



Grip Factory Munich
YOUR INNOVATIVE PARTNER FOR CAMERA SUPPORT

GF-8

Crane System

Instruction Manual

Standard-Versions 1-18
Xten-Versions 1-8

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SAFETY GUIDELINES



Adherence of the instruction manual:

The set-up instructions must be read and understood before set-up or operation. The crane may only be assembled in accordance with the manufacturer's instruction manual. The manufacturers technical specifications and limits (maximum rated loads of each version) must be adhered to at all times and in no way exceeded.

Warranty:

The manufacturer accepts no liability for damages or injuries for incidents or accidents occurring due to negligence by the crane operator or misuse of the crane or disregarding the instruction manual.

Assembling of the crane:

The GF-8 Crane may only be set-up or operated by trained and experienced personnel. To assemble the crane at least two men are needed. To avoid misuse by untrained personnel, the crane should be dismantled when not in use or under supervision.

For further information on the qualifications required for test personnel please refer to BGV 1, §33 and §34.

The crane may not be set-up or operated under the influence of alcohol, drugs or any other intoxicating substances. The respective protective clothing e.g. gloves, should be worn.

Stability of the crane system:

Before assembling the crane ensure that the ground surface is stable and cannot give way. The ground surface must be stable enough to support at least 1200 kg/m² = 2640 lbs/ sq yard.

Crane operation is only allowed with solid tires. Use with pneumatic wheels is not allowed. Before and while using the crane the wheels should be inspected.

Intended use of the crane system:

The GF-8 is a mobile crane-system for mounting cameras in a stationary ground position or for movement on track.

It can be operated manually from the ground and can be panned in all directions either with a remote-bracket or a 1 to 2 person platform. In accordance to the safety guidelines the crane is only allowed to be used on solid, level and stable ground. While using it stationary the levelling legs have to be used.

The crane operation from the ground is managed by at least one experienced, trained and authorised personnel from the hand grips on the counterweight bucket.

Operation of the crane is only allowed within the limits and guidelines mentioned in the instruction manual.

The allowed payloads of each version are clearly shown on the counterweight-bucket (workplace of the crane operator).

The crane dolly must be level at all times. If necessary, level the crane with the provided levelling legs ensuring that the levelling legs cannot sink or breakthrough the surface and are supported enough where necessary. Whether operating or moving the crane on track or on a solid ground surface it is essential that the track or surface is completely level, stable and free from obstructions.

When operating the crane on track, ensure that the track is level, properly laid, constructed and supported. The correct underlay must be used to ensure that the track and underlay are secured against moving, slipping and collapse. Ensure that the underlay meets the specified support and stability requirements. Only GFM Track or comparable track systems with a payload capacity of 1200kg / 2640lbs and a maximum track runner distance of 640mm / 25inches (measured inside edge to inside edge) may be used.

Extreme caution if tracking on curved track (not faster than a slow walking pace)!

Use of the crane on insert vehicles, camera cars or any motorised vehicle is not allowed. The manufacturer accepts no liability for damages or injuries for incidents or accidents occurring due to use of the crane on insert vehicles, camera cars or any other motorised vehicles.

Changing weather conditions should be taken into consideration. The crane must be taken out of operation before the operational wind speed reaches 40km/h (25mph). For this purpose see page 48.

Operation of the crane:

The complete lift and panning range of the GF-8 Crane must be kept clear of obstructions at all times. A safety clearance of 1m / 3' 3" must be observed on all sides of the crane during operation. Only authorised, trained and experienced personnel are allowed to operate the crane. For further information on the qualifications required for test personnel please refer to BGV 1, §33 and §34.

The crane may not be set-up or operated under the influence of alcohol, drugs or any other intoxicating substances. The respective protective clothing e.g. gloves, should be worn.

The crane may not be used in the direct vicinity of high voltage power cables. To avoid accidents due to misuse in the vicinity of high voltage power cables, Safety Guidelines especially BGV A1 and A2 (formerly VBG 1 and 4) as well as VDE regulations (especially 0105 part 100) must be adhered to. If the nominal voltage cannot be determined, a minimum clearance of 5m / 16ft must be kept at all times.

Failing to do so can cause fatalities!

Personnel on board the crane's platform must use safety belts at all times. They should not make any sudden, abrupt movements or lean out over the side of the platform. No loose objects may be stored or placed on the crane platform.

Before the counterweights are removed from the bucket, ensure that the platform is resting on the ground or alternatively supported by an appropriate stable underlay. Gradually remove the counterweights before personnel leave the platform or before the remote head or camera are dismounted. It's not allowed to put extra weights on top of the counterweight bucket or any other part of the crane!

In the interest of safe crane operation, when operating or moving the crane, abrupt, sudden movements of the crane should be avoided. An element of risk remains by people moving in the operational range of the crane. The crane operator has to be trained on that and is only allowed to operate the crane in safe range.

Before operating the crane every safety pin as well as every connecting bolt may be checked for a proper fit.

Crane accessories:

For safety reasons only original accessories manufactured by GFM may be used with the crane. Every single part of the standard GF-8 crane is compatible to the GF-8 Xten and can also be combined with. In case of any mistiness please contact us.

Procedure in case of accident or damage:

In case of accidents caused by disregarding the manufacturers instruction manual, please act this way:

- o Possible damage may be immediately told the manufacturer also the way the damage happened as well as the heaviness of the damage. Damaged parts of the crane may be sent to the manufacturer for reparation or replacement.
The use of the crane with damaged parts is not allowed. The manufacturer accepts no liability for damages or injuries for incidents or accidents occurring due to the use of damaged parts of the crane.
- o In case of damage or accidents with injured people local applicable as well as employment property right regulations may be adhered.

General Assembly Procedure – GF-8

General description:

The GF-8 and GF-8 Xten is a mobile crane-system for mounting cameras in a stationary ground position or for movement on track.

It can be operated manually from the ground and can be panned in all directions either with a remote-bracket or a 1 to 2 person platform. In accordance to the safety guidelines the crane is only allowed to be used on solid, level and stable ground. While using it stationary the levelling legs have to be used.

The crane operation from the ground is managed by at least one experienced, trained and authorised personnel from the hand grips on the counterweight bucket.

Operation of the crane is only allowed within the limits and guidelines mentioned in the instruction manual. The allowed payloads of each version are clearly shown on the counterweight bucket (workplace of the crane operator).



Attention: Before and during assembly observe the Safety Guidelines.

For all GF-8 Standard-Versions:

1. Secure the base dolly so that it cannot move or roll. Lock all wheel brakes. Move the steering rod towards the centre of the dolly or remove it so that the set-up personnel do not trip over it.
2. For the Standard-Versions 1 to 8 bolt the 90cm crane mounting column to the base dolly (pivot height 154cm). Make sure that the 4 locking bolts are locked securely.

Tip: The carrying handle on the bazooka should point away from the steering end of the dolly.



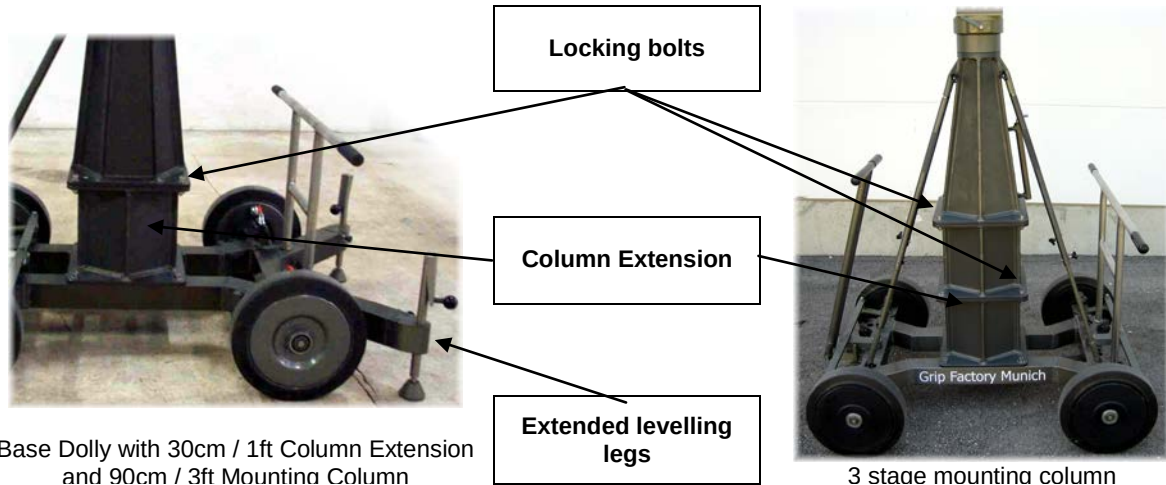
Wheel brake on Base Dolly



Base Dolly with 90cm / 3ft Mounting Column and Pivot Section (Versions 1-8)

The 30cm / 1ft column extension is used in combination with the 90cm column for versions 9 to 18 to increase the pivot height from 154cm to 184cm. It is connected to the standard GF-8 column with 4 locking nuts and bolts. Make sure that the 4 locking bolts are locked securely.

As an option a 3 stage column is also available. It consists of 2 x 30cm / 1ft column extensions and a 60cm / 2ft Mounting Column. Assemble the column extension between the column and the base dolly locking the 12 locking bolts securely.



