

Setup

1. Dolly

The dolly of the crane system is the foldable dolly in 'Y' pattern. Unfold the leg by depressing the leg locking pin (Figure 1), and pull out the folding leg. Revolve 120 degree till the leg locking pin lock the legs in the open position. Repeat the above steps for the spreading another folding leg.

All operation instructions are same with our SC-3920 dolly, please see our operators guide for further information on operating this dolly.



Figure 1

2. Tripod

When installing the tripod on the dolly, insert all three feet into slots on the dolly (Figure 2).

To adjust the horizontal level of the top of tripod, the tripod has to be heightened and the feet of tripod need to be lengthened. Loosen the locking knob and the foot can be lengthened. After making sure the feet is prolonged to the proper length and the direction of the foot is right, tighten the locking bolt. Loosen the locking knob of the protective sleeve, put the protective sleeve upward to the highest position, and then tighten the locking bolt.



Figure 2



Figure 3

3. Central pivot section

Central pivot section should be installed on the tripod and allow the crane arm to swivel horizontally. As shown in Figure 4, please put the central pivot section on tripod and tighten it with locking knob.

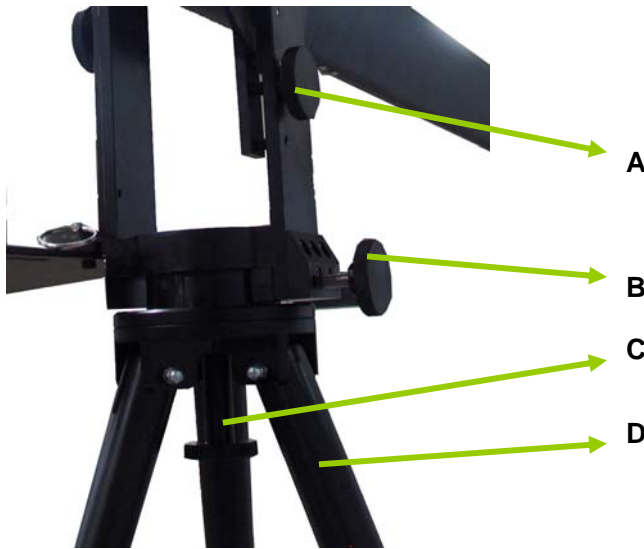


Figure 4

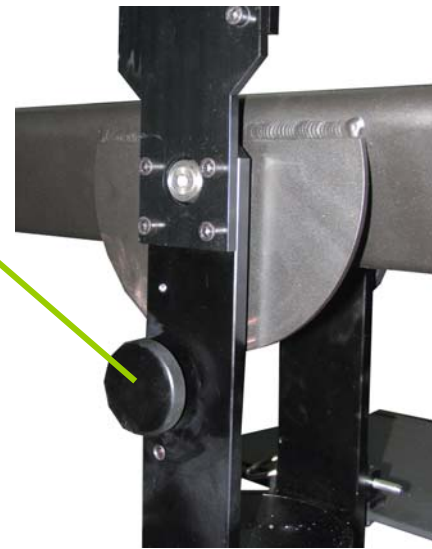


Figure 5

A. Tilt locking knob
 B. Pan locking knob

C. Tilt locking knob
 D. Pan locking knob

4. Arm

The arm is formed by 5 tubes. The tubes are numbered from the end of counterweight rod. The installation of the arm shall start from the section 2 tube which is installed on the central pivot section. The Figure 5 shows the installation method of section 2 tube on the central pivot section. Other arms are connected with each other by the way shown in Figure 6, and use the spanner to tighten three screws. The cable should be through the tubes as shown in Figure 7.



Figure 6-1



Figure 6-2



Figure 6-3



Figure 7-1



Figure 7-2

5. Camera and remote head

Install the camera and remote head under the mounting plate with 4 knobs (Figure 11). The cables are through the remote head as Figure 8.

Balance should be adjusted after the camera is installed. If camera uses battery to supply power, the battery should be installed before adjusting balance. First of all, release the gear of tilt motor, adjust the positions of the plate backward or forward according to which way the camera turns, then adjust balancing frame upward or downward according to which way the camera turns, and repeatedly adjust the positions of plate and balancing frame to ensure the camera doesn't move

anymore when turning to any position.



