

SOCORE



Surgical Procedure



NovaSpine

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Instruments Range



Cannulated Straight Handle
SIMDC159



Straight Ratchet Handle
SIMR153



Cannulated T handle
SIMTC178



Cannulated Ratchet T Handle
SIMTR186



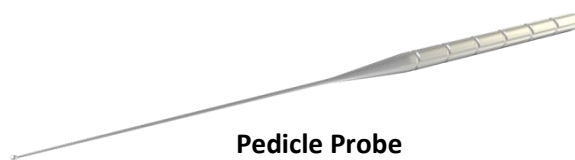
Dynamometric T Handle
SIDK150



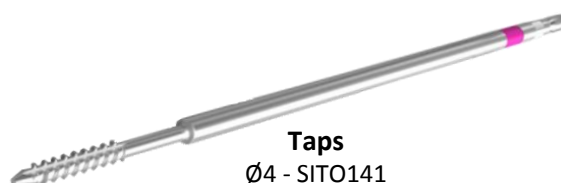
Awl
SIPB170



Pedicule Finder
Laminar Straight & Curved - SISPD146 & SISPM304
Thoracic Straight & Curved - SISTD172 & SISTC173



Pedicule Probe
SIPP106



Taps
Ø4 - SITO141
Ø5 - SITA143
Ø6 - SITB144
Ø7 - SITC145



Monoaxial Screwdriver
SITM107



Polyaxial Screwdriver
SITP108



Ring for Polyaxial Screwdriver
SITPB110



Screwdriver for Polyaxial Reduction Screw
SITR179



Tightening Screwdriver
SITS123



Derotation Wrench
SIKEY169



Crosslink Screwdriver
SITDT136



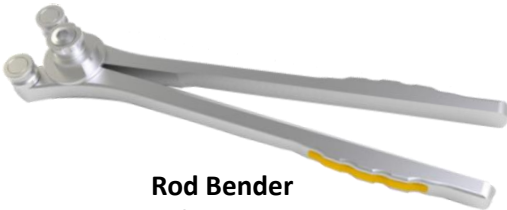
Pistol Persuader
SIPS152



Rotating Cylinder
SICR158



Locking Screw Holder + Small t Handle
SIPVB119 + SIMPVB



Rod Bender
SIRB171



Counter Torque
SILATM312



Rod Holder
SIPT116



Compressor
SIPC210



Rod Holder with Rings
SIPTA174



Distractor
SIPD121



Closed Rod Pusher
SIPTF118



Long Counter Torque
SILATM312L

Indications

The SOCORE System is indicated for spinal fusion procedures for patients with degenerative disc diseases, spinal stenosis, fractures and deformities. The SOCORE System is intended for posterior fixation from T1 to S1, in an open or minimally invasive approach. The SOCORE fixation system may be supplemented with DIVA inter vertebral Cages.

Site Preparation

Locate the pedicle entry and remove the cortical crest with a ronger, up to the exposure of pedicle cancellous bone.

Make the first hole using the Awl until the stop (*Figure 1*).

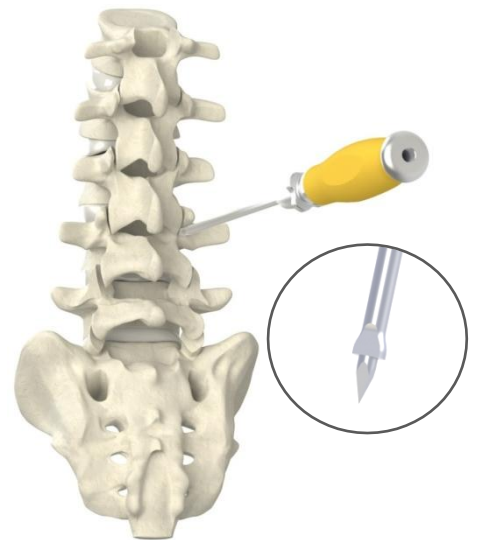


Figure 1



Figure 2

Use the Pedicle finder straight or curved to continue the site preparation and to define the path (*Figure 2*).

Use the pedicle probe to make sure that the site preparation is completely inside the pedicle and the vertebral body (*Figure 3*).

A tap assembled to a straight handle may be used to finalize the preparation of the path.

