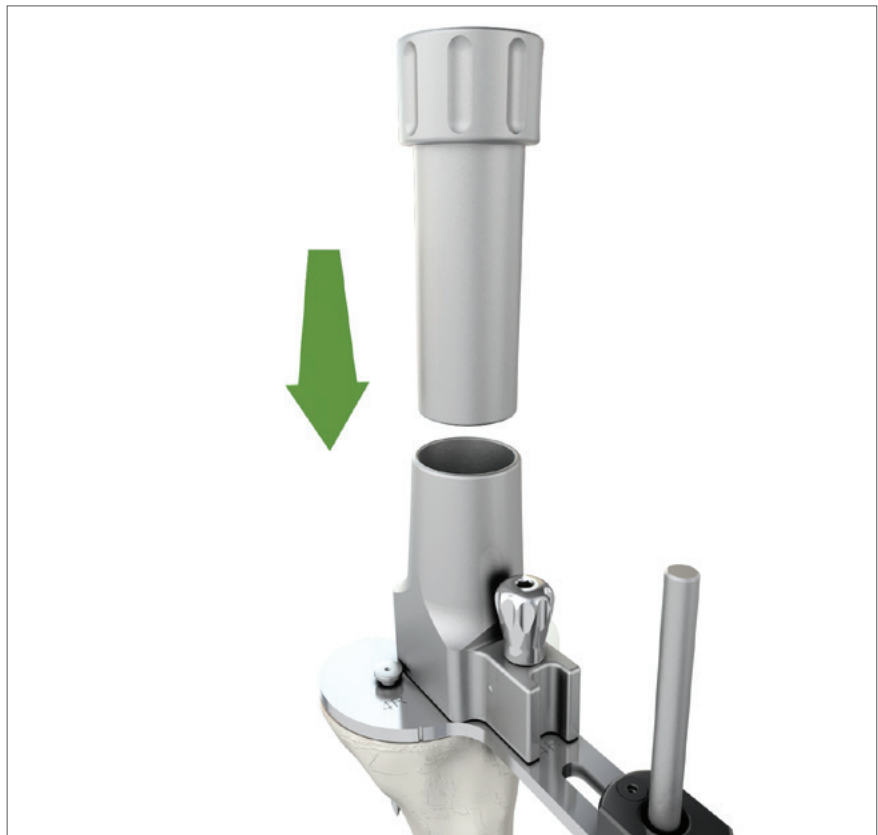
The *Tibial Template* is secured in the desired position with two *Headed Pins* Ø 3,15 x 30 mm.



2 Tibial preparation

Tibial alignment and preparation UC/SC

The *Tibial Drill Guide* is inserted into the *Cancellous Bone Punch Sleeve*.



The bone is prepared to the desired stem diameter with the appropriate *Reamer cem. Stems with AO Coupling* and the *Handle with AO Coupling short*.



