

**OPERATION MANUAL
FOR
X-RAY RADIOGRAPHY TABLE
BK-120M, BK-120MK**

**PLEASE READ CAREFULLY
AND SAVE THIS MANUAL**

SHIMADZU CORPORATION
KYOTO JAPAN

Thank you for purchasing a SHIMADZU medical system. Before using the system, please read this manual thoroughly and use the system correctly.

NOTES

The precautions and prohibitions seen through the manual are classified as follows:

DANGER

States a direct danger that may cause death or serious injury if it is not avoided.

WARNING

States an indirect or potential danger that may cause death or serious injury if it is not avoided.

CAUTION

States a danger that may cause slight or medium injury or may cause damage in equipment or fire if it is not avoided.

NOTE

States the information which helps to use the system correctly.

Original version is approved in English.

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[NO TEXT]

1. General Description

1.1 Application

The X-ray radiography table BK-120M, BK-120MK can be applied to X-ray radiography for each region of patients usually laying down on the table top when combined with an X-ray tube assembly, a beam limiting device, an X-ray tube support and an X-ray high voltage generator.

1.2 Construction

The X-ray radiography table BK-120M, BK-120MK consists of the following components.

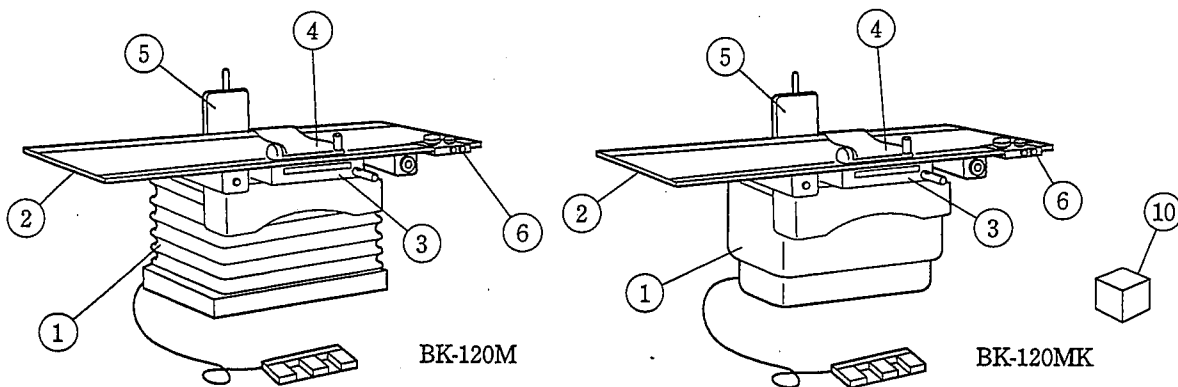


Fig. 1.1

- ① Main body 1 set

The main body consists of a table top elevating mechanism, a table top holding base and foot switches which control operations of the table top.

- ② Floating table top assembly 1 set

The table top assembly determines the position of a patient, and realizes postures required for radiography.

- ③ Bucky device 1 set

This device accommodates a film cassette, and has a built-in moving X-ray grid which removes scattered X-ray.

Optional components

- ④ Oppression belt This belt is an auxiliary tool which fixes a radiography region of a patient on the table top.

- ⑤ Side cassette holder This holder is an auxiliary tool which holds a cassette in rateral radiography.
- ⑥ Grip switch This switch is attached on the side of the table top assembly to operate the floating table top.
- ⑦ CFRP table top This table top is made of CFRP (carbon-fiber reinforced plastic). The length is 2200 mm for BK-120MK, 2000 mm for BK-120M.
(not shown in Fig. 1-1)
- ⑧ Acrylic table top This table top is made of transparent acrylic plate. The length is 2,000 mm.
(not shown in Fig. 1-1)
- ⑨ Automatic exposure control unit light detecting area An automatic exposure control unit light detecting area (separate specifications CS526-006) can be assembled into a bucky device upon request.
(not shown in Fig. 1-1)
- ⑩ Trans. unit This unit is the accessories only for Europe.

1.3 Classification of equipment

The class of protection against electric shock

Class I equipment

NOTE

It means that CLASS I EQUIPMENT, that is, equipment in which protection against electric shock does not rely on BASIC INSULATION only, but which includes an additional safety precaution in that means are provided for the connection of the equipment to the protective earth conductor in the fixed wiring of the installation in such a way that accessible metal parts can not become live in the event of a failure of the basic insulation. (International standard IEC 601-1 Second edition 1988).

The degree of protection against electric shock

Type B equipment

NOTE

It means TYPE B EQUIPMENT, that is, equipment providing a particular degree of protection against electric shock, particularly regarding:

- allowable leakage current;
- reliability of the protective earth connection.

(International standard IEC 601-1 Second edition 1988).

The degree of protection against harmful ingress of water

Ordinary equipment

WARNING

The main body of this unit is not protected against immersion of liquid. Never use this unit in a place in which immersion of liquid may occur. Never spill liquid on the surface or in the inside of this unit. Otherwise, electrical shock may occur. When liquid is spilt, contact our office or representative described on the back cover of the operation manual.

The degree of safety of application in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide

DANGER

Risk of explosion if used in the presence of flammable anesthetics.

The mode of operation

Continuous operation with intermittent loading

1.4 Environmental Condition

1.4.1 Using Conditions

Use the BK-120M, BK-120MK in the following condition so that it can offer full performance.

(1) Radiography condition

Temperature : +10 to +40°C

Humidity : 30 to 85%

Air pressure : 70 to 106kPa (700 to 1,060 mbar)

(2) Power supplies

For Europe	Single-phase, 100V, 0.1kVA, 50/60Hz
	Single-phase, 400V, 1kVA, 50/60Hz
For others	Single-phase, 100V, 0.1kVA, 50/60Hz
	Single-phase, 200V, 1kVA, 50/60Hz

(3) Grounding

Class D grounding

1.4.2 Transportation and Storage

Environmental condition for transportation and storage

Ambient temperature : -10 to +60°C

Ambient humidity : 10 to 95%

Air pressure : 70 to 106kPa (700 to 1,060mbar)

CAUTION

If condensation occurs inside the BK-120M, BK-120MK, rust and corrosion may be generated. If the ambient temperature is low, internal circuits may be damaged by icing. Pay rigid attention when storing the BK-120M, BK-120MK in a place with considerable changes in the temperature/humidity such as warehouse.

