

OPERATION MANUAL

TOA INDOOR PAN AND TILT HEAD MODEL **CC-5521**

Please read this Operation Manual before installation and operation in order to avoid unexpected troubles caused by any misuse.

GENERAL

The TOA Indoor Pan And Tilt Head Model CC-5521 carries CCTV camera up to 11 kg when normally mounted, or 10 kg when hung from a ceiling. It provides remotely controlled 340° pan and 65° tilt up/down travels. Pan and Tilt limit cams are externally adjustable. The CC-5521 includes the advantages of auto-pan.

SPECIFICATIONS

- 1) Usable Place : Indoor
- 2) Power Requirements : 24 V AC \pm 10 %, 50/60 Hz, single phase
- 3) Power Consumption : Max. 40 VA
- 4) Ambient Temperature : -10°C to $+45^{\circ}\text{C}$
- 5) Ambient Humidity : 95 % or less, relative humidity
- 6) Load Rating : Upright mounting; 11 kg
 Inverted mounting; 10 kg
 * Based on C.G. to the camera mount center distance of 70 mm and off-center displacement of 25 mm. (See Page 5).
 * The tilting function may not work beyond the limited distances.
 (C.G. = Center of Gravity)
- 7) Weight : Approx. 5 kg
- 8) Operation :

		Tilting	Panning
Arc of Travel		65° \pm 3° up 65° \pm 3° down	340° or more* 330° \pm 5° (auto-pan)
Speed	50 Hz	Approx. 3°/sec. \pm 0.5°/sec.	Approx. 6°/sec. \pm 0.5°/sec.
	60 Hz	Approx. 3.6°/sec. \pm 0.6°/sec.	Approx. 7.2°/sec. \pm 0.6°/sec.

* 360° is available by removing a limit cam. (See Page 8).

- 9) Main Skin Materials : Corrosion resistant aluminum sheet, cast aluminum alloy, synthetic resin (ABS)
- 10) Finish : Metal part; Munsell 2.5Y 6/1 approx. value (beige), leatherette and semi-glossy black texture
Resin part; Munsell 5Y 8/1 approx. value (ivory yellow), leatherette texture

ACCESSORIES

1. Connectors and Terminals for Input and Output Connections

- 1) Spade lug terminal (L); for input 14 pcs.
2) Spade lug terminal (S); for output 3 pcs.
3) Coaxial cable with BNC connectors on both ends 1 pc.
4) 4-pin connector (Mas 4100); for zoom lens 1 pc.

2. Camera Mounting Bolts and Washers

- 1) Hexagon head bolt; W 1/4 x 14 2 pcs.
2) Spring washer ϕ 6 mm 2 pcs.
3) Plain washer ϕ 6 mm 2 pcs.
4) Insulation bushing 2 pcs.

3. Accessories Illustrated



×14

1-①

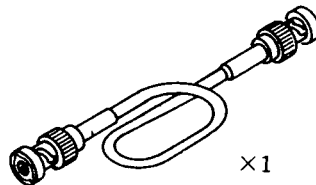
Spade lug terminal (L)



×3

1-②

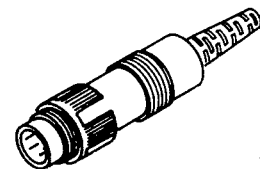
Spade lug terminal (S)



