



Grip Factory Munich

YOUR INNOVATIVE PARTNER FOR CAMERA SUPPORT

Instruction Manual

GF-Quad Dolly



Valid: Feb. 2008

Grip Factory Munich GmbH
Fürholzener Straße 1
85386 Eching bei München
Germany

Tel.: +49 (0) 89 319 0 129-0
Fax: +49 (0) 89 319 0 129-9
e-mail: info@g-f-m.net
<http://www.g-f-m.net>



Contents

GENERAL INFORMATION ABOUT THE GF-QUAD DOLLY	2
GF-QUAD DOLLY TECHNICAL SPECIFICATIONS	4
GF-QUAD DOLLY COMPONENTS.....	4
INTRODUCTION	5
SAFETY GUIDELINES	6
OPERATION AND ASSEMBLY INSTRUCTIONS	8
1 GROUND CONDITIONS	8
2 CHANGING THE WHEELS.....	8
3 STEERING ROD ASSEMBLY AND FUNCTIONS	11
4 STEERING MODE SELECTION	13
5 SETTING THE TURN ANGLE	15
6 MOUNTING ACCESSORIES.....	16
6.1 EURO-ADAPTER PLATE.....	16
6.2 TURNSTILE MOUNT	17
6.3 EURO-ADAPTER BASED ACCESSORIES	17
6.4 SEAT ARM EXTENSIONS AND SEATS	18
6.5 SIDE PLATFORMS.....	19
6.6 PUSH BAR	20
6.7 TRIPOD	21
7 GF-QUAD DOLLY BRAKES.....	23
8 TRANSPORTING THE GF-QUAD DOLLY.....	23
9 SERVICE AND MAINTENANCE.....	24



General information about the GF-Quad Dolly

The GF-Quad is a lightweight dolly that because of its flexibility, mobility and innovative features, provides a wide range of functions for camera movement on set.

Flexibility on set:

As a standard, the GF-Quad Dolly is equipped with pneumatic wheels but can, without tools, easily be transformed into a track dolly.

For use on track there is a choice of skateboard or track wheels.



Ground surface use

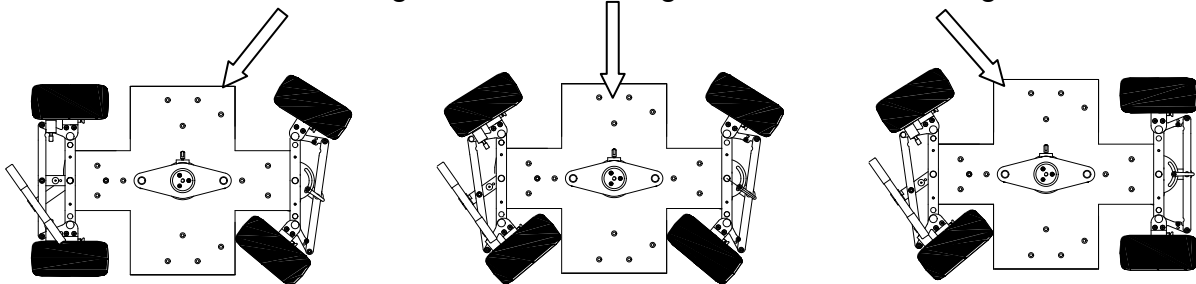


On track

Mobility on set:

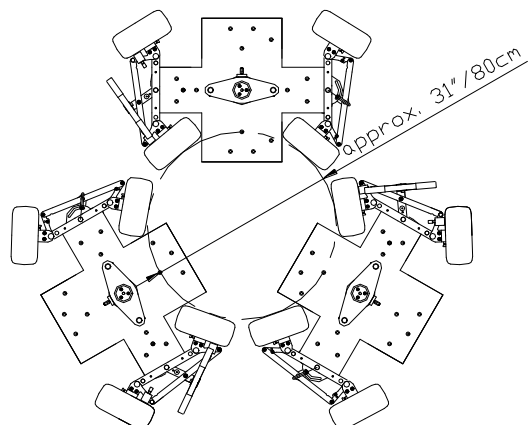
The GF-Quad Dolly is equipped with 2 steering axles both of which have corrected steering geometry. These are the key to providing a choice of the 3 different steering modes.

Front wheel steering – 4 wheel steering – Rear wheel steering



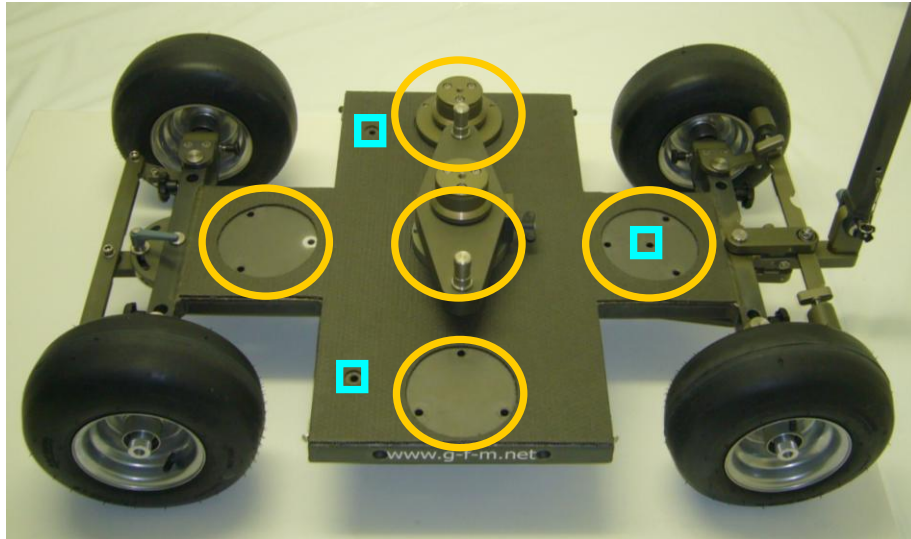
The 4 wheel steering is especially useful for narrow curved and circular moves, enabling a small circle of 80cm / 31" diameter.

Furthermore, the front steering axle may be locked at any angle within its range, allowing a repeatability of curved or straight moves.



Functionality on set:

The GF-Quad Dolly has numerous possibilities to connect various mounts and accessories. There are 5 connection positions for mounting a Euro-adapter plate and also 3 dedicated holes to accommodate a camera tripod. With these features you are well equipped to tackle your next shoot whether it be on location or in the studio.



Euro-adapter connections



Tripod connection

Connection positions

Additional Features:

- *GF-Quad Dolly Platform* → Lightweight aluminium construction: High stability, low weight
- *Telescopic Pushbar* → Mountable at both ends of dolly and with adjustable width for track and doorway shots
- *Steering rod* → 3 fixed positions via locking pin. Horizontal, vertical und 60° settings. Step-less angle adjustment by removing locking pin and using locking lever
- *Brakes on pneumatic and track wheels*
- *Maintenance free 4 wheel steering mechanism*
- *Light moving steering*
- *Compact dimensions* → The 75cm / 29" wide dolly allows easy manoeuvring through tight doorways.