1.4.3 EMC (Electro-Magnetic Compatibility) [For Europe]

This system belongs to Group 1 and Class A equipment in accordance to EN60601-1-2:1993.

The system uses radio-frequency energy only for its internal function and is not intended to deliver energy to the patient. But little leakage radio-frequency energy does harm to high-sensitive equipment.

The system main power line in the clinical site should be connected to the domestic power sources which are separated from the public main network.

1.5 Statement of compliance [For Europe]

Associated equipment BK-120MK) IEC 601-2-32 : 1994

1.6 Product safety

WARNING

Do not operate this unit if there is any uncertainty as to the proper functioning of the system. Refer all servicing to qualified service personnel.

WARNING

This instrument must be grounded! To minimize the shock hazard, make sure of performing the ground work according to Installation Manual. (M511-E308)

WARNING

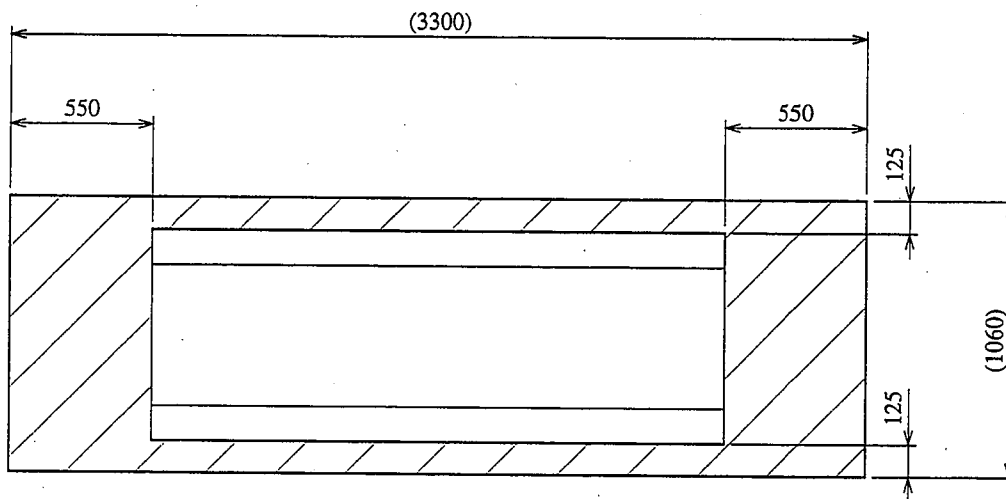
For Europe, the BK-120MK system must be powered through the Isolation Transformer unit supplied with the system (Part No. 503-45527). The Isolation Transformer unit changes 400VAC into 200VAC of rating supply voltage. Do not simply plug the BK-120MK system into a wall plug.

CAUTION

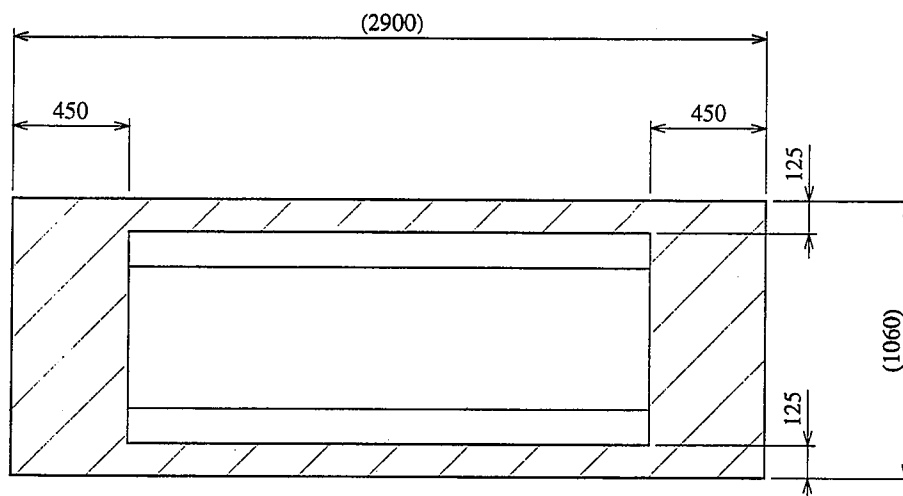
The operator must set the focal spot to skin distance as large as possible in order to keep the absorbed dose to the patient as low as reasonably achievable.

CAUTION

Operate this equipment carefully not to collide with the other equipment in the examination room. Keep the other equipment away from the area shown in the following figure. (unit : mm)



