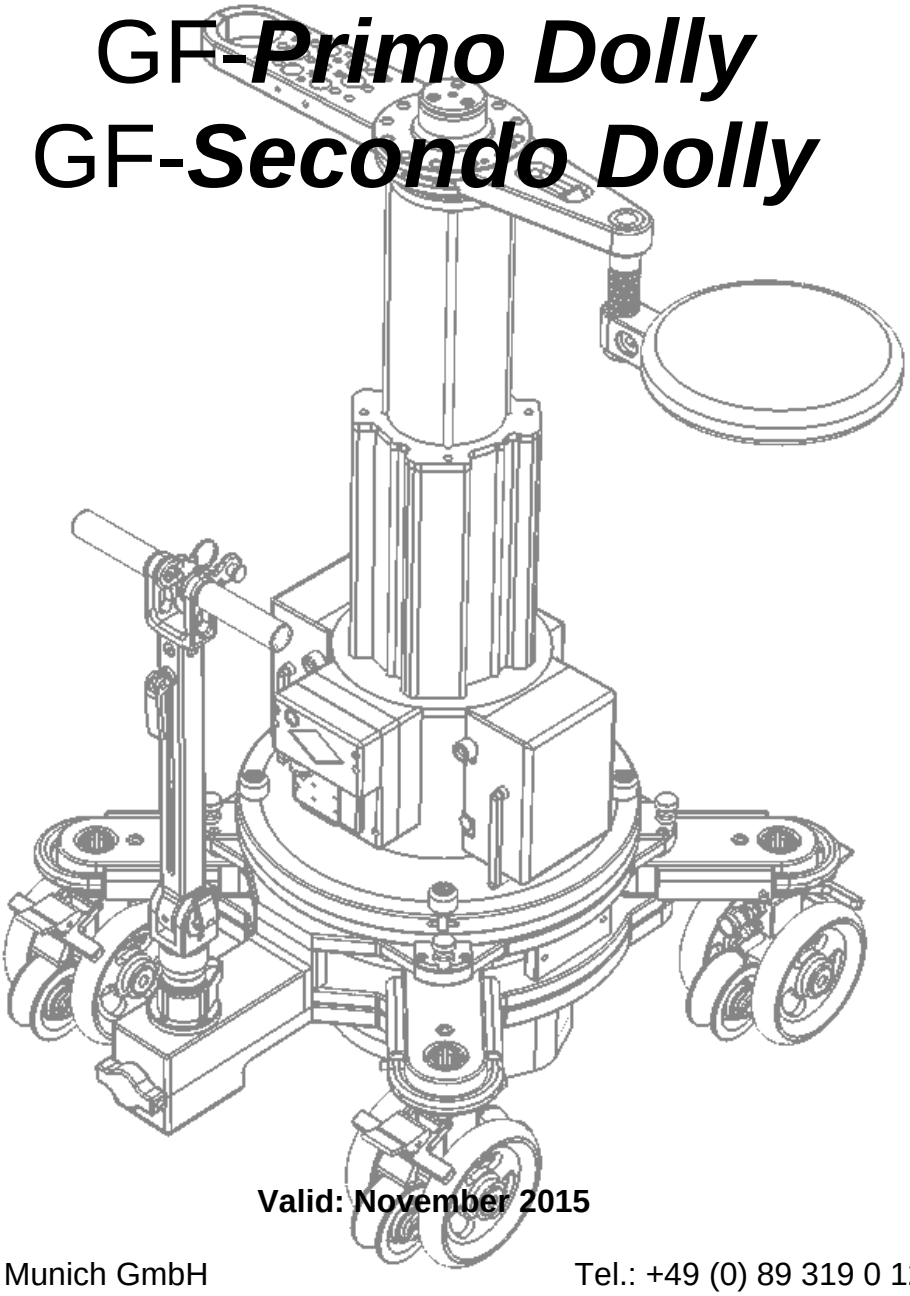
Grip Factory Munich

YOUR INNOVATIVE PARTNER FOR CAMERA SUPPORT

Instruction Manual and Safety Guidelines

GF-*Primo Dolly*
GF-*Secondo Dolly*



Valid: November 2015

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

1 Safety guidelines to operate the dolly

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 and secured when not in use or under supervision.
The dolly 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.

Structural stability requirements for use of the dolly 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/m2 = 2200 lbs/ sq yard.
Dolly operation with the **GF-Primo Jib** is only allowed with solid wheels 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 stable, even and level ground / floors. Also for use on GF-Track.
Standard dolly operation consists of 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 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 crane on insert vehicles, camera cars or any other motorised vehicles.

Whether in normal dolly or jib arm mode the GF-***Primo*** or GF-***Secondo*** Dolly may under no circumstances be misused as a loading crane or device. It is not allowed to attach ropes or cables or any other items to the platform, to be used to lift or pull any loads. It is only allowed to carry or lift cameras and camera operators and the respective camera accessories when connected or mounted correctly on the respective connections and for movement within a safe and inspected range.

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/jib may not be used in the direct vicinity of high voltage power cables. To avoid accidents due to misuse, Accident Prevention Guidelines especially DGUV regulation 1 (previously BGV A1), and DGUV regulation 3 (previously BGV A3) as well as VDE regulations (especially VDE 0105 section 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 crane platform.

In the interest of safety, when operating or moving the dolly/jib, abrupt, sudden movements of the crane 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.

When using the jib it is advisable to have a ladder available to assist the camera operators leave the platform in the event of a column breakdown. To avoid the jib and dolly toppling over, the jib should be secured by a few people so that when the operators leave the platform the unit is help securely. The suitable amount of counterweight should be removed from the jib accordingly.
When personnel are on the jib platform a trained and experienced dolly grip or crane operator must be in charge of operation at all times. Never leave operators alone on the platform!

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 or due to other reasons, 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, also involving personal injuries, the local applicable Accident Prevention Guidelines must be observed

If anything is unclear please get in touch with us.

In adverse weather conditions such as heavy rain, hail stones, lightning storms and snow we suggest to stop operation and seek shelter in a closed vehicle with lightening protection.

General Safety Guidelines for dolly operation:

Attention: 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 manufacturer's payloads

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

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)

General guidelines for dolly set-up:

Attention: When setting up the dolly and mounting accessories such as jibs, off-set arms, cameras etc. ensure that all 4 combi-wheel brakes are locked to avoid unwanted movement of the dolly!

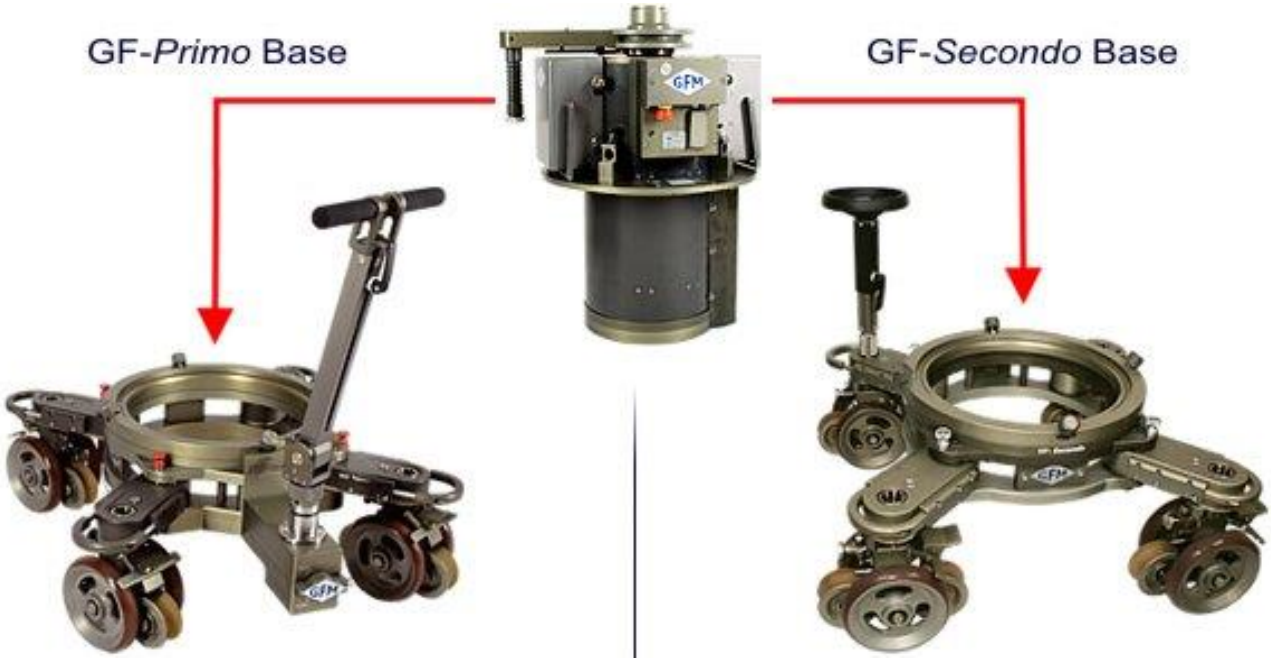
General guidelines for dolly transport:

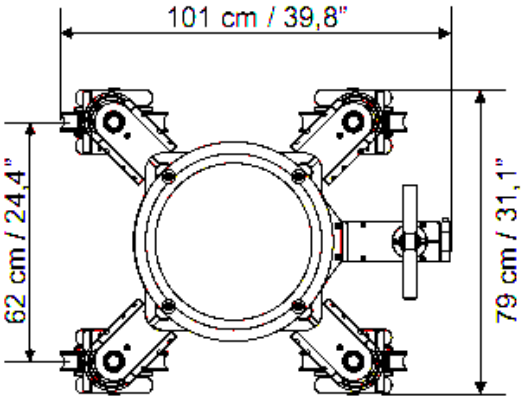
Attention: To avoid damage to the equipment or persons we recommend using the GFM customized transport cases and to ensure that these are strapped down correctly during transportation to avoid any unwanted moving or collisions. Furthermore, all 4 combi-wheel brakes must be locked to avoid unwanted movement of the GF-***Primo*** or GF-***Secondo*** Dollies during transportation.

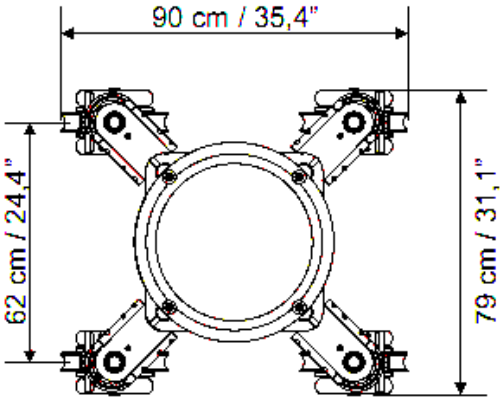
In general, when transporting goods, equipment, machines and accessories all parts must be secured and tied-down professionally and safely to ensure a safe transportation.

