



# Leica M620

Assembly instructions

10 714 374 – Version A

Living up to Life

*Leica*  
MICROSYSTEMS



|  |    |
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## General safety measures



These assembly instructions contain important safety precautions as well as information on setting up the instrument.



Before attempting to assemble or start up the product read carefully through the assembly instructions.

### Intended use of instrument

- The Leica M620 surgical microscope system is an optical instrument which uses magnification and illumination to improve the display of objects.
- It can be used for observation, documentation as well as in human and veterinary surgery.
- The Leica M620 surgical microscope system may only be used in closed rooms and beneath a strong ceiling.
- The ceiling supply unit is used for the ergonomic positioning of medical equipment at the place of use.
- The ceiling supply unit is used to supply the M620 surgical microscope system with electrical power.

### Information for the person responsible for the instrument

- Ensure that the surgical microscope is used only by qualified personnel.
- Carry out regular inspections to make sure the personnel is complying with safety requirements.
- Brief the user thoroughly and explain the meaning of the hazard signs and safety precautions.
- Allocate responsibilities for start-up, operation and maintenance. Monitor compliance with this.
- Do not use the Leica M620 surgical microscope system unless it is in perfect condition.
- If any faults develop which might put the safety of people at risk, report this to your Leica representative immediately or Leica Microsystems (Schweiz) AG, CH-9435 Heerbrugg.
- The effect of the Leica M620 surgical microscope on other instruments has been tested as specified in EN 60 601-1-2. The system has passed the tests relating to emissions and immunity. Respect the usual precautionary and safety measures relating to electromagnetic and other forms of radiation.
- Any liability for the functioning of the installation will always be the liability of the owner or operator of the installation should it have been incorrectly installed by persons not so commissioned by Leica AG

### Information for the user

- If you use accessories from another manufacturer with the Leica M620 surgical microscope system, make sure that this manufacturer confirms that the combination is safe to use. Follow the instructions in the user manual in question.
- Follow the instructions given in this manual.
- Follow the instructions given by your employer regarding the organization of work and safety at work.
- Modifications must not be made to the Leica M620 surgical microscope system.

### Disposal

- The relevant national statutory provisions shall apply to the disposal of the products.

### Symbols in this user manual

The symbols used in these assembly instructions have the following meaning:



#### Warning

This indicates a potentially hazardous situation that could result in death or serious injury.



#### Caution

This indicates a potentially hazardous situation that could result in minor or moderate injury but possibly considerable material, financial or environmental damage.



Usage information: Information provided to help the user use the product technically correctly and also efficiently.



Action required: This symbol indicates that you need to perform a specific action or series of actions.

### Notes on assembly

- The mounting frame may only be assembled by an authorized specialist construction company.
- The ceiling mount may only be assembled by authorized specialists.
- The electrical supply may only be connected by an authorized specialist company.

## Inward-goods inspection

Damaged goods reduce the safety level.

The use of damaged products can cause severe injury.

Check the packaging and goods for transport damage:

- The transport container should be undamaged.
- The delivery as listed in the order folder should be complete.
- The optional accessories as listed in the order folder should be complete.
- The user manual should be present.
- All of the components shown in the configuration diagram should be present.

If damage has occurred, have the safety of the goods inspected by the Leica service workshop before using them.

## Safety precautions in these assembly instructions



### Caution

#### Screws or threads can be destroyed!

- ⇒ Avoid the use of excessive force when tightening all screws.
- ⇒ Set the torque wrench to the torque specified. Apply the wrench until this torque is reached (signaled by a clicking noise). Do not tighten further.



### Warning

#### The Leica Mini Mount can become detached from the ceiling and can cause serious injuries! If the ceiling does not meet these specifications, the HILTI anchor bolts may not hold.

- ⇒ It is essential for you to call in an approved specialist to assess the bearing capacity of the concrete ceiling.



### Warning

#### The Leica Mini Mount can become detached from the ceiling and can cause serious injuries! If additional loading is imposed, the HILTI anchor bolts may not hold.

- ⇒ Do not hang anything else on to the Leica Mini Mount.



### Warning

#### The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries! If the ceiling does not meet these specifications, the HILTI anchor bolts may not hold.

- ⇒ It is essential for you to call in an approved specialist to assess the bearing capacity of the concrete ceiling.



### Warning

#### The Leica Mini Mount can become detached from the ceiling and can cause serious injuries!

- ⇒ Consult the HILTI representative if the green seal of the anchor bolt is damaged.



### Caution

#### Screws can loosen!

- ⇒ When mounting the spacer ring or horizontal arm only use the supplied screws pretreated with Loctite.



### Warning

#### The horizontal arm can become detached from the Mini Mount and cause serious injuries.

- ⇒ Pretension the screws sufficiently.
- ⇒ Whenever you tighten a screw, transfer the weight of the swing arm to the opposite screw.



### Warning

#### The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries! If additional loading is imposed, the HILTI anchor bolts may not hold.

- ⇒ Do not hang anything else on to the Leica Telescope Mount.



### Caution

#### Possible damage to the Leica Telescope Mount!

- ⇒ Only use the enclosed screws M3 x 5 to fasten the hose retainer.



### Warning

#### The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries!

- ⇒ Consult the HILTI representative if the green seal of the anchor bolt is damaged.



### Warning

#### Risk of death from electrical shock!

- ⇒ The electrical connections may only be carried out by a trained electrician.




### Caution

#### Screws can loosen!

- ⇒ When mounting the horizontal arm only use the supplied screws pretreated with Loctite.

## Preparations

 Have the following tools and materials ready before you start assembling the Leica M620 surgical microscope.

 You will need assistance for some of the work.

### Accessories supplied

- All screws and nuts

### Tools



#### Caution

#### **Screws or threads can be destroyed!**

- ⇒ Avoid the use of excessive force when tightening all screws.
- ⇒ Set the torque wrench to the torque specified. Apply the wrench until this torque is reached (signaled by a clicking noise). Do not tighten further.

- Allen keys (3 mm, 4 mm, 5 mm, 6 mm)
- Screwdriver for slotted screws (sizes 3 and 10)
- Screwdriver for Philips screws (sizes 0 and 1)
- Side-cutting pliers

### Assembly material

- Cable ties
- Cable-tie holders



## Unpacking the transport container

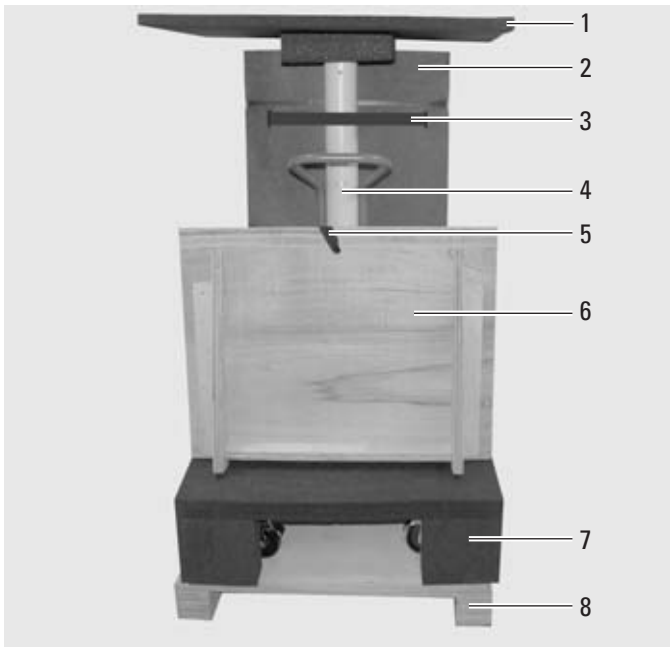


Fig. 1

- 1 Cover packaging
- 2 Crate with swing arm
- 3 Column belt
- 4 Column with base
- 5 Belt grip
- 6 Ramp
- 7 Base packaging
- 8 Pallet

- ⇒ Remove the carton package of the transport container upwards.
- ⇒ Remove the column belt (3) and belt grip (5).
- ⇒ Remove the cover (1).
- ⇒ Remove the crate with swing arm (2) from the pallet (8).

⇒ Place the ramp (6) before the pallet (Fig. 2).

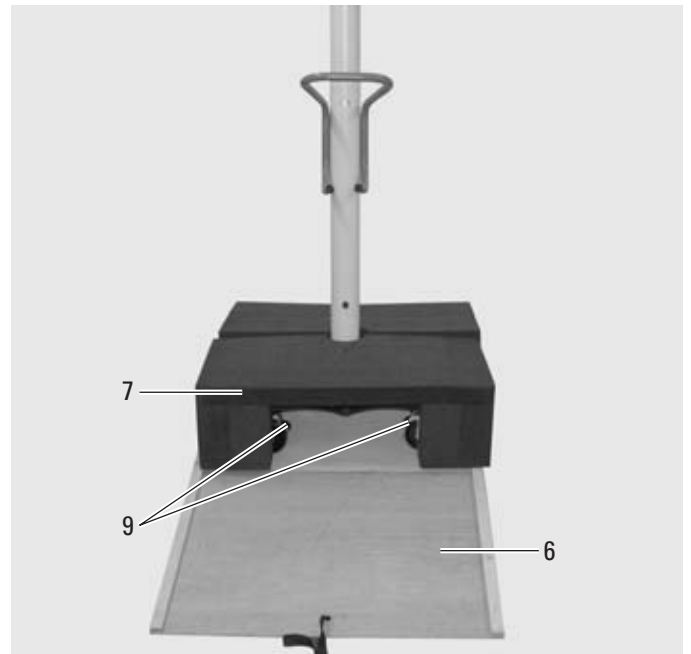



Fig. 2

 The ramp must contact the pallet.

- ⇒ Remove the base packaging (7).
- ⇒ Release the brakes (9) and travel the stand down carefully over the ramp (6) (Fig. 3).

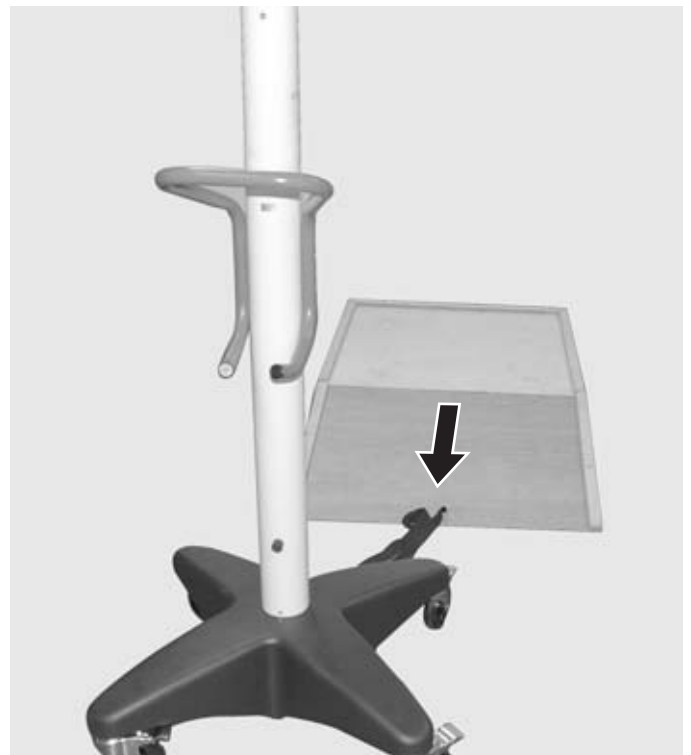


Fig. 3

- ⇒ Apply the brakes again.
- ⇒ Open the crate with the swing arm and remove the swing arm (1) from the crate (Fig. 1).

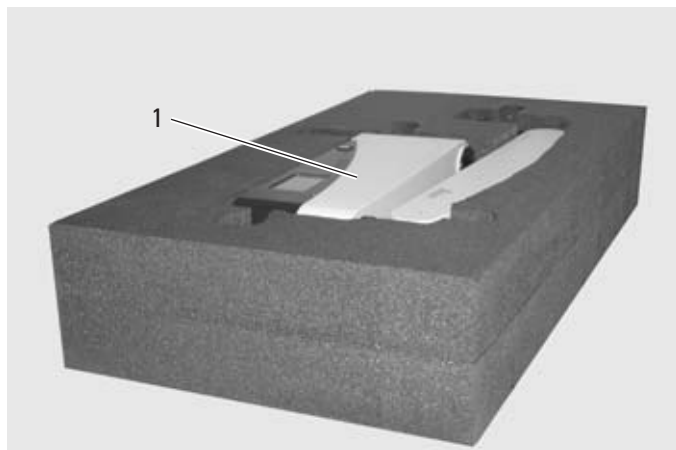


Fig. 1

- ⇒ Insert the disk (2) centered in the column (3) (Fig. 3).

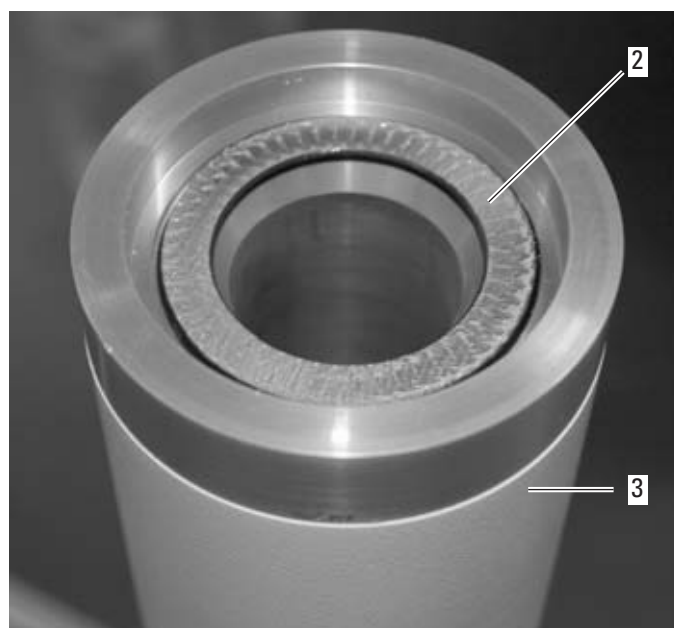


Fig. 3

## Mounting the floor stand F18

- ⇒ Remove the disk (2) of the needle roller bearing from the pin of the swing arm (Fig. 2).

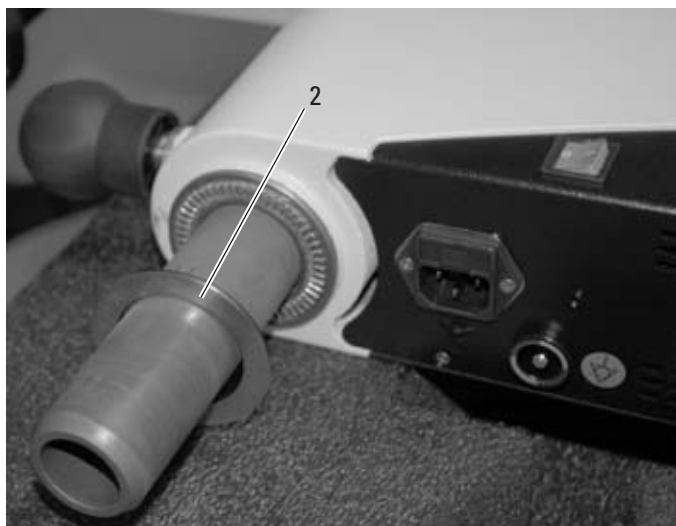


Fig. 2

- ⇒ Place the swing arm (1) on the column (3) (Fig. 4).

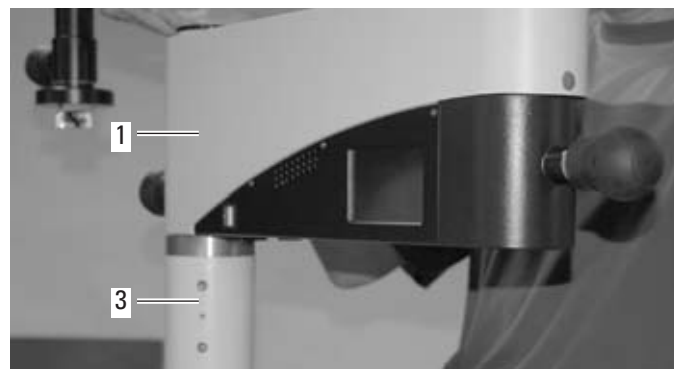


Fig. 4

⇒Screw the swing arm tight with 2 Allen screws (1) (Fig. 1).

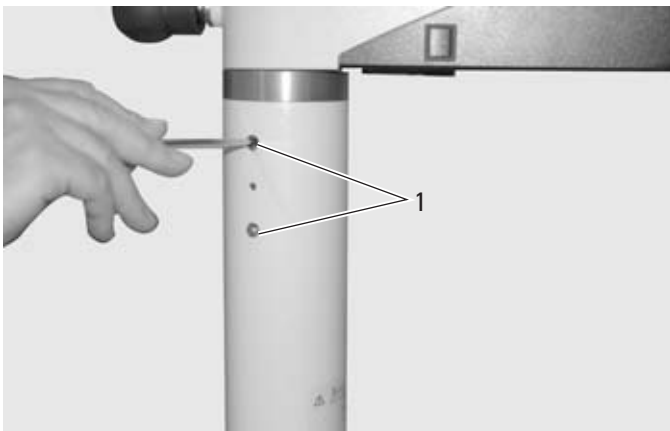


Fig. 1

⇒Press in the 2 covers (2) for the bore holes (Fig. 2).

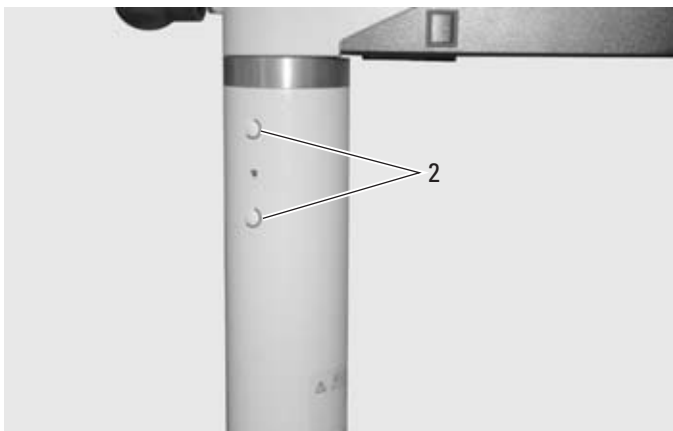


Fig. 2

## Mounting the tilt drive F18/F20

⇒Insert the tilt drive (4) into the dovetail guide of the rotatable joint (3) and screw it tight with 2 Allen screws (Fig. 3).

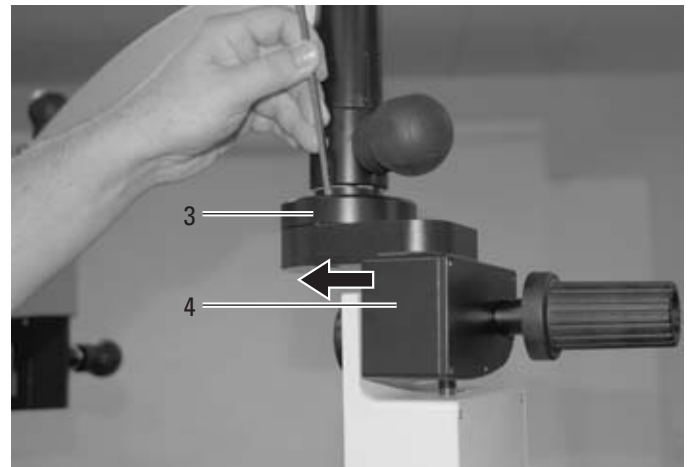


Fig. 3

⇒Slide in the cover (5) (Fig. 4).

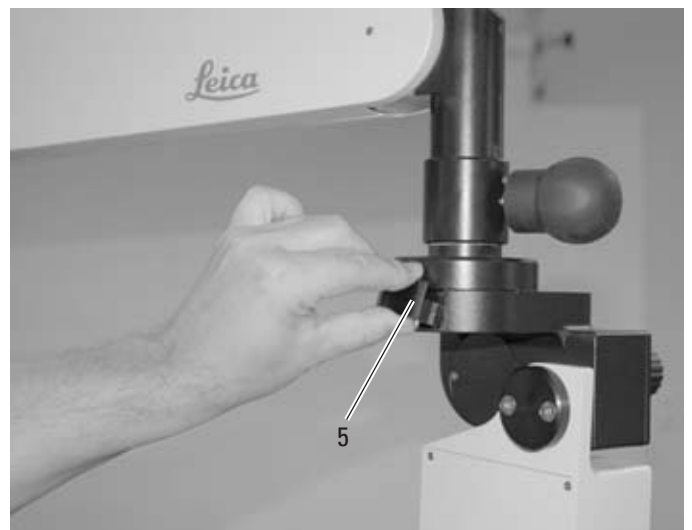


Fig. 4

## Mounting the XY-unit (optional for F18) and tilt drive

### Screwing the XY-unit to the tilt drive

⇒ Insert the XY-unit (1) into the dovetail guide of the tilt drive (2) (Fig. 1).

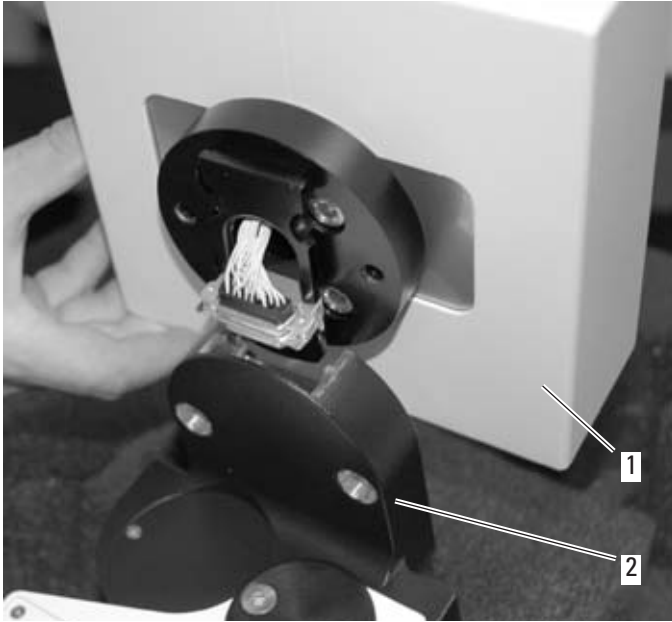


Fig. 1

⇒ Screw the XY-unit to the tilt drive using 2 Allen screws (3) (Fig. 2).

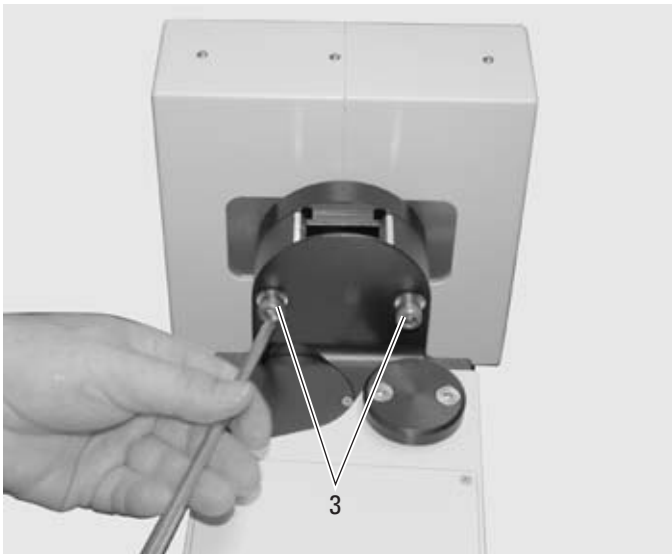


Fig. 2

### Screwing the XY-unit with the tilt drive to the rotatable joint

⇒ Insert the XY-unit (5) with tilt drive into the dovetail guide of the rotatable joint (4) (Fig. 3).

