Inami

PORTABLE OPERATION MICROSCOPE

MANUAL

L-0940-SD

VIEWLIGHT
POWERED BY INNOVATION

Before use this instrument, be sure to read this manual

EN

CONTENTS

This instruction manual provides a detailed description of the L-0940 Zoom Operation Microscope.

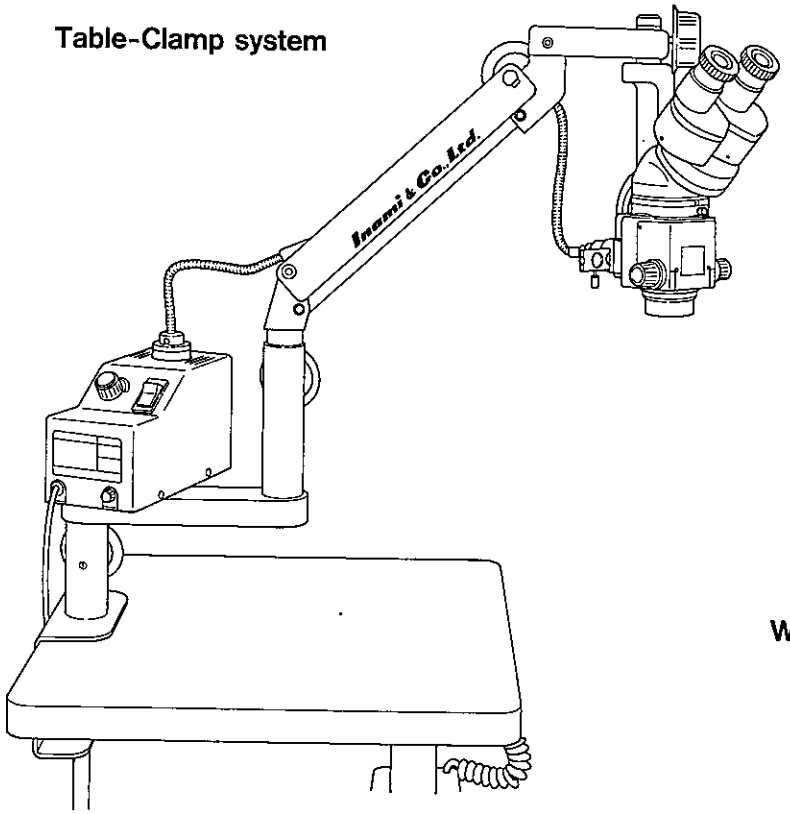
REMARKS

1. Follow the checkup points to keep the instruments with good condition for daily operations.
2. Store the instrument with care, keeping the optical parts free from moisture.
3. To move the instrument, fold the arms, secure the fastening handles well and hold the first arm, then gently move the instrument as necessary.

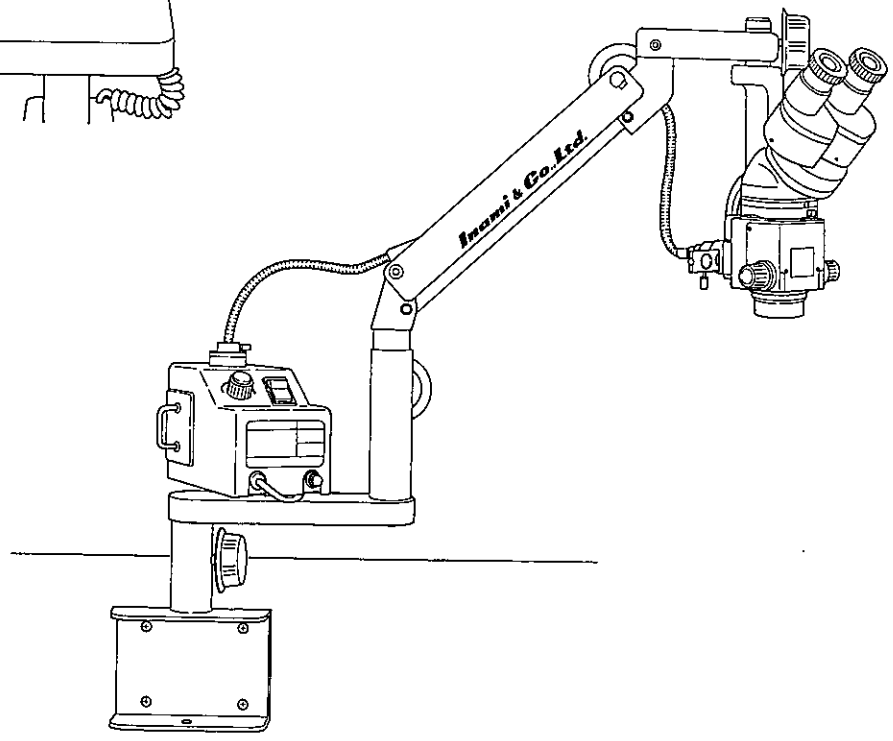
ZOOM PORTABLE OPERATION MICROSCOPE L-0940

The Concept of our New Zoom Portable Operation Microscope is to be light weight, compact and easy to use and finally, we have succeeded to make it. We use a spring balanced arm, so it will permit any kind of positions such as non-gravity conditions.
By removing the 45° special adapter, it can be used for ENT, plastic or any other surgeries.
For the observation purposes, we have designed the microscope head with compact and to be available for a long observations.