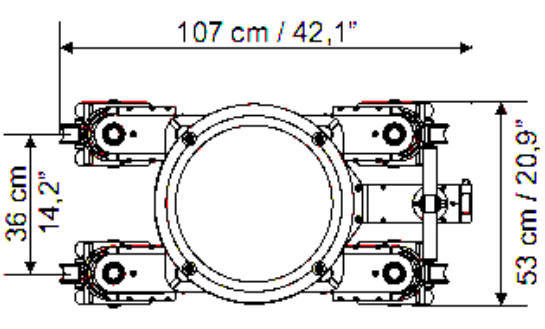
2 Technical Specs for GF-*Primo* - / GF-*Secondo* Dolly

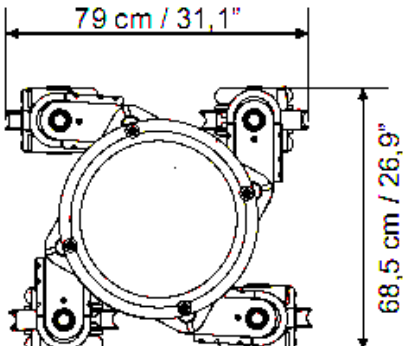
The difference between the GF-***Primo*** - and GF-***Secondo*** Dolly is effectively the different base dollies. The columns are identical.
The GF-***Primo*** Base has a central "one touch" selector allowing for immediate, one handed, switch over to crab, front or rear wheel steering. GF-***Secondo*** 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

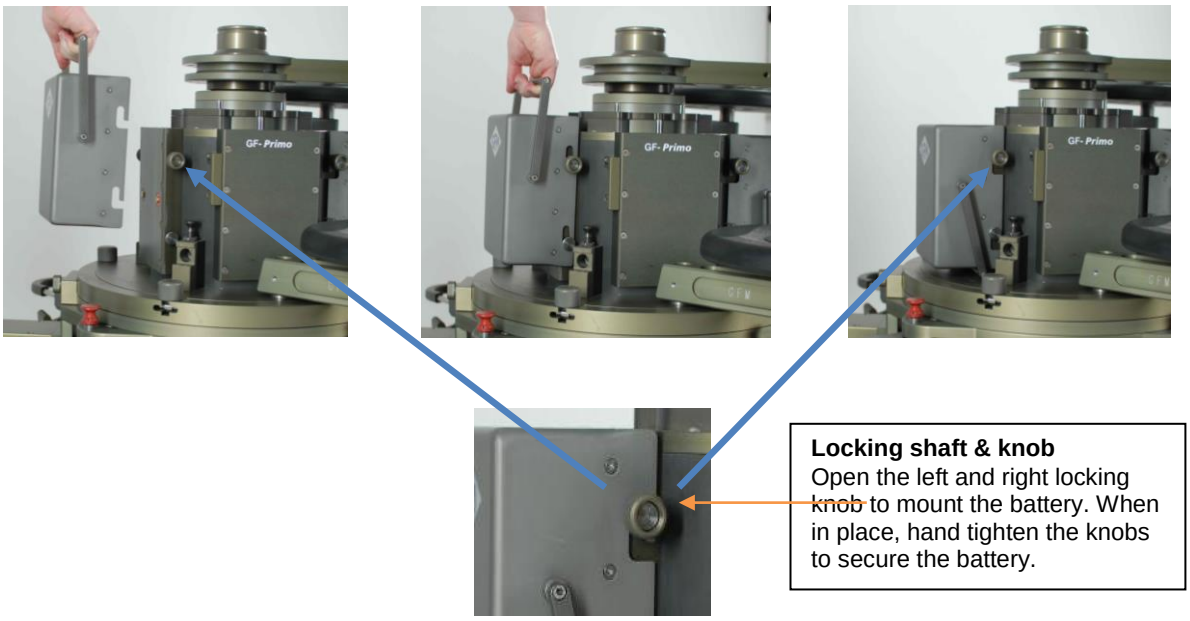
2,5 sec	Duration of column lift	2,5 sec
0 – 70cm / 0 – 27,6“	Lift range	0 – 70cm / 0 – 27,6“
140cm / 55,1“	Maximin column height	142cm / 55,9“
70cm / 27,6“	Minimum column height	72cm / 28,3“
250kg / 551lbs	Maximum column lift capacity	250kg / 551lbs
80kg / 176lbs	Transport weight Dolly Base	69kg / 152lbs
68kg / 150lbs	Transport weight column without batteries	68kg / 150lbs

3 The GF-Primo Dolly

3.1 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.

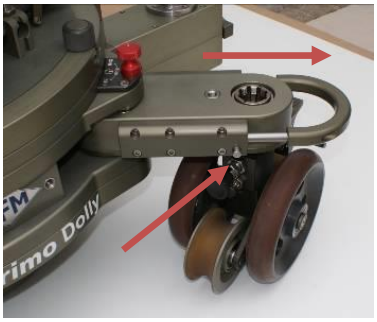
Centre the battery over the locking mount. Move the battery into position and drop it gently onto the locking shaft. Store the carrying handle underneath the battery.



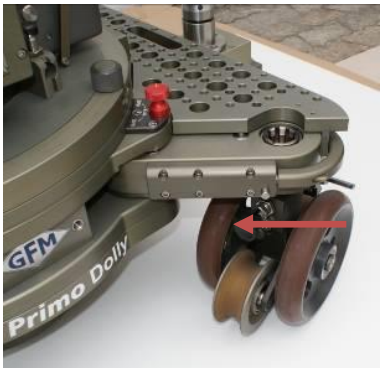
3.2 Connecting the Platforms:

3.2.1 The Multifunctional Platform Set:

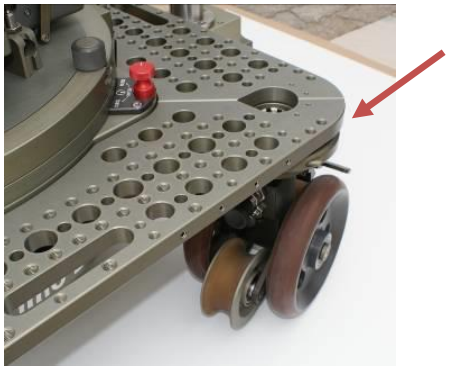
The platform set consists of 4 units. Each platform is machined to provide a selection of threaded (10mm & 3/8") and non-threaded holes (12, 25 & 28mm).
3 of the units are identical and fit on any of the 3 sides of the dolly. The 4th unit is machined slightly differently and fits only on the side of the dolly where the steering gearbox is located.

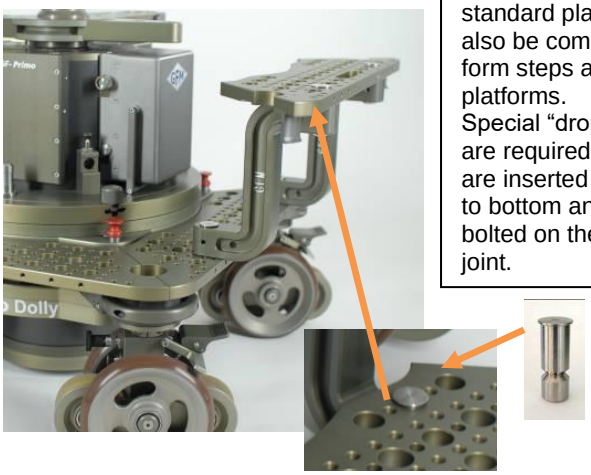


The carry handle double functions as a lock for the platforms. Extend the handle by pressing the stainless steel button on the left side of the wheel arm. At the same time pull the handle out.



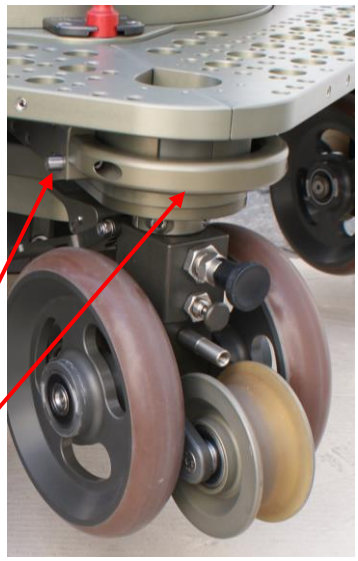
Attach the required number of platforms. To secure them, press the stainless steel button and push the handle towards the dolly. When the handle is engaged in the locked position you will hear an audible click and the button will be extended i.e. not flush with arm.





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 snuggly to the dolly frame with no gap inbetween. Ensure that the steel pin on the locking handle is engaged correctly as escribed above i.e. the steel pin must be visible!!

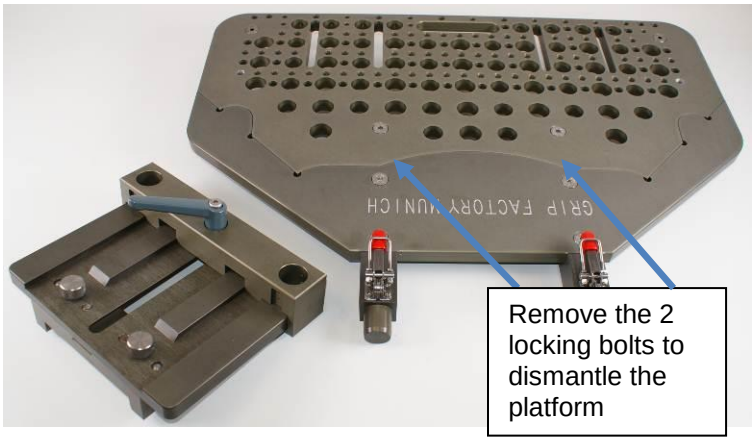


Steel pin

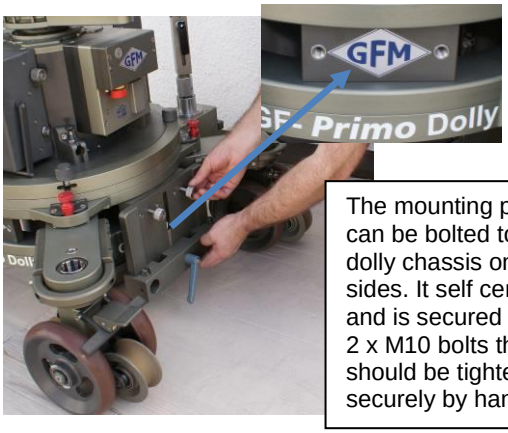
Carry handle

3.2.2 Mounting the Hi/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

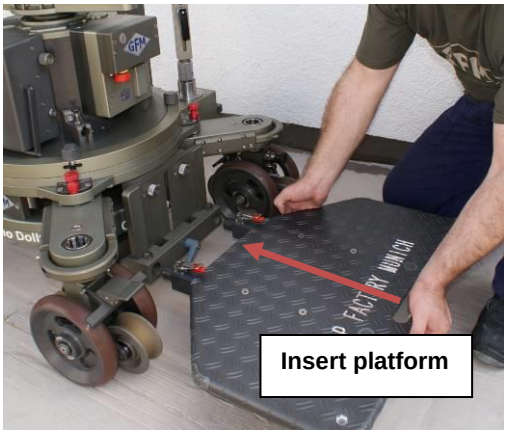


Remove the 2 locking bolts to dismantle the platform

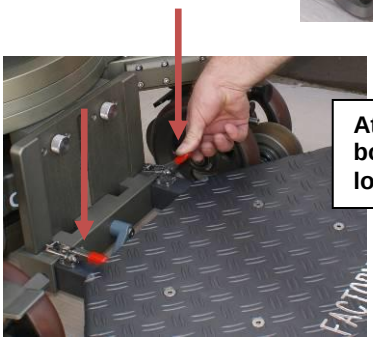


The mounting plate can be bolted to the dolly chassis on 3 sides. It self centres and is secured with 2 x M10 bolts that should be tightened securely by hand.

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

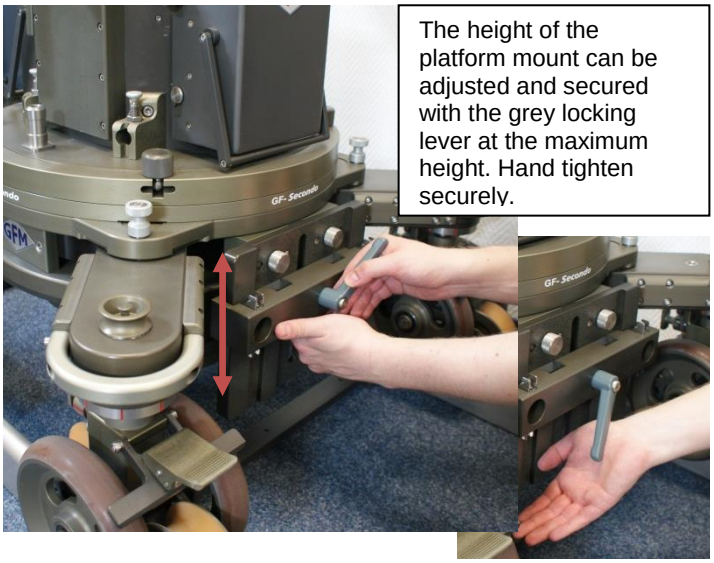
Max. payload 100kg / 220lbs

3.2.3 Mounting the Hi/Lo Platform for use on track:

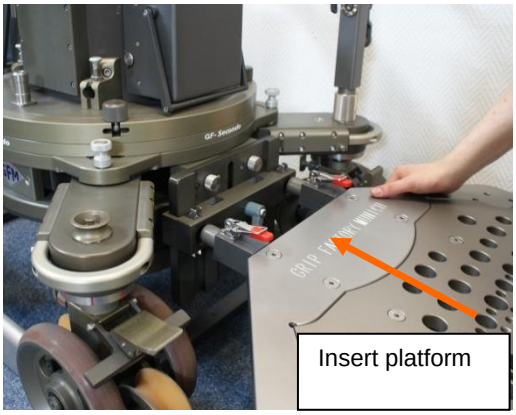
The Hi/Low Platform can be used on track in conjunction with GFM Skateboard or Track Wheels.

Attention: Use with track and skateboard wheels is only possible with straight track. To use the Hi/Low Platform on curved track the either remove the wheels or adjust the height so the wheels are not in contact with the curved track.