GF-Quad Dolly Technical Specifications

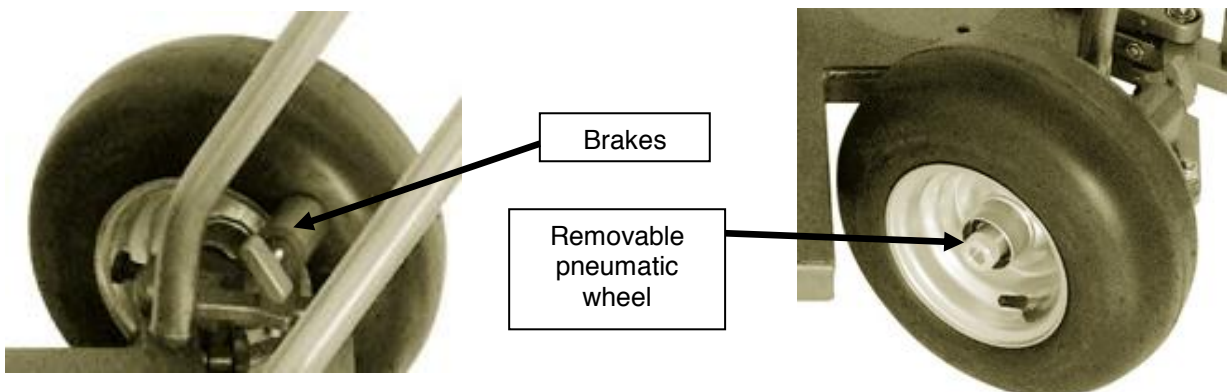
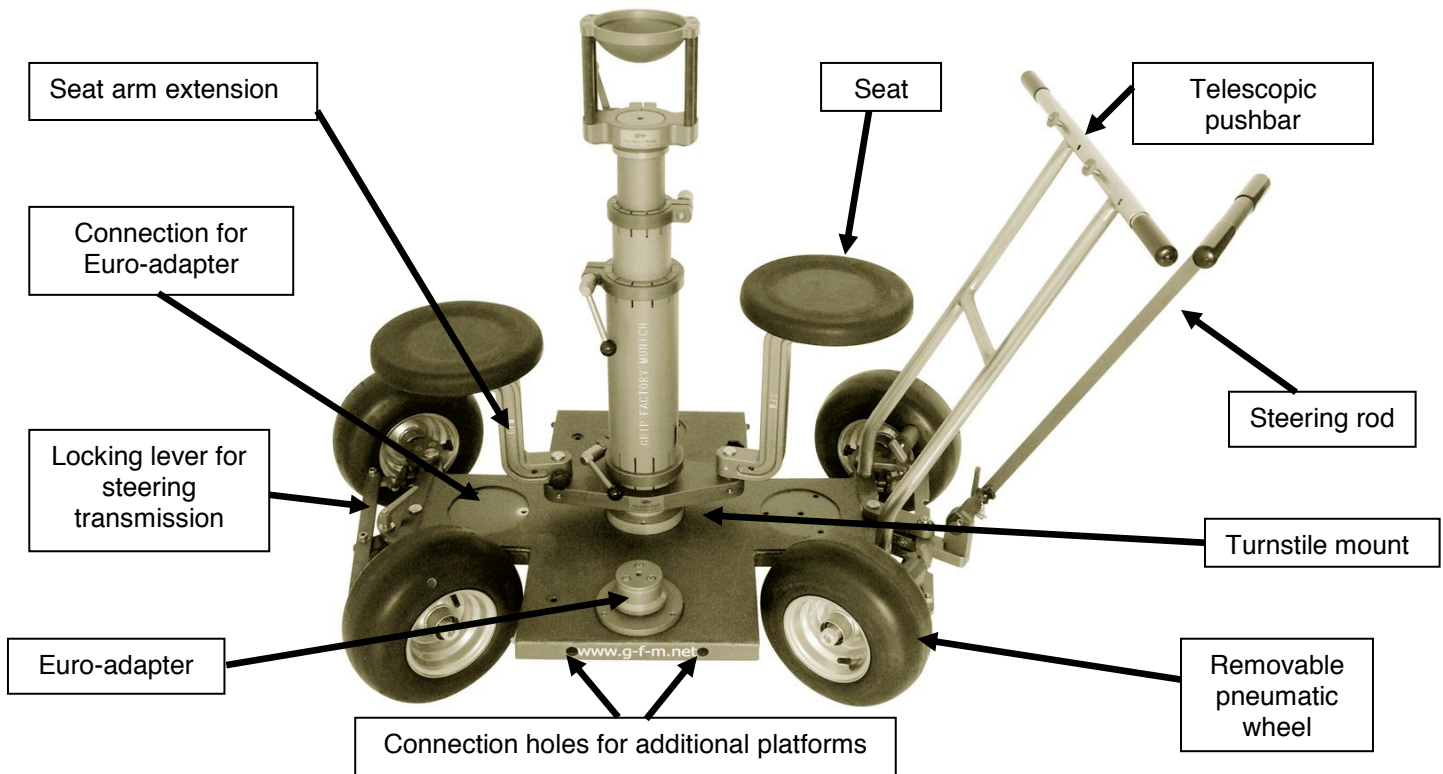
Dimensions and weights

	Without additional platforms	With additional platforms
With pneumatic wheels* L x W/ kg /lbs:	122 cm x 75 cm / 43 kg 48 inch x 29 inch / 94lbs	122 cm x 105 cm / 47 kg 48 inch x 41 inch / 103lbs
With track wheels* L x W/ kg /lbs	121 cm x 78 cm / 40 kg 47 inch x 30 inch / 88lbs	121 cm x 105 cm / 44 kg 47 inch x 41 inch / 96lbs
With skateboard wheels* L x W/ kg /lbs	120 cm x 74 cm / 35 kg 47 inch x 29 inch / 77lbs	120 cm x 105 cm / 39 kg 47 inch x 41 inch / 85lbs
Max. working load** [kg / lbs]:	250 kg / 550lbs	

* Weight includes: dolly platform und steering rod

** Maximum allowed working load on dolly platform consists of:
2 pers, accessoires and camera

GF-Quad Dolly components



GF-Quad Dolly components



Introduction

We would like to thank you for choosing the GF-Quad Dolly and also for the trust you place in us by making this decision.

To enable you to utilize all the features and options that are available, and above all to operate in a safe and responsible manner, there some rules and guidelines that must be followed.

The assembly instructions and safety guidelines must be read and understood before set-up or operation.

The dolly may only be used in accordance with the manufacturer's instruction manual. The manufacturer's technical specifications and limits must be adhered to at all times and in no way exceeded.

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



Safety Guidelines

Condition of equipment:

Before using the GF-Quad Dolly check to ensure that all components (removable wheels, steering rod, steering axles, turnstile mount, Euro-adapter, tripod etc) are secured correctly and that the respective safety elements are in place.

To avoid unwanted platform movement and instability, ensure that the 4 pneumatic wheels are filled to the manufacturers recommend tire pressure of 2,8Bar / 40PSI. In cases where the dolly is used with lower pressure, ensure that all 4 tires have the same pressure.

To ensure an optimal working situation, only original GFM parts and accessories should be used with the GF-Quad Dolly.

Working surface conditions and payload:

Ensure that the ground surface is stable and cannot give way. The ground surface must be stable enough to support at least 500 kg/m² = 1100 lbs/ sq yard

In general the working surface must be flat, horizontal, solid enough to take the respective load and free from obstructions. Should these conditions not be available naturally then they must be created. In such cases the dolly must be used on track and the track must be assembled on a stable underlay. The correct underlay must be used and it must be ensured that the track and underlay are secured against moving, slipping and collapse. Ensure that the underlay meets the specified weight requirements and stability requirements and is laid in a manner that does not cause the operators to trip over.

When using a track system the assembly instructions and safety guidelines must be read and understood before set-up or operation.

Loading the Dolly:

When loading the GF-Quad Dolly it is important to achieve an equal distribution of weight. Avoid one sided or off-set payloads at either side or end of the main dolly platform and also on the extra side platforms.

Loading the dolly equally reduces the risk of tipping it over and ensures a safer and more comfortable working environment.

The maximum working load on the GF-Quad Dolly is 250 kg / 550 lbs and consists of:

2 pers, accessories and camera

The maximum working load may not be exceeded!



Operating the dolly:

When operating the dolly, banging or crashing into objects should be avoided.

Curved movements should be made at no more than a walking pace. The same applies for track moves. Furthermore track underlay and support material must be laid in a manner that does not cause the operators to fall or trip over it.

Dolly transportation:

When transporting the dolly, all temporarily assembled accessories should be removed from the dolly and the steering rod should be folded flat onto the platform. To avoid damage and injury all loose objects must be secured and tied down to avoid any unwanted movement caused by abrupt braking or similar occurrences.

Operation and assembly instructions

The following instructions describe the handling and assembly of accessories on the GF-Quad Dolly.