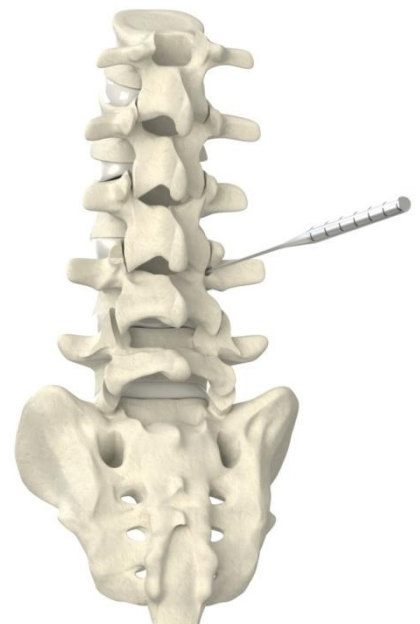


Figure 3

Screw Setting

Select the appropriate axis corresponding to screws which will be inserted and assemble it to the handle through the rotating cylinder (Figure 4). The rotating cylinder is screwed into the head of the screw (Figure 5a). The rotating cylinder knob is screwed to the axis to avoid its loosening during screw insertion (Figure 5b). A small ring is added to the standard screwdrivers when using reduction screws. The ring is inserted onto the screwdriver before inserting the cylinder.



Figure 4



Figure 5a



Figure 5b

Screw Insertion

Insert the screw into the prepared path (*Figure 6*).

It is highly recommended to screw it until complete insertion of the threading, reaching the edge below the head shown in *Figure 6*. This aims to provide optimal stability and resistance.



Figure 7

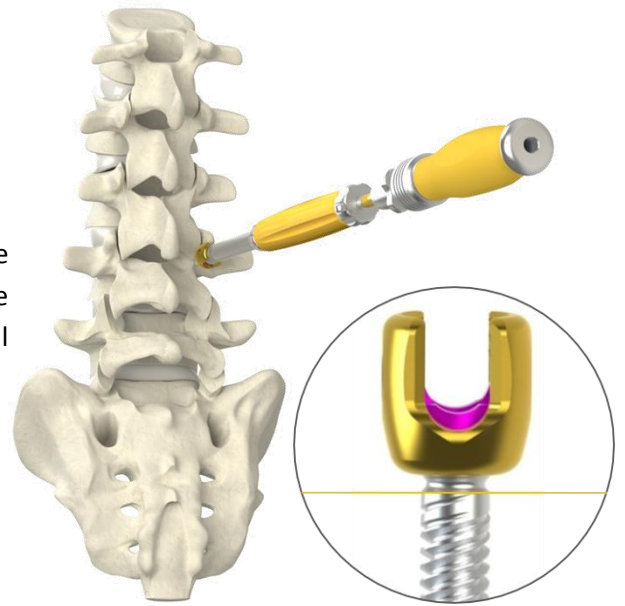


Figure 6

It is recommended to make a good alignment of the screws during the implantation. It allows an easy introduction of the rod and an effective tightening of the locking screws (*Figure 7*). The alignment correction of monoaxial or polyaxial head of screw may be done with the tip of the rod holder.

Rod Preparation and Insertion



Figure 8

Choose the correct length of rod and make the bending according to the desired lumbar lordosis (*Figure 8*). Then introduce the rod into the screws with the rod holder (*Figure 9a*).

Insert the locking screw onto its holder and push firmly to activate the gripping system. Only one way of insertion is possible.

Insert the locking screw into the head, over the rod, using two fingers to avoid a wrong insertion (*Figure 9b*). Do not tighten completely to keep the rod free for later correction.