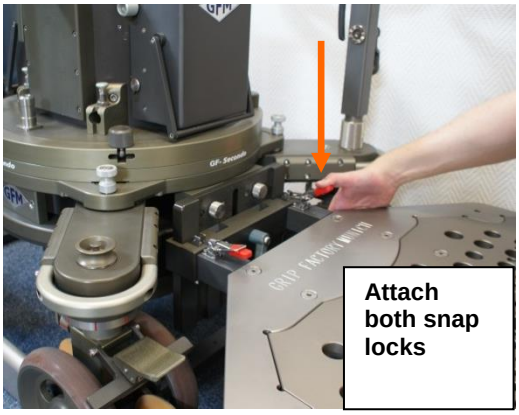
The mounting plate can be bolted to the dolly chassis on 3 sides. It self centres and is secured with 2 x M10 bolts that should be tightened securely by hand.



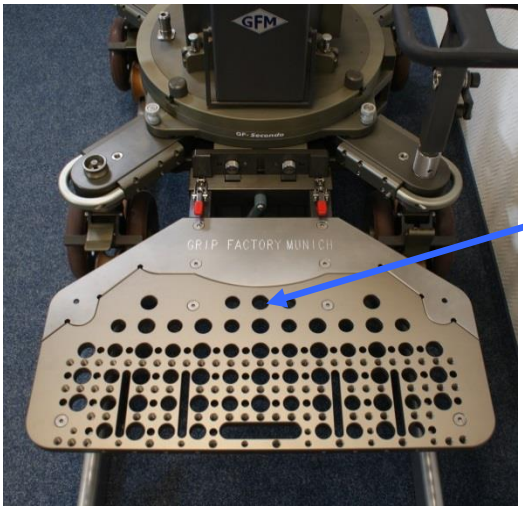
The height of the platform mount can be adjusted and secured with the grey locking lever at the maximum height. Hand tighten securely.



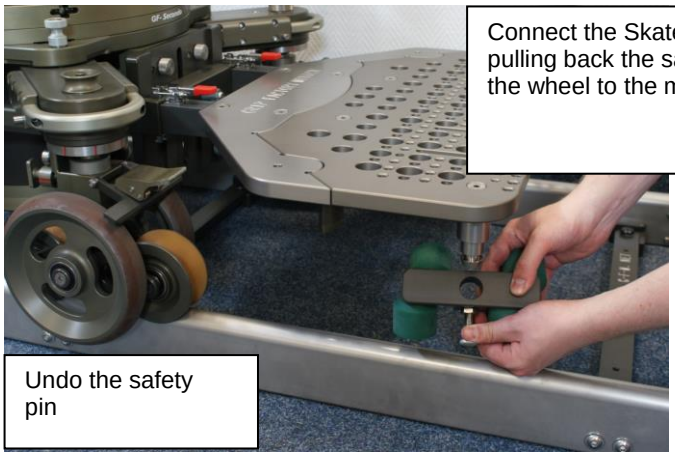
Insert platform



Attach both snap locks

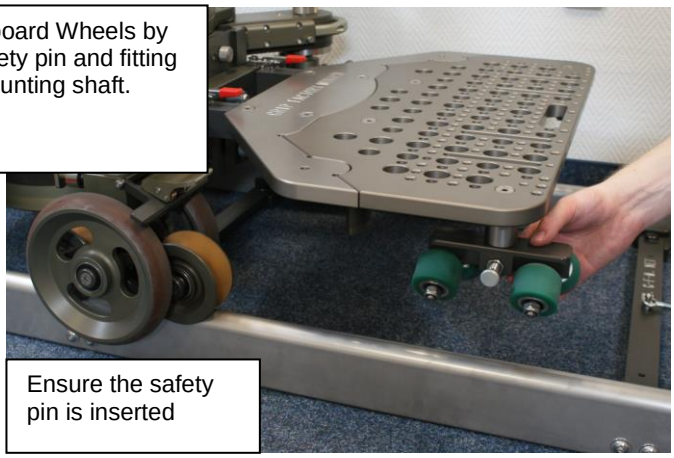


Max. payload: 100kg / 220lbs

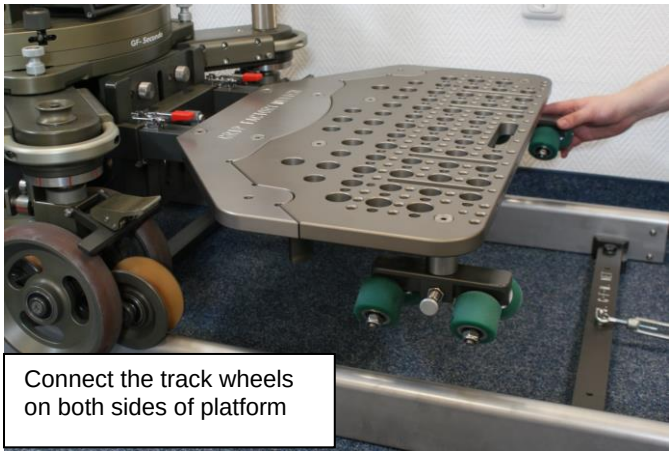


Undo the safety pin

Connect the Skateboard Wheels by pulling back the safety pin and fitting the wheel to the mounting shaft.



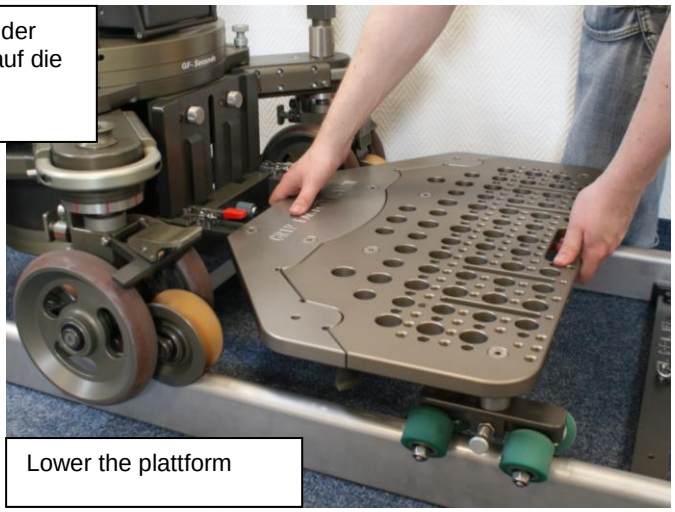
Ensure the safety pin is inserted



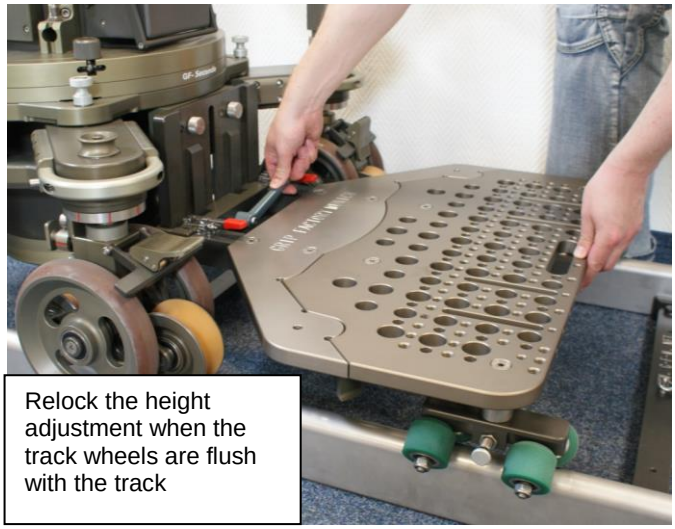
Connect the track wheels on both sides of platform

Unlock the grey locking handle to allow height adjustment

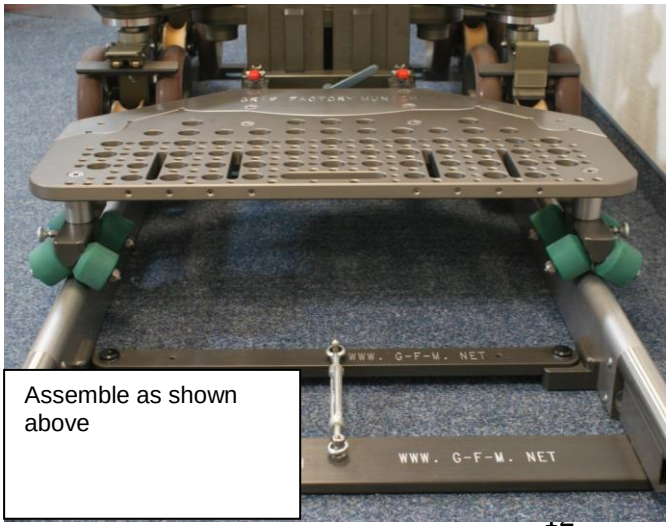
Absenken der Plattform auf die Schienen



Lower the plattform



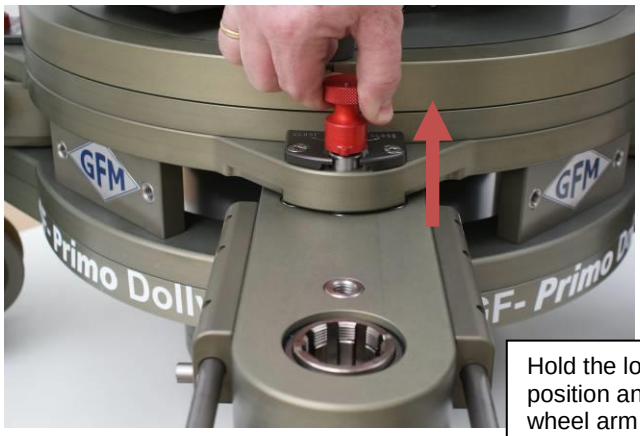
Relock the height adjustment when the track wheels are flush with the track

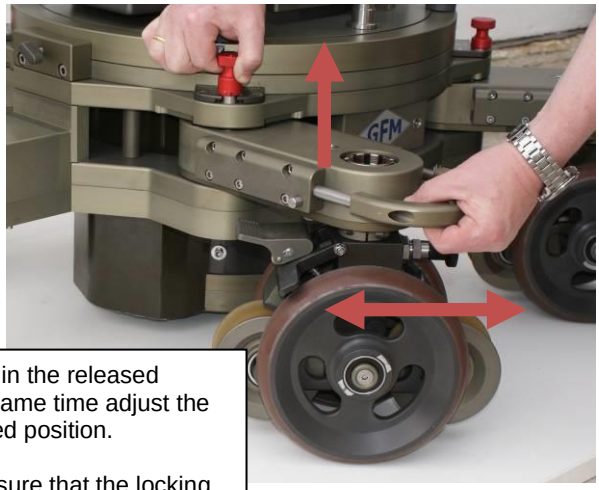


Assemble as shown above

3.3 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.





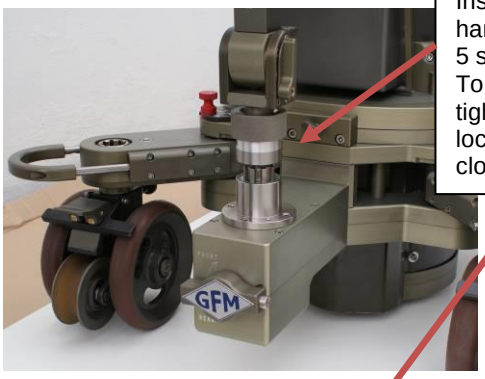
Hold the locking pin in the released position and at the same time adjust the wheel arm to required position.

When in position ensure that the locking is fully inserted.

3.4 The Steering Handle

3.4.1 Connectiong 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.

5 steering positions.

