



**Grip Factory Munich**  
YOUR INNOVATIVE PARTNER FOR CAMERA SUPPORT

## *GF-Primo / GF-Secondo*

# Instruction Manual



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## SAFETY GUIDELINES



### Adherence to the instruction manual:

The set-up instructions must be read and understood before set-up or operation. The dolly may only be assembled in accordance with the manufacturer's instruction manual. The manufacturer's technical specifications and limits (maximum rated loads etc) 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 and operation of the dolly:

The Dolly may only be set-up or operated by trained and experienced personnel. To assemble and operate the dolly at least 1 trained person is required. To avoid misuse by untrained personnel, the dolly should be dismantled / switched off when not in use or under supervision.

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 or using the dolly ensure that the ground surface is stable and cannot give way. The ground surface must be stable enough to support at least 1000 kg/m<sup>2</sup> = 2200 lbs/ sq yard.

Dolly operation with the GF-Primo Jib is only allowed with solid tires and use with pneumatic wheels is not allowed. Before and while using the dolly wheels should be inspected.

### Intended use of the Dolly system and use of the Dolly system with Jib Arm:

The Dolly is a mobile personnel and camera support system for use on sets and studios with even and level ground / floors. Also for use on GF-Track.

Standard dolly operation consists of a for lifting 1 to 2 persons and camera or lifting the camera only, without personnel on board, electromechanical column for lifting 1 to 2 persons and camera or lifting the camera only, without personnel on board.

In Jib mode a pan and tilt arm is mounted for lifting 1 to 2 persons and camera or lifting the camera only, without personnel on board

In accordance to the safety guidelines the dolly/jib is only allowed to be used on solid, level and stable ground with solid wheels, not pneumatic wheels.

The dolly/jib movement on the ground, rotation of the column is managed by at 1 to 2 experienced, trained and authorised personnel from the hand grips and /or the provided steering handles.

Panning movement of the turnstile mount / column can also be made by the personnel sitting on the column/dolly when seated on the provided seats.

Vertical lift of the column is controlled via wireless or cable control operated by an experienced, trained and authorised person.

Operation of the dolly/jib is only allowed within the limits and guidelines mentioned in this instruction manual.

The dolly must be operated on level, stable surfaces at all times or on dolly track. Whether operating or moving the dolly 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 dolly 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 dolly 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 dolly on insert vehicles, camera cars or any other motorised vehicles.

### Operation of the Dolly/ Jib:

The complete lift and panning range of the dolly/jib must be kept clear of obstructions at all times. A safety clearance of 1m / 3' 3" must be observed on all sides of the dolly/jib during operation. Only authorised, trained and experienced personnel are allowed to operate the dolly/jib. The dolly/jib 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 dolly 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 jib'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 dolly platform.

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

Before operating the dolly/jib all connections, mounted accessories, safety pin as well as every connecting bolt must be checked for a proper fit.

**Dolly accessories:**

For safety reasons only original accessories manufactured by GFM may be used with the dolly.

**Procedure in case of accident or damage:**

In case of accidents caused by disregarding the manufacturer's instruction manual, please proceed as follows:

- The manufacturer should be immediately informed of any damage to the dolly and the severity of the damage. Damaged dolly parts should be sent to the manufacturer for evaluation, repair or replacement.  
Use of the dolly with damaged parts is not allowed. The manufacturer accepts no liability for damage or injuries for incidents or accidents occurring due to the use of damaged parts on the dolly.
- In case of damage or accidents with injured people local applicable as well as employment property right regulations may be adhered.

**Safety Guidelines for dolly operation:**

To avoid collisions, ensure that the columns lift range is free from obstructions!

When working with off-set arms ensure that the mounted payload is counter balanced! Never exceed the manufacturers payloads

In an open space the wireless mode range is approx. 100m / 330yards

In general, the hand control unit should never be left on when not in use or when not under supervision.

To avoid unwanted movement of the column due to misuse or accidental activation of the rocker switch / hand control unit, ensure that the main electronic switch is OFF when not in use or not under supervision.

The equipment must be handled carefully at all times.

**Do not operate or drive the column without payload on the column. At least 1 person and camera should be on the column when it's moving.**

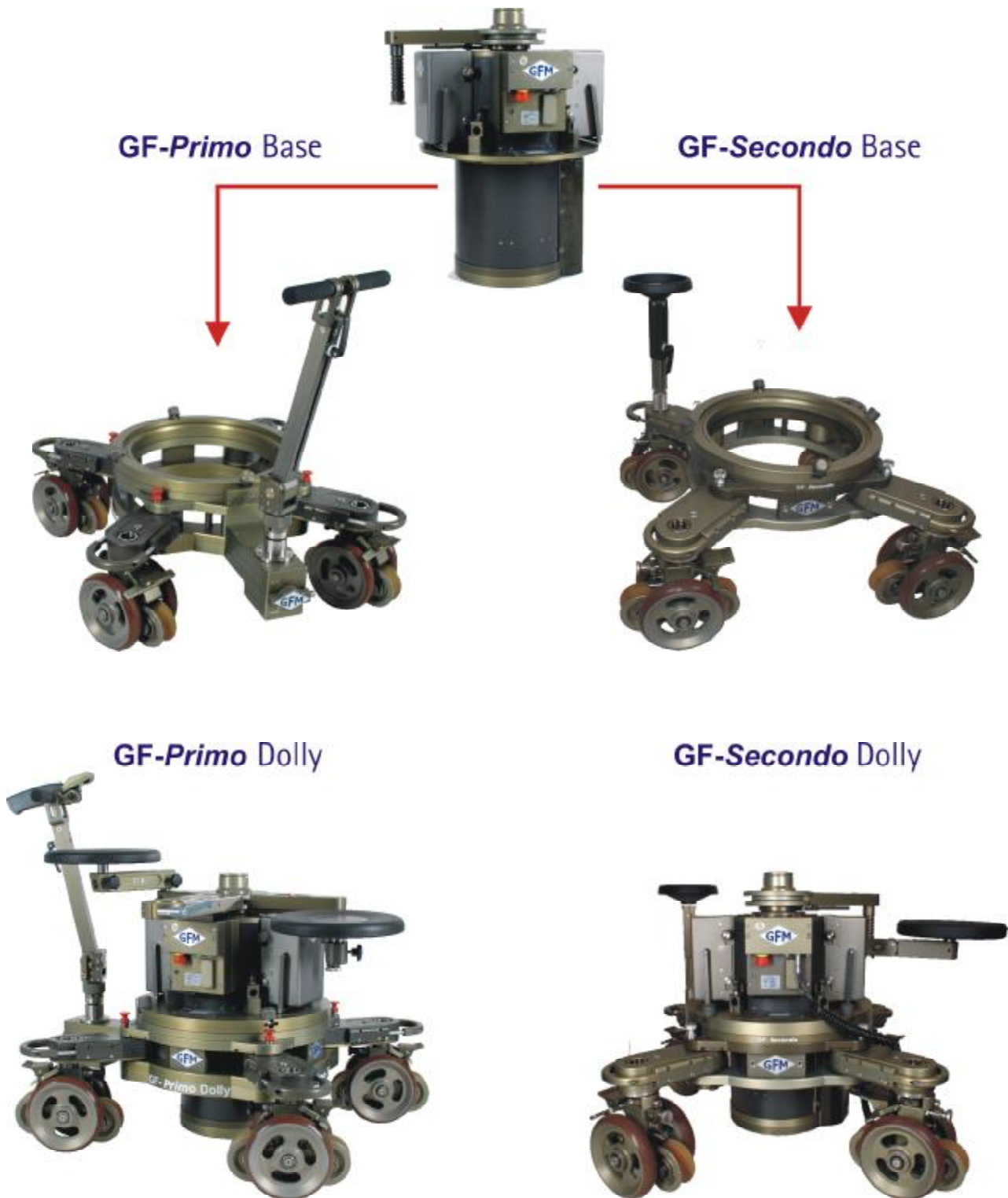
**Attention:** Should the HCU software be older than version 3.8.5 or the electronic be older than version 3.7.3 or if you gave a software where it is not possible to check the version please note that after using the Emergency switch the column must be calibrated (see page 39)



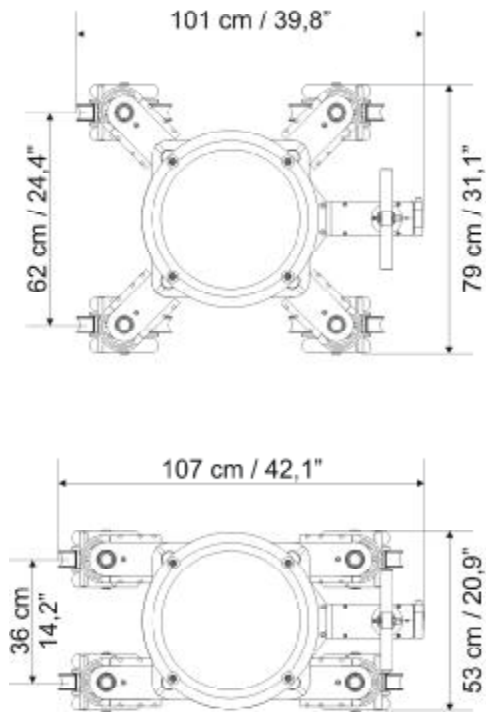
## Technical Specs for *GF-Primo* - / *GF-Secondo* Dolly

The difference between the **GF-Primo** - and **GF-Secondo** Dolly is effectively the different base dollies. The columns are identical.

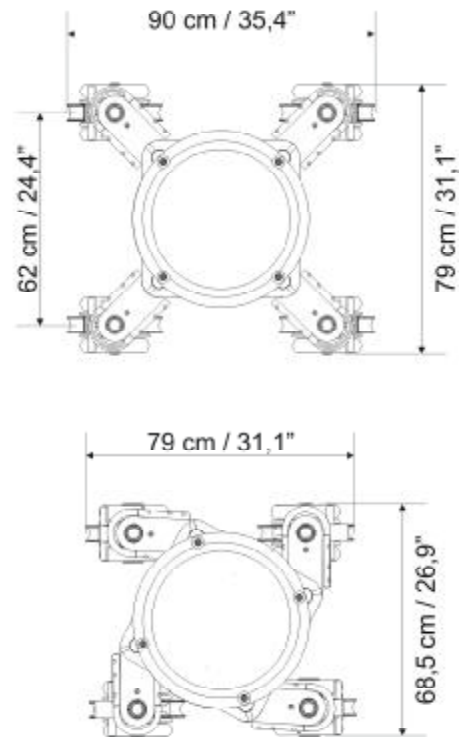
The **GF-Primo** Base has a central "one touch" selector allowing for immediate, one handed, switch over to crab, front or rear wheel steering. **GF-Secondo** Base Dolly can also switch from crab, front or rear wheel steering but to do so, each wheel must be adjusted individually. The **GF-Secondo** also has 2cm more ground clearance (column to ground).



### GF-Primo Dolly



### GF-Secondo Dolly



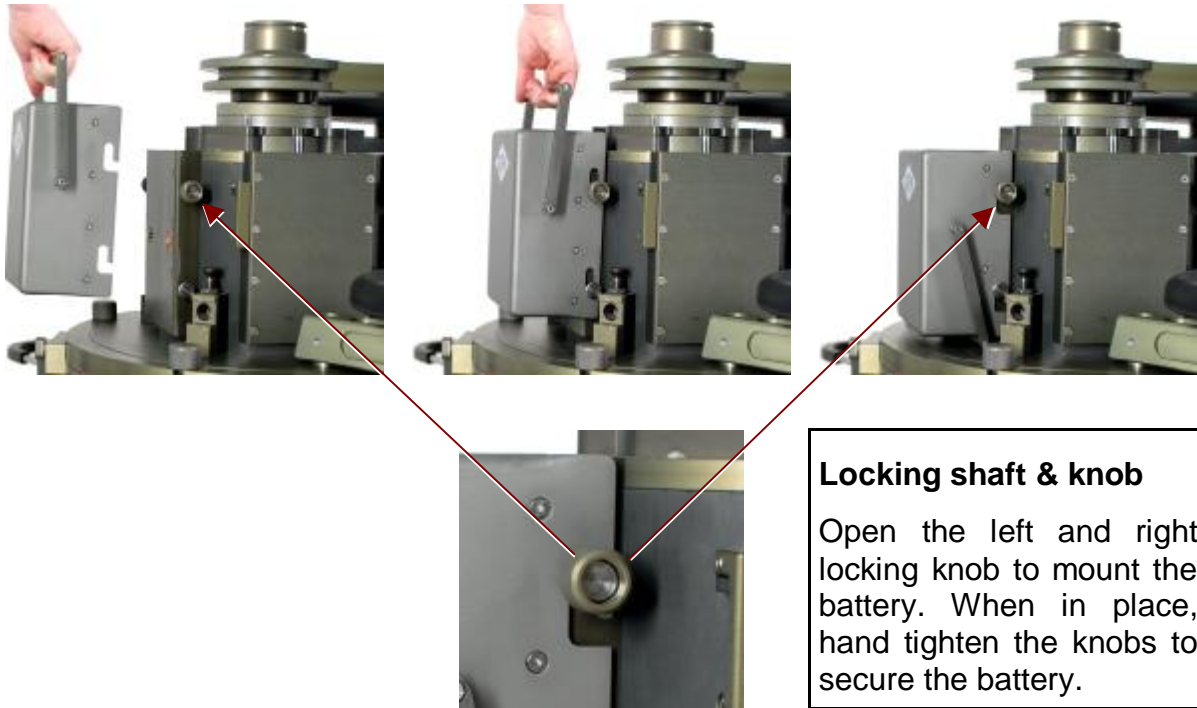
2,5 sec		Duration of column lift	2,5 sec	
0 – 70cm	/	0 – 27"	Lift range	0 – 70cm / 0 – 27"
140cm	/	54"	Maximum column height	142cm / 55"
70cm	/	27"	Minimum column height	72cm / 28"
250kg	/	550lbs	Maximum column lift capacity	250kg / 550lbs
900kg	/	1980lbs	Maximum column load capacity when fully retracted (column movement not allowed)	900kg / 1980lbs
80kg	/	176lbs	Transport weight Dolly Base	69kg / 151lbs
68kg	/	149lbs	Transport weight column without batteries	68kg / 149lbs

## The Base Dolly

### Changing the batteries

The dolly's batteries are connected to the column with a user friendly "drop & go" system. The column requires 2 x 24Volt Battery units to function.

Centre the battery over the locking mount. Move the battery into position and drop it gently onto the locking shaft.



### Connecting the Platforms

#### The Standard Multifunctional Platform Set

The platform set consists of 4 units. Each platform is machined to provide a selection of threaded (10mm & 3/8") and non-threaded holes (12, 25 & 28mm).

3 of the units are identical and fit on any of the 3 sides of the dolly. The 4th unit is machined slightly differently and fits only on the side of the dolly where the steering gearbox is located.

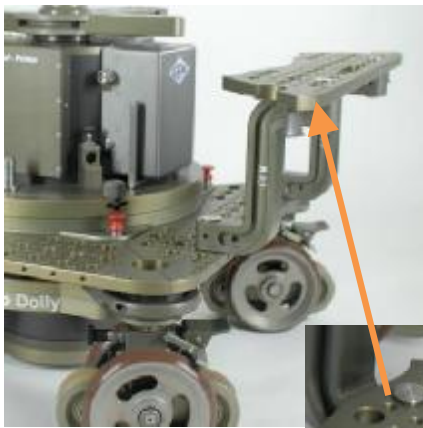
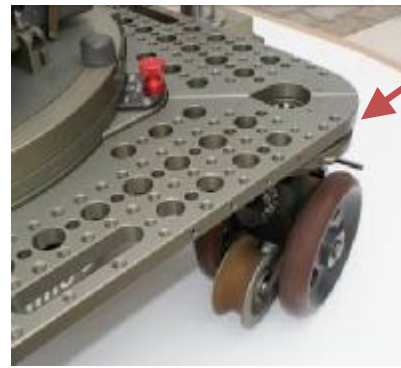


The carry handle double functions as a lock for the platforms. Extend the handle by pressing the stainless steel button on the left side of the wheel arm. At the same time pull the handle out.

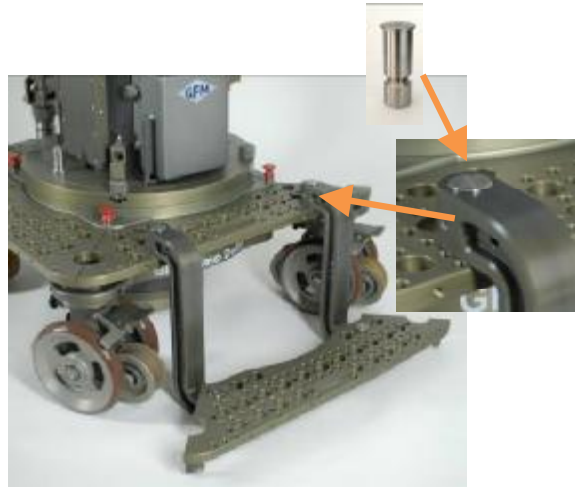
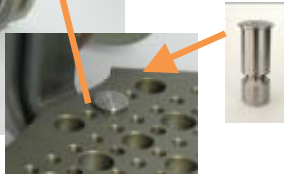





Attach the required number of platforms. To secure them, press the stainless steel button and push the handle towards the dolly. When the handle is engaged in the locked position you will hear an audible click and the button will be extended i.e. not flush with arm.



