



# Operating Manual

## Panther Pixy Crane System



# **Introduction**

Congratulations to your decision to buy or rent a **PANTEHR PIXY CRANE SYSTEM**! We are very pleased that you have chosen our product, which combines state-of-the-art technology as well as the experience of many years in manufacturing camera cranes and dollies.

High-quality material and sound know-how, as well as a clever concept enable your **PANTEHR PIXY CRANE SYSTEM** to do a professional job, which you will really enjoy when doing your responsible work at the set.

Your new **PANTEHR PIXY CRANE SYSTEM** is a high-quality tool, which enables the creative camera man to do an excellent job – fast and easy – with fantastic shots and camera drives.

The **PANTEHR PIXY CRANE SYSTEM** is a product that has been created and built by experts for experts – to satisfy the high demands of every grip and camera man.

We hope that you will have a lot of pleasure with your **PANTEHR PIXY CRANE SYSTEM**. In order to guarantee the highest security and reliability in our product at the set, please study our operating manual very carefully!

All the best  
Panther GmbH

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## **To the grip**

Sloppy assembly, disassembly and operating have created and will also create in future damages and physical injury, as well as death of involved or even uninvolved persons.

The following operating instructions should explain to the grip how to work with the camera crane and should also make aware and give advice to take care of possible dangers. Accidents can only be avoided if the dangers are well known and the common sense is activated.

## **Safety instructions**

Only competent persons are allowed to work with the PANTEHR PIXY CRANE SYSTEM.

Panther GmbH offers training work shops which will enable the participants to work with the PANTEHR PIXY CRANE SYSTEM. The participants will receive a certificate at the end of this seminar. For more information regarding the actual dates or to book, please contact 089/61390001.

Please start working with the crane only after studying the complete instruction manual and understanding everything.

Security advice, measurement and weight indications, as well as the repair and maintenance instructions have to be observed carefully.

The crane may not be operated if there is the danger of being struck by lightning. After shooting the crane has to be dismantled or secured against wind. Please observe DIN 15019 part 1/6.1.3. to have enough time to dismantle the crane if a storm comes up.

Do not use the crane in the vicinity of high-tension lines.

In case the crane is used on elevated areas (e.g. bridges, sky scrapers) it is recommended to additionally secure the persons on the platform by a security rope at a second object (e.g. concrete post) in order to lower the risk of falling.

Maximum wind speed: 1 m/sec.

Using the Pixy Crane System is not allowed if the wind speed exceeds 3.6 km/h. Please observe DIN 15019 to have enough time to dismantle the crane if a storm comes up.

Lifting, swivel and operating range of the crane including the complete outrigger must be kept free. The safety distance of  $\geq 0,5$  m to all persons and parts of the surrounding has to be kept free from all sides. Please look out for possible pinching dangers during assembly and operation.

The camera and the remote head have to be secured additionally at the remote head mount of the crane by means of a safety rope.

The crane operator is obliged to make sure that no loose parts are left on the remote head mount. They can fall off and injure persons.

Attention: It is not allowed to use the crane on inclined planes. The crane has to be secured so that it cannot slip away. The underground has to be hard and inflexible. The minimum carrying capacity of the underground has to be 600 kg / m<sup>2</sup>.

Please do not exceed the maximum payload of the remote head mount. Please only use the maximum number of counterweights allowed which fit on the weight rod. The use of additional weights, such as sand bags, is not allowed.

For the payload of the base, tracks or supports the complete crane weight including all accessories and persons has to be considered.

Support material such as wedges and blocks have to be fixed in a way that they cannot slip away, fall out or be pushed away.

At the end of the tracks clips or similar safety stops have to be fixed to avoid that the crane could fall down.

Repairs should only be carried out by the manufacturer or persons, who received a special training. Panther GmbH offers service seminars, which can be held according to your desires. Should you be interested, please contact 089/61390030 (Panther-Service).

The crane should never be left unattended in assembled state. It has to be secured that persons without authorization cannot use the crane. If necessary adequate measures against heavy wind or storm have to be taken.

Before starting operation the crane's stability with the maximum tilting moment has to be checked.

When working in the studio or with tracks it has to be observed that no hard or loose parts can get under the wheels. Also slight unevenness can endanger standing- and driving security.