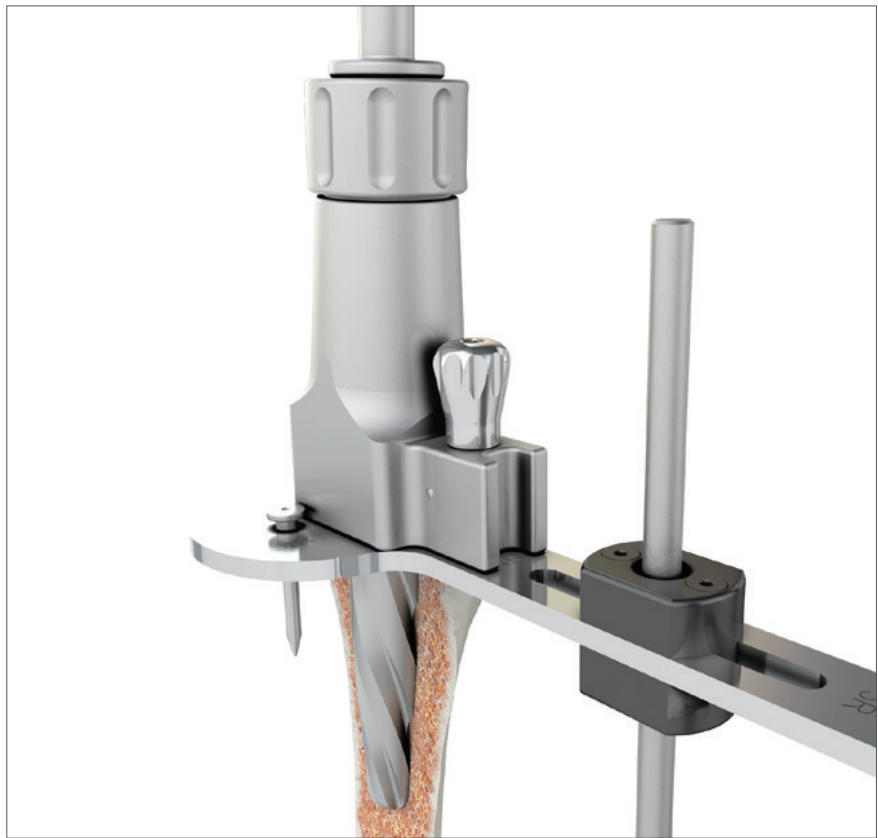
2 Tibial preparation

Tibial alignment and preparation UC/SC

! NOTE

Due to the tibial slope of 3° no stem offset is possible.

After alignment and opening of the medullary canal, the tibia is prepared with the *Cancellous Bone Punch* Ø 15 mm and the *Tibial Cone Reamer* according to the current surgical technique for the BPK-S Integration primary system.

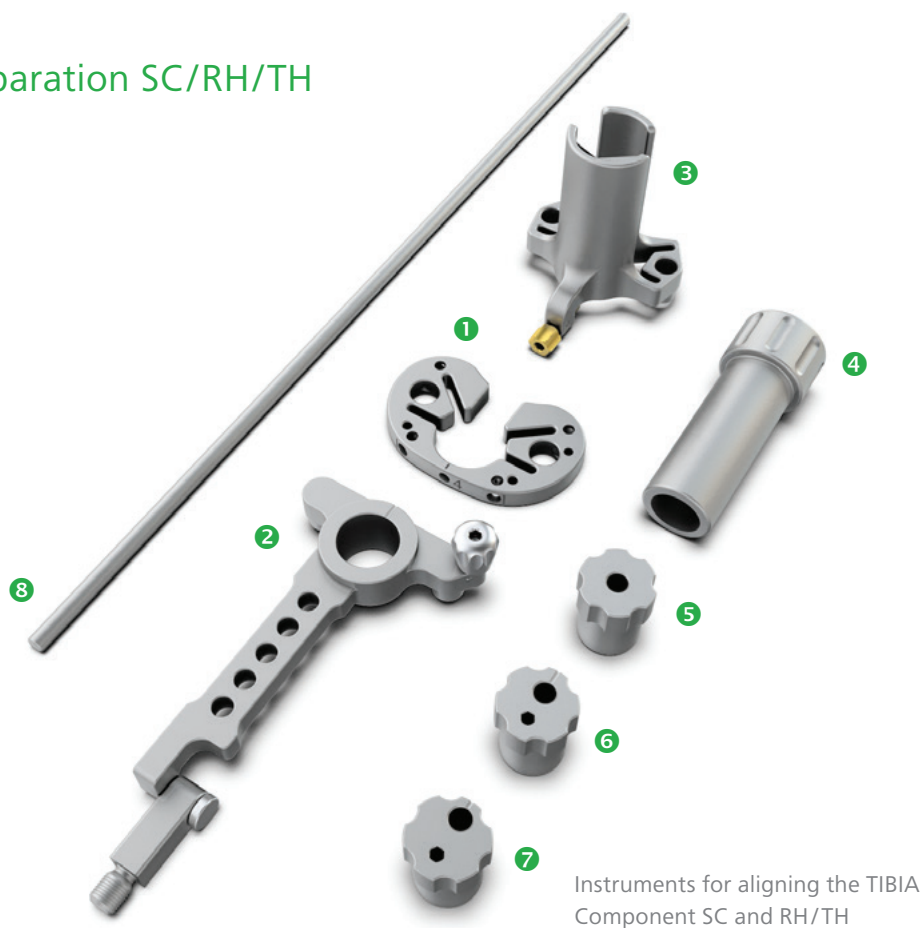


2 Tibial preparation

Tibial alignment and preparation SC/RH/TH

Procedure for aligning the
TIBIA Component SC and /RH/TH
(revision instruments)

- ❶ Tibial base plate Sz. 3-8
- ❷ Tibial alignment guide
- ❸ Tibial reaming guide SC+RH+TH
- ❹ Tibial Drill Guide
- ❺ Centralizer Bushing 0 mm
- ❻ Centralizer Bushing 4 mm Offset
- ❼ Centralizer Bushing 6 mm Offset
- ❽ Liner for Alignment Rod