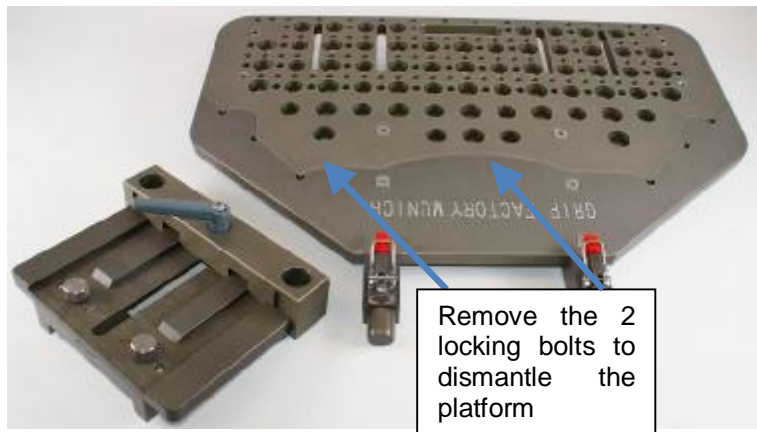
By using seat arm extensions the standard platforms can also be combined to form steps and low platforms. Special "drop in" pins are required. The pins are inserted from top to bottom and securely bolted on the bottom joint.



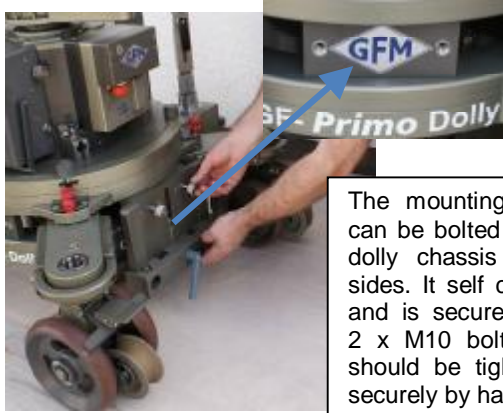
**Attention:**  When using the platforms ensure that they are mounted and fitted correctly. The platform must fit snugly to the dolly frame with no gap inbetween. Ensure that the steel pin on the locking handle is engaged correctly as described above i.e. the steel pin must be visible!

**Mounting the Low Platform System**

The 2 part Multifunctional Hi/low Platform can be dismantled by unscrewing 2 bolts, allowing the wider platform part to be mounted on the base dolly as described on the previous page







The mounting plate can be bolted to the dolly chassis on 3 sides. It self centres and is secured with 2 x M10 bolts that should be tightened securely by hand.



The height of the platform mount can be adjusted and secured with the grey locking lever. Hand tighten securely.



Insert platform



Attach both snap locks



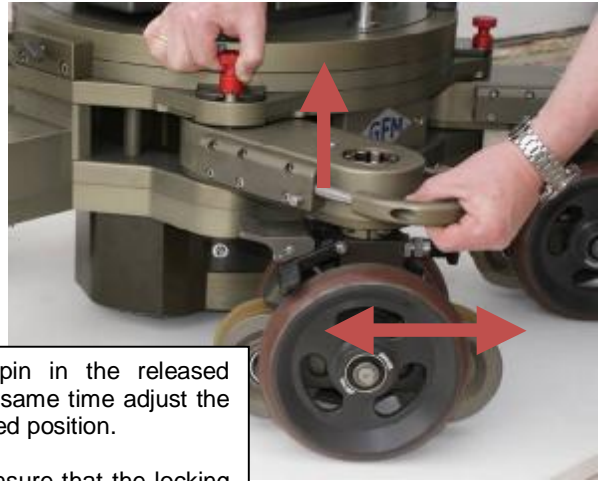
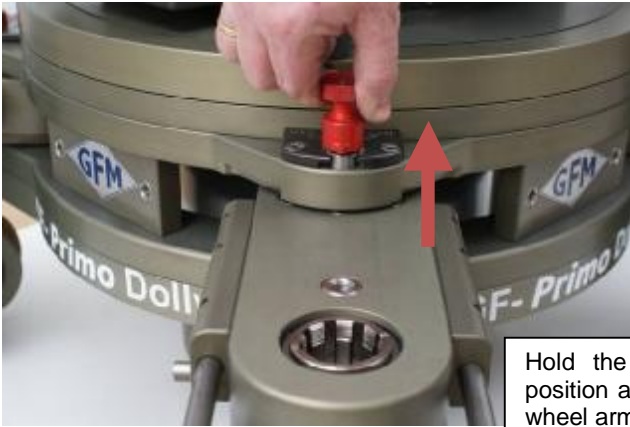
Max. payload  
100kg / 220lbs

### Wheel arm adjustment

Each of the 4 wheel arms has an individual locking mechanism to secure the position of the wheel arms and ensure a stable, no-play base. To adjust the wheel arms to change from, for example, standard to narrow gauge note the following.



Pull to open position

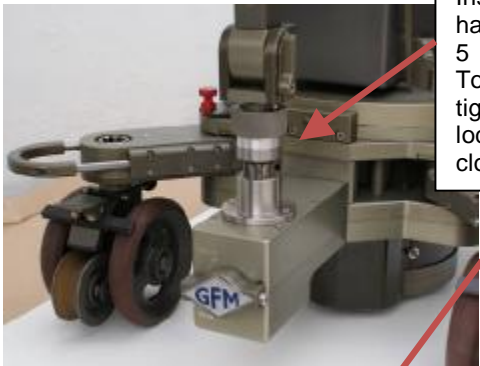


Hold the locking pin in the released position and at the same time adjust the wheel arm to required position.

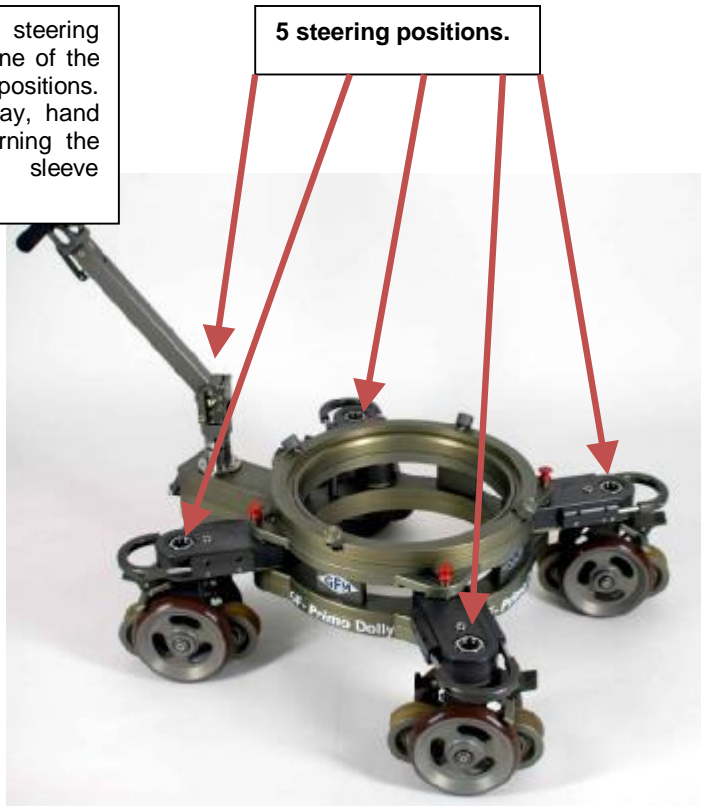
When in position ensure that the locking is fully inserted.

**Connecting the Steering Handle:**

The Steering Handle can be attached to each of the 4 wheel arms on the GF-Secondo as well as the central steering gearbox on the GF-Primo.



Insert the steering handle into one of the 5 steering positions. To reduce play, hand tighten by turning the locking sleeve clockwise.



### Adjusting the angle of the Steering Handle:

The GF-Primo's Steering Handle offers individual height and angle settings. The angle can be set as follows:



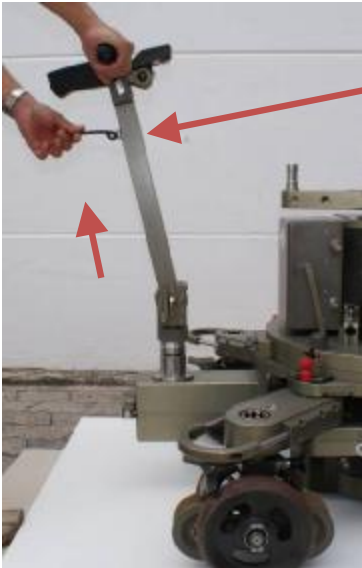
**Drag adjustment:**  
Tighten or loosen for use in stepless angle mode i.e. release lever pushed forward.

**Release lever.** Push forward to adjust angle and activate stepless angle mode

**Release lever.** Pull back to set angle



### Adjusting the length of the Steering Handle:

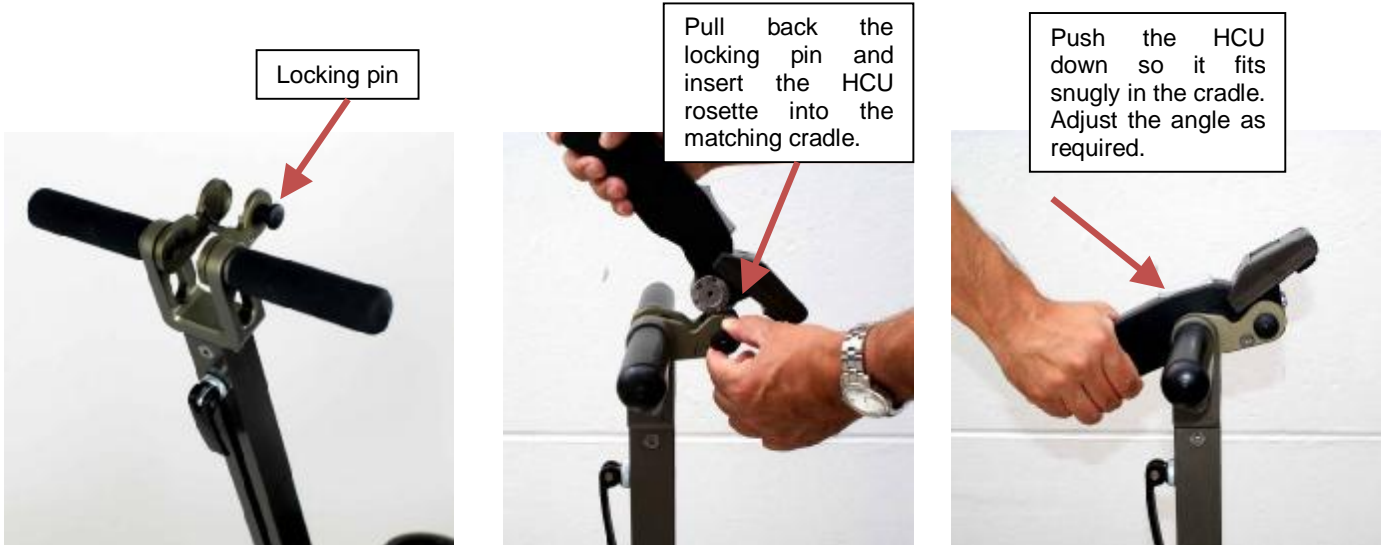


To adjust the length of the steering handle, open the release handle and adjust to required height.

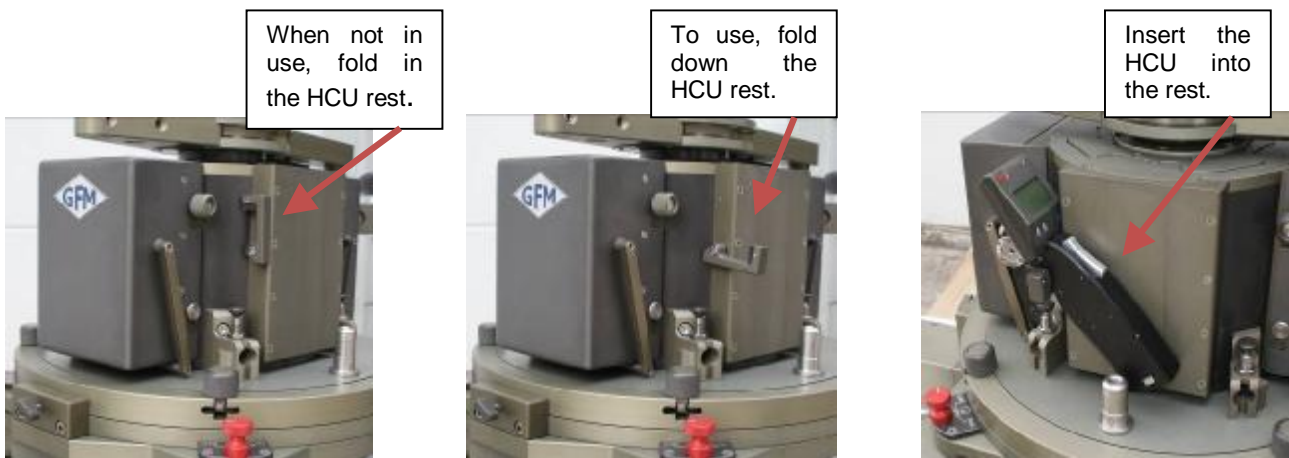
When the steering handle is in position, close the release handle.



## Connecting the HCU to Steering Handle



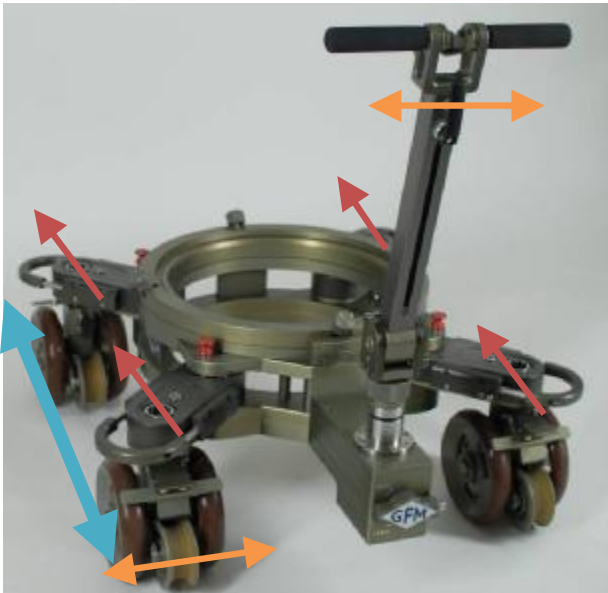
## Hand Control Unit Rest:



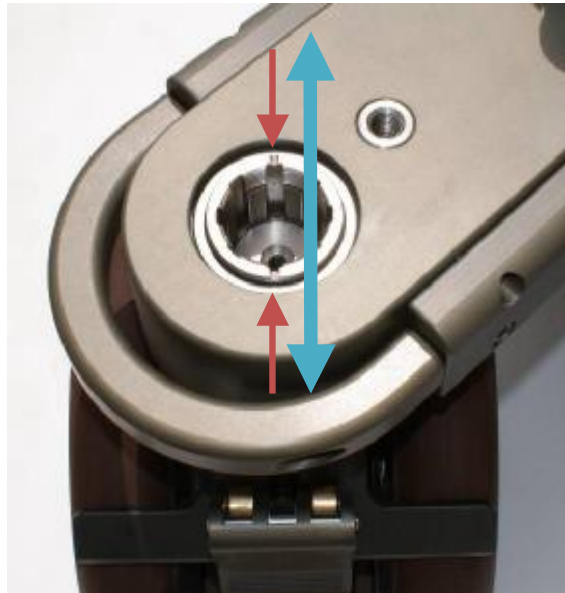
## GF-Primo Steering modes:

To change from one steering mode to another first of all **ensure that all 4 Combi-wheels are pointing in a straight line** as seen from the rear of the dolly

In each of the 4 steering rod mounts you will see 2 notches machined into each rim. The notches should be in line with the actual gearbox. On the steering mount on the GF-Primo gearbox you will also find the same markings and these should also be in alignment with the gearbox. It is only possible to change steering mode when the wheels are aligned in this starting position. If the wheels are out of position they must be reset as described below.



Positioning of the Combi-wheels and steering rod mount



Correct positioning of the steering rod mount and Combi-wheel

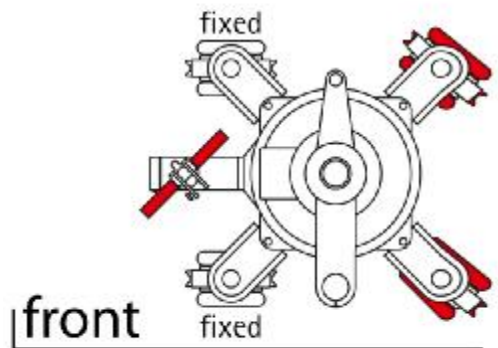
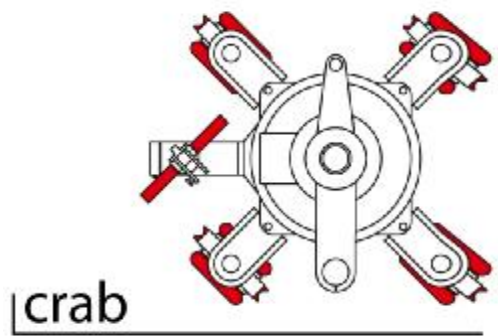
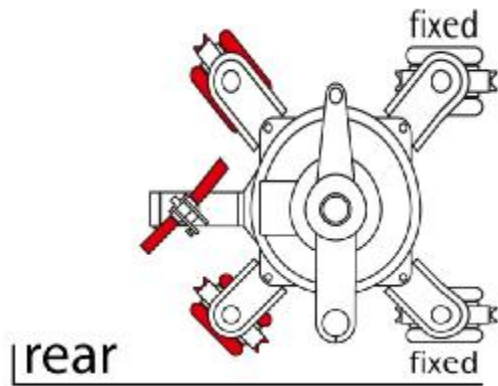


Steering mode selection

Press steel release pin and turn the selector



**GF-Primo's 3 steering modes and selector position:**



## GF-Secondo Steering modes:

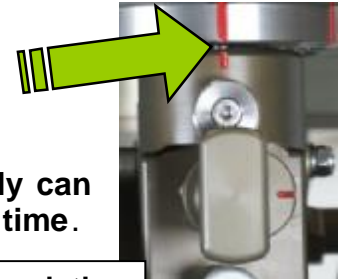
Each of the 4 combi-wheels has an individual selector switch which enables each wheel to be fixed, connected or disconnected from the steering mechanism:

Switch position SP 1 ⇒ Combi-wheel in fixed position

Switch position SP 2 ⇒ Combi-wheel steerable

Switch position SP 3 ⇒ Combi-wheel in free rotate

**Attention:** To change steering mode the top and bottom red markers must be aligned!



**Tip:** Regardless of selected mode, the **GF-Secondo Dolly** can be steered from any of the 4 steering points at any time.