For the safety of the Pixy Crane System the original tripod as well as the bracing kit ropes may not be replaced by accessories not manufactured by Panther.

In connection with the PANTEHR PIXY CRANE SYSTEM only air tires can be used at the dolly base, if all 4 spindles touch the ground and carry the whole weight. It is not allowed to drive with the completely mounted Pixy Crane System using air tires.

#### **Advice regarding the payload:**

The payload of the remote head mount is the accumulated weight of all devices (such as remote head, camera, lens, ...) mounted at the remote head mount.

The PANTEHR PIXY CRANE SYSTEM may only be assembled according to the assembling versions shown in this operating manual. Other kinds of assembly are not permitted! (see Quick Information)

The crane may never be left unattended in assembled state. The crane has to be disassembled or protected against wind when out of service. Please observe DIN 15019 to have enough time to dismantle the crane if a storm comes up.

When turning and rotating the crane outrigger and during curve drives, centrifugal forces can appear which can endanger the standing stability when added.

For safety reasons it is obligatory that the crane stands/drives on absolutely hard, stable and inflexible ground, which is completely leveled. Please pay attention that no hard or loose objects can get under the wheels, so that the standing and driving stability of the crane could be endangered. Example: Cable in the studio. This also applies when working with tracks.

Please check the function, damages and missing parts of the crane every day. Damaged or missing components have to be replaced by new ones immediately.

Mark the operating range (pan and tilt area) of the crane with flags, stickers or similar material. Keep all persons out of the operating area in order to avoid anybody to be hurt by the base dolly or the outrigger.

Mounting and dismounting the camera with or without remote system is only allowed with the crane operator's approval. A one-sided removal of weights of a balanced crane will cause a sudden rise of the outrigger and may lead to damages of the crane and possibly severe injuries.

Take care that the outrigger does not touch anything within the rotating area.

Check the surrounding of the crane for possible dangers.

Stop working with the crane immediately, even if only a small part is damaged or not mounted the correct way.

**Do only use original PANTHER accessories and spare parts.**

# **Check-List for Assembly**

Please check which crane version is best for your shooting. The following criteria have to be considered:

- height
- working distance
- spatial limits
- limits in weight
- payload required
- access to shooting place

***Take your time to securely assemble the crane, to check and to test the crane before use.***

## **Transport**

- ☐ Do not expose the outriggers and rods to heavy strokes, do not bend ropes.

## **Auxiliaries**

- ☐ Water level
- ☐ Support device (e.g. small ladder, tripod, etc.)

## **Ground**

- ☐ No slope: check with water level
- ☐ Use sub-base in case of a slope
- ☐ If the ground can only be loaded up to 600 kg/ m<sup>2</sup> the load has to be distributed by a reasonable sub-base.

## **Basis**

- ☐ No slope: check with water level
- ☐ Min. 600 kg / m<sup>2</sup> load capacity of sub-base

## **Assembly**

- ☐ Check whether all necessary parts are available
- ☐ Assemble according to instruction
- ☐ IMPORTANT: head mount, remote head or counterweight outrigger have to be supported under the load center of gravity if the outrigger is loaded in only one direction. It is obligatory to observe the safety instructions of the operating manual.

## **Safety instructions**

- ☐ Observe safety instructions

# Assembly instruction

In the following the assembly of the Pixy Crane System version 7 is described.

The versions 2-6 are assembled the same way. The only difference is that – depending on the version – less outriggers and bracing kit ropes are mounted in front (remote head mount) – pls. also refer to the **quick information**.



## **1. Underground**

Control if the underground is uneven. In case of more than 1% slope, a special base or tracks have to be used.

In case the Pixy is mounted onto a tripod, the legs have to be leveled.

Load-carrying capacity of the underground min. 600 kg / m<sup>2</sup>



In case the Pixy is mounted onto a tripod the legs have to be leveled.

Each leg of the tripod has to be adjusted to the same height and has to be firmly placed on an even and solid underground with tensioned distance ropes. An uneven ground may be compensated for by turning the leveling sleeves.