×1

1-③

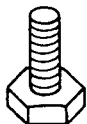
Coaxial cable with BNC connectors



×1

1-④

4-pin connector



×2

2-①

Hexagon head bolt



×2

2-②

Spring washer



×2

2-③

Plain washer

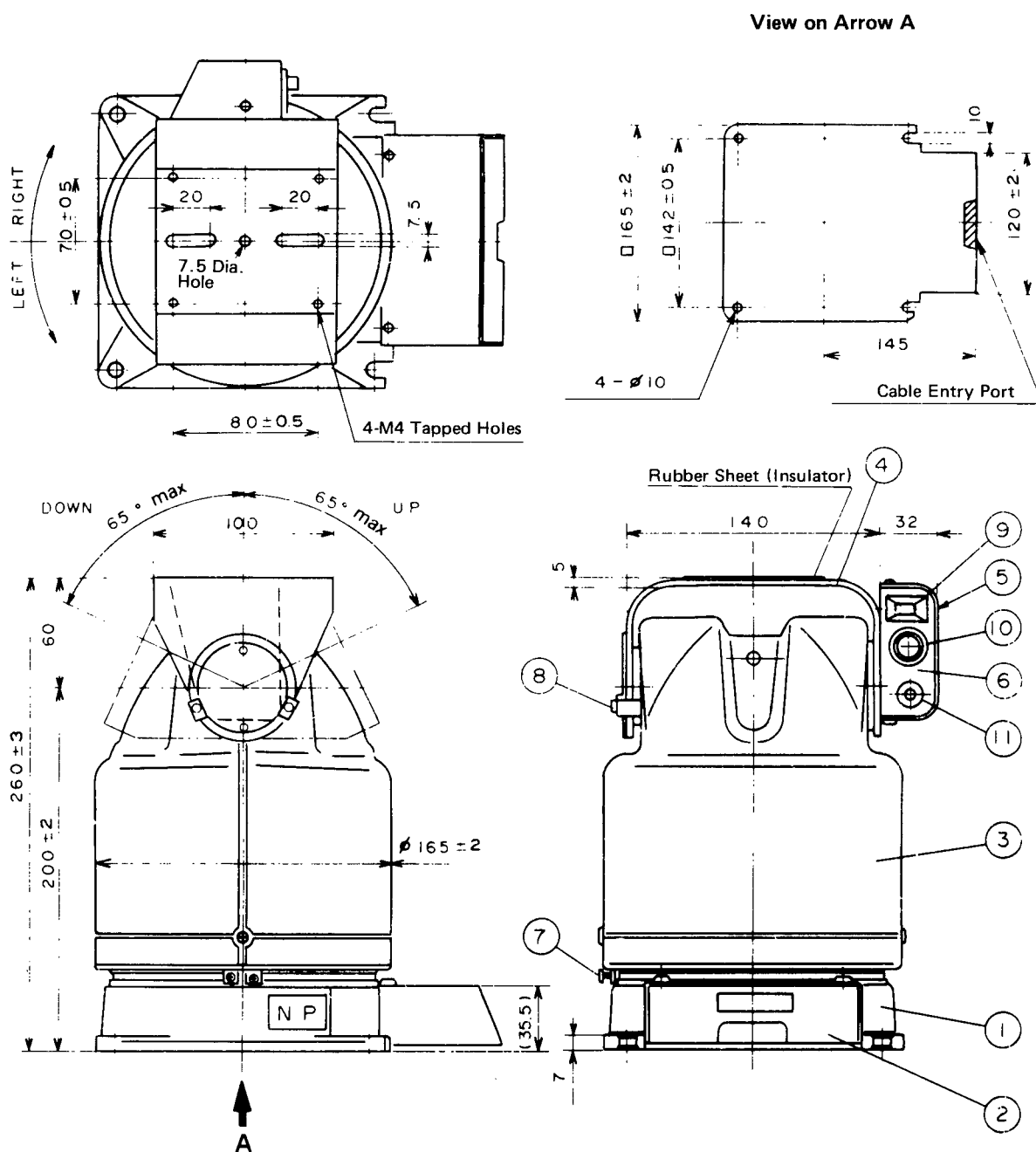


×2

2-④

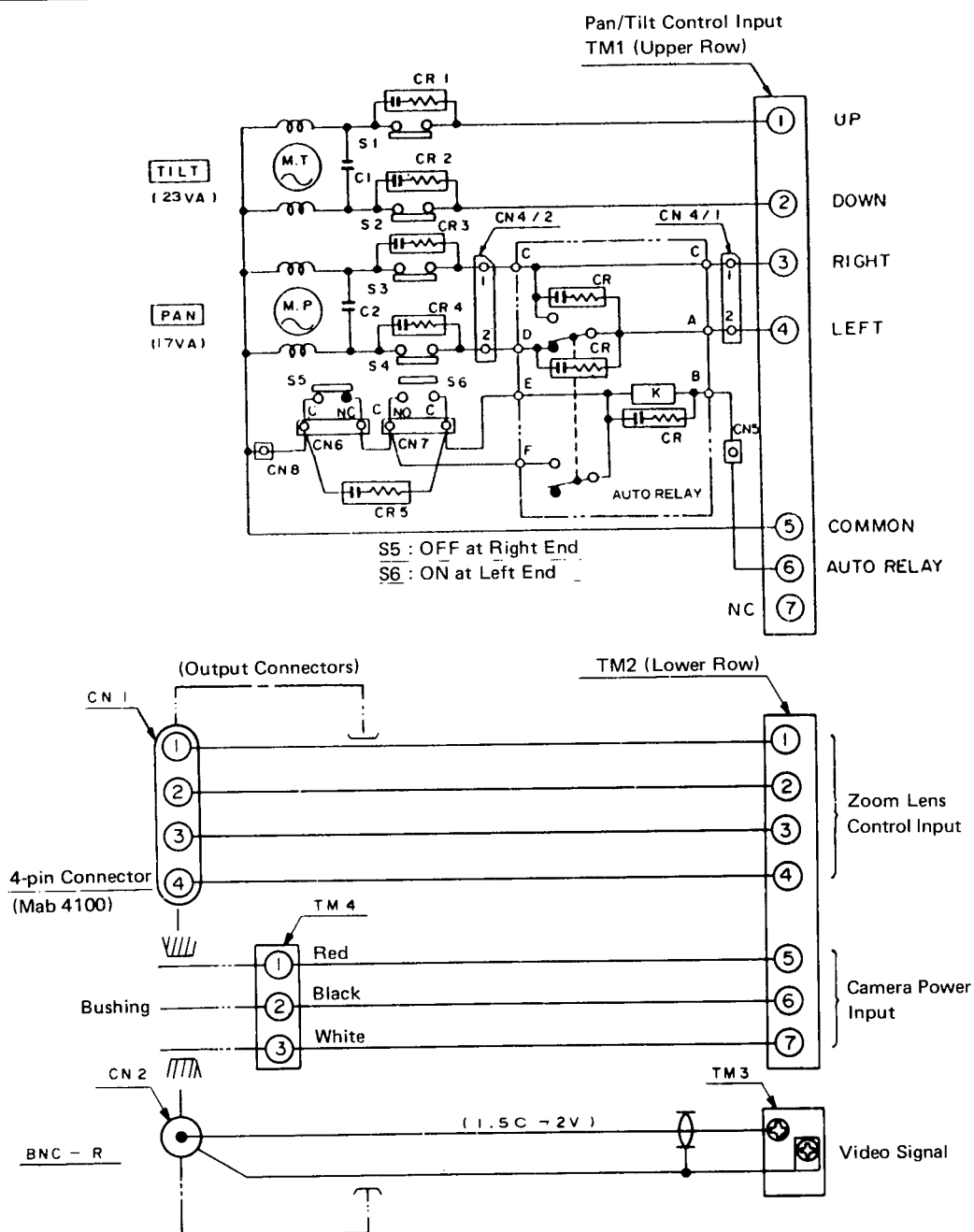
Insulation bushing

APPEARANCE AND DIMENSIONAL DIAGRAM



①	Flanged base	⑦	Pan limit cam
②	Terminal cover	⑧	Tilt limit cam
③	Main body cover	⑨	Cable entry busihing
④	Camera mount	⑩	Zoom lens connector (Mab 4100)
⑤	Connector cover	⑪	Coaxial cable connector
⑥	Connector plate		