**SP1 - Selector switch pointing upwards: wheel in fixed position = wheel not turnable**



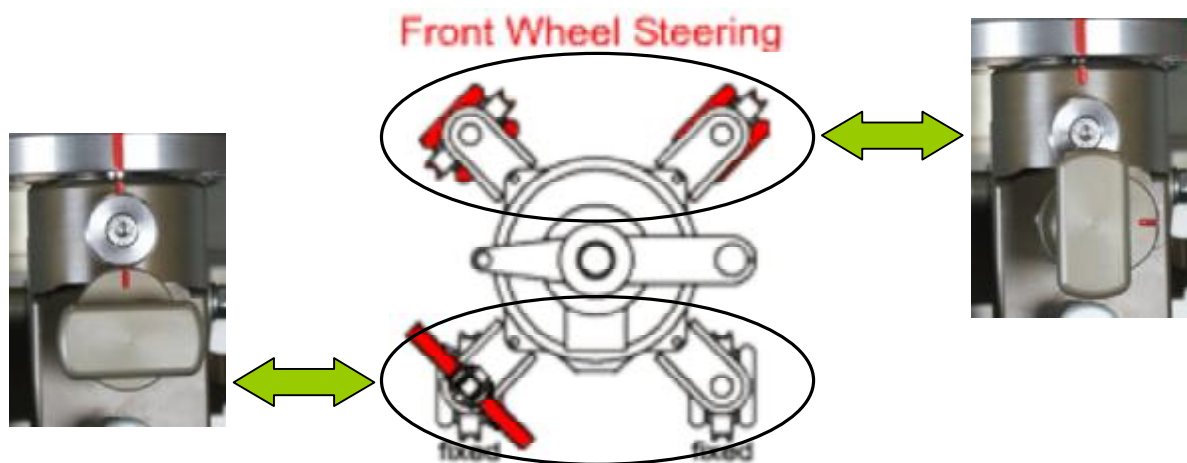
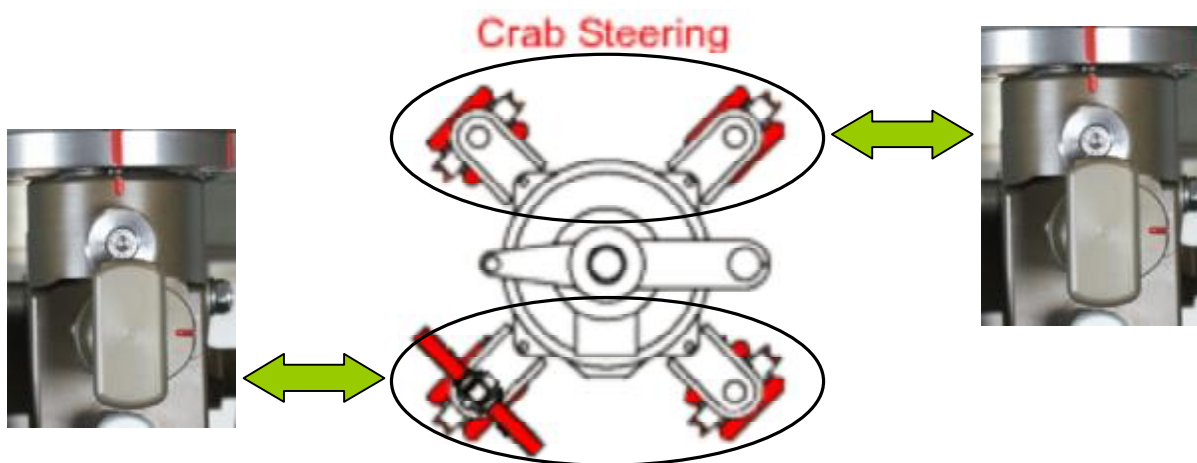
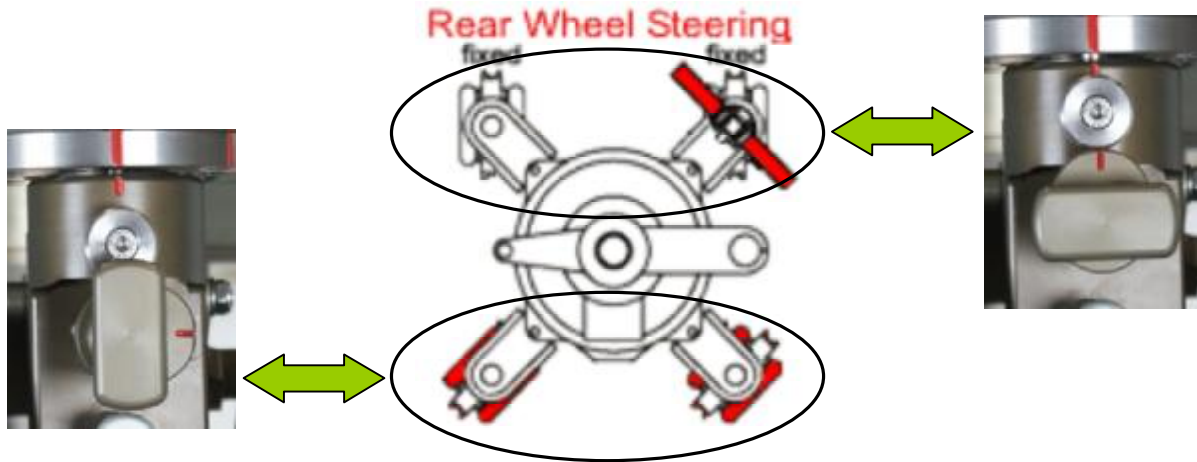
**SP2 - Selector switch pointing sideways: Connected to steering = wheel is steerable**



**SP3 - Selector switch pointing downwards: Disconnected from steering = wheel rotates freely i.e. on**



**GF-Secondo's three steering modes and their selector positions:**

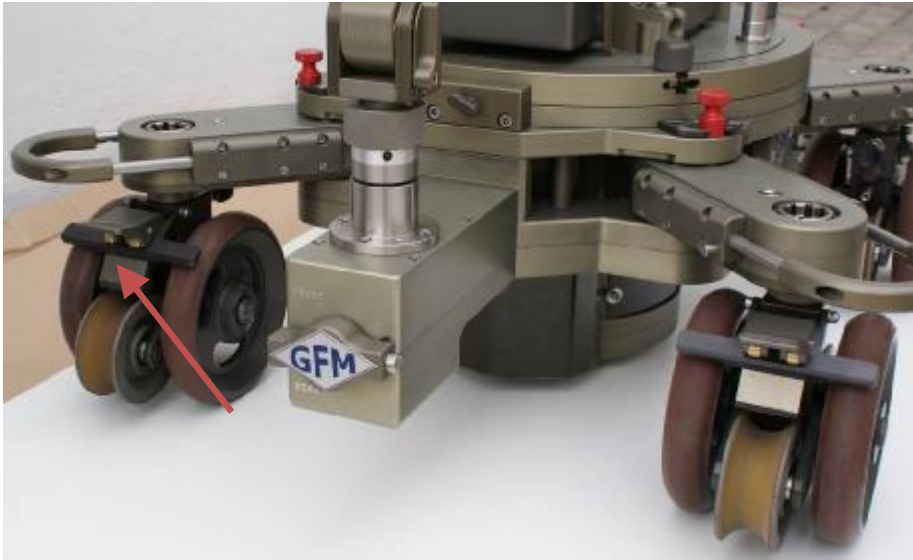




## Combi-Wheels – GF-Primo & GF-Secondo:

### Combi-wheel Brake

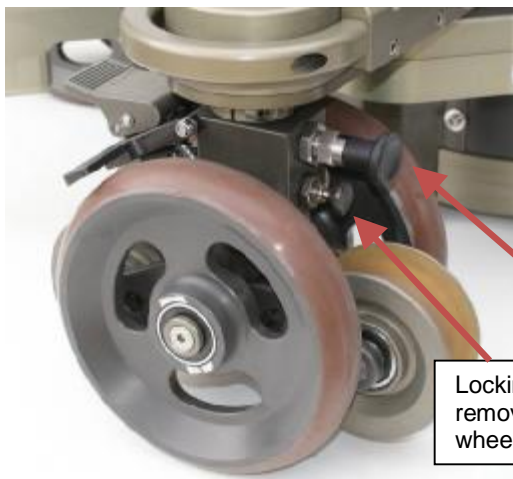
Each Combi-wheel has a kick down brake for the studio /pneumatic wheels. The 2 Combi-wheels at the rear of the dolly also have integrated track wheel brakes attached to the standard wheel brake.



Kick down to lock the Studio & Track wheel brake.



### Disconnecting the wheels from the steering:



To disengage the wheels from the steering e.g. use on curved track, simply pull out the locking pin and turn 90°

Locking pin for steering

Locking pin to remove Combi-wheel



To remove the Combi-wheels from the base, firstly disengage the wheel from the steering and then pull the lower smaller locking pin out.  
 Note: To remove the wheel the dolly must either be jacked up or turned upside down. If jacked up, hold the wheel securely when pulling the locking pin as the wheel will drop.

## Disconnecting the GF-Secondo Combi-wheel from the steering and removing the Combi-wheel unit



Selector switch pointing downwards: Disconnected from steering = wheel rotates freely i.e. on Position SP3

Locking pin to remove Combi-wheel

To remove the GF-**Secondo** Combi-wheels from the Base-Dolly set the selector switch at position SP3. Then pull the Locking Pin to remove the wheel unit by moving it downwards. Remove carefully and with caution! Hold the wheel securely so it doesn't drop off!!

Attention: Before removing the Combi-wheels either support the base from underneath allowing sufficient clearance to remove the wheel. Alternatively, turn the base upside down and lift the wheel off. Remove carefully and with caution!



## Going on Track:



When driving onto track using a drive ramp, ensure that the track wheel brakes on the Combi-wheels are at the rear of the wheel as it goes onto the track. If not the brake will engage and stop the dolly from moving.

Track wheel brakes at the rear of the wheel

## The Multifunctional Turnstile Mount:

A maximum of 4 brackets can be attached to the turnstile mount. The adjustable seat arm mount is not removable.

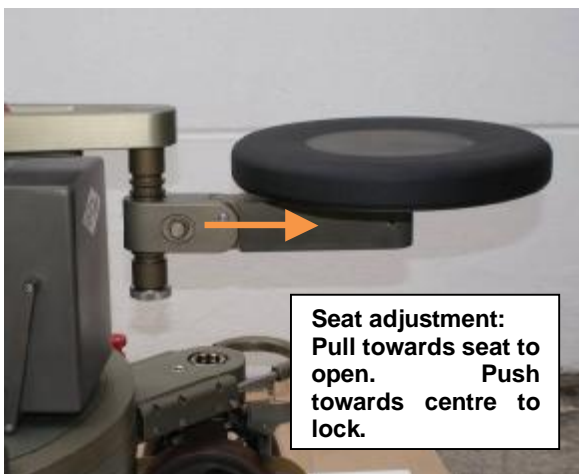


Attach the bracket and secure tightly with 3 x M8 bolts.



**Turnstile Brake:**  
Push towards centre to open, pull towards seat to lock.

**Collision protection:**  
Seat arm moves upwards in the event of a collision.



**Seat adjustment:**  
Pull towards seat to open. Push towards centre to lock.



## Removing the Column with the Carry Bars:



Insert the 4 carry bars ensuring that the locking pin are engaged fully.



Open the 4 column locking nuts and tilt them back.



Remove the column carefully by lifting. 2 persons!

To remove the carry bars release the locking pin and pull out.

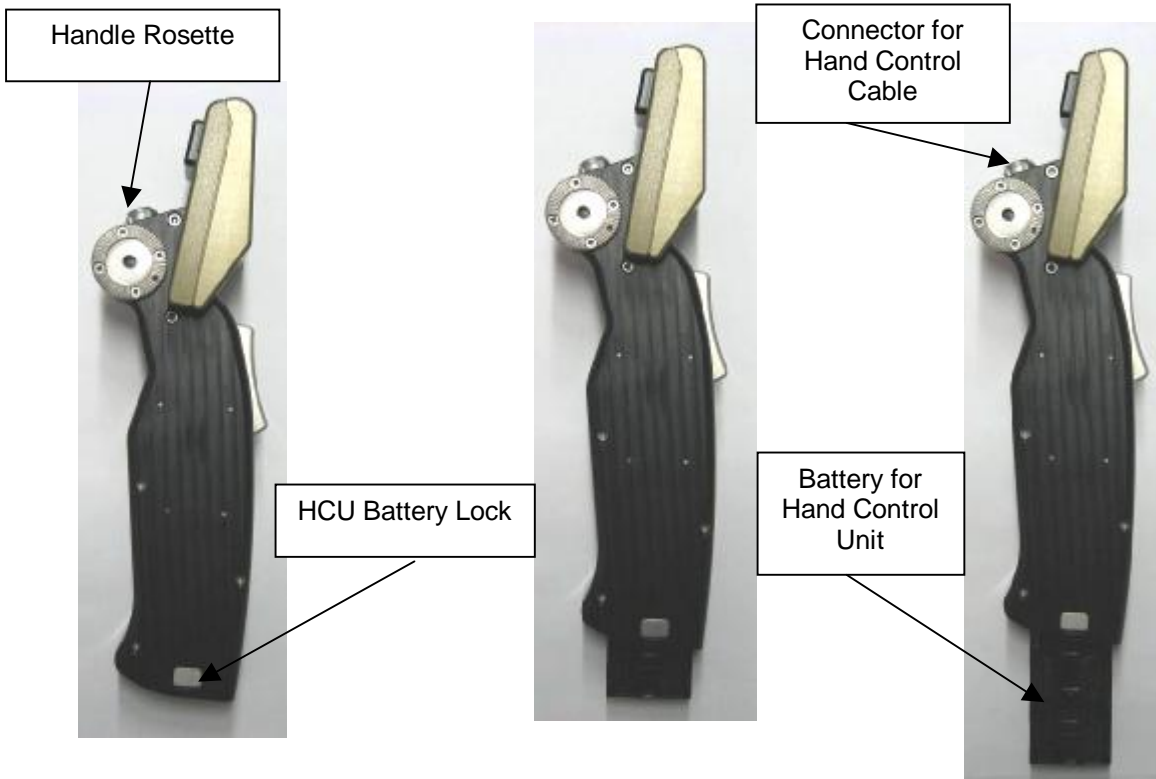
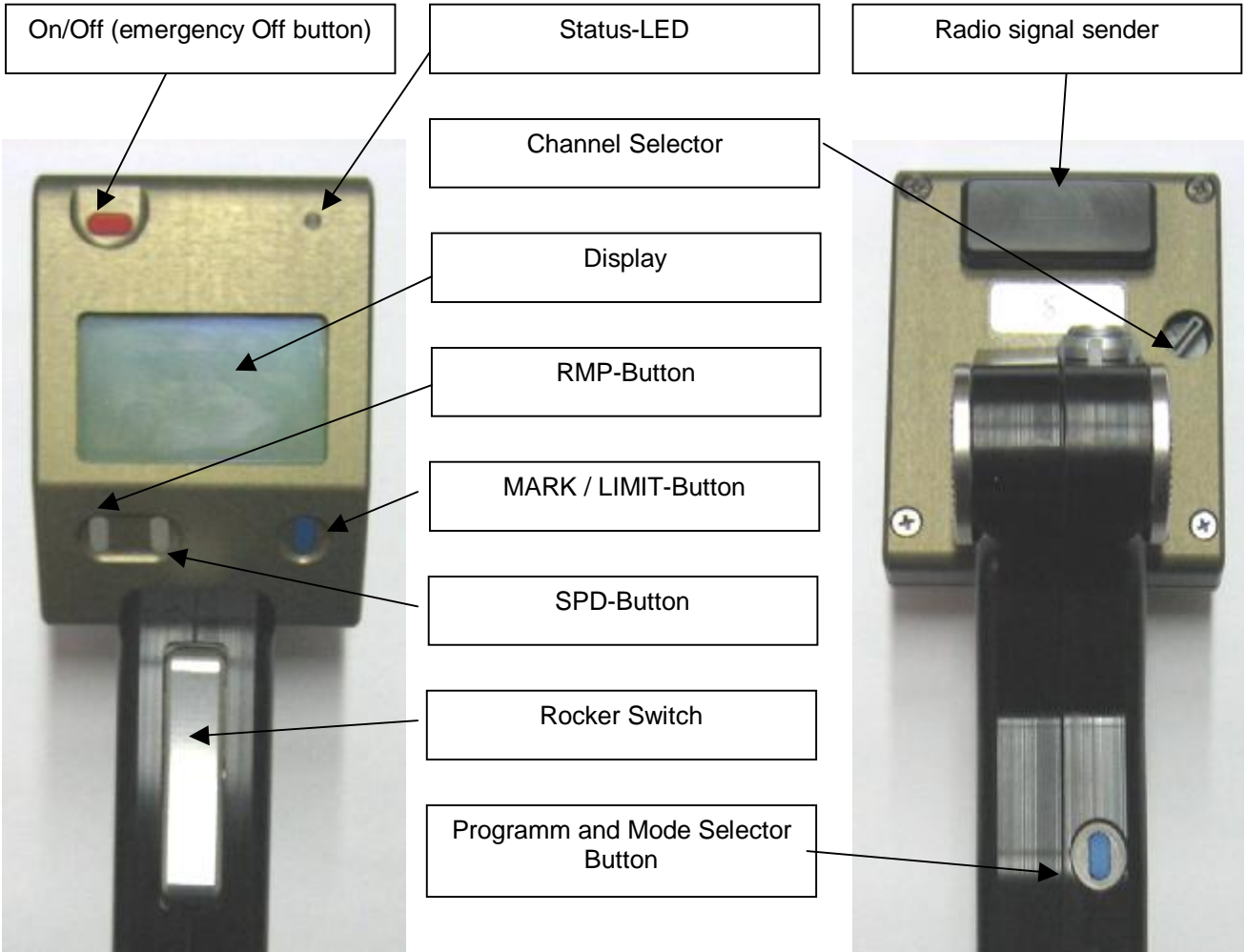