Load-carrying capacity of the underground min. 600 kg / m<sup>2</sup>



## **2. Base**

In case the Pixy is put onto a dolly with tracks, the base needs to have a load-carrying capacity of a minimum of 600 kg / m<sup>2</sup>. The base has to be mounted very carefully and without any slope. Also the tracks have to be laid out very carefully and without any slope. Please pay special attention to any loose support material (e.g. wedges) –make sure it can neither slip away nor be displaced by mistake.



## **3. Dolly on tracks**

Activate the dolly's brakes so that it cannot roll away during assembly.

If the dolly does not have brakes, mount universal clamps to the track in order to prevent the dolly from moving.





#### 4. Central pivot section

Place the central pivot section on the tripod and tighten the screw.

Use the blue leveling sleeves at the tripod to exactly level the center pivot section.



#### 5. Outrigger 1

Attach outrigger 1 to the central pivot section, insert the connection screw for version 2-7 into the designated hole and tighten the screw.

#### 6. Counter-outrigger

Attach the tube with the holes for the counterweight rod as rear outrigger. Insert the counter weight rod at the rear end into the designated holes and secure it with the locking bolts.



#### 7. Outrigger 2

Mount outrigger 2 to outrigger 1 from the front.

Make sure that the spring lock snaps in.

Make sure that the inscription (label) on the outrigger is NOT upside down.



#### 8. Outrigger 3

Mount outrigger 3 to outrigger 2 from the front.

Make sure that the spring lock snaps in.

Make sure that the inscription (label) on the outrigger is NOT upside down.



### 9. The first upper bracing kit (red)

Place the bracing kit rod onto the designated pivot. To guarantee the crane safety always secure the top first before mounting the side bracing kits. Then hook the ropes into the loops of the weight outrigger and outrigger 3. Strain the ropes evenly with the turnbuckles.

Note: **ropes marked red always on top!**  
**ropes marked blue always at the side!**



### 10. The first side bracing kit (blue)

Assemble the two bracing kits in the designated holes of the tube shortly after the center pivot section. The hook the ropes into the loops of the counterweight outrigger and outrigger 3. Strain the ropes evenly with the turnbuckles.



### 11. Outrigger 4

Mount outrigger 4 to outrigger 3 from the front. Make sure that the spring lock snaps in. Make sure that the inscription (label) on the outrigger is NOT upside down.



### 12. Outrigger 5

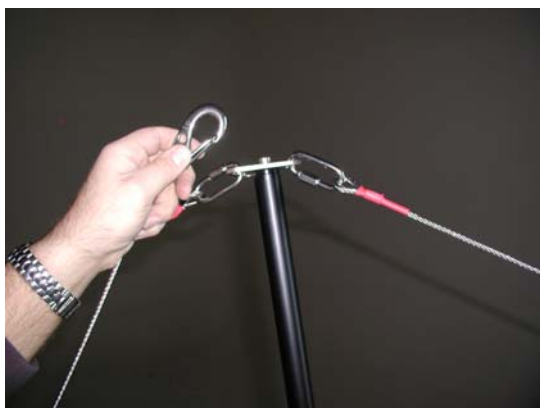
Mount outrigger 5 to outrigger 4 from the front. Make sure that the spring lock snaps in. Make sure that the inscription (label) on the outrigger is NOT upside down.



The guide element of the parallelogram rod is clamped to the vertical bracing kit. (It will be needed later for the assembly of the parallelogram rods).

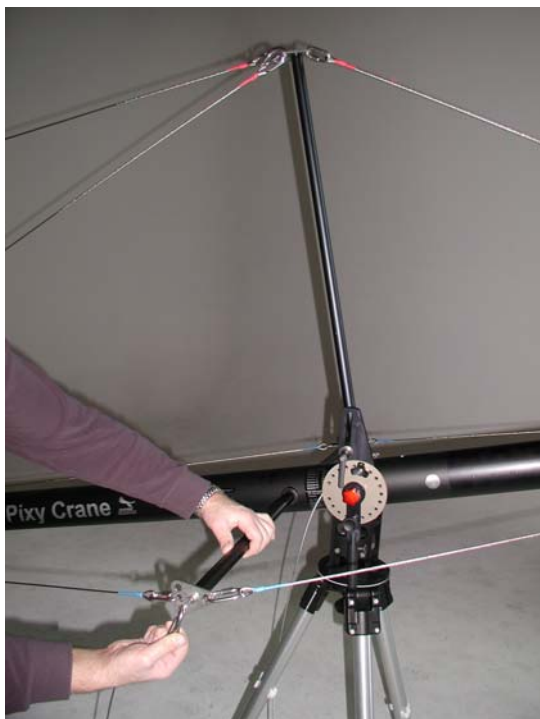
### 13. The second bracing kit

Insert the bracing kit rods into the designated pivots of outrigger 3 – the long one vertically, 2 short ones horizontally.