1 Ground conditions

Before using the GF-Quad Dolly, the ground and surface conditions should be inspected to ensure that they meet with the requirements as per the Safety Guidelines and in turn the respective wheel type can be selected. For this purpose there is a selection of wheel types available for the GF-Quad Dolly:

Ground / floor operation:



Pneumatics



Track wheels

Track operation:



Skateboard wheels

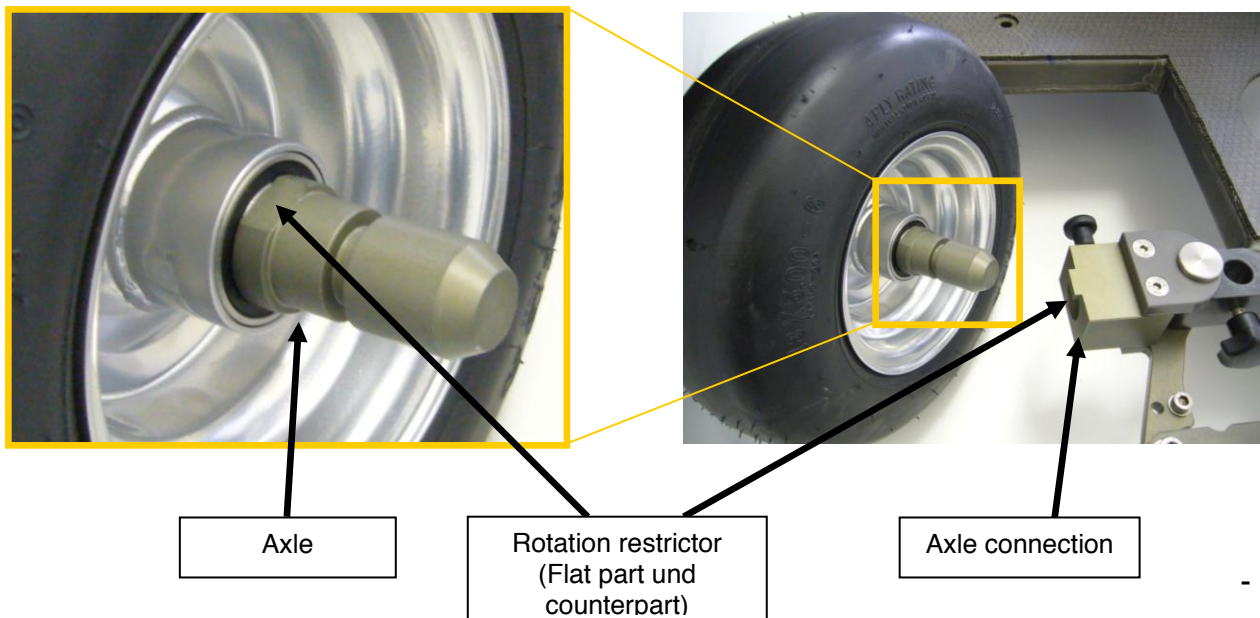
2 Changing the wheels

Assembly:

As a standard, the pneumatic wheels are equipped with axles.

Attention:

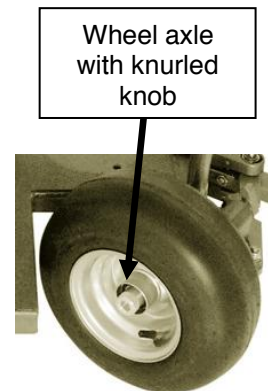
The GF-Quad Dolly has a rotation restrictor on the wheel axles which also defines the exact assembly position of the wheel. So when connecting, ensure that the flat part on the wheel axle joins with the flat counterpart on the axle connection on the base.



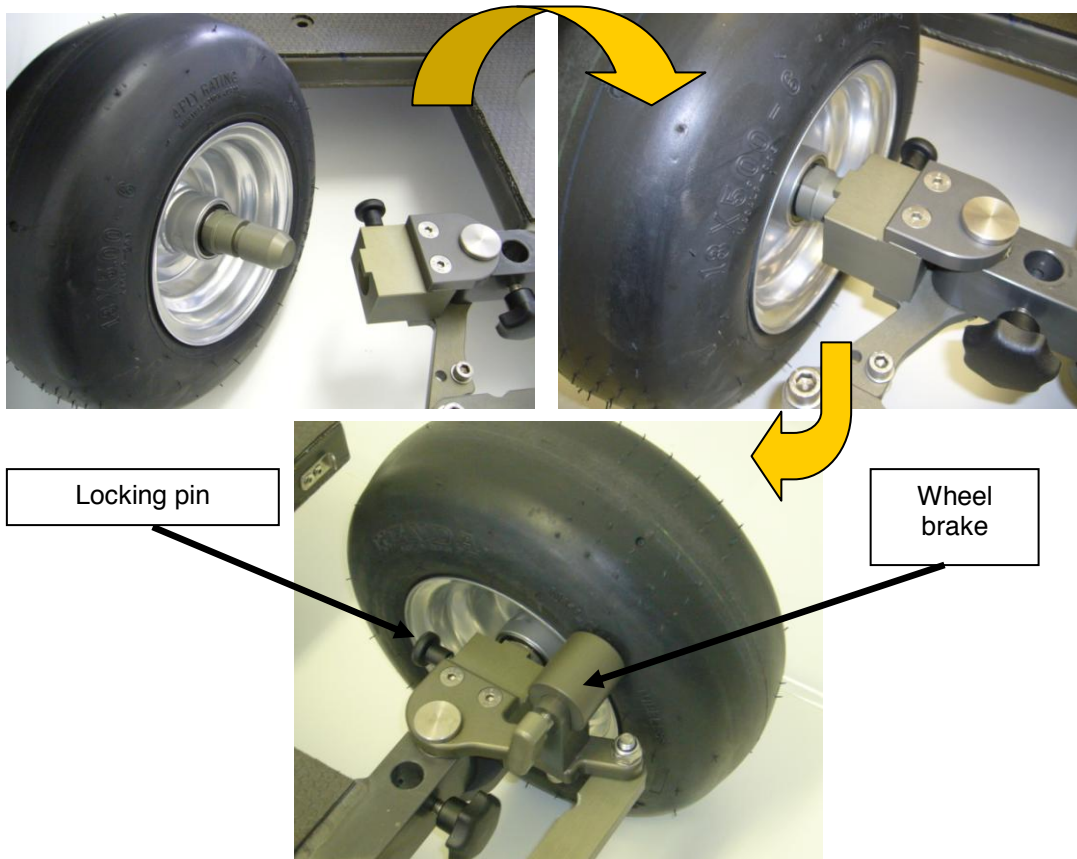
To mount the wheels proceed as follows:

By holding the knurled knob, insert the axle into the axle connection as far as it will go.

Pressing the axle inwards, rotate it until the flat rotation restrictor on the axle meets with the flat rotation restrictor on the axle connection and insert fully.



Pneumatic wheel



An alternative method is to align the 2 flat rotation restrictors in advance and insert fully until connected completely.

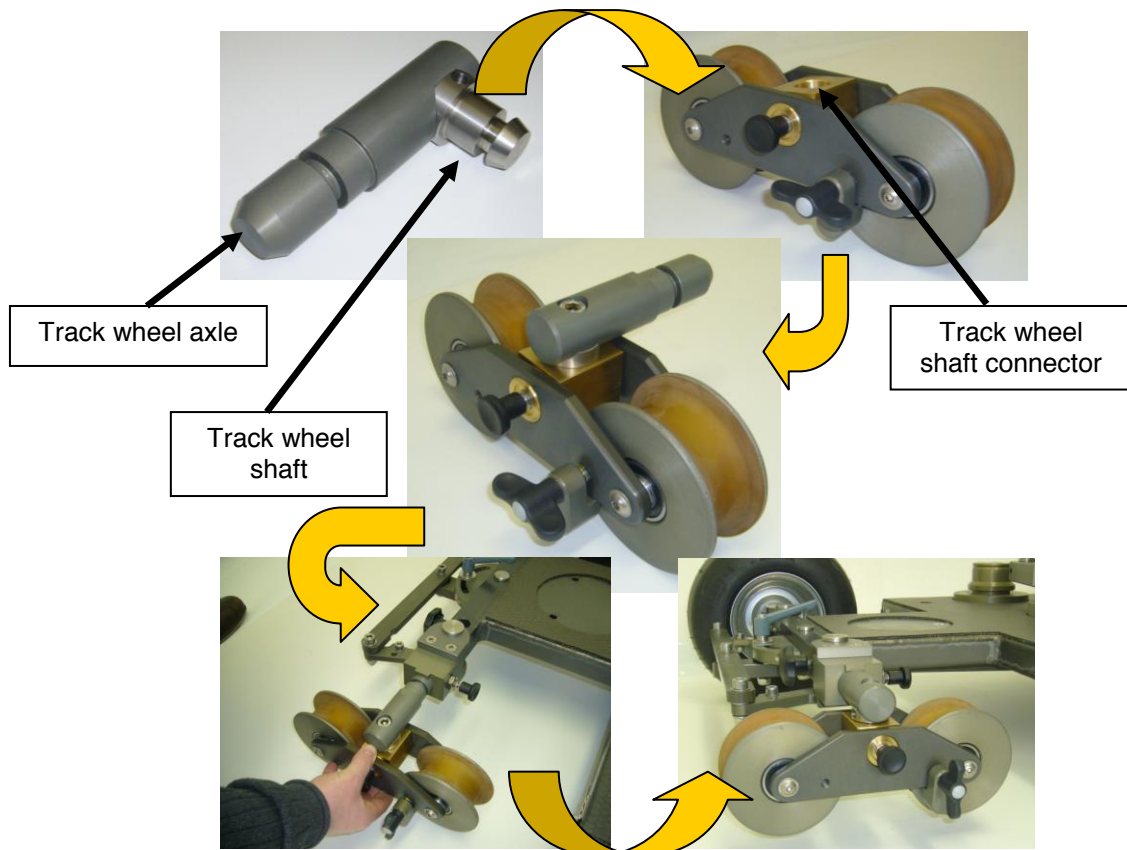
Tip: The wheels are mounted correctly when:

- The flat rotation restrictor on the axle is covered by the flat rotation restrictor on the axle connection
- The locking pin is inserted fully (audible “click”)
- The axle cannot rotate or be removed (unless by disengaging the locking pin)

Attention: Prior to mounting the pneumatic wheels, ensure that the wheel brakes are opened fully. It's not possible to mount the pneumatic wheels when the brake is in the locked position!