Alternative lifting position with carry bars pointing down. E.g. stairs



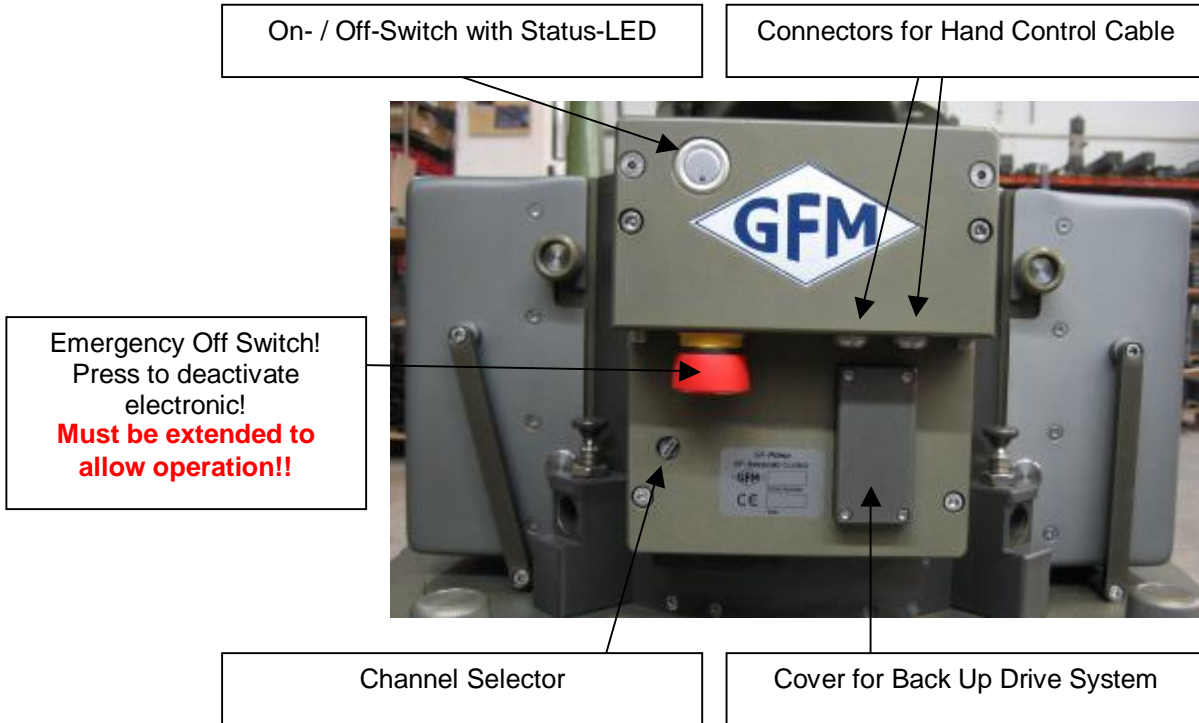
## Hand Control Unit Components

The following describes the individual button functions and components on the Hand Control Unit.



## Electronic Unit Components

The following describes the electronic components:



## Getting started

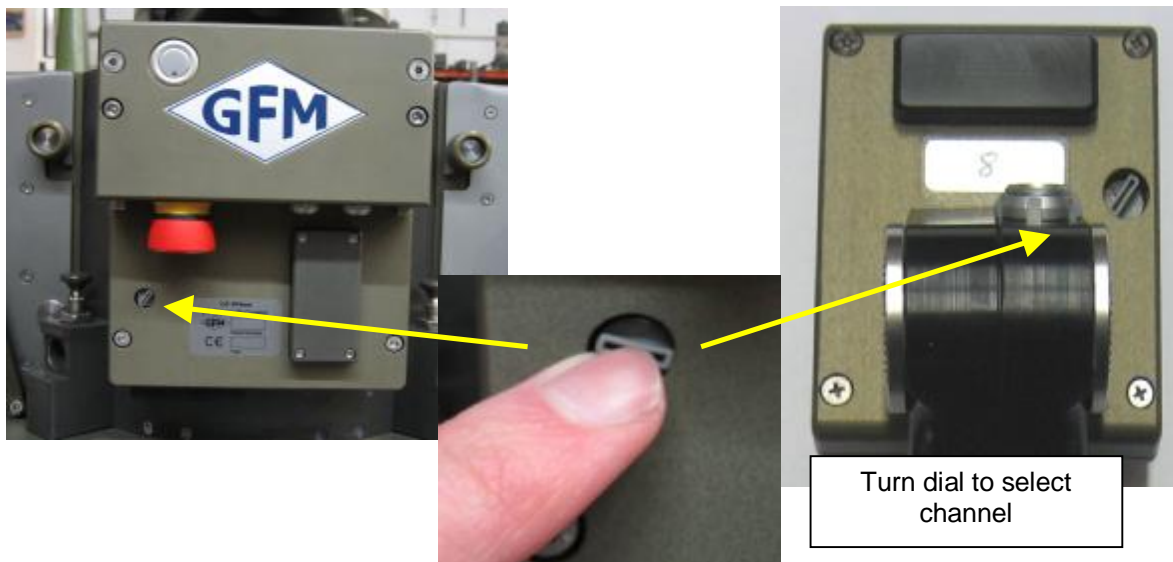
In general, when the dolly arrives from the factory it will be set up to be switched on in either Wireless Mode or with Cable connection.

To switch on the dolly requires the following:

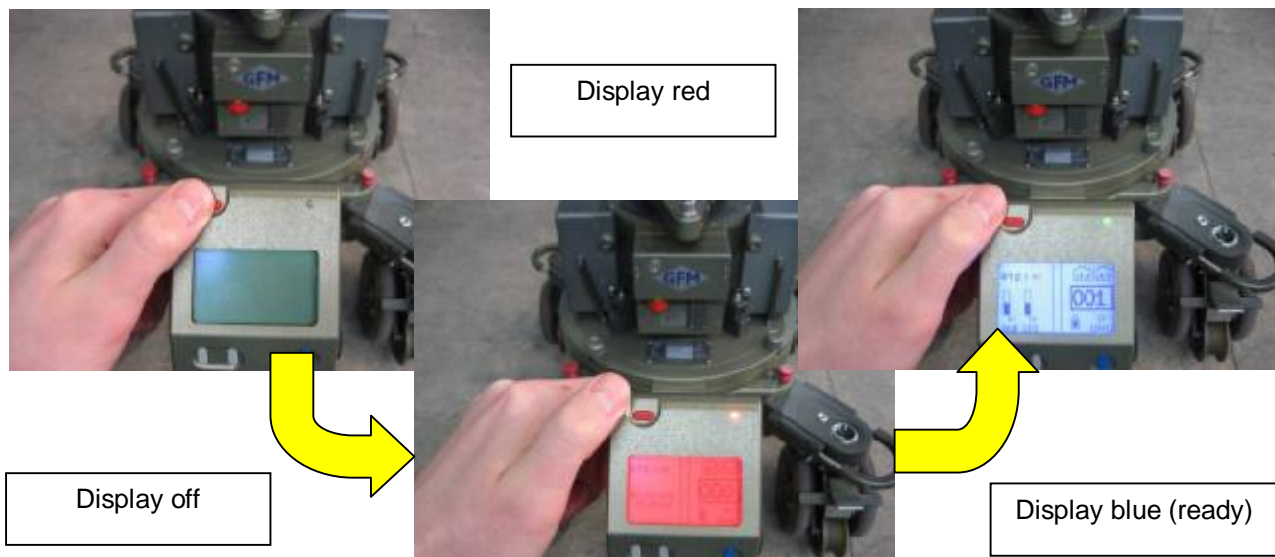
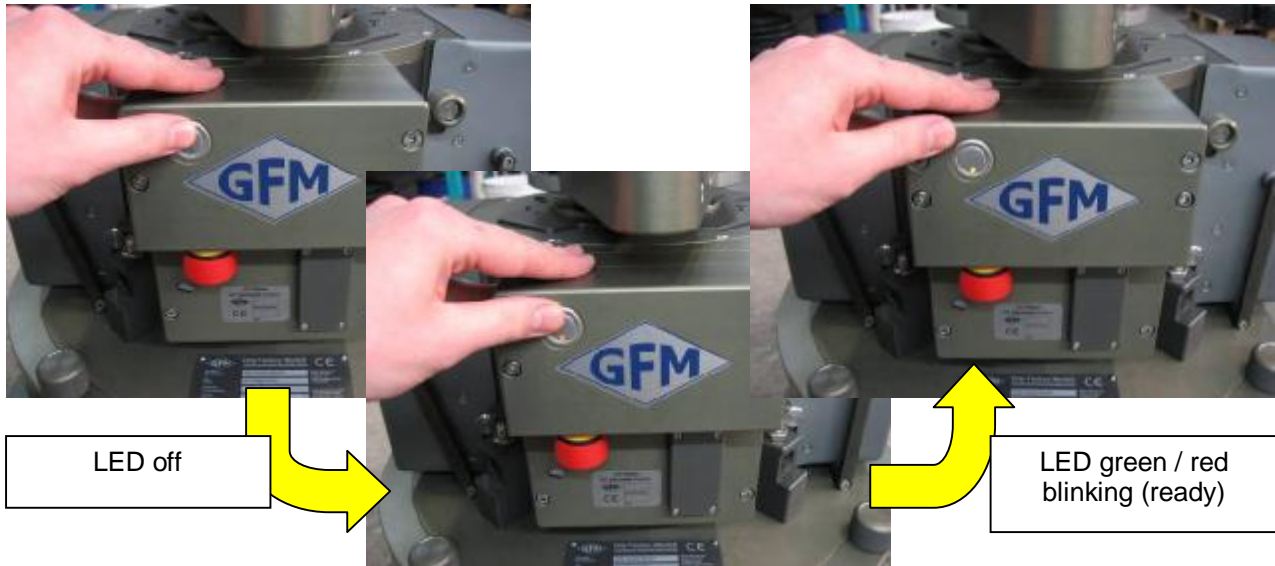
- In Wireless mode:
  - Dolly batteries must be charged and connected correctly (see page 7)
  - Electronic and HCU must be on the same channel (see page 23)
  - HCU battery is charged and inserted into the HCU
- In Cable mode:
  - The Emergency Switch must be off i.e. switch extended (see page 23)
  - Dolly batteries must be charged and connected correctly (see page 7)
  - Electronic and HCU must be connected via cable (see page 25)
  - The Emergency Switch must be off i.e. switch extended (see page 23)

## Starting off

In wireless mode: Check that Electronic and HCU are on the same channel.



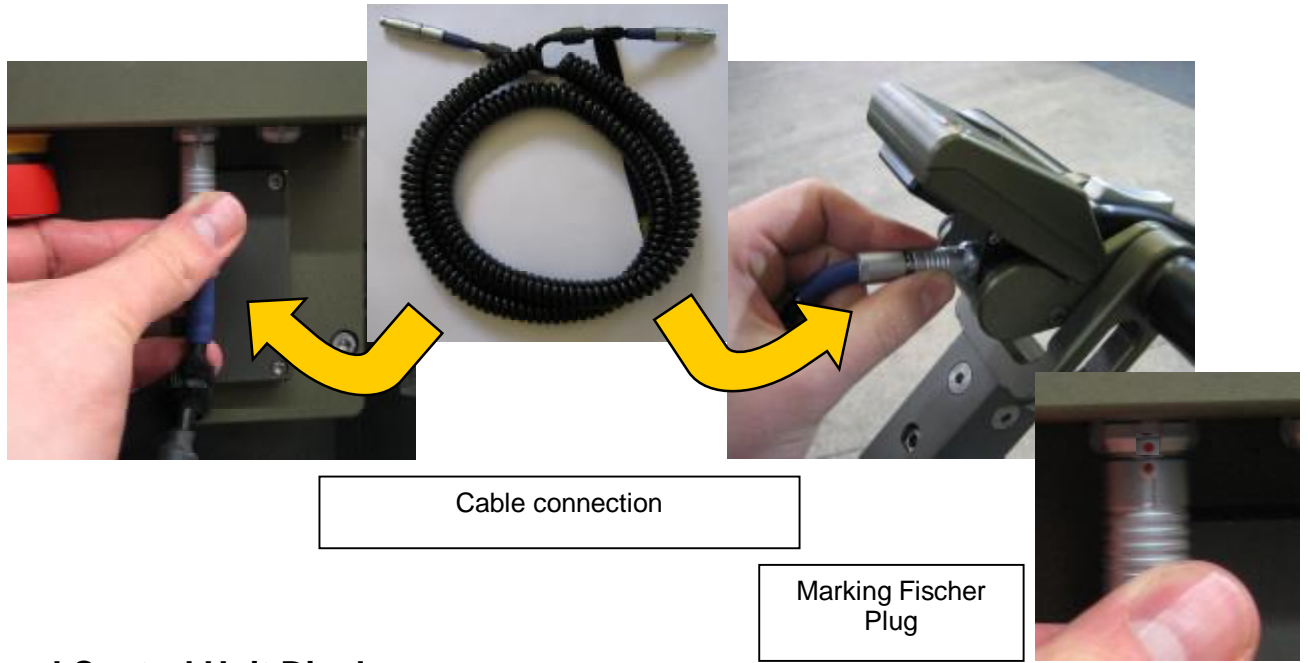
Switch on by first pressing the On/Off Switch on main electronic housing. Wait a few seconds until the LED on the switch starts blinking red/green, then press the On/Off button on the HCU. The display will turn red, then blue. The column is on.



In cable mode: Switch on by pressing the On/Off button on the HCU. The display will turn red, then blue. The column is on.

**Note:** Check to make sure the Emergency OFF Switch is not active. It should be extended, not pushed in.

**To connect the cable from the HCU to Electronic:**



Cable connection

Marking Fischer Plug

**Hand Control Unit Display**

Selected User = U1  
There is a choice of 4 users.  
U1 to U4,

HCU Mode: N=Normal,  
E=Enter, M=Markers

Column height / position

Voltage of columns batteries

Column scale/ position shown in mm (also available in ft or %)

Motor temperature in °Celsius

Limit to restrict the columns lift range (e.g. from 200mm – 500mm)

HCU Battery status

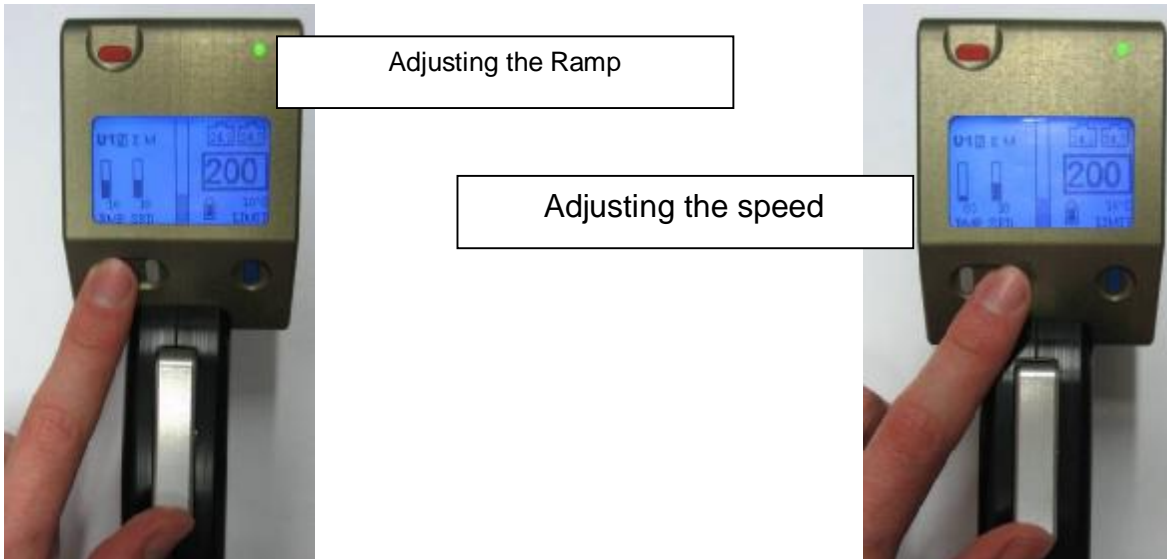
SPD = Speed (sets speed of columns travel: slow→00;

RMP = Ramp (sets strength of acceleration and deceleration of column: hard→00; soft→22)



### Adjusting the Speed or Ramp

To adjust the speed or ramp press and hold the respective button and press the Rocker Switch up or down to adjust and select the required speed or ramp



### Generating Movement

For standard work situations where it is required to just move the column up and down and vary speed and drive ramps, the HCU should be set on either of the 4 Users and the HCU mode N=Normal should be selected.