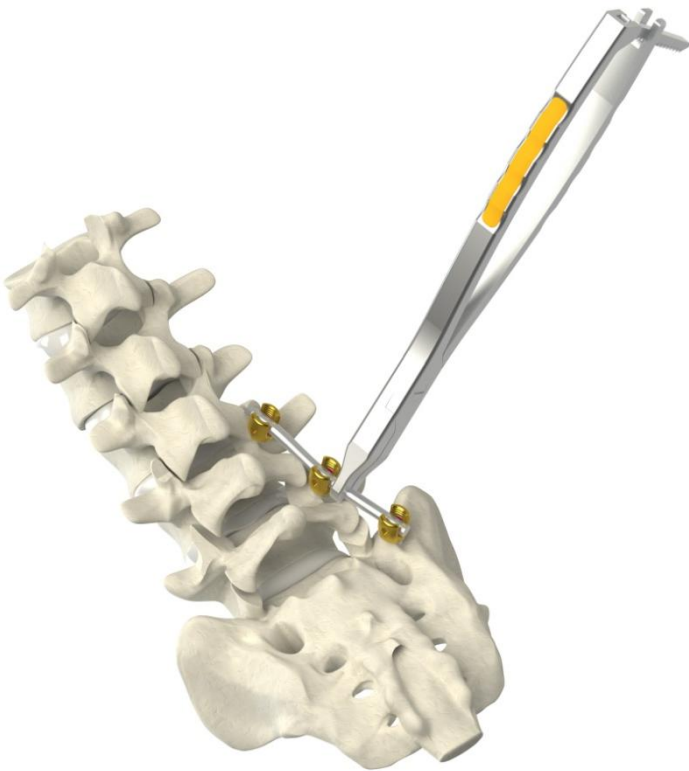


Figure 9a

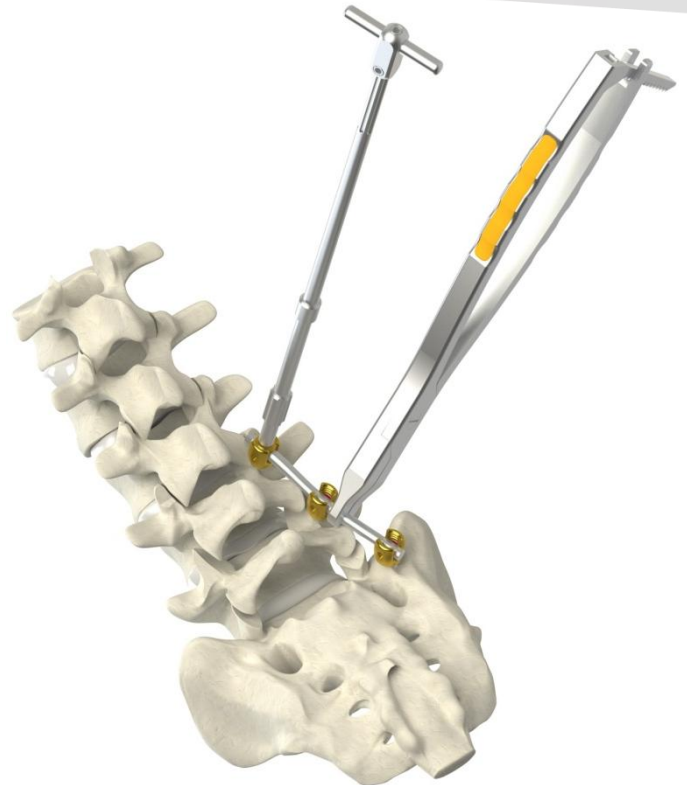


Figure 9b

If the rod is not completely inside the head of the screw preventing locking screw setting, the closed rod pusher or the pistol persuader shall be used to push it in the bottom of the head (Figure 10a and 11a). Once the rod well introduced into the head of screw, insert locking screw without complete tightening (Figures 10b and 11b).