### 14. The second upper bracing kit

To guarantee the crane safety always secure the top first before mounting the side bracing kits. Then hook the 2<sup>nd</sup> bracing kit rope into the designated loop of the basic bracing kit and outrigger 5. Strain the ropes evenly with the turnbuckles.



### 15. The second side bracing kit

Hook the ropes into the bottom loop of the basic side bracing kit and outrigger 5. Strain the ropes with the turnbuckles.

Now pull the upper and the two side ropes over the second bracing kit rods.





### 16. Outrigger 6

Mount outrigger 6 to outrigger 5 from the front.  
Make sure that the spring lock snaps in.  
Make sure that the inscription (label) on the outrigger is NOT upside down



### Note:

For easy assembly you can attach as many counterweights as needed so that the crane is balanced.

Mount the counterbalance rod at the rear outrigger and fix it with the splint pins at the left and right of the outrigger.



Open the locking devices and distribute the weights evenly at the left and right side.

Then the locking devices have to be mounted again to guarantee the safety during assembly and operation.



### 17. Outrigger 7

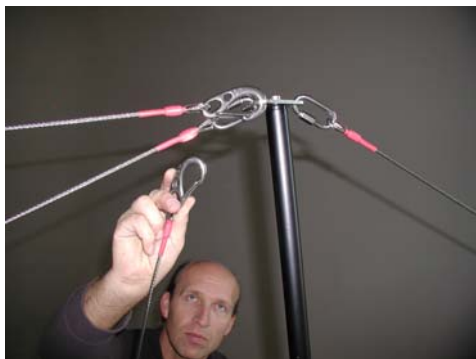
Mount outrigger 7 to outrigger 6 from the front.  
Make sure that the spring lock snaps in.  
Make sure that the inscription (label) on the outrigger is NOT upside down



### 18 Remote head mount

Attach the remote head mount to outrigger 7. The retaining loops for the bracing kit have to point to the top and to the sides. Make sure that here as well the spring lock snapped in.





Insert the bracing kit rods into the designated pivots of outrigger 5, the long one vertically, the two short ones horizontally.

## 19. The third upper bracing kit

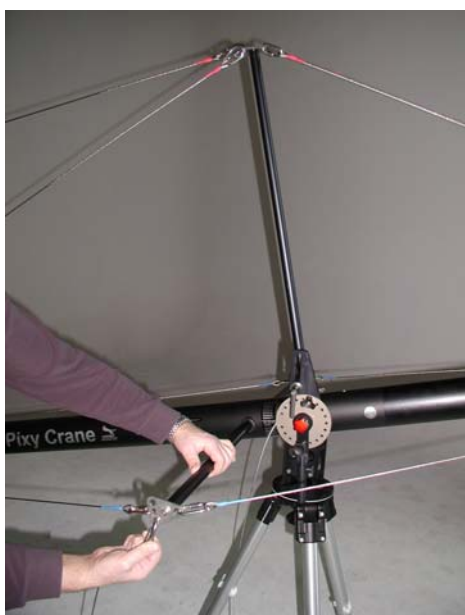
To guarantee the crane's safety always secure the top first before mounting the side bracing kits. Then hook the third bracing kit rope into the designated loop of the basic bracing kit.



The guide element of the parallelogram rod is clamped to the vertical bracing kit. (It will be needed later for the assembly of the parallelogram rods).



Now connect the extension rope with the third bracing kit rope and attach the other end to the remote head mount. Strain the ropes evenly with the turnbuckles.



## 20. The third side bracing kit

Hook the ropes into the upper loop of the basic side bracing kit. Connect it to the extension ropes and attach the other end to the remote head mount. Strain the ropes with the turnbuckles.

Now pull the upper and the two side ropes over the second and third bracing kit rods.