Base Dolly with 30cm / 1ft Column Extension and 90cm / 3ft Mounting Column

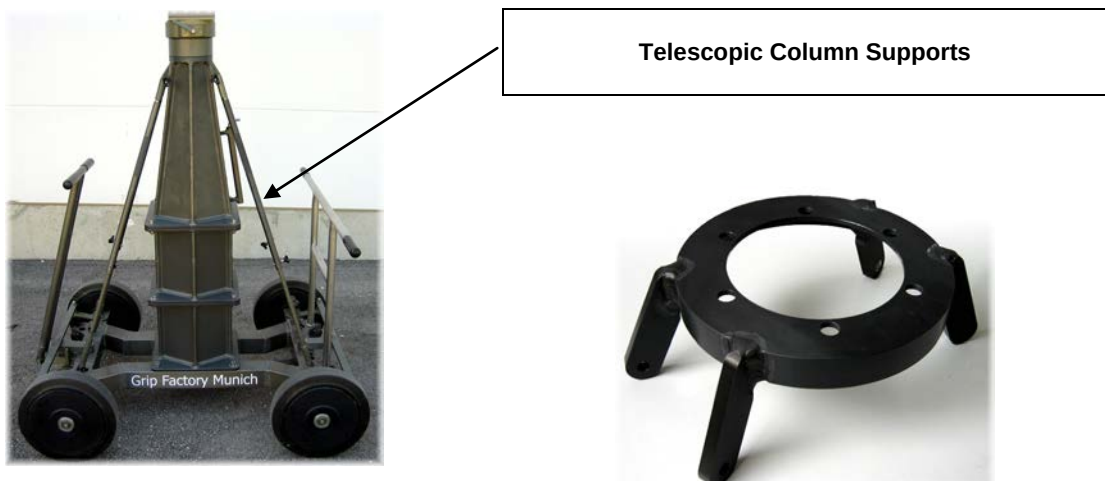
3 stage mounting column

3 pivot heights are possible:

- o 184cm / 6ft with all 3 parts (2 x 30cm / 1ft and 1 x 60cm) or with two parts (1 x 30cm / 1ft and 1 x 90cm / 3ft)
- o 154cm / 5ft with a 30cm / 1ft column extension and 60cm / 2ft mounting column
- o 124cm / 4ft with 60cm / 2ft mounting column.

3. For Standard Versions 9 to 18 we recommend using the 4 telescopic column supports. In smaller versions they are not required but using them does increase the columns stability. To mount the supports connect the grooved end to the connection on the column, securing with the locking pin. Remove the locking pin in the middle of the column support enabling the rod to reach the connection on the base dolly and secure with the locking pin. The locking pin previously removed from the centre of the column support can now be reinserted to fix the length. Turn the grooved part in a clockwise direction to apply tension.

Tip: Should the column not have the 4 connections for the column supports, an adapter is available. It is connected to the column between the pan bearing oder besser turnstile??? and the top of the column. To do so the pan bearing must be removed by unscrewing the 6 screws. The adapter must be mounted in line to the connections on the base dolly with the adapter ring connectors pointing towards the base dolly. The original screws must be replaced by 5mm longer screws.



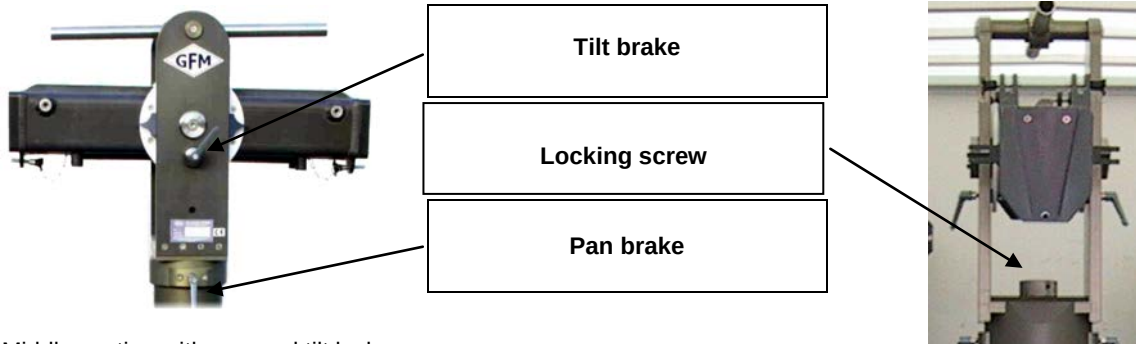
3 Stage Mounting Column
(2 x 30cm + 60cm Column sections) with Supports

Adapter ring for column supports

4. Located on the middle section are 2 tilt friction locks which may be used to lock the tilt during set-up. Set the pivot arm at 90° to the centre post and lock these friction locks which can be found on the left and right hand side of the middle section. Mount the middle section on the mounting column. Lock the locking screw tightly.

Tip: A 12mm Allen key can be found in the mounting column's handle to be used as a lever.

Attention: Install the middle section to the rotateable bearing of the column with positive locking. It fits properly only in one position.



Middle section with pan and tilt lock

Unless otherwise stated it is required to use the rigging system when more than 1 x 150cm / 5ft section is mounted to the front of the crane i.e. all versions except 1 and 9.

5. Connect the 2 sections of the rigging harness to the middle section of the GF-8. Ensure that the 4 locking bolts are fastened tightly.
6. Connect the cross bar to stabilize the rigging harness. Ensure that the 2 locking pins are inserted fully.



7. For Standard Versions 1 to 16 connect the 127cm / 4ft rear arm section to the middle section. For Standard Versions 17 and 18 connect the 150cm / 5ft section to the middle section. Slip the connection flanges into each other and secure with the provided safety pin.

Connect the respective 127cm or 150cm parallelogram rod to the middle section, mount the sliding weight and secure with the locking screw. Other shorter versions can be built by using the 100cm / 3' 3" or 150cm / 5' extension and its parallelogram rod.

Tip: To avoid the sections jamming or getting stuck make sure that the sections are joined parallel. Using a small amount of lubricant also helps. We suggest rubbing the joints with an oiled rag.



Mounting an extension arm



Securing the arm with a safety pin

8. Connect one of the angle adjusters to the end of the 127cm / 4ft or 150cm / 5ft section and secure it with the provided safety pin.

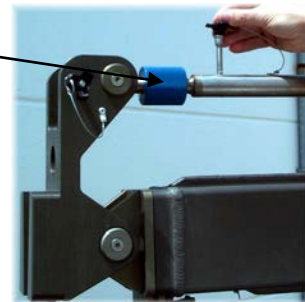


Attention: Pinch point



Mounting an angle adjuster

Integrated leveller



Securing with a safety pin

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance.

9. Depending on the version being assembled connect 2 of the respective rigging rods to the turnbuckles on the rigging harness and in turn to the 2 connections on the arm section leading to the weight bucket.

Arm section 127cm / 4ft = rigging rod 115cm / 3' 9"

Arm section 150cm / 5ft = rigging rod 142cm / 4' 7"

Hand tighten the rods by turning the turnbuckles until the rods are taut.



Middle sized rigging rod

Tip: For easier assembly we recommend to support the arm of the crane with a stable underlay.

For all **GF-8 Xten-Versions**:

With the exception of a few steps, the assembly of the Xten Versions are identical with those of the Standard Versions. However, the following points should be followed:

- o All Xten Versions require a pivot height of 184cm / 6ft as follows:
- o 30cm / 1ft Column Extension and 90cm / 3ft Mounting Column
- o 2 x 30cm / 1ft column extensions and a 60cm / 2ft Mounting Column

More details can be found on page 4.

- o The Mounting Column for all Xten Versions (1 to 8) must be supported with the 4 Telescopic Column Supports. More details can be found on page 5.
- o All Xten-Versions (1 to 8) require the Large Rigging Harness with the double turnbuckles. An example of the assembly can be found on page 6.



Large Rigging Harness for double Rigging
(Xten Versions 1 to 8)



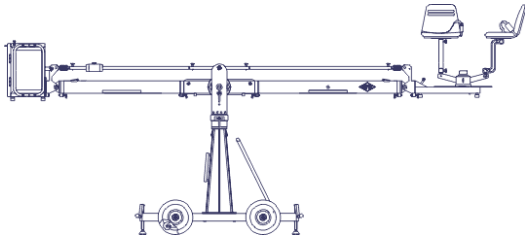
Double Rigging System with 160cm / 5'3" Rear Extension
(Xten-Versions 1 to 8)

- o All Xten Versions (1 to 8) require the 160cm / 5' 3" rear arm extension as well as the 160cm / 5' 3" parallelogram rod to be mounted between the pivot and the angle adjuster. Example of the assembly can be found on page 6 and 7.
- o All Xten Versions (1 to 8) require a double rigging system. Connect the 142cm / 4' 7" rigging rods to the top turnbuckles and the outside connections on the rear extension. Connect the 115cm / 3' 9" rigging rods to the lower turnbuckles and the inside connections on the rear extension.

Assembly & Technical Specification Version 1 to 18

Version 1

(Pivot height 154cm / 5ft, Rear Extension 127cm / 4' 2")



Front extension arms required	1 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	319 cm / 10' 5"
Maximum Euro-adapter height	331 cm / 10' 10"
Lift capacity (working load) 2 pers. + accessories	250 kg / 550 lbs
Counterweight required for max. load	276 kg / 607 lbs
Counterweight required to balance empty arm	0 kg / 0 lbs
Crane weight (excluding dolly and weights)	149 kg / 327 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	253 cm / 8' 3"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect the remaining angle adjuster to the end of the 150cm / 5' section and secure it with the provided safety pin.



Attention: Pinch point

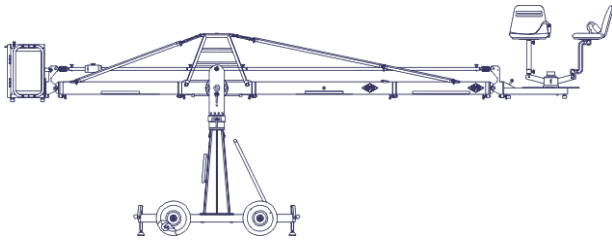
12. Connect one of the 150cm / 5' parallelogram rods to the middle section and the angle adjuster and secure it with a safety pin at each end.
13. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
14. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 2

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	1 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	481 cm / 15' 9"
Maximum Euro-adaptor height	412 cm / 13' 5"
Lift capacity (working load) 2 pers. + accessories	250 kg / 550 lbs
Counterweight required for max. load	456 kg / 1003 lbs
Counterweight required to balance empty arm	28 kg / 61 lbs
Crane weight (excluding dolly and weights)	173 kg / 380 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	351 cm / 11' 5"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect the 100cm / 3' 3" section to the 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



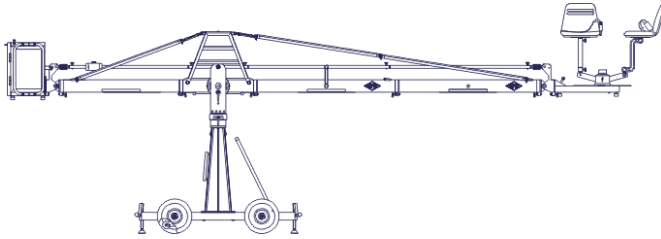
Attention: Pinch point

13. Connect a 150cm / 5' as well as a 100cm / 3' 3" parallelogram rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
14. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
15. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
16. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 3

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	2 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	564 cm / 18' 6"
Maximum Euro-adaptor height	453 cm / 14' 10"
Lift capacity (working load) 2 pers. + accessories	216 kg / 475 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	46 kg / 101 lbs
Crane weight (excluding dolly and weights)	179 kg / 393 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	401 cm / 13' 1"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the second 150cm / 5' section and secure it with the provided safety pin.