BK-120MK







BK-120M

1.7 Symbols and labels

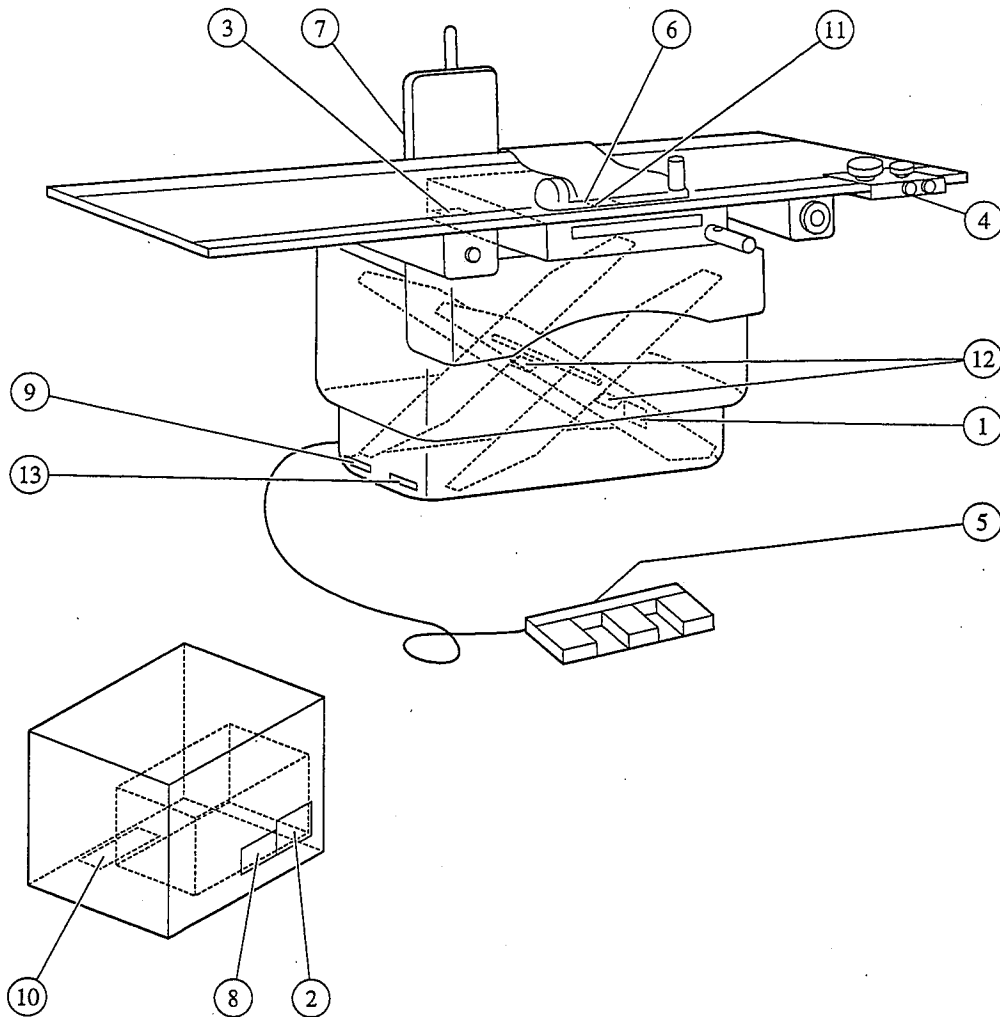
1.7.1 Symbols

Symbols used on this system are shown and described as follows.

Symbol	Location	Meaning
	In name plate on covers	Alternating current
	Inside the instrument, where protective earth conductor in power cord is connected	Protection earth ground
	In name plate on covers	Safety classification: Type B
	On warning/caution labels	Attention: Refer to Operation Manual

1.7.2 Labeling



(1) Location where the labels are attached on:





(2) Name Plates

(2-1) Name Plates of BK-120MK

① Name Plate A


MODEL	BK-120MK	NO.	702467
SUPPLY MAINS		INPUT POWER	
V	~	kVA	
V	~ 400	Hz 50/60	kVA 1
V	~ 100	VA	100
WIRING	503-03902		
PROTECTION	CLASS I TYPE B 		
503-45454			
 株式会社島津製作所 604-8511 京都市中京区西ノ京桑原町1 SHIMADZU CORPORATION 1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan			

② Name Plate B

MODEL	503-45527	NO.	702467
SUPPLY MAINS		INPUT POWER	
V	~ 400	kVA	1
V	~	Hz 50/60	kVA
V	~	VA	
WIRING	503-03736		
PROTECTION	CLASS I TYPE B 		
503-46574			
 株式会社島津製作所 604-8511 京都市中京区西ノ京桑原町1 SHIMADZU CORPORATION 1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan			

(2-2) Name Plates of BF-10HK

③ Name Plate C

MODEL	BF-10HK
NO.	702467
WIRING	503-03741
PROTECTION	CLASS I
503-45408	
 株式会社島津製作所 604-8511 京都市中京区西ノ京桑原町1 SHIMADZU CORPORATION 1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan	

Identification Label of BK-120MK

- ④ Identification Label A
(Grip Switch)

503-45213-01
NO. 702467
501-29946
SHIMADZU CORPORATION MADE IN JAPAN

- ⑤ Identification Label B
(Foot Switch)

503-36472
NO. 702467
501-29946
SHIMADZU CORPORATION MADE IN JAPAN

- ⑥ Identification Label C
(Oppression belt)

501-23092-05
NO. 702467
501-29946
SHIMADZU CORPORATION MADE IN JAPAN

- ⑦ Identification Label D
(Side Cassette Holser)

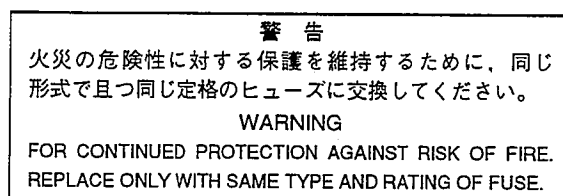
503-33618
NO. 702467
501-29946
SHIMADZU CORPORATION MADE IN JAPAN

- ⑧ Identification Label E

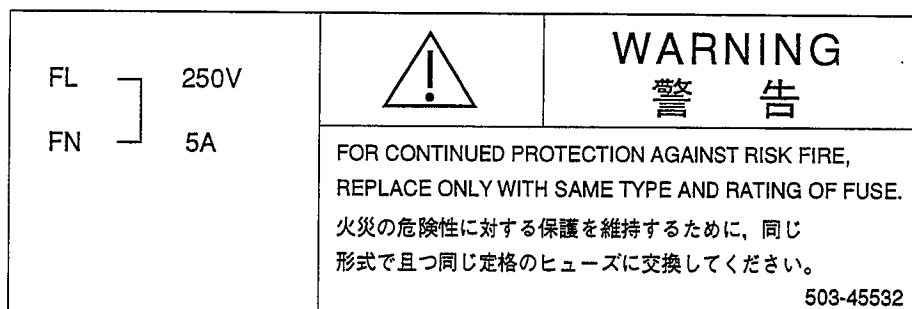
MODEL	503-45527
SERIAL NO.	
SUPPLY MAINS	
V	~ Hz 50/60
INPUT POWER	kVA
MANUFACTURED:	JANUARY 1999 KYOTO
PROTECTION CLASS	I
503-48908	
株式会社島津製作所 604-8511 SHIMADZU CORPORATION 京都市中京区西ノ京桑原町1 1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604, Japan	