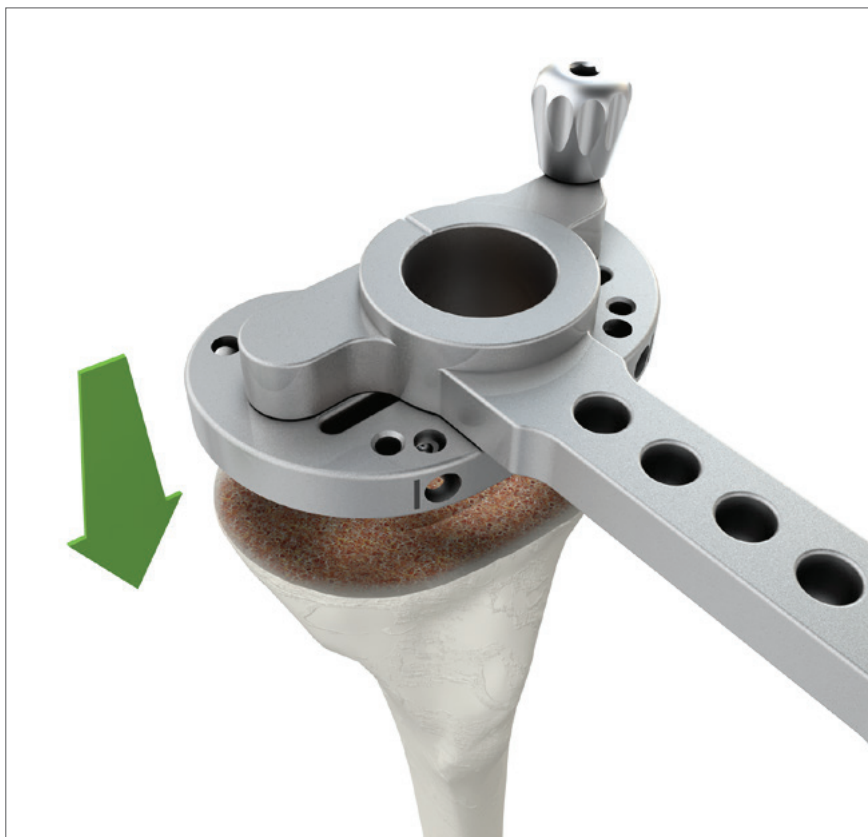
The *Tibial alignment guide* is attached to the selected *Tibial base plate*.



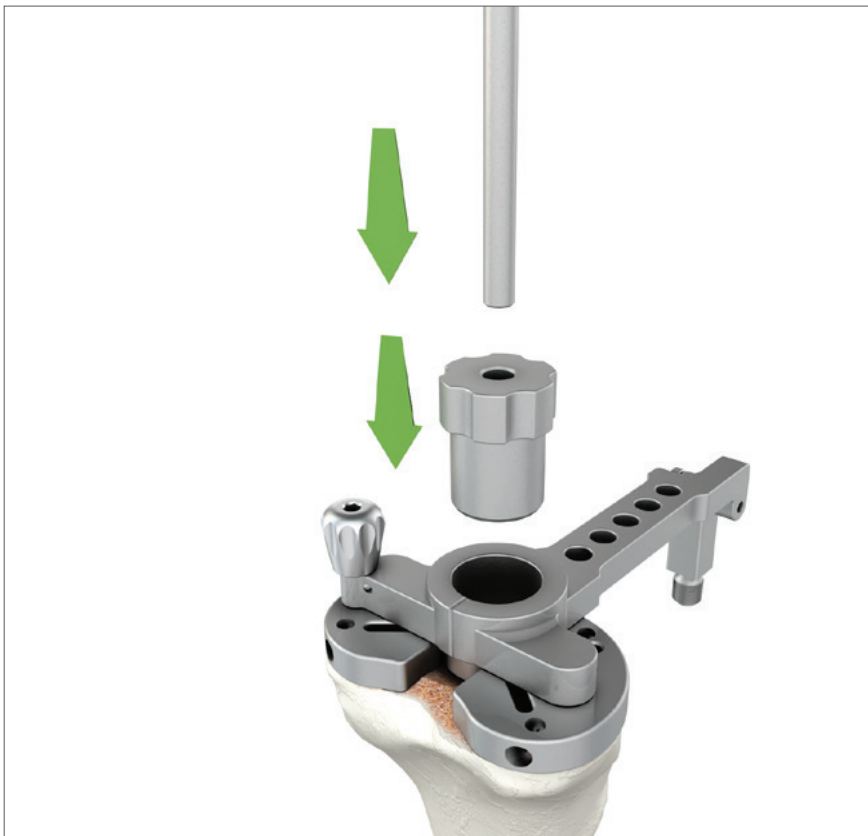
2 Tibial preparation

Tibial alignment and preparation SC/RH/TH

The *Tibial base plate* with the attached *Tibial alignment guide* is placed on the tibial resection (0° slope).