When assembling the track or skateboard wheels it is easier to recognize the rotation restrictor on the track wheel axles. To mount the track wheels proceed as follows:

Insert the track wheel shaft into the shaft connector on the track wheel unit, checking that the safety pin is inserted fully. Tip: when the pin slips into place it makes an audible click!



Mounting the track wheels

Disassembly:

To remove the wheels, release the locking pin by pulling it away from the axle connection. At the same time remove the respective wheel axle.



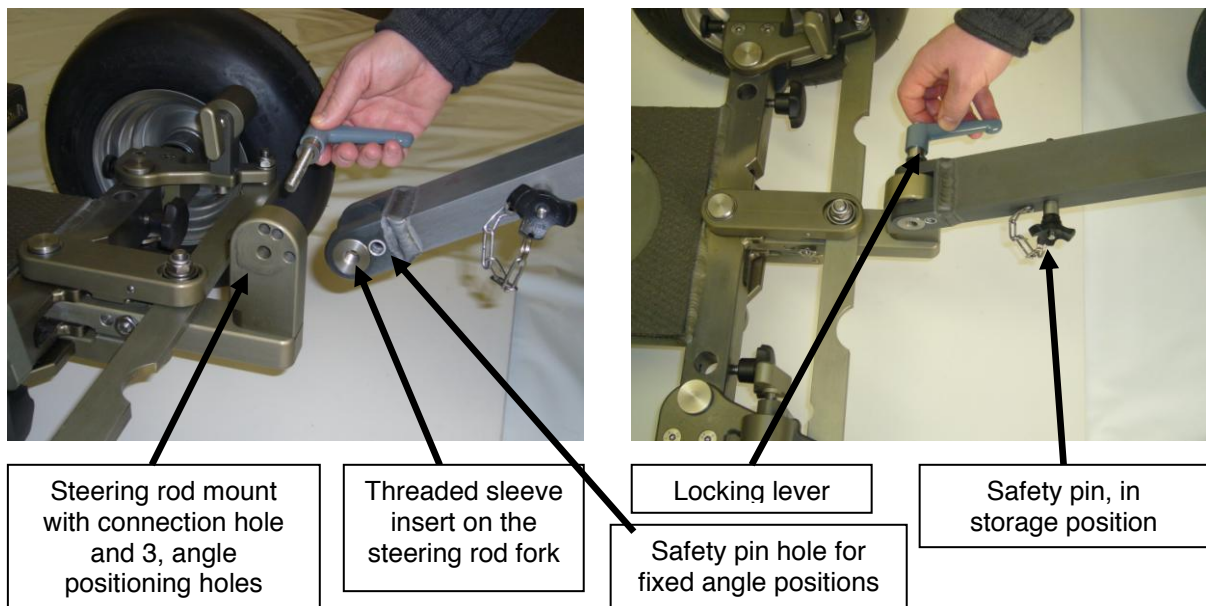
Removing the track wheel

3 Steering rod assembly and functions

By correctly using the steering rod it is possible to manoeuvre the GF-Quad Dolly with extreme precision. To mount and adjust the steering rod, please proceed as follows:

Position the forked steering rod centrally on the steering rod mount located on the rear axle of the dolly.
Connect the steering rod to the mount by inserting the locking lever and screwing it into the threaded sleeve on the steering rod fork.

Attention: To operate correctly, when connecting the steering rod, ensure that the threaded sleeve insert is always on the opposite side of the rod to the locking lever.

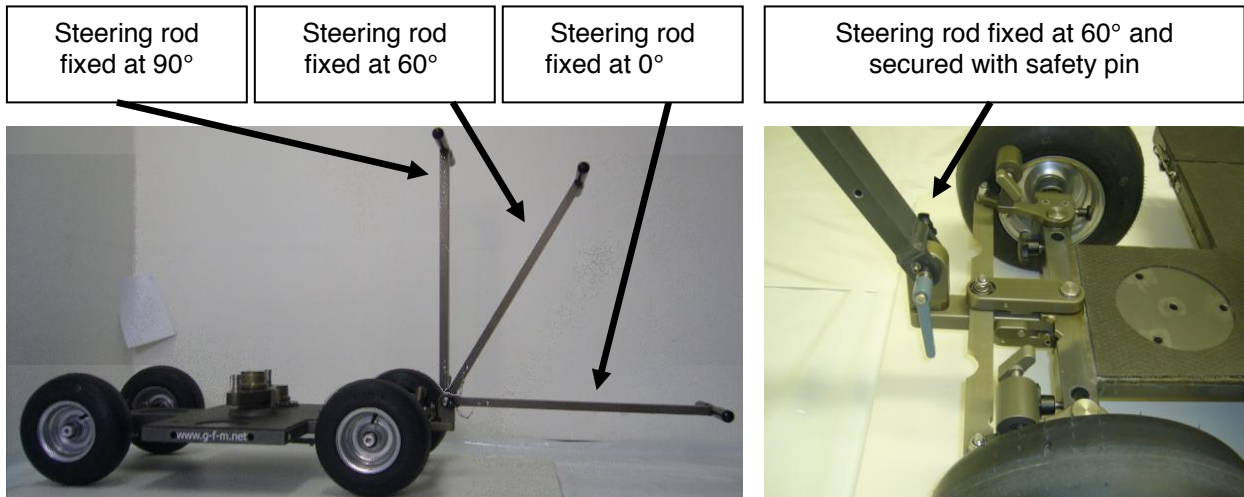


Mounting the steering rod

To enhance the GF-Quad Dolly's flexibility there are 3 further steering applications

- Application 1, fixed push bar function:
By connecting with the safety pin, there are 3 set angles (0°, 60° or 90°) where the steering rod can be used like a push bar. Proceed as follows:

Loosen the steering rod by undoing the locking lever until the steering rod is easily repositioned.
Fix the steering rod at 1 of the 3 positions by inserting the safety pin at 0°, 60° or 90° and lock securely by retightening the locking lever.



Steering rod fixed positions

- Application 2, step-less angle adjustment of the steering rod:
 When the safety pin is removed and placed in the storage position, the locking lever, which also functions as the connection element between the steering rod and mount, can be used to fix the steering rod at a range of required angles.
 Proceed as follows:

Insert the safety pin into the storage position hole on the steering rod.

Move the loosened steering rod to the required position and lock securely by retightening the locking lever.

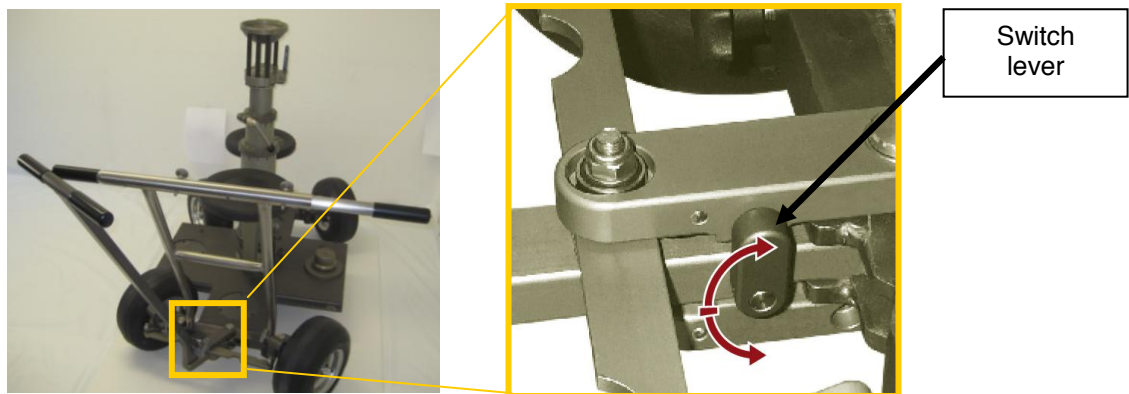
- Application 3, loosened steering rod:
 If required the steering rod can be used in a freely adjustable, loosened manner.
 Proceed as follows:

Insert the safety pin into the storage position hole on the steering rod.