(3) Warning Labels

⑨ Warning Label A



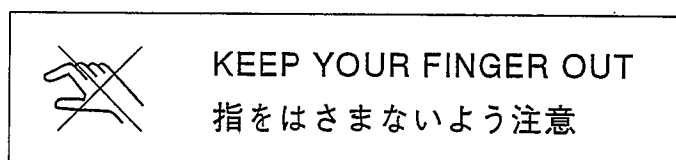
⑩ Warning Label B



⑪ Caution Label A

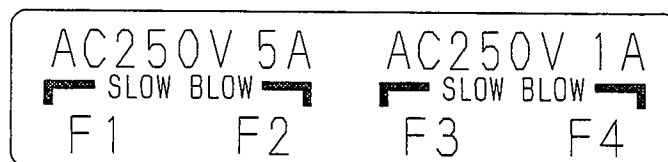


⑫ Caution Label B




(4) Other Labels

⑬ Fuse Label



1.7.3 Package for transport

Label that is described about storage environment and transport environment on package for transport is shown.

	保管環境	温 度	: -10 ~ 60 °C
		相对湿度	: 10 ~ 95 %
		氣 压	: 700 ~ 1060 hpa
	輸送環境	温 度	: -10 ~ 60 °C
		相对湿度	: 10 ~ 95 %
		氣 压	: 700 ~ 1060 hpa
Storage Environment : Temperature : -10 ~ 60 °C			
: Relative Humidity : 10 ~ 95 %			
: Atmospheric pressure : 700 ~ 1060 hpa			
Transport Environment : Temperature : -10 ~ 60 °C			
: Relative Humidity : 10 ~ 95 %			
: Atmospheric pressure : 700 ~ 1060 hpa			

1.8 Disposal of equipment

CAUTION

This unit contains substances which may pollute the environment if disposed carelessly. Please contact our office or representative described on the back cover of the operation manual.

1.9 List of associated equipment (for Europe)

Equipment Model	BK-120MK	X-ray High Voltage Generator UD150L-30 FX/EX
Manufacturer	Shimadzu	Shimadzu
Supply mains	Single phase : AC100V, 0.1kVA, 50/60Hz AC400V, 1kVA, 50/60Hz	Three-phase : AC400V, 80kVA, 50/60Hz
Classification	Class I, Type B equipment	←
Mode of Operation	Continuous operation with Intermittent loading	←
Condition of use	Ambient temperature : +10 to 40°C Relative humidity : 30 to 85% Atmospheric pressure : 700 to 1060hPa	Ambient temperature : +5 to 35°C Relative humidity : 45 to 85% Atmospheric pressure : 700 to 1060hPa
Protective packing	Storage environment	←
	Temperature : -10 to 60°C	
	Relative humidity : 10 to 95%	
	Atmospheric pressure : 700 to 1060hPa	
	Transport environment	
	Temperature : -10 to 60°C	
Option	Oppression belt	Starter 4 UD CE
	Side cassette holder	Photo-timer UD-30FX
	Grip switch	

2. Specifications

The specification of the X-ray radiographic table, BK-120M is as follows.

[Unit: mm]

Item		Description
Construction ① Main body ② Floating table top assembly ③ Bucky device		
Main body	Size of table top (Width × length)	Approx. 810 × 2000. Flat table top.
	Attenuation equivalent for table	0.79 mmAl. Eq.
	Attenuation equivalent for X-ray grid	2.9 mmAl. Eq.
	Move of table top	Longitudinal move
		Operation
		Lateral move
		Operation
		Lock of the table top
		Operation
	Vertical moving range	Approx. 550
		Operation
	Distance between table top and floor.	Approx. 350 to 900 (The table top stops once at about 700.) *1
	Distance between table top and film.	Approx. 74
	Maximum allowable load	160kg
Bucky device BF-10H		Refer to specifications for BF-10H.
Installation conditions	BK-120M outer dimension	Refer to 503-06192
	Required space for installation	Width × length = Approx. 5000 × 3500 (to combine with the X-ray support device)
	Total weight	Approx. 320kg
	Power supply	Single phase, 100V, 0.1kVA, and 50/60 Hz. Single phase, 200V, 1kVA, and 50/60 Hz. Supplied from the X-ray high voltage generator.

* 1 When installing, the stop position can be adjusted within a height range of 600mm to 700mm.

* 2 Some stripes could be seen on the film when exposed less than 5msec with no patient body.

Note: The contents of this specifications are subject to change for further improvement without notice.

The specification of the X-ray radiographic table, BK-120MK is as follows.

[Unit: mm]

Item		Description
Construction ① Main body ② Floating table top assembly ③ Bucky device		
Main body	Size of table top (Width × length)	Approx. 810 × 2200. Flat table top.
	Attenuation equivalent for table	0.79 mmAl. Eq.
	Attenuation equivalent for X-ray grid	2.9 mmAl. Eq.
	Move of table top	Longitudinal move
		Operation
		Lateral move
		Operation
		Lock of the table top
		Operation
	Vertical moving range	Approx. 315
		Operation
	Distance between table top and floor.	Approx. 535 to 850 (The table top stops once at about 700.)* ¹
	Distance between table top and film.	Approx. 74
	Maximum allowable load	200kg
Bucky device BF-10HK		Refer to specifications for BF-10HK.
Installation conditions	BK-120M outer dimension	Refer to 503-06198
	Required space for installation	Width × length = Approx. 5000 × 3500 (to combine with the X-ray support device)
	Total weight	Approx. 320kg
	Power supply	Single phase, 100V, 0.1kVA, and 50/60 Hz. Single phase, 200V, 1kVA, and 50/60 Hz. Supplied from the X-ray high voltage generator.
		For Europe Single phase, 100V, 0.1kVA, and 50/60Hz. (Supplied from the X-ray high voltage generator) Single phase, 400V, 1kVA, and 50/60Hz.