## 21. Parallelogram rods

For version 7 6 parallelogram rods are required, one of them being longer than the others.

For version 6 5 rods are required (one of them being longer than the others) and so on.

Always attach **the longer rod first** to the rope of the rope pulley. Extend rod 1 with the other rods up to the remote head mount and connect the last rod with the rope of the remote head mount.

Older Pixy cranes have a rope instead of the rods. The rope is mounted between the rope at the rope pulley and the rope of the remote head mount.



The first parallelogram rod (longer than the others) is connected to the rope of the rope pulley.



All the other rods are connected with each other.

**Make sure that the locking bolt correctly locks in place and does not get lost during assembly, transport or storage.**



To prevent the parallelogram rods from sagging and swiveling you should place the rods into the guide elements.

One guide element each is located at the upper bracing kit rod of outrigger 3 and 5.

Fix the guide element in a way that the parallelogram rod is as close as possible to the outrigger and does not sag.

**Disassembly is effected in reciprocal sequence.**

## **Pixy Crane Version 1 (Jibarm)**

The assembly of the Pixy Jibarm (version 1) is carried out the same way as the described assembly of the crane version, steps 1 to 4.

As step 5 outrigger 1 is now attached to the center pivot section. The connection screw is manually pushed through the hole designated for version 1 and then tightened. Secure the bolt with the locking splint pin.

Now mount the remote head mount at the front end and insert the counterweight rod at the rear end into the designated hole – secure it with the locking bolts.

The ropes of the remote head mount and the rope pulley are connected with each other.



**Disassembly is effected in reciprocal sequence.**

## First Operation

**Important:** Before loading (remote head mount, weight rod) and operation all connecting devices (screws, hooks, etc.) have to be checked if they are really tightened.

Max. payloads: pls. refer to the quick information

Max. wind speed: 1m/sec.

Max. driving speed: 0,2m/sec



## First Operation

Max. inclination: 3°

Max. operating weight: 260 kg

### **Loading the weight rod**

Do not exceed the maximum payload of the remote head mount. Only use the maximum number of counterweights allowed. It is prohibited to use additional weight material (such as sand bags, e.g.).

Open the locking devices and distribute the weights evenly at the left and right side.

Then the locking devices have to be mounted again to guarantee the crane safety.

### **Fine adjustment**



The sliding weight offers the possibility to individually and precisely balance the crane. Like a clamp the sliding weight is put around the tube and can be pushed forward or backward just as required.

### **Adjustment of the remote head mount**

By changing the length of the parallelogram rod (rope) the remote head mount can be leveled. For this purpose dismount the locking bolt of the rope pulley and turn the rope pulley accordingly. The aluminum disk of the center pivot section (covered by the rope pulley) contains **two** different holes for the locking bolt. This way special distances can be reached and the leveling of the remote head mount can be carried out.



The handle is attached to the bolt of the rope pulley and fixed (not applicable for version 1).



The fine adjustment of the remote head mount is accomplished by turning the turnbuckle.



# Hand-operated camera



## **For version 2-7 only**

The camera can be inclined by moving the handle. For this purpose the locking bolt needs to be unlocked.

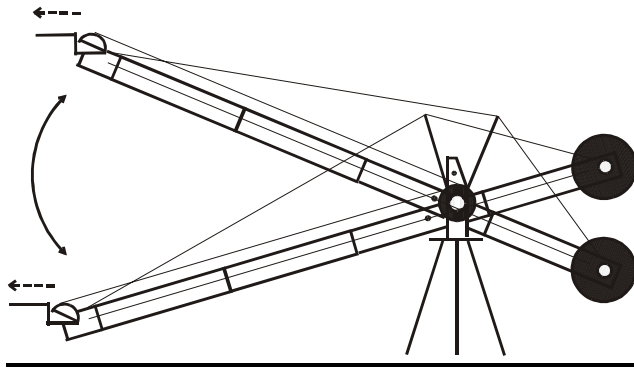
### **Attention:**

The heavier the load at the remote head mount (camera) the more force is required to move the handle.