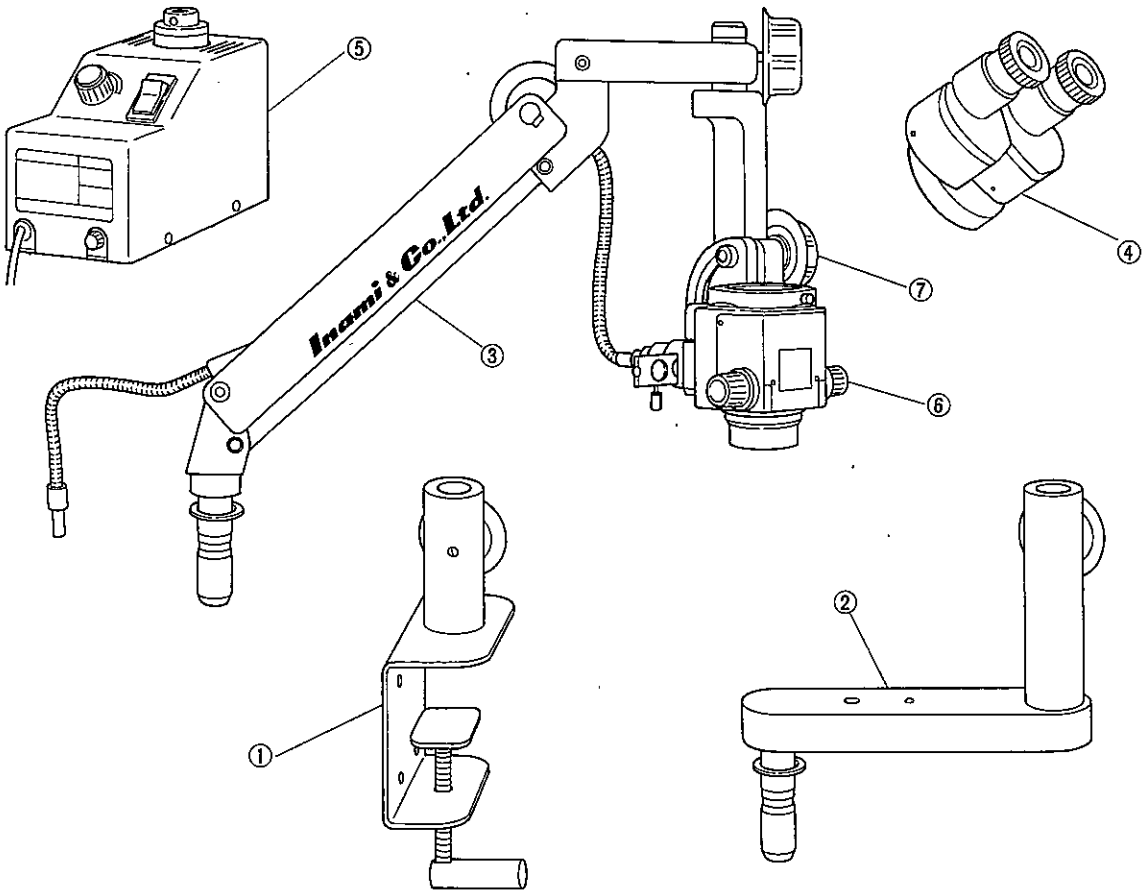
Table-Clamp system



Wall-Mount system



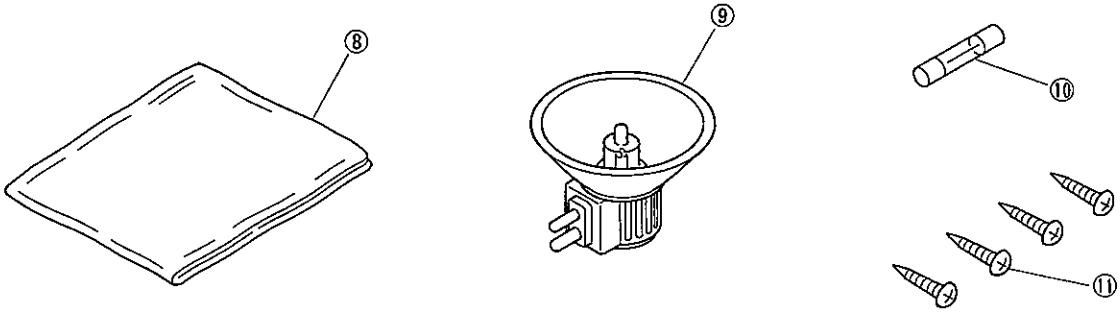
ASSEMBLED COMPONENTS



① The base for the first arm 1
② The first arm (The transformer can be mounted.) 1
③ The second arm (with microscope head, coaxial illumination) 1
④ Eyepiece with prism box 1
⑤ Transformer 1
⑥ Plastic cap for sterilization (for body) 5
⑦ Plastic cap for sterilization (for magnification changer) 2

Standard Accessory

⑧ Dust cover for the body 1
⑨ The bulb (21V, 150W-L3920H1) 1
⑩ Fuse 1
⑪ The screws to mount the microscope on the wooden wall. (6mm × 32) 4