* 1 When installing, the stop position can be adjusted within a height range of 600mm to 700mm.

* 2 Some stripes could be seen on the film when exposed less than 5msec with no patient body.

Note: The contents of this specifications are subject to change for further improvement without notice.

3. Operation

Use foot switches to operate the BK-120M, BK-120MK.

The BK-120M, BK-120MK is manually operated except that the table top is electrically moved up and down.

3.1 Turning on the Power



To turn on the power of the BK-120M, BK-120MK, set to ON (☐) the LINE switch provided on the X-ray high voltage generator combined with the BK-120M, BK-120MK.


NOTE

Set the LINE switch to ON in accordance with the instruction manual of the X-ray high voltage generator offered separately.

3.2 Operation of the Table Top

(1) Moving up/down the table top

Exclusively while a foot switch ( or ) provided on the main body is pressed and held, the table top is moved up or down.

While moving up, the table top is automatically stopped in a position in which the distance between the table top surface and the floor surface is approximately 700 mm. Release the foot switch () once, then press it again to move up the table top further more.

While moving down, the table top is not automatically stopped.

A detection switch is provided at the upper limit and the lower limit of the operation envelope of the table top so that safety is assured. The table top is automatically stopped at the upper/lower limit.

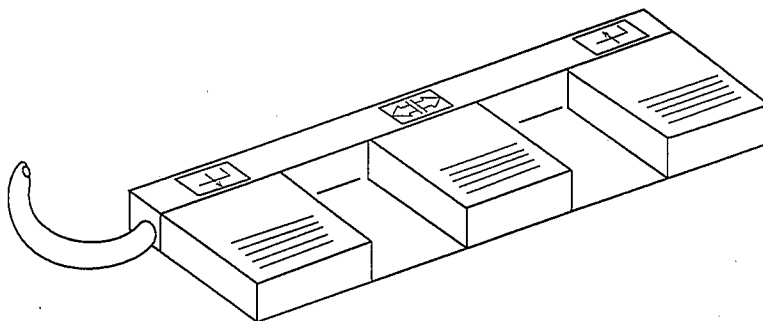


Fig. 3.1

WARNING

While moving up the table top, always make sure safety of a patient. If sufficient attention is not paid, the patient may be caught by clearance between the table top and the X-ray tube assembly.

CAUTION

In emergency in which the table top continues to move up or down without being stopped, press the emergency stop switch (⏏) provided in the right portion of the front face of the main body. Or set to OFF the LINE switch provided on the X-ray high voltage generator. Then, vertical movement of the table top will be forcibly stopped.

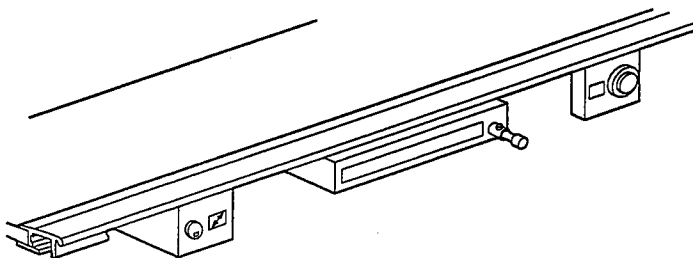
CAUTION

While moving up/down the table top, pay rigid attention so that a patient and the table top do not come into contact with adjacent equipment.

(2) Moving the floating table top

While a foot switch (⬅️➡️) is pressed and held, the lock is released and the table top can be moved by hand. When the foot switch is released, the table top is locked again.

By pressing a pushbutton (⏏) provided on the left side of the table, the lateral movement exclusively of the table top can be fixed. (While the LED of the switch is lit, both the longitudinal movement and the lateral movement of the table top can be released. While the LED is extinguished, the lateral movement exclusively can be fixed.)



	Foot switch ON		Foot switch OFF	
⏏	↔ release	↗ release	↔ fix	↗ fix
⏏	↔ release	↗ fix	↔ fix	↗ fix

Fig. 3.2

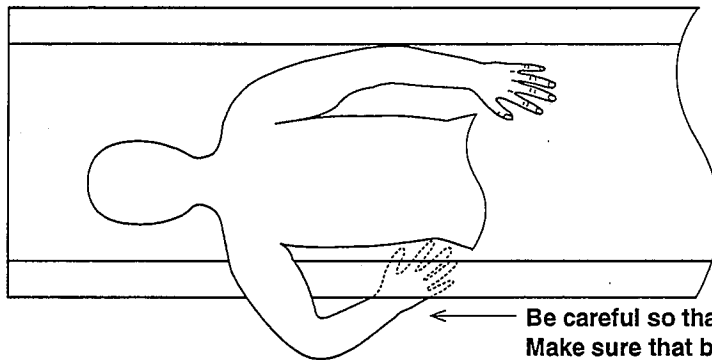
CAUTION

Never place any object on a foot switch. Never press a foot switch by mistake.