**Only release the handle if the locking bolt of the rope pulley is locked!**

## **Parallel drive of the camera**

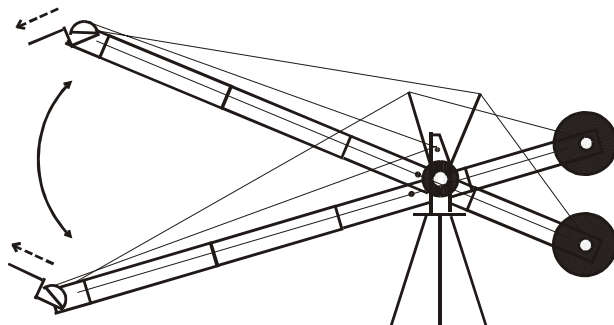
The angle of camera is not changed when moving the crane up or down (e.g. operation with remote head), if the rope of the parallelogram rods is left on the rope pulley.



## **Tilt movement of the camera**

If the rope of the rope pulley is put over the deflection pulley, the inclination angle of the camera is changed when the crane moves up or down.

The angle keeps changing with an increasing distance between deflection pulley and rope pulley.



# The Remote Head System



Control Box



Servo Box



Battery

Pixy(TR10)/ Foxy(TR20)Head



Quick Change Adapter  
3/8 inch distance bolt  
Distance bowl for Quick Change Adapter



## Assembly at the crane



Loosen the hexagon socket screw at the remote head mount and rotate the remote head mount by 180 °. Remove the two 3/8 inch screws and screw them into the remote head mount, into the rear slot. Now mount the 3/8 inch distance bolt for the quick change adapter to one of these 3/8 inch screws. Attach the bottom part of the quick change adapter to the servo box and mount it to the remote head mount.



Attach the remote head to the remote head mount by means of the designated holes using the appropriate screws.  
**M5 for TR10, M6 for TR20**



Connect the cable for pan and tilt to both, the remote head and the servo box.



Connect the cable for remote control and power to the servo box and align them along the crane to the center pivot section. Secure the cables with the Velcro tapes at the crane.



Attach the quick change adapters for battery and control box at the counterweight outrigger (holes). Connect the quick change adapter terminal to the battery and the control box. Then mount the battery and the control box at the crane.

Make sure that first you supply power to the servo box. It needs a short moment before being able to recognize the lens' information for zoom and focus.  
Now connect the free end of the remote control cable to the control box.  
Then connect battery and control box.

# **Special accessories**

## **Pixy adapter for Foxy pyramid**



Use this adapter to mount the Pixy crane to a Foxy base.

## **Adapter for Euromount**



The “Adapter for Euromount” is required if the Pixy is supposed to be used e.g. on a Panther Evolution Dolly.



The monitor support is fastened at the center pivot section with two screws.  
Max. payload: 8 kg



# Transport

There are two possibilities for transporting the Pixy crane:

1. **a case** (there is enough space for the remote head, as well), or
2. **two bags** (in this case the remote head has to be transported in a separate case)



The case is suitable for long travels and the tough use in rental business. It offers perfect protection against shocks and other environmental influences.



The bags are suitable for transportation in a car. They are not heavy and can be carried more easily than the case. One bag accommodates the Pixy up to version 4 including tripod. For versions 5 to 7 a second bag is required.

TR 10 case (Pixy head)



TR 20 case (Foxy head)



## **Transportation of weights**



The counterweights can be transported in weight boxes or with the weight carriage.

# **Service and Maintenance**

The PANTEHR PIXY CRANE SYSTEM is a very solid piece of equipment that guarantees reliable work without a lot of maintenance work.

To guarantee a long life and stable quality, it is advisable to treat all elements of the crane very carefully.

For damages occurred due to inappropriate treatment we do not accept any warranty claims.

After working with the crane, particularly after working in a dirty, dusty, sandy, wet and salty surrounding, the crane has to be cleaned and maintained very carefully. Please keep the suspension cables in good condition.

Interrupt the work with the crane immediately, if only a small part of the crane is damaged or missing.

Maintenance and repair should only be made by trained and competent persons. Panther GmbH offers service seminars, which will be held according to your desires. For exact dates, please call 089/61390030 (Panther-Service).

According to ZH 1/222 / 3.2 and UVV BGV C1 (former VBG 70), the safety and machine appliances have to undergo an interim check up by a competent person at least every 4 years and at least every year by an expert (repeated check up - see maintenance book).

Please check all cables and turning buckles for damages (e.g. bend cables). If necessary, parts of the crane have to be exchanged.