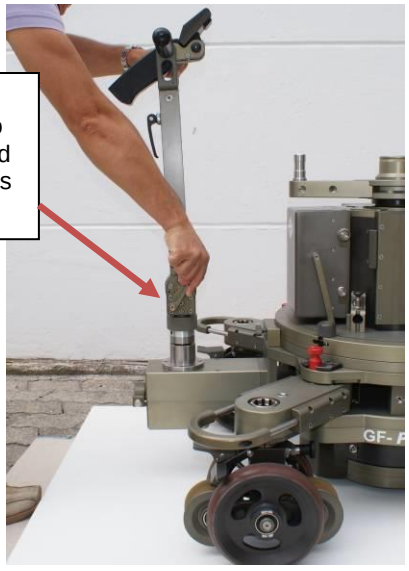
3.4.2 Adjusting the angle of the Steering Handle:

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

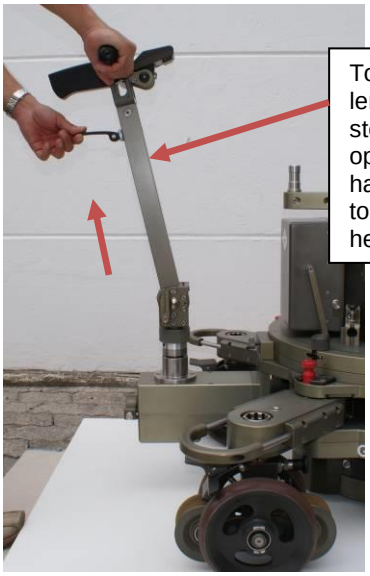
Drag adjustment:

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



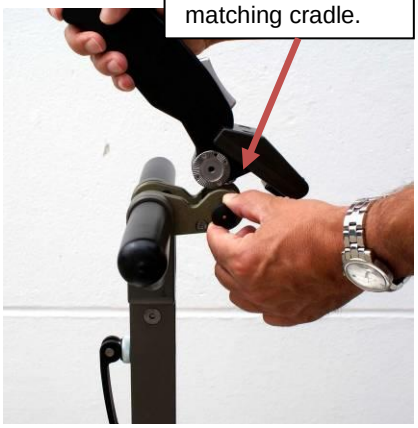
To adjust the length of the steering handle, open the release handle and adjust to required height.

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

3.5 Holders for the HCU

3.5.1 HCU Holder on the Steering Handle

Locking pin



Pull back the locking pin and insert the HCU rosette into the matching cradle.

Push the HCU down so it fits snugly in the cradle. Adjust the angle as required.

3.5.2 HCU Holder on the Column:

When not in use, fold in the HCU rest.

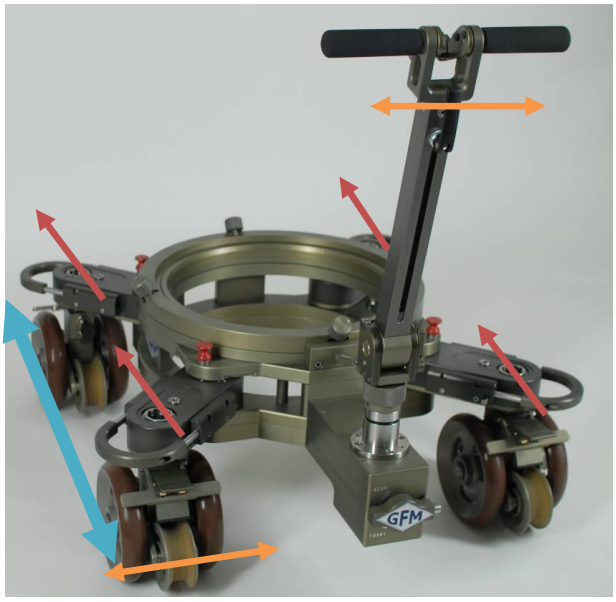
To use, fold down the HCU rest.

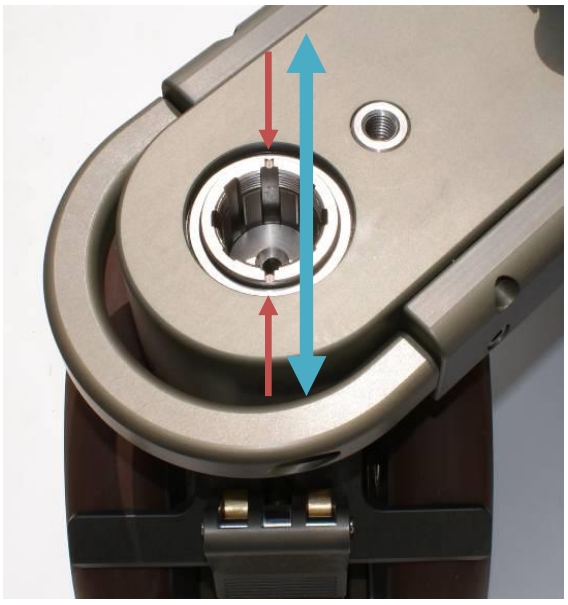
Insert the HCU into the rest.

3.6 Selecting Steering modes:

3.6.1 GF-Primo Dolly 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.





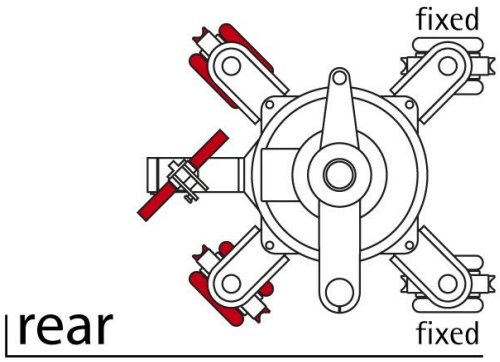
Positioning of the Combi-wheels and steering rod mount

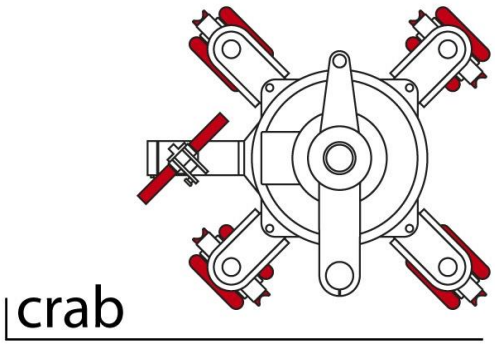
Correct positioning of the steering rod mount and Combi-wheel

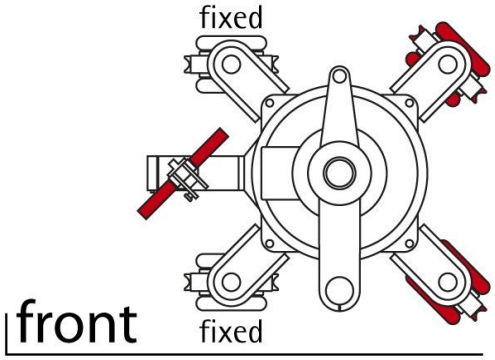
Press steel release pin and turn the selector

Steering mode selection

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





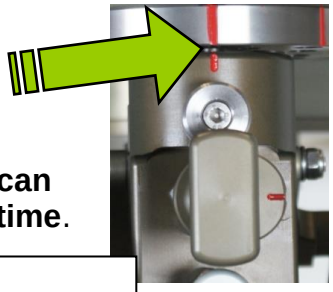


3.6.2 GF-Secondo Dolly Steering modes:

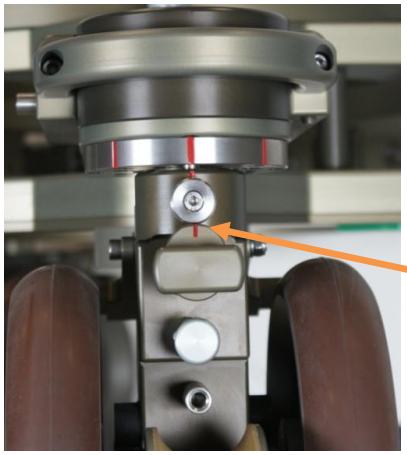
Each of the 4 combi-wheels has an individual selector switch which enables each wheel to be fixed, connected or disconnected from the steering mechanism:

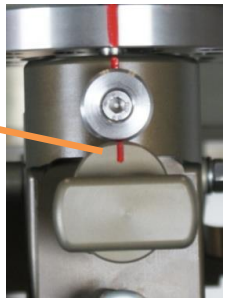
Switch position SP 1 ⇒ Combi-wheel in fixed position
Switch position SP 2 ⇒ Combi-wheel steerable
Switch position SP 3 ⇒ Combi-wheel in free rotate

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

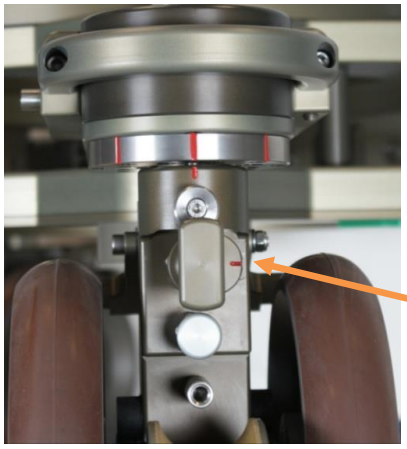


Tip: Regardless of selected mode, **the GF-*Secondo* Dolly can be steered from any of the 4 steering points at any time**.

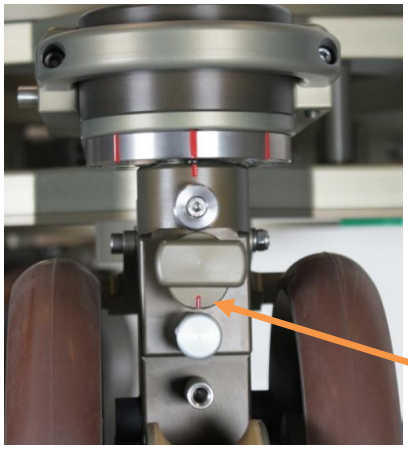


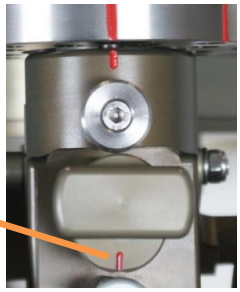


SP1 - Selector switch pointing upwards: wheel in fixed position = wheel not turnable



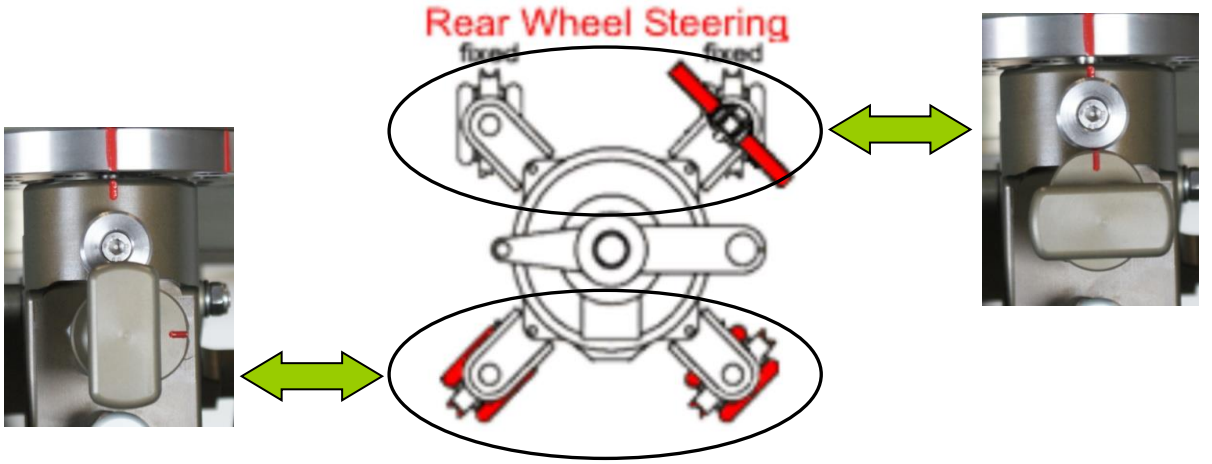
SP2 - Selector switch pointing side wards: Connected to steering = wheel is steerable