Figure 8

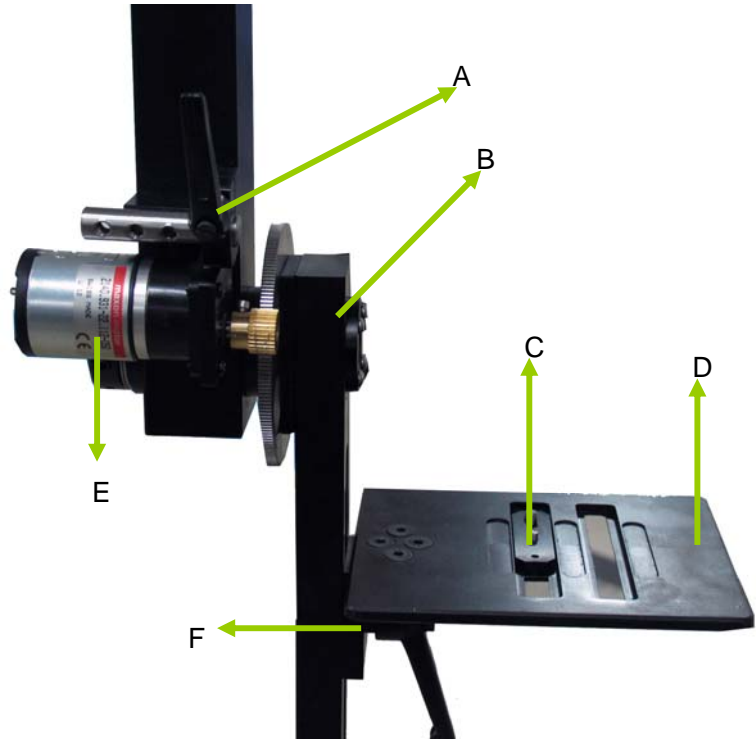


Figure 9

- | | |
|--|--|
| A. Locking lever for tilt motor | D. Camera plate for DV camera |
| B. Balance frame | E. Tilt motor |
| C. Screws | F. Locking lever for camera plate |

Due to influence of cables on the camera, it may not move when it reaches any positions. Under such a situation, influence of such a force should be minimized.

6. Balance steel cable

The balancing steel cable is installed upon the arm to make sure the pan & tilt remote head maintain level. Place one end which has the turnbuckle at end of mounting plate when installing, and reach the state which is demonstrated in Figure 11. Another end is placed on the central pivot section, through the cable guide and fixed with cable pressing plate (Figure 10) and tighten locking screw (Figure 12).