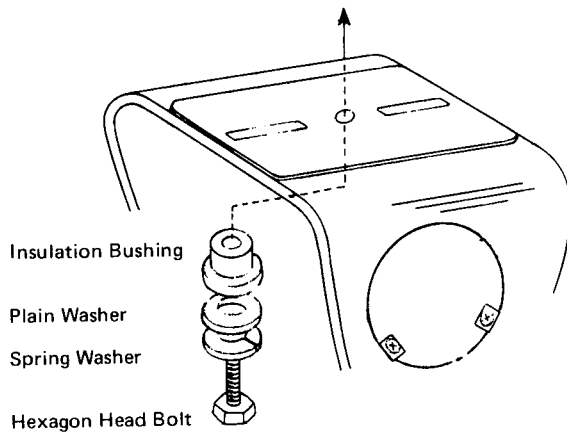
CIRCUIT DIAGRAM



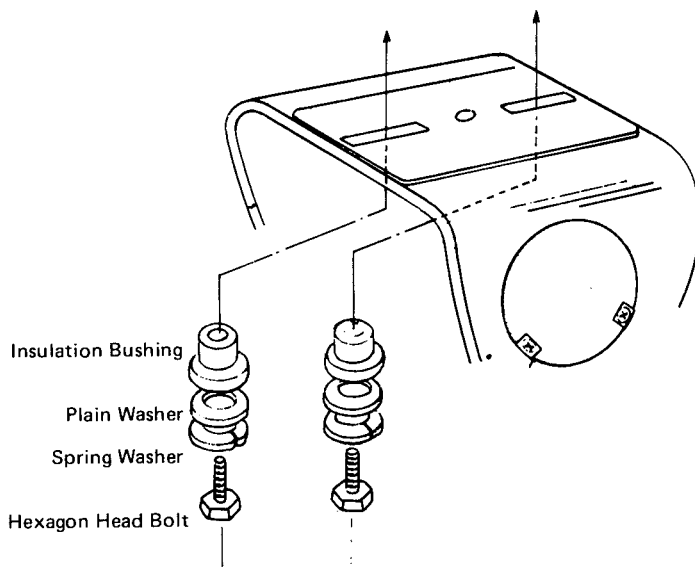
Symbol	Description	Q'ty	Symbol	Description	Q'ty
MT	Motor; tilt	1	CN4	2-pin connector; interconnection	1
MP	Motor; pan	1	CN5	1-pin connector; interconnection	1
C1	Capacitor; tilt motor starting	1	CN6-8	FASTON #187 terminal	(5)
C2	Capacitor; pan motor starting	1	S1-4	Limit switch	4
TM1	7-pin terminal block (upper row)	1	CR1-4	Spark suppressor	4
TM2	7-pin terminal block (lower row)	1	S5-6	Switch; auto	2
TM3	1-pin terminal block; video signal	1		Auto-relay circuit	1
TM4	3-pin terminal block; camera power output	1	K	Relay; AC	(1)
CN1	4-pin connector; Mab 4100	1	CR	Spark suppressor	(3)
CN2	Coaxial connector; BNC	1	CR5	Spark suppressor	(1)
				Circuit board	(1)

INSTALLATION AND OPERATION

● HOW TO MOUNT CAMERA



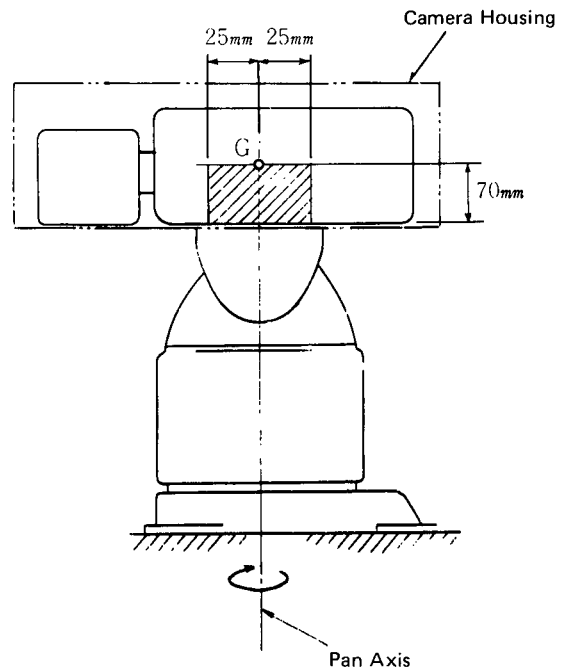
1. Secure the camera onto the camera mount with an insulation bushing, plain washer, spring washer and hexagon head bolt supplied. Be sure to use the insulation bushing without fail, or objectionable video noise may result.
2. For a camera placed in camera housing, additionally fix the housing through two rectangular fixing holes using two fixing bolts. This adds to security of the housing.



3. Mount the camera so that the C.G. (center of gravity) of the camera and lens (and camera housing) combination lies within the distance of 70 mm above the camera mount and off-center displacement of 25 mm from the camera mount center.

* The C.G. must lie within the shadowed zone as shown.

4. Make sure to install the camera in a place where the tip of the lens will not bump against the surrounding wall or ceiling when swiveling.