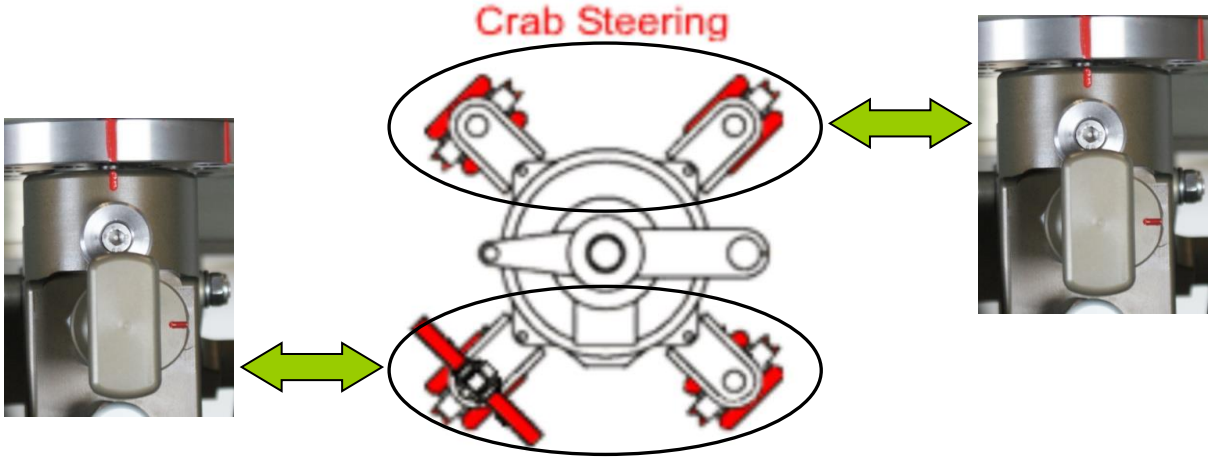


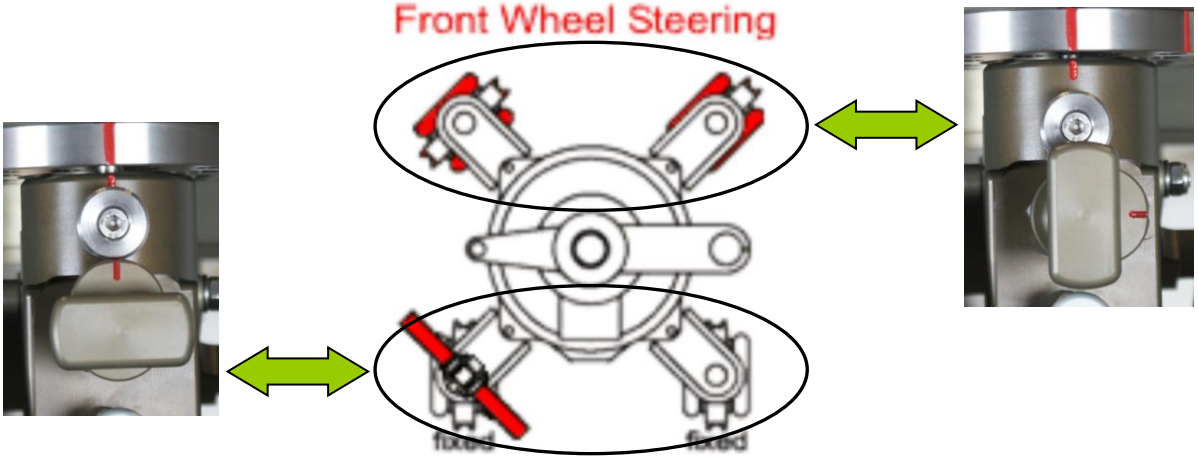


SP3 - Selector switch pointing downwards: Disconnected from steering = wheel rotates freely i.e. on

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



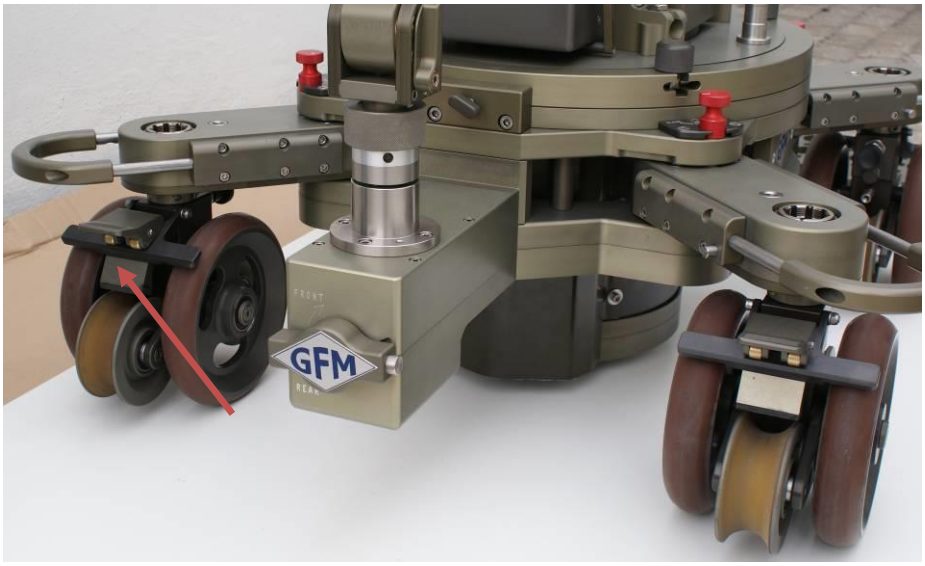




3.7 Combi-Wheels – GF-Primo & GF-Secondo:

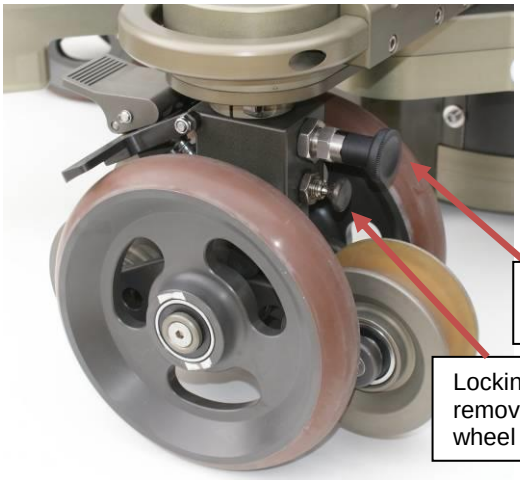
3.7.1 Combi-wheel Brake

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.

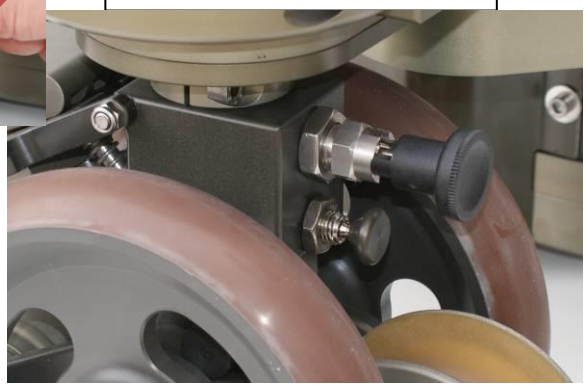
3.7.2 Disconnecting the wheels from the steering:



Locking pin for steering

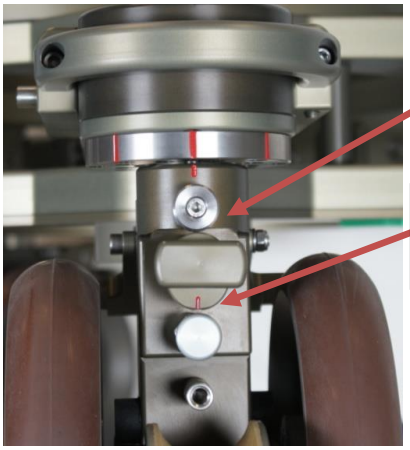
Locking pin to remove Combi-wheel

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



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.

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



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!

3.8 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.

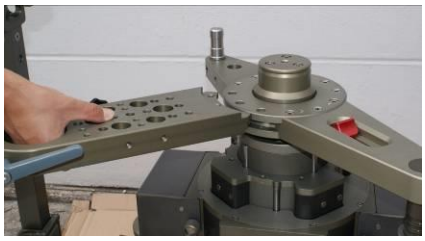
Track wheel brakes at the rear of the wheel

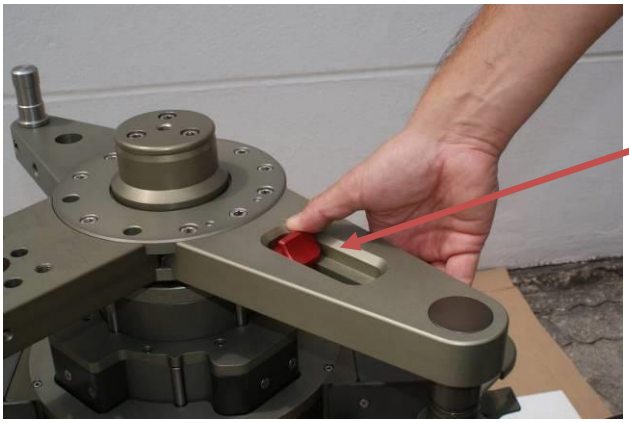
Achtung: **When driving on to track the 4 wheel units must be parallel and their track wheels on the centre of the track!**

3.9 The Multifunctional Turnstile Mount:

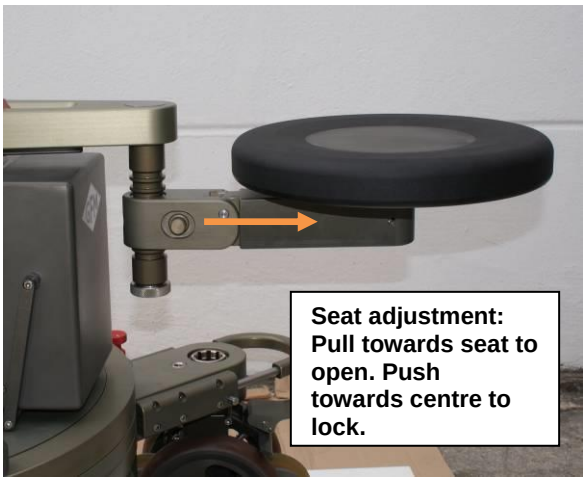
A maximum of 4 brackets can be attached to the turnstile mount. The adjustable seat arm mount is not removable.

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





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



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

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

3.10 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!

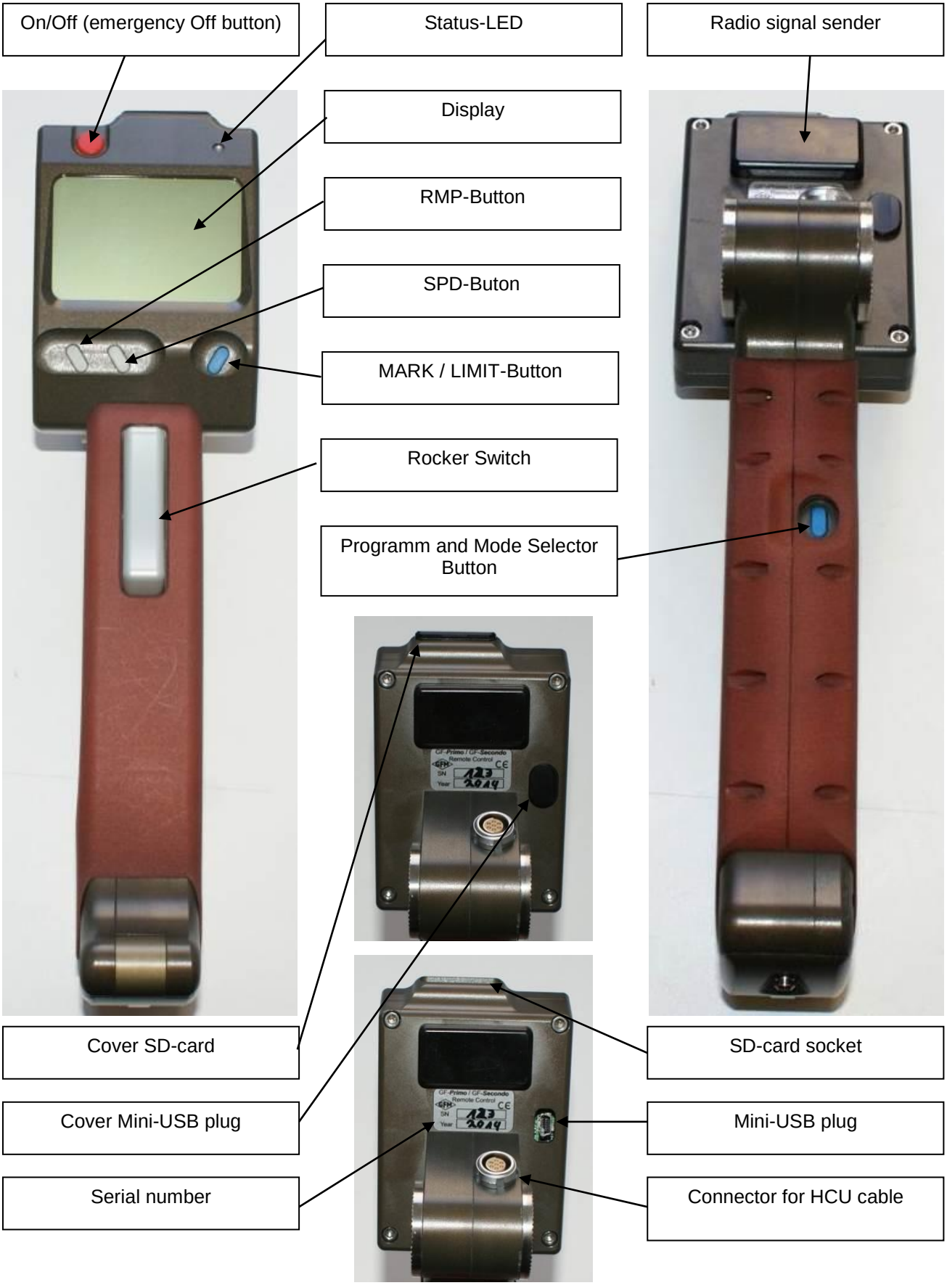
To remove the carry bars release the locking pin and pull out.