# Quick information

## Pixy Crane System:

Panther GmbH, Raiffeisenallee 3, 82041 Oberhaching, Germany  
Tel: +49-89-613900-01, Fax: +49-89-6131000, www.panther-gmbh.de

### Quick Information

Please look into operating manual for further information!

### Schnellinformation

Bitte beachten Sie die Betriebsanleitung für weitere Informationen!

Note: Tripod height = 1.5m/5ft.

Weights and code without tripod

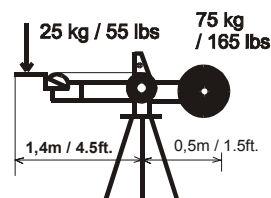
Hinweis: Stativhöhe = 1,5m

Gewichte und Artikelnr. ohne Stativ

#### Version 1 (139714)

**max. Height/Höhe: 2.5m/8ft.**

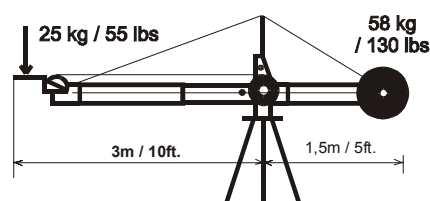
**Crane weight/Gewicht: 9 kg/20 lbs**



#### Version 2 (139713)

**max. Height/Höhe: 4m/13ft.**

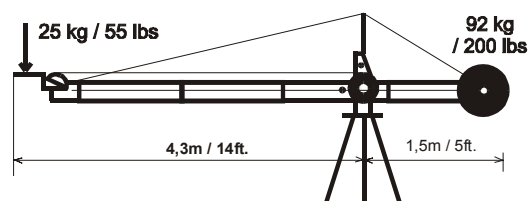
**Crane weight/Gewicht: 16 kg/35 lbs**



#### Version 3 (139712)

**max. Height/Höhe: 5m/16.5ft.**

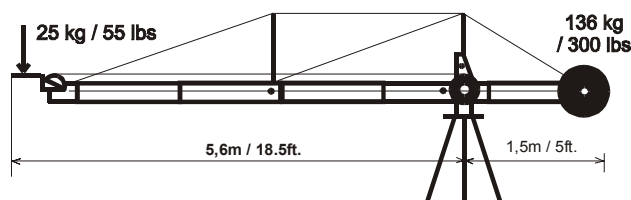
**Crane weight/Gewicht: 18 kg/40 lbs**



#### Version 4 (139711)

**max. Height/Höhe: 6m/20ft.**

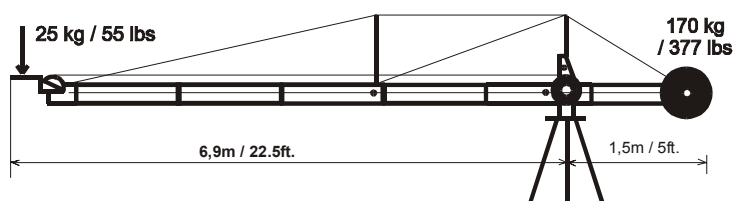
**Crane weight/Gewicht: 22 kg/49 lbs**



#### Version 5 (139710)

**max. Height/Höhe: 7m/23ft.**

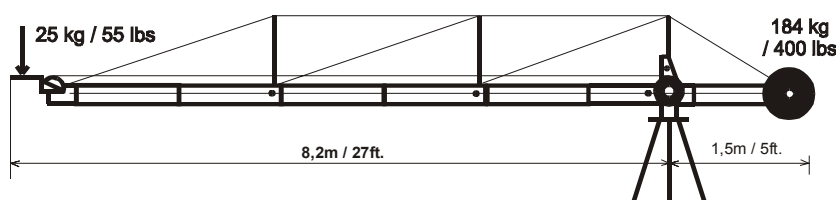
**Crane weight/Gewicht: 25 kg/55 lbs**



#### Version 6 (139709)

**max. Height/Höhe: 8m/26ft.**

**Crane weight/Gewicht: 29 kg/64 lbs**



#### Version 7 (137091)

**max. Height/Höhe:**

**9m/29.5ft.**

**Crane weight/Gewicht:**

**31 kg/69 lbs**