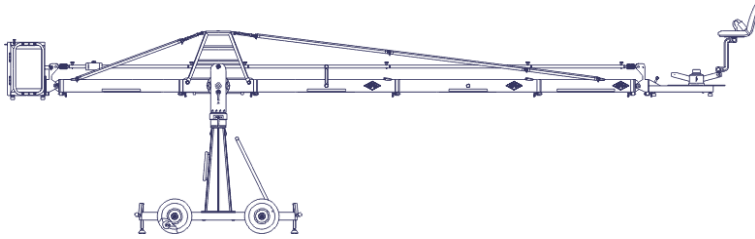
Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect two 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 4

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	2 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	727 cm / 23' 9"
Maximum Euro-adaptor height	534 cm / 17' 6"
Lift capacity (working load) 1 pers. + accessories	150 kg / 330 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	88 kg / 176 lbs
Crane weight (excluding dolly and weights)	191 kg / 420 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	498 cm / 16' 4"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' and a 100cm / 3' 3" section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



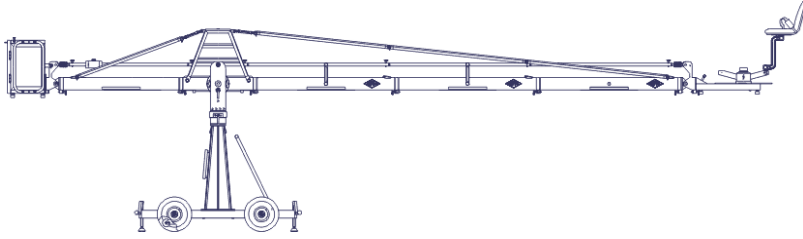
Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect two 150cm / 5' parallelogram rods and a 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 5

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	3 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	809 cm / 30' 7"
Maximum Euro-adapter height	576 cm / 18' 10"
Lift capacity (working load) 1 pers. + accessories	128 kg / 281 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	112 kg / 246 lbs
Crane weight (excluding dolly and weights)	197 kg / 433 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	549 cm / 18'
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another two 150cm / 5' sections to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the last 150cm / 5' section and secure it with the provided safety pin.



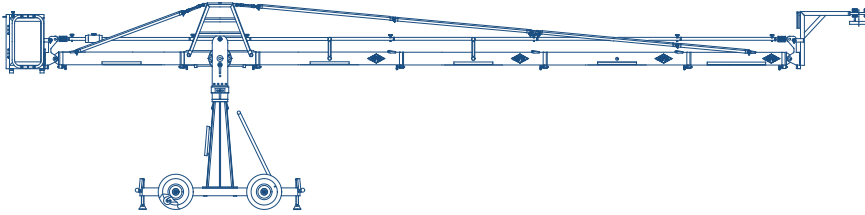
Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect three 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 6

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	3 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	891 cm / 31' 10"
Maximum Euro-adapter height	675 cm / 22' 1"
Lift capacity	80 kg / 176 lbs
Counterweight required for max. load	420 kg / 924 lbs
Counterweight required to balance empty arm	140 kg / 308 lbs
Crane weight (excluding dolly and weights)	199 kg / 437 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	663 cm / 21' 8"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another two 150cm / 5' sections and a 100cm / 3' 3" section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect three 150cm / 5' parallelogram rods and a 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the remote bracket to the angle adjuster by inserting the male flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

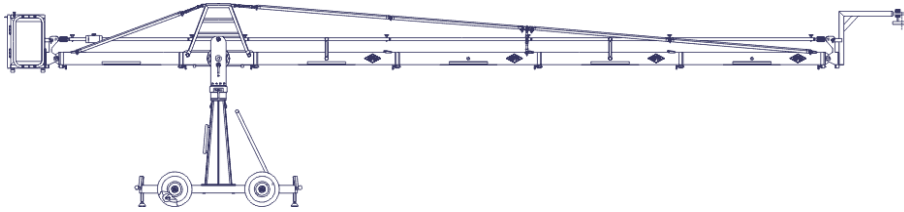
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 7

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	4 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	1054 cm / 34' 6"
Maximum Euro-adapter height	716 cm / 23' 5"
Lift capacity	80 kg / 176 lbs
Counterweight required for max. load	476 kg / 1047 lbs
Counterweight required to balance empty arm	172 kg / 378 lbs
Crane weight (excluding dolly and weights)	206 kg / 453 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	713 cm / 23' 4"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another three 150cm / 5' sections to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the last 150cm / 5' section and secure it with the provided safety pin.



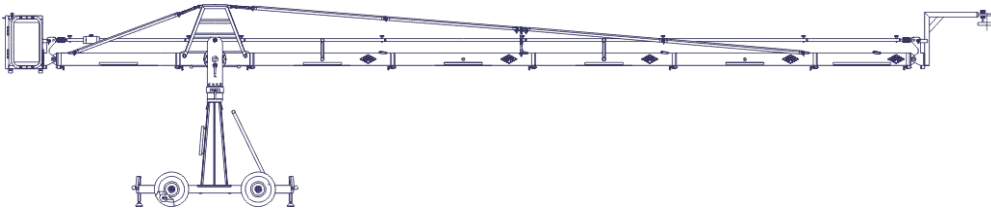
Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect four 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the remote bracket to the angle adjuster by inserting the male flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 8

(Pivot height 154cm / 5ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	4 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	1216 cm / 39' 10"
Maximum Euro-adapter height	798 cm / 16' 2"
Lift capacity	50 kg / 110 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	288 kg / 501 lbs
Crane weight (excluding dolly and weights)	217 kg / 477 lbs
Arm reach (pivot to camera head mount)	810 cm / 26' 6"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another three 150cm / 5' sections and a 100cm / 3' 3" section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect four 150cm / 5' parallelogram rods and a 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the remote bracket to the angle adjuster by inserting the male flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefore follow the instructions as exemplary shown by version 17 and 18 on page 41.

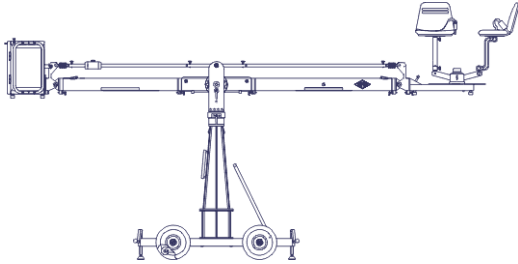
Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Attention: The following versions 9 to 16 require a 127cm / 4' 2" section to the rear i.e. Counterweight Bucket End.

The 30cm / 1ft Column Extension is also required to achieve a pivot height to 184cm / 6ft. See page 4.

Version 9

(Pivot height 184cm / 6ft, Rear Extension 127cm / 4' 2")



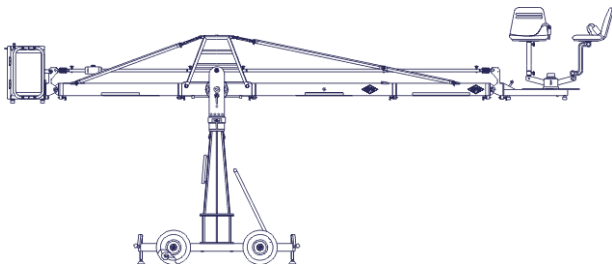
Front extension arms required	1 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	319 cm / 10' 5"
Maximum Euro-adapter height	361 cm / 11' 10"
Lift capacity	250 kg / 550 lbs
Counterweight required for max. load	276 kg / 607 lbs
Counterweight required to balance empty arm	0 kg / 0 lbs
Crane weight (excluding dolly and weights)	160 kg / 352 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	253 cm / 8' 3"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 9 is assembled in the same manner as version 1.

Version 10

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



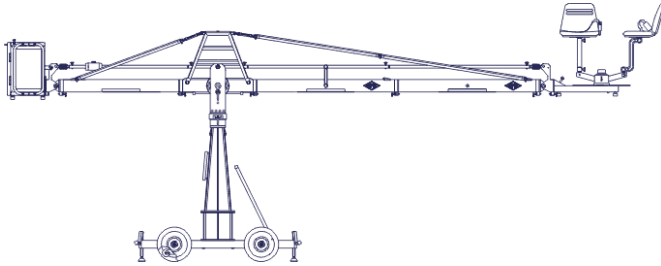
Front extension arms required	1 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	481 cm / 15' 9"
Maximum Euro-adapter height	442 cm / 14' 5"
Lift capacity	250 kg / 550 lbs
Counterweight required for max. load	456 kg / 1003 lbs
Counterweight required to balance empty arm	28 kg / 61 lbs
Crane weight (excluding dolly and weights)	184 kg / 404 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	351 cm / 11' 5"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 10 is assembled in the same manner as version 2.

Version 11

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



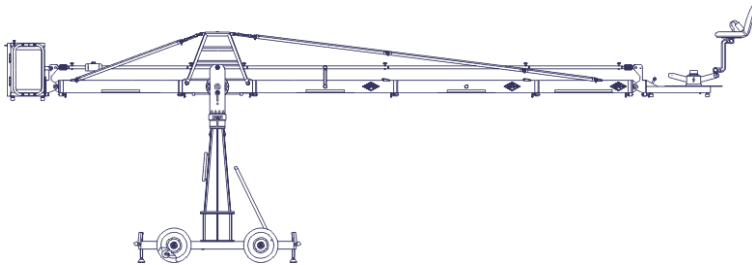
Front extension arms required	2 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	564 cm / 18' 6"
Maximum Euro-adapter height	483 cm / 15' 10"
Lift capacity	216 kg / 475 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	46 kg / 101 lbs
Crane weight (excluding dolly and weights)	190 kg / 418 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	401 cm / 13' 1"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 11 is assembled in the same manner as version 3.