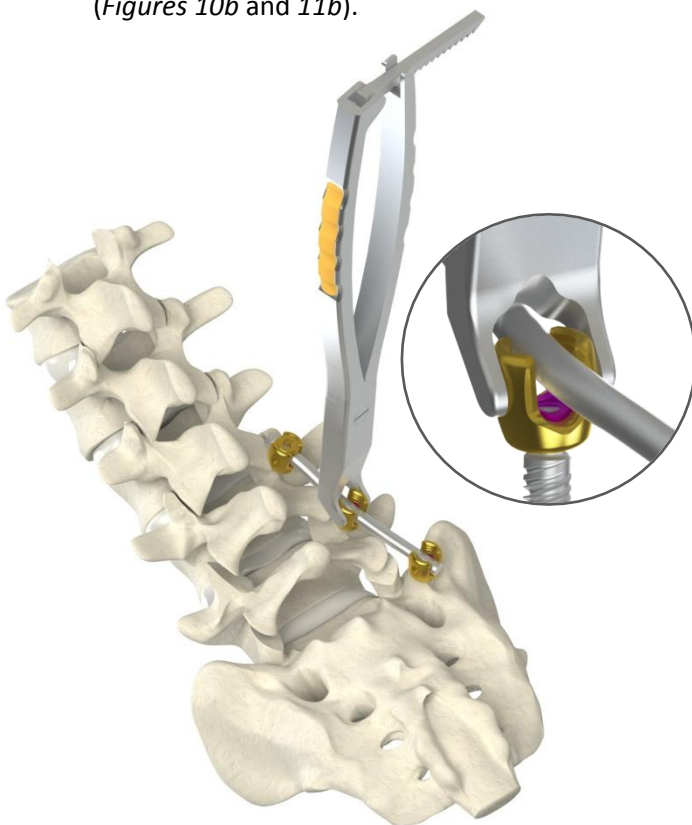


Figure 10a

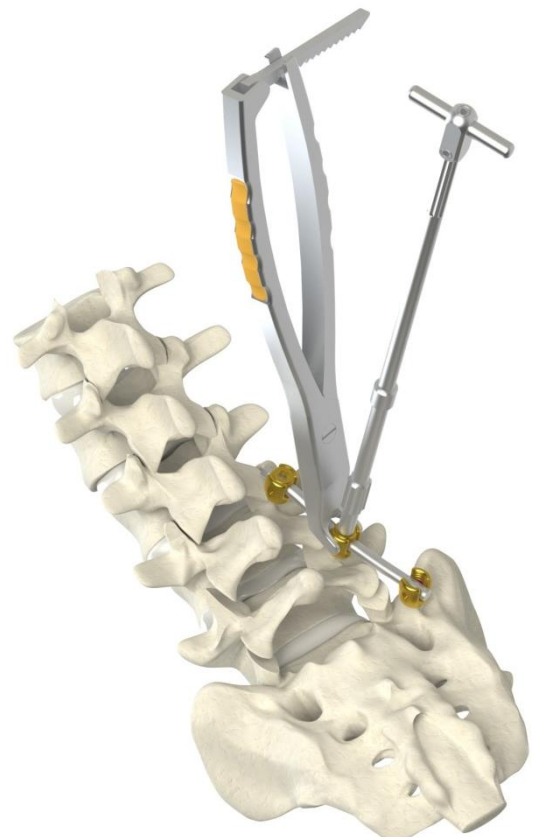


Figure 10b

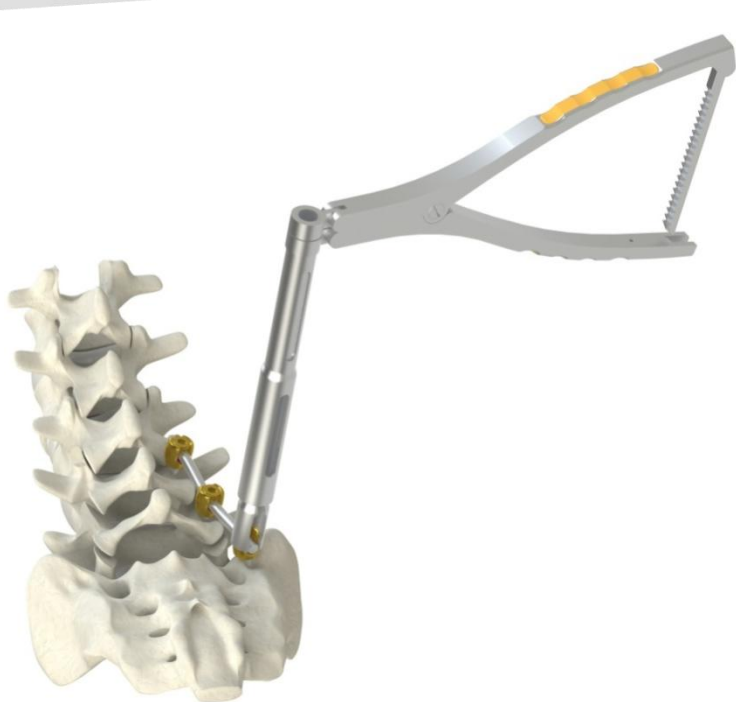


Figure 11a

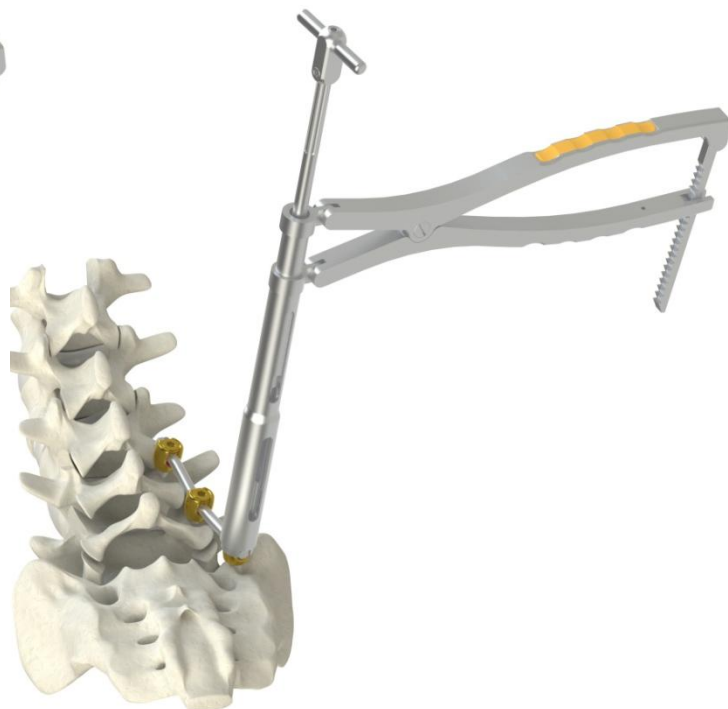


Figure 11b

Corrections

If necessary, make the needed corrections: compression, distraction or derotation (Figures 12a, 12b and 12c) using the adapted clamp or derotation key and tighten the locking screws to fix the correction. Slight derotation can be made with the Rod Holder.