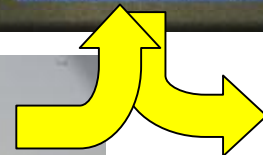
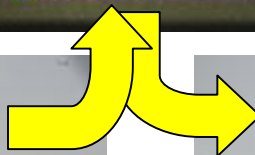
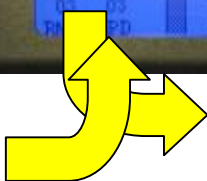
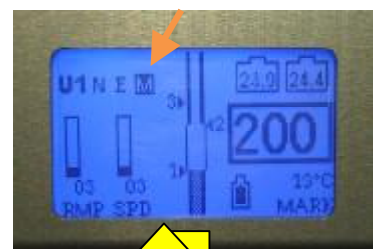
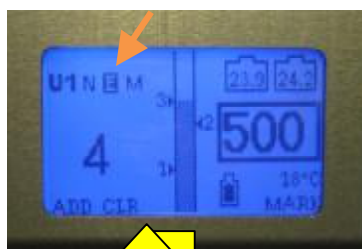
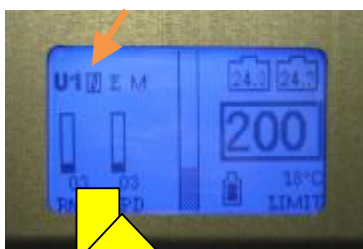
### To select the HCU Mode

On the underside of the HCU is the HCU Mode Selector Button. Simply press to scroll through and select the required mode.

Mode N=Normal

Mode E=Enter

Mode M=Marker



HCU Mode selector button. Press to change from mode N



Mode Selector

## Setting a new lower and upper limit

Select N Mode. Position the column at the new lower position e.g. 200. Press the blue LIMIT Button on the HCU and hold it. Using the Rocker switch drive the column to the new upper position e.g.500. Release the Limit Button. The column will now remain within the range of 200 to 500. To cancel the limits press the LIMIT Button



## The HCU Modes

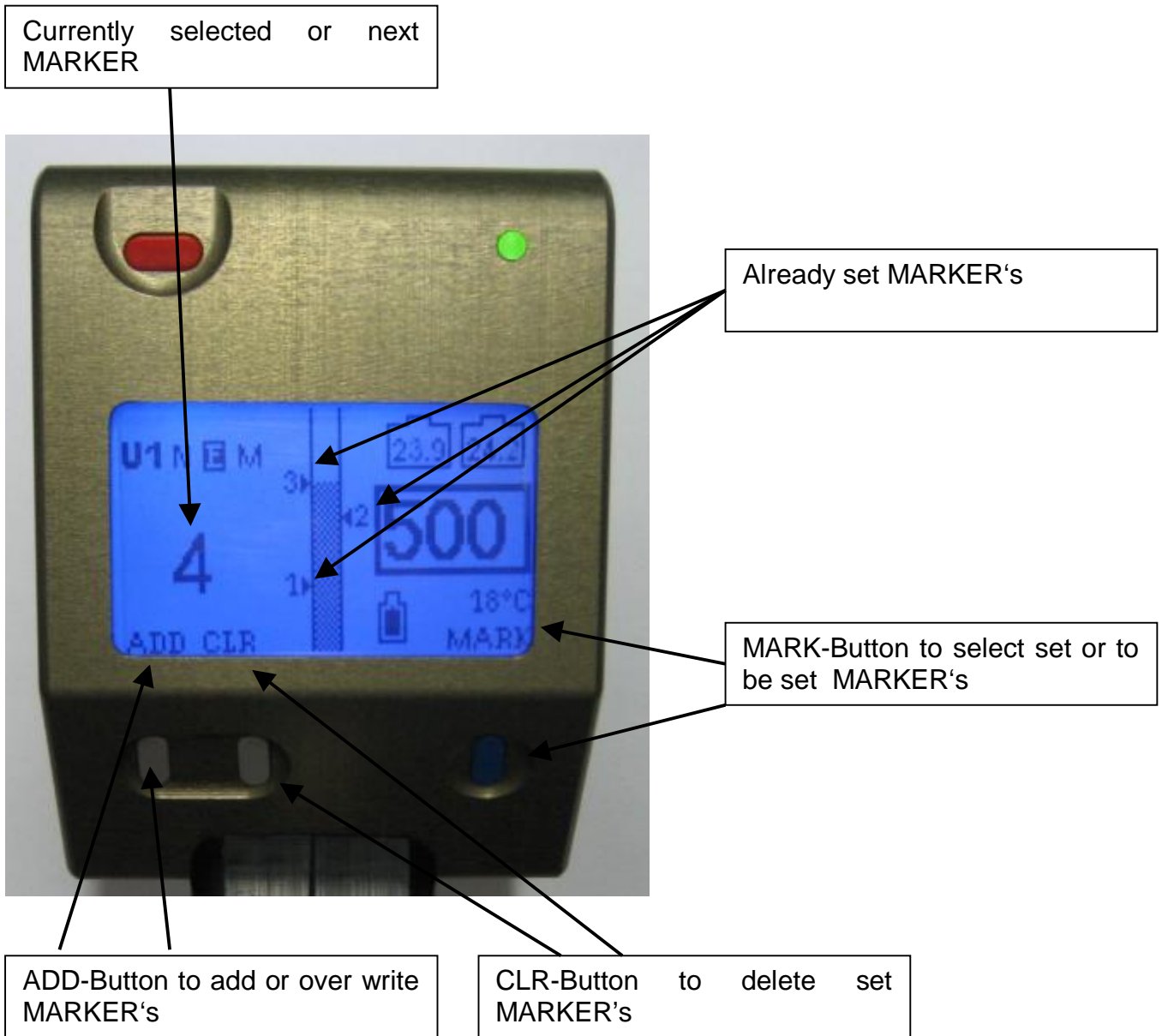
Mode NORMAL **N** ⇒ offers standard movement with selection of speeds and ramps. Lower and upper limits can be set.

Mode ENTER **E** ⇒ Entering, editing, deleting and replacing 6 Markers. Setting up the shot.

Mode MARKER **M**. ⇒ Replaying the shot with variable speeds and ramps. Allows you to manually drive the column from Marker to Marker.



## Mode ENTER "E"



### Explanation of the individual display symbols:

Currently selected MARKER:

Indicates the selected MARKER that can be set, over written or deleted.

Already set MARKER:

MARKERs which have already been set are shown beside the lift range display.

MARK-Button:

With the MARK-Button already set MARKERs can be selected and then with the ADD or CLR buttons be over written or deleted.

CLR-Taste:

With the CLR-Button already set MARKERs can be deleted.

ADD-Taste:

With the ADD-Button MARKERs can be set or over written.

## Setting individually adjustable MARKERs

To set MARKERS, **Mode E** must be selected.

### Setting MARKERS in a numerical sequence:

Press the MARK-Button until the digit 1 shows on the display as the currently selected MARKER.

By using the Rocker Switch drive the column to the required height and stop in this position.

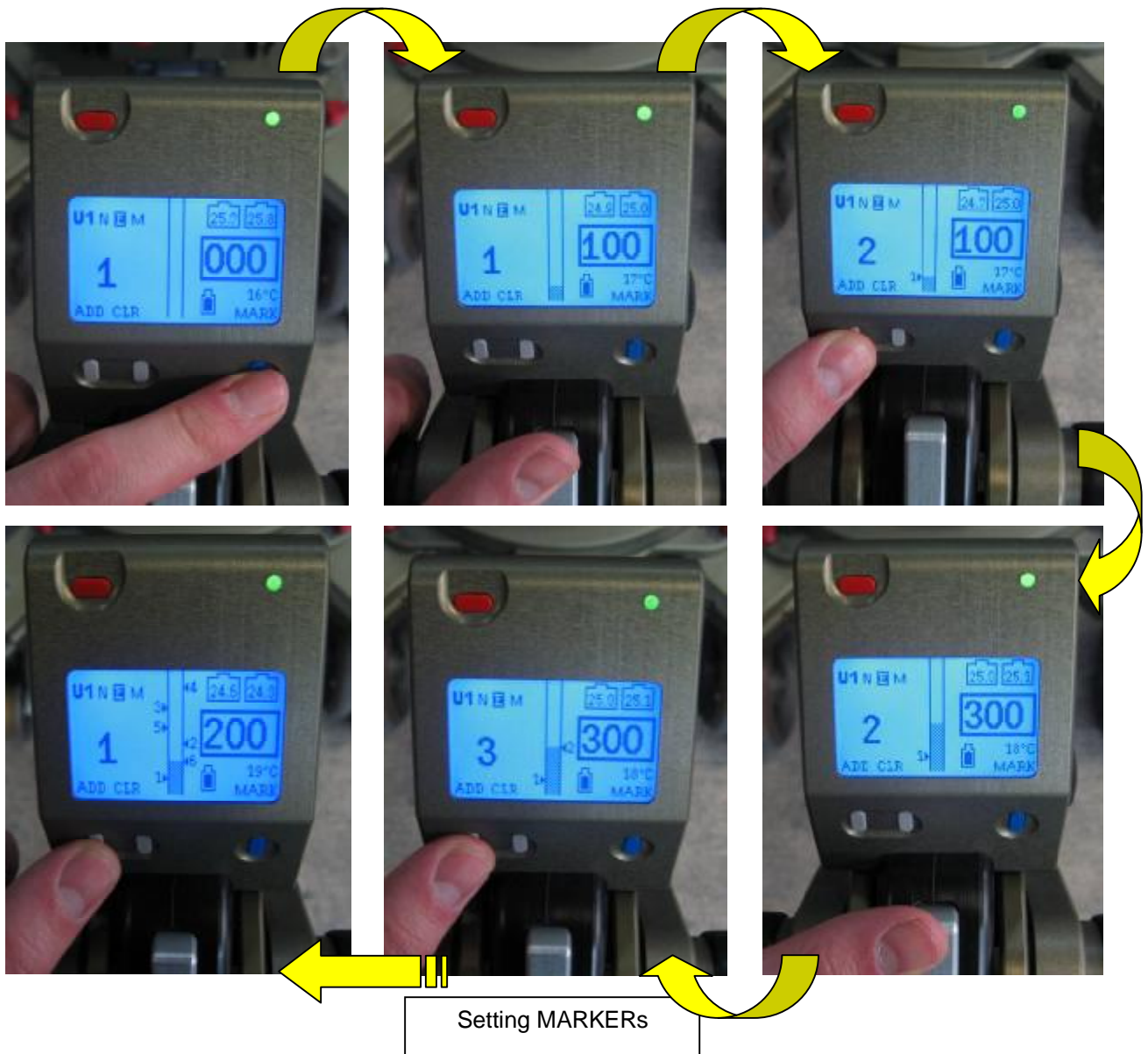
Now press the ADD-Button, to allocate MARKER 1 to this position.

The digit 2 will show on the display as the next MARKER that can be set.

Again, by using the Rocker Switch drive the column to the required height and stop in the required next position.

Now press the ADD-Button again to allocate MARKER 2 to this position.

MARKERS 3 to 6 can be selected in the same manner.



**Over writing MARKERS:**

Already set MARKERS can be over written as follows:

By pressing the MARK-Button, select the MARKER number you want to over write e.g. MARK 1 (Height 200 mm)

By using the Rocker Switch drive the column to the new required height e.g. 250mm

Now press the ADD-Button to reset the MARKER 1 from 200mm to 250mm.

**Deleting MARKERS:**

To delete set MARKERS proceed as follows:

By pressing the MARK-Button select the number of the MARKER you want to delete, e.g. MARKER 4.

To delete the selected MARKER, press the CLR-Button.



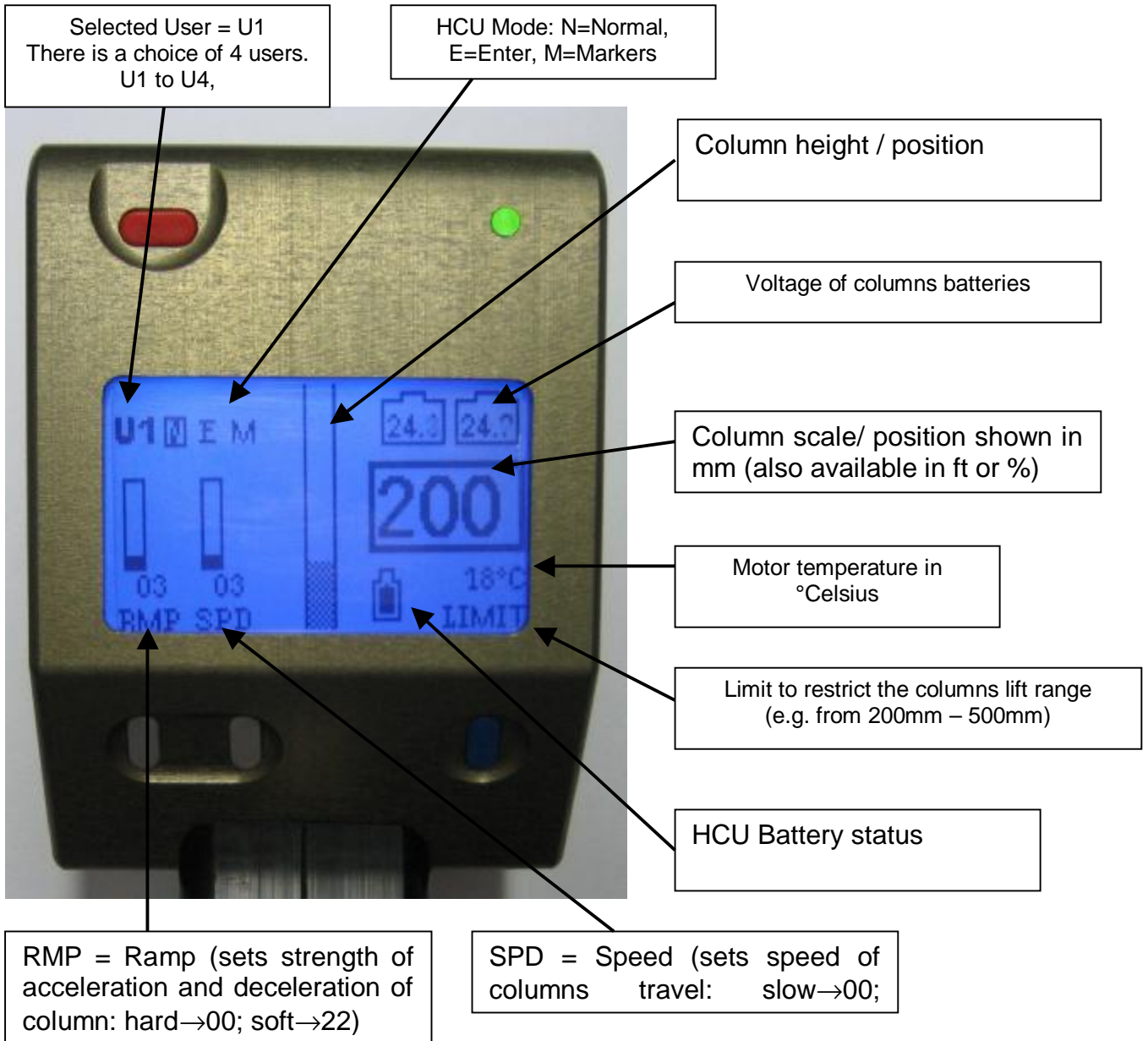
Note: The deleted MARKER doesn't necessarily have to be reset. The software recognizes the digit is missing and will allocate the next consecutive MARKER, in this case from 3 to 5.

## Mode NORMAL N

In **N-Mode** the column can be driven in the selected Ramp RMP and Speed SPD. (To set RMP and SPD see page 18, Adjusting the Speed or Ramp).

The complete lift range of the column can be used or based on individual requirements the lift range can be restricted by setting a lower and /or upper limit with the LIMIT-Button.

The following picture shows the display in Normal Mode N upon activation:



**Explanation of the individual display symbols as :****Selected User:**

The HCU offers a choice of 4 individual Users  $\Rightarrow$  U1, U2, U3, U4. In each of the 4 Users, settings such as RMP, SPD, set Limits as well as Markers can be entered and recalled.

**HCU Mode:**

This shows the current operational mode for the column. There are 3 Modes available, Mode **N** = Normal, **E** = Enter and **M** = Marker. The letter of the selected mode is high-lighted in black when operational.