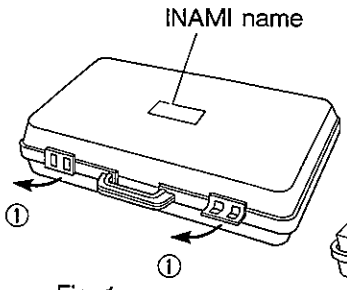


Fig. 1

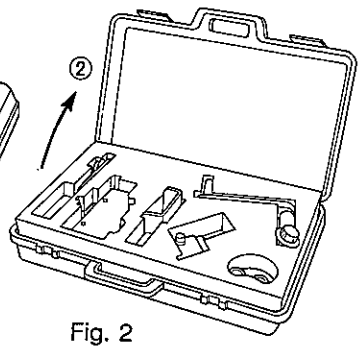


Fig. 2

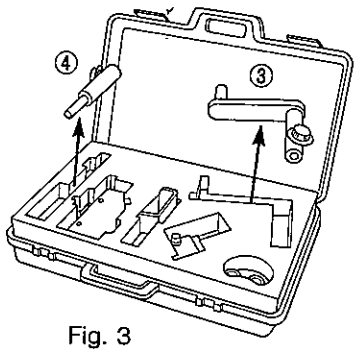


Fig. 3

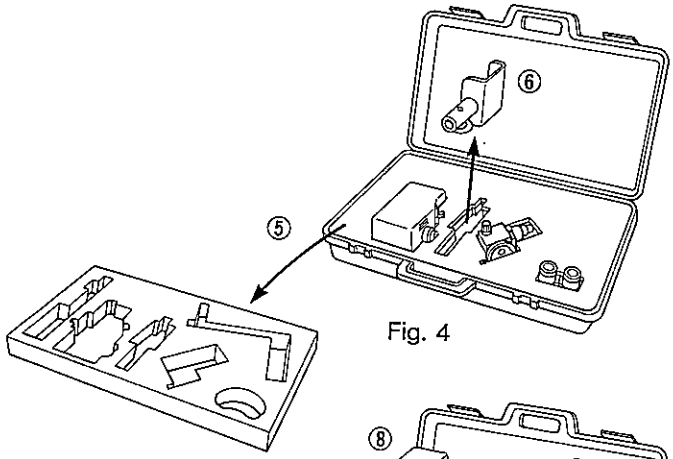


Fig. 4

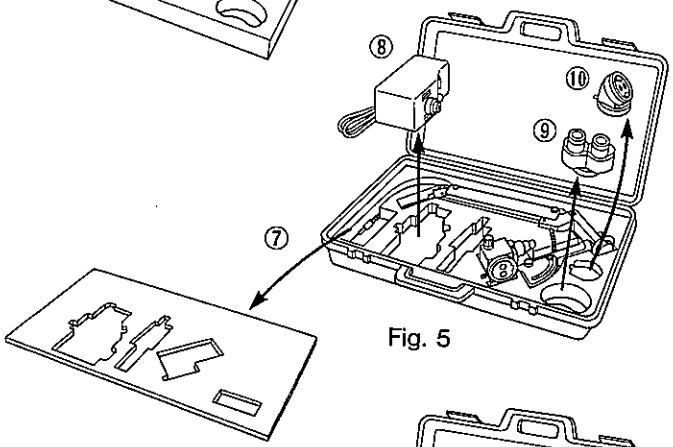


Fig. 5

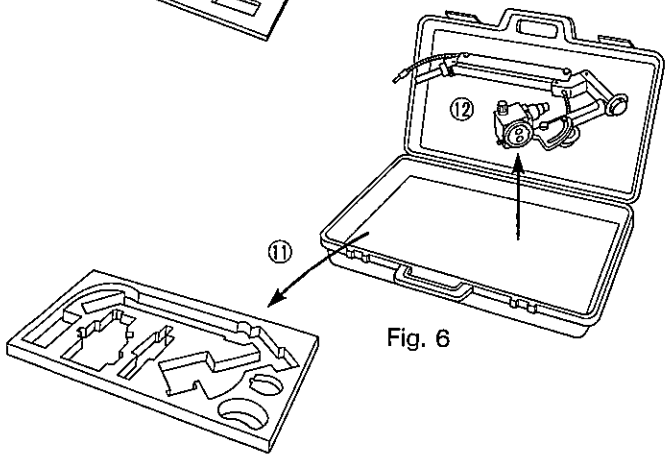


Fig. 6

UNPACKING AND ASSEMBLING

Place the hard case, then INAMI name has to be seen on the top cover

Fig.1 Convenient portable hard case
① Open the stopper and

Fig.2 ② Open the upper cover.

Fig.3 ③ Take out the first arm assembly.
④ Take out the height adjustable adaptor. (option)

Fig.4 ⑤ Take out whole the upper cover sponge from the case.
⑥ Take out the base of the arm.

Fig.5 ⑦ Take out the middle cover sponge from the case.
⑧ Take out the transformer.
⑨ Take out the prism box with eyepiece.
⑩ Take out the 45°special adaptor.

Fig.6 ⑪ Take out the lower sponge from the case.
⑫ Take out the second arm.

PACKING AND DISMANTLING

Place the hard case with INAMI name to a upper ward.