Version 12

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



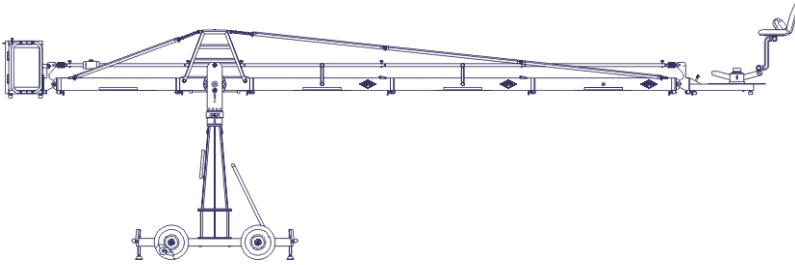
Front extension arms required	2 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	727 cm / 23' 9"
Maximum Euro-adapter height	564 cm / 18' 6"
Lift capacity	150 kg / 330 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	88 kg / 176 lbs
Crane weight (excluding dolly and weights)	202 kg / 444 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	498 cm / 16' 4"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 12 is assembled in the same manner as version 4.

Version 13

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



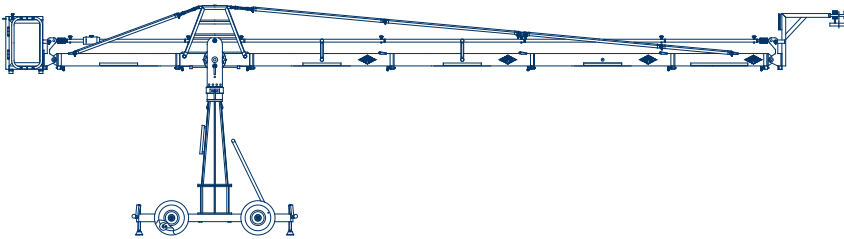
Front extension arms required	3 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	809 cm / 30' 7"
Maximum Euro-adapter height	606 cm / 19' 10"
Lift capacity	128 kg / 281 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	112 kg / 246 lbs
Crane weight (excluding dolly and weights)	208 kg / 457 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	549 cm / 18'
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 13 is assembled in the same manner as version 5.

Version 14

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



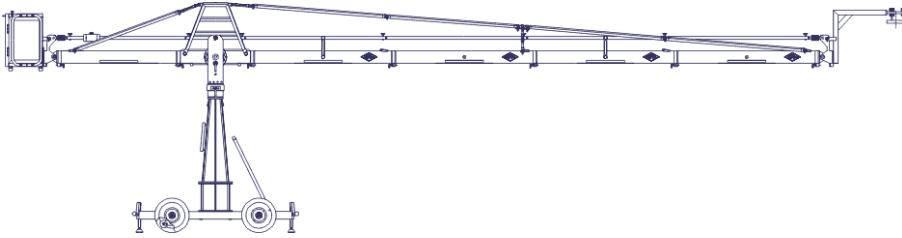
Front extension arms required	3 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	891 cm / 31' 10"
Maximum Euro-adapter height	705 cm / 23' 1"
Lift capacity	80 kg / 176 lbs
Counterweight required for max. load	420 kg / 924 lbs
Counterweight required to balance empty arm	140 kg / 308 lbs
Crane weight (excluding dolly and weights)	210 kg / 462 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	663 cm / 21' 8"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 14 is assembled in the same manner as version 6.

Version 15

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



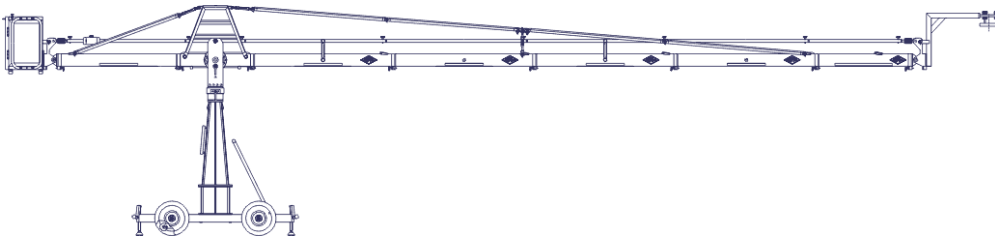
Front extension arms required	4 x 150 cm / 5'
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	1054 cm / 34' 6"
Maximum Euro-adapter height	747 cm / 24' 5"
Lift capacity	80 kg / 176 lbs
Counterweight required for max. load	476 kg / 1047 lbs
Counterweight required to balance empty arm	172 kg / 378 lbs
Crane weight (excluding dolly and weights)	217 kg / 477 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	713 cm / 23' 4"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 15 is assembled in the same manner as version 7.

Version 16

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 127cm / 4' 2")



Front extension arms required	4 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 127 cm / 4' 2"
Lift range	1216 cm / 39' 10"
Maximum Euro-adapter height	828 cm / 27' 2"
Lift capacity	50 kg / 110 lbs
Counterweight required for max. load	480 kg / 1056 lbs
Counterweight required to balance empty arm	288 kg / 501 lbs
Crane weight (excluding dolly and weights)	288 kg / 501 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	810 cm / 26' 6"
Length of rear end (pivot to outside of bucket)	220 cm / 7' 2"

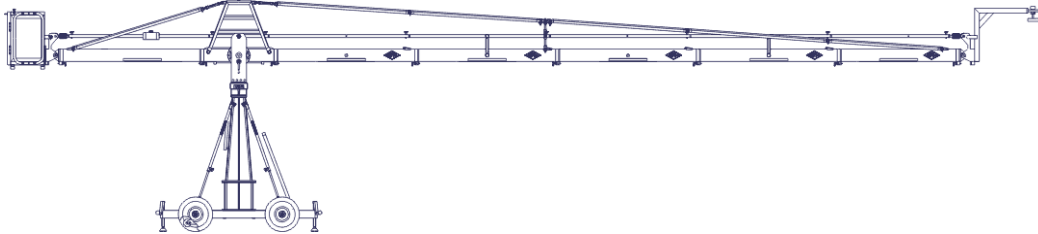
Assemble the GF-8 Column Extension as per the instructions on page 4.

The GF-8 version 16 is assembled in the same manner as version 8.

Attention: The following versions 17 and 18 require a 150cm / 5ft. section to the rear i.e. Counterweight Bucket End.
The 30cm / 1ft Column Extension is also required to achieve a pivot height to 184cm / 6ft. See page 4

Version 17

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 150cm / 5')



Front extension arms required	4 x 150 cm / 5' + 127 cm / 4' 2"
Rear extension arm required	1 x 150 cm / 5'
Lift range	1216 cm / 39' 10"
Maximum Euro-adapter height	850 cm / 27' 10"
Lift capacity	50 kg / 110 lbs
Counterweight required for max. load	418 kg / 919 lbs
Counterweight required to balance empty arm	214 kg / 470 lbs
Crane weight (excluding dolly and weights)	239 kg / 525 lbs
Arm reach (pivot to camera head mount)	837 cm / 27' 5"
Length of rear end (pivot to outside of bucket)	243 cm / 7' 11"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another three 150cm / 5' sections and the 127cm / 4' 2" section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 127cm / 4' 2" section and secure it with the provided safety pin.



Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect four 150cm / 5' parallelogram rods and a 127cm / 4' 2" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the remote bracket to the angle adjuster by inserting the male flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Version 18

(Pivot height 184cm / 6ft, Standard Rigging Harness, Rear Extension 150cm / 5')



Front extension arms required	4 x 150 cm / 5' + 127 cm / 4' 2" + 100 cm / 3' 3"
Rear extension arm required	1 x 150 cm / 5'
Lift range	1423 cm / 46' 8"
Maximum Euro-adapter height	931 cm / 30' 6"
Lift capacity	50 kg / 110 lbs
Counterweight required for max. load	498 kg / 1095 lbs
Counterweight required to balance empty arm	228 kg / 501 lbs
Crane weight (excluding dolly and weights)	250 kg / 625 lbs
Arm reach (pivot to camera head mount)	935 cm / 30' 8"
Length of rear end (pivot to outside of bucket)	243 cm / 7' 11"

Rigging is required! Observe guidelines on page 41.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another three 150cm / 5' sections, the 127cm / 4' 2" section and the 100cm / 3' 3" to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

13. Mount the parallelogram rod support to the respective section as shown on page 40.
14. Connect four 150cm / 5' parallelogram rods, the 127cm / 4' 2" rod and the 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the remote bracket to the angle adjuster by inserting the male flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the standard rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 17 and 18 on page 41.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Assembly & Technical Specifications for the Xten Versions

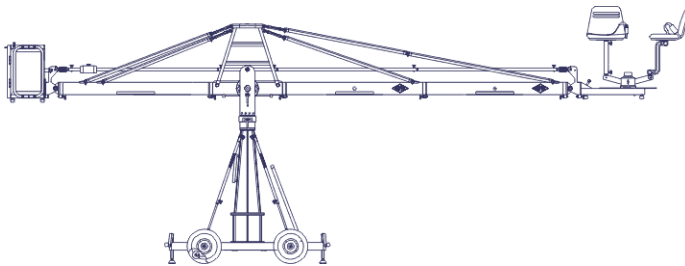
Attention: The following Xten Versions, 1 to 8 require a 160cm / 5' 3" section to the rear i.e. Counterweight Bucket End.

In addition to the standard mounting column, the 30cm / 1ft Column Extension is also required to achieve a pivot height of 184cm / 6ft.

Note: A larger rigging harness than the standard and a double rigging rather than the standard single system is required to the front and rear of the crane arm.

Xten Version 1

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	2 x 150 cm / 5'
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	564 cm / 18' 6"
Maximum Euro-adapter height	483 cm / 15' 10"
Lift capacity	250 kg / 550 lbs
Counterweight required for max. load	456 kg / 1003 lbs
Counterweight required to balance empty arm	28 kg / 61 lbs
Crane weight (excluding dolly and weights)	203 kg / 446 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	401 cm / 13' 1"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 423 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
12. After the lower front rigging system was assembled and connected to the connectors of the first 150cm / 5' section connect another 150cm / 5' section to the first one. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
13. Connect the remaining angle adjuster to the end of the second 150cm / 5' section and secure it with the provided safety pin.