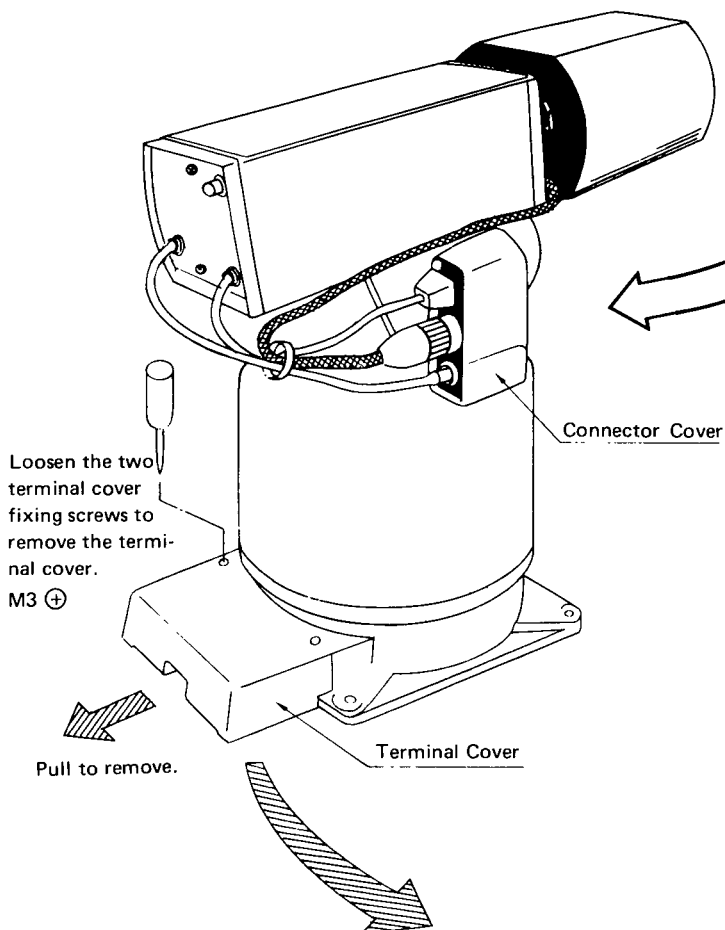


INSTALLATION AND OPERATION

• HOW TO CONNECT OUTPUT CABLE

Shorten the original camera power cable and zoom lens control cable to a neat and slackless lengths respectively.

Use the spade lug terminals (S) for connection of the camera power cable and the 4-pin plug for connection of the zoom lens. Use the attached coaxial cable assembly to supply video signals from the camera to the camera controller.

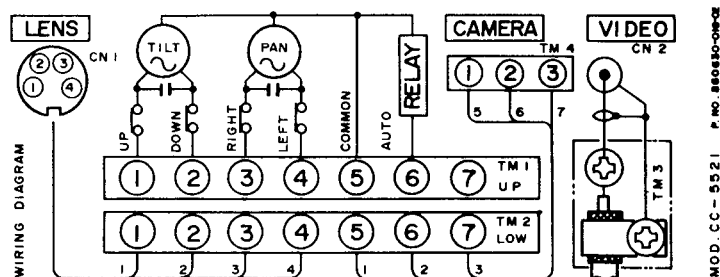


• HOW TO CONNECT INPUT CABLE

Loosen the two terminal cover fixing screws to remove the terminal cover.

The control input connection diagram is printed inside the terminal cover.

Control Input Connection Diagram (Printed inside the Terminal Cover)