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

Attention: Crushing hazard when inserting or removing the column

4 Hand Control Unit Components

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



Handle Rosette

Exchangeable HCU cover

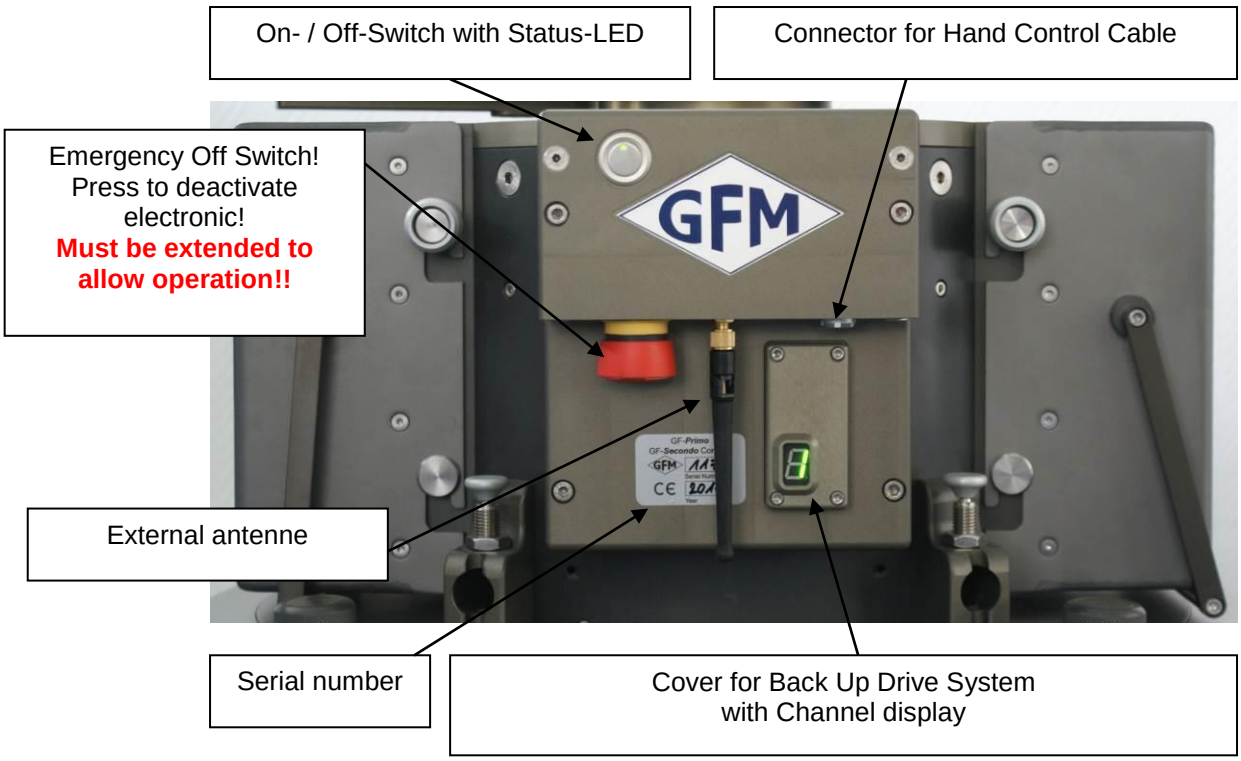
Battery cover

Battery cover lock

HCU battery

5 Electronic Unit Components

The following describes the electronic components:.



6 Before operating the HCU and the Dolly

When the dolly arrives from the factory the HCU and electronic unit will already be paired and set up to be switched on in either Wireless Mode or with Cable connection. The column will already be calibrated

Should the original HCU or electronic be replaced, the new units must be paired i.e. connected with each other. Please refer to section " 9 Pairing the HCU and electronic unit"

Check the following before operating the dolly:

- In both cable and wireless mode, ensure that the HCU battery is fully charged and inserted into the HCU.
- Check that the external antenna is inserted and connected correctly.
- Emergency Off Switch must be off (extended).
- The dolly wheel arms must be extended to the widest position
- The complete lift and panning range of the dolly/jib must be clear of obstructions

7 Activating the HCU and the Dolly

The GF-***Primo*** and GF-***Secondo*** Dolly can be operated via cable or in wireless mode.

7.1 Activating wirelss mode

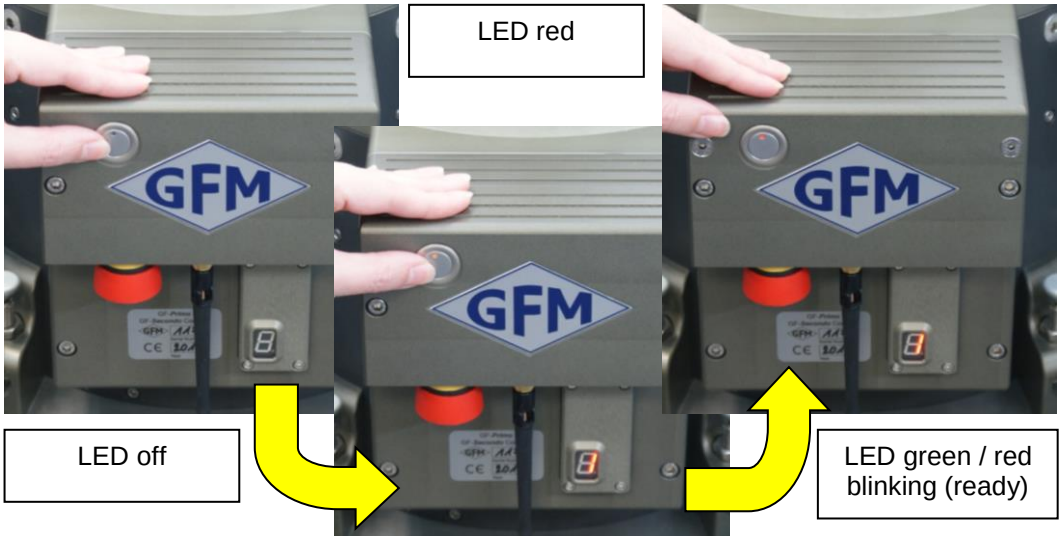
To operate the dolly in wireless mode proceed as follows:

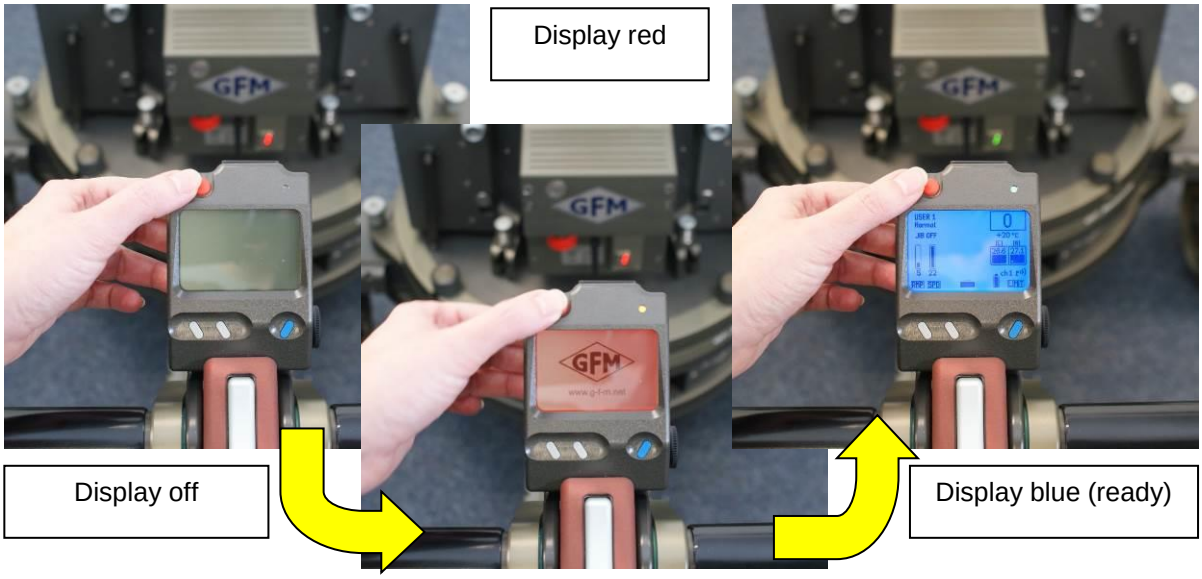
Attention: The Dolly only functions if the HCU and electronic unit are paired. As soon as either unit is replaced it must be paired with the other unit. Please refer to section " 9 Pairing the HCU and electronic unit"

The electronic and HCU must be tuned to the same channel and will be pre-set by the factory to the same channel. If however, 2 different channels are selected please refer to „section 8, Synchronizing the wireless channels" ,

Switch on the units in the following order:
First the electronic unit on the column and then the HCU by pressing the on/off buttons.

Note: Shortly after switching on, the LED on the electronic will blink alternatively from red/green. The HCU Display and the LED on the HCU will show up in red. After approx.. 2 seconds both LEDs will turn green and the HCU display will alight in blue.





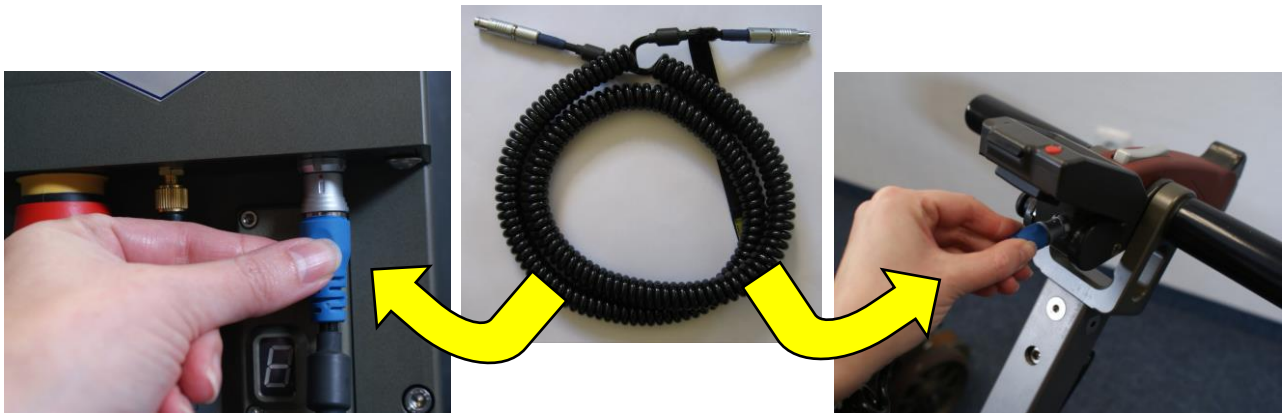
Attention: When the HCU is switched off, the electronic is also automatically switched off. To switch on again, repeat the above (first switch on the electronic then the HCU.

As soon as both units are activated, operation can proceed.

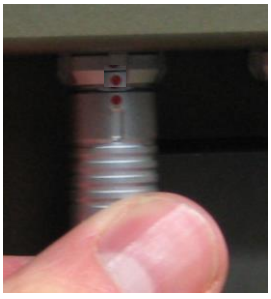
7.2 Activating in cable mode

To operate the dolly in cable mode proceed as follows:

Connect the HCU and electronic unit with the delivered HCU cable by inserting the connectors on the HCU cable into the connectors on the HCU and electronic unit.



Marking on Fischer Plug



Tip: As a reference use the alignment markings on the „Fischer“ Connectors to insert correctly
.

Activate the dolly by pressing the on/off button on the HCU.

Info: Shortly after switching on, the LED on the electronic will blink alternatively from red/green. The HCU Display and the LED on the HCU will show up in red. After approx.. 2 seconds both LEDs will show green and the HCU display will alight in blue.

As soon as both units are activated, operation can proceed.

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

8 Synchronising the wireless channels

To operate the dolly in wireless mode the electronic and the HCU must be set on the same channel will be pre-set by the factory when first delivered. If however, the channels are not matching because, perhaps, a replacement HCU is used it is essential to pair both units to one channel.
Synchronising the channels can be done in cable or wireless mode.