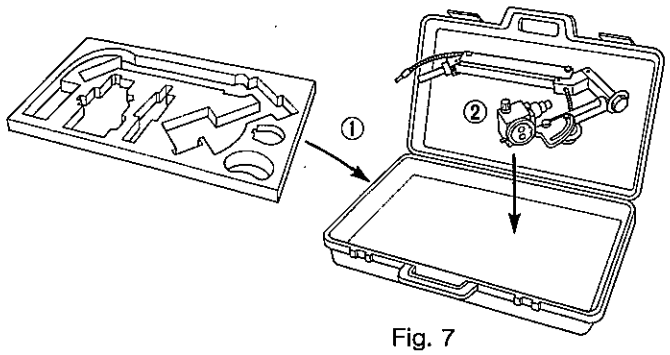


Fig. 7

Fig.7 ① Place the lower sponge.
② Place the second arm.

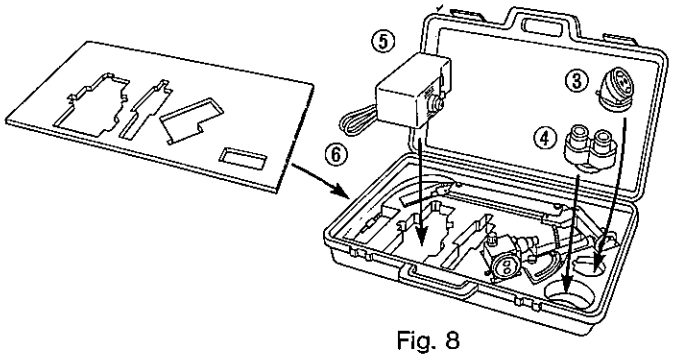


Fig. 8

Fig.8 ③ Place the 45° special adaptor.
④ Place the prism box with eyepiece.
⑤ Place the transformer.
⑥ Place the middle sponge cover.

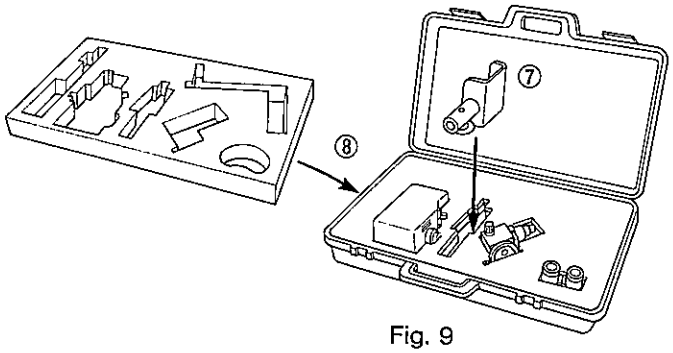


Fig. 9

Fig.9 ⑦ Place the base for first arm.
⑧ Place the upper cover sponge.

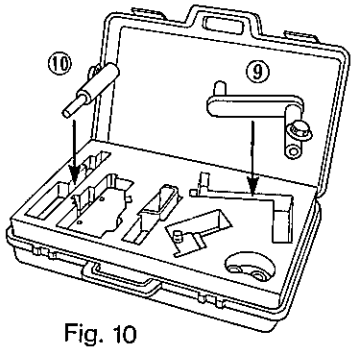


Fig. 10

Fig.10 ⑨ Place the first arm.
⑩ Place the height adjustable adaptor. (option)