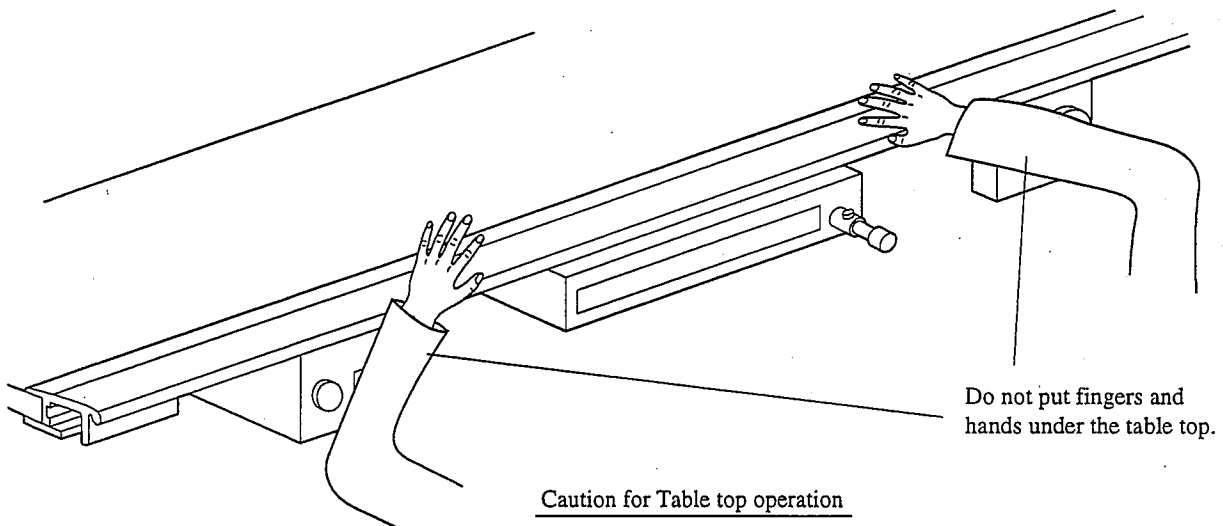
If an object is placed on a foot switch or a foot switch is pressed by mistake, the table top may be suddenly moved up/down or moved horizontally.

CAUTION

While operating the table top, pay rigid attention so that your fingers/hands and a patient's fingers/hands are not caught by clearance between the table top and the bucky device. Especially, never operate the table top while a patient is taking a posture shown in the figure below.



Caution on posture of patient.



CAUTION label

Fig. 3.3

3.3 Positioning the Bucky device

When performing oblique radiography, etc., the Bucky device can be moved in the left-right direction and positioned by pressing and holding a pushbutton switch built in a handle provided on the right side of the Bucky device.

When radiography is finished, return the Bucky device in the center position. By moving the Bucky device while pressing and holding the switch inside the handle, the Bucky device is stopped in the center position. Move the Bucky device slowly. If the Bucky device is moved too fast, it may go beyond the center position.

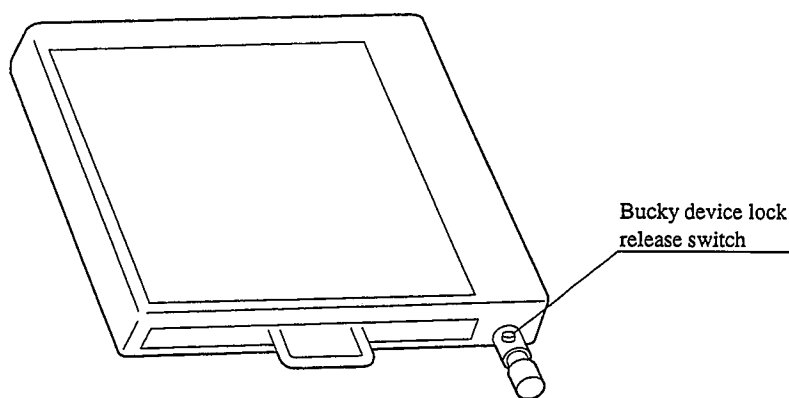


Fig. 3.4

3.4 Operation of the Bucky device

Use the Bucky device in accordance with the instruction manual of the Bucky device BF-10H, BF-10HK offered separately.

3.5 X-Ray Radiography

When selecting an X-ray radiography technique, setting the radiography tube voltage and setting the radiography tube current, refer to the instruction manual of the X-ray high voltage generator offered separately.

3.6 Operation of the oppression Belt (Option) (Refer to Fig. 3.5.)

- (1) Attach a oppression belt to a table top rail. Fix the oppression belt by turning a grip.
- (2) Push down a lever in the arrow A direction. Pull out the oppression belt.
- (3) Cover the fixed region of the patient with the oppression belt. Hang a hook metal at the end to the other table rail.
- (4) Turn the knob to tighten the oppression belt to some extent. Then, while pushing down the lever in the arrow B direction, tighten the oppression belt securely.

- (5) When radiography is finished, push down the lever in the arrow A direction to loosen the oppression belt.

CAUTION

Tighten the oppression belt little by little while confirming the state of the patient. If the oppression belt is tightened drastically, bones may be broken.

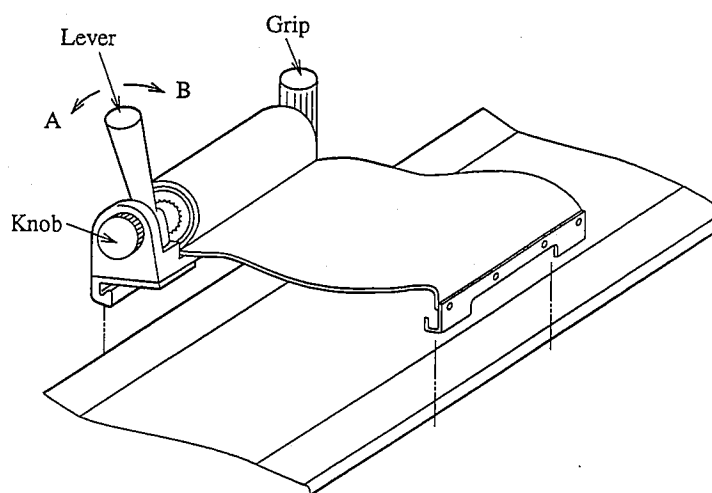


Fig. 3.5

3.7 Operation of the Side Cassette Holder (Option)

- (1) Attach a metal fixture to a table top rail. Turn the knob A to fix the metal fixture securely.
- (2) Loosen the knobs B and C, and adjust the cassette holder position.
- (3) While pushing the slider, widen it upward once. Insert a cassette. Move the slider again, and fix the cassette.