The *Liner for Alignment Rod* is inserted through the *Centralizer Bushing 0 mm* and centered in the medullary canal. The size of the TIBIA Component and the rotational alignment are selected so as to achieve the best possible cortical coverage.



2 Tibial preparation

Tibial alignment and preparation SC/RH/TH

The *Tibial base plate* is secured in the desired position with two *Pins with Corticalis Thread Size: Ø 3,15 x 70 mm*.



After the *Tibial alignment guide* has been removed, the *Tibial reaming guide SC+RH+TH* is attached to the *Tibial base plate* and the *Tibial Drill Guide* is inserted.



2 Tibial preparation

Tibial alignment and preparation SC/RH/TH

The bone is prepared to the desired stem diameter with the appropriate *Reamer cem. Stems with AO Coupling* and the *Handle with AO Coupling short*.



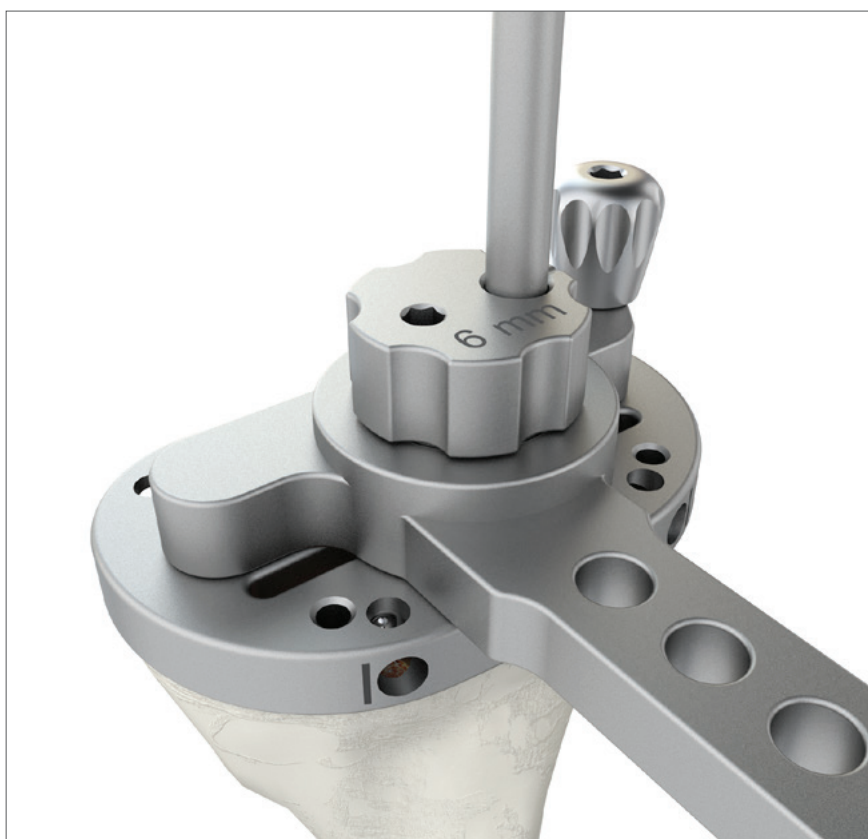
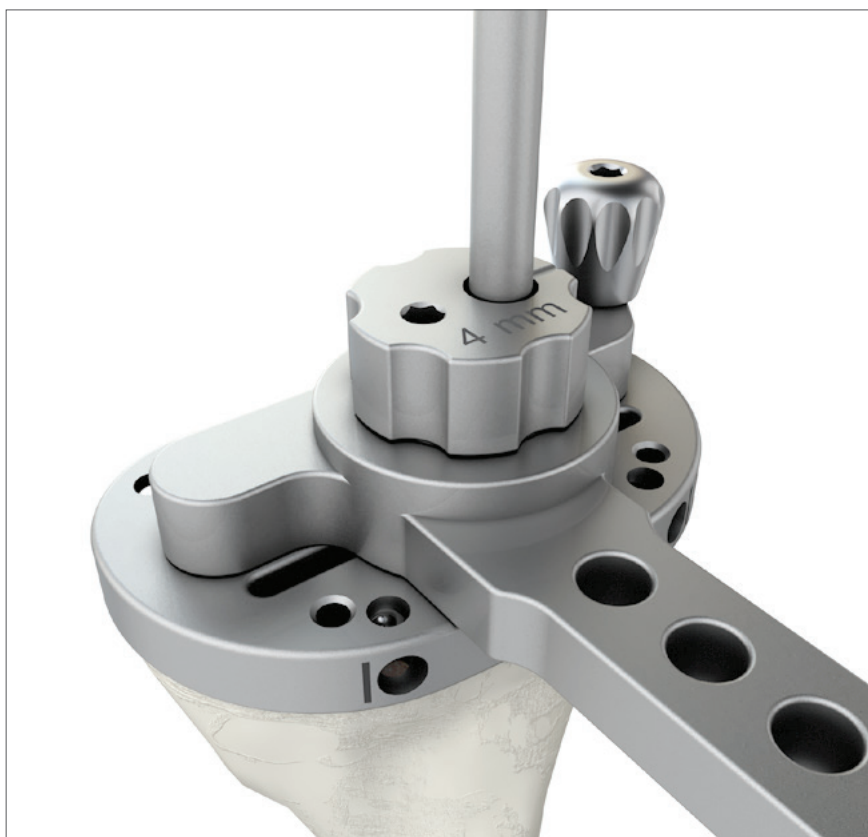
2 Tibial preparation