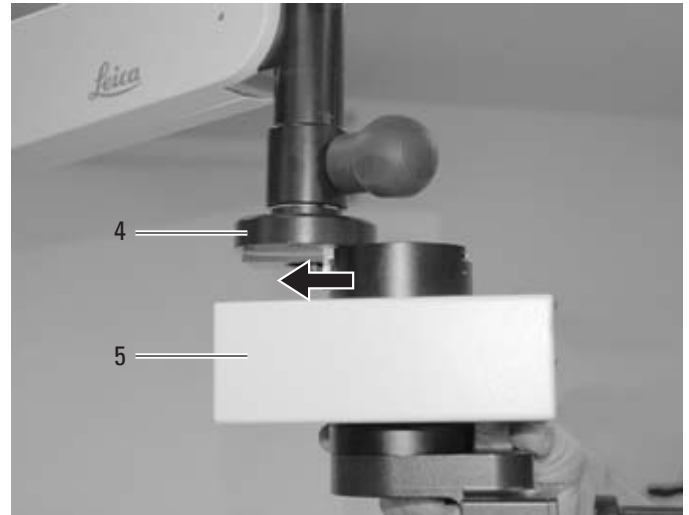


Fig. 3

⇒ Screw the XY-unit (optional) to the rotatable joint using 2 Allen screws (6) (Fig. 4).

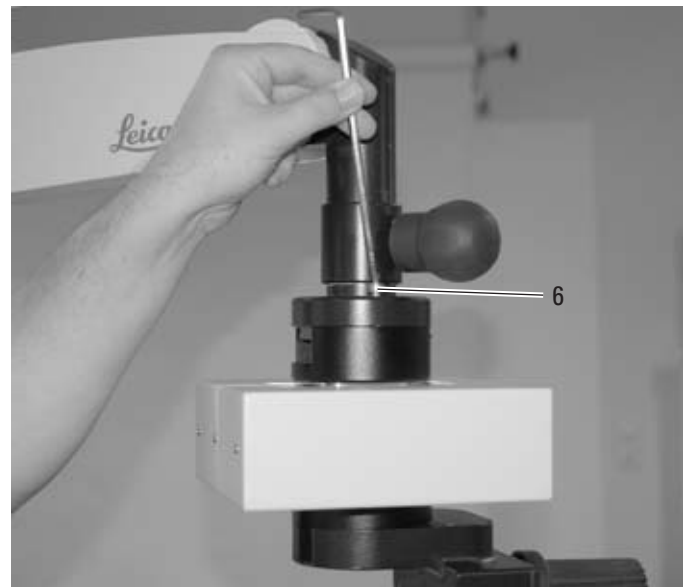


Fig. 4

⇒ Slide in the cover (1) (Fig. 1).



Fig. 1

## Cabling

### Attaching the strain relief for the power cable

⇒ Thread the cable tie (2) under the control unit (Fig. 2).



Fig. 2

⇒ Fasten the power cable (3) with the cable tie (2) (Fig. 3).

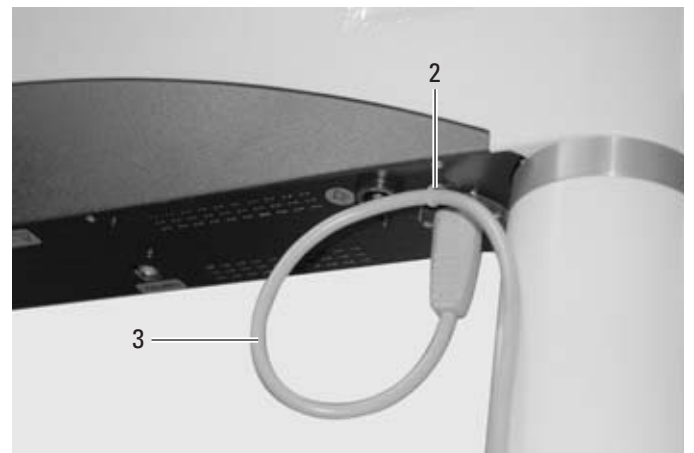


Fig. 3

### Laying the video cable (optional) for the floor stand F18

- ⇒ Thread the video cable (1) at the top into the swing arm and pull it out at the bottom (Fig. 1).

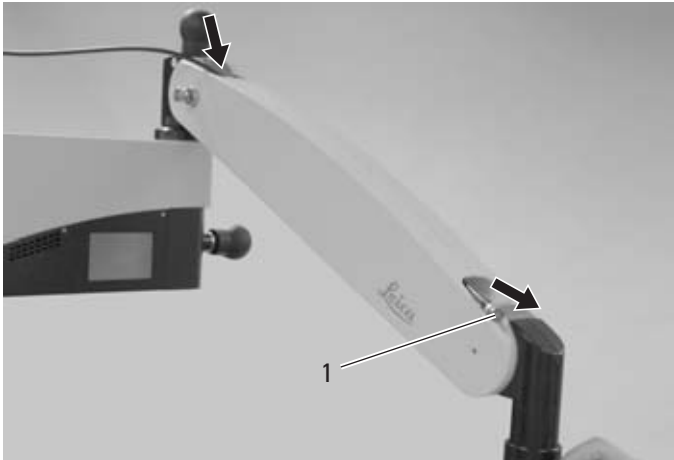


Fig. 1

- ☞ Ensure that there is enough cable length at the articulations so that the mobility is not restricted.

- ⇒ Fasten the video cable with cable ties at the points (2–6).

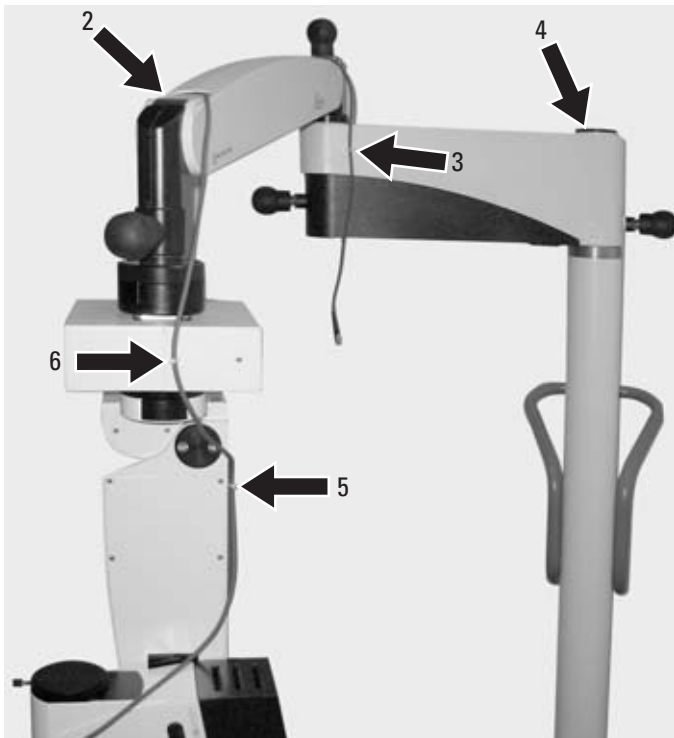


Fig. 2

- ☞ If the control unit of the microscope camera is fastened to the horizontal arm (optional), the video cable has to be fastened at Fastening point (3), otherwise Fastening point (4).

### Checklist

- Are all the cables laid correctly and is no cable jammed?
- Are all the covers screwed on firmly?
- Are all the screws tightened with the specified torque?

### Disassembly

- ⇒ The Leica M620 F18/F20 surgical microscope is disassembled in the reverse sequence of operations to assembly.

### Starting up

#### Preparatory work

- ⇒ Make sure that all parts are seated firmly.
- ⇒ Connect the Leica M620 surgical microscope to the power supply and switch on the power switch (7) (Fig. 3).
- ⇒ Balance out the swing arm (see the Leica M620 surgical microscope user manual).

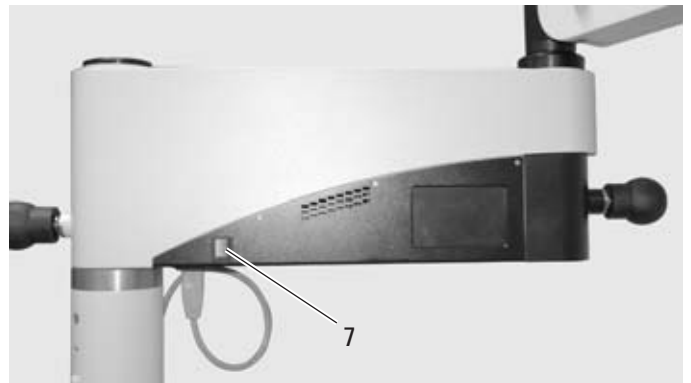


Fig. 3

## Checking components and functions

### Zoom, focus and XY-unit (optional)

⇒ Press the zoom (3), focus (2) and XY-unit (1) functions at the hand-/footswitches (see the Leica M620 surgical microscope user manual) (Fig. 1).

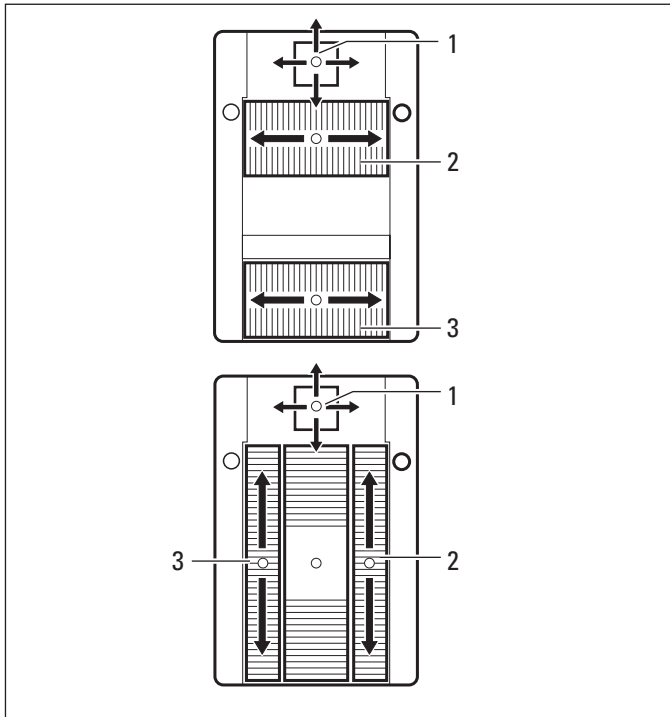


Fig. 1

⇒ Adjust the speed at the touch panel for focus, zoom and XY-unit (see the Leica M620 surgical microscope user manual).

⇒ Swap the + and – directions of movement of the XY-unit (see the Leica M620 surgical microscope user manual).

If one of the functions cannot be executed:

⇒ Check the hand-/footswitch connections at the control unit/lamp housing.

## Illumination

⇒ Adjust the brightness of the main illuminator at the touch panel (see the Leica M620 surgical microscope user manual).

⇒ Slide the quick-change lamp mount (4) to the other side (see the Leica M620 surgical microscope user manual) (Fig. 2).



Fig. 2

If one of the functions cannot be executed:

⇒ Check whether the quick-change lamp mount latches in correctly in the illumination settings.

If necessary:

⇒ Replace lamps.

### Checking the functions

Check the following functions in accordance with the user manual.

⇒Release all the brakes of the Leica M620 surgical microscope and travel the stand through its entire range of movement.

Result: The brakes are released, the microscope can be moved freely and without noises through its range of movement.

⇒Travel through the X/Y-ranges, inclination ranges and focus ranges by means of the hand/footswitches.

Result: Smooth, even low-noise movement across the entire range.

⇒Adjust the zoom across the entire range.

Result: Whole range can be set, no disturbing noises.

⇒Switch on the illumination and test it across the entire brightness range.

Result: Both illuminators function and can be regulated.

⇒Swing the unit to the uppermost position.


Result: The illumination switches off. All the drives travel to their reset positions.


No error messages may occur on the touch panel during the starting-up process.

If it does, contact your Leica service workshop.



## Technical data

 If the ceiling does not clearly satisfy the minimum requirements made of it, it is essential to call in an authorized specialist to assess the loading capacity of the ceiling.

 If the ceiling does not in fact satisfy the minimum requirement, Leica must be consulted.

### Requirements applicable to the ceiling

|  |                               |
|--|-------------------------------|
| Imposed load:                                    | Minimum 600 kg/m <sup>2</sup> |
| Concrete load-bearing capacity to DIN 1045/2001: | C20/25                        |
| Concrete pressure resistance:                    | 20 N/mm <sup>2</sup>          |
| Ceiling thickness:                               | 200 mm minimum                |



#### Warning

**The Leica Mini Mount can become detached from the ceiling and can cause serious injuries!**

**If the ceiling does not meet these specifications, the HILTI anchor bolts may not hold.**

⇒ It is essential for you to call in an approved specialist to assess the bearing capacity of the concrete ceiling.

### Loads on the ceiling

|                   |                 |
|-------------------|-----------------|
| Weight:           | 113 kg maximum  |
| Effective torque: | 1200 Nm maximum |



#### Warning

**The Leica Mini Mount can become detached from the ceiling and can cause serious injuries!**

**If additional loading is imposed, the HILTI anchor bolts may not hold.**

⇒ Do not hang anything else on to the Leica Mini Mount.

## Overview

### Overview of Leica M620 surgical microscope system

#### with bracket

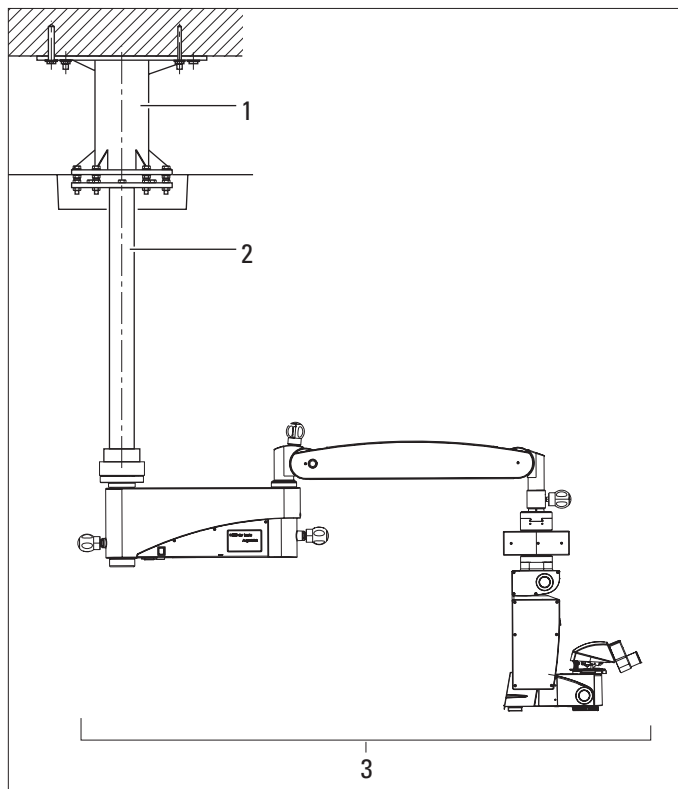


Fig. 1

- 1 Mounting bracket
- 2 Leica Mini Mount
- 3 Leica M620 components to the Leica Mini Mount

#### with ceiling plate

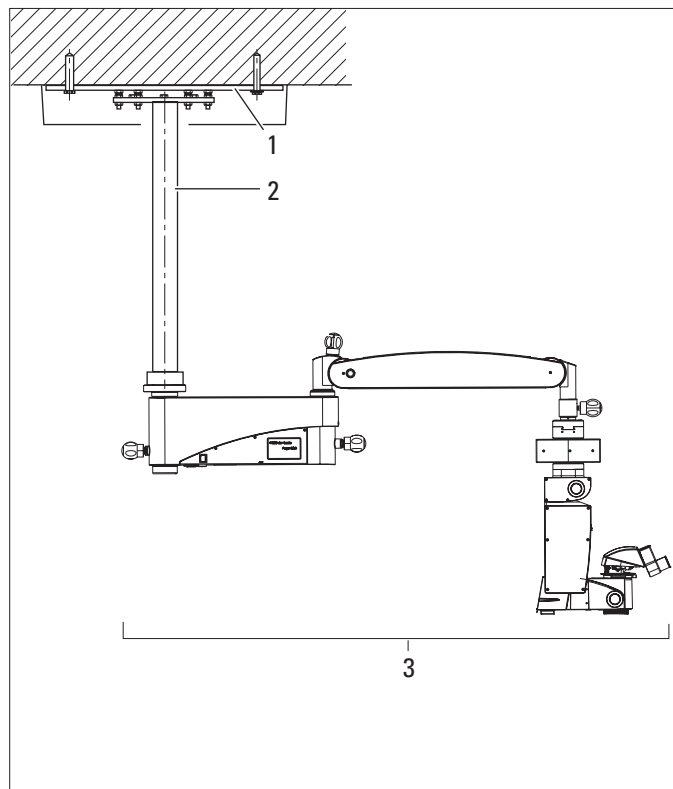


Fig. 2

- 1 Ceiling plate
- 2 Leica Mini Mount
- 3 Leica M620 components to the Leica Mini Mount

**The individual components (mounting bracket)**

**Mounting bracket**

- 1 Mounting bracket
- 2 HILTI anchor bolts
- 3 Screws with nuts

**Leica Mini Mount**

- 4 Leica Mini Mount
- 5 Leica Mini Mount – upper flange
- 6 Leica Mini Mount – lower flange
- 7 Ceiling mount cover

**Leica M620 components to the Leica Mini Mount**

- 8 Horizontal arm
- 9 Swing arm
- 10 XY-unit (optional)
- 11 Tilt drive
- 12 Focus unit
- 13 Optics carrier
- 14 Handles
- 15 Lamp housing
- 16 Control unit

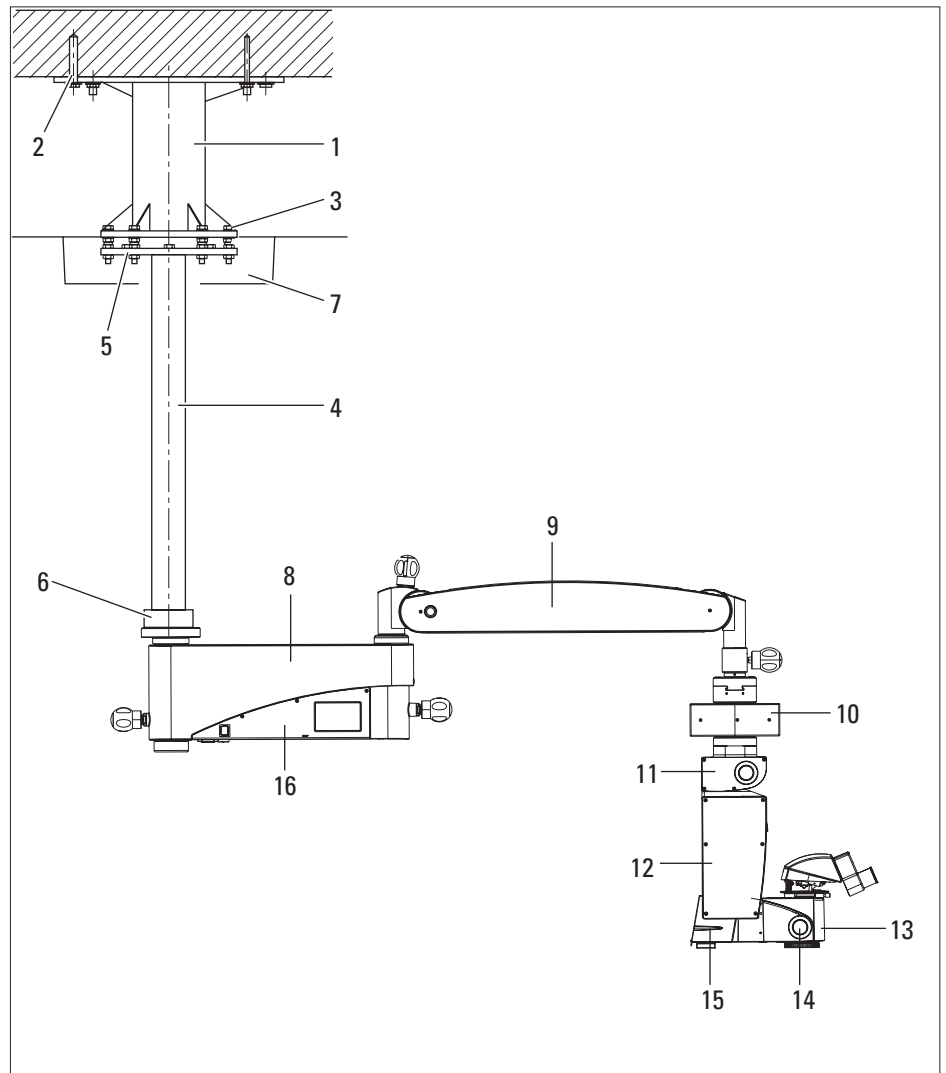


Fig. 1

### The individual components (ceiling plate)

#### Mounting bracket

- 1 Ceiling plate
- 2 HILTI anchor bolts
- 3 Screws with nuts

#### Leica Mini Mount

- 4 Leica Mini Mount
- 5 Leica Mini Mount – upper flange
- 6 Leica Mini Mount – lower flange
- 7 Ceiling mount cover

#### Leica M620 components to the Leica Mini Mount

- 8 Horizontal arm
- 9 Swing arm
- 10 XY-unit (optional)
- 11 Tilt drive
- 12 Focus unit
- 13 Optics carrier
- 14 Handles
- 15 Lamp housing
- 16 Control unit