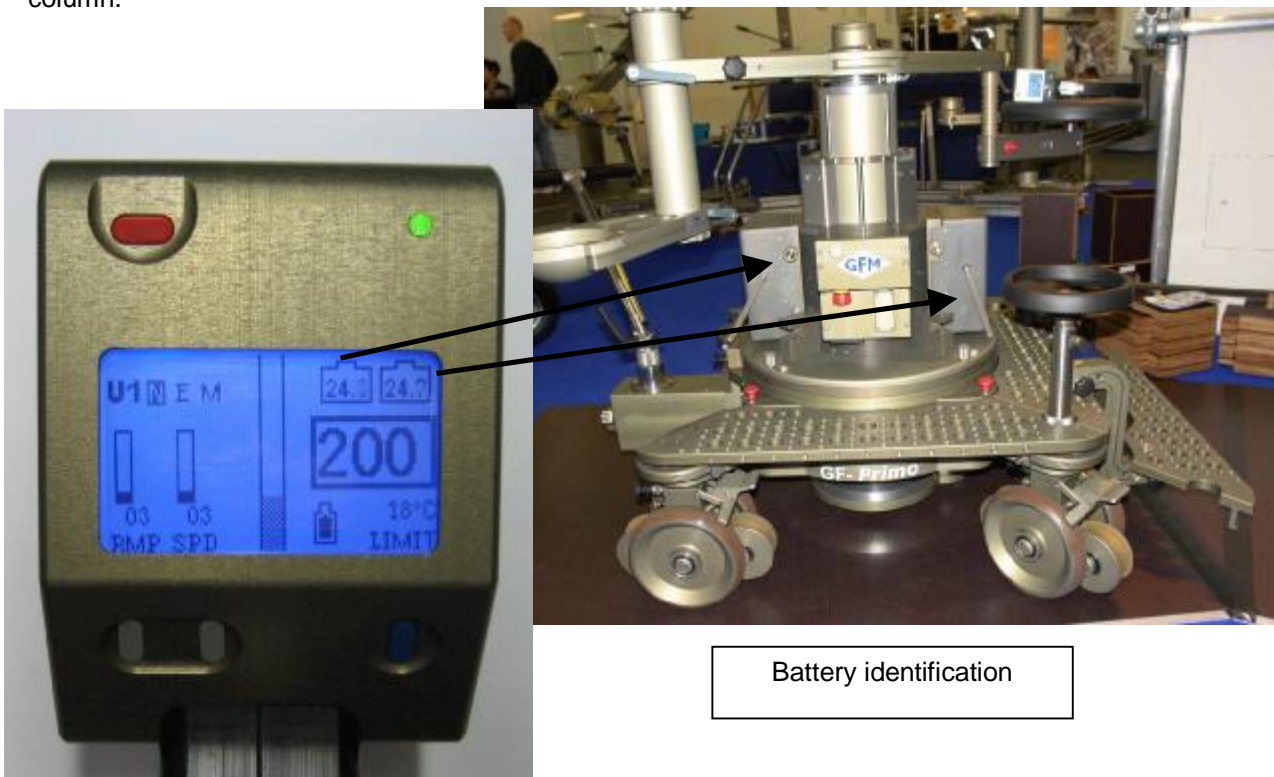
Attention: Should none of the Mode letters be activated press the HCU Mode selector button found on the bottom / underside of the HCU.

**Column height / position:**

The lift range of the column is shown in 2 ways. One method is the vertical bar display (the higher the bar, the higher the column). The other is the digital numerical display showing in mm, imperial or %. The columns range is 0 to 705mm.

**Column Batteries Voltage:**

This shows the voltage of the respective battery. By standing in front of the electronic housing and looking at the HCU display, the battery on the left hand side of the display represents the battery on the left side of the column. In turn the battery on the right hand side of the display represents the battery on the right of the column.



Note: A fully loaded battery will show approximately 26 Volts. During use the voltage will naturally become lower so that after approximately 200 lifts the voltage will drop below 20 Volts (when the column is moving).

When a battery drops below 19 Volt the HCU display as well as the respective battery symbol will flash in red. This signals that the battery needs to be changed and charged. Should the battery voltage drop below 17 Volt the column will automatically switch off and the display will show „DOLLY BATTERY LOW“.

Attention To ensure the best performance it is advised to use fully charged batteries. When the voltage is under 19 Volts a performance drop can be expected.

**Motor temperature:**

The motor temperature is also shown on the display. It should be noted the temperature shown is that of the outside of the motor in its isolated housing and not the ambient air temperature

Note: A safety guard is installed to protect the motor from thermal overload:

If, during operation, the motor temperature exceeds 55°C the HCU display will flash red and

the temperature digits will also blink. This signals the movement of the column must be reduced or stopped. Upon reaching a temperature of 60°C the column will automatically switch off and the display will show „MOTOR TEMPERATURE HIGH“.

- Tip:** To protect and ensure a long lifespan for the motor temperatures above 55°C should be avoided.  
Should a temperature of 55°C be exceeded, reduce or stop column movements for 30 to 60 minutes to allow the motor to cool down.
- Attention:** Over heating of the motor can be caused by over loading the column or driving the column without load.
- Note:** During operation the generated heat by the electricity flow is at its highest in the centre of the motor and spreads to the outside housing. The temperature is measured on the outside of the motor which can be up to 30°C lower than the inner kern of the motor. Therefore by an over load of the motor at 60°C it must be shut down as with an inner temperature of 100°C permanent damage can be caused.

**Limit:**

LIMIT allows the operator to restrict the columns lift range by resetting the lower and / or upper end stops. The lift range can be changed from its standard 0 to 705mm to, for example, 200 to 500mm. When reset, the column can only be moved within the new range until it is or due to a Mode change the column is in a position outside the new LIMIT range

**Hand Control Unit HCU Battery Display:**

In wireless mode the HCU is energized with its own battery and not with the columns batteries. The HCU battery is inserted into the rear of the HCU. The voltage status of the battery is shown on the HCU display as a battery symbol.

**Ramp and Speed:**

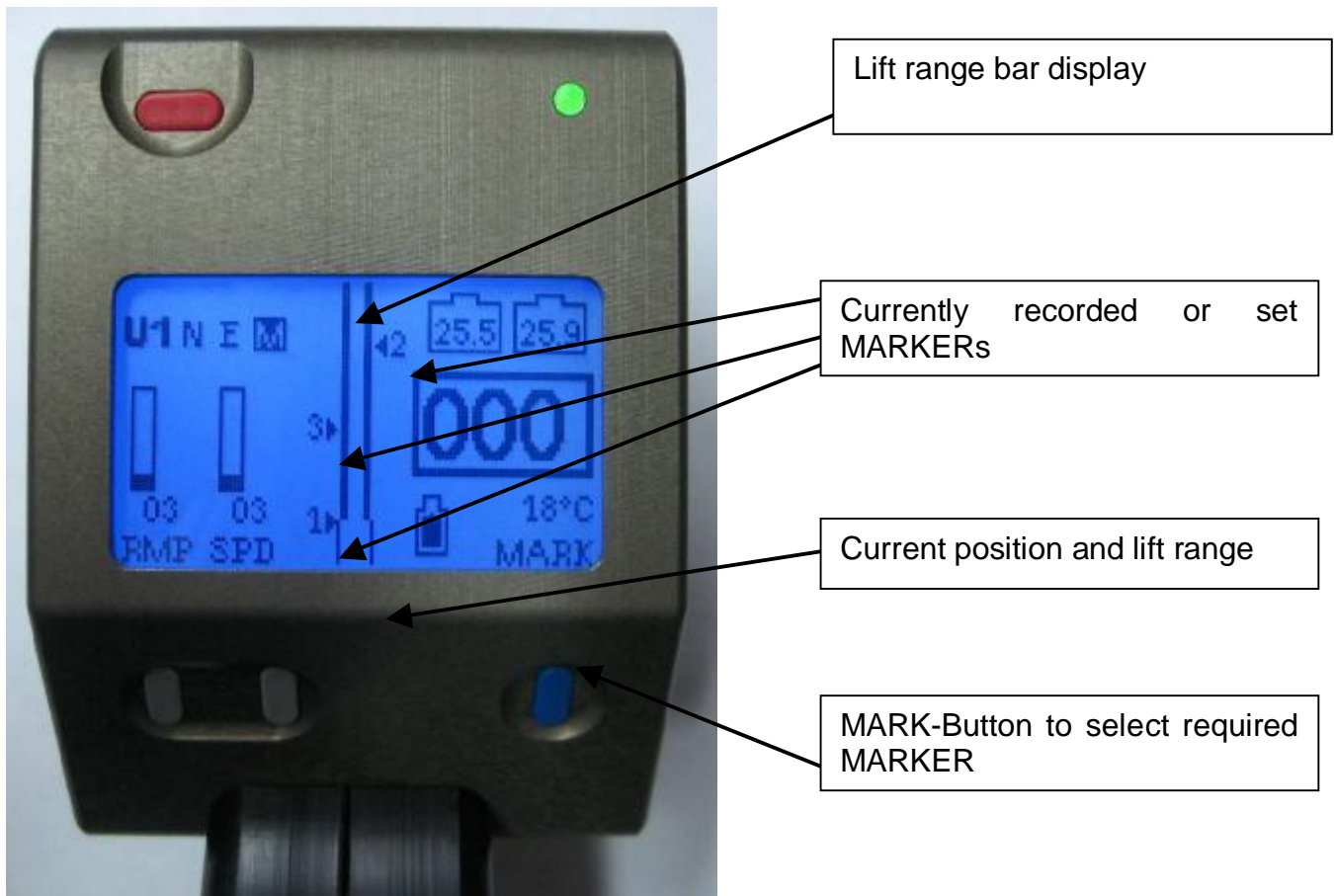
The columns speed and drive ramp may be adjusted in grades of 23 levels:

Speed	Slow	→ Level 00	Fast	→ Level 22
Rampe	Hard	→ Level 00	Soft	→ Level 22
			(Longer acceleration and deceleration)	



## Mode MARKER M

In M-Mode it is possible to activate the recorded MARKERS. Between each MARKER it is possible to vary direction, speed, and alter the ramp. Upon reaching each of the 6 MARKERS the column will stop automatically.



### Explanation of the individual display symbols:

#### Set MARKERS:

MARKERS that have already been set or recorded are graphically shown beside the lift range bar on the display.

#### Current column position and lift range:

The current column position and driven lift range are shown on the lift range bar display. The available lift range between 2 positions will also be displayed. When MARKERS are set, the bar display will indicate the available lift range between the MARKERS.

#### MARK-Button to select required MARKER:

With the MARK-Button it is possible to select the next required MARKER and if needed, more than one MARKER can be skipped.

### Working in M-Mode

In M-Mode up to 6 individually recorded positions called MARKERS can be utilized to construct the required shot.

The following explains the operation in MARKER-Modus:

After recording the required MARKERS in E-Mode switch to M Mode by pressing the Program and Mode Selector Button on the underside of the HCU.

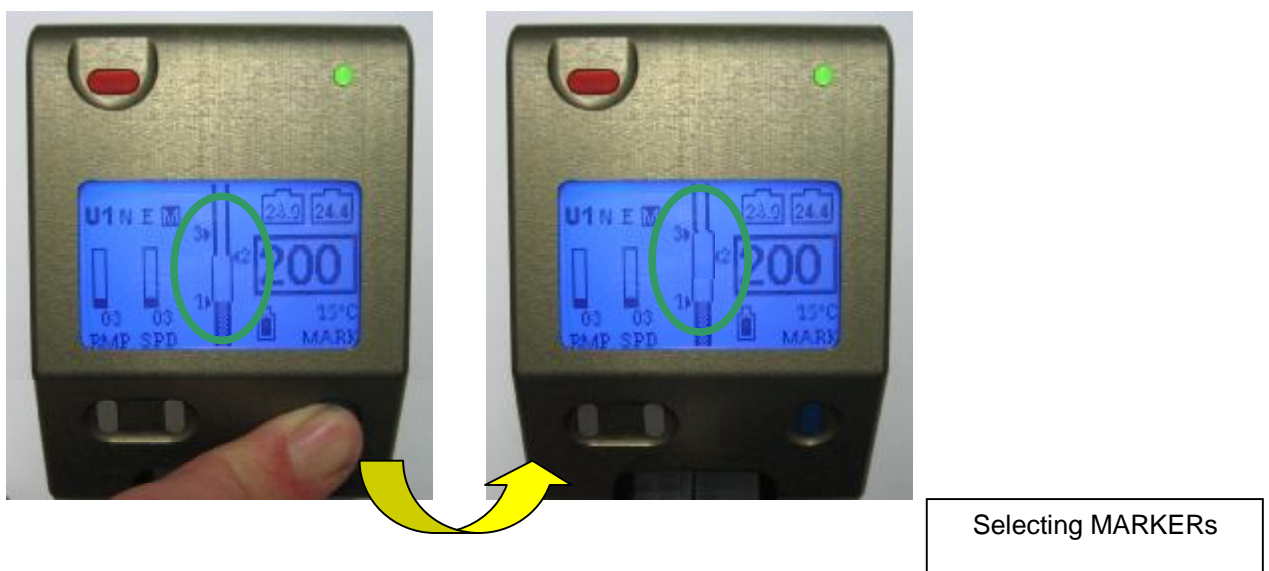
Settings such as Speed and Ramp are accessible and even different Speeds and Ramps can be selected between the various positions.

**Tip:** In between the various MARKERS it is possible to make manual moves and to control the speed by pressing the Rocker Switch, more or less to go faster or slower.

By using the Rocker Switch drive to the first MARKER, with the lowest, flashing digit, e.g. MARKER 1.

**Note:** After changing to Mode M, the lowest numerical digit will be suggested as the first MARKER and will blink. As soon as the first position is reached, the second or next MARKER will be indicated through flashing and the lift range between these 2 positions will be set.

**Attention:** By pressing the MARK Button you can select other MARKERS as the next position.



Press the MARK Button and use the Rocker Switch to move to the flashing digit / MARKER.

**Tip:** The present height is shown on the display with the numerical display and on the other hand with the shaded vertical bar display. The direction of the next position is visible.

The column can now be driven in the selected Speed and Ramp and upon reaching the MARKER it will stop automatically. The next MARKER can be recognised as the respective digit will blink and the vertical height bar will show the new lift range.

**Tip:** As long as the next MARKER is not reached, movement between the 2 respective MARKERS is not restricted so direction or speed changes are possible.

## Emergency Operation of the Column

The GF-**Primo** Dolly's electronic is equipped with a back-up systems to enable movement of the column in an emergency situation.

Emergency situations are:

- Defective or non-functioning electronic (HCU cannot operate the electronic)
- Defective or lost HCU

**Attention:** Emergency operation is not for working with! Using the column with a under load with mounted camera or camera operators is not allowed!

**Attention:** As soon as the emergency switch is activated the column moves with a preset speed and NO Ramp. Ensure that no equipment or persons are on the column. Jib arms etc must be dismantled prior to activation of the emergency switch. Working in emergency mode is not allowed!

To activate the emergency mode proceed as follows:

Using a 2.5mm Allen Key, remove the cover of the emergency switch by unscrewing the 4 bolts.

Upon removing the cover, 3 multi-point connectors are visible whereby there is a plug inserted in the top connector. For normal operation the plug must be inserted into the top connector!



Emergency Switch Cover

Connector for normal operation

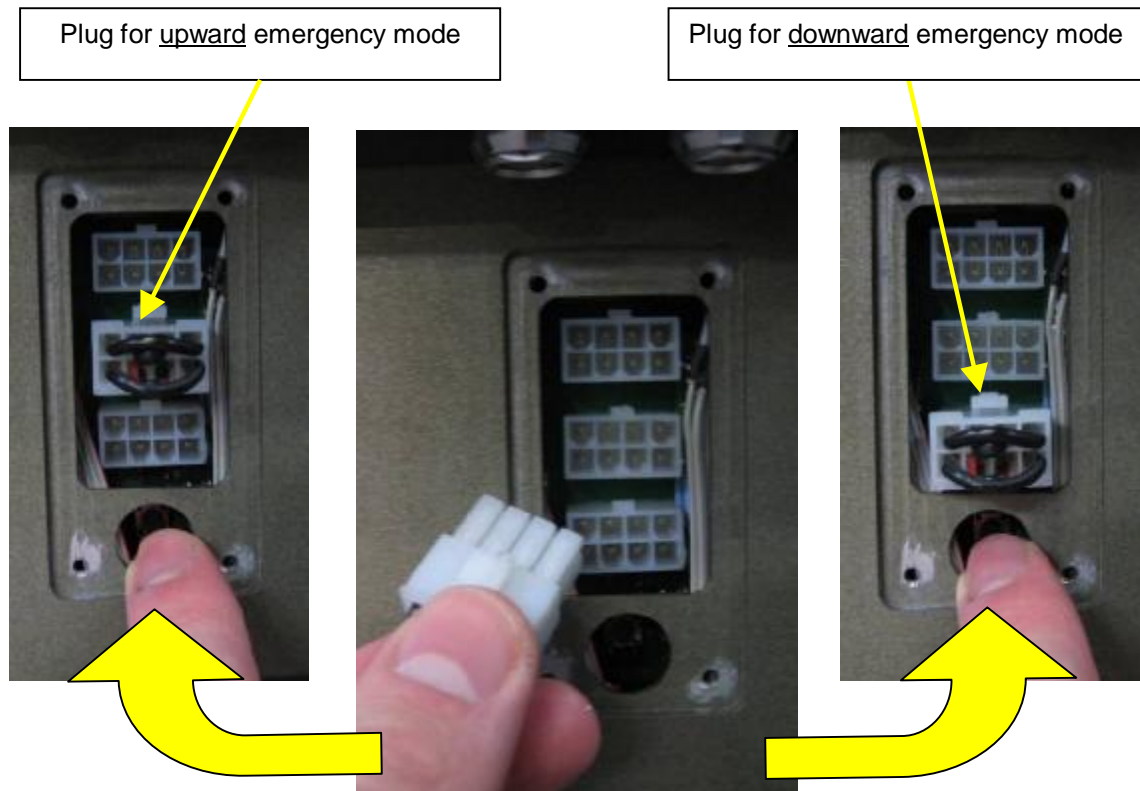
In emergency mode, if the column needs to be moved

- § upwards, insert the plug in the middle connector.
- § downwards, insert the plug in the lower connector.