Tibial alignment and preparation SC/RH/TH

If cortical coverage cannot be achieved with the *Centralizer Bushing 0 mm*, an offset can be used after preparation of the medullary canal.

After the *Pins with Corticalis Thread* Size: $\varnothing 3,15 \times 70$ mm have been removed, the *Tibial base plate* with the attached *Tibial alignment guide* and *Centraliser Bushing 4 mm* (right figure) or *6 mm Offset* (bottom figure) is again centered in the medullary canal with the *Liner for Alignment Rod*.

Once satisfactory coverage of the cortical tibia has been achieved, the offset position is read off from the device and noted. The *Tibial base plate* is secured with two *Pins with Corticalis Thread* Size: $\varnothing 3,15 \times 70$ mm.



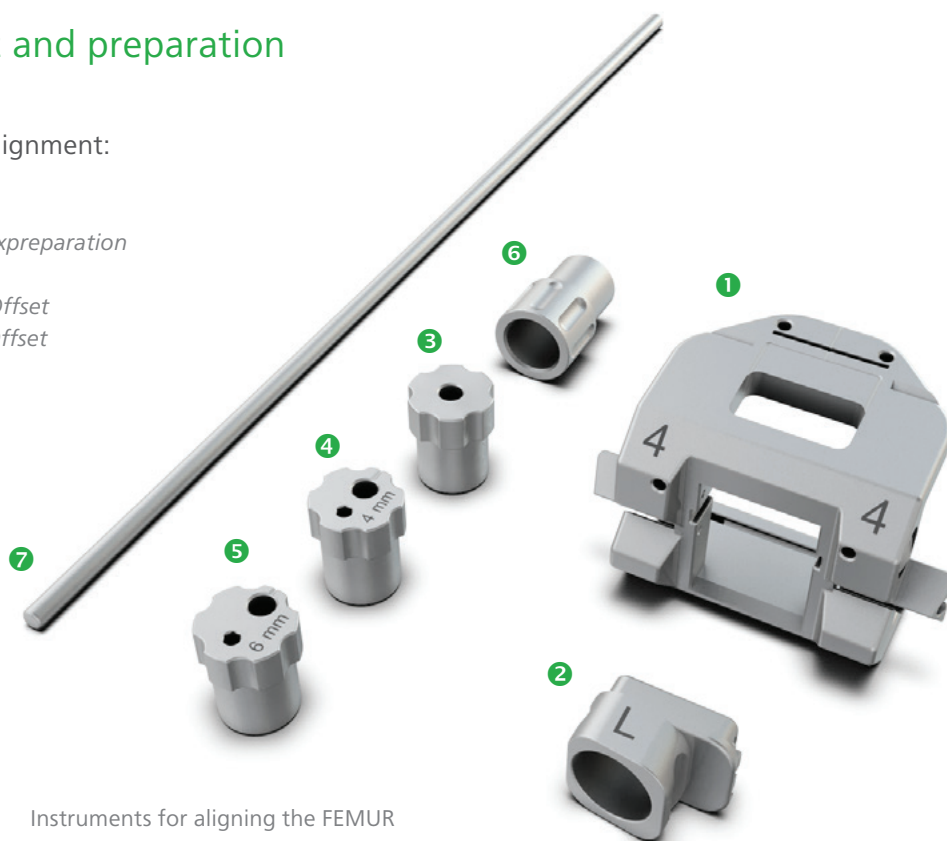
After preparation of the medullary canal and alignment, the tibial preparation is finished with the *Tibial Reamer SC/RH/TH*, the *Tibial punch SC/RH/TH* and the *Tibial Drill for Tibial Augment* according to the current surgical technique for the BPK-S Integration revision system.