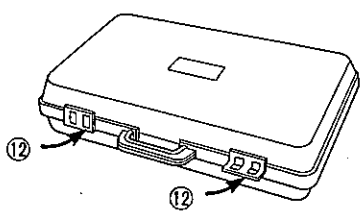


Fig. 12

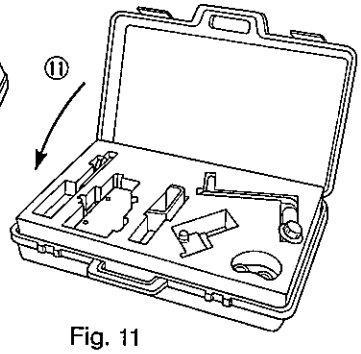
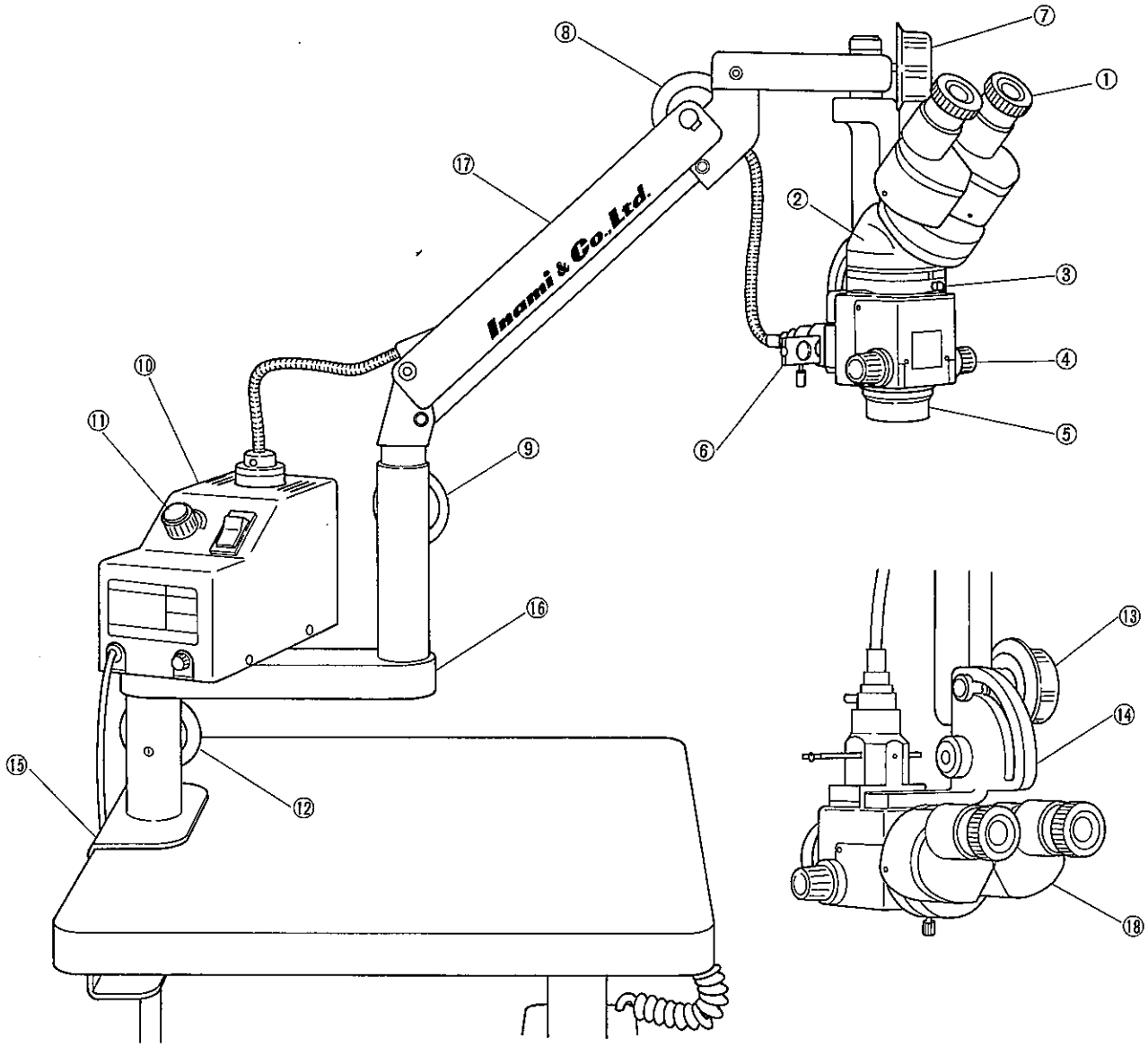


Fig. 11

Fig.11 ⑪ Shut the upper cover.

Fig.12 ⑫ Lock the stopper.

NAMES OF RESPECTIVE PARTS

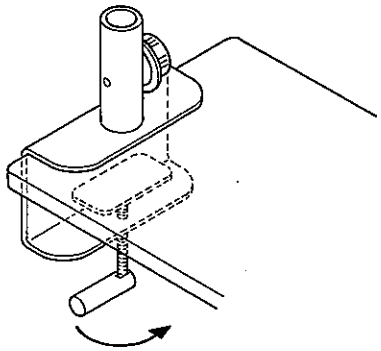


① 15x Eyepiece
② 45° Adapter
③ Srew for Detaching Microscope
④ Zoom Magnification Control knob
⑤ Objective Lens
⑥ Filter Changer
⑦ Microscope Head Rotation knob
⑧ Second Arm Balance knob
⑨ Second Arm Rotation control knob
⑩ Rotating Transformer
⑪ Intensity control knob
⑫ First Arm Rotation Control knob
⑬ Microscope head adjusting knob
⑭ Microscope head angle adjuster
⑮ The base for first arm
⑯ The first arm
⑰ The second arm
⑱ The zoom microscope head

Six caps for sterilization

④-1 The cap for sterilization for zoom magnification change knob
⑦-1 The cap for sterilization for the microscope head rotation knob
⑧-1 The cap for sterilization for the second srm
⑨-1 The cap for sterilization for the first arm
⑫-1 The cap for sterilization for the base of the first arm
⑬-1 The cap for sterilization for the angle adjuster of head

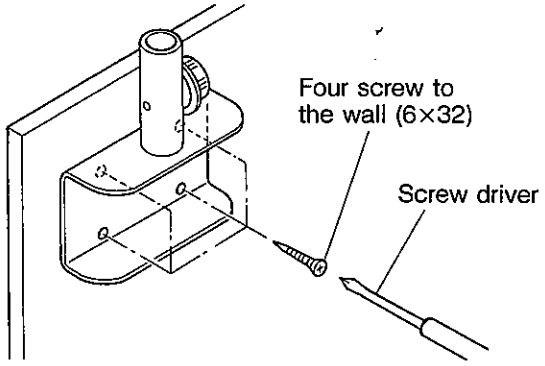
1. ASSEMBLING PROCEDURES



1) The Base for First Arm

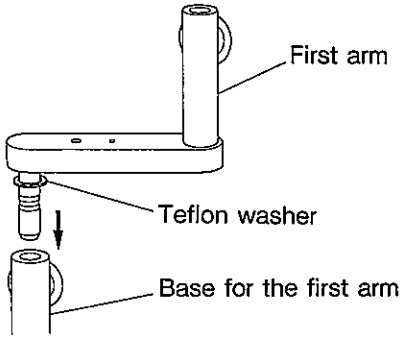
1-1) Table Clamping System

In order to keep the stability, the base has to be fixed tightenly with handle.
(Maximum thickness of the table : 70mm)