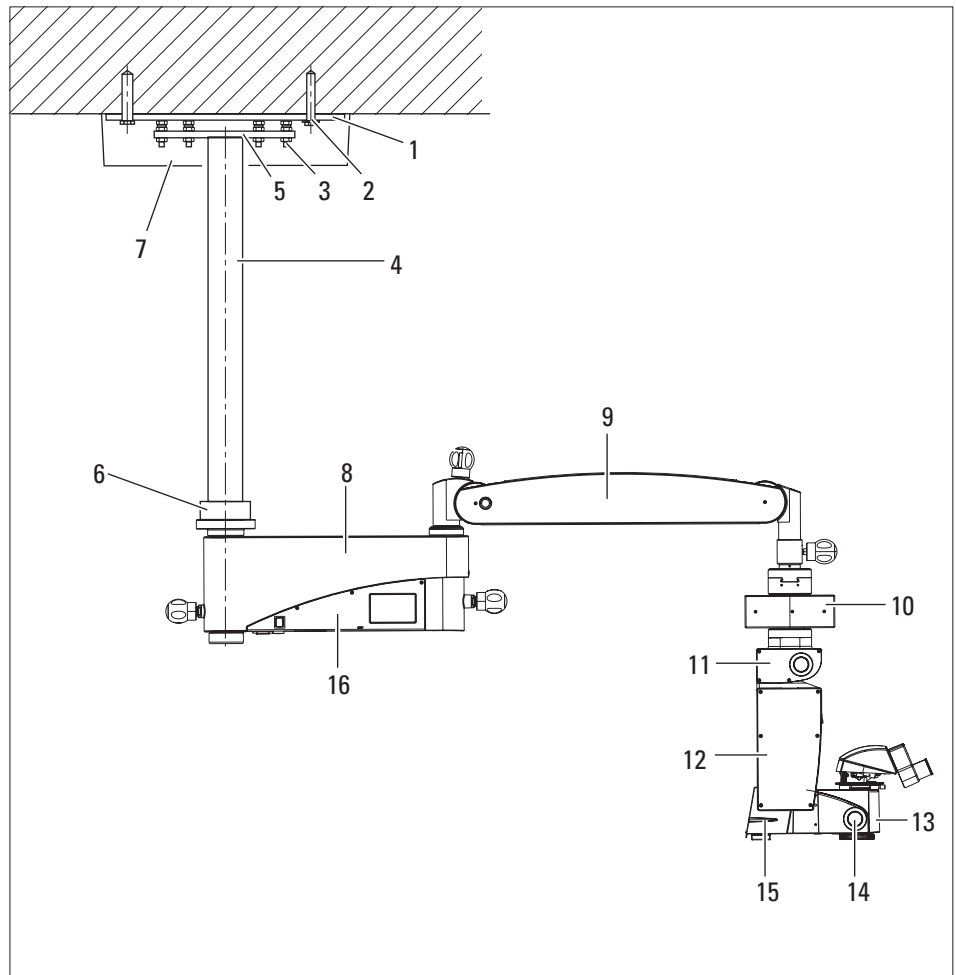


Fig. 1

**Ways of mounting on the ceiling**

**with bracket**

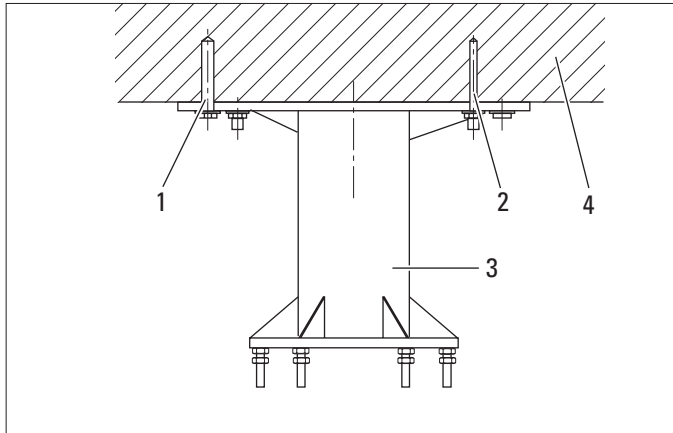


Fig. 1

- 1 HILTI anchor bolts HSL-3-B M12 x 137/25
- 2 HILTI segment anchor bolt, HSA M10 x 90
- 3 Mounting bracket
- 4 Concrete ceiling

**with ceiling plate**

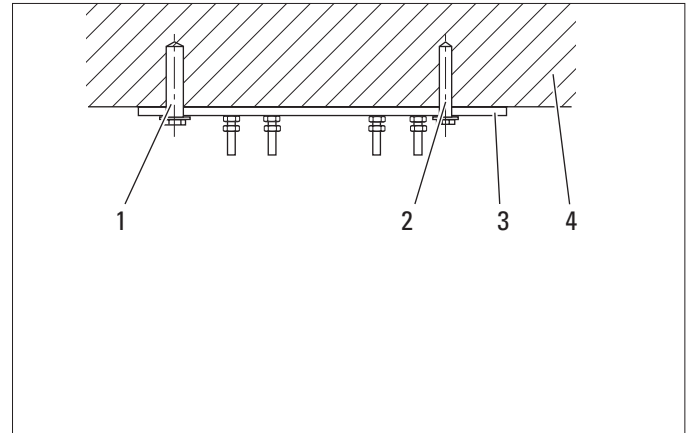





Fig. 2

- 1 HILTI anchor bolts HSL-3-B M12 x 137/25
- 2 HILTI segment anchor bolt, HSA M10 x 90
- 3 Ceiling plate
- 4 Concrete ceiling

## Preparations

 Get the following tools and materials ready before you start on installing the Leica M620 CM40 surgical microscope system.

 You will need at least 2 persons for some of the work.

 A log must be kept of assembly and installation. The acceptance certificate can be found on Page 57 of this manual.

### Accessories supplied

- Template for drawing the holes in the ceiling (10714333)
- HILTI segment anchor bolt, HSA M10 x 90
- HILTI anchor bolts HSL-3-B M12 x 137/25
- Screws and nuts
- Ceiling mount cover
- Protection hose with hose retainers and tools

### Tools



#### Caution

#### Screws or threads can be destroyed!

⇒ Set the torque wrench to the torque specified. Apply the wrench until this torque is reached (signaled by a clicking noise). Do not tighten further.

- Lift truck
- Hammer drill
- 10 mm diam. drill bit
- 18 mm diam. drill bit
- Open-ended wrench 17/24 mm
- Torque wrench 17 mm, 24 mm (min. 80 Nm)
- Hammer
- Precision spirit level
- Screwdriver for Phillips screws
- Screwdriver for slotted screws
- Bellows

### Required mounting material

- Cable ties
- Insulating tape

### Positioning of the mounting bracket/ceiling plate

⇒ Mark out the center (2) of the mounting bracket or of the ceiling plate and the alignment axis (main axis) (1) in accordance with the building plan on the ceiling (Figures 1 and 2).

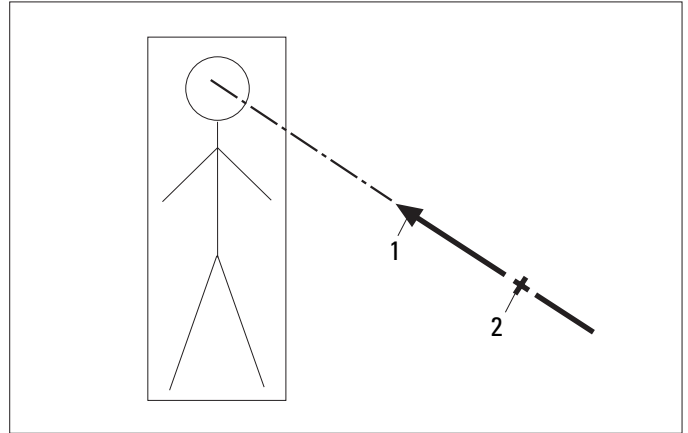


Fig. 1

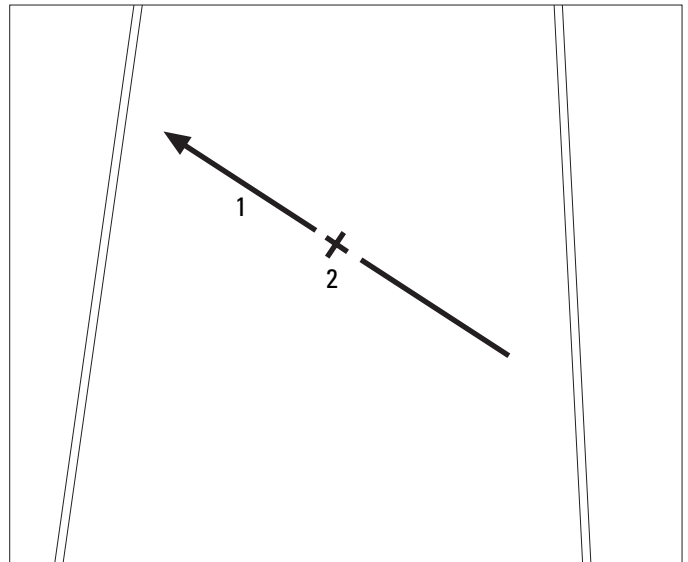



Fig. 2 (View to ceiling)

## Mounting the mounting bracket/ceiling plate

### Mounting bracket

#### Mark out the auxiliary holes

- ⇒ Place the enclosed template (1) with the drawn surface facing downwards against the ceiling on the alignment axis (2) (Fig. 1).
- ⇒ Mark out the auxiliary holes  on the ceiling.

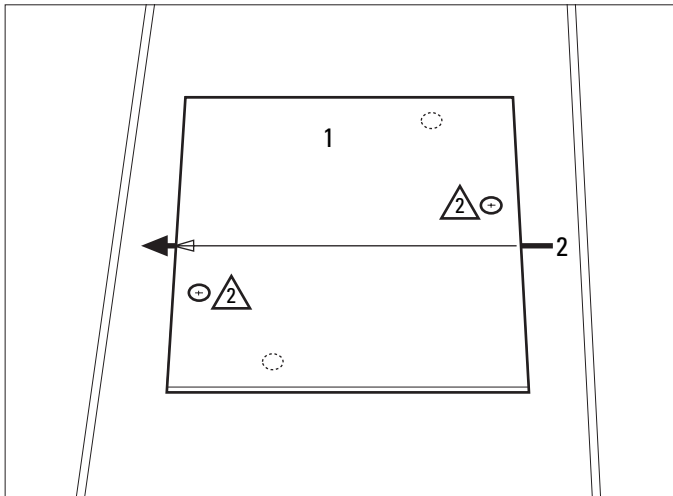


Fig. 1

#### Drill the auxiliary holes

- ⇒ Drill the auxiliary holes 10 mm diameter and 100 mm deep (Fig. 2).

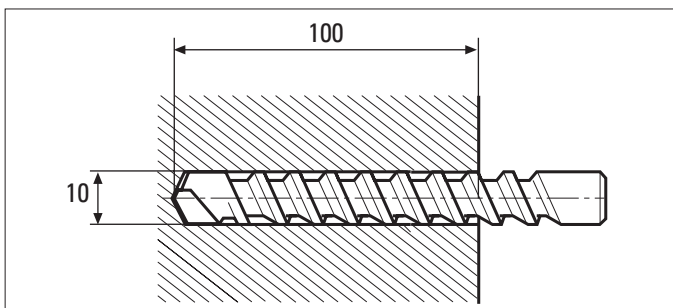


Fig. 2

- ⇒ Remove drilling debris from auxiliary holes with bellows (Fig. 3).

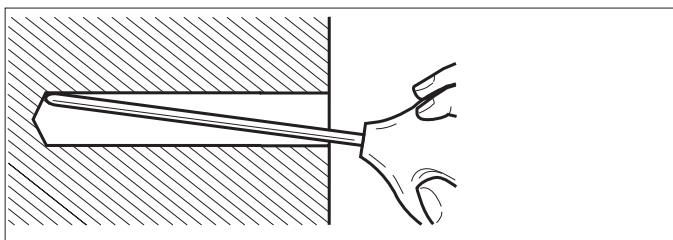


Fig. 3

### Fastening the bracket

- ⇒ Align the bracket.
- ⇒ Insert both HILTI HSA M10 x 90 segment anchor bolts through the auxiliary holes of the bracket.
- ⇒ Screw both nuts with the ends flush onto the segment anchor bolts.
- ⇒ Drive in both segment anchor bolts with light hammer blows (Fig. 4).

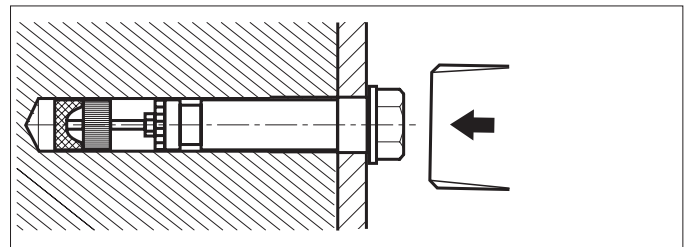


Fig. 4

- ⇒ Tighten both nuts with 30 Nm (Fig. 5).

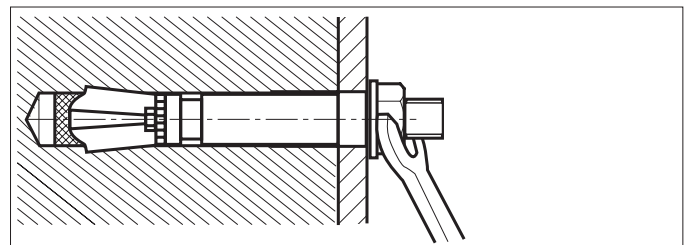



Fig. 5

### Drilling the main holes

-  The bracket serves as the template for the main holes.

- ⇒ Drill the main holes 18 mm diameter and 120 mm deep (Fig. 6).

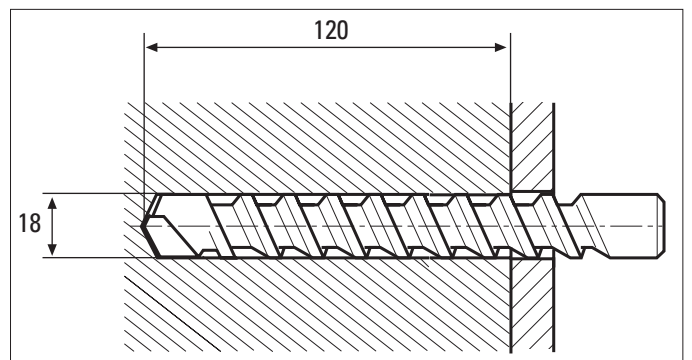


Fig. 6

⇒ Remove drilling debris from main holes with bellows (Fig. 1).

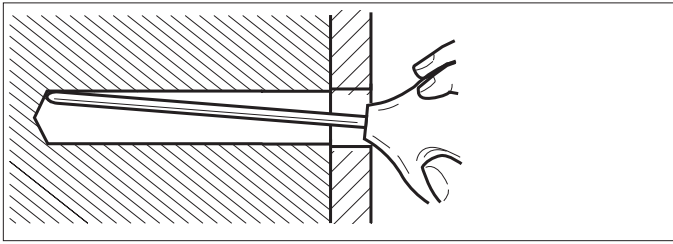


Fig. 1

### Mounting the bracket completely

The HILTI HSLB anchor bolt HSL-3-B M12 x 137/25 is a mechanically spreading instantaneously loadable steel anchor bolt with a preload that can be checked visually.

There are 3 accurately-dimensioned shear pieces in the red cap. When the correct amount of torque (min. 80 Nm) has been applied with a normal socket wrench, the red hexagonal cap shears off and reveals a green seal to indicate that the required initial torque has been reached and the anchor can now be stressed up to the permissible load.

- ⇒ Insert the HILTI anchor bolts through the main holes of the bracket.
- ⇒ Screw the nuts with the ends flush onto the anchor bolts.
- ⇒ Drive the anchor bolts into the main holes with light hammer blows until they are flush with the plate (Fig. 2).

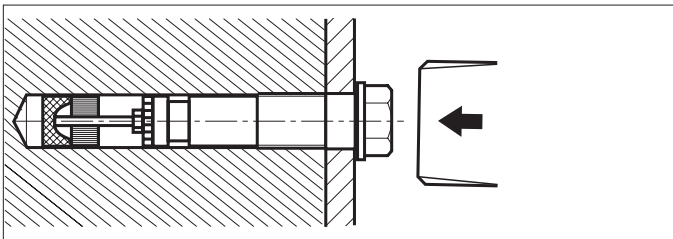



Fig. 2

 The anchor bolt shears suddenly!

- ⇒ Tighten with socket wrench until red shear cap is sheared off.
- The anchor is now tightened with the required amount of torque (Fig. 3).

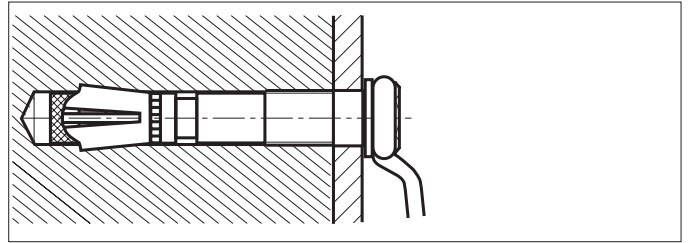


Fig. 3



### Warning

**The Leica Mini Mount can become detached from the ceiling and can cause serious injuries!**

- ⇒ Consult the HILTI representative if the green seal (1) of the anchor bolt is damaged (Fig. 4).

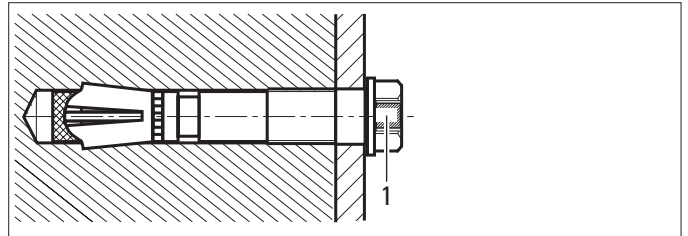



Fig. 4



### Preparing the bracket for further mounting

 All the washers or cup strings have to be removed and may not be used!

⇒ Screw the upper 6 nuts M12 (1) onto the threaded rods until the defined distance of 35 mm between the lower edge of the bracket and the lower edge of the nuts is reached (Fig. 1).

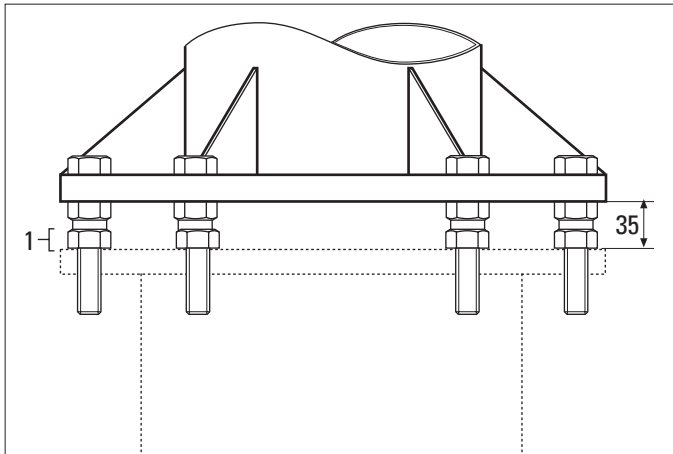



Fig. 1

 In order to facilitate mounting of the Leica Mini Mount, the fastening screws on the bottom of the lower bracket flange (2) should be numbered. The number 1 must point in the direction of the main axis (3), the number 4 lies directly opposite (Fig. 2).

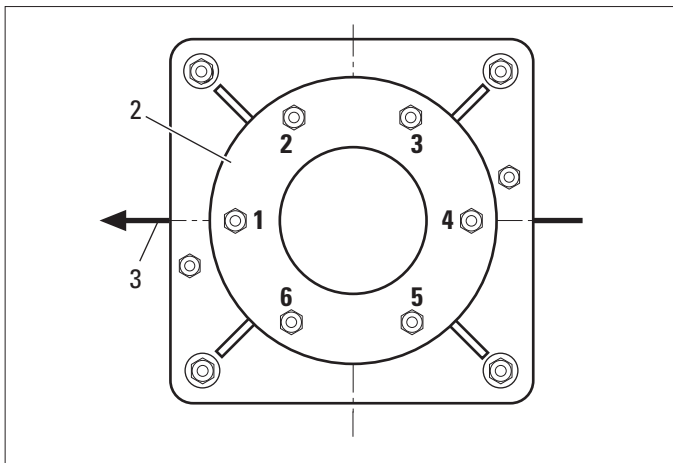


Fig. 2 (View to ceiling)

## Ceiling plate

### Mark out the auxiliary holes

- ⇒ Place the enclosed template (1) with the drawn surface facing downwards against the ceiling on the alignment axis (2) (Fig. 1).
- ⇒ Mark out the auxiliary holes  $\triangle$  on the ceiling.

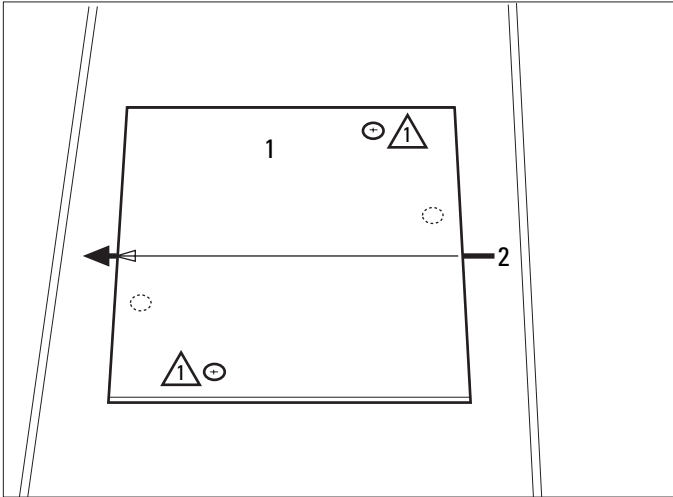


Fig. 1

### Drill the auxiliary holes

- ⇒ Drill the auxiliary holes 10 mm diameter and 100 mm deep (Fig. 2).

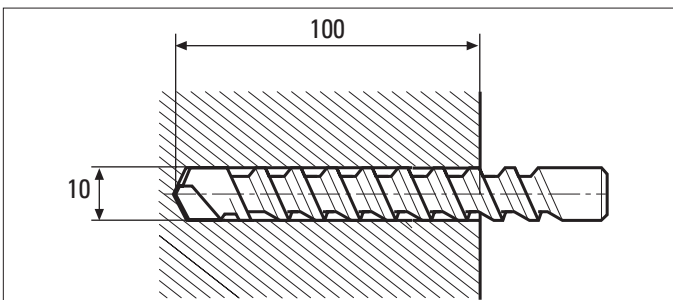


Fig. 2

- ⇒ Remove drilling debris from auxiliary holes with bellows (Fig. 3).

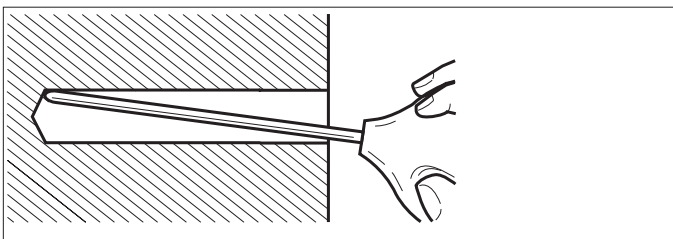


Fig. 3

### Fastening the ceiling plate

- ⇒ Align the ceiling plate.
- ⇒ Insert both HILTI HSA M10 x 90 segment anchor bolts through the auxiliary holes of the ceiling plate.
- ⇒ Screw both nuts with the ends flush onto the segment anchor bolts.
- ⇒ Drive in both segment anchor bolts with light hammer blows (Fig. 4).

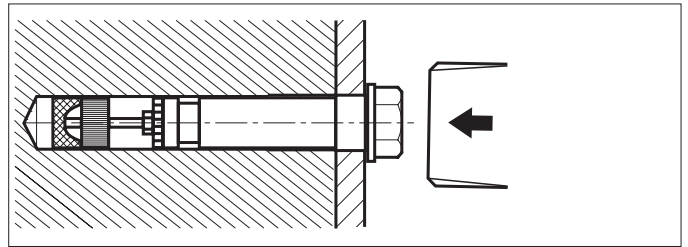


Fig. 4

- ⇒ Tighten both nuts with 30 Nm (Fig. 5).

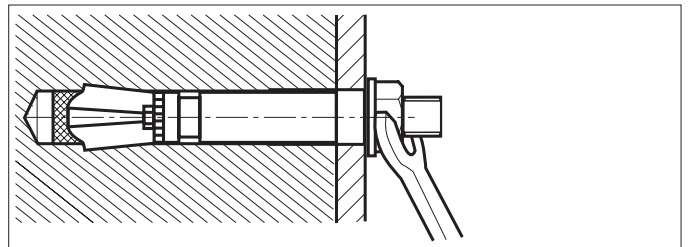



Fig. 5

### Drilling the main holes

 The ceiling plate serves as the template for the main holes.

⇒ Drill the main holes 18 mm diameter and 120 mm deep (Fig. 1).