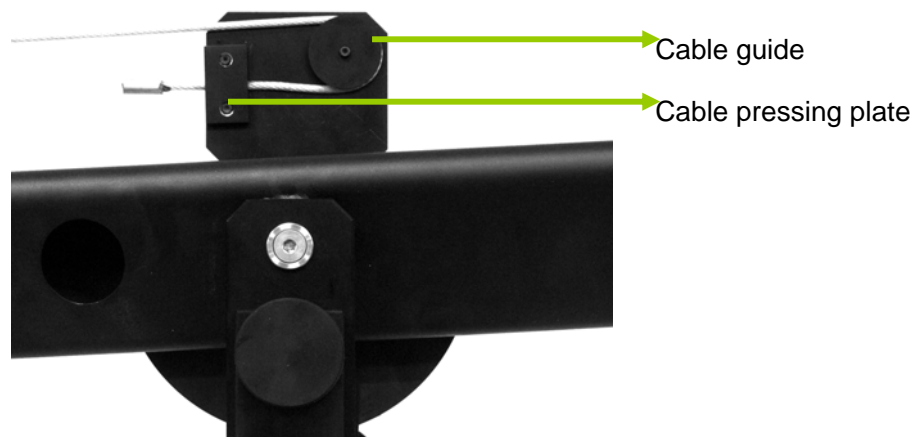


Figure 10

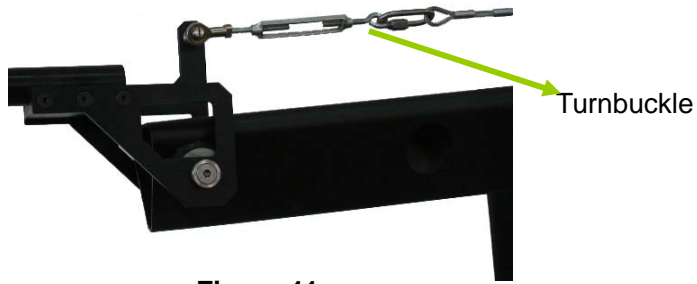


Figure 11

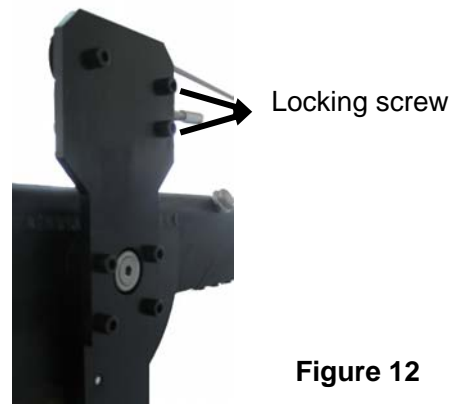


Figure 12

After installation of the balancing steel cable, check if the mounting plate of remote head is level. If the plate is not level, adjust the turnbuckle and plate after loosening the locking lever (Figure 13) to observe if the plate is level by checking the level bubble (Figure 13). Continue to adjust to make sure the mounting plate is level.



Figure 13



Figure 14



Figure 16



Figure 15

- A. Top tension steel cable
- B. Top tension cable supporting rod
- C. Balance steel cable
- D. Locking knob for supporting rod

7. Top tension steel cable

The tension steel cable is used for giving a tension force to the pan & tilt remote head and the camera, keeping the crane straight, increasing the rigidity of the crane arm, and preventing camera shaking while swiveling the crane.

The top tension steel cable are hooked with both section 1 and section 5 tubes (Figure 14 and 15). The supporting rod has to be risen up to top by screwing the knob and then tighten the knob to fix the supporting rod (Figure 16).

8. Controlling bar

As shown in Figure 17, to install the controlling bar on the counterweight rod and tighten the locking knob.

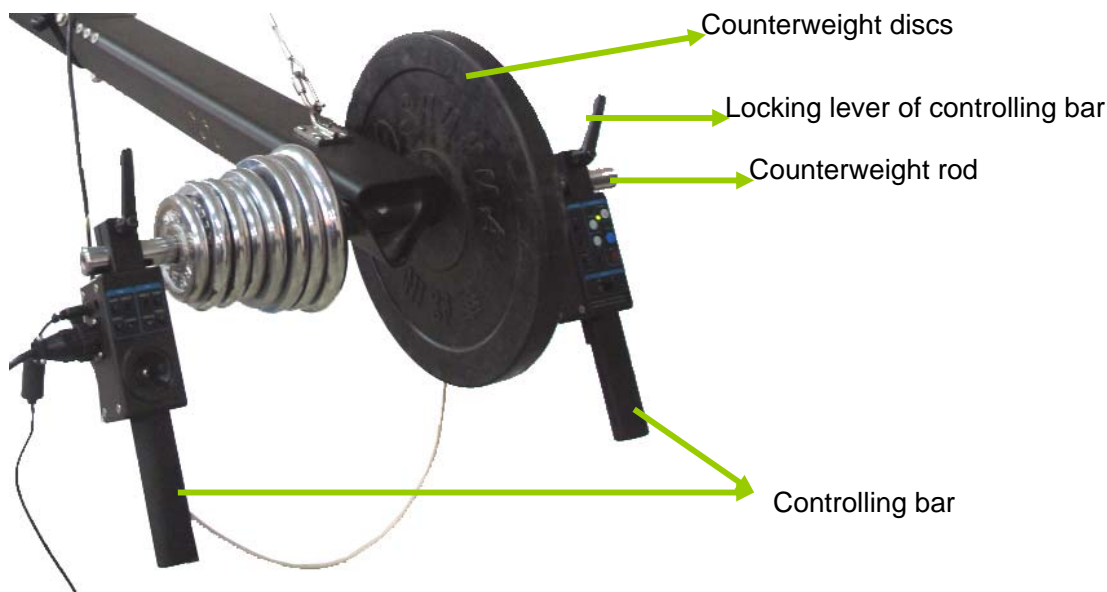


Figure 17

9. Counterweight

Install the counterweight (optional) on counterweight rod as shown in Figure 17, and adjust the weight to enable the crane to keep balance.