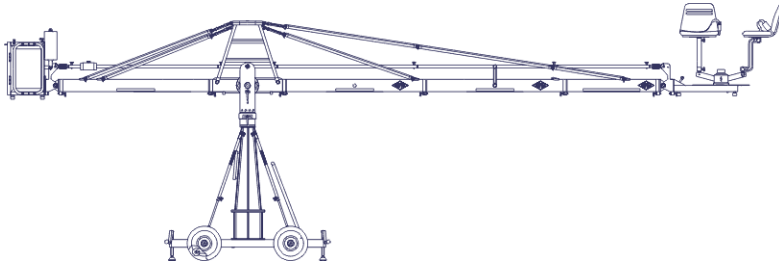
Attention: Pinch point

14. Connect two 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
15. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
16. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.
17. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 2

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	2 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	727 cm / 23' 10"
Maximum Euro-adapter height	564 cm / 18' 6"
Lift capacity	240 kg / 528 lbs
Counterweight required for max. load	586 kg / 1289 lbs
Counterweight required to balance empty arm	64 kg / 140 lbs
Crane weight (excluding dolly and weights)	220 kg / 484 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	499 cm / 16' 4"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 423 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
12. After the lower front rigging system was assembled and connected to the connectors of the first 150cm / 5' section connect another 150cm / 5' section and the 100cm / 3' 3" section to the first one. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
13. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

14. Mount the parallelogram rod support to the respective section as shown on page 40.
15. Connect two 150cm / 5' parallelogram rods and the 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
16. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
17. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket,

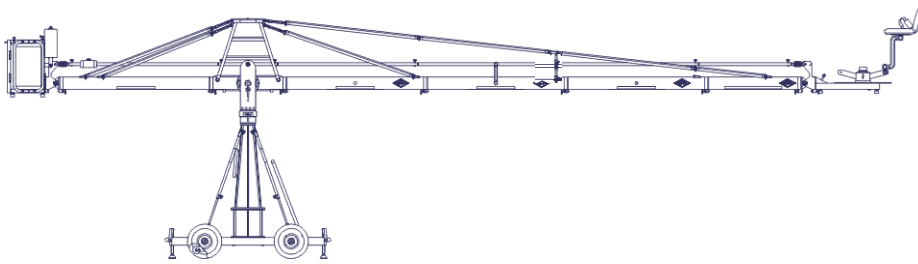
the platform or the remote bracket before loading any weights.

18. Mount the extra mini counterweight bucket as shown on page 46.
19. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 3

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	3 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	971 cm / 31' 10"
Maximum Euro-adapter height	687 cm / 22' 6"
Lift capacity	170 kg / 374 lbs
Counterweight required for max. load	600 kg / 1320 lbs
Counterweight required to balance empty arm	130 kg / 286 lbs
Crane weight (excluding dolly and weights)	238 kg / 523 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	647 cm / 21' 2"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 423 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
12. After the lower front rigging system was assembled and connected to the connectors of the first 150cm / 5' section connect another two 150cm / 5' sections and the 100cm / 3' 3" section to the first one. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
13. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

14. Mount the parallelogram rod support to the respective section as shown on page 40.
15. Connect three 150cm / 5' parallelogram rods and the 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
16. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
17. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket,

the platform or the remote bracket before loading any weights.

18. Mount the extra mini counterweight bucket as shown on page 46.
19. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 4

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	4 x 150 cm / 5'
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	1054 cm / 34' 6"
Maximum Euro-adapter height	728 cm / 23' 10"
Lift capacity	140 kg / 308 lbs
Counterweight required for max. load	600 kg / 1320 lbs
Counterweight required to balance empty arm	154 kg / 338 lbs
Crane weight (excluding dolly and weights)	246 kg / 541 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	697 cm / 22' 10"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 43 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
13. After the lower front rigging system was assembled and connected to the connectors of the second 150cm / 5' section connect another two 150cm / 5' sections to the first ones. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
14. Connect the remaining angle adjuster to the end of the last 150cm / 5' section and secure it with the provided safety pin.



Attention: Pinch point

15. Mount the parallelogram rod support to the respective section as shown on page 40.
16. Connect four 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
17. Connect the platform to the angle adjuster by inserting the male platform flange into the female flange on the angle adjuster. Secure it with the safety pin.
18. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety

pins on the top of the angle adjuster.

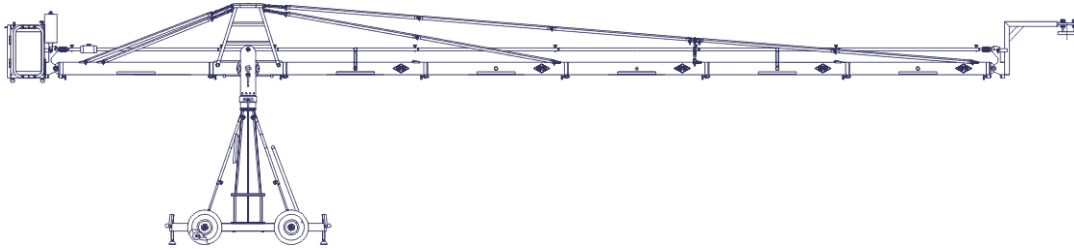
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

19. Mount the extra mini counterweight bucket as shown on page 46.
20. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 5

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	5 x 150 cm / 5'
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	1299 cm / 42' 7"
Maximum Euro-adapter height	869 cm / 28' 6"
Lift capacity	80 kg / 176 lbs
Counterweight required for max. load	526 kg / 1159 lbs
Counterweight required to balance empty arm	214 kg / 471 lbs
Crane weight (excluding dolly and weights)	255 kg / 561 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	861 cm / 28' 2"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 43 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
13. After the lower front rigging system was assembled and connected to the connectors of the second 150cm / 5' section connect another three 150cm / 5' sections to the first ones. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
14. Connect the remaining angle adjuster to the end of the last 150cm / 5' section and secure it with the provided safety pin.



Attention: Pinch point

15. Mount the parallelogram rod support to the respective section as shown on page 40.
16. Connect five 150cm / 5' parallelogram rods to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
17. Connect the remote bracket to the angle adjuster by inserting the male remote bracket flange into the female flange on the angle adjuster. Secure it with the safety pin.
18. Attach the weight bucket to the short end of the crane by inserting the male weight bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety

pins on the top of the angle adjuster.

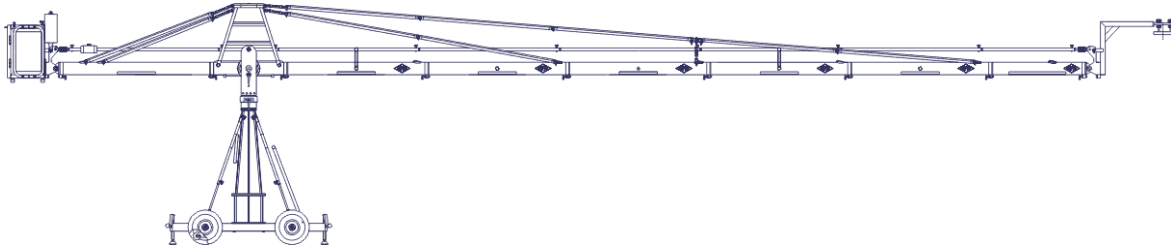
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

19. Mount the extra mini counterweight bucket as shown on page 46.
20. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 6

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	5 x 150 cm / 5' + 100 cm / 3' 3"
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	1462 cm / 47' 9"
Maximum Euro-adapter height	950 cm / 31' 2"
Lift capacity	70 kg / 154 lbs
Counterweight required for max. load	588 kg / 1293 lbs
Counterweight required to balance empty arm	266 kg / 585 lbs
Crane weight (excluding dolly and weights)	266 kg / 585 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	958 cm / 31' 4"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 43 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
13. After the lower front rigging system was assembled and connected to the connectors of the second 150cm / 5' section connect another three 150cm / 5' sections and the 100cm / 3' 3" section to the first ones. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
14. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

15. Mount the parallelogram rod support to the respective section as shown on page 40.
16. Connect five 150cm / 5' parallelogram rods and the 100cm / 3' 3" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
17. Connect the remote bracket to the angle adjuster by inserting the male remote bracket flange into the female flange on the angle adjuster. Secure it with the safety pin.
18. Attach the weight bucket to the short end of the crane by inserting the male weight

bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

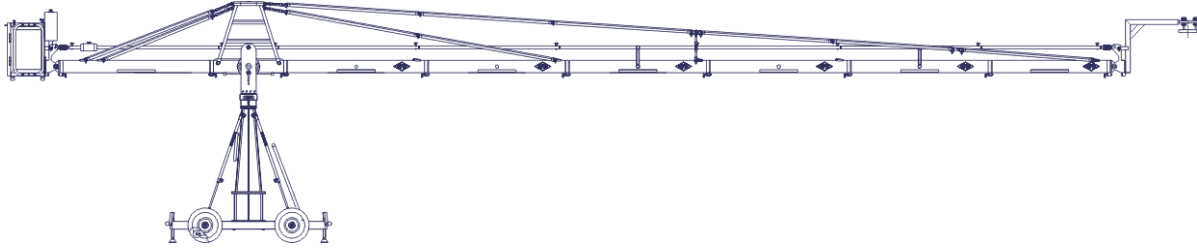
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

19. Mount the extra mini counterweight bucket as shown on page 46.
20. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 7

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	5 x 150 cm / 5' + 127 cm / 4' 2"
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	1506 cm / 49' 4"
Maximum Euro-adapter height	973 cm / 31' 10"
Lift capacity	65 kg / 143 lbs
Counterweight required for max. load	602 kg / 1324 lbs
Counterweight required to balance empty arm	288 kg / 633 lbs
Crane weight (excluding dolly and weights)	271 kg / 598 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	985 cm / 32' 3"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 43 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Now the lower front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 43.
13. After the lower front rigging system was assembled and connected to the connectors of the second 150cm / 5' section connect another three 150cm / 5' sections and the 127cm / 4' 2" section to the first ones. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
14. Connect the remaining angle adjuster to the end of the 127cm / 4' 2" section and secure it with the provided safety pin.