Loosen the steering rod by undoing the locking lever so that the steering rod moves freely.

4 Steering mode selection

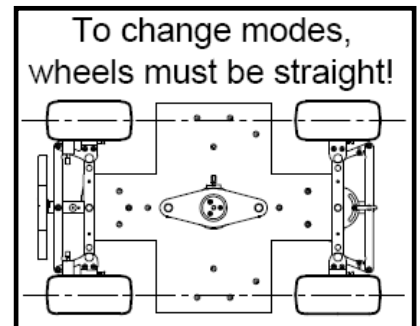
With the GF-Quad Dolly, 3 steering modes can be selected from a central position. The changeover from one mode to the other is a simple matter of moving a lever. The lever is located between the rear axle and steering axle.



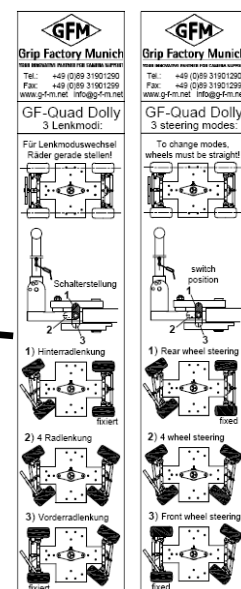
Switch lever location

Attention: The switch lever can only be activated, when all 4 wheels are pointed in a straight line. (neutral position, wheels not turned).

Tip: The different steering modes are displayed on instruction signs found on the steering rod.



Instructions signs on steering rod



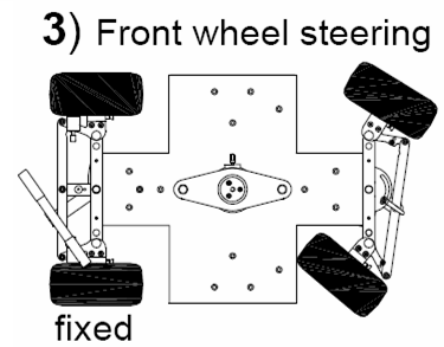
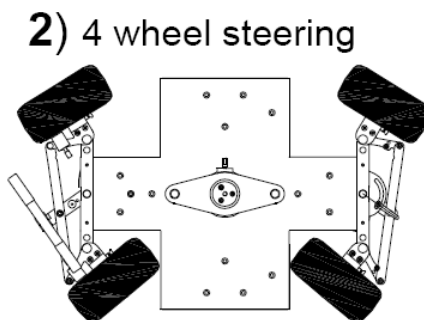
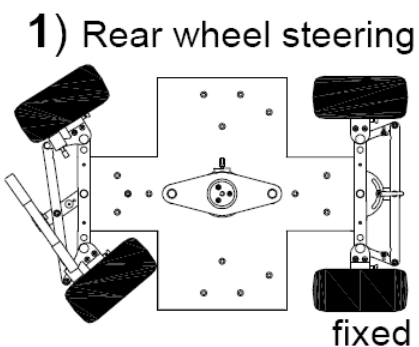
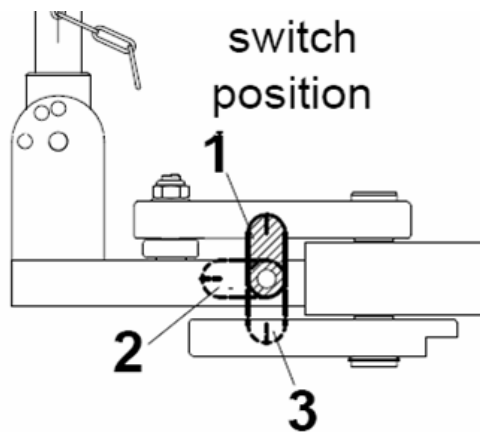


To change the steering mode, proceed as follows:

Place the steering rod in the neutral position so that all the wheels are in a straight line and not turned

Move the switch lever into the required position (switch position 1, 2 or 3).

Attention: In rear wheel mode (switch position 1) the front axle is blocked and in front wheel mode (switch position 3) the rear axle is blocked. Upon selecting the requested steering mode, check to make sure the respective axle is blocked.



Steering modes



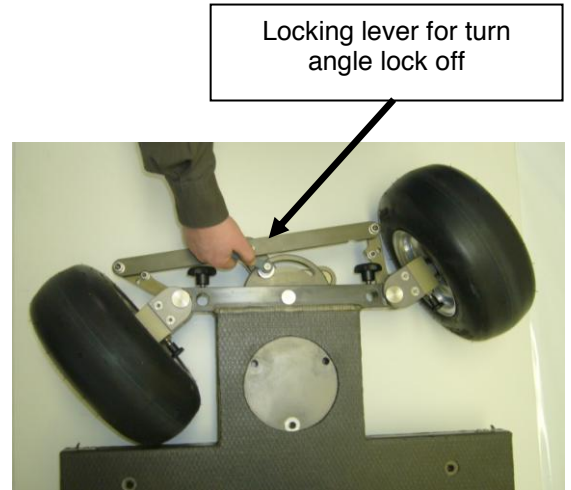
5 Setting the turn angle

By using the turn angle lock off on the front axle, the GF-Quad Dolly's steering angle can be set to enable repeatable curved and straight dolly moves.

Please follow these steps:

To select the turn angle, change to either front wheel steering or 4 wheel steering mode (see page 13, steering mode selection)

Attention: In rear wheel steering mode the front axle is blocked so it is not possible to lock the turn angle.



Setting the turn angle

Set the required turn angle by adjusting the steerage transmission accordingly.

Fix the turn angle by locking the steerage transmission with the locking lever.

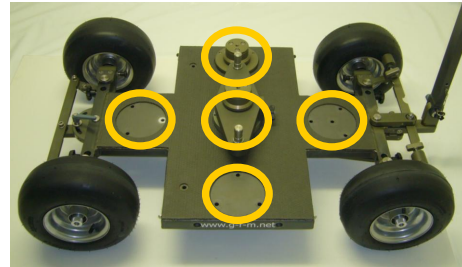
When a turn angle is selected and the dolly is operated under load (max. payload 250kg / 550lbs) the speed of the movement must be adjusted to ensure that the dolly cannot tip over.

6 Mounting accessories

6.1 Euro-adapter plate

To enable the fitting of various camera mounting accessories such as risers, ball and off-set adapters etc. there are 5 positions on the GF-Quad Dolly platform to mount a Euro-adapter.

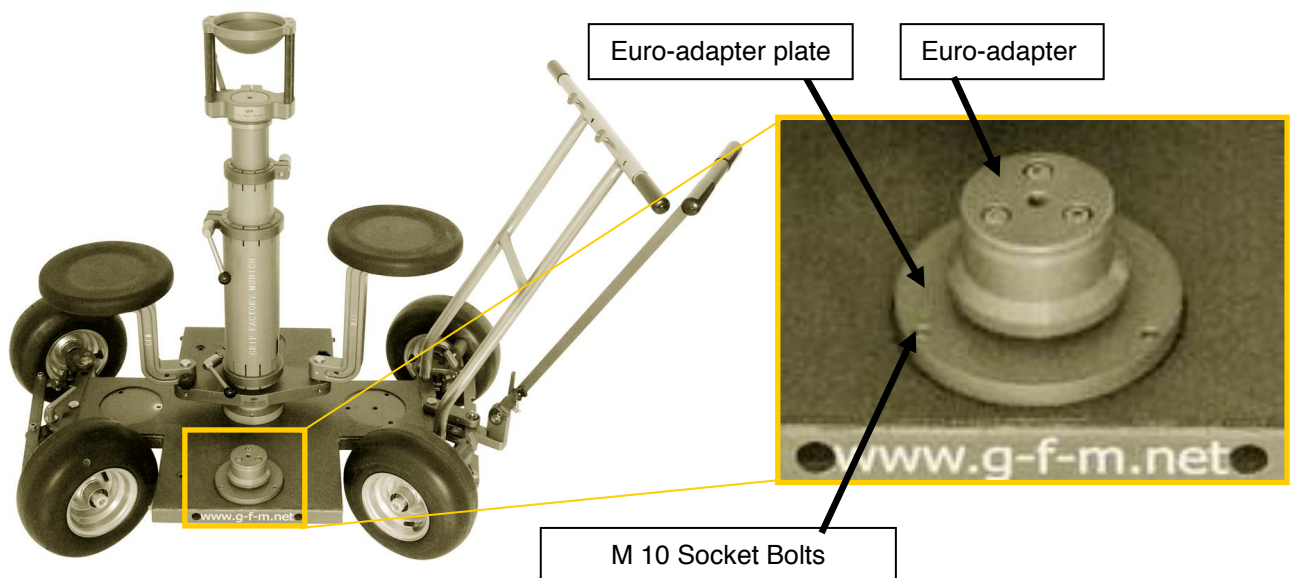
Please proceed as follows:



Connections for Euro-adapter plate

From underneath the dolly, insert 3 x M10 socket bolts consecutively through the platform and into the Euro-adapter plate, tightening them with the sized 10 Allen Key. Ensure that the Euro-adapter plate is positioned correctly in the fitting and that the bolts are tightened securely.