Wire Connection

1. Remote head controlling bar, as in Figure 18, insert integrated controlling cable, power cable and controlling bar cable (connecting with DV controlling bar) into the corresponding sockets.

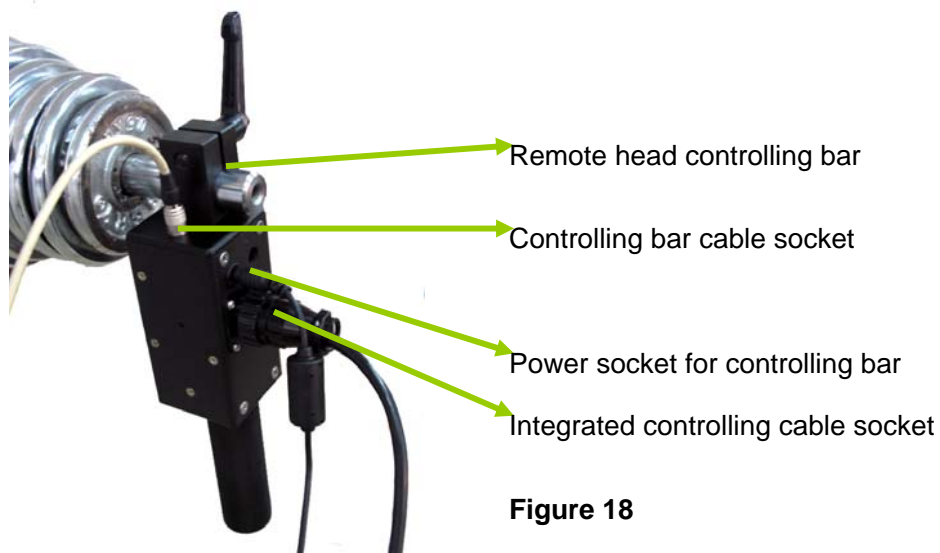


Figure 18

2. DV controlling bar, insert the controlling bar cable into socket on the DV controlling bar (Figure 19), which is connected with remote head controlling bar.