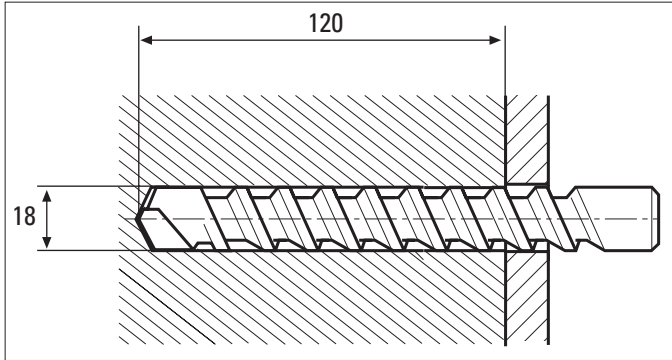


Fig. 1

⇒ Remove drilling debris from main holes with bellows (Fig. 2).

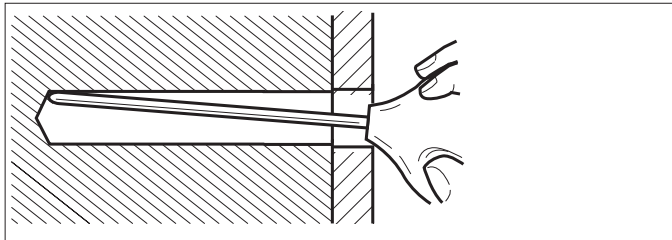



Fig. 2

### Completing mounting of the ceiling plate

 The HILTI HSLB anchor bolt HSL-3-B M12 x 137/25 is a mechanically spreading instantaneously loadable steel anchor bolt with a preload that can be checked visually. There are 3 accurately-dimensioned shear pieces in the red cap. When the correct amount of torque (min. 80 Nm) has been applied with a normal socket wrench, the red hexagonal cap shears off and reveals a green seal to indicate that the required initial torque has been reached and the anchor can now be stressed up to the permissible load.

- ⇒ Insert the four HILTI anchor bolts through the main holes of the ceiling plate.
- ⇒ Screw the four nuts with the ends flush onto the anchor bolts.
- ⇒ Drive the anchor bolts into the main holes with light hammer blows until they are flush with the plate (Fig. 3).

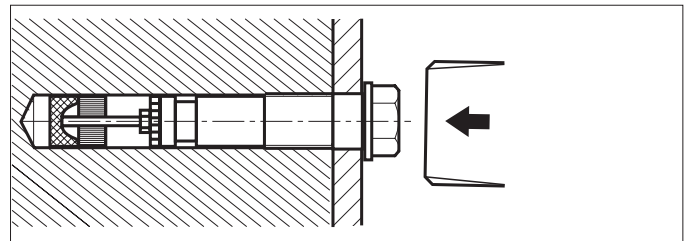



Fig. 3

 The anchor bolt shears suddenly!

- ⇒ Tighten with socket wrench until red shear cap is sheared off.  
The anchor is now tightened with the required amount of torque (Fig. 1).

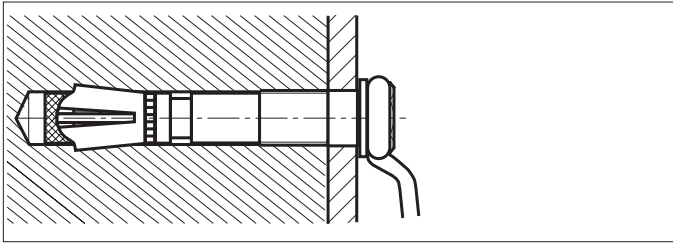



Fig. 1

 **Warning**  
**The Leica Mini Mount can become detached from the ceiling and can cause serious injuries!**  
⇒ Consult the HILTI representative if the green seal (1) of the anchor bolt is damaged (Fig. 2).

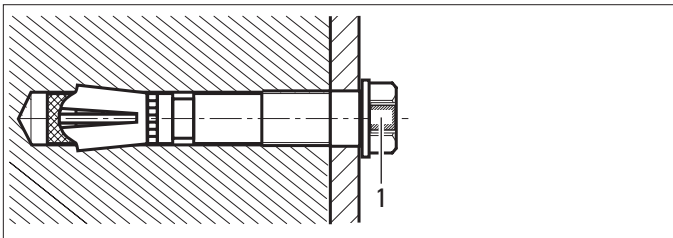



Fig. 2

### Preparing the ceiling plate for further mounting

-  All the washers or cup strings have to be removed and may not be used!
- ⇒ Screw the upper 6 nuts M12 (2) onto the threaded rods until the defined distance of 35 mm between the lower edge of the bracket and the lower edge of the nuts is reached (Fig. 3).

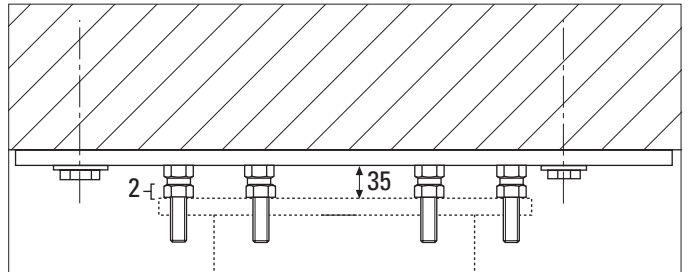



Fig. 3

 In order to facilitate mounting of the Mini Mount, the fastening screws on the bottom of the ceiling plate flange (3) should be numbered. The number 1 must point in the direction of the main axis (4), the number 4 lies directly opposite (Fig. 4).

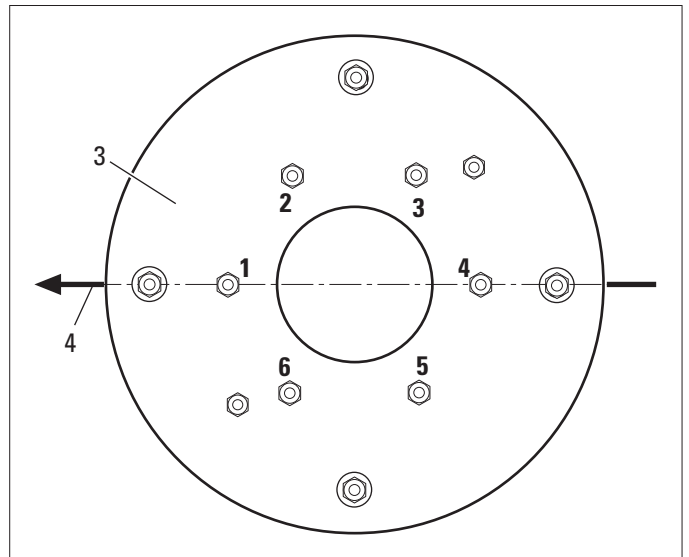


Fig. 4

## Mounting the Mini Mount to the bracket/ceiling plate

### Mounting the Mini Mount

⇒ Travel the Mini Mount (3) to the ceiling and fasten it makeshift to the bracket/ceiling plate (1) by means of 6 M12 nuts (2) (Fig. 1).

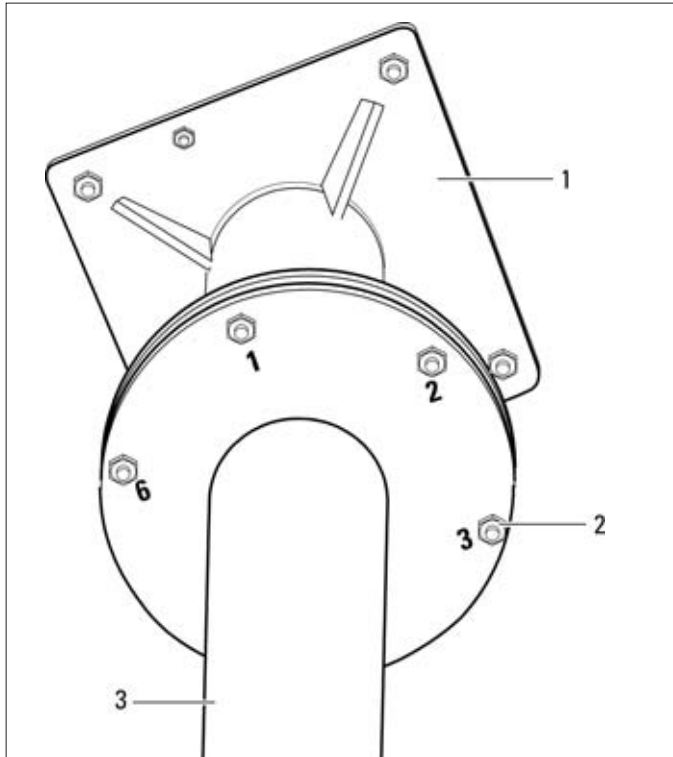


Fig. 1

### Fastening the horizontal arm at the Mini Mount



#### Caution

#### Screws can loosen!

⇒ When mounting the spacer ring or horizontal arm only use the supplied screws pretreated with Loctite.



The stop part (8) is not required for the Leica Mini Mount (Fig. 2).

⇒ Unscrew the stop part (8).

⇒ Unscrew the insert (4) from the ceiling tube (3) of the Mini Mount (Fig. 2).

⇒ Insert the tensioning pieces (5) from above and screw them with the insert (4) and the spacer ring (7).

⇒ Pretension the 6 screws (6) with 14 Nm. Then undo them individually and tighten them with 10 Nm.

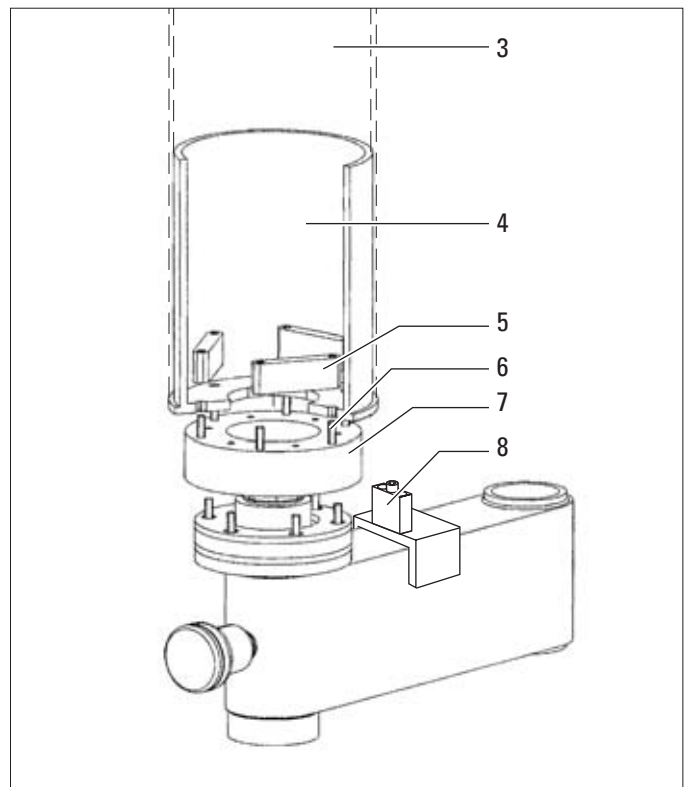


Fig. 2

### Connecting the horizontal arm



#### Warning

#### Risk of death from electrical shock!

⇒ The electrical connections may only be carried out by a trained electrician.

⇒ Thread the power cable (4) through the axis of the swing arm and connect it with the power cable (2) from the ceiling with a power plug or clamped connection (Fig. 1).

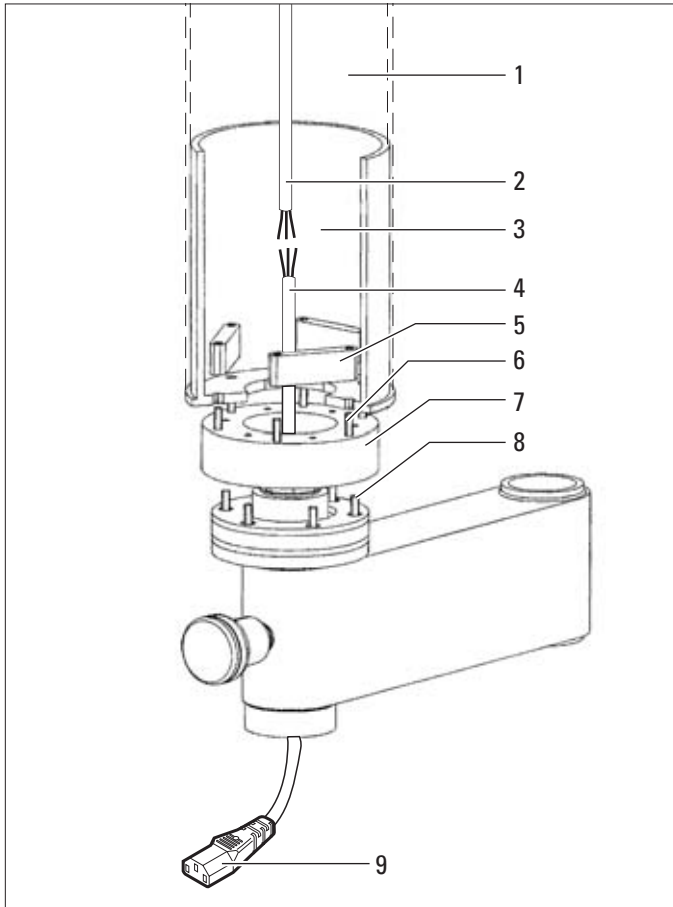


Fig. 1

⇒ Screw the insert (3) with 3 screws back into the ceiling tube (1).



#### Warning

#### The horizontal arm can become detached from the Mini Mount and cause serious injuries.

⇒ Pretension the screws sufficiently.

⇒ Whenever you tighten a screw, transfer the weight of the swing arm to the opposite screw.

⇒ Screw the horizontal arm with screws (8) onto the spacer ring (7) (tightening torque 10 Nm).



#### Caution

The electrical cables can be sheared off.

If the Leica Mini Mount is fitted without torsion protection, it can be turned through more than 360°.

⇒ Fit the torsion protection.

⇒ Fit the torsion protection (10) to the ceiling tube (1) and to the clamping knob (11) of the horizontal arm (Fig. 2).

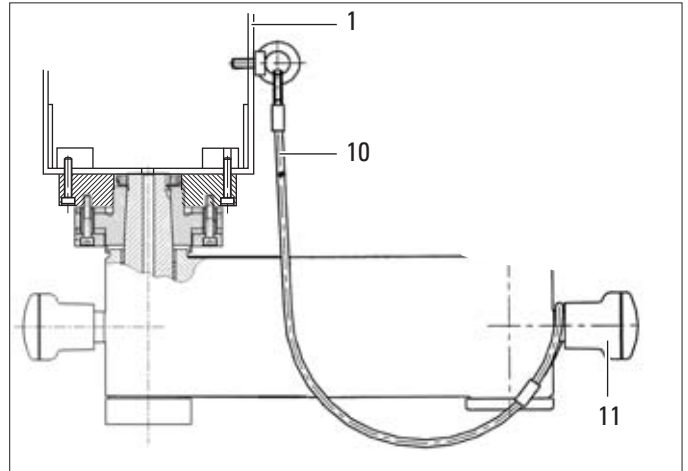


Fig. 2

⇒ Connect the power cable (9) to the power plug (Fig. 3).

- Neutral conductor (12)
- Protective earth (13)
- Phase (14)

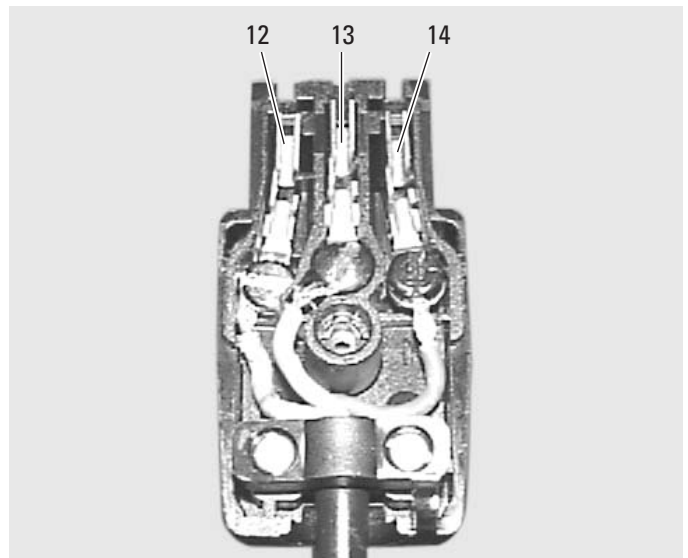



Fig. 3


⇒ Mount the tilt drive (see Page 9).

⇒ Mount the XY-unit (optional) and tilt drive, see Page 10.

## Aligning the Leica Mini Mount

 The Leica M620 surgical microscope system must be fitted with all of its fittings and given the maximum loading. Do not change this loading during the course of alignment.

### Setting the Leica Mini Mount free of drifting

 The upper and lower nuts of Screws **3** and **5** can be loosened and set free. They are not required while setting the drift (Fig. 1).

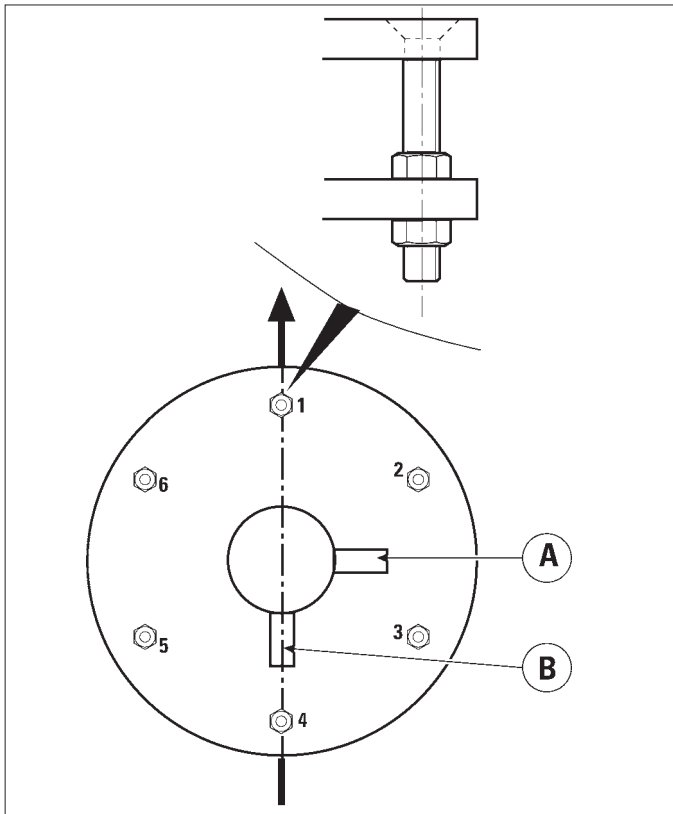


Fig. 1

- ⇒ Set the upper nut of Screw **1** free.  
The Leica Mini Mount is held on this side by the lower nut.
- ⇒ Set the lower nut of Screw **4** free.  
The Leica Mini Mount is held on this side by the upper nut.
- ⇒ Loosen the upper and lower nuts of Screws **2** and **6**.

⇒ Place the precision spirit level (1) vertically on Side **B** below Screw **4** at the upper segment of the Leica Mini Mount (Fig. 2).

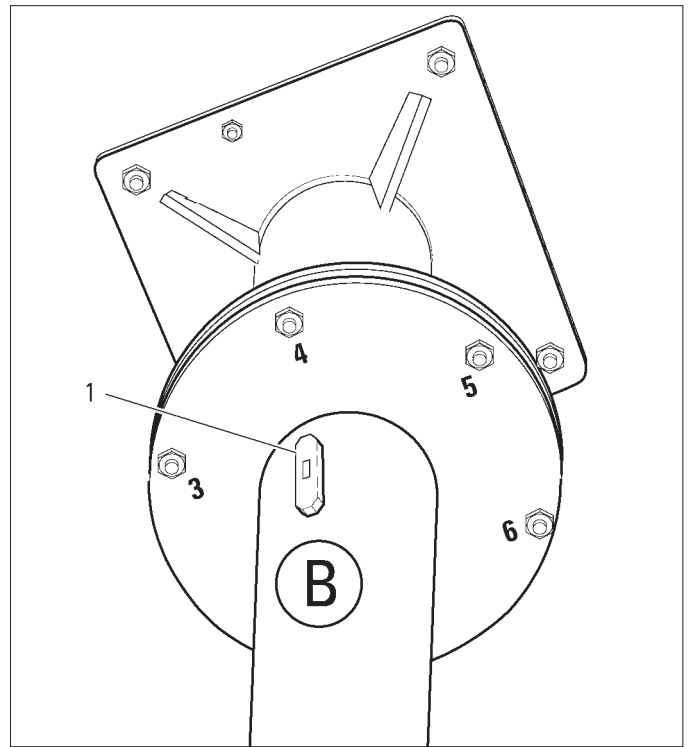


Fig. 2

- ⇒ Use the upper nut of Screw **4** to set the vertical position of the Leica Mini Mount.
- ⇒ Tighten the lower nut of Screw **4** and the upper nut of Screw **1** by hand.

- ⇒ Place the precision spirit level (1) vertically on Side **A** below Screw **2** at the upper segment of the Leica Mini Mount (Fig. 1).

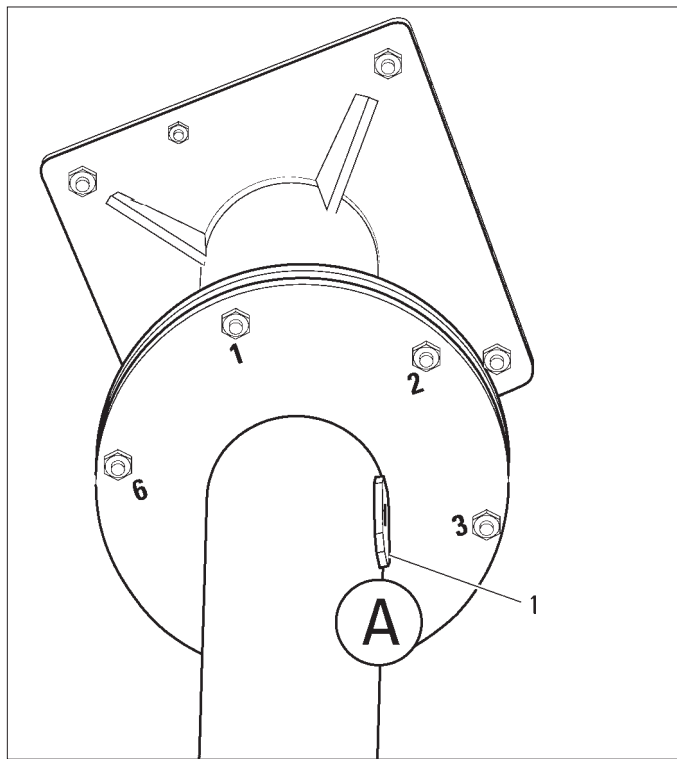


Fig. 1

- ⇒ Tighten the lower nuts of Screws **2** and **6** by hand.
- ⇒ Set the upper nuts of Screws **2** and **6** free.
- ⇒ Adjust the lower nut of Screw **2** or **6** until the Leica Mini Mount is positioned exactly vertically.
- ⇒ When the Leica Mini Mount is aligned vertically, tighten the upper nuts of Screws **2** and **6** by hand.
- ⇒ Tighten the upper nuts of Screws **1**, **2** and **6** slightly.
- ⇒ Tighten the lower nut of Screw **4** with 60 Nm torque.

## Checklist

- Are all the cables laid correctly and is no cable jammed?
- Are all the covers screwed on firmly?
- Are all the screws tightened with the specified torque?

## Disassembly

- ⇒ The Leica M620 CM18 surgical microscope is disassembled in the reverse sequence of operations to assembly.



## Starting up

### Preparatory work

- ⇒ Make sure that all parts are seated firmly.
- ⇒ Connect the Leica M620 surgical microscope to the power supply and switch on the power switch (1) (Fig. 1).
- ⇒ Balance out the swing arm (see the Leica M620 surgical microscope user manual).