Tip: To simplify the assembly of the Euro-adapter, stand the dolly lengthwise, balanced on the sides of 2 wheels. In this case, make sure the wheels are not turned but rather aligned in a straight line so the dolly cannot topple over.



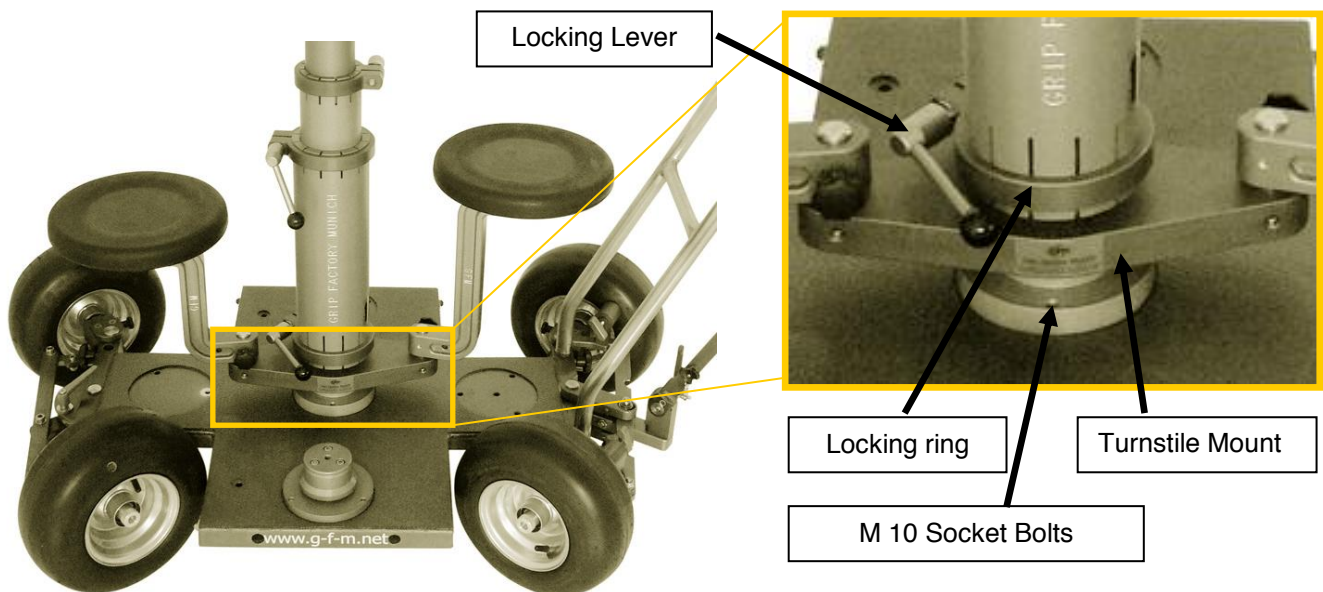
Mounting the Euroadapter

6.2 Turnstile Mount

The turnstile mount allows the camera operator and assistant to assemble 2 seats on the dolly platform and to rotate 360° around the central Euro-adapter. Further camera positions can be achieved by mounting risers, ball or off-set adapters etc.

To assemble, please proceed as follows:

To assemble the turnstile mount please proceed in the same manner as described in § 6.1 on page 16. The turnstile mount is connected in the same manner as the Euro-adapter plate and secured from underneath the platform with the respective bolts.



Assembling the turnstile mount and adjustable riser

6.3 Euro-adapter based accessories

As described in § 6.1 „Euro-adapter plate“, the Euro-adapter serves as a connection for various camera mounts such as the GFM Adjustable Riser. To assemble, please proceed as follows:

Open the locking ring at the bottom of the adjustable riser and fit the riser onto the Euro-adapter so that it sits correctly.

By turning the locking handle, close the locking ring until the riser is locked securely to the Euro-adapter and all play in the fitting is removed.

6.4 Seat arm extensions and seats

To provide sitting positions on the GF-Quad Dolly, various seat arm extensions can be connected to the turnstile mount. Please proceed as follows:

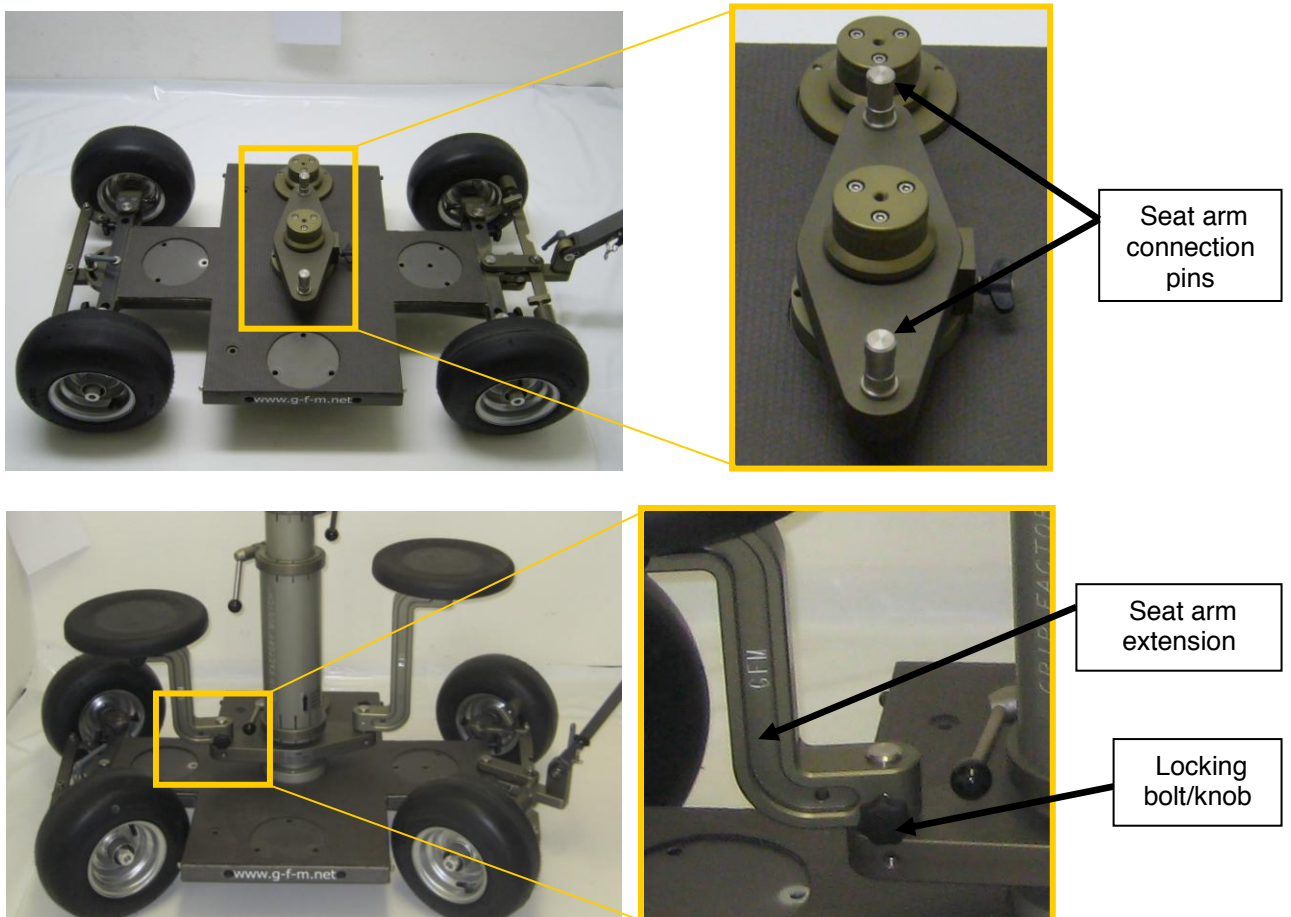
Seat arm extensions can be mounted on the connection pins found on either end of the turnstile mount and locked securely with the respective locking bolt/knob.

The seats are mounted by connecting the pin on the underside of the seat into respective fitting in the seat arm and locked securely with the respective locking bolt/knob.