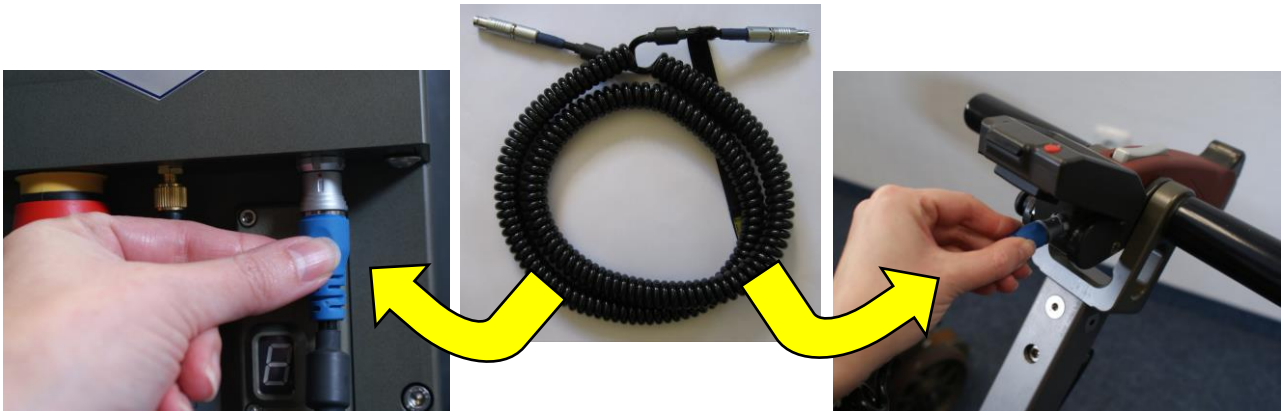
8.1 Synchronising the channels in cable mode

Synchronising in cable mode has the following advantages:

- The wireless channels will be synchronised automatically
- Electronic and HCU will be paired to each other

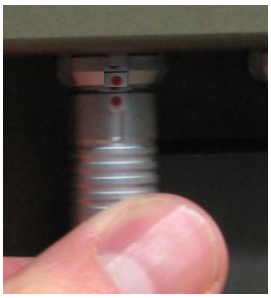
Proceed as follows:

Connect the HCU and electronic unit with the delivered HCU cable by inserting the connectors on the HCU cable into the connectors on the HCU and electronic unit



Cable connection Dolly - HCU

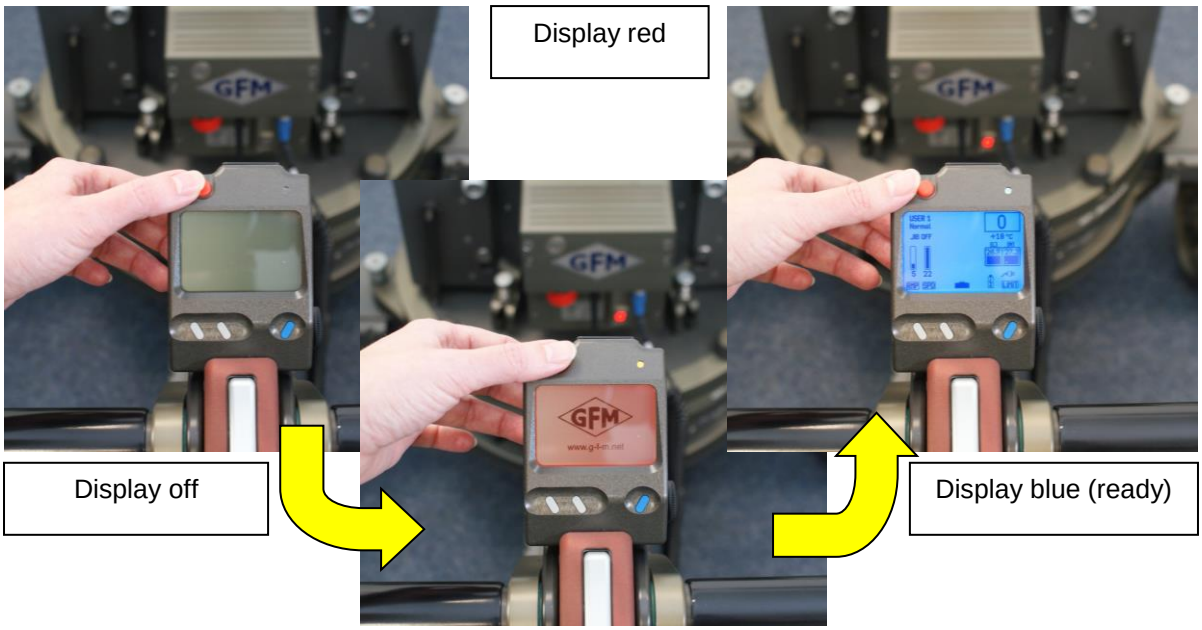
Marking Fischer Plug



Tip: As a reference use the alignment markings on the „Fischer“ Connectors to insert correctly

Activate the dolly by pressing the on/off button on the HCU.

Info: Shortly after switching on, the LED on the electronic will blink alternatively from red/green. The HCU Display and the LED on the HCU will show up in red. After approx.. 2 seconds both LEDs will show green and the HCU display will alight in blue.
Both the electronic unit and HCU now exchange identification numbers, excepting the respective data.



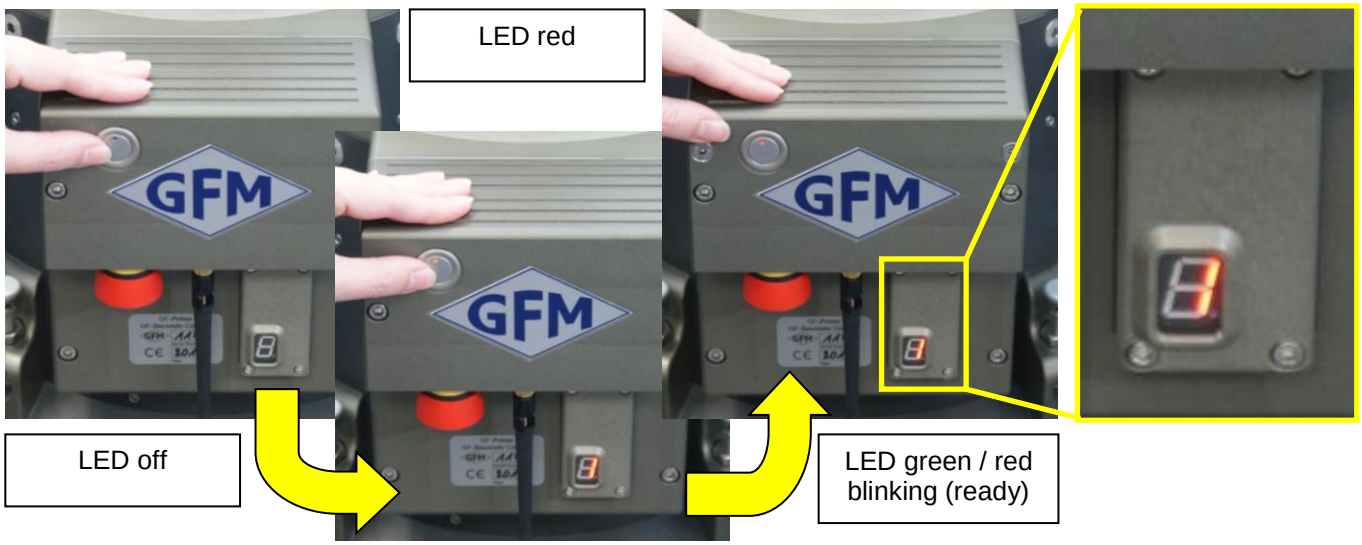
Display red

Display off

Display blue (ready)

8.2 Synchronising the channels in wireless mode

Activate the electronic unit and the current channel number will be shown as follows:



Now switch on the HCU.

To change the channel enter the following key combination:

Press and hold the RMP button.

Press the on/off button on the HCU quickly.

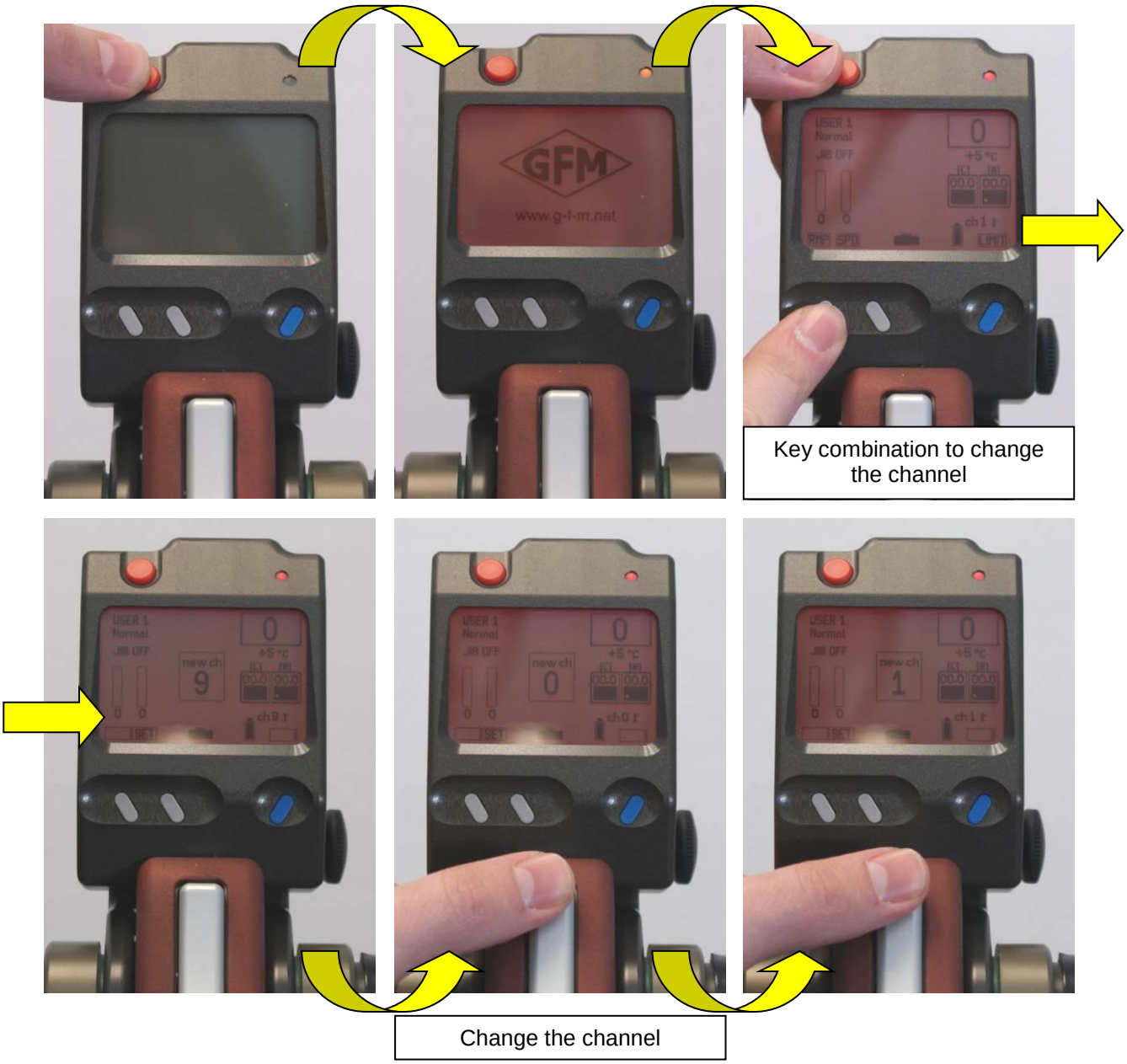
Now the present channel number will be shown.

The channel can be changed by pressing the Rocker Switch on the HCU in the respective direction.

Info: Switching to a new channel takes about 1 or 2 seconds to memorize. When the new channel is ready the number will be shown on the HCU display beside the antenna symbol.

When the correct channel is selected, press the set button to memorize.