3 Femoral preparation

Femoral alignment and preparation

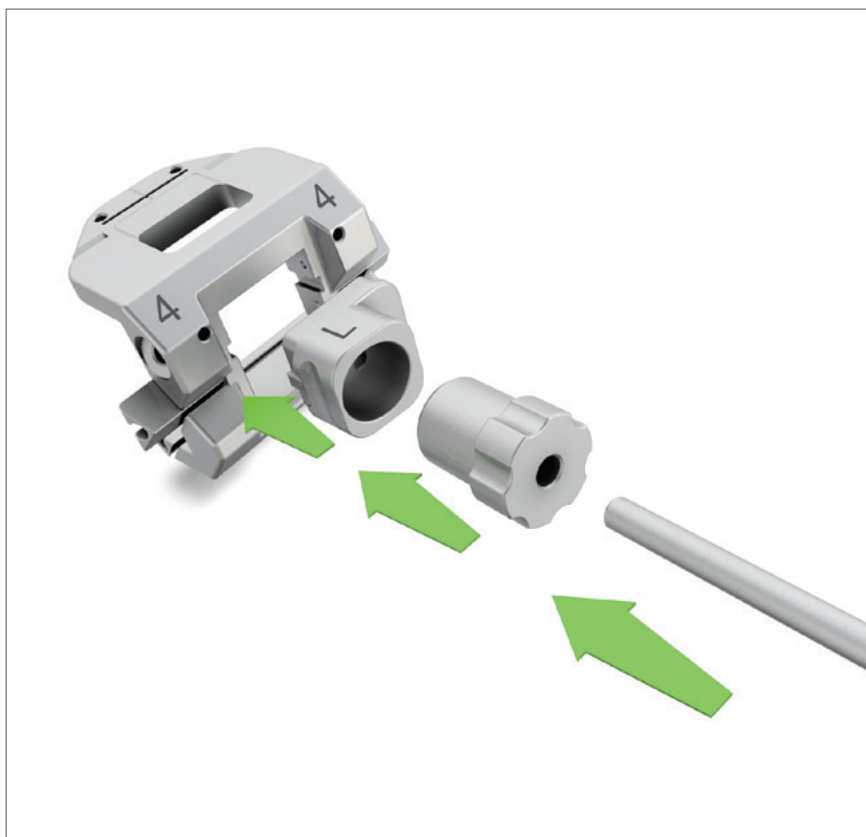
Instruments for femoral alignment:

- ① Box preparation Size: 3-6
- ② Drill Guide Ø 19 mm for Boxpreparation
- ③ Centralizer Bushing 0 mm
- ④ Centralizer Bushing 4 mm Offset
- ⑤ Centralizer Bushing 6 mm Offset
- ⑥ Femoral Drill Guide
- ⑦ Liner for Alignment Rod



Instruments for aligning the FEMUR
Component SC and RH/TH

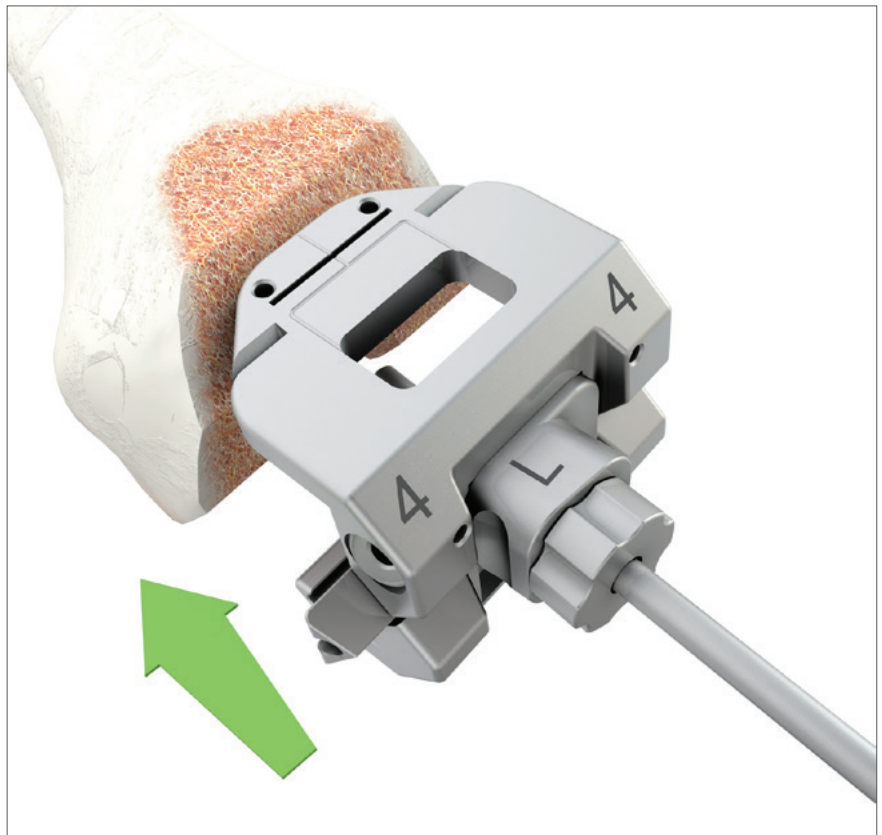
The *Box preparation* of the desired size is preassembled with the *Drill Guide* Ø 19 mm for Boxpreparation, the *Centralizer Bushing* 0 mm, and the *Liner for Alignment Rod*.