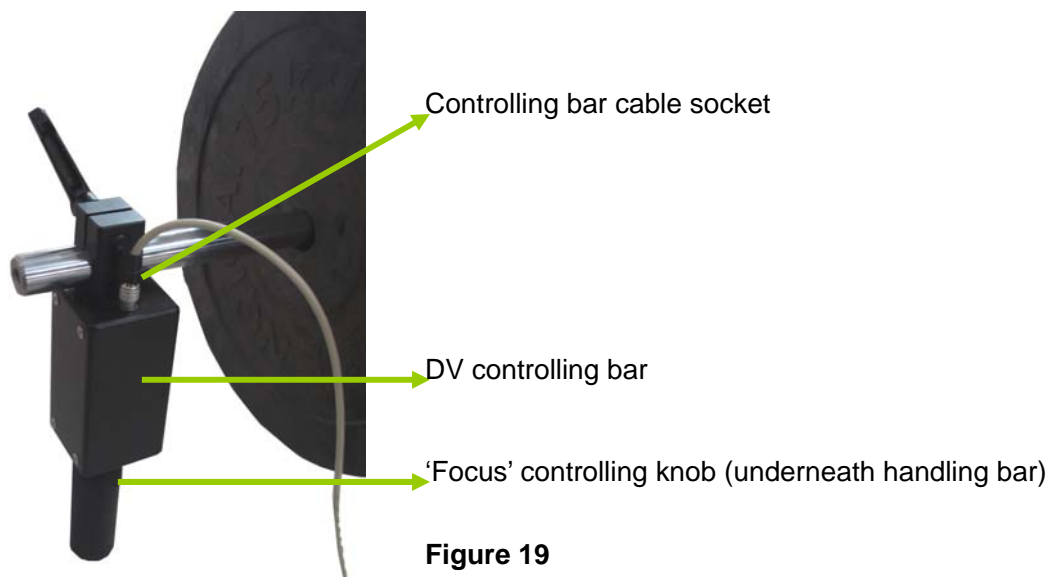


Figure 19

3. Remote head, insert the plugs into the tilt and pan motors respectively. The plug with long cable is for tilt motor, and the plug with short cable is for pan motor.
4. Camera: Insert the $\phi 2.5$ plug (small one) into the LANC socket on Sony's camera and other brands' camera which have CANC control function. For Panasonic DV camera, insert the $\phi 2.5$ (for controlling power switch and 'ZOOM') and $\phi 3.5$ (for controlling 'IRIS' and 'FOCUS') plugs into Panasonic camera remote control socket. Please don't plug into the wrong sockets.
5. Monitor: insert video cable into AV output socket of camera, and another end (with yellow sign) is connected with monitor.

Operation

The panels of two controlling bars are shown as follows.

1. Control of remote head

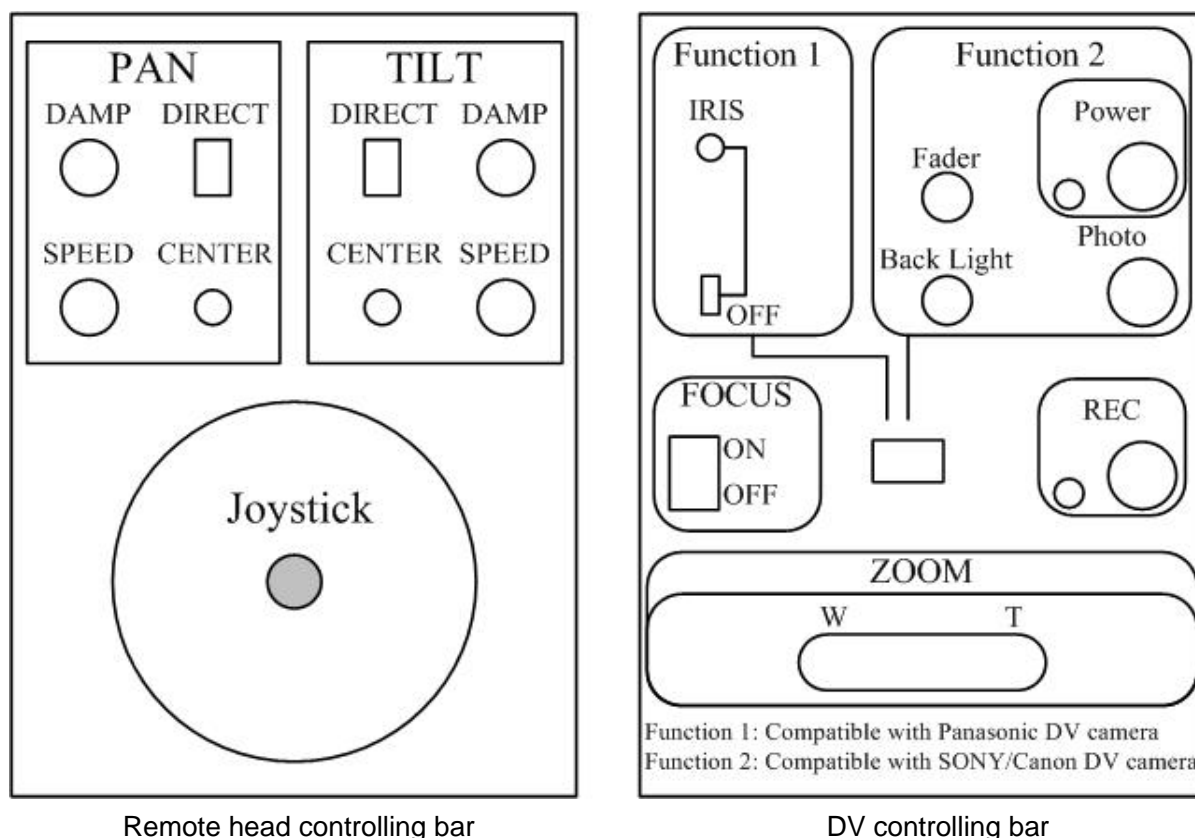
There is a joystick on the remote head controlling bar to control panning and tilting of remote head, meanwhile there are also some knobs and switches on this controlling bar. 'SPEED' controls the speed of rotation of remote head, 'CENTER' can control the remote head rotate automatically as the speed which is set up with 'SPEED' control knob, and 'DAMP' is for adjusting the drag of the remote head. When the drag is small, the pan & tilt head can quickly starts and stops. When the damp is large, the start and stop of the pan & tilt head have the obvious delay.