Attention: When connecting or joining seat arms, do not over extend or over load them. Abide by the safety guidelines laid down in the Seat Arm Extension Guidelines

!

When operating the GF-Quad Dolly ensure that the dolly payload is evenly distributed!



Mounting the seat arm extensions

6.5 Side platforms

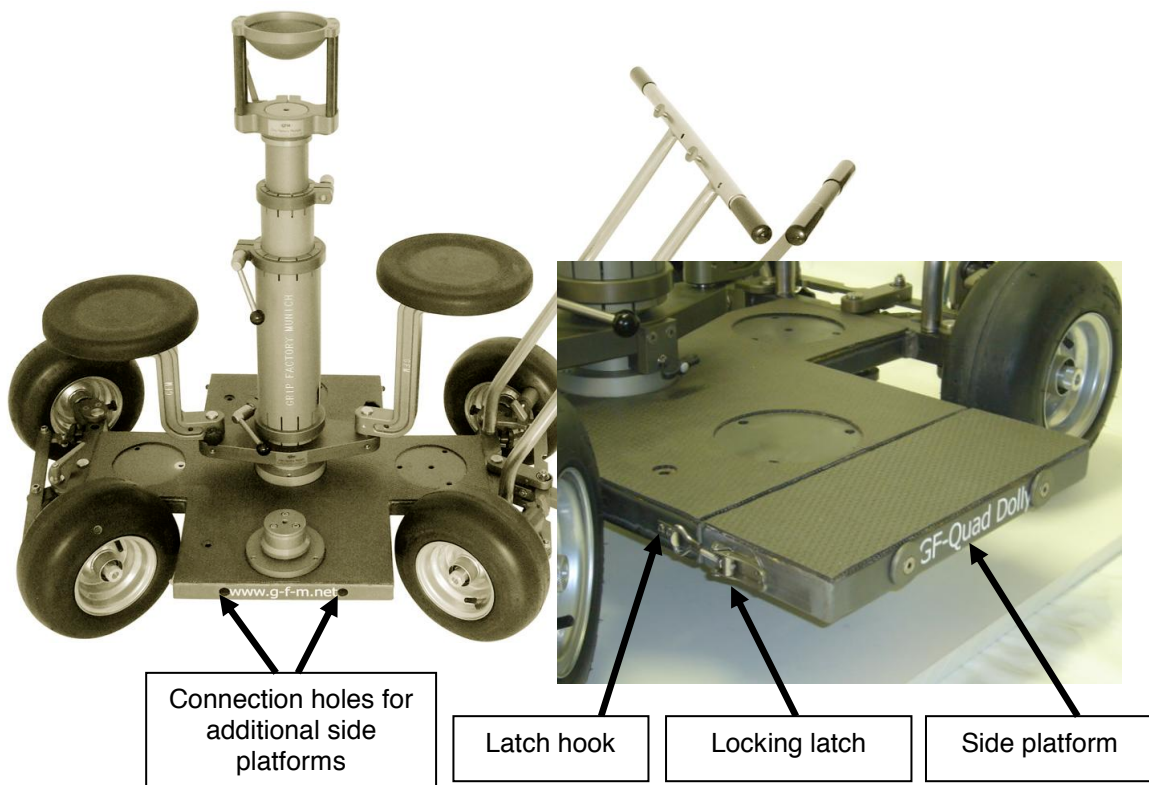
Additional side platforms can be used to extend the size of the GF-Quad Dolly. Please proceed as follows:

Insert the 2 side platform shafts into the 2 connection holes for additional side platforms found on each side of the main dolly platform.

Attention: The rubber coated side of the platform should be pointing upwards as per the main platform.

Secure the side platform to the dolly by engaging the locking latch with the locking hook and tighten securely.

Attention: By adding the 2 side platforms, the width of the dolly is increased. During use, the operators should be careful that they don't accidentally trip over them. Avoid loading weights or allowing people to stand on the outside rim of the platforms. Without the respective weight to counterbalance this, the dolly may tip over. To avoid collisions, remove the platforms in narrow passages with a minimum width of 1,05m.



Mounting the side platforms

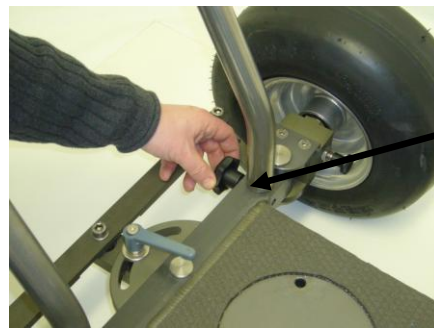
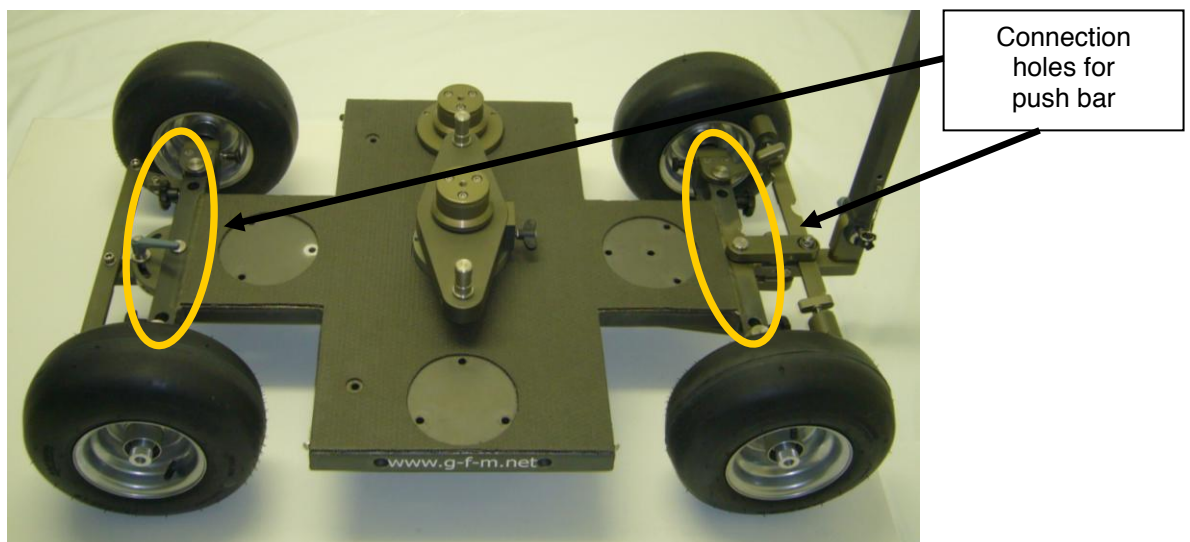
6.6 Push bar

The push bar provides the means to better control faster dolly movements. As the width of the push bar is adjustable, it can be set at the right width for narrow doorway shots or fast tracking moves.

To mount the push bar on the dolly please proceed as follows:

Insert the push bar into the respective connection holes found at either the front or rear end of the dolly.

Secure the push bar with the 2 locking knobs/bolts to avoid unwanted play or removal .



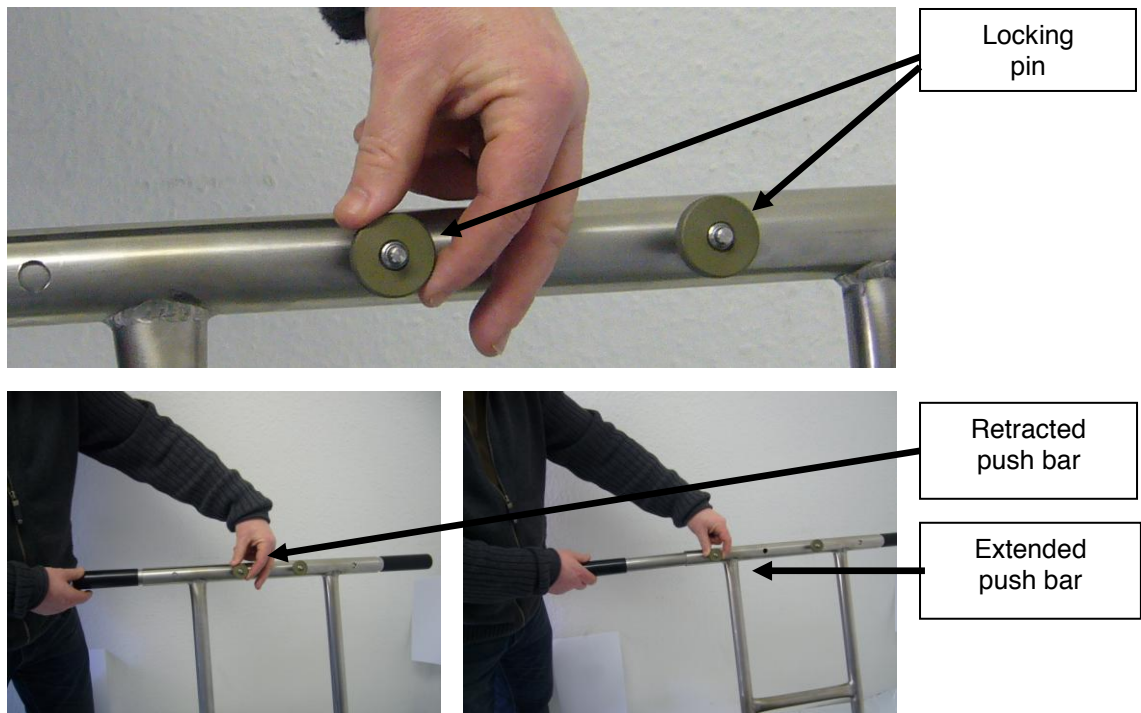
Positioning and securing the push bar

When using the dolly with push bar in doorways or passages narrower than 1,05m the push bar should either be removed or set in the narrowest position to avoid a collision.