Attention: Pinch point

15. Mount the parallelogram rod support to the respective section as shown on page 40.
16. Connect five 150cm / 5' parallelogram rods and the 127cm / 4' 2" rod to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
17. Connect the remote bracket to the angle adjuster by inserting the male remote bracket flange into the female flange on the angle adjuster. Secure it with the safety pin.
18. Attach the weight bucket to the short end of the crane by inserting the male weight

bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

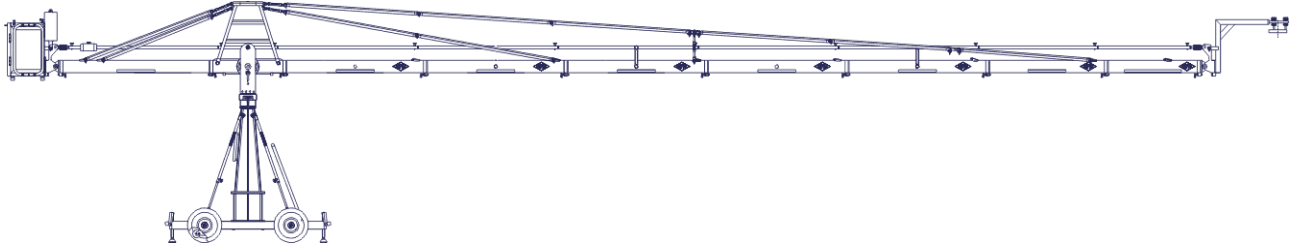
Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

19. Mount the extra mini counterweight bucket as shown on page 46.
20. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Xten Version 8

(Pivot height 184cm / 6ft, Large Rigging Harness, Rear Extension 160cm / 5' 3")



Front extension arms required	5 x 150 cm / 5' + 127 cm / 4' 2" + 100 cm / 3' 3"
Rear extension arm required	1 x 160 cm / 5' 3"
Lift range	1660 cm / 54' 5"
Maximum Euro-adapter height	1054 cm / 34' 6"
Lift capacity	50 kg / 110 lbs
Counterweight required for max. load	602 kg / 1324 lbs
Counterweight required to balance empty arm	350 kg / 770 lbs
Crane weight (excluding dolly and weights)	282 kg / 620 lbs
Dolly weight	80 kg / 176 lbs
Arm reach (pivot to camera head mount)	1083 cm / 35' 6"
Length of rear end (pivot to outside of bucket)	253 cm / 8' 3"

Double rigging is required! Observe guidelines on page 43 and additionally ensure that the Large Rigging Harness is used with double rigging to the rear and front.

Continue from § 9, page 7

10. Connect one of the 150cm / 5' sections to the middle section. Slip the connection flanges into each other and secure them with the provided safety pin.
11. Connect another 150cm / 5' section to the first 150cm / 5' section. Slip the connection flanges into each other and secure them with the provided safety pin.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
12. Now the lower front rigging system can be assembled. Therefore follow the instructions as exemplary shown by version 7 and 8 on page 43.
13. After the lower front rigging system was assembled and connected to the connectors of the second 150cm / 5' section connect another three 150cm / 5' sections, the 127cm / 4' 2" section and the 100cm / 3' 3" section to the first ones. Slip the connection flanges into each other and secure them with the provided safety pins.
Note: After each mounted section the support stand or rostrum can be moved up to the next fixed section. We recommend to support longer crane versions with more than one support stand or rostrum.
14. Connect the remaining angle adjuster to the end of the 100cm / 3' 3" section and secure it with the provided safety pin.



Attention: Pinch point

15. Mount the parallelogram rod support to the respective section as shown on page 40.
16. Connect five 150cm / 5' parallelogram rods, the 127cm / 4' 2" rod and the 100cm / 3' 3" to the middle section and in turn to the angle adjuster and secure the connections with the provided safety pins.
17. Connect the remote bracket to the angle adjuster by inserting the male remote bracket flange into the female flange on the angle adjuster. Secure it with the safety pin.
18. Attach the weight bucket to the short end of the crane by inserting the male weight

bucket flange into the female flange on the angle adjuster. Secure it with the 2 safety pins on the top of the angle adjuster.

Tip: The angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle. Correct setting of the angle adjuster enhances the crane's balance. Level the weight bucket, the platform or the remote bracket before loading any weights.

19. Mount the extra mini counterweight bucket as shown on page 46.
20. Now the top front rigging system can be assembled. Therefor follow the instructions as exemplary shown by version 7 and 8 on page 44.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Parallelogram Rod Support

The Parallelogram Rod Supports are required from Standard-Version 3 respectively Xten-Version 2 onwards. Assembly is as follows:

The support consists of 3 parts: 2 vertical side supports and a horizontal top cradle. Connect a side support to the top cradle by screwing the parts together. Bolt the vertical part to the crane arm extension by turning the knurled knob. Connect the other vertical support to opposite side by turning both knobs simultaneously.

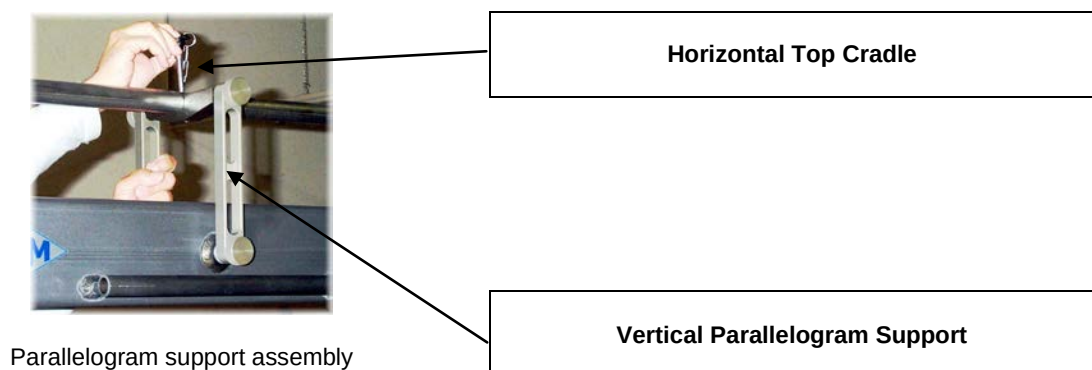
Note: When connecting the second vertical support to the horizontal top cradle and the crane arm, turn the top and bottom knurled knobs equally to avoid jamming.

When the parallelogram support is mounted, connect the parallelogram rod to the horizontal top cradle by inserting the locking pin from the upper side, through the parallelogram rod and into the horizontal top.

Positioning of the Parallelogram Rod Supports:

- o Standard-Versions 3, 4, 11 and 12 on the 1st 150cm/5ft extension arm
- o Standard-Versions 5, 6, 13 and 14 on the 1st & 2nd 150cm/5ft extension arm
- o Standard-Versions 7, 8, 15 and 16 on the 1st & 3rd 150cm/5ft extension arm
- o Standard-Versions 17 and 18 on the 2nd & 4th 150cm/5ft extension arm
- o Xten-Versions 2 and 3 on the 2nd 150cm/5ft extension arm
- o Xten-Versions 4 on the 1st & 3rd 150cm/5ft extension arm
- o Xten-Versions 5 and 6 on the 1st & 4th 150cm/5ft extension arm
- o Xten-Versions 7 and 8 on the 3rd & 5th 150cm/5ft extension arm

To avoid mistakes, use the crane drawings provided in the Instruction Manual etc to ensure that all parts are in the correct position.



Standard Rigging System

The rigging system must be mounted as of Standard Versions 2 onwards i.e. versions with more than 1 x 150cm section to the front. For each extension section there is a matching pair of rigging rods. The rods for the 150cm sections are all identical. In principle, mounting the rigging requires connecting the respective rods starting at the turnbuckles on the rigging harness and finishing at the connection on the last arm section or in some cases the second last section.

100cm / 3' 3" arm section		72 cm / 2' 4" rigging rod
127cm / 4ft arm section		115cm / 3' 9" rigging rod
150cm / 5ft arm section	=	142cm / 4' 7" rigging rod
160cm / 5' 3" arm section		142cm / 4' 7" and 115cm / 3' 9" rigging rod

The following example describes the assembly procedure for Versions 17 & 18

1. Connect a 142cm / 4' 7" rigging rod to the turnbuckle on the front side of the standard rigging harness. Ensure that the locking pin is inserted fully.



Connecting 1 x 142cm rigging rod to the turnbuckle



Connecting the rods together

2. Connect another 142cm / 4' 7" rigging rod to the first rigging rod. Ensure that the locking pin is inserted fully.
3. Connect a Rigging Rod Connector (the length of the connector depends on the version – see the note below) to the second rigging rod. In turn connect the Adjustable Rigging Rod Support to the Rigging Connections on the second 150cm / 5ft arm section and then to the Rigging Rod Connector ensuring that the locking pins are inserted fully.

Note: This positioning applies to versions 7, 8, 15, 16 (short connector) and 17, 18 (long connector).



4. Connect 2 x 142cm / 4' 7" rigging rods to the Rigging Rod Connector. Ensure that the locking pins are inserted fully.
5. Connect a 115cm / 3' 9" rigging rod to the last 142cm / 4' 7" rigging rod and in turn to the Rigging Rod Connection on the 127cm / 4ft arm section. Ensure that the locking pins are inserted fully.

Attention: The Rigging Rod Connectors should be positioned in the respective versions as per the following instructions. Furthermore the rigging must be assembled symmetrically by using the same length rods, connectors etc in the same position on each side.



Connect the rigging rod to the end section and secure with a locking pin.



Tensioning the turnbuckle

6. After the complete rigging system has been assembled, hand tighten the turnbuckles until the rigging rods are taut. The turnbuckles can be secured with locking nuts.

Make sure that the rigging is absolutely straight. For this case the Adjustable Rigging Rod Support has to be adjusted in a proper way.

Attention: The rigging system of the crane arm should be hand tightened symmetrically from both sides of the crane in a way that the arm is absolutely straight when carrying the loads of the counterweight bracket, the platform or remote bracket.

Attention: The rigging system of the following Standard Versions need to be assembled with different length of rigging connectors. Please see the next paragraph below!

The rigging system has also to be assembled in a symmetrical way so that the left and the right hand side of the cranes rigging system has the same parts at same positions.

Alignment of the rigging connectors for Standard Versions:

o Standard-Versions 17 and 18:

Long Rigging Rod Connector:

Attach to Adjustable Rigging Rod Support and use to connect 2nd and 3rd rigging rods.

Short Rigging Rod Connector:

not required.

o Standard-Versions 6 to 8 and 14 to 16:

Short Rigging Rod Connector:

For version 7, 8, 15, 16 attach to Adjustable Rigging Rod Support and use to connect 2nd and 3rd rigging rods.

For version 6 and 14 just use to connect 2nd and 3rd rigging rods.