Figure 12a

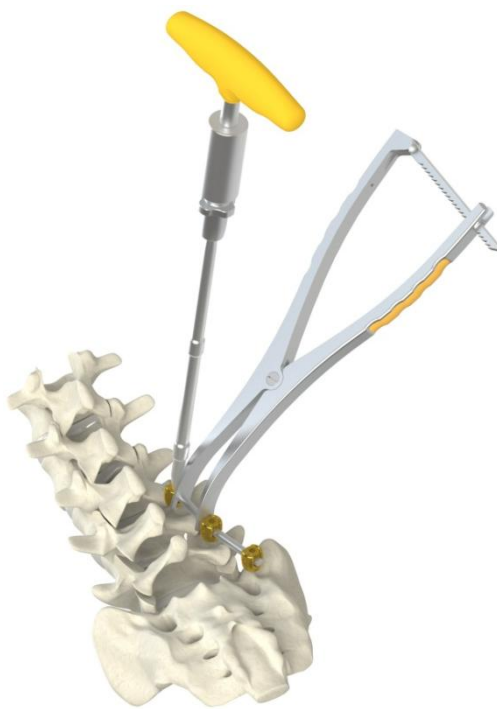


Figure 12b



Figure 12c

Final Tightening



Figure 13

The same steps are made to set the screws on the opposite side and to obtain the final assembly (*Figure 13*).

The final tightening is achieved with the Dynamometric screwdriver and the counter torque to avoid constraints on vertebrae (*Figure 14*).