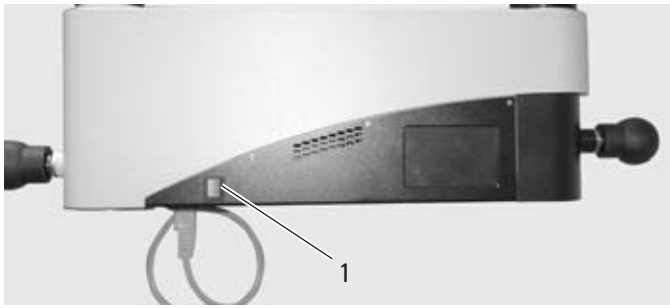


Fig. 1

### Checking components and functions

#### Zoom, focus and XY-unit (optional)

- ⇒ Press the zoom (4), focus (3) and XY-unit (2) functions at the hand-/footswitches (see the Leica M620 surgical microscope user manual) (Fig. 2).

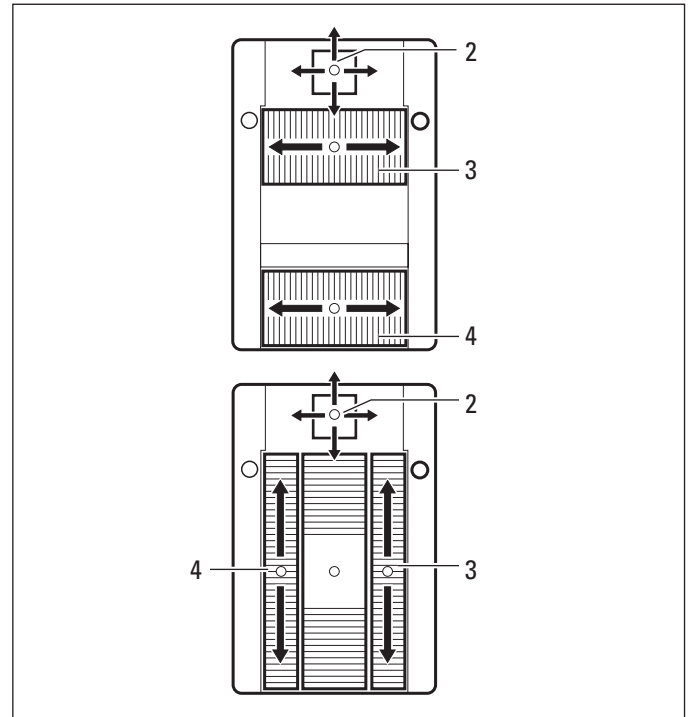


Fig. 2

- ⇒ Adjust the speed at the touch panel for focus, zoom and XY-unit (see the Leica M620 surgical microscope user manual).
- ⇒ Swap the + and – directions of movement of the XY-unit (see the Leica M620 surgical microscope user manual).

If one of the functions cannot be executed:

- ⇒ Check the hand-/footswitch connections at the control unit/lamp housing.

## Illumination

- ⇒ Adjust the brightness of the main illuminator at the touch panel (see the Leica M620 surgical microscope user manual).
- ⇒ Slide the quick-change lamp mount (1) to the other side (see the Leica M620 surgical microscope user manual) (Fig. 1).



Fig. 1

If one of the functions cannot be executed:

- ⇒ Check whether the quick-change lamp mount latches in correctly in the illumination settings.

If necessary:

- ⇒ Replace lamps.

## Checking the functions


Check the following functions in accordance with the user manual.


- ⇒ Release all the brakes of the Leica M620 surgical microscope and travel the stand through its entire range of movement.  
Result: The brakes are released, the microscope can be moved freely and without noises through its range of movement.
- ⇒ Travel through the X/Y-ranges, inclination ranges and focus ranges by means of the hand/footswitches.  
Result: Smooth, even low-noise movement across the entire range.
- ⇒ Adjust the zoom across the entire range.  
Result: Whole range can be set, no disturbing noises.
- ⇒ Switch on the illumination and test it across the entire brightness range.  
Result: Both illuminators function and can be regulated.
- ⇒ Swing the unit to the uppermost position.  
Result: The illumination switches off. All the drives travel to their reset positions.

No error messages may occur on the touch panel during the starting-up process.

If it does, contact your Leica service workshop.

## Technical data

 If the ceiling does not clearly satisfy the minimum requirements made of it, it is essential to call in an authorized specialist to assess the loading capacity of the ceiling.

 If the ceiling does not in fact satisfy the minimum requirement, Leica must be consulted.

### Requirements applicable to the ceiling

|  |                               |
|--|-------------------------------|
| Imposed load:                                    | Minimum 600 kg/m <sup>2</sup> |
| Concrete load-bearing capacity to DIN 1045/2001: | C20/25                        |
| Concrete pressure resistance:                    | 20 N/mm <sup>2</sup>          |
| Ceiling thickness:                               | 200 mm minimum                |



#### Warning

**The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries!**  
**If the ceiling does not meet these specifications, the HILTI anchor bolts may not hold.**

⇒ It is essential for you to call in an approved specialist to assess the bearing capacity of the concrete ceiling.

### Loads on the ceiling

|                   |                 |
|-------------------|-----------------|
| Weight:           | 128 kg maximum  |
| Effective torque: | 1200 Nm maximum |



#### Warning

**The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries!**  
**If additional loading is imposed, the HILTI anchor bolts may not hold.**

⇒ Do not hang anything else on to the Leica Telescope Mount.

## Overview

### Overview of Leica M620 surgical microscope system

#### with bracket

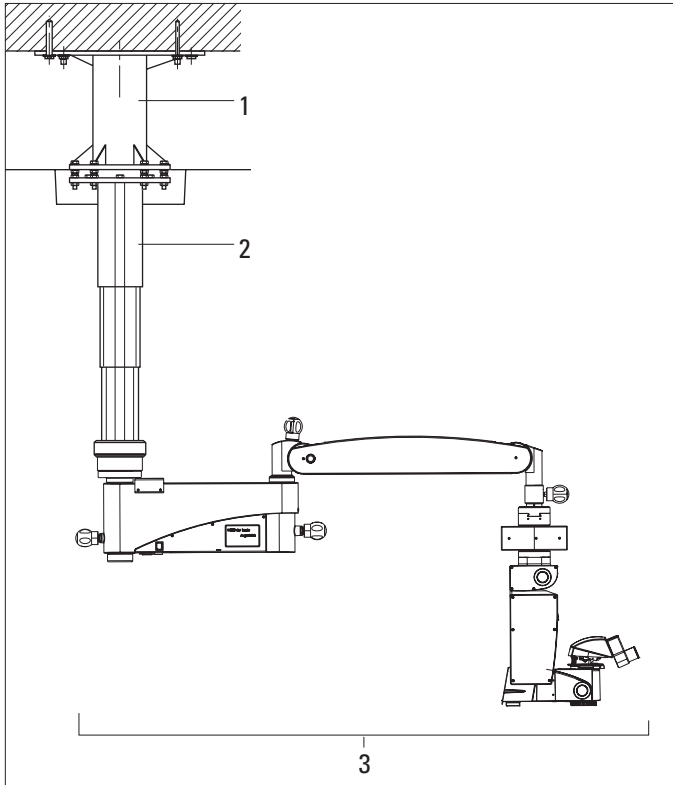


Fig. 1

- 1 Mounting bracket
- 2 Leica Telescope Mount
- 3 Leica M620 components to the Leica Telescope Mount

#### with ceiling plate

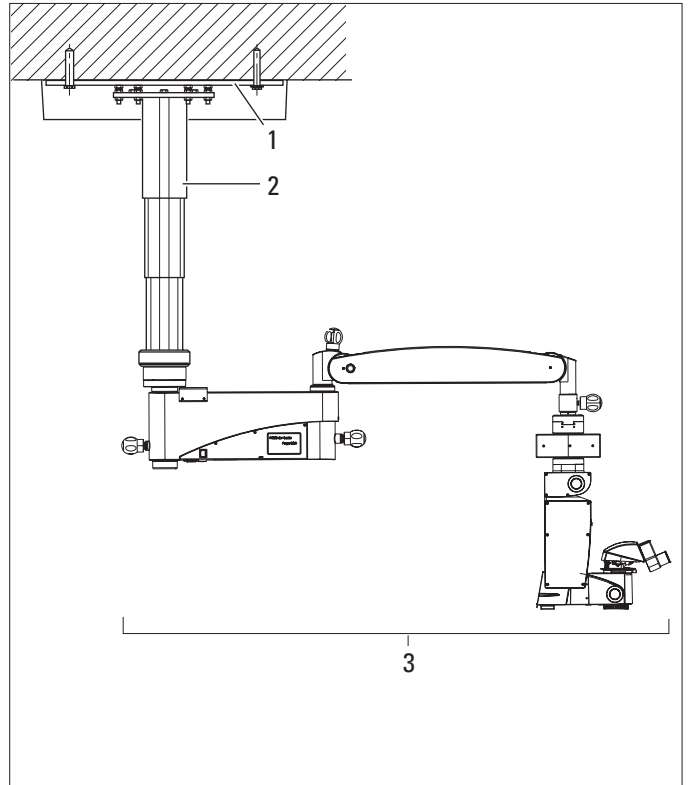


Fig. 2

- 1 Ceiling plate
- 2 Leica Telescope Mount
- 3 Leica M620 components to the Leica Telescope Mount

**The individual components (mounting bracket)**

**Mounting bracket**

- 1 Mounting bracket
- 2 HILTI anchor bolts
- 3 Screws with nuts

**Telescope Mount**

- 4 Telescope Mount
- 5 Telescope Mount – upper flange
- 6 Telescope Mount – lower flange
- 7 Ceiling mount cover

**Leica M620 components for Telescope Mount**

- 8 Horizontal arm
- 9 Swing arm
- 10 XY-unit (optional)
- 11 Tilt drive
- 12 Focus unit
- 13 Optics carrier
- 14 Handles
- 15 Lamp housing
- 16 Control unit

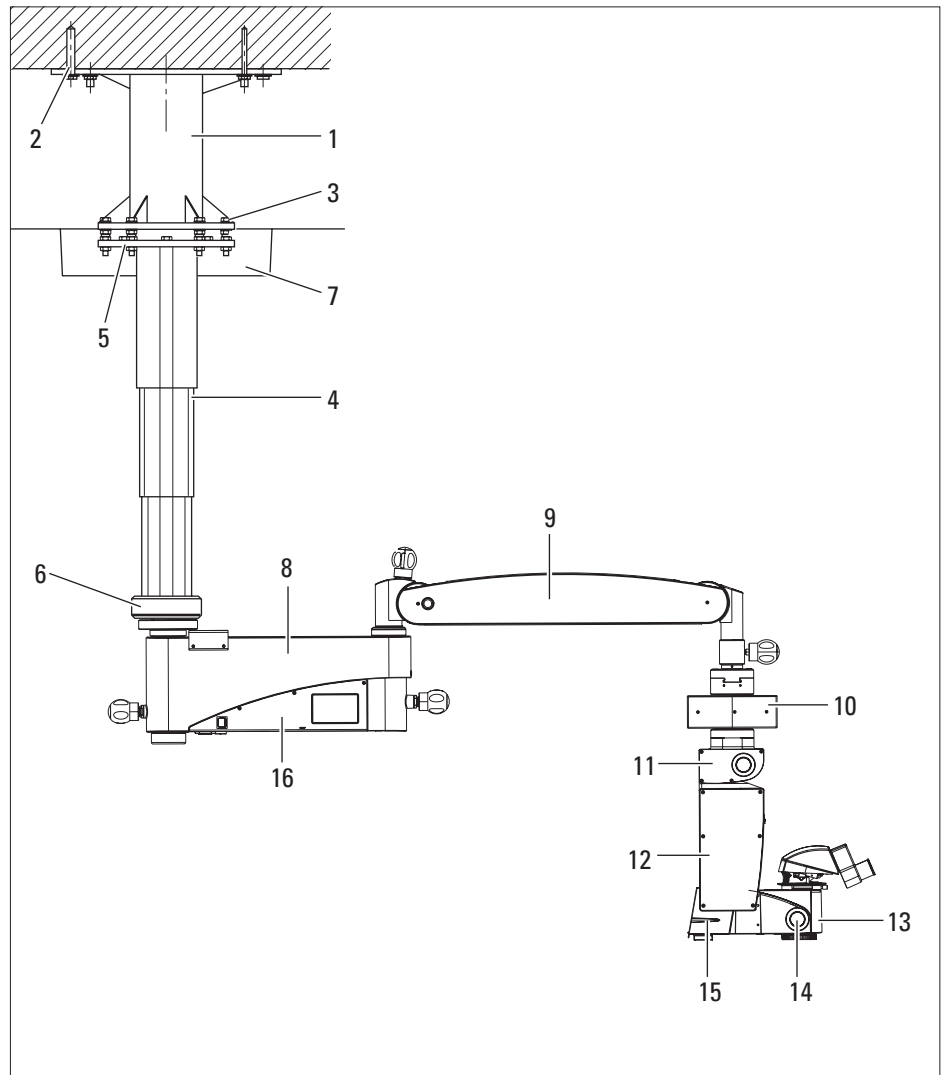


Fig. 1

### The individual components (ceiling plate)

#### Mounting bracket

- 1 Ceiling plate
- 2 HILTI anchor bolts
- 3 Screws with nuts

#### Telescope Mount

- 4 Telescope Mount
- 5 Telescope Mount – upper flange
- 6 Telescope Mount – lower flange
- 7 Ceiling mount cover

#### Leica M620 components for Telescope Mount

- 8 Horizontal arm
- 9 Swing arm
- 10 XY-unit (optional)
- 11 Tilt drive
- 12 Focus unit
- 13 Optics carrier
- 14 Handles
- 15 Lamp housing
- 16 Control unit

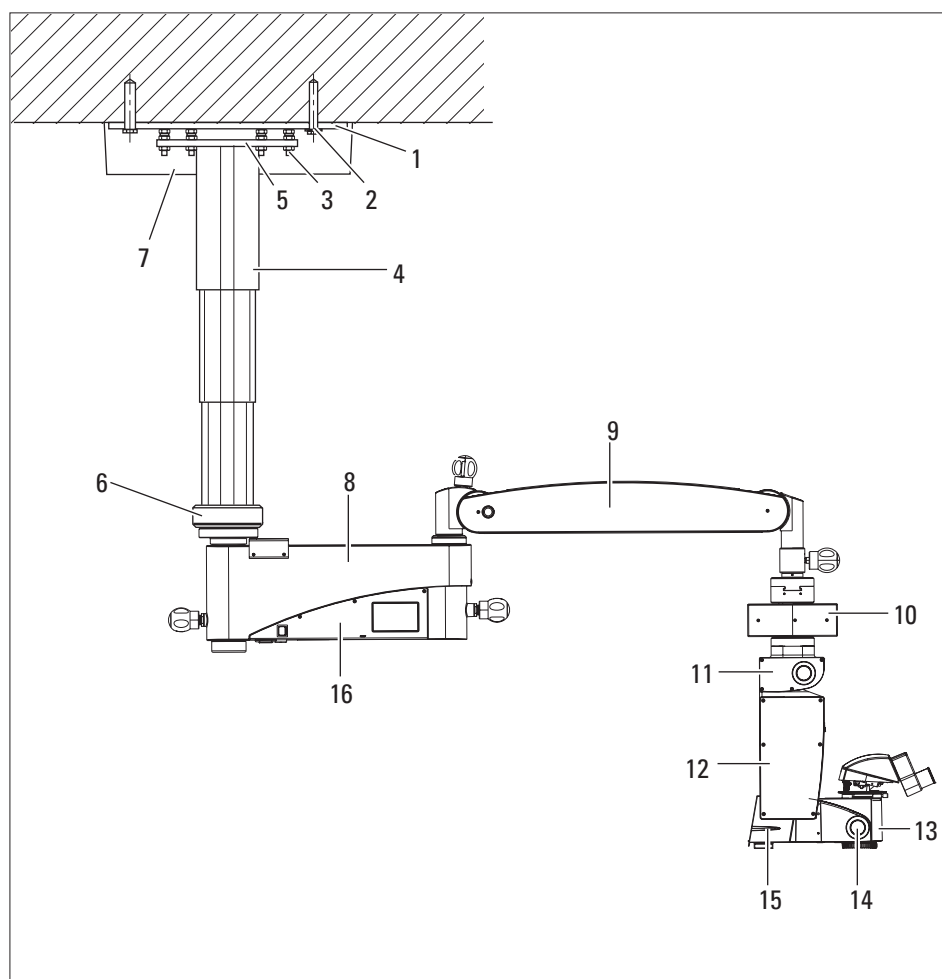


Fig. 1

**Ways of mounting on the ceiling**

**with bracket**

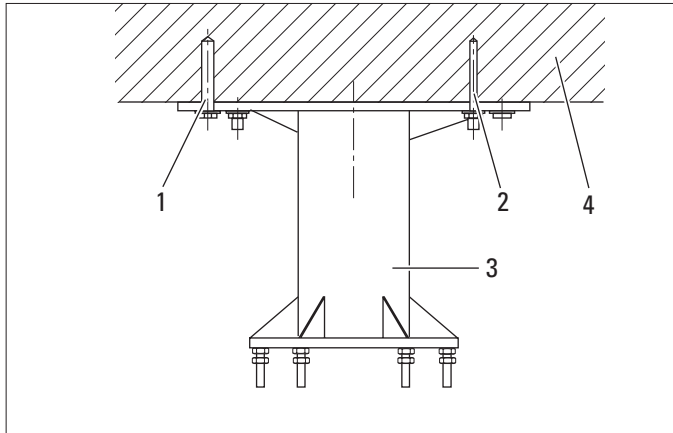


Fig. 1

- 1 HILTI anchor bolts HSL-3-B M12 x 137/25
- 2 HILTI segment anchor bolt, HSA M10 x 90
- 3 Mounting bracket
- 4 Concrete ceiling

**with ceiling plate**

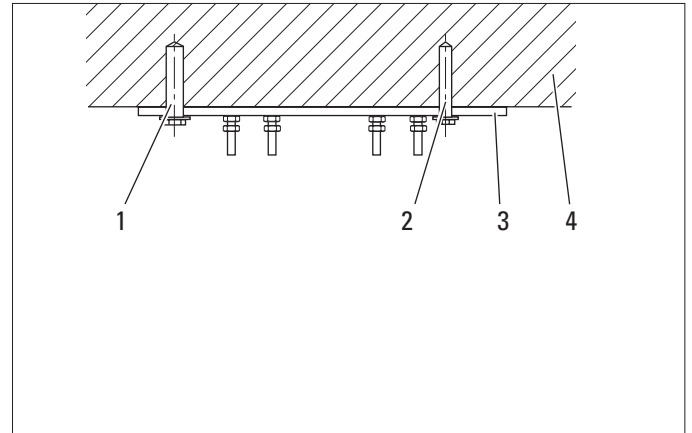





Fig. 2

- 1 HILTI anchor bolts HSL-3-B M12 x 137/25
- 2 HILTI segment anchor bolt, HSA M10 x 90
- 3 Ceiling plate
- 4 Concrete ceiling

## Preparations

 Get the following tools and materials ready before you start on installing the Leica M620 CT40 surgical microscope system.

 You will need at least 2 persons for some of the work.

 A log must be kept of assembly and installation. The acceptance certificate can be found on Page 57 of this manual.

### Accessories supplied

- Template for drawing the holes in the ceiling (10714333)
- HILTI segment anchor bolt, HSA M10 x 90
- HILTI anchor bolts HSL-3-B M12 x 137/25
- Screws and nuts
- Ceiling mount cover
- Protection hose with hose retainers and tools

### Tools



#### Caution

#### Screws or threads can be destroyed!

⇒ Set the torque wrench to the torque specified. Apply the wrench until this torque is reached (signaled by a clicking noise). Do not tighten further.

- Lift truck
- Hammer drill
- 10 mm diam. drill bit
- 18 mm diam. drill bit
- Open-ended wrench 17/24 mm
- Torque wrench 17 mm, 24 mm (min. 80 Nm)
- Hammer
- Precision spirit level
- Screwdriver for Phillips screws
- Screwdriver for slotted screws
- Bellows

### Required mounting material

- Cable ties
- Insulating tape

### Positioning of the mounting bracket/ceiling plate

⇒ Mark out the center (2) of the mounting bracket or of the ceiling plate and the alignment axis (main axis) (1) in accordance with the building plan on the ceiling (Figures 1 and 2).

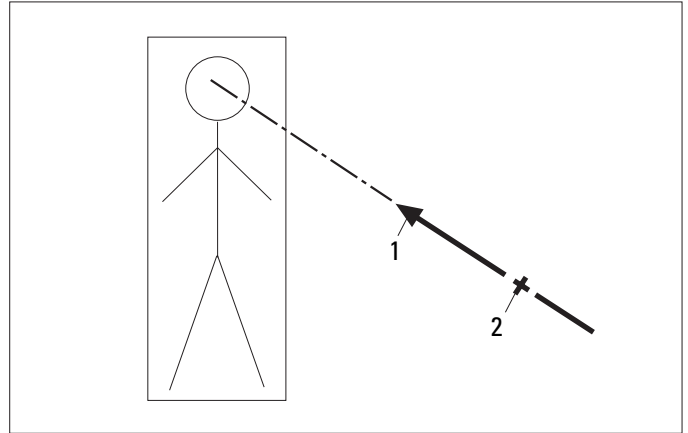


Fig. 1

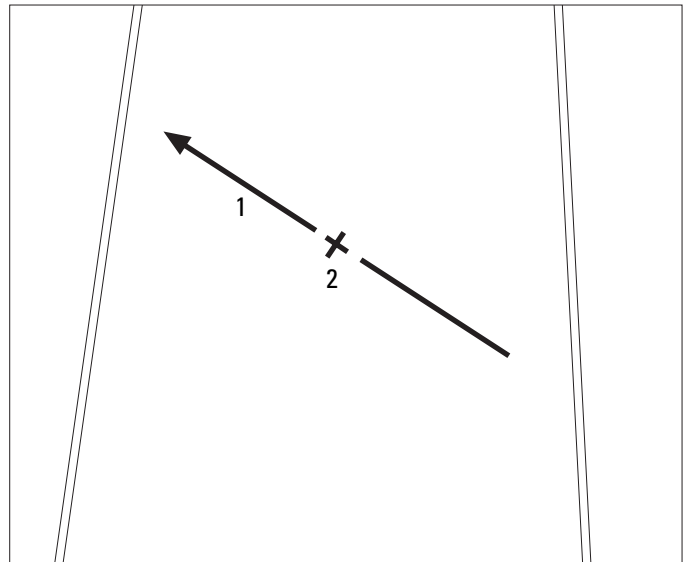


Fig. 2 (View to ceiling)



## Mounting the mounting bracket/ceiling plate

### Mounting bracket

#### Mark out the auxiliary holes

- ⇒ Place the enclosed template (1) with the drawn surface facing downwards against the ceiling on the alignment axis (2) (Fig. 1).
- ⇒ Mark out the auxiliary holes  $\triangle$  on the ceiling.

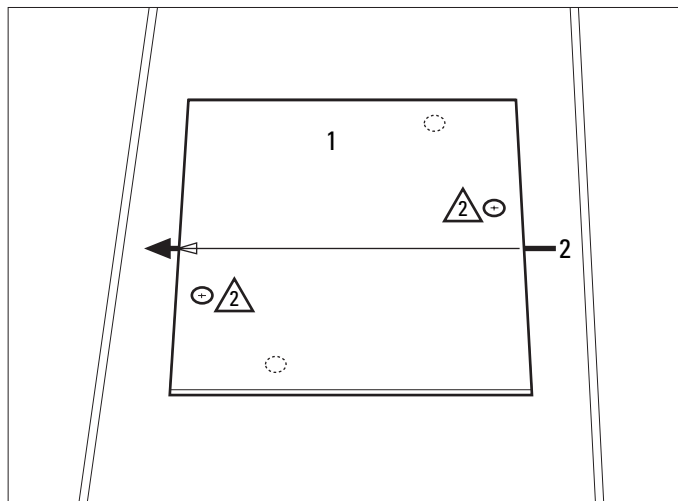


Fig. 1

#### Drill the auxiliary holes

- ⇒ Drill the auxiliary holes 10 mm diameter and 100 mm deep (Fig. 2).