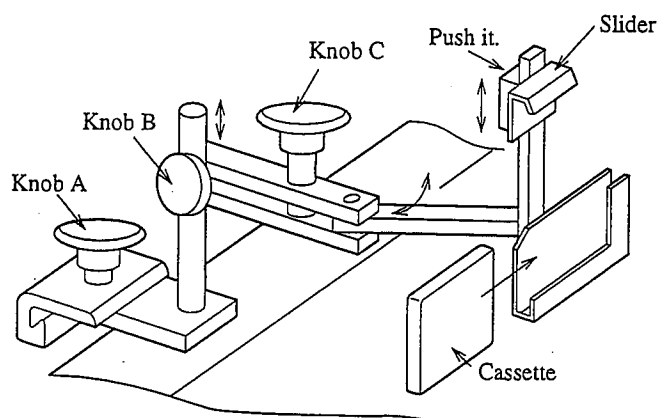


Fig. 3.6

3.8 Operating the Grip Switch

- (1) Mount the grip switch on the top board rail, and firmly fix it by turning the knob A.
- (2) Connect the cable to the connector on the right side of the table.
- (3) Move the top board while releasing the lock of the top board by pushing down the knob B. Releasing the knob B will fix the top board again.
- (4) To lift or lower the top board, push each push button switch. The top board moves only while the button is pushed.
- (5) When not using the grip switch, loosen the knob A and move the switch to the end of the top board.

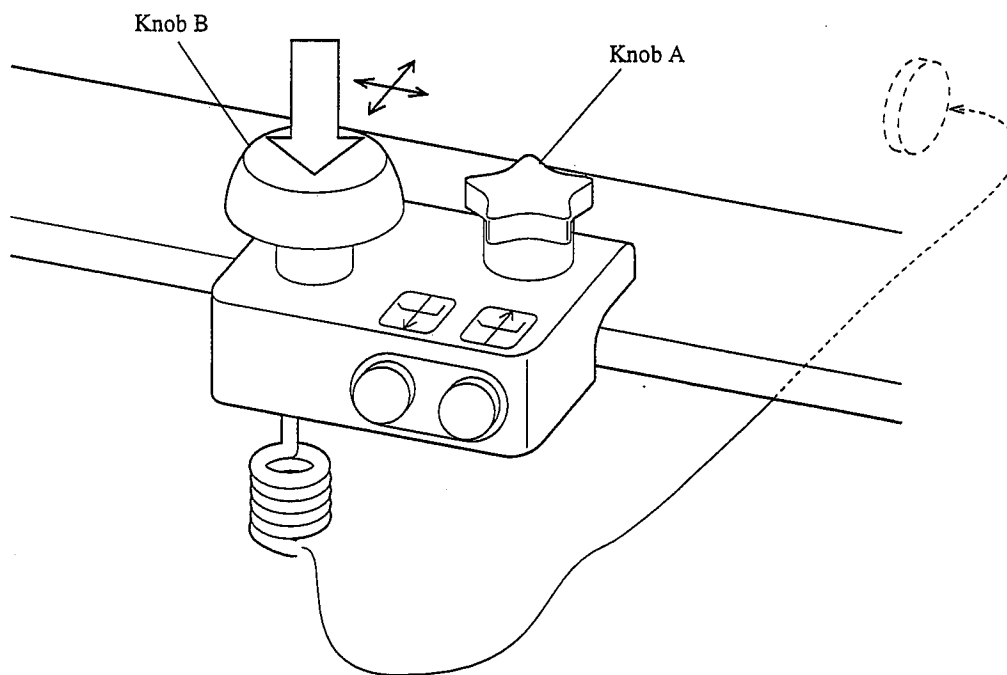



Fig. 3.7

3.9 Shutting down the Power


To shut down the power supplied to the BK-120M, BK-120MK, set to "OFF" () the "LINE" switch provided on the X-ray high voltage generator connected to the BK-120M.

NOTE

Set the LINE switch to OFF in accordance with the instruction manual of the X-ray high voltage generator offered separately.

3.10 Actions in Emergency

3.10.1 Emergency stop


In emergency in which the table top continues to move up or down without being stopped caused by defect of a switch, etc., press the emergency stop switch  provided in the right portion of the front face of the main body. Or set to OFF the "LINE" switch provided on the X-ray high voltage generator. Then, vertical movement of the table top will be forcibly stopped.


Even if the emergency stop switch is pressed, the table top can be normally moved in the horizontal direction.

3.10.2 Recovery from emergency stop

To recover the BK-120M, BK-120MK from the emergency stop status, turn the emergency stop switch to the right. Or set to ON the "LINE" switch provided on the X-ray high voltage generator. Then, the BK-120M, BK-120MK will be recovered to the normal status.

WARNING

When releasing the emergency stop switch  again or set to ON the "LINE" switch provided on the X-ray high voltage generator to recover the BK-120M, BK-120MK from the emergency stop status, pay rigid attention to make sure that the BK-120M is not moving abnormally.

If the BK-120M, BK-120MK is moving abnormally, press the emergency switch () or set the LINE switch to OFF immediately.

3.10.3 Action when the power is interrupted

While the power is interrupted, the table top cannot be moved up/down. However, the table top can be moved in the horizontal direction against the brake if a force of 15 to 20 kg is applied.

When the power is interrupted, move the table top horizontally upon necessity to assure safety of the patient.

[NO TEXT]

4. Maintenance and Inspection

Check the following items periodically (once in a period not more than one year) so that the BK-120M, BK-120MK can offer its full performance for a long time.

If any abnormality is detected or you have any question, contact our service agency soon.

As to "3.1 Checking the Vertical Movement", ask our service agency to check the underlined portion and replace lubricating oil at least once a year even if the BK-120M, BK-120MK is not used so often.

4.1 Daily Inspection

4.1.1 Checking the Vertical Movement

Move the table top up and down, and make sure that abnormal sounds and abnormal vibrations are not detected, that the table top moves smoothly and that sounds caused by slippery of a belt is not heard inside the unit.

Even if the table top is smoothly moving up and down, ask our service agency once a year to supply lubricating oil specified by our company to the thread portion of a move-up jack.

WARNING

If lubricating oil is not supplied periodically (once a year), the table top may be dropped in the worst case.

4.1.2 Checking the Table Top Movement

Move the table top in the horizontal direction, and make sure that abnormal sounds and backlash are not detected and that the brake is effectively functioning.