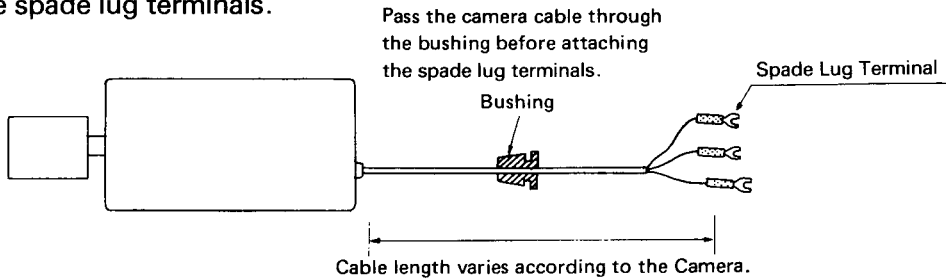


INSTALLATION AND OPERATION

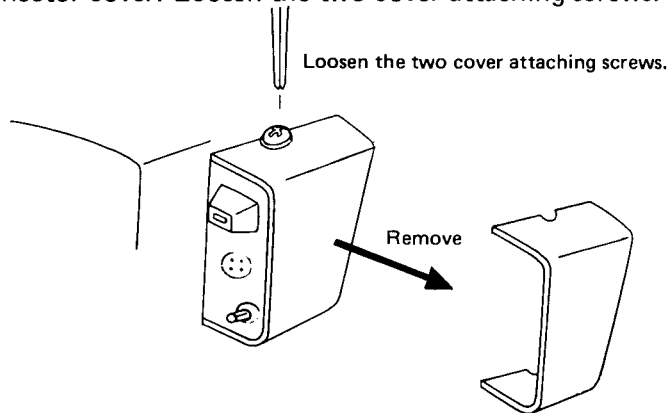
• HOW TO CONNECT CAMERA POWER CABLE

Pass the camera power cable through the bushing on the connector plate. And connect it to the 3-pin terminal block (TM4).

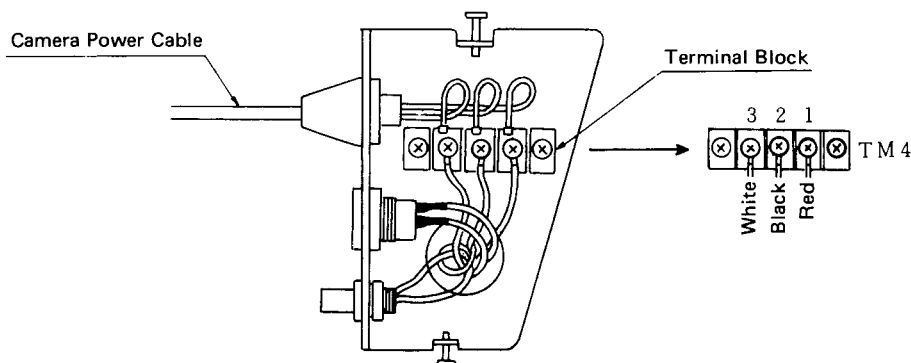
1. Cut the camera cable to a suitable length. Pass the camera cable through the bushing before attaching the spade lug terminals.



2. Remove the connector cover. Loosen the two cover attaching screws.

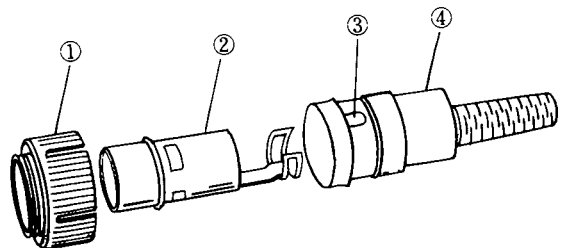


3. Attach the leads of the camera cable to the 3-pin terminal block (TM4).



• HOW TO DISASSEMBLE 4-PIN CONNECTOR

Pull off the screw ring ①. Pull out the core assembly ② out of the connector body ④ by pushing the release hole ③. The core assembly will be further disassembled for easy soldering.