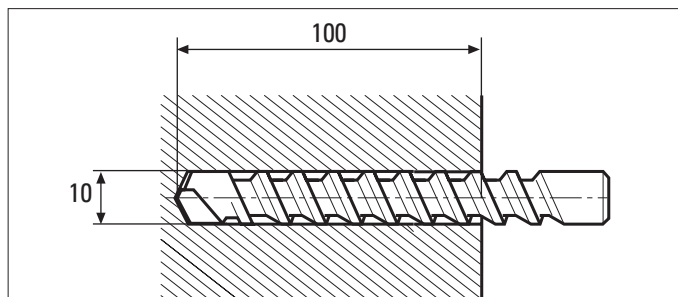


Fig. 2

- ⇒ Remove drilling debris from auxiliary holes with bellows (Fig. 3).

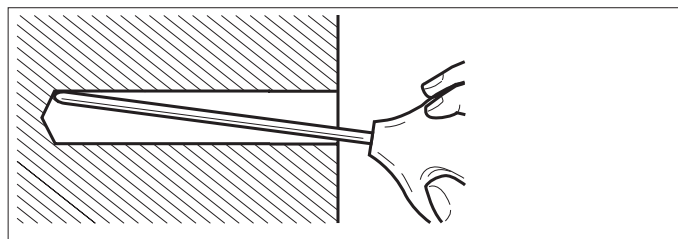


Fig. 3

### Fastening the bracket

- ⇒ Align the bracket.
- ⇒ Insert both HILTI HSA M10 x 90 segment anchor bolts through the auxiliary holes of the bracket.
- ⇒ Screw both nuts with the ends flush onto the segment anchor bolts.
- ⇒ Drive in both segment anchor bolts with light hammer blows (Fig. 4).

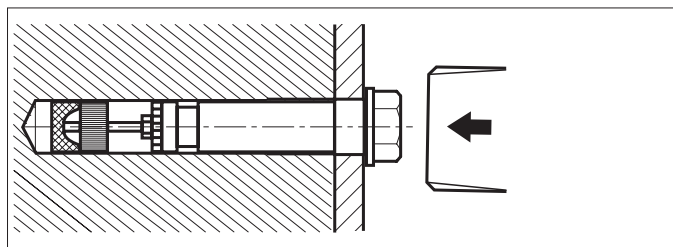


Fig. 4

- ⇒ Tighten both nuts with 30 Nm (Fig. 5).

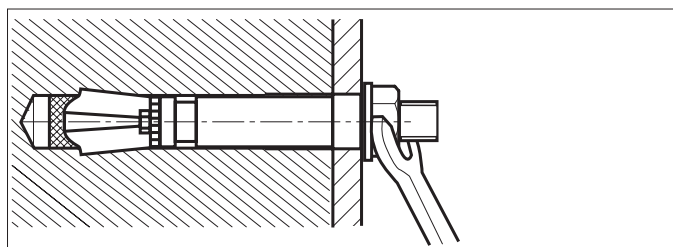


Fig. 5

### Drilling the main holes

- ⇒ The bracket serves as the template for the main holes.

- ⇒ Drill the main holes 18 mm diameter and 120 mm deep (Fig. 6).

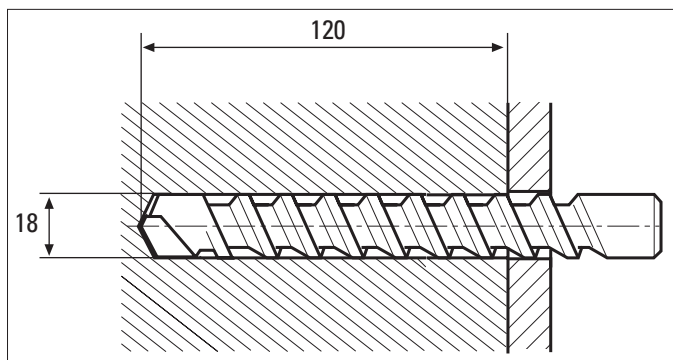


Fig. 6

⇒ Remove drilling debris from main holes with bellows (Fig. 1).

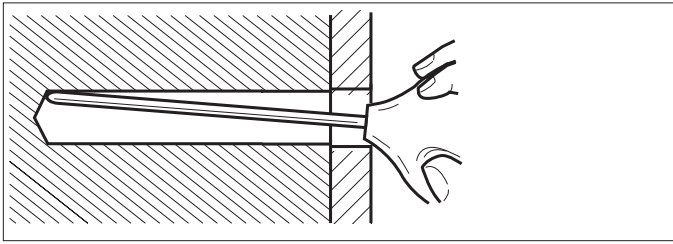


Fig. 1

### Mounting the bracket completely

The HILTI HSLB anchor bolt HSL-3-B M12 x 137/25 is a mechanically spreading instantaneously loadable steel anchor bolt with a preload that can be checked visually.

There are 3 accurately-dimensioned shear pieces in the red cap. When the correct amount of torque (min. 80 Nm) has been applied with a normal socket wrench, the red hexagonal cap shears off and reveals a green seal to indicate that the required initial torque has been reached and the anchor can now be stressed up to the permissible load.

- ⇒ Insert the HILTI anchor bolts through the main holes of the bracket.
- ⇒ Screw the nuts with the ends flush onto the anchor bolts.
- ⇒ Drive the anchor bolts into the main holes with light hammer blows until they are flush with the plate (Fig. 2).

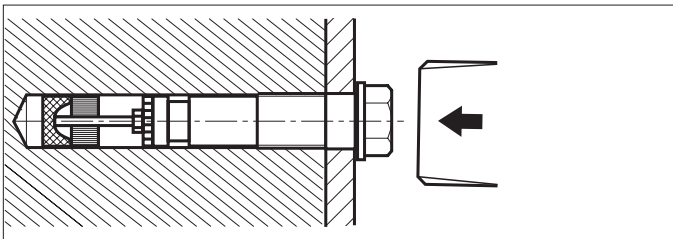



Fig. 2

 The anchor bolt shears suddenly!

- ⇒ Tighten with socket wrench until red shear cap is sheared off.
- The anchor is now tightened with the required amount of torque (Fig. 3).

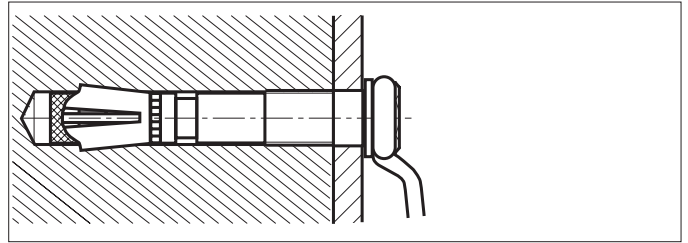


Fig. 3



### Warning

**The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries!**

- ⇒ Consult the HILTI representative if the green seal (1) of the anchor bolt is damaged (Fig. 4).

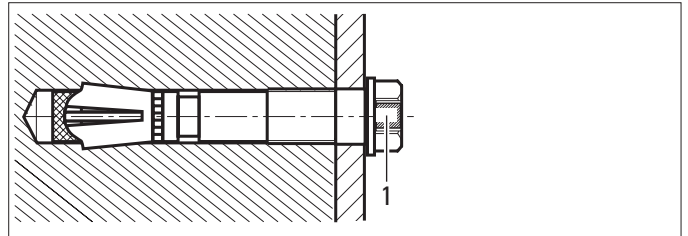



Fig. 4

### Preparing the bracket for further mounting

 All the washers or cup strings have to be removed and may not be used!

⇒ Screw the upper 6 nuts M12 (1) onto the threaded rods until the defined distance of 35 mm between the lower edge of the bracket and the lower edge of the nuts is reached (Fig. 1).

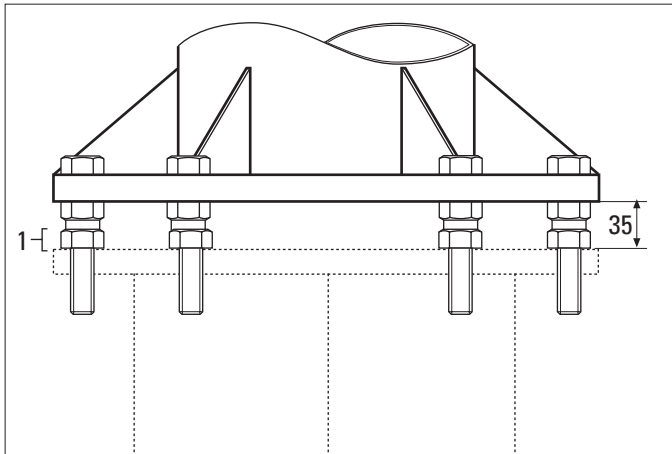



Fig. 1

 In order to facilitate mounting of the Telescope Mount, the fastening screws on the bottom of the lower bracket flange (2) should be numbered. The number 1 must point in the direction of the main axis (3), the number 4 lies directly opposite (Fig. 2).

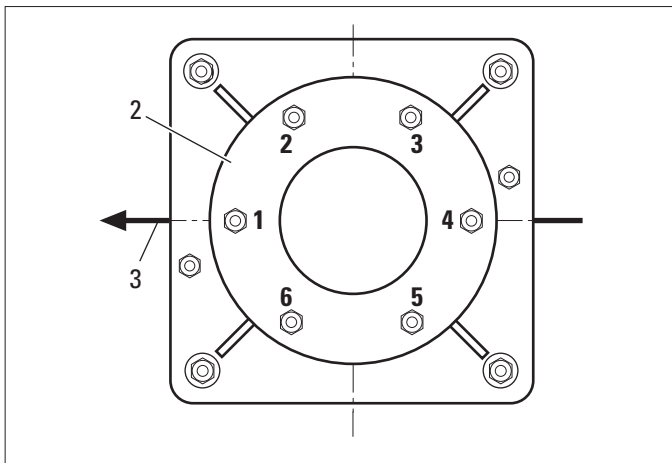


Fig. 2 (View to ceiling)

## Ceiling plate

### Mark out the auxiliary holes

- ⇒ Place the enclosed template (1) with the drawn surface facing downwards against the ceiling on the alignment axis (2) (Fig. 1).
- ⇒ Mark out the auxiliary holes  $\triangle$  on the ceiling.

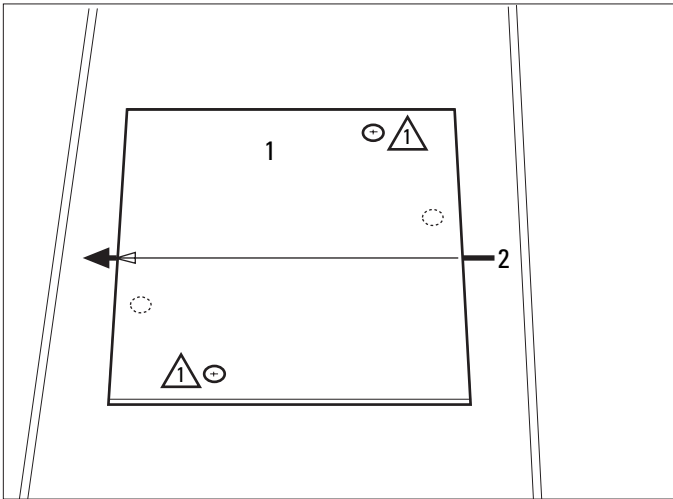


Fig. 1

### Drill the auxiliary holes

- ⇒ Drill the auxiliary holes 10 mm diameter and 100 mm deep (Fig. 2).

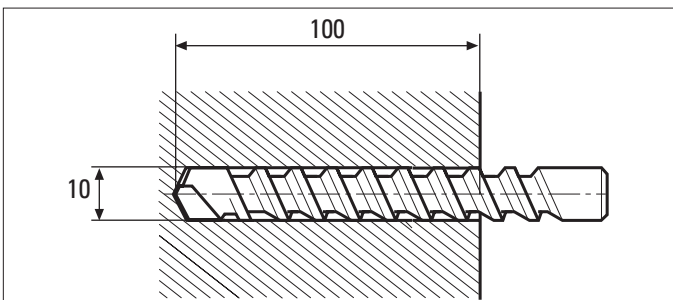


Fig. 2

- ⇒ Remove drilling debris from auxiliary holes with bellows (Fig. 3).

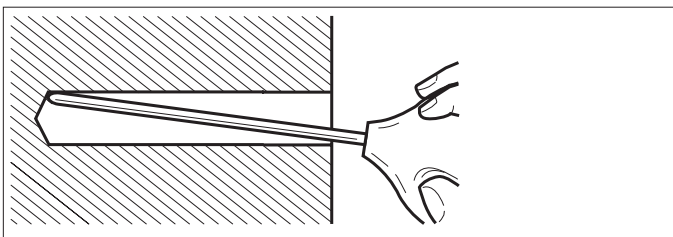


Fig. 3

### Fastening the ceiling plate

- ⇒ Align the ceiling plate.
- ⇒ Insert both HILTI HSA M10 x 90 segment anchor bolts through the auxiliary holes of the ceiling plate.
- ⇒ Screw both nuts with the ends flush onto the segment anchor bolts.
- ⇒ Drive in both segment anchor bolts with light hammer blows (Fig. 4).

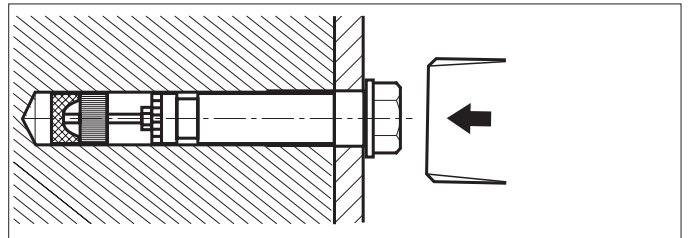


Fig. 4

- ⇒ Tighten both nuts with 30 Nm (Fig. 5).

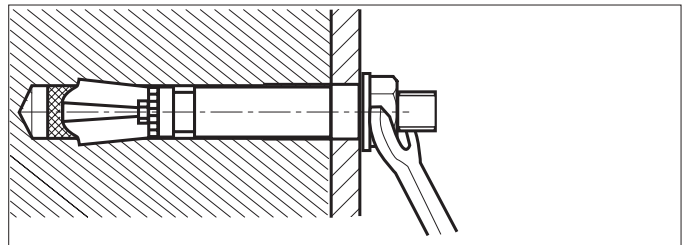



Fig. 5

### Drilling the main holes

 The ceiling plate serves as the template for the main holes.

⇒ Drill the main holes 18 mm diameter and 120 mm deep (Fig. 1).

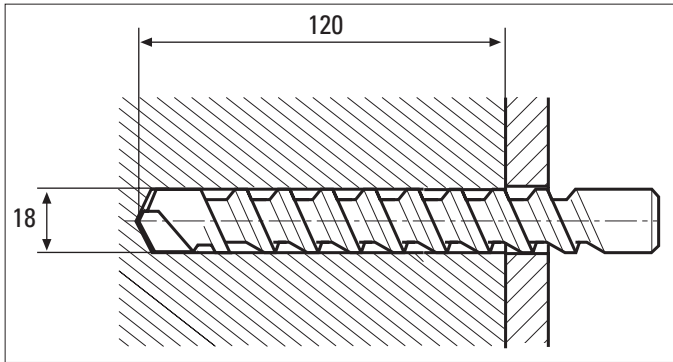


Fig. 1

⇒ Remove drilling debris from main holes with bellows (Fig. 2).

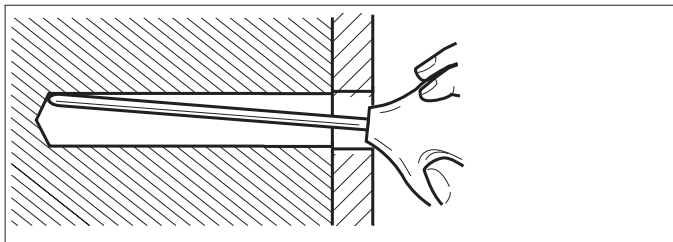



Fig. 2

### Completing mounting of the ceiling plate

 The HILTI HSLB anchor bolt HSL-3-B M12 x 137/25 is a mechanically spreading instantaneously loadable steel anchor bolt with a preload that can be checked visually. There are 3 accurately-dimensioned shear pieces in the red cap. When the correct amount of torque (min. 80 Nm) has been applied with a normal socket wrench, the red hexagonal cap shears off and reveals a green seal to indicate that the required initial torque has been reached and the anchor can now be stressed up to the permissible load.

- ⇒ Insert the four HILTI anchor bolts through the main holes of the ceiling plate.
- ⇒ Screw the four nuts with the ends flush onto the anchor bolts.
- ⇒ Drive the anchor bolts into the main holes with light hammer blows until they are flush with the plate (Fig. 3).

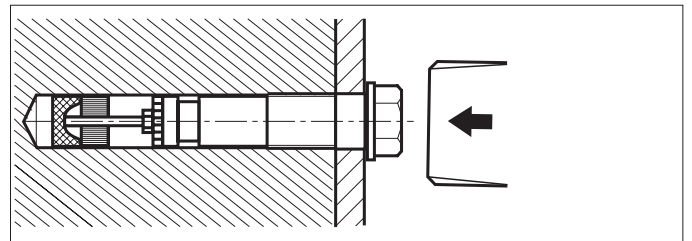



Fig. 3

 The anchor bolt shears suddenly!

⇒ Tighten with socket wrench until red shear cap is sheared off.  
The anchor is now tightened with the required amount of torque (Fig. 1).

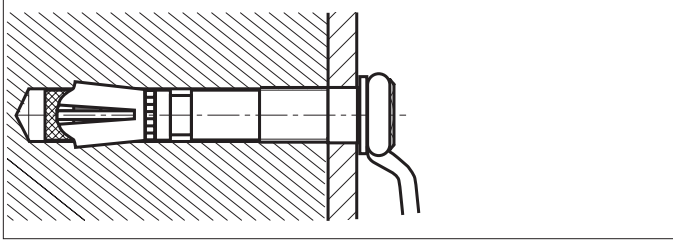



Fig. 1

 **Warning**  
**The Leica Telescope Mount can become detached from the ceiling and can cause serious injuries!**  
⇒ Consult the HILTI representative if the green seal (1) of the anchor bolt is damaged. (Fig. 2)

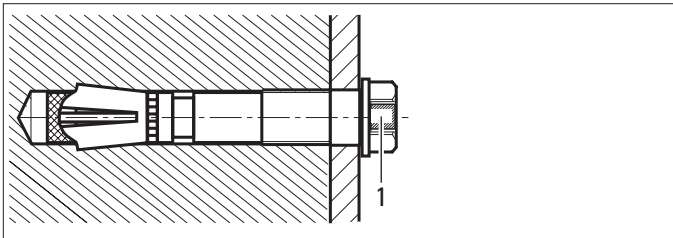



Fig. 2

### Preparing the ceiling plate for further mounting

 All the washers or cup strings have to be removed and may not be used!

⇒ Screw the upper 6 nuts M12 (2) onto the threaded rods until the defined distance of 35 mm between the lower edge of the bracket and the lower edge of the nuts is reached.

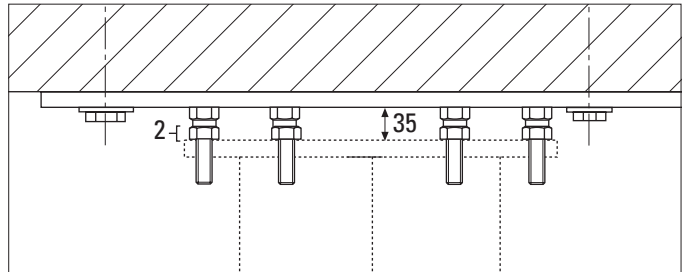



Fig. 3

 In order to facilitate mounting of the Telescope Mount, the fastening screws on the bottom of the ceiling plate flange (3) should be numbered. The number 1 must point in the direction of the main axis (4), the number 4 lies directly opposite (Fig. 4).

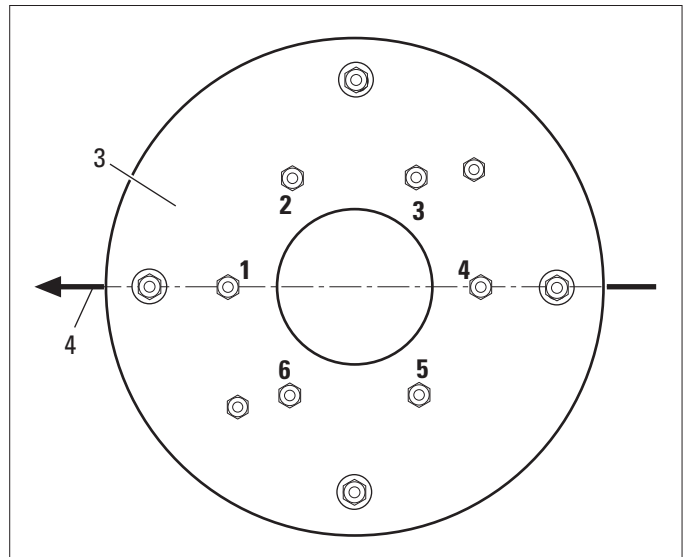


Fig. 4

## Mounting the Telescope Mount to the bracket/ceiling plate

### Preparation



 The stop part (Fig. 1) which is attached to the Telescope Mount, is not required for the Leica M620 CT18. The appropriate stop is already mounted on the horizontal arm of the Leica M620 CT18.



Fig. 1

### Alignment to the main axis

 In order to facilitate mounting of the Telescope Mount, the screw holes on the upper flange of the Telescope Mount should be numbered. The number 1 (1) is positioned above the red triangle (2) on the lower flange of the Telescope Mount (Fig. 2), the number 4 (3) above the connection (4) of the remote control at the lower flange (Fig. 3).