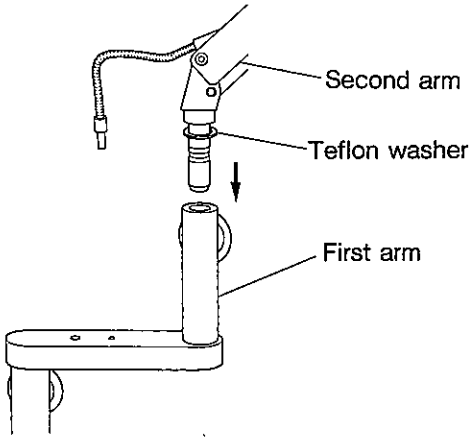
1-2) Wall Mounting System

Remove the plate for clamping, tighten the four screws to the wall.



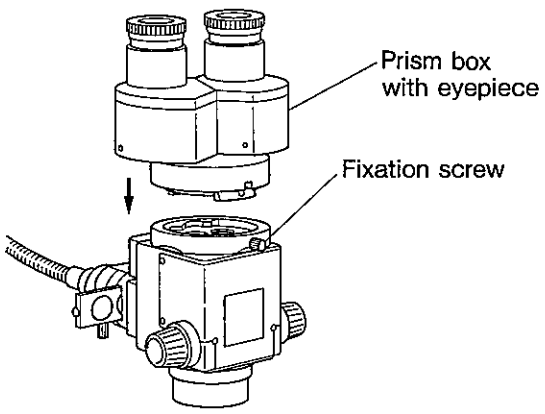
2) The First Arm

Insert the first arm to the base with teflon washer. This arm has to be inserted slowly to the vertical direction.



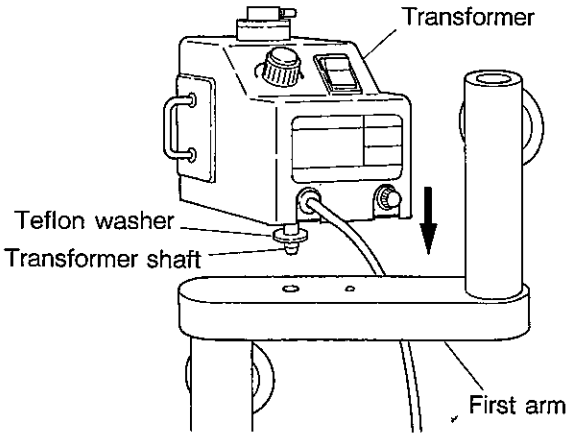
3) The Second Arm

Same as first arm, insert the shaft slowly to the vertical direction with washer.



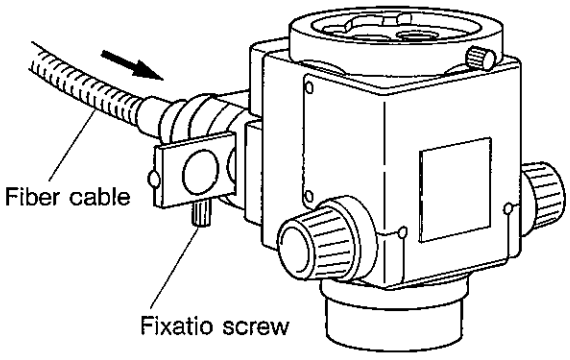
4) Prism Box with Eyepiece

The prism box with eyepiece has to be mounted to the magnification changer box.
Then the microscope head will be a straight head for ENT, etc.



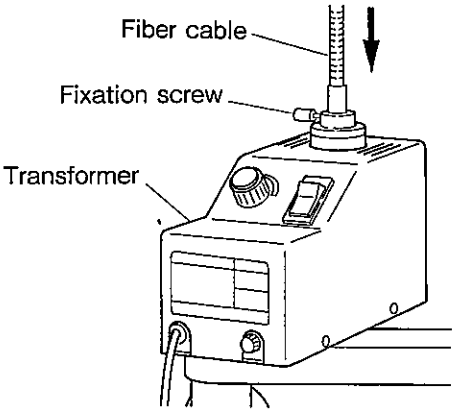
5) Placing the Transformer

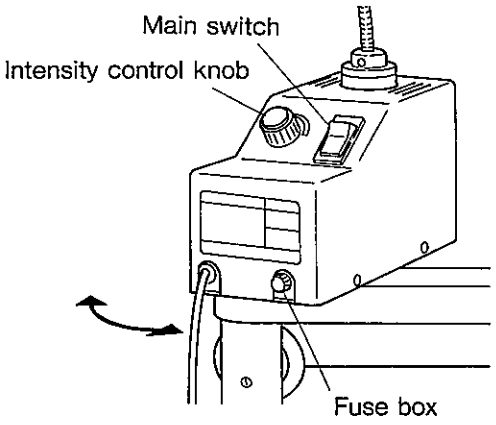
Insert the shaft of the transformer to the hole of the first arm with teflon washer slowly to the vertical positions.
Then tighten the hex-screw located under the first arm, so you can fix the position, the screw will be clicked in a proper position.
And should confirm that transformer can be rotate to right and left.