3 Femoral preparation

Femoral alignment and preparation

The preassembled *Box preparation* is slid onto the resected femur and centered in the medullary canal with the *Liner for Alignment Rod*.



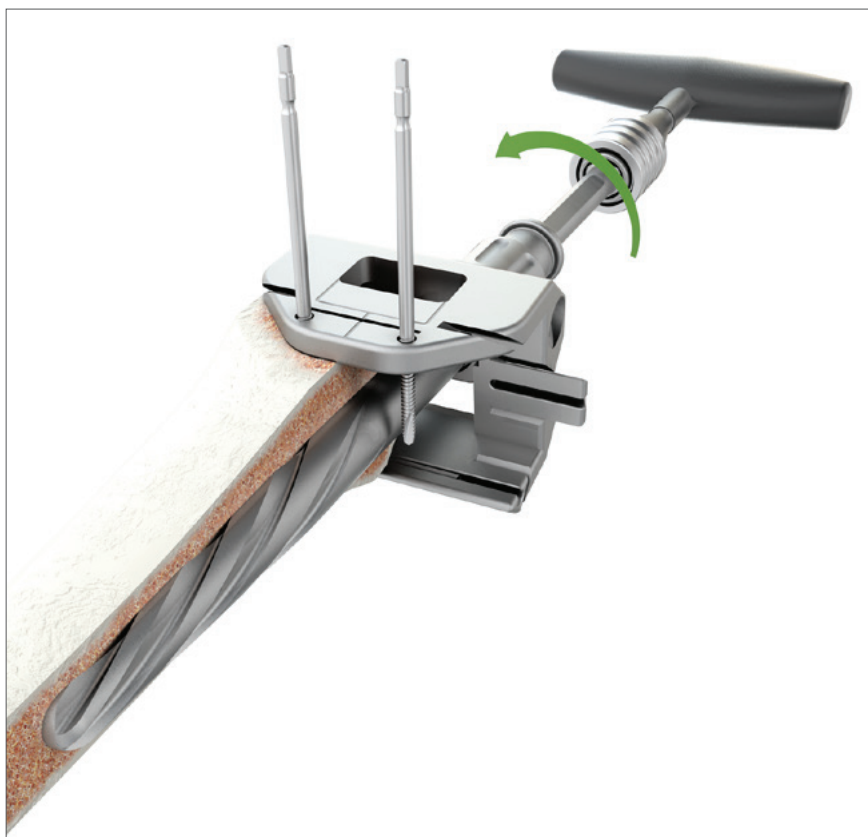
The *Box preparation* is secured in position with two *Pins with Corticalis Thread Size: Ø 3,15 x 70 mm*.



3 Femoral preparation

Femoral alignment and preparation

After the *Liner for Alignment Rod* and the *Centralizer Bushing 0 mm* have been removed, the *Femoral Drill Guide* is inserted into the *Drill Guide Ø 19 mm for Boxpreparation* and the desired diameter is prepared with the appropriate *Reamer cem.* *Stems with AO Coupling* and the *Handle with AO Coupling short.*