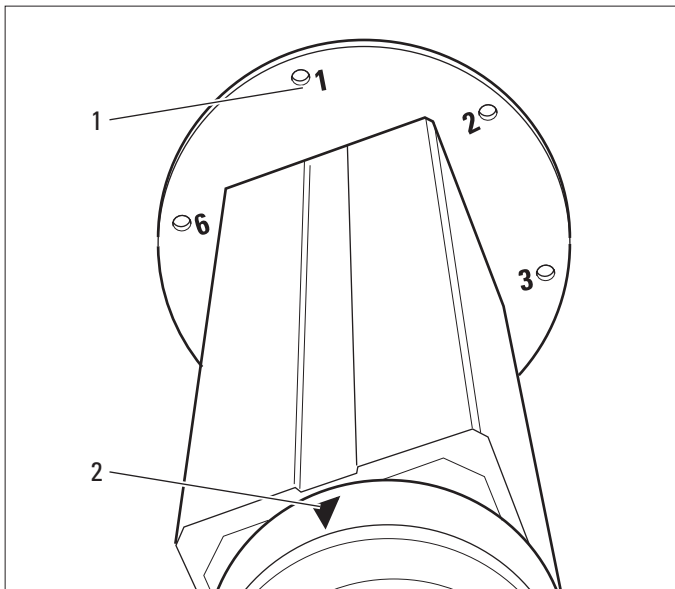


Fig. 2

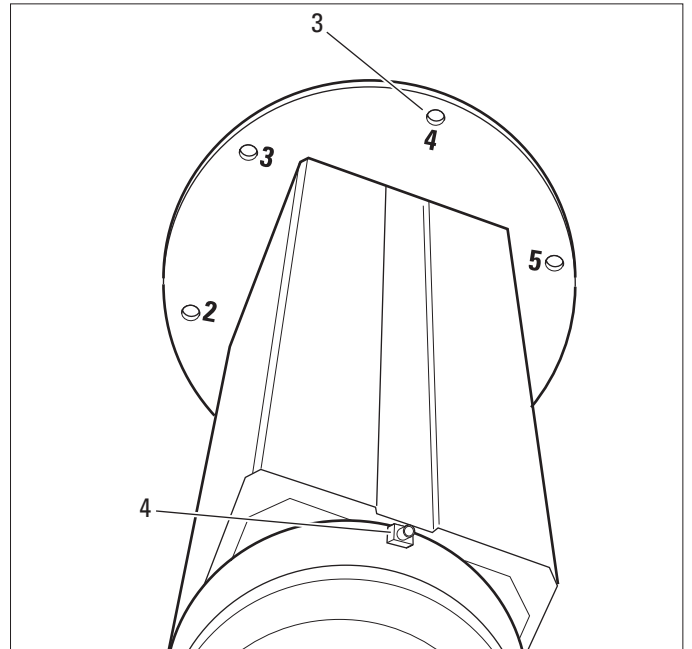


Fig. 3

### Mounting the Telescope Mount

⇒ Travel the Telescope Mount (7) to the ceiling and fasten it makeshift to the bracket/ceiling plate (5) by means of 6 M12 nuts (6) (Fig. 4).

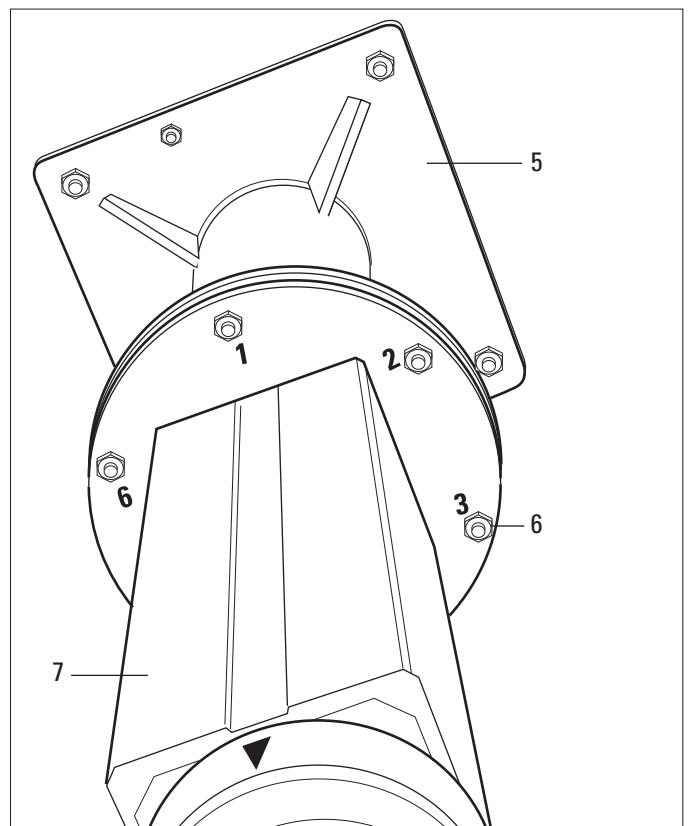


Fig. 4,

### Preparing the horizontal arm



#### Warning

#### Risk of death from electrical shock!

⇒ The electrical connections may only be carried out by a trained electrician.

⇒ Tie together the conductors of the cable that hangs out of the Telescope Mount (Fig. 1).



Fig. 1

⇒ Lift up the horizontal arm and thread the power cable (1) through the horizontal arm (Fig. 2).

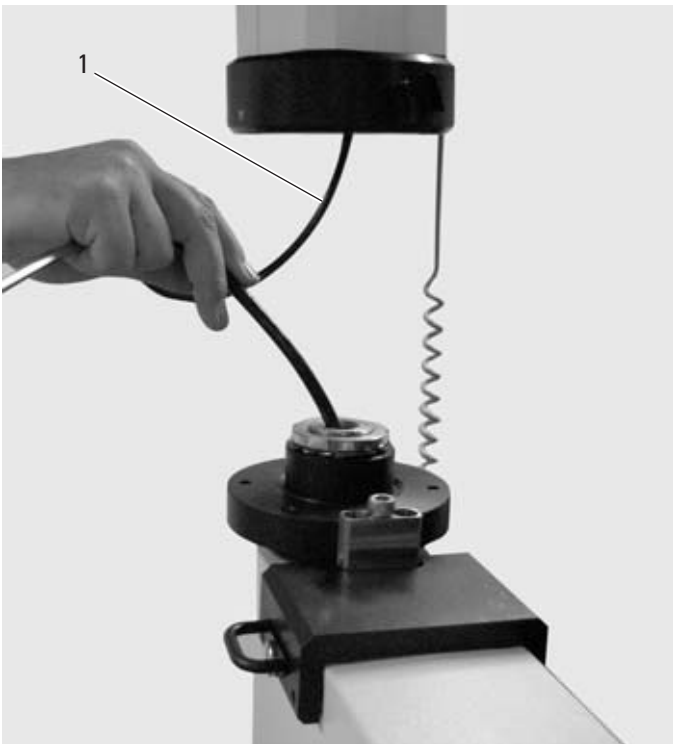


Fig. 2

### Fastening the horizontal arm



#### Caution

#### Screws can loosen!

⇒ When mounting the horizontal arm only use the supplied screws pretreated with Loctite.

⇒ Screw the horizontal arm (3) using 6 screws M6 (2) to the Telescope Mount with 10 Nm torque (Fig. 3).

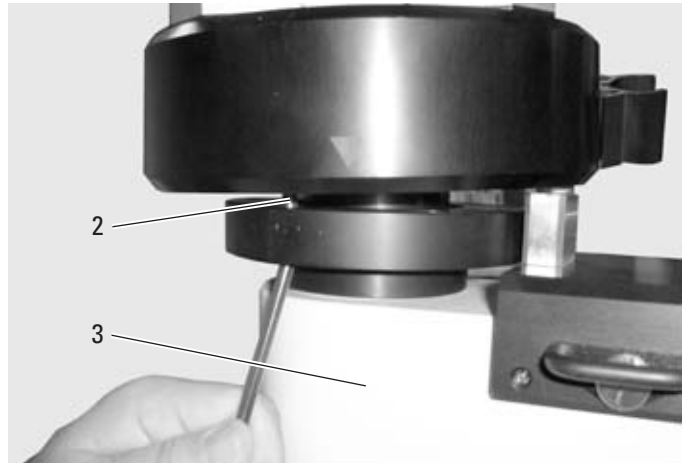


Fig. 3

⇒ Remove the adhesive tape from the conductors of the power cable and connect the power cable to the power plug (Fig. 4).

- Neutral conductor (4)
- Protective earth (5)
- Phase (6)

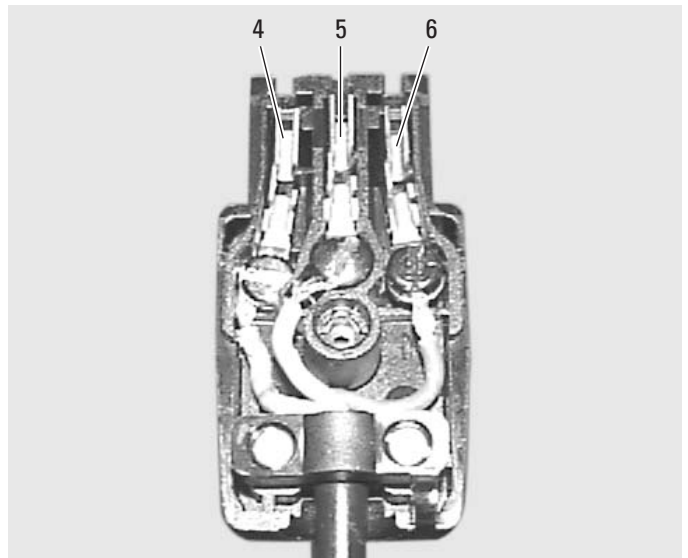


Fig. 4


⇒ Mount the tilt drive (see Page 9).

⇒ Mount the XY-unit (optional) and tilt drive, see Page 10.

⇒ For cabling see Page 11.



## Aligning the Telescope Mount

 The Leica M620 surgical microscope system must be fitted with all of its fittings and given the maximum loading. Do not change this loading during the course of alignment.

### Setting the Telescope Mount free of drifting

⇒ Extend the entire system, align it in the main direction (1) and bring it into the horizontal position (Fig. 1).

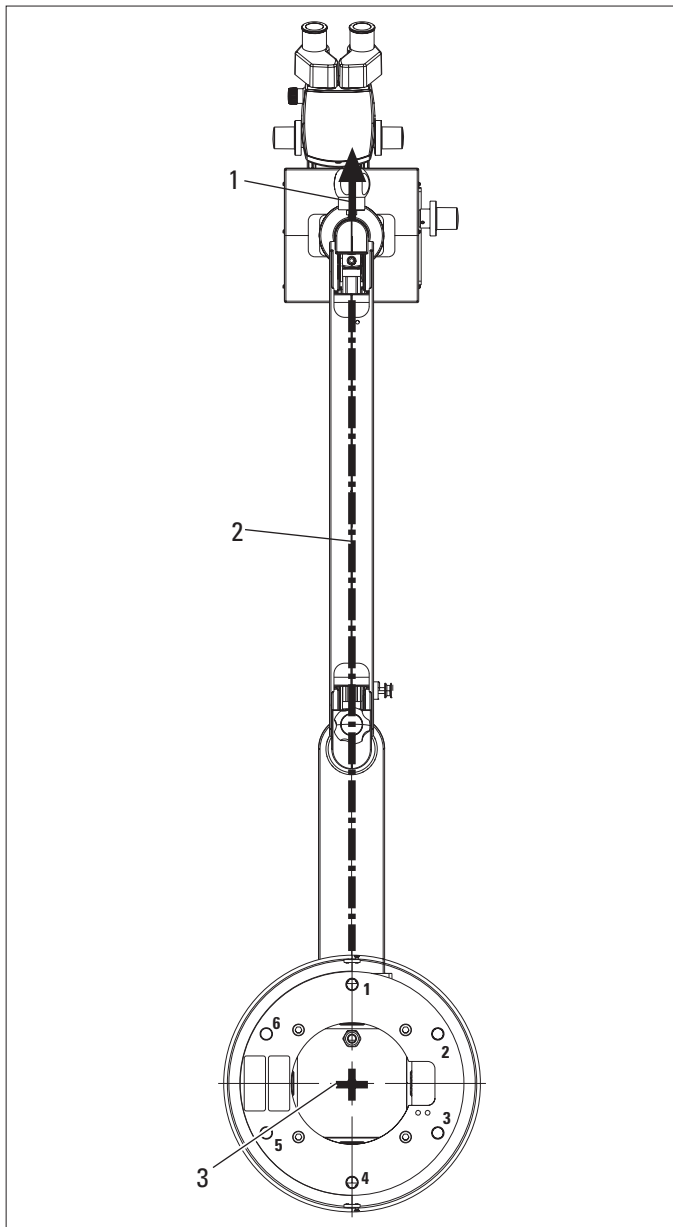



Fig. 1

- 1 Main direction
- 2 Main axis
- 3 Centre bracket/ceiling plate and Leica Telescope Mount

 The upper and lower nuts of Screws 3 and 5 can be loosened and set free. They are not required while setting the drift (Fig. 2).

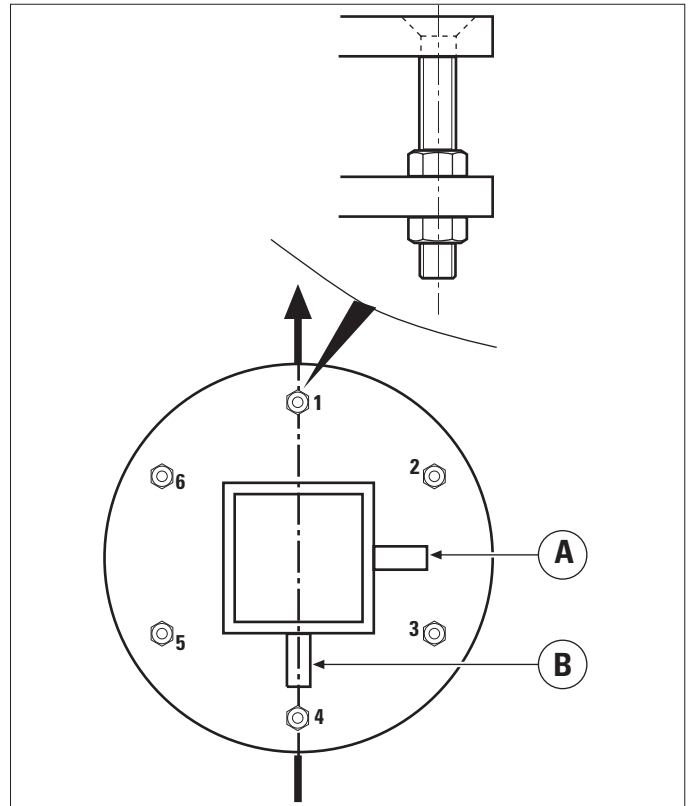


Fig. 2

- ⇒ Set the upper nut of Screw 1 free.  
The Telescope Mount is held on this side by the lower nut.
- ⇒ Set the lower nut of Screw 4 free.  
The Telescope Mount is held on this side by the upper nut.
- ⇒ Loosen the upper and lower nuts of Screws 2 and 6.

- ⇒ Place the precision spirit level (1) vertically on Side **B** below Screw 4 at the upper segment of the Telescope Mount (Fig. 1).

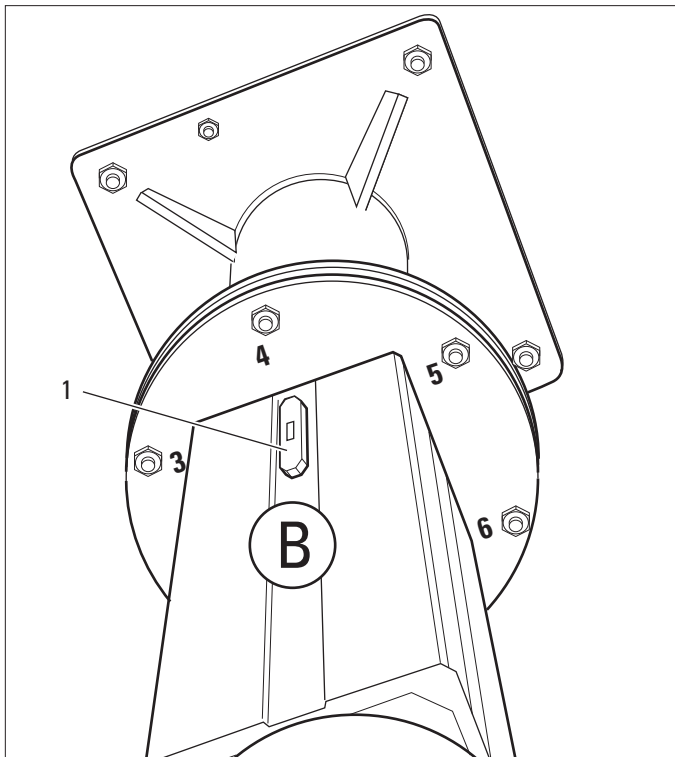


Fig. 1

- ⇒ Use the upper nut of Screw 4 to set the vertical position of the Telescope Mount.
- ⇒ Tighten the lower nut of Screw 4 and the upper nut of Screw 1 by hand.

- ⇒ Place the precision spirit level (1) vertically on Side **A** below Screw 2 at the upper segment of the Telescope Mount (Fig. 2).

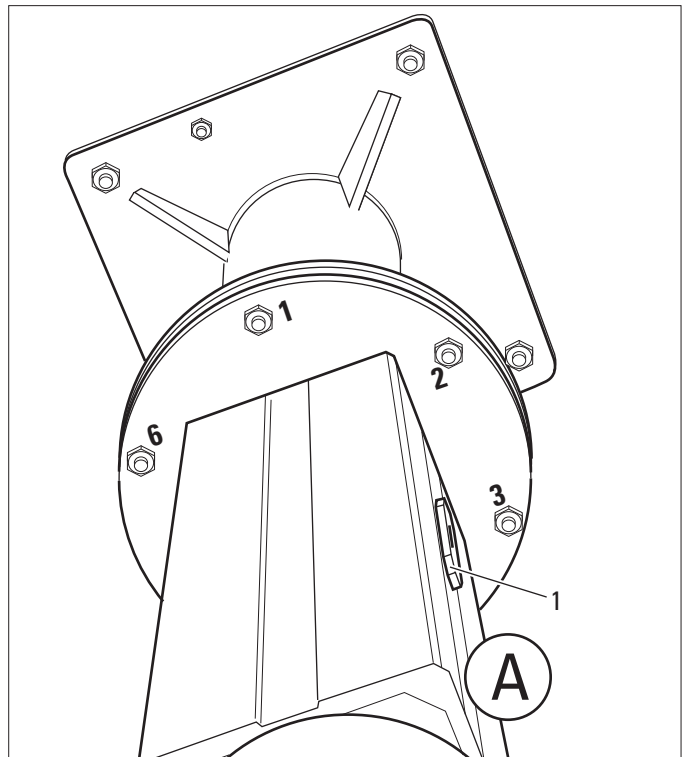


Fig. 2

- ⇒ Tighten the lower nuts of Screws 2 and 6 by hand.
- ⇒ Set the upper nuts of Screws 2 and 6 free.
- ⇒ Adjust the lower nut of Screw 2 or 6 until the Telescope Mount is positioned exactly vertically.
- ⇒ When the Telescope Mount is aligned vertically, tighten the upper nuts of Screws 2 and 6 by hand.
- ⇒ Tighten the upper nuts of Screws 1, 2 and 6 slightly.
- ⇒ Tighten the lower nut of Screw 4 with 60 Nm torque.

- ⇒ Turn the horizontal arm in the direction of Screw **4** until it stops.
- ⇒ Position the swing arm with the microscope as far as possible behind Screw **4** (Fig. 1).

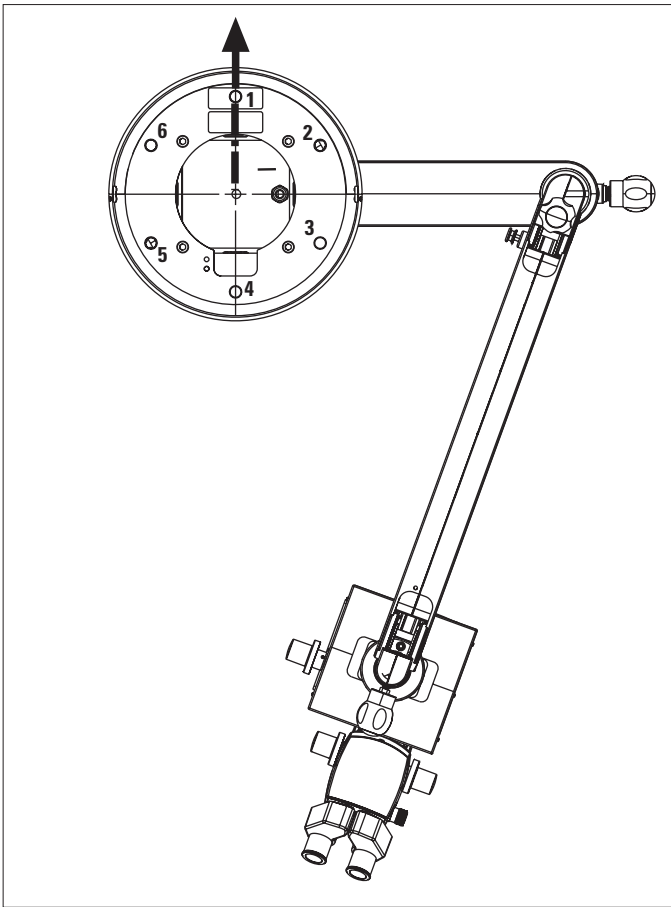


Fig. 1 (View from above)

- ⇒ Tighten the lower nut of Screw **1** with 60 Nm torque.
- ⇒ Tighten the lower and upper nuts of Screws **3** and **5** by hand.
- ⇒ Tighten the upper nuts of Screws **3** and **5** slightly.
- ⇒ Position the swing arm with the microscope as far as possible behind Screw **3** (Fig. 1).
- ⇒ Tighten the lower nut of Screw **6** with 60 Nm torque.

- ⇒ Position the swing arm with the microscope as far as possible behind Screw **5** (Fig. 2).

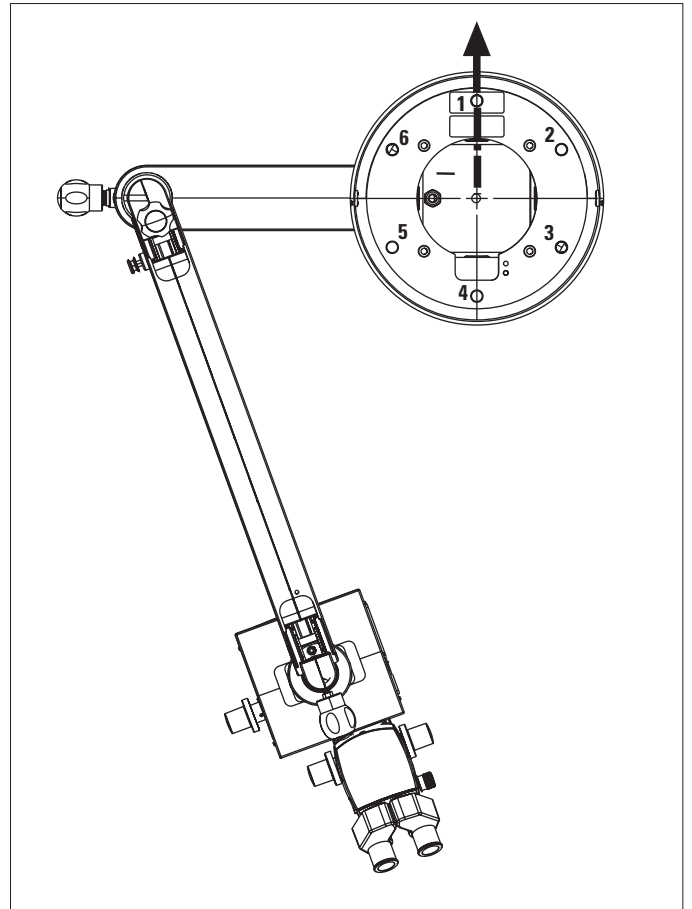


Fig. 2 (View from above)

- ⇒ Tighten the lower nut of Screw **2** with 60 Nm torque.

⇒ Position the entire system extended in the direction of Screw 2 (Fig. 1).