Attention: When inserting the plug do not clamp or jam any cables!

Note: The plug has an anti-twist protection and inserts in one direction only.

Press the hidden emergency button found in the round hole at the bottom of the 3 connectors. The column will move in the respective direction according to where the plug is positioned.



Attention: When replacing the cover ensure that the emergency plug is inserted into the top connector as the cover cannot be mounted if the plug is in another position.

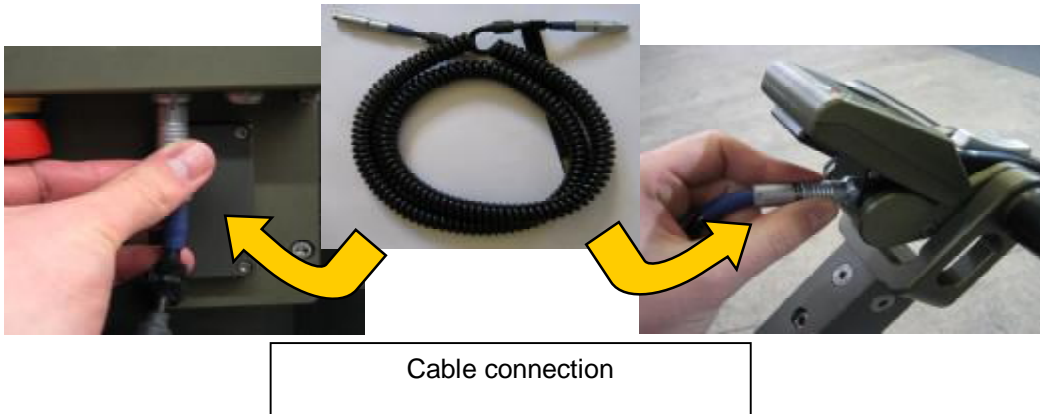
## Synchronizing the Hand Control Unit and Column

In general, when delivered, the electronic and HCU will already be synchronized and both units will be selected to the same channel to ensure that wireless mode can be used.

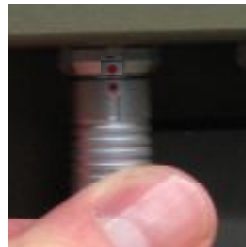
If however, the HCU or electronic unit are replaced, the new unit must be synchronized with the original opposite unit i.e. if the HCU is replaced it must be synchronized with the original electronic.

**Attention:** In wireless mode, only 1 HCU unit can be synchronized with the electronic at any one time. To use a different HCU requires it to be firstly synchronized! To revert back to the first HCU requires it to be re-synchronized.

Connect the HCU to the electronic with the cable and switch on the column using the On/Off switch (red button) on HCU.

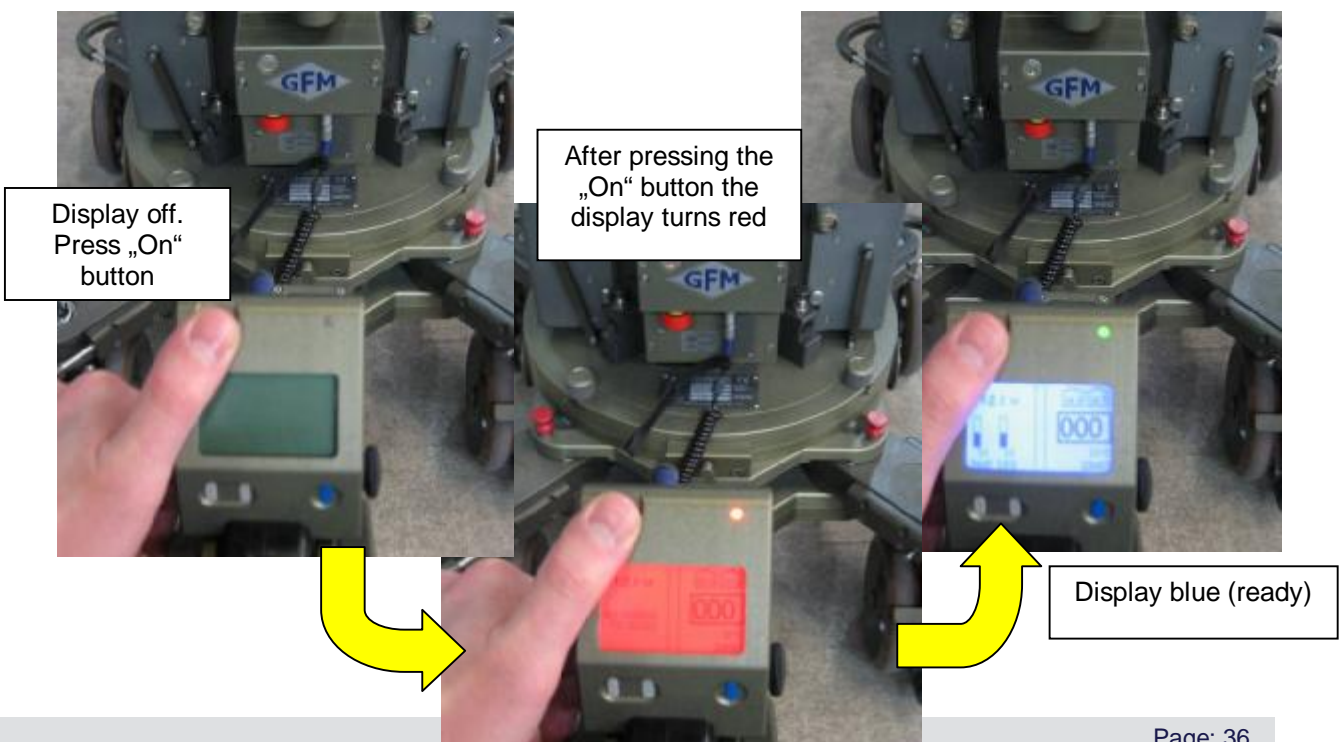


Cable connection from HCU to Column



Note the alignment marking on Fischer Plugs Red dots

**Tip:** When connecting the Fischer Plug align the red dots



## Calibrating the column

The column will need to be calibrated :

- After a service or repair
- After a software update
- After the column is crashed / driven against an object / hit the mechanical top or bottom of column lift range
- After using emergency switch

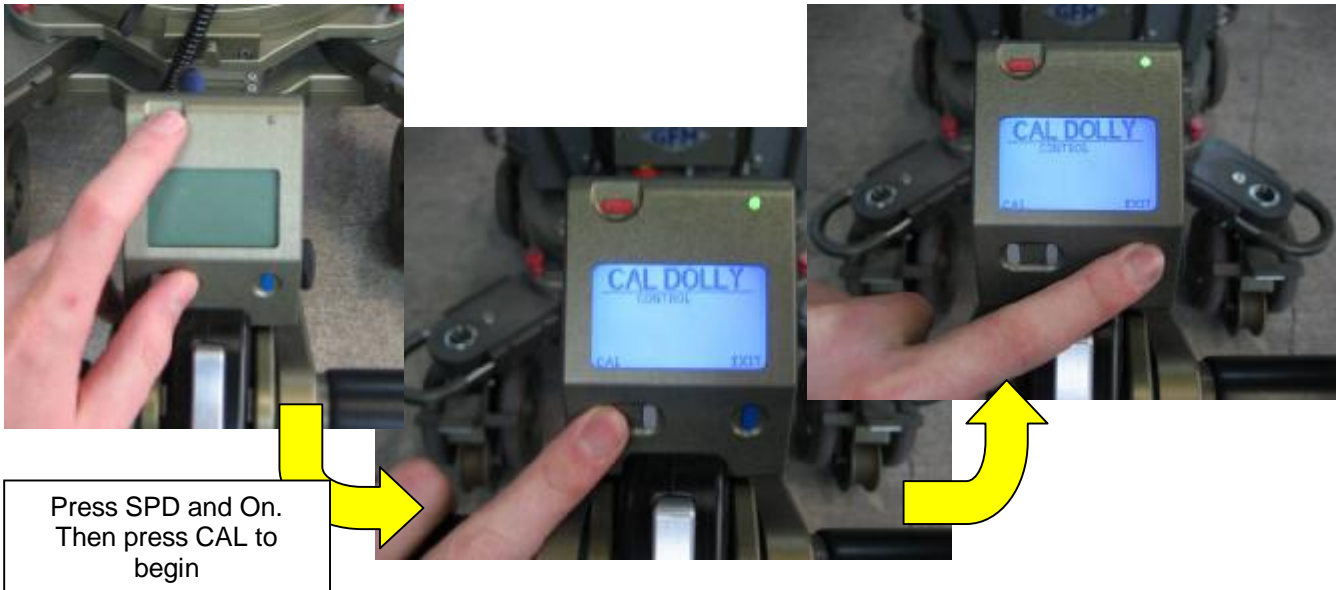
### Calibration procedure

Press and hold the SPD-button, then switch the column / HCU on. As soon as the HCU LED is on the SPD-button can be released.

The Display shows „CAL DOLLY CONTROL“.

Press the CAL button (RMP) button to begin.

The column will automatically drive to its lowest position and then to the maximum height. Upon reaching the maximum height press EXIT.



## Trouble Shooting

---

The following describes some possible errors and the solutions to correct the errors.

### Error:

Dolly and HCU are not functioning in wireless mode

### Solution:

Check

- Are the HCU and column equipped with wireless modules?
- Is the emergency OFF Switch inserted into the off position? If so, twist clockwise to deactivate.
- If the HCU battery is in place. The wireless mode does not work without battery.
- Are the HCU and electronic synchronized? If not, connect via the HCU cable.
- Are both the HCU and electronic sending and receiving on the same channel?

### Error:

In wireless mode there is a disturbance in the movement of the column.

### Solution:

Select the next or any other channel e.g. 4.

If this doesn't help, change to cable operation.

Check the battery voltage with a loaded column. Should the voltage fall below 19V replace or charge the batteries.

Check the motor temperature. In general terms the following can be said about the electro-motor:

The hotter the motor becomes, the higher the performance loss. Should the motor reach a temperature of 60°C the column will shut down automatically to avoid permanent damage. However, it is suggested to avoid use of the column when the temperature exceeds 50°C.

If the above solutions do not result in an improvement of the columns performance please service the column (see "servicing the column").

### Error:

Disturbance of movement during cable operation.

### Solution:

Check the battery voltage with a loaded column whilst moving up and down. Should the voltage fall below 19V replace or charge the batteries.

Check the motor temperature. In general terms the following can be said about the electro-motor:

The hotter the motor becomes, the higher the performance loss. Should the motor reach a temperature of 60°C the column will shut down automatically to avoid permanent damage. However, it is suggested to avoid use of the column when the temperature exceeds 50°C.

If the above solutions do not result in an improvement of the columns performance please service the column (see "servicing the column").

**Error:**

It's not possible to switch on the electronic / column.

**Solution:**

Is the emergency OFF Switch inserted into the off position? If so, twist clockwise to deactivate.

Check that the batteries are charged and connected correctly to the column.

Remove the batteries from the column and check the battery poles on the column. They should be sticking out from the connection plate and not flush with it. Reconnect the batteries and check the connection. The top of the battery housing should be flush with the column.

If the electronic was removed, double check to make sure it is connected correctly. The electronic housing must be flush with the connection plate on the column.

Concerning operational mode:

*Wireless mode:*

Press the on switch on the electronic for approx. 5 seconds.

In wireless mode always activate the electronic, then the HCU.

In wireless mode the HCU and electronic must have been synchronized prior to use. Synchronization must take place when the HCU is exchanged or replaced. (see „4.1 Synchronizing the HCU and Column on page 8)

*Cable mode:*

The column can be switched on directly with the HCU.

**Error:**

The HCU cannot be switched on or keeps switching itself off (although the electronic is switched on):

**Solution:**

Check the operational mode!

*In wireless mode:*

Check if

- the electronic is switched on. In wireless mode it must be switched on first.
- the emergency OFF Switch is inserted into the off position. If so, twist clockwise to deactivate.
- the HCU is equipped for wireless operation and not that it's only equipped for cable operation.
- the HCU battery is in place. The wireless mode does not work without battery.
- both the HCU and electronic are sending and receiving on the same channel.

Before operating the column and the HCU for the first time it is necessary to synchronize both units.

*Cable mode:*

Check if

- the emergency OFF Switch is inserted into the off position. If so, twist clockwise to deactivate.
- the cable is connected correctly.
- the connectors are damaged (broken or bent pin).
- the same problem occurs with a different cable.



**Error:**

Column and HCU don't operate in cable mode.

**Solution:**

Check if

- the emergency OFF Switch is inserted into the off position. If so, twist clockwise to deactivate.
- the cable is connected correctly.
- the connectors are damaged (broken or bent pin).
- the same problem occurs with a different cable.
- the battery poles on the column are extended and not flush with column.
- the batteries are charged.

**Error:**

The column cannot be calibrated.

**Solution:**

Check if

- the correct button combination is being pressed to activate the calibration mode (see „4.2 “calibrating the column” on 10).
- the emergency OFF Switch is inserted into the off position. If so, twist clockwise to deactivate.
- the batteries are charged.

Check the operational mode!

*Wireless mode:*

Check if

- the electronic is switched on. In wireless mode it must be switched on first.
- the HCU is equipped for wireless operation and not that it's only equipped for cable operation.
- the HCU battery is in place. The wireless mode does not work without battery.
- both the HCU and electronic were synchronized (see „4.1 Synchronizing the HCU and Column on page 8 )and that they are sending and receiving on the same channel.

If the above solutions do not result in an improvement change to cable mode and repeat the calibration procedure.

*Cable mode:*

Check if

- the cable is connected correctly.
- the connectors are damaged (broken or bent pin).
- the same problem occurs with a different cable.

**Error:**

The calibration mode disrupts by itself during the procedure:

**Solution:**

Change from cable to wireless mode or vice versa, then try again.

**Error:**

Upon switching on the column an incorrect height is shown!

**Solution:**

Calibrate the column.

If this doesn't solve the problem and the error is still present, repeat the procedure.

**Error:**

Display is red:

**Solution:**

If the display is red it can have a few reasons and in general it is not necessarily an error but also a signal.

If the display turns red it can mean either

- the connection to the electronic is disrupted.
- the motor temperature is too high.
- the battery voltage is too low.

In these cases

- in wireless mode switch both units to the next higher channel and check if there is contact between both units.
- Check the load on the column and stop operation to enable the motor to cool down.
- exchange the batteries and recharge the used batteries.

Technical specifications are subject to change without notice!

## ASSEMBLING THE GF-Primo Jib:



Place the middle section of the GF-Primo Jib on to the column's Euro-adapter.  
 Note: the front of the jib should be mounted on the same side as the electronic housing.

Jib front and electronic housing



Secure the locking bolt by turning it into the Euro-adapter



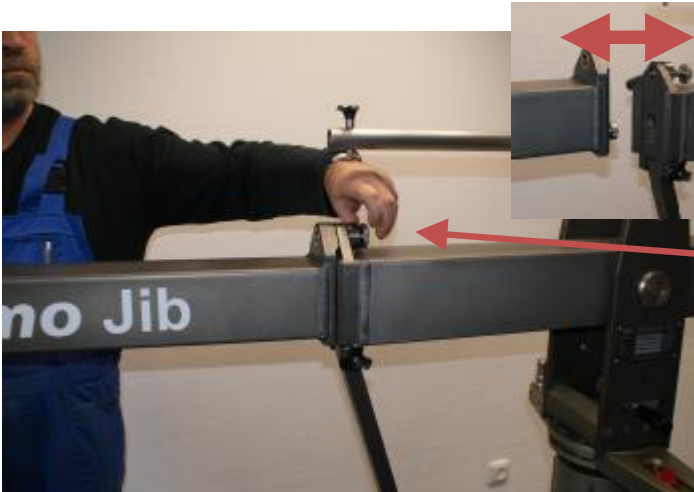
Secure by pulling locking lever



Fit the connection rod onto the steel pin and hand tighten the locking bolt.



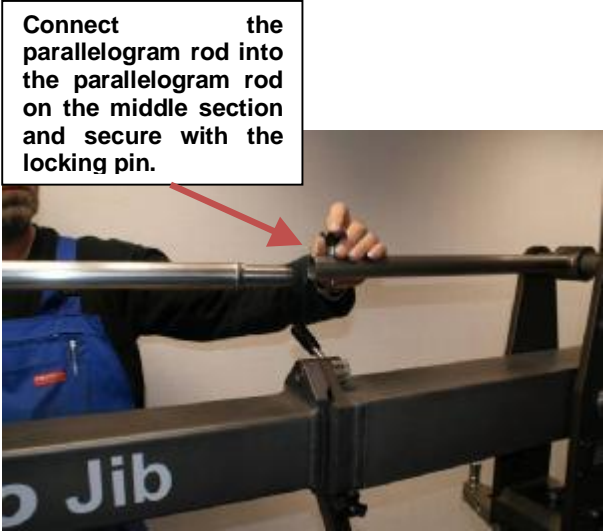
Insert the locking pin to connect the middle section to the rod.