2. Control of camera

The DV controlling bar can control three brands' DV camera, including SONY, Panasonic and Canon. All three brands of cameras use the same knobs or lever for controlling 'Zoom', 'Focus' and start recording ('Rec'). There are 'ZOOM' controlling lever and 'FOCUS' controlling knob to control 'Zoom' and 'Focus' of lens. The 'Focus' switch is to turn 'Focus' manual control function off. When the operators would like to use automatic focus adjustment of DV camera, 'Focus' switch on the DV controlling bar should be turned off. 'REC' is for starting or stopping recording. In middle of the DV controlling bar, there is a switch to change between 'Function1' and 'Function2'. 'Function1' is for the controlling Panasonic DV camera, which can control Iris. The manual control of 'Iris' is able to be turned off by using the switch below 'IRIS' knob. When being on 'Off' position, the Panasonic DV camera is able to automatically adjust 'Iris' itself. Meanwhile 'Function2' is to control SONY and Canon DV cameras which have 'CANC' protocol, which can realize the functions like, photo taking

(‘Photo’), ‘Back Light’ button, ‘Fader’ button, ‘Power’ switch.

Attention: The switch of ‘Function1’ and ‘Function2’ has to be used correctly for the corresponding camera, otherwise not only the special functions are invalid but also the common functions aren’t available.



Specifications and Technical Data

Length	6m
Height of central axis	1.64m (including dolly)
	1.45m (excluding dolly)
Elevation angle	60° (including dolly)
	50° (excluding dolly)
Rotation radius of pan & tilt head	4.34m
Highest point of pan & tilt head	5.6m
Payload of pan & tilt head	3.5kg
Rotation angle of pan & tilt head	Horizontal: Unlimited
	Vertical: ±180°
Fastest speed of pan & tilt head	Horizontal: 10 rounds/min.
	Vertical: 10 rounds/min.
Power input	Line: AC100~240V
	AC adaptor: DC 12V 5A
Size of packing case (L x W x H mm)	Case 1: 600×450×220
	Case 2: 1330×390×390
Gross weight (Kg)	Case 1: 14.5kg
	Case 2: 52kg
	Total weight: 66.5Kg

Packing List

No.1 Case			
Number	Name	Quantity	Remark
1	Remote head	1	With pan and tilt motors
2	Remote head controlling bar	1	
3	DV controlling bar	1	
4	Main cable	1	
5	Controlling bar cable	1	
6	Video cable	1	
7	AV	1	
8	Power adaptor	1	
9	Monitor supporting plate	1	
10	Bounding strap for monitor	2	
11	Operator Guide	1	
12	Knobs for remote head	4	

No.2 Case			
Number	Name	Quantity	Remark
1	Section 1 tube	1	With bounding strap
2	Section 2 tube	1	With central pivot section
3	Section 3 tube	1	
4	Section 4 tube	1	
5	Section 5 tube	1	With mounting plate
6	Tripod	1	
7	Dolly	1	
8	Top tension steel cable	1	
9	Balance steel cable	1	
10	Supporting rod	1	
11	Counterweight rod	1	
12	Knob for fixing the tripod	1	
13	Bolt for connecting the arm	12	
14	17mm Spanner	1	
15	No.5 inner-hexagon spanner	1	

Appendix



Remote head controlling bar



DV controlling bar



Integrated controlling Cable



Controlling bar cable



Video Cable

Special video cable plug for DV