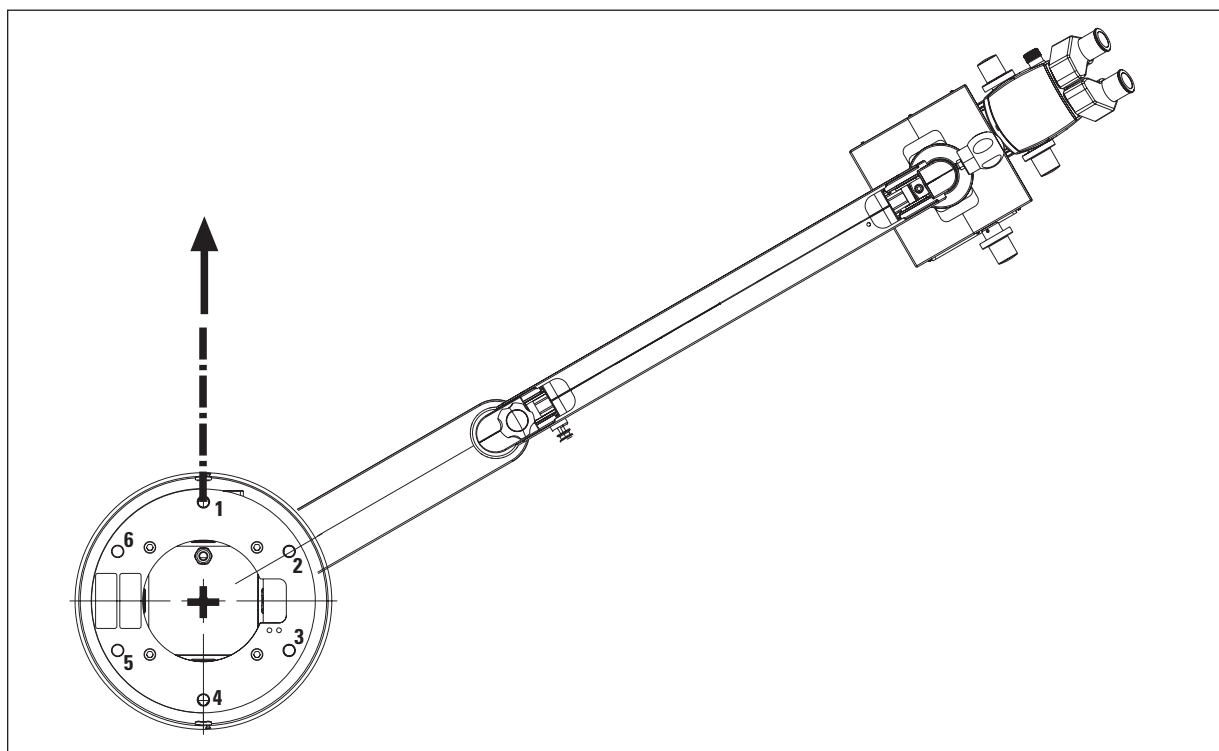


Fig. 1

⇒ Tighten the lower nut of Screw 5 with 60 Nm.

⇒ Position the entire system extended in the direction of Screw 6 (Fig. 2).

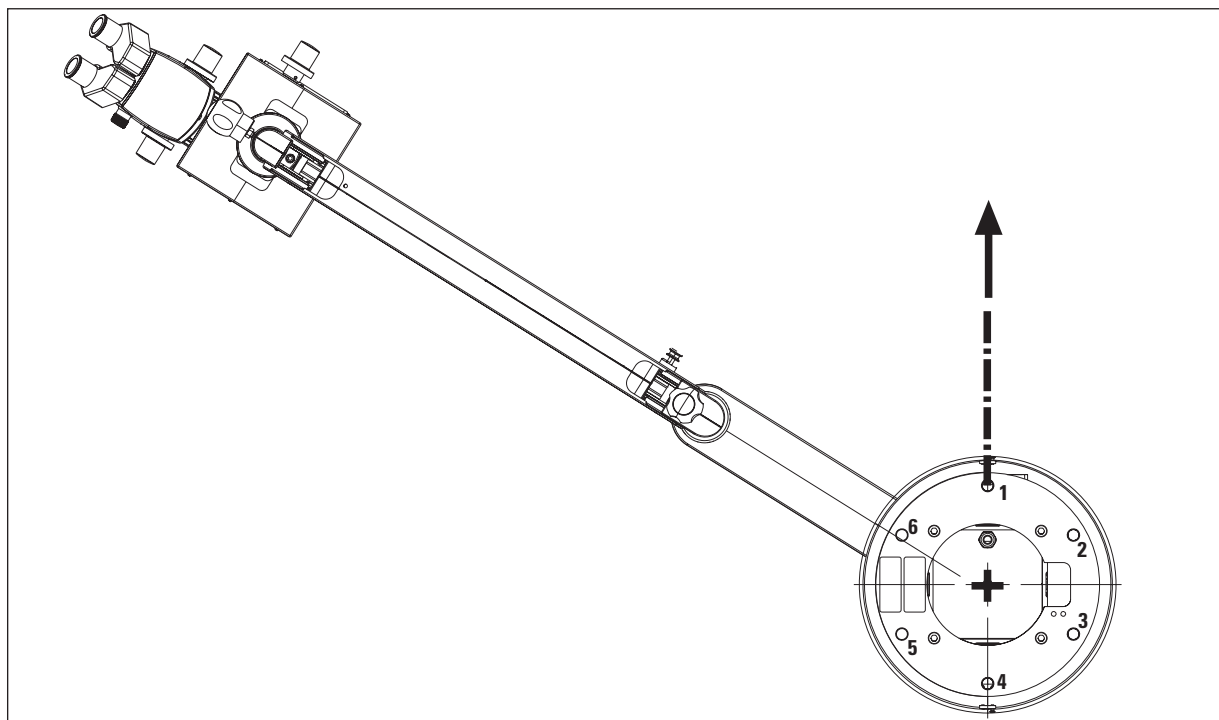


Fig. 2

⇒ Tighten the lower nut of Screw 3 with 60 Nm.

## Final assembly

### Mounting the video cable protection hose

The video cable is inserted through the enclosed protection hose.



#### Caution

#### Possible damage to the Leica Telescope Mount!

⇒ Only use the enclosed screws M3 x 5 to fasten the hose retainer.



Mount 3 hose retainers at a Leica Telescope Mount without extension and 4 hose retainers at a Leica Telescope Mount with extension.

⇒ Mount the hose retainers with M3 x 5 screws at the Telescope Mount.  
For positions see Fig. 1.

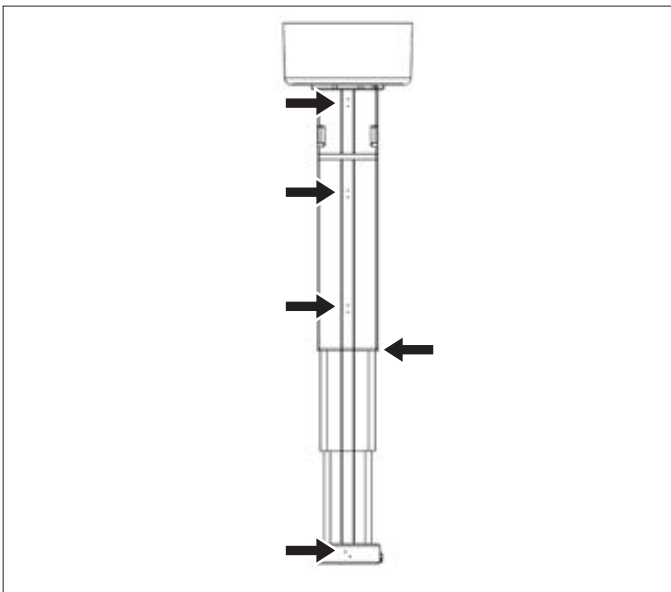


Fig. 1

⇒ Cut the supplied protection hose to 130 cm (without extension). If an extension is used, extend the hose length correspondingly.

⇒ Lay the video cable into the special tool for sheathing (Fig. 2).

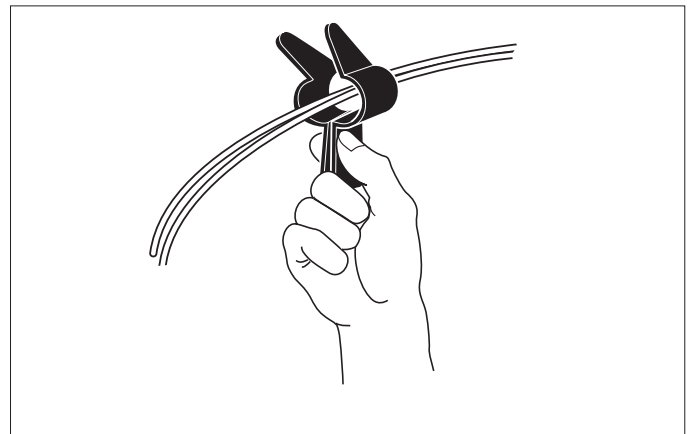


Fig. 2

⇒ Put the protection hose onto the special tool (Fig. 3).

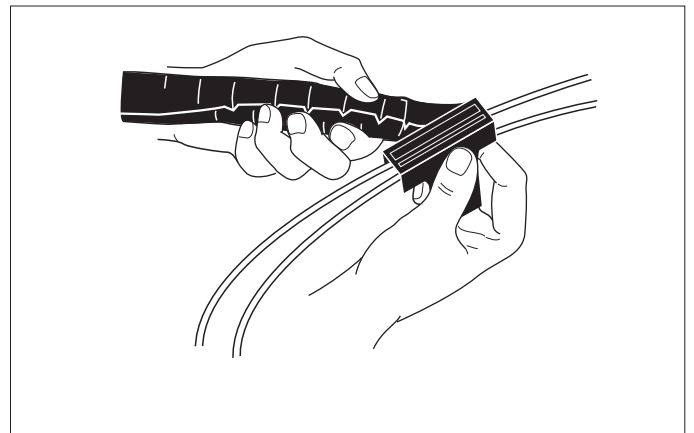


Fig. 3

⇒ Draw the special tool over the video cable, thus pulling the protection hose over the video cable (Fig. 4).

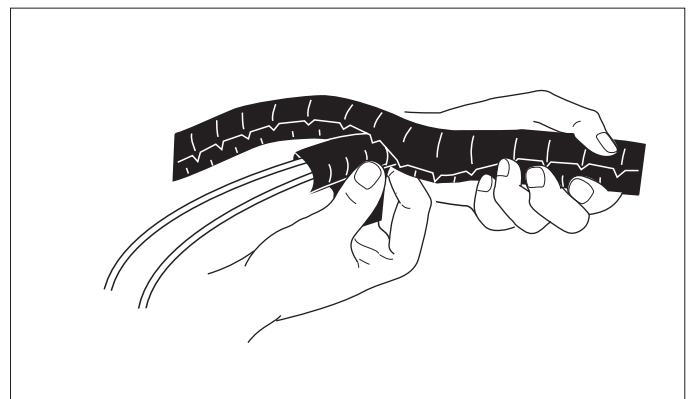


Fig. 4

⇒ Secure the protection hose against being moved with a cable tie at the upper end.

### Mounting the ceiling cover with the clamping strip

- ⇒ Screw the 3 parts of the clamping strip (all without projection) together slightly by hand.

### Mounting without video cable

- ⇒ Align the clamping strip (1) so that the projection (3) of the 4th clamping strip covers the recess in the ceiling cover (4) (Fig. 1).
- ⇒ Apply the 4 edge covers (2).

- ⇒ Fasten the clamping strip at the 4th part of the clamping strip over the upper protection hose retainer around the Telescope Mount by hand.
- ⇒ Place both cover halves of the ceiling cover around the Telescope Mount and screw them together so that the recess is positioned on the side of the protective hose retainer holes.
- ⇒ Slide the clamping strips with the ceiling cover flush with the ceiling.
- ⇒ Screw the clamping strips tight.

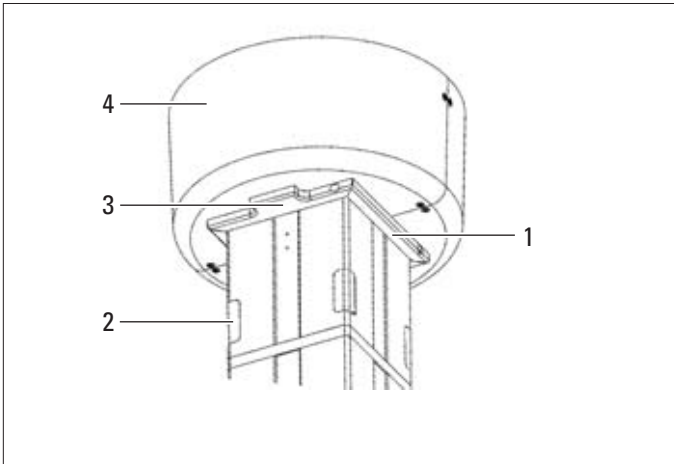


Fig. 1

### Mounting with video cable

- ⇒ Align the clamping strip (1) so that the projection (3) of the 4th clamping strip is positioned opposite the recess in the ceiling cover (4) (Fig. 1).  
The recess (5) for the video cable is then free (Fig. 2).

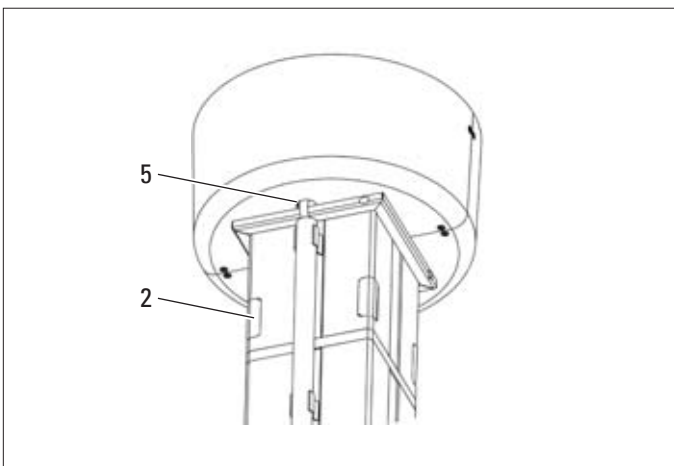


Fig. 2

- ⇒ Apply the 4 edge covers (2).

## Checklist

- Are all the cables laid correctly and is no cable jammed?
- Are all the covers screwed on firmly?
- Are all the screws tightened with the specified torque?

## Disassembly

- ⇒ The Leica M620 surgical microscope is disassembled in the reverse sequence of operations to assembly.

## Starting up

### Preparatory work

- ⇒ Make sure that all parts are seated firmly.
- ⇒ Connect the Leica M620 surgical microscope to the power supply and switch on the power switch (1) (Fig. 1).
- ⇒ Balance out the swing arm (see the Leica M620 surgical microscope user manual).



Fig. 1

### Checking components and functions

#### Zoom, focus and XY-unit (optional)

- ⇒ Press the zoom (4), focus (3) and XY-unit (2) functions at the hand-/footswitches (see the Leica M620 surgical microscope user manual) (Fig. 2).

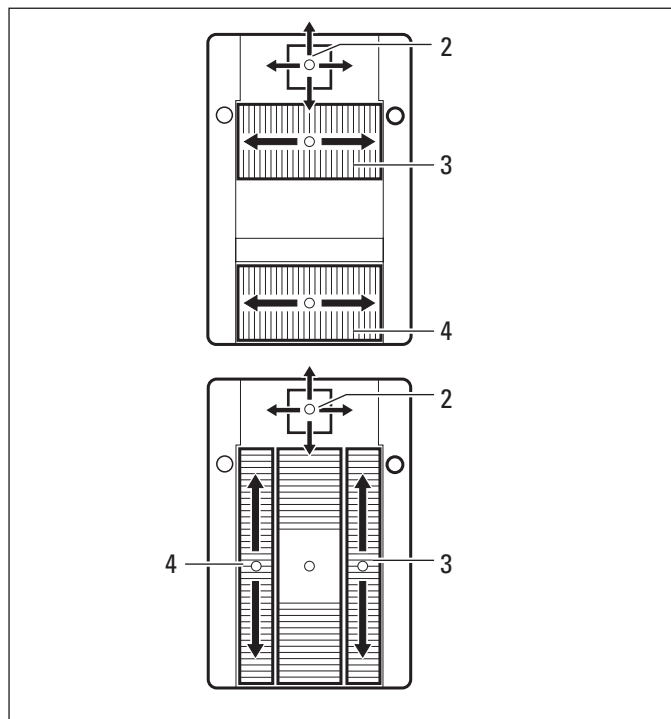


Fig. 2

- ⇒ Adjust the speed at the touch panel for focus, zoom and XY-unit (see the Leica M620 surgical microscope user manual).
- ⇒ Swap the + and – directions of movement of the XY-unit (see the Leica M620 surgical microscope user manual).

If one of the functions cannot be executed:

- ⇒ Check the hand-/footswitch connections at the control unit/lamp housing.
- ⇒ Check the connections of the CAN bus cable at the control unit, swing arm and XY-unit.



## Illumination

- ⇒ Adjust the brightness of the main illuminator at the touch panel (see the Leica M620 surgical microscope user manual).
- ⇒ Slide the quick-change lamp mount (1) to the other side (see the Leica M620 surgical microscope user manual) (Fig. 1).

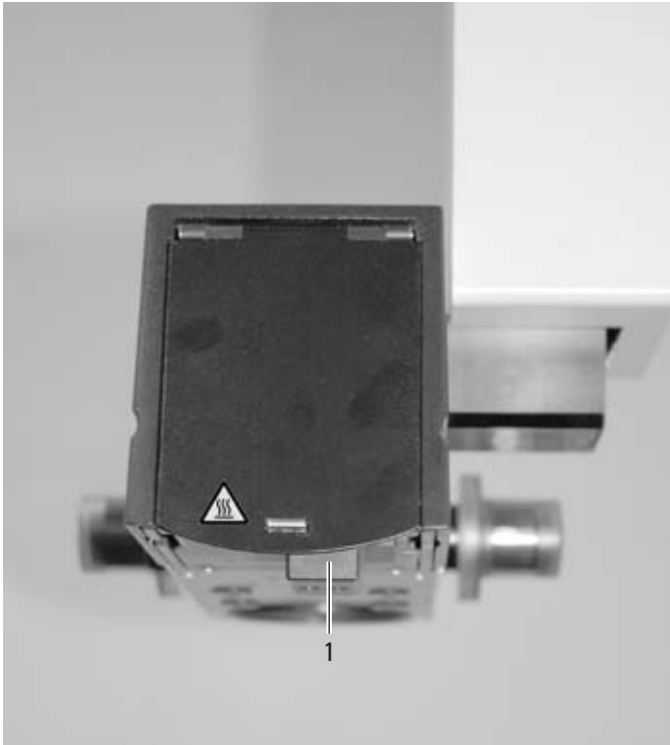


Fig. 1

If one of the functions cannot be executed:

- ⇒ Check whether the quick-change lamp mount latches in correctly in the illumination settings.

If necessary:

- ⇒ Replace lamps.

## Checking the functions

Check the following functions in accordance with the user manual.

- ⇒ Release all the brakes of the Leica M620 surgical microscope and travel it through its entire range of movement.

Result: The brakes are released, the microscope can be moved freely and without noises through its range of movement.

- ⇒ Travel through the X/Y-ranges, inclination ranges and focus ranges by means of the hand/footswitches.

Result: Smooth, even low-noise movement across the entire range.

- ⇒ Adjust the zoom across the entire range.

Result: Whole range can be set, no disturbing noises.

- ⇒ Switch on the illumination and test it across the entire brightness range.

Result: Both illuminators function and can be regulated.

- ⇒ Swing the unit to the uppermost position.

Result: Illumination switches off. Focus travels to the reset position.

No error messages may occur on the touch panel during the starting-up process.

If it does, contact your Leica service workshop.

## Equipment acceptance and delivery to the owner

Once assembly or maintenance work is finished Leica Service will start the inspection and acceptance sequence.

This inspection is aimed at determining whether

- the safety requirements concerning the protection of the patients and of the medical personnel have been fulfilled,
- the performance characteristics of the Leica M620 surgical microscope system are being delivered.



The system as a whole should not be started up until acceptance by Leica Service has taken place.

This is followed by the training of the personnel.

## Acceptance certificate for the Leica M620 surgical microscope system

The installation engineer confirms that the mounting frame of the ceiling mount at:

Name and address of the customer

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Department

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has been installed in accordance with

- the provisions in these assembly instructions for the mounting frame of the ceiling mount. \*)
- the special instructions and strength calculations concerning the load-bearing capacity of the ceiling and/or the specifications of the mounting system and thus all steps have been taken to ensure a safe and secure mounting of the M620 surgical microscope system. \*)
- The corresponding documentation is enclosed.

\*) Cross where applicable

### Responsible installation engineer

Name

---

Address

---

---

---

Signature

---

Location

Date

---

### Representative of Leica Microsystems (Schweiz) AG

Name

---

Address

---

---

---

Acknowledged

Signature

---

Location

Date

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This acceptance certificate must be filled out by the responsible installation engineer and a copy given to both the customer and the Leica representative.

Certificate must be kept for: 20 years

# “With the user, for the user”

## Leica Microsystems

Leica Microsystems operates internationally in four divisions, where we rank with the market leaders.

### • Life Science Division

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

### • Industry Division

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

### • Biosystems Division

The Leica Microsystems Biosystems Division brings his-topathology labs and researchers the highest-quality, most comprehensive product range. From patient to pathologist, the range includes the ideal product for each histology step and high-productivity workflow solutions for the entire lab. With complete histology systems featuring innovative automation and Novocastra™ reagents, Leica Microsystems creates better patient care through rapid turnaround, diagnostic confidence, and close customer collaboration.

### • Surgical Division

The Leica Microsystems Surgical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

The statement by Ernst Leitz in 1907, “with the user, for the user,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

### Active worldwide

|                         |                       |                         |                        |
|-------------------------|-----------------------|-------------------------|------------------------|
| Australia:              | North Ryde            | Tel. +61 2 8870 3500    | Fax +61 2 9878 1055    |
| Austria:                | Vienna                | Tel. +43 1 486 80 50 0  | Fax +43 1 486 80 50 30 |
| Belgium:                | Groot Bijgaarden      | Tel. +32 2 790 98 50    | Fax +32 2 790 98 68    |
| Canada:                 | Richmond Hill/Ontario | Tel. +1 905 762 2000    | Fax +1 905 762 8937    |
| Denmark:                | Herlev                | Tel. +45 4454 0101      | Fax +45 4454 0111      |
| France:                 | Rueil-Malmaison       | Tel. +33 1 47 32 85 85  | Fax +33 1 47 32 85 86  |
| Germany:                | Wetzlar               | Tel. +49 64 41 29 40 00 | Fax +49 64 41 29 41 55 |
| Italy:                  | Milan                 | Tel. +39 02 574 861     | Fax +39 02 574 03392   |
| Japan:                  | Tokyo                 | Tel. +81 3 5421 2800    | Fax +81 3 5421 2896    |
| Korea:                  | Seoul                 | Tel. +82 2 514 65 43    | Fax +82 2 514 65 48    |
| Netherlands:            | Rijswijk              | Tel. +31 70 4132 100    | Fax +31 70 4132 109    |
| People's Rep. of China: | Hong Kong             | Tel. +852 2564 6699     | Fax +852 2564 4163     |
| Portugal:               | Lisbon                | Tel. +351 21 388 9112   | Fax +351 21 385 4668   |
| Singapore               |                       | Tel. +65 6779 7823      | Fax +65 6773 0628      |
| Spain:                  | Barcelona             | Tel. +34 93 494 95 30   | Fax +34 93 494 95 32   |
| Sweden:                 | Kista                 | Tel. +46 8 625 45 45    | Fax +46 8 625 45 10    |
| Switzerland:            | Heerbrugg             | Tel. +41 71 726 34 34   | Fax +41 71 726 34 44   |
| United Kingdom:         | Milton Keynes         | Tel. +44 1908 246 246   | Fax +44 1908 609 992   |
| USA:                    | Bannockburn/Illinois  | Tel. +1 847 405 0123    | Fax +1 847 405 0164    |

and representatives in more than 100 countries

The Surgical Division, within Leica Microsystems (Schweiz) AG, holds the management system certificates for the international standards ISO 9001:2000 / ISO 13485:2003, and ISO 14001:2004 relating to quality management, quality assurance and environmental management.