Connect the rear section to the middle section by joining the key link pin to the slot and dropping down.  
 Hand tighten the locking bolt and secure by tightening the locking lever.



Attach the weight triangle to the rear of the arm by aligning the hole for the weight rod over the respective hole on the rear arm and inserting the weight rod. Ensure that the weight rod is the same length on both sides.



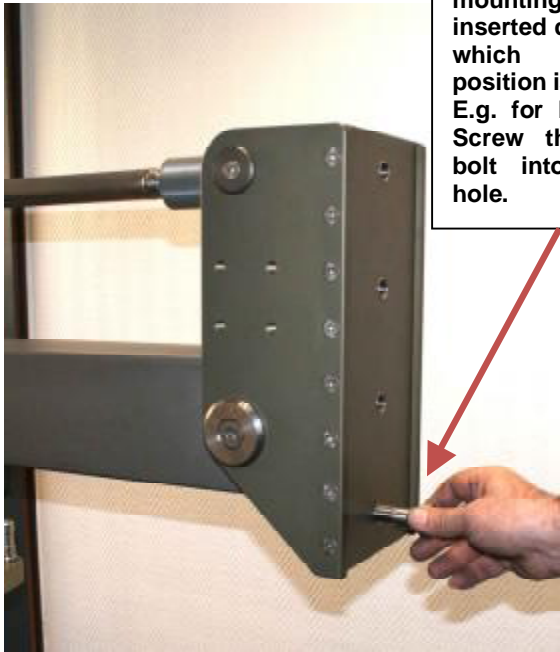
Connect the parallelogram rod into the parallelogram rod on the middle section and secure with the locking pin.



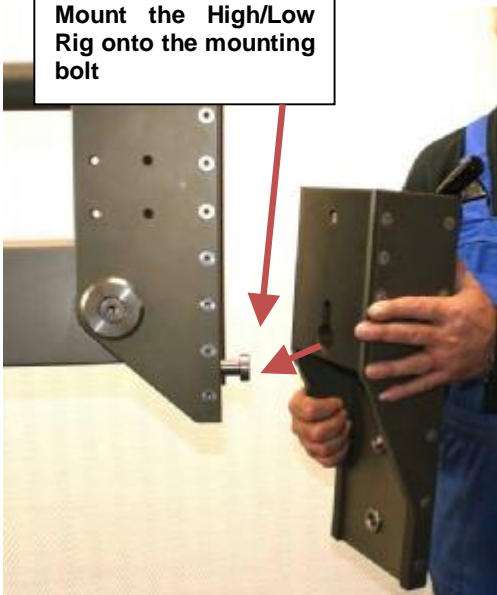
Connect the parallelogram rod to the parallelogram rod on the weight triangle and secure with the locking pin.



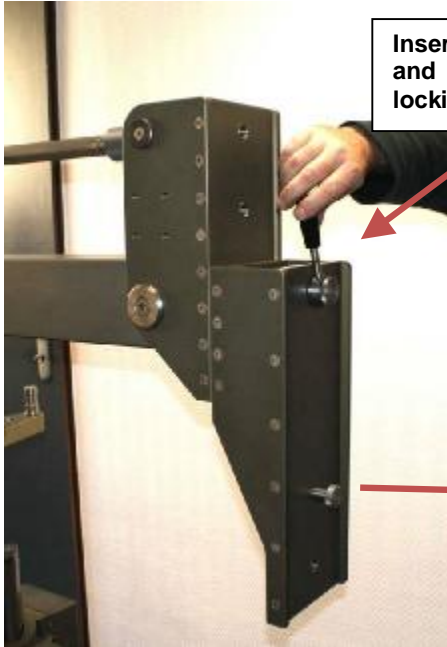
Secure the locking pin on the weight triangle.



The front plate of the jib has 4 threaded holes where the mounting bolt is inserted depending on which platform position is required. E.g. for low position. Screw the mounting bolt into the lower hole.



Mount the High/Low Rig onto the mounting bolt



Insert the locking bolt and secure with the locking lever.



Change the position of the mounting bolt on the High/Low Rig to the low position

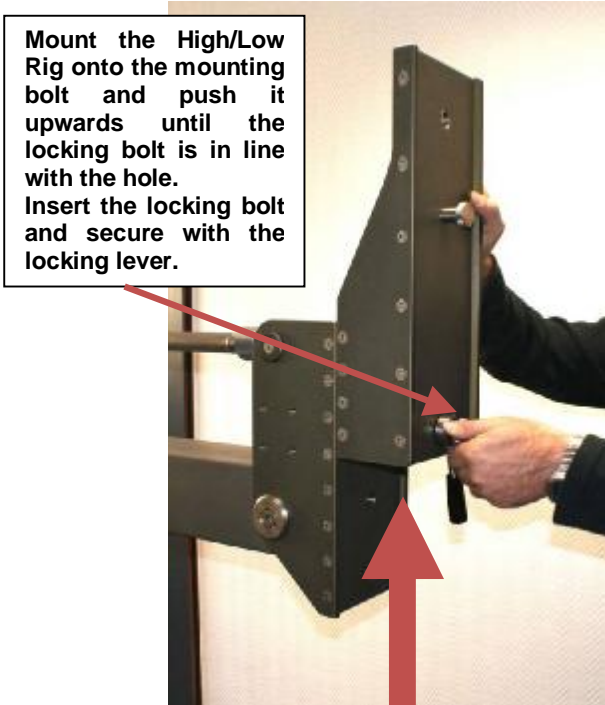


To mount the High/Low Rig in the high position move the mounting bolt to the high hole.

Mount the platform and insert the locking bolt and secure with the locking lever.



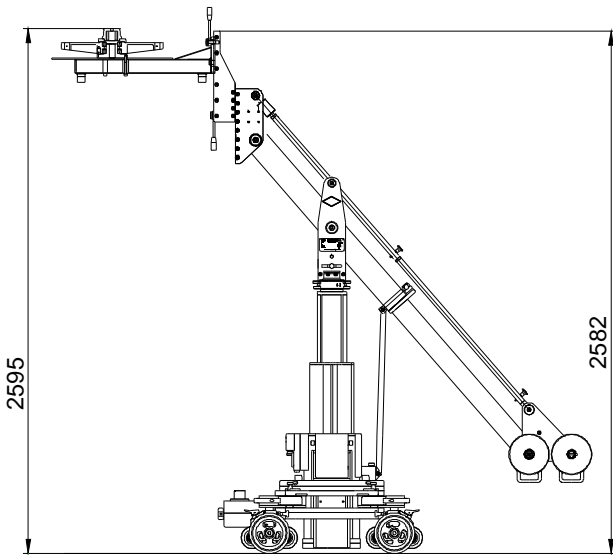
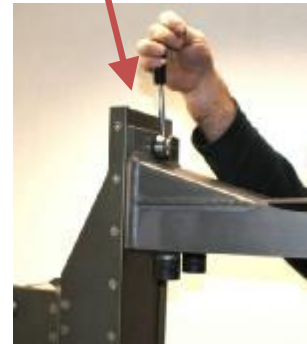
To mount the High/Low Rig in the high position move the mounting bolt to the high hole.



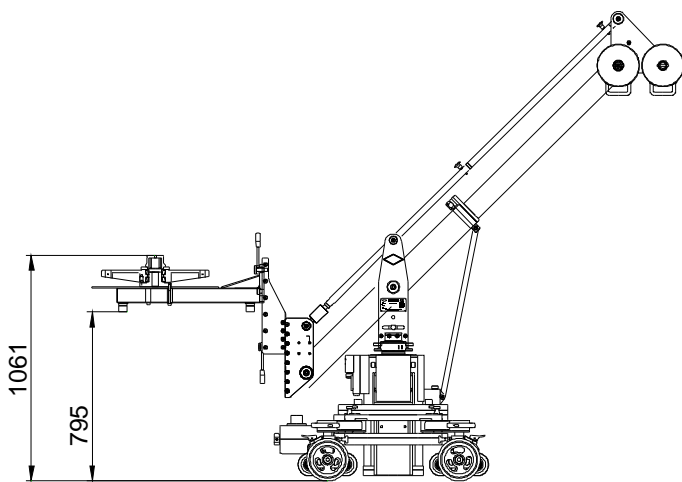
Mount the High/Low Rig onto the mounting bolt and push it upwards until the locking bolt is in line with the hole. Insert the locking bolt and secure with the locking lever.



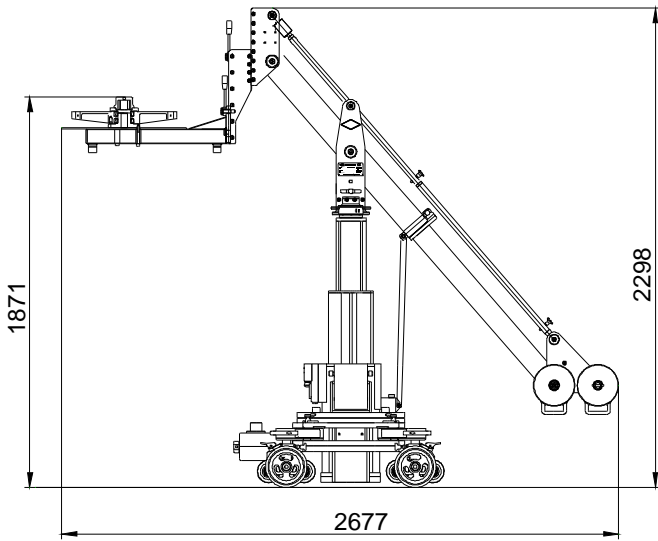
Mount the platform and insert the locking bolt and secure with the locking lever.



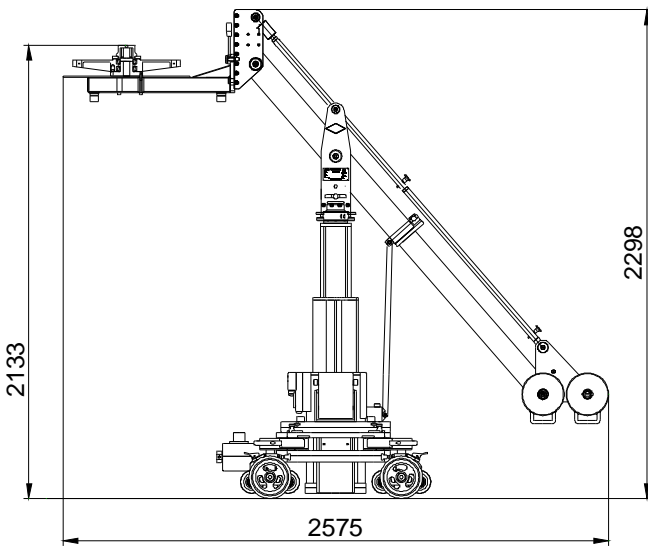
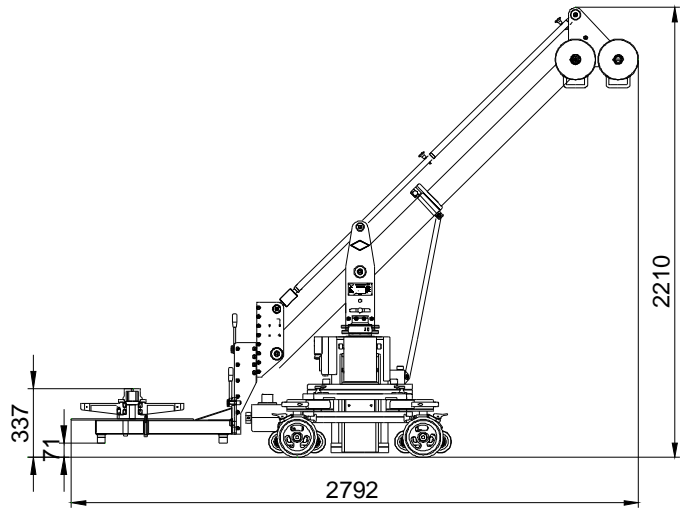
**Maximum Payload = 200kg / 440lbs**



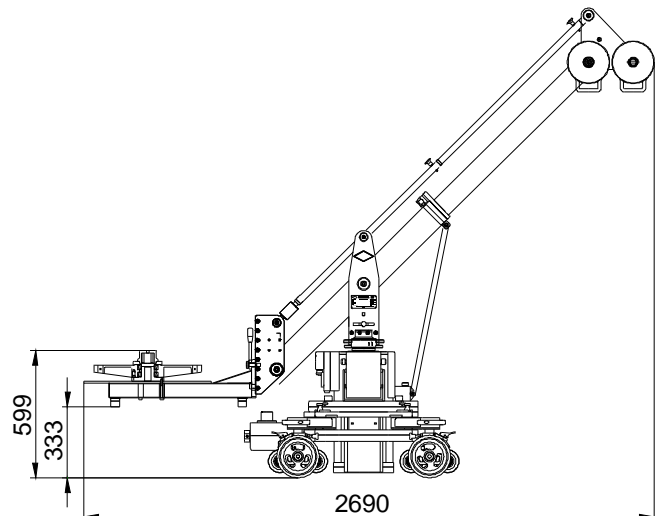
**Maximum Payload = 200kg / 440lbs**



**Maximum Payload = 200kg / 440lbs**



**Maximum Payload = 250kg / 550lbs**



Before assembling or operating the GF-Primo Jib ensure that the Jib On operational mode is selected and that the HCU display is showing “Jib On”.

### Selecting the “Jib On” mode



Upon switching on the column, the display will indicate “Jib Off” or “Jib On” depending on the selected mode.

To change mode, enter the MENU by pressing the RMP and SPD buttons simultaneously.



If the Jib mode is off, as in our example, the menu will indicate JIB MODE ON and this can be confirmed by pressing the ENTER button.

Note: If the “Jib Mode Off” shows on the display this can be confirmed by pressing the ENTER button.



**DO NOT OPERATE JIB ARMS WHEN THE “JIB OFF” MODE IS ACTIVE**

When operating the GF-Primo Jib observe the following guidelines as well as the guidelines on page 2 & 3:

1. Know the precise weight that will be placed on the platform i.e. person, camera and accessories. Do not exceed the maximum payloads i.e. using High / Low Rig maximum



200kg / 440lbs. Not using High / Low Rig 250kg / 550lbs.

2. When the platform is empty, do not have more than 3 counterweights attached to the weight carrier.

3. With the platform in the lowest position and after mounting the riser, camera, seat arms and seat on the platform, place 2 more counterweight on to the weight carrier (total 5 units @ 12kg). Now the first person may take position on the platform.

Attention: use caution when taking position on the platform. Make no sudden or abrupt movements. Depending on the position of the platform i.e. high, middle or low, a ladder or rostrum should be used to assist the operator onto the platform.

Do not climb onto the jib!!

4. Depending on the total payload to be lifted on the platform the respective amount of counterweight can now be added. E.g. 109kg on platform requires 108kg in counterweights. Please follow the following weight scale:

With High / Low Rig	
Counterweight in KG	Load on platform in KG
12	5,00
24	18,00
36	31,00
48	44,00
60	57,00
72	70,00
84	83,00
96	96,00
108	109,00
120	122,00
132	135,00
144	148,00
156	161,00
168	174,00
180	187,00
192	200,00

Without High / Low Rig	
Counterweight in KG	Load on platform in KG
12	10,00
24	26,00
36	42,00
48	58,00
60	74,00
72	90,00
84	106,00
96	122,00
108	138,00
120	154,00
132	170,00
144	186,00
156	202,00
168	218,00
180	234,00
192	250,00

5. Should a second person be required on the platform, firstly add 3 more 12kg weights to the weight carrier.

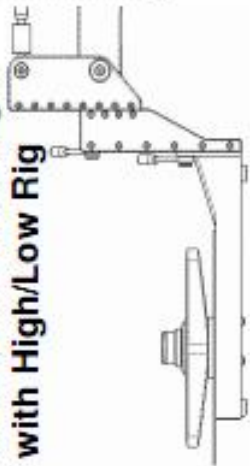

6. With the platform in the lowest possible position the second person may take position on the platform.

Attention: use caution when taking position on the platform. Make no sudden or abrupt movements. Depending on the position of the platform i.e. high, middle or low, a ladder or rostrum should be used to assist the operator onto the platform.

Do not climb onto the jib!!

7. To perfectly balance the arm follow the weight chart.

**GF-Primo Jib**  
Gegengewicht und Nutzlast / counterweight and payload

		Gewichte (12 kg) x weights (26 lbs) x															
		3	4	5	6	7	8	9	10	11	12	13	14	15	16		
<b>mit Hoch-/Tiefausleger</b> <b>with High/Low Rig</b> 	<b>Gegengewicht</b> <b>Counterweight</b>	36	48	60	72	84	96	108	120	132	144	156	168	180	192		
		79	106	132	159	185	212	238	265	291	318	344	370	397	423		
	<b>Nutzlast</b> <b>Payload</b>	31	44	57	70	83	96	109	122	135	148	161	174	187	200		
		68	97	126	154	183	212	240	269	298	326	355	384	412	441		
<b>ohne Hoch-/Tiefausleger</b> <b>without High/Low Rig</b> 	<b>Gegengewicht</b> <b>Counterweight</b>	36	48	60	72	84	96	108	120	132	144	156	168	180	192		
		79	106	132	159	185	212	238	265	291	318	344	370	397	423		
	<b>Nutzlast</b> <b>Payload</b>	42	58	74	90	106	122	138	154	170	186	202	218	234	250		
		93	128	163	198	234	269	304	340	375	410	445	481	516	551		