To adjust the push bar, please proceed as follows:

Remove the locking pin by firstly unscrewing it from the bar and then by pressing and holding down the release button to take it out of the hole. Extend the push bar until, both the hole in the inner and the outer tube overlap.

Secure the rod by inserting the locking pin and screwing it into place.



Adjusting the push bar

6.7 Tripod

The 3 tripod connection holes found on the GF-Quad Dolly's main platform provide 2 methods to mount a tripod:

- Procedure for method 1:
The tripod is placed in the tripod leg fittings and secured.

Bolt the tripod leg fittings to the dolly, securing them from underneath the platform with the respective M 10 cap screw then hand tighten with the sized 10 Allen Key.

When the fittings are in position, position the 3 tripod legs.

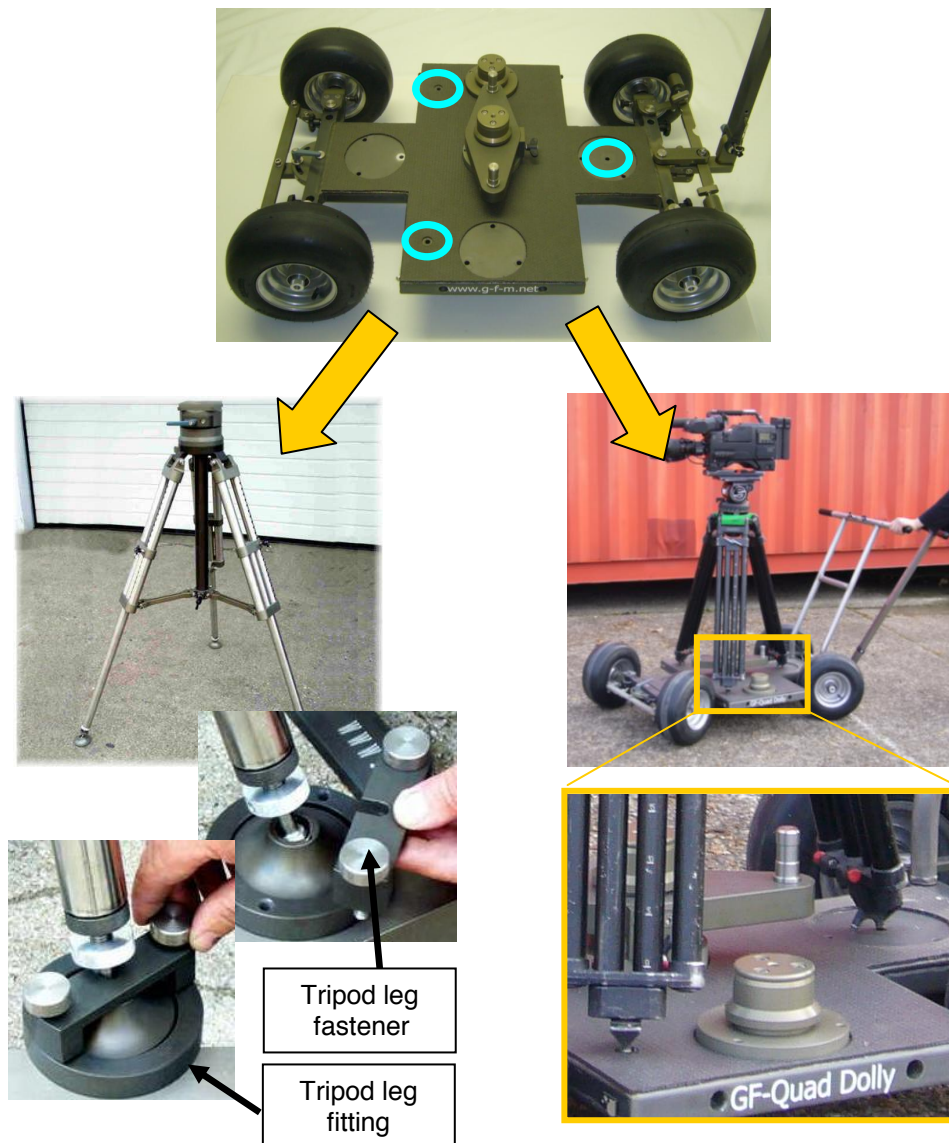
Upon placing the 3 tripod legs in the fittings on the dolly, secure each one with the locking fasteners turning each of the 2 locking screws until hand tight.

- Procedure for method 2:
The tripod spikes are fitted directly into the connection holes on the main platform.

Ensure that the tripod is fitted with spikes.

Place the tripod legs / spikes in the connection holes.

Secure the tripod to the dolly with a lashing strap or similar to avoid accidental tipping.



Tripod assembly options

7 GF-Quad Dolly brakes

To avoid unwanted movement or rolling of the GF-Quad Dolly, there are 2 brakes located on the front wheel axle to brake the standard pneumatic wheels. The track wheels also have integrated brakes.

Pneumatic wheel brakes

By turning the wing nut, the brake pressure can be applied or released. Ensure that both brakes are secured with equal pressure on each side of the front axle.

Attention: Prior to assembling the pneumatic wheels, ensure that both brakes are opened fully. If a brake is not opened fully, the wheel cannot be mounted!

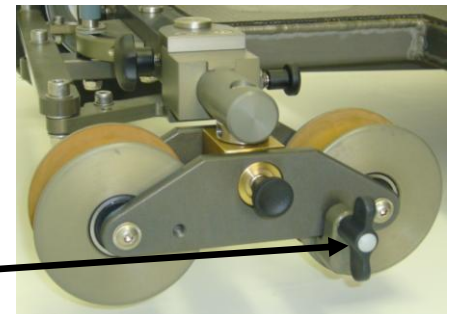
Wing nut for wheel brake



Pneumatic wheel brake

- **Track wheel brakes**
By turning the wing nut, the brake pressure can be applied or released. As opposed to the pneumatic wheels, track wheel brakes are located on each wheel unit allowing the front and rear axles to be locked.

Wing nut lock



Track wheel brake

8 Transporting the GF-Quad Dolly

For transportation, remove all loose accessories such as seats, seat arms, camera mounts etc.

To keep the dolly as compact as possible, fold the steering rod onto the platform by removing the locking pin and loosening the locking lever.

Attention: When transporting any items in vehicles, all loose objects must be strapped down with lashing straps etc. and secured against unwanted shifting.



Transport position



Compact transport



9 Service and maintenance

The GF-Quad Dolly and accessories should be inspected at regular intervals, checking for wear and tear etc. Check that all locking bolts etc are secure. All 4 pneumatic wheels should have the same pressure. The manufacturer recommends tire pressure of 40 psi / 2,8 bar.

Should the wheels / wheel axles need to be realigned it is a simple and fast adjustment:

Place the dolly on its side, balanced on the side of 2 pneumatic wheels. Take the necessary precautions to ensure that the dolly cannot fall over.

Loosen the adjustment screw on the adjustable connection rod (between front and rear axles). Make sure the wheels are aligned and sitting on perfectly level floor or equivalent.

When the wheels are perfectly aligned, tighten the screw securely.

As an alternative to this method the dolly can be turned upside down and supported so that the wheels are off the ground. Remove 2 wheels on 1 side of the dolly. Loosen the adjustment screw on the adjustable connection rod. With a suitably long spirit level or straight edge, align the 2 wheel connections and retighten the adjustment screw on the adjustable connection rod.

**Let the good times roll with your
GF-Quad Dolly!**

At GFM we listen, then react.