Long Rigging Rod Connector:

not required.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Double Rigging System

The Double Rigging System and Large Rigging Harness must be mounted for all GF-8 Xten Versions. For each extension section there is a matching pair of rigging rods. The rods for the 150cm sections are all identical. In principle, mounting the rigging requires connecting the respective rods starting at the turnbuckles on the rigging harness and finishing at the connection on the last arm section or in some cases the second last section.

100cm / 3' 3" arm section		72 cm / 2' 4" rigging rod
127cm / 4ft arm section	=	115cm / 3' 9" rigging rod
150cm / 5ft arm section		142cm / 4' 7" rigging rod
160cm / 5' 3" arm section		142cm / 4' 7" and 115cm / 3' 9" rigging rod

The following example describes the assembly procedure for the GF-8 Xten, Double Rigging System as per Versions 7 & 8

Lower, front rigging

1. Connect a 142cm / 4' 7" rigging rod to the lower turnbuckle on the front side of the large rigging harness. Ensure that the locking pin is inserted fully.
2. Connect another 142cm / 4' 7" rigging rod to the first rigging rod and in turn to the second crane arm extension. Ensure that the locking pins are inserted fully. Hand tighten the turnbuckles until the rigging rods are taut. The turnbuckles can be secured with locking nuts.

Attention: After mounting the lower front rigging continue with the crane assembly.



Connecting the rods together



Double Rigging System

Top, front rigging

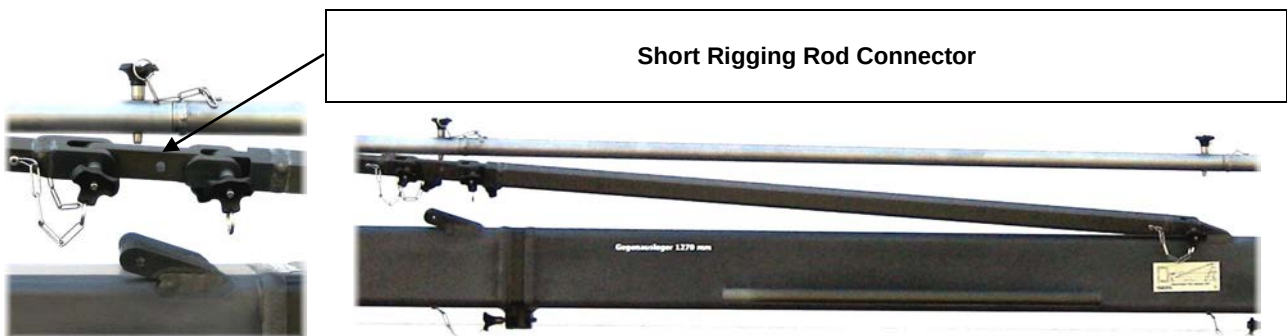
1. Connect 3 x 142cm / 4' 7" rigging rods to the turnbuckle on the top front side of the large rigging harness. Ensure that the locking pins are inserted fully.
2. Connect a long Rigging Rod Connector to the third Rigging Rod. In turn connect the Adjustable Rigging Rod Support to the Rigging Connection on the third 150cm / 5ft arm section and then to the Rigging Rod Connector ensuring that the locking pins are inserted fully.

Note: This positioning applies to versions 5 to 8.



3. Connect 2 x 142cm / 4' 7" rigging rods to the long Rigging Rod Connector. Ensure that the locking pins are inserted fully.
4. Connect a short Rigging Rod Connector to the last 142cm / 4' 7" rigging rod. Ensure that the locking pin is inserted fully.
5. Connect a 115cm / 3' 9" rigging rod to the short Rigging Rod Connector and in turn to the Rigging Rod Connection on the 127cm / 4ft arm section. Ensure that the locking pins are inserted fully.

Attention: The Rigging Rod Connectors should be positioned in the respective versions as per the following instructions. Furthermore the rigging must be assembled symmetrically by using the same length rods, connectors etc in the same position on each side.



6. After the complete rigging system has been assembled, hand tighten the turnbuckles until the rigging rods are taut. The turnbuckles can be secured with locking nuts. Make sure that the rigging is absolutely straight. For this case the Adjustable Rigging Rod Support has to be adjusted in a proper way.



Attention: The rigging system of the crane arm should be hand tightened symmetrically from both sides of the crane in a way that the arm is absolutely straight when carrying the loads of the counterweight bracket, the platform or remote bracket.

Attention: The rigging system of the following Standard Versions need to be assembled with different length of rigging connectors. Please see the next paragraph below!

The rigging system has also to be assembled in a symmetrical way so that the left and the right hand side of the cranes rigging systems has the same parts at same positions.

Alignment of the rigging connectors for Standard Versions:

o Xten-Versions 7 and 8:

Long Rigging Rod Connector:

Attach to Adjustable Rigging Rod Support and use to connect 3rd and 4th upper rigging rods.

Short Rigging Rod Connector:

Use to connect 5th and 6th upper rigging rods.

o Xten-Versions 5 and 6:

Long Rigging Rod Connector:

Attach to Adjustable Rigging Rod Support and use to connect 3rd and 4th upper rigging rods.

Short Rigging Rod Connector:

not required.

o Xten-Versions 4:

Short Rigging Rod Connector:

Use to connect 2nd and 3rd upper rigging rods.

Long Rigging Rod Connector:

not required.

o Xten-Versions 3:

Short Rigging Rod Connector:

Attach to Adjustable Rigging Rod Support and use to connect 2nd and 3rd upper rigging rods.

Long Rigging Rod Connector:

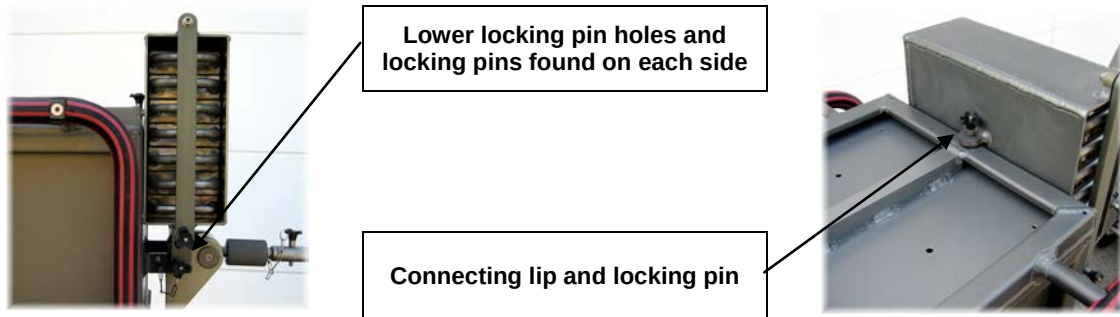
not required.

Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Mounting the Extra, Mini Counterweight Bucket for Xten Versions

Position the weight bucket above the Angle Adjuster so that the lower locking pin holes are aligned and so that the connecting lip is positioned over the main weight bucket. Then insert the locking pins on each side of the bucket.

Insert the third locking pin through the connecting lip and into the main counterweight bucket. Ensure that the locking pins are inserted fully.



Balancing the crane arm



Attention: Before loading any weights level the weight bucket and the platform respective remote bracket. For this case the angle adjuster has an integrated leveller. By turning it, the vertical plate on the angle adjuster can be set to a perfect right angle.

When loading the crane the maximum working load capacities and payloads must never be exceeded.

As a rule, no more than 504kg / 1108lbs of counterweight may be used in the main counterweight bucket and no more than 98kg / 215lbs in the Xten mini counterweight bucket.

After the assembly procedure has been completed the seat arms, seats, risers, camera etc may now be assembled on the platform or the remote head system may be mounted. The working payload capacities may not be exceeded. An itemized weight list for GFM accessories may be found below. Place the correct amount of counterweight in the weight bucket to balance the load. Depending on the version that has been set-up, the camera operator / operators can then take their position on the platform.

Accessories for GF-8 Crane platform weight list

Qty.	Description		Weight kg	Weight lbs
1	Seat arm combined 10cm / 4"	AL-2210	0,75 kg	1,65 lbs
1	Seat arm combined 20cm / 8"	AL-2220	1,15 kg	2,53 lbs
1	Seat arm combined 30cm / 12"	AL-2230	1,60 kg	3,52 lbs
1	Seat arm vertical 10cm / 4"	AL-2211	1,25 kg	2,75 lbs
1	Seat arm vertical 20cm / 8"	AL-2212	1,75 kg	3,85 lbs
1	Seat arm vertical 30cm / 12"	AL-2213	2,20 kg	4,84 lbs
1	Connection pin	AL-2240	0,40 kg	0,88 lbs
1	Crane seat with seat belt	AL-1030	7,20 kg	15,84 lbs
1	Riser 10 cm / 4"	AL-2310	2,80 kg	6,16 lbs
1	Riser 20cm / 8"	AL-2320	2,95 kg	6,49 lbs
1	Riser 30cm / 12"	AL-2330	3,40 kg	7,48 lbs
1	Riser 40cm / 16"	AL-2340	3,80 kg	8,36 lbs
1	Riser 50cm / 20"	AL-2350	4,25 kg	9,35 lbs
1	Ball Adapter	AL-2150	2,17 kg	4,77 lbs



Attention: The safety belts provided must be fastened upon sitting down and kept fastened at all times when on the platform.

Only original GFM seats, seat arms, risers etc may be used.

Working load capacity = Camera operator / operators + camera + accessories

We recommend that the camera and remote head are additionally secured to the remote head mount with a safety cord.

Place the required amount of counterweights in the weight bucket so that the crane arm becomes balanced and remains in the horizontal position. If necessary, the crane can be fine balanced by adjusting the sliding weight on the rear parallelogram at the weight

bucket. Do not forget to lock the sliding weight in position before tilting the arm. The counterweight bucket door must be locked when operating the crane.

Unloading



Attention: The counterweights must always be gradually removed from the counterweight bucket before personnel leave the platform.

When the weights are removed, the platform personnel should dismount one at a time. Extreme caution must be given to the shifting payload at all times. When dismantling the crane it is essential that the whole platform is supported fully by a stable underlay i.e. rostrum or ground surface. In any case the platform should not be in the air without support.

General Safety



Attention: Before operation, all locking pins, locking screws etc should be inspected to ensure that all assembly sections are securely fastened.