6) Connection of the Fiber Cable for Illumination

Insert the fiber cable to the receptacle of the microscope head and fix it. And another side has to be inserted to the receptacle of the transformer and has to be fixed.



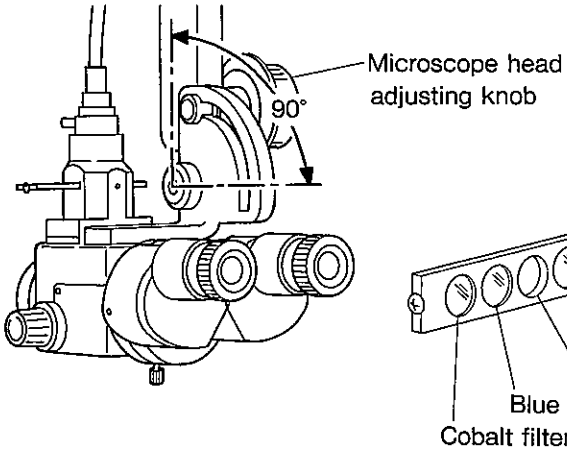


2. OPERATING PROCEDURES

1) Operation of Transformer

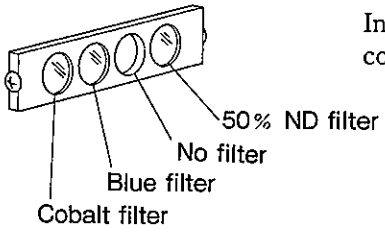
Main switch : On/off
Power unit : AC100V, 120V, 220V, 240V, Fixed voltage 50/60Hz, Allowance range ±10%
Light source : 21V, 150W halogen bulb (L3920H1) with fiber optic light guide system
Fuses : AC100V 3A AC120V 3A
AC220V 1.6A AC240V 1.6A

To keep a comfortable operation, this transformer box is designed to rotate to any direction.



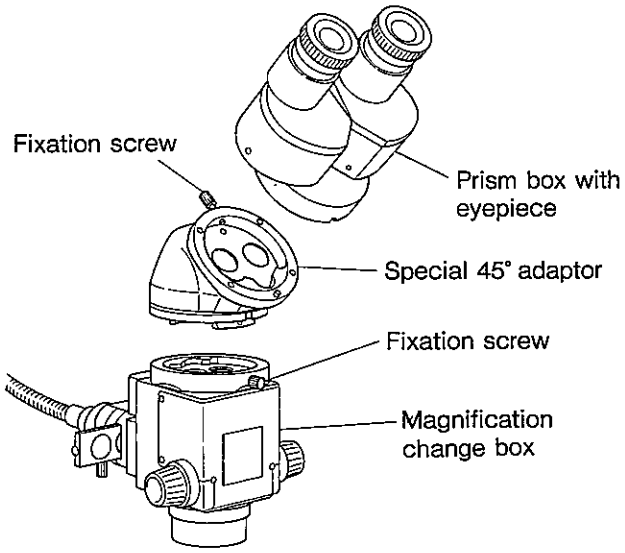
2) Microscope Head Angle Adjuster

Depending on the surgeon's request, any angles of microscope head are available from 0° to 90° continuously.



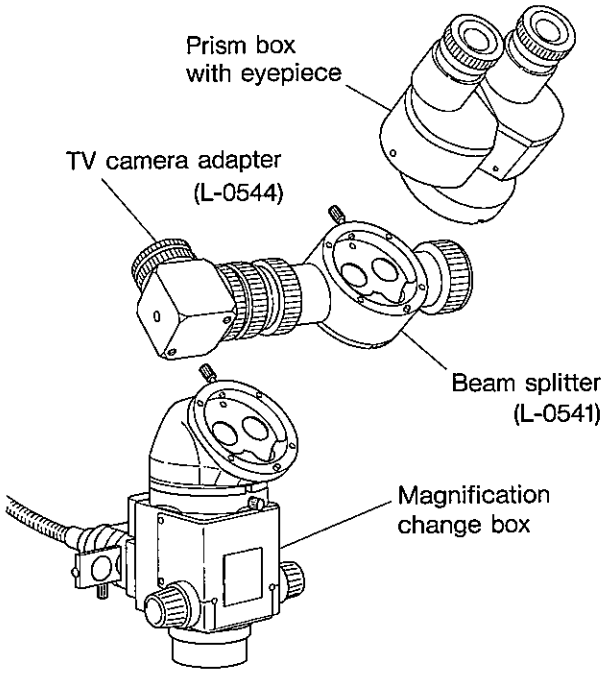
3) Filters

In addition to the built-in heat absorbing filter, it contains cobalt filter, blue filter and 50% ND filter



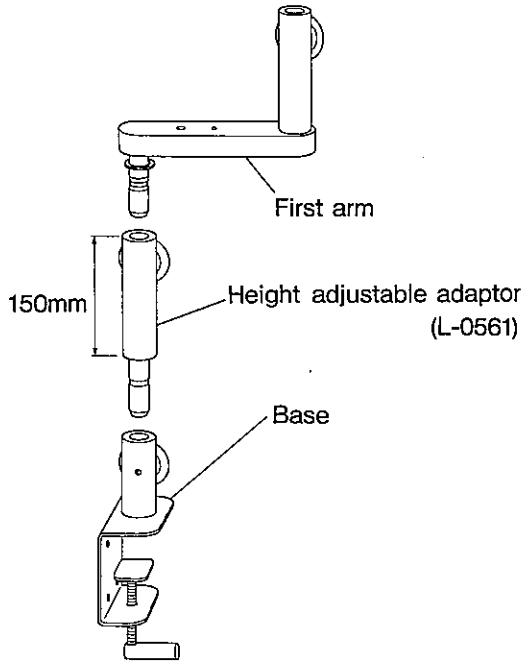
4) L-0560 Special 45° Adaptor

By using this special adaptor between magnification change box and prism box, any kind of surgeries will be available.