Both HCU and electronic unit are now on the same channel (e.g. Channel 1)


GFM
www.g-f-m.net
Key combination to change the channel
Change the channel

9 Pairing the HCU and Electronic unit

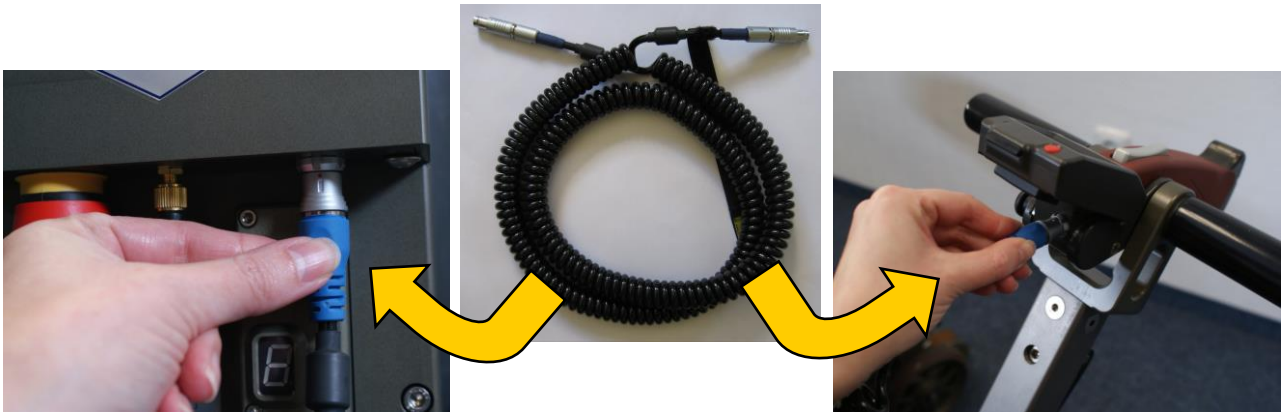
9.1 Pairing via cable:

To operate the dolly in wireless mode the electronic and the HCU must be paired. This will be pre-set by the factory when the dolly is first delivered. If however, the units are not matching because, perhaps, a replacement HCU is used it is essential to pair both units to each other.
Pairing the units can be done in cable or wireless mode.

Attention: The Dolly will only function when the HCU and electronic unit are paired. If either unit is swapped or exchanged the units must be newly paired!

To pair the HCU and electronic proceed as follows:

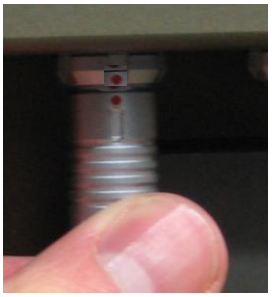
Connect the HCU and electronic unit with the delivered HCU cable by inserting the connectors on the HCU cable into the connectors on the HCU and electronic unit



Cable connection

Cable connection Dolly - HCU

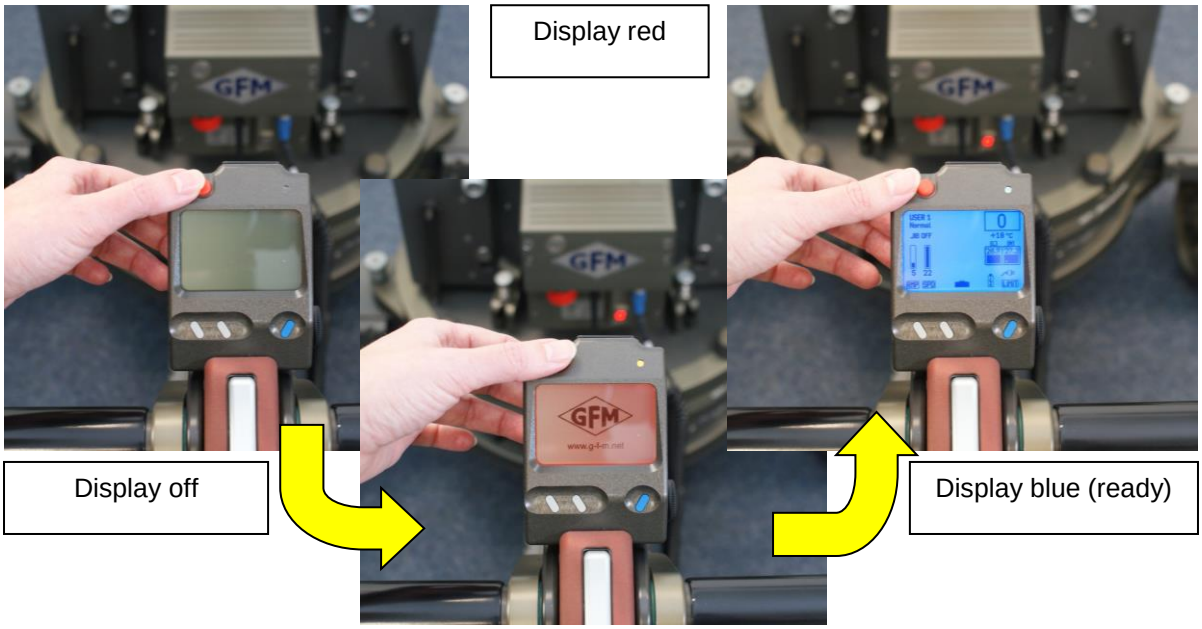
Marking Fischer Plug



Tip: As a reference use the alignment markings on the „Fischer“ Connectors to insert correctly

Activate the dolly by pressing the on/off button on the HCU

Info: Shortly after switching on, the LED on the electronic will blink alternatively from red/green. The HCU Display and the LED on the HCU will show up in red. After approx.. 2 seconds both LEDs will show green and the HCU display will alight in blue.
Both the electronic unit and HCU now exchange identification numbers, excepting the respective data.



9.2 Pairing in wirelss mode

Pairing the HCU and electronic can also be done in wireless mode. Both units must be tuned to the same channel. If they are not please see the section “8 Synchronising the channels”.

Info: If the HCU and electronic are already paired in cable mode, they do not require additional pairing in wireless mode.

Proceed as follows:

Press and hold the LIMIT-button pressed, the switch on the HCU by pressing the ON/OFF button.

GET NEW DOLLY – will appear on the display. The dolly electronic should be switched off.

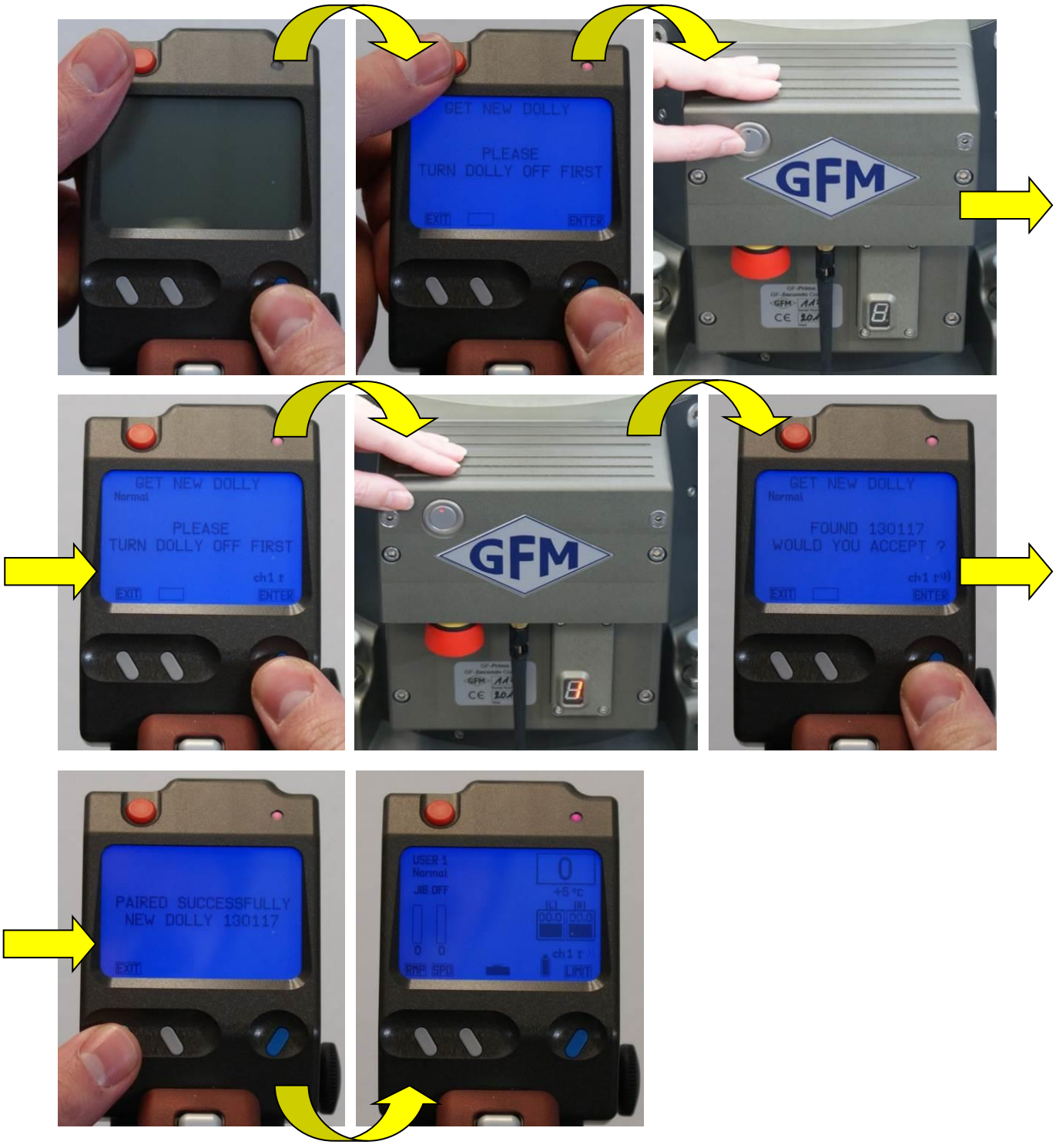
Confirm that the electronic is switched off and press the ENTER button.

Now switch on the electronic.

The HCU display will show „FOUND DOLLY WOULD YOU ACCEPT“.

Confirm by pressing the ENTER-button.

A successful pairing will be confirmed by „PAIRED SUCCESSFULLY NEW DOLLY“showing on the HCU display. Then press EXIT.


GET NEW DOLLY
PLEASE
TURN DOLLY OFF FIRST
EXIT
ENTER
GFM
GET NEW DOLLY
Normal
PLEASE
TURN DOLLY OFF FIRST
EXIT
ENTER
GFM
GET NEW DOLLY
Normal
FOUND 130117
WOULD YOU ACCEPT ?
EXIT
ENTER
PAIRED SUCCESSFULLY
NEW DOLLY 130117
EXIT
USER 1
Normal
JIB OFF
0
RMP
SPD
LIMIT

10 Calibrating the column

When and why the column may require calibration

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

Why the column must be calibrated:

After one of the above mentioned cases the column must be calibrated to ensure a perfect column movement within the set travel range.

Attention: If the column is not calibrated, it is possible that it may drive to the top or bottom limits and in turn damage mounted equipment.

Tip: When operating the column observe the digital display, indicating the movement of the column. Before the take, firstly, drive through the lift range of the move at a slow speed first.

10.1 Calibration procedure

The column may be calibrated in cable or wireless mode

10.1.1 Calibrating the column in cable mode

Proceed as follows

Attention: During calibration the column must not be loaded. Calibrate only when there is not equipment mounted on the column!

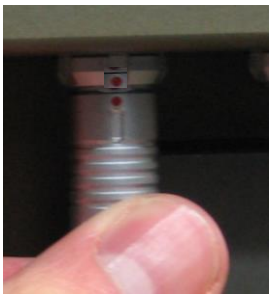
Attention: During calibration the columns lift range will be driven through and set. The column will drive slowly to the bottom position and then to the top position and finally return to the starting position. Before starting, ensure that the column's lift rage is in no way obstructed!

Connect the HCU and electronic unit with the delivered HCU cable by inserting the connectors on the HCU cable into the connectors on the HCU and electronic unit

Cable connection

Cable connection Dolly - HCU

Marking Fischer Plug



Tip: As a reference use the alignment markings on the „Fischer“ Connectors to insert correctly

Press and hold the SPD-button, then switch the column on by pressing the ON/OFF button on the HCU whilst holding the SPD button pressed.

Info: In cable mode the column is switched on from the HCU.

As soon as the HCU LED is on the SPD-button can be released.

The Display shows „CAL DOLLY“.

Press the CAL button (RMP) button to begin calibrating.

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

During calibration the column will drive slowly to the bottom position and then to the top position and finally return to the starting position and the display will show “PLEASE WAIT”. When the display shows “DONE” press the EXIT button to leave the calibration mode.

Tastenkombination zum Kalibrieren des Dolly

10.1.2 Calibrating the column in wireless mode

The column may be calibrated in wireless mode

Proceed as follows

Attention: During calibration the column must not be loaded. Calibrate only when there is not equipment mounted on the column!

Attention: During calibration the columns lift range will be driven through and set. The column will drive slowly to the bottom position and then to the top position and finally return to the starting position. Before starting, ensure that the column's lift rage is in no way obstructed!

Attention: The Dolly will only function when the HCU and electronic unit are paired. If either unit is swapped or exchanged the units