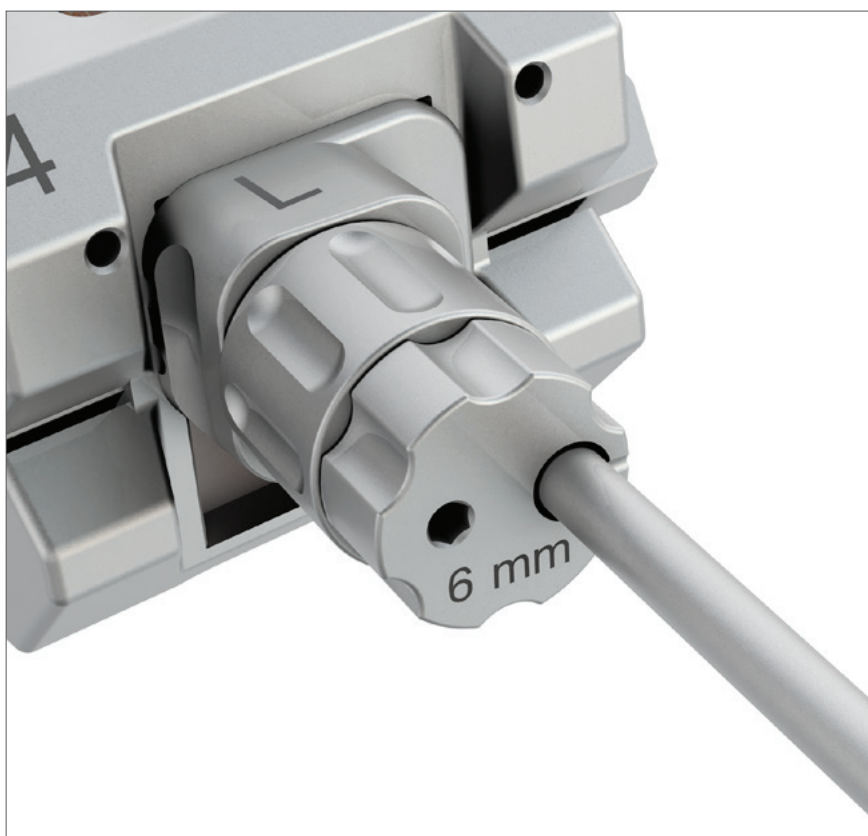
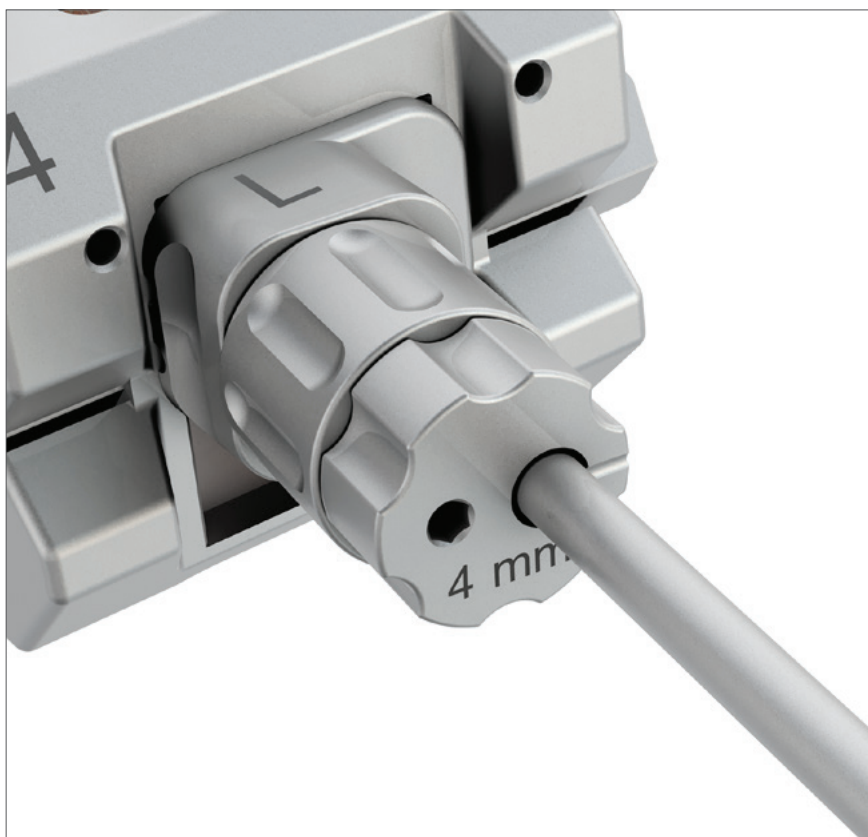
3 Femoral preparation

Femoral alignment and preparation

If cortical coverage cannot be achieved with the *Centralizer Bushing 0 mm*, then an offset can be used after preparation of the medullary canal.

After the *Pins with Corticalis Thread Size: Ø 3,15 x 70 mm* have been removed, the *Box preparation* with the attached *Drill Guide Ø 19 mm* for *Boxpreparation* and *Centraliser Bushing 4 mm* (right figure) or *6 mm Offset* (bottom figure) is again centered in the medullary canal with the *Liner for Alignment Rod*.

Once satisfactory medio-lateral alignment has been achieved, the offset position is secured with two *Pins with Corticalis Thread Size: Ø 3,15 x 70 mm*.



All further steps for preparing the box and performing the oblique osteotomies are described in the surgical technique for the BPK-S Integration revision system.

Notes

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

! NOTE

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