Make sure that foreign objects are not adhered on slide rails for longitudinal movement of the table top. If dusts, yarns, etc. are adhered, wipe them off with clean cloth. These rails function also as a brake suction plate. Never apply oil to them.

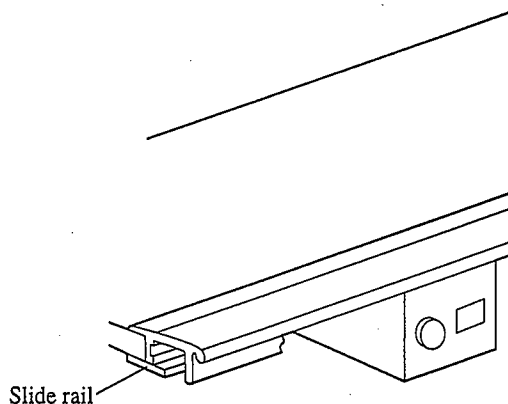


Fig. 4.1

4.1.3 Checking the Bucky Device

Insert a cassette, and make sure that abnormal sounds and backlash are not detected.

Move the Bucky device in the horizontal direction, and make sure that abnormal sounds and backlash are not detected.

Make sure that foreign objects are not adhered on slide rails for movement of the Bucky device. If dusts, yarns, etc. are adhered, wipe them off with clean cloth.

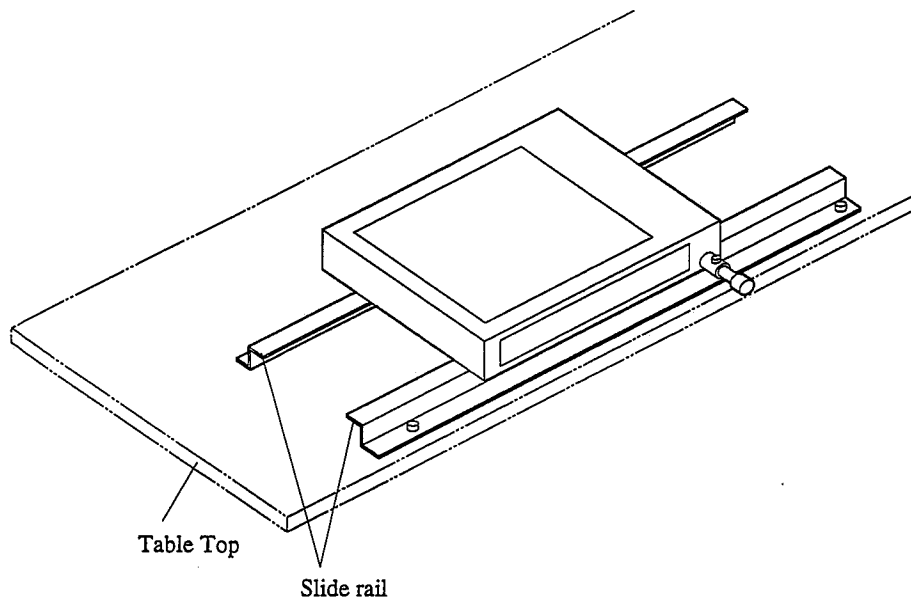


Fig. 4.2

4.2 Inspection items

4.2.1 Daily inspections

Inspect the following items before operating the table, and if any abnormal points are observed, please contact service personnel of Shimadzu Corporation or an engineer with equivalent qualification:

Item	Inspection points	Remark
Outside view	Any breakage (dents, fractures, etc.) on the cover?	
Table top	The brake can be released? Any jerk or creak while sliding?	
Bucky slide	The brake can be released? Any jerk or creak while sliding?	
Bucky device	Cassette tray is put in/out smoothly? Cassette is fixed?	
Table top elevating	Any vibration or creak while moving up/down?	
Foot switch	The switch works normally?	
Grip switch	The switch works normally? The switch is firmly fixed on the top-panel? Any flaws of the cable?	Option

4.2.2 Periodical inspection

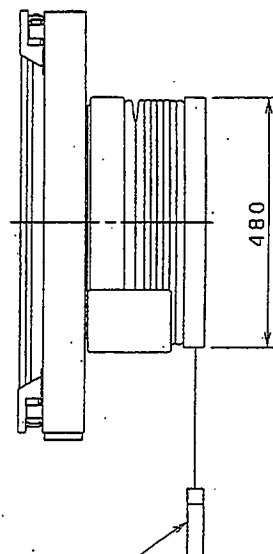
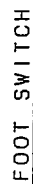
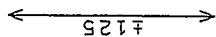
If any abnormal points are not observed in daily inspections, check the following points at regular intervals of less than one year.

Ask service personnel of Shimadzu Corporation or an engineer with equivalent qualification to inspect the following points periodically:

Item	Inspection points	Remark
Up/Down jack	Any wear, flaws, or sticking matters of the screw bar? Lubricant for the screw bar is sufficient? Any vibration or creak while moving up/down? Any loosening of fixing bolts?	Remove the cover, and check.
Up/Down motor	Any wear or flaws of power transmission belt? Any vibration or creak while moving up/down? Any loosening of the fixing bolts?	Remove the cover, and check.
Up/Down limit switch	The switch works normally? Any loosening of the fixing bolts?	Remove the table top, and check.
Link mechanism	Visually inspect the mechanism. Any loosening of the fixing bolts?	Remove the table top, and check.
Power supply	Input/Output voltage is appropriate?	Remove the table top, and check.
Cable setting	Any flaws or kink of the cable?	Remove the table top, and check.

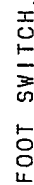
Item	Inspection points	Remark
Table top	The brake can be released? Any flaws or stickin matters on the rail and roller? Any loosening of the fastened parts?	
Bucky device	The grid moves smoothly? The grid drive moter rotates smoothly? Lubricant for the grid drive cam is sufficient?	Remove the table top, and check.

本装置の構成には、X線管装置、
X線高電圧装置、および可動絞りは
含まれない。



BK-120M

本装置の構成には、X線管装置、X線高電圧装置、および可動絞りは含まれない。



BK-120MK



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