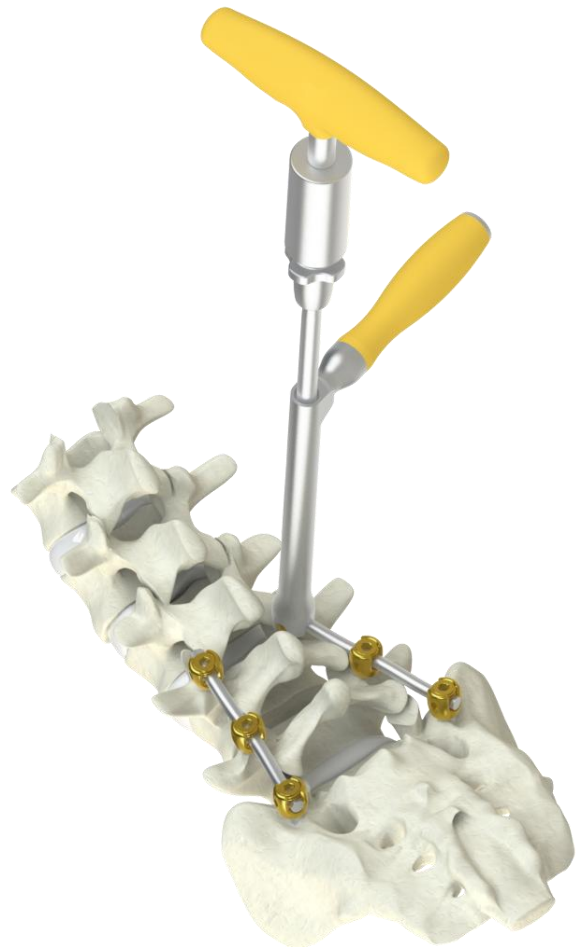


Figure 14

Reduction Screw

Use the external ring to avoid the opening of head extensions. Place it onto the head and push it until touching the rod (Figure 15). Reduce the rod by screwing the locking screw with the T handle screwdriver. The rod must be in the bottom of the head before breakage of the extensions and making the final tightening.



Figure 15



Figure 16a



Figure 16b



Figure 16c

When the rod is fixed in the bottom of the head, proceed to the breakage of the extensions with the rod holder, or any adapted instrument (blade breaker).

Clamp the two extensions with the rod holder until breaking the first extension (Figures 16a and 16b).

Take the second extension with the rod holder and make a rotating movement (internal or external) until breakage (Figure 16c).

Crosslink

The crosslink reinforces the assembly and helps it to support the physiological forces. It is recommended to use it when possible to transform the assembly into frame and increase its resistance.



Figure 17



Figure 18

- Choose the adapted size of crosslink bar using the Rod Holder with rings.
- Screw the crosslink bar into the backside of the long transverse hook up to the end then unscrew slightly (1/4 turn) to allow a rotation movement of the bar (*Figure 17*).
- Hold the transverse bar with its holder and introduce the short transverse hook from the opposite side (internal or external direction) (*Figure 18*).



Figure 19

- Place the long hook onto the first rod (*Figure 19*). Rotate the crosslink until the contact of the transverse bar with the second rod.
- Insert the crosslink screwdriver into the locking screw of the short transverse hook and slide it laterally until fitting the second rod (*Figure 20a*).
- Tighten the three locking screws beginning by the short hook screw, then the external screw of long hook, and finally the internal screw of long hook to block the transverse bar (*Figure 20b*).
- In case of long assembly, a second crosslink may be added.

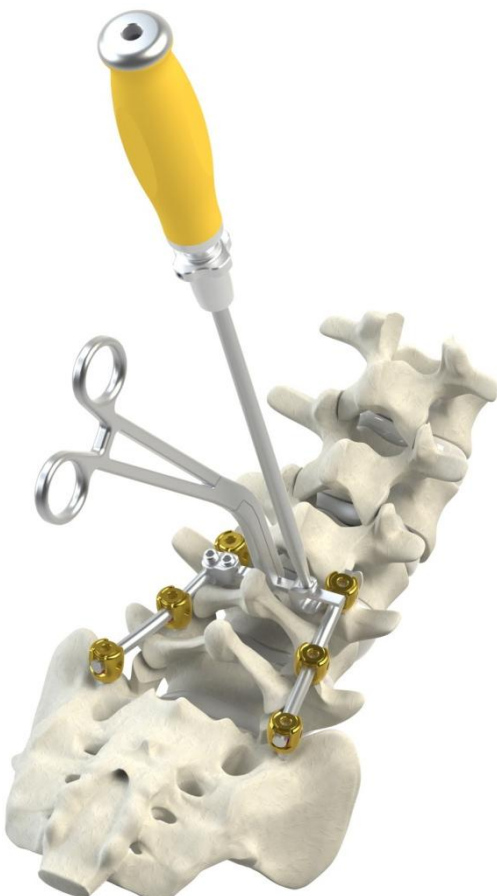


Figure 20a



Figure 20b

Final Construct



The surgical technique shown is for illustrative purpose only. The actual techniques employed will always depend on surgeons' medical judgment and can differ from one patient to another.



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