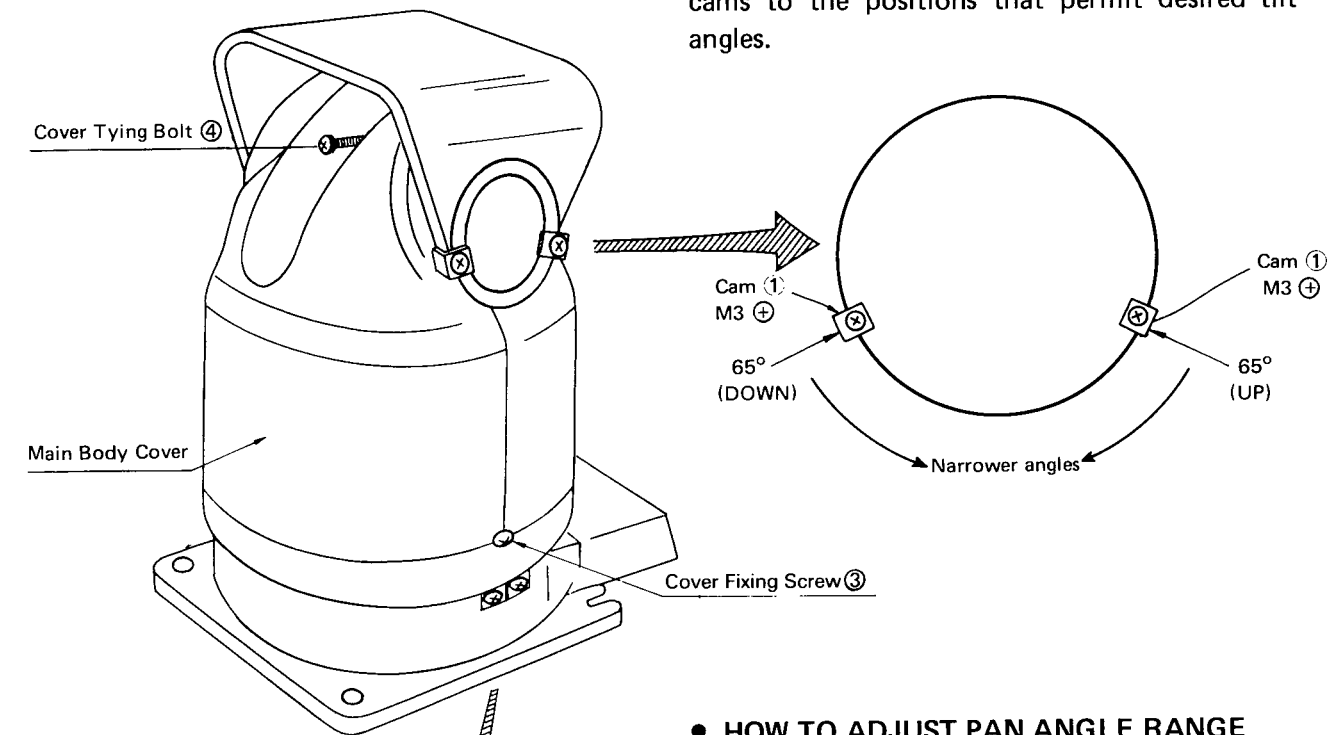
INSTALLATION AND OPERATION

• HOW TO ADJUST TILT ANGLE RANGE

Tilt angle can be externally adjusted.

Positions of the tilt limit cams ① are factory set at 65° up and 65° down from the horizontal, and can be adjusted for any narrower angles by shifting the cams.

Loosen the cam ① fixing screws, and move the cams to the positions that permit desired tilt angles.



• HOW TO ADJUST PAN ANGLE RANGE

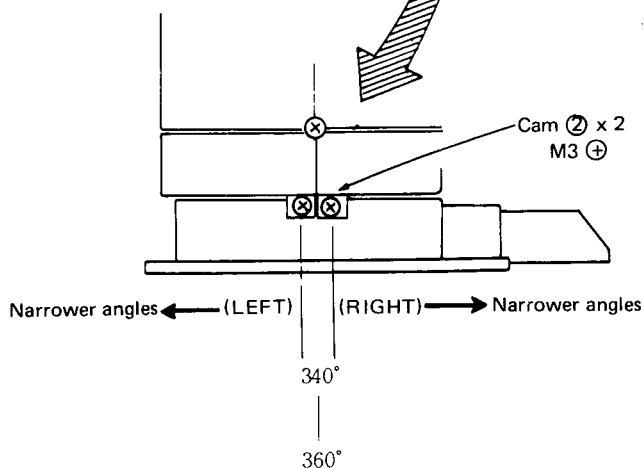
Pan angle can be externally adjusted.

Positions of the pan limit cam ② are factory set at 340°, and can be adjusted for any narrower angles by shifting the cams.

Loosen the cam ② fixing screws and move the cams to the positions that permit desired angles.

* The maximum pan angle of 360° is available by removing one of the two pan limit cams ②.

* To remove the pan limit cam, remove the main body cover by loosening two cover fixing screws ③ and removing cover tying bolt ④.





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