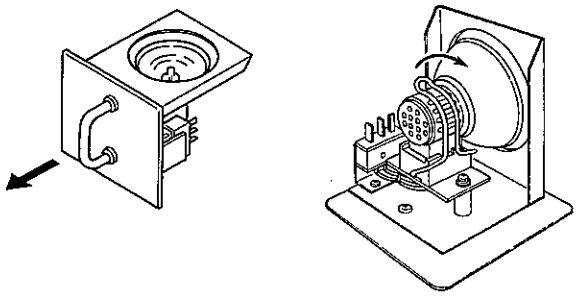
5) Mounting of L-0541 Beam Splitter and L-0544 TV Camera Adaptor

L-0541 beam splitter has to be mounted between magnification change box and prism bnx.
L-0544 TV camera adaptor has to be mounted on beam splitter.



6) L-0561 Height Adjustable Adaptor

Depend on the situation, by using of this height adjustable adaptor, we can obtain 150mm between the base and first arm.

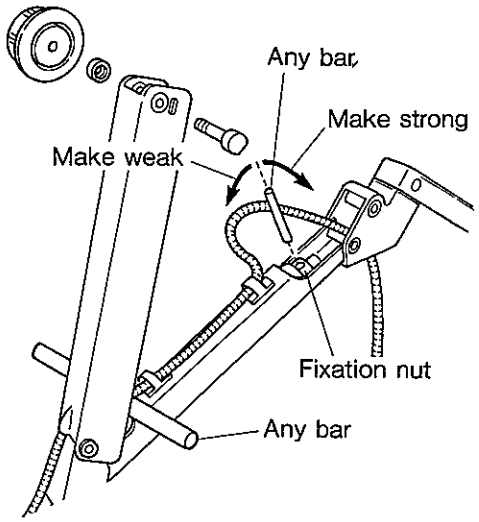


3. MAINTENANCE

1) Replacement of the Bulb

By taking-off the lamp housing unit from the transformer, the bulb can be replaced easily. Release the bulb fixation spring, and take it out from the socket.

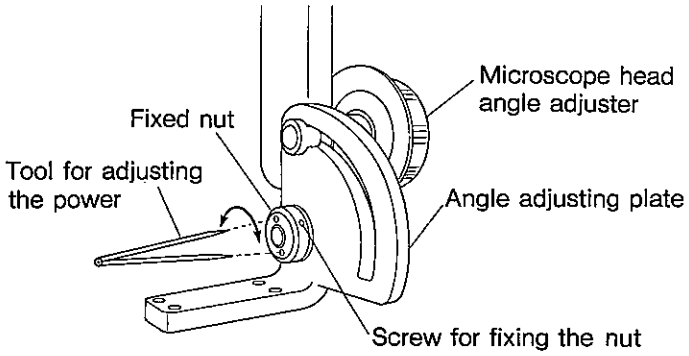
REMARKS : For replacing the bulb, please take care for the high temperature.



2) Adjustment of the Power for Second Arm

By taking off the fixation knob and axis, we can remove the arm cover, by tightening the nut inside of the arm with driver or any bar, we can power-up the balance.

During the adjustment of the balance, place the any bar to avoid the falling down.



3) Adjustment of the Power for the Angle of the Microscope

By loosening of the screw located side of the fixed nut for rotation, and you can adjust the power of the angle adjuster by tightening the two small holes for adjustment located in front of fixed nut.

After finished the adjustment of the power of the screw located side of the fixed nut, all the times we have to tighten-up the screw.

4. OPTIONAL ACCESSORIES

1) Beam splitter module (L-0541)
2) TV camera aduptor (L-0544)
3) Height adjustable adaptor (L-0561)
4) Objective lens f=175mm : Ophthalmology
   f=200mm : Otorhinology-plastic surgery
   f=300mm : Neurosurgery
   f=375mm : Laryngology

5. SPECIFICATIONS

Main Microscope

Model :	Zoom microscope (ratio 1:3)
Magnification changes :	Continuously (6 to 18x)
Objectiv lens :	f=175mm
Working distance :	170mm
Eyepiece :	15x diopter −6~+6 DP
Range of pupillary distance :	50−75mm

Main Coaxial Illuminator

Light source :	21V, 150W halogen bulb (L3920H1) with optical fiber guide system
Field of illumination :	5x ϕ42mm to 15x ϕ24mm
Maximum brightness :	80,000 Lux
Filters:	Heat absorbing filter (Built-in) Cobalt filter Blue filter 50% ND filter

Power Requirements

Power unit :	AC 100V, 120V, 220V, 240V Fixed voltage 50/60 Hz