Attention: All necessary precautions should be taken so that unauthorized third parties cannot use or operate the crane and also to ensure that only authorized personnel have access to it.

The complete lift and panning range of the GF-8 Crane must be kept clear of obstructions at all times. A safety clearance of 1m / 3' 3" must be observed on all sides of the crane during operation.

Taking the crane out of service

The crane should be dismantled in the reverse order to the assembly procedure.

Operational conditions:

At a wind speed of 40km/h / 25mph crane operation must be stopped and the crane secured, dismounted and the necessary safety precautions taken.

If it for example takes 2 mins. to unload the counterweights and take the necessary precautions to secure the crane, one must commence with the procedure at a wind speed of 27km/h / 16.8mph. DIN15019, part 1, section 6.1.3.

The crane may not be used in a lightening storm as there is the danger of electrocution. To protect yourself against lightning we recommend to adjourn into a car.

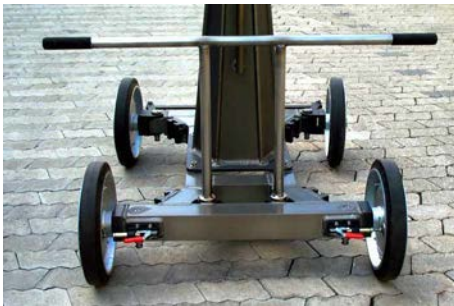
Accessories for GF- 8 crane



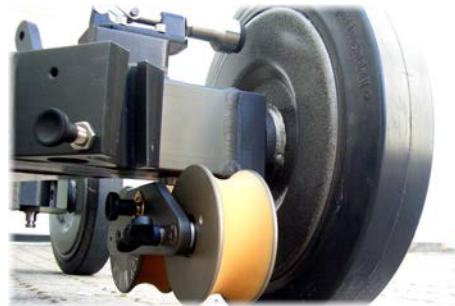
Levelling leg



Monitor carrier



Push bar



Track wheel with brake

Mounting the accessories

Levelling Legs:

Crank the spindle up to give enough clearance to connect the levelling arm to the dovetail connection on the base dolly. To do so, pull back the locking pin which is arranged on the levelling leg adapter of the base dolly and slip the connection flanges into each other. Ensure that the automatic locking pin inserts fully. When all 4 Levelling Legs are mounted the base can be levelled.

Monitor Carrier:

Insert the monitor carrier axle through the respective holes on the pivot section and secure with the knurled locking knobs.

Push Bar:

Can be connected to either end on the base dolly by inserting the push bar stubs into the respective holes on the base. Lock tightly with the locking knobs.

Track Wheels:

Connect to the track wheel units to the bolts on the underside of the base. Ensure that the automatic locking pin inserts fully. Mount the track wheels so that the track wheel brake on each of the units as well as the automatic locking pin points towards the mounting column.

Notice:

When operating the crane with the **push bar** mounted on the dolly, pay attention that the crane arm at no time collides with the push bar.

Always use the levelling legs to level the crane when on uneven surfaces.



Attention: For safety reasons only original accessories manufactured by GFM may be used with the crane.

Use with GFM Track (GF-Track)

The maximum payload on standard GF-Track: $m_{zul} = 1200 \text{ kg} / 2640 \text{ lbs}$

- o authorized GFM Cranes:

GF-9, GF-6, GF-8 Standard and GF-8 Xten with 4 x 2 (double) GF-Track Wheels.
Track width = 620mm / 24,5 inches

There are a number of ways to mount the GF-8 on track:

- o The crane can be assembled on track
- o By using the 4 levelling legs, the assembled and balanced crane can be cranked upwards to allow the track to be placed under the base and already mounted track wheels. The base can then be carefully lowered by cranking the 4 levelling legs simultaneously downwards.



Attention: Increased caution while laying the tracks and lowering the crane on tracks. Ensure that the track wheels are parallel to the track.

- o The assembled and balanced crane can be rolled onto the track by using the GFM Starter Ramp.



Attention: To do so remove the levelling legs and ensure that the track wheels are aligned with the track. Moving the crane onto the track should be carried out by at least 3 operators. It is essential to make sure that the track underlay cannot move or shift.

Use on curved tracks:



Attention: Extreme caution if tracking on curved track (not faster than a slow walking pace).

Transport trolley for the GF-8 Crane



The above photos show the practical transport solution for the GF-8 Crane System. The GFM trolley fits the complete system with dolly and column as an extra unit.



Attention: While loading and unloading parts of the crane the wheel brakes have to be tightened.

GF-8 Crane Dollies

The GF-8 Mini Base

Ideal for going through narrow doorways and working in very confined spaces. Track wheels are mounted by replacing the standard rubber wheels, keeping size to a minimum. Levelling legs are also available. For use with Standard GF-8 versions.



GF-8 Base as Track or Western Dolly

The crane platform may be mounted on the base dolly to provide a track or western dolly style function. Insert the 3 bolts located on the underside of the chassis through the platform and into the turnstile mount. Lock the 3 bolts tightly with an Allen Key.



The GF-8 Standard Base Dolly

Equipped with solid rubber wheels and with single ended, corrected steering geometry allowing a minimum circular movement of 258cm / 9' 4" inside diameter. Can roll from floor to standard 62cm / 24,5" track by just clicking on the track wheels. Levelling legs and adapters to 100cm / 39" track are also available.



The GF-8 Double Ended Steering Base

offers all the features of the standard base but with double ended steering. Each end functions independently with a dedicated steering rod for each operator. Can roll from floor to standard 62cm / 24,5" track by just clicking on the track wheels. Levelling legs and adapters to 100cm / 39" track are also available.



Attention: The assembly or operation of the crane only with pneumatic wheels is not allowed. The only exception is when the levelling legs are mounted and the base is levelled and supported by them. In general the pneumatic wheels are only for transportation.

The GF-8 Double Ended Connected Steering Base

Offers all the features of the standard base but with GFM's connected steering system. The 3 steering functions are controlled from the rear of the dolly by simply flicking a lever. You can roll from floor to standard 62cm / 24,5" track by just clicking on the track wheels. Levelling legs and adapters to 100cm / 39" track are also available. Provides the utmost in manoeuvrability.

Three steering modes available:

- o **Front 2 wheel**
- o **4 wheel inverted**
- o **Rear 2 wheel**

To change steering mode please observe the following guidelines:

- o Before switching, all wheels must be aligned.
- o To position the switch lever in the required position first release the safety knob (see the pictures below), found on the opposite side. After switching, reinsert the safety knob (Steering position secured).



Safety knob



Switch lever (here in the upward position)



Dolly Double Ended Connected Steering

Steering mode 1:

2 wheel front steering - rear wheels fixed - Operated from the rear of the dolly. In this mode the front wheels are steered allowing a minimum circular movement of 258cm / 9' 4" inside diameter.



Front wheel steering



Switch lever (here in the downward position)

Steering mode 2:

4 wheel steering - all 4 wheels can be turned together giving a "roundy round" steering effect for narrow curves.



4 wheel steering



Switch lever (here in middle position)

Steering mode 3:

2 wheel rear steering - front wheels fixed - In this mode the rear wheels are steered from the rear of the dolly.



Rear wheel steering



Switch lever (here in upward position)

Maintenance

In general, maintenance should always be performed by qualified personnel in accordance with relevant accident prevention regulations and generally accepted safety rules.

Recommended maintenance interval: 1 year

We recommend the owner / operator to a visual and functional test of the components listed below several times a year, to make sure that the crane system is in good condition.

Before operating the crane all fasteners such as locking screws, connecting bolts, etc. should be checked for tightness and integrity.

Furthermore any components and modules of the crane such as the base dolly, the wheels, track wheel and levelling units, extensions and rigging parts, angle adjuster, platform, remote bracket, counterweight bucket and especially the connecting flanges of the crane sections have to be inspected for any kind of damage.

It is also necessary to check the proper function of the closure of the counterweight bucket, the wheel brakes, the friction at the middle section and if the bearings of the wheels of the dolly, the track wheels, the middle section, the turnstile and the angle adjuster are running smooth.

In case of any damages of the crane, the manufacturer has to be informed immediately about the accident details and the heaviness of the damage. In accordance with the manufacturer further action has to be clarified.

In general damaged parts have to be sent to the manufacturer for repair or replacement. The use of the crane with damaged parts is not allowed. The manufacturer accepts no liability for damages or injuries for incidents or accidents occurring due to the use of damaged parts of the crane.



Attention: For safety reasons only original spare parts manufactured by GFM may be used for the maintenance or the reparation of the crane.

Regular Inspections

According to guideline BGV C1, § 34, repeated inspections by a technical expert must be carried out at least once every year. In addition, inspection through a technical expert, based on the scope of examination must be carried out every 4 years. The inspections must be registered in the Log Book that is delivered with each crane.

Technical experts must meet the requirements of BGV C1, §34 and §36 according to the following explanation:

A technical expert for the annual inspection is a person who, based on their training and experience has sufficient knowledge in:

- Areas of technical safety and machinery as well as the State's related protective regulations for the work place.
- Rules and regulations from the respective government safety organization.
- Recognized regulations and generally recognized technical rules and accepted technical codes of practice (e.g. DIN norms, VDE regulations, technical rules of other European Union members States or other States that comply with the Treaty on the European Economic Area)
- Work related safety standards and technical safety for machinery.

Valid as a technical expert for the inspection of technical safety and machine facilities every 4 years is an expert recognized by the government safety organization. In general, the authorisation of a recognized technical expert requires the following:

- a) Completed studies as an Engineer
- b) A minimum of 3 years experience in construction design, assembly or maintenance of safety relevant and technical facilities.

It is recommended that the safety inspections be carried out by GFM or a local recognized expert.

Contact details of domestic and foreign technical experts can be obtained from recognized technical surveillance organizations (e.g. TÜV).

EC Declaration of Conformity

The company **Grip Factory Munich GmbH**
Fürholzener Str. 1
D-85386 Eching

declares, that the crane Type: GF-8 / GF-8 Xten
 Model: Cameracrane
 Serial No. and year of manufacturing:
 see identification plate

complies with the machine guidelines 2006/42/EG (May 2006)

This EC Declaration of Conformity will become invalid should the crane be in any way modified and the modifications not be authorized by us in writing.

Eching, March 2011

Antonio Tundo - director of company
Derek Magee - director of company
Armin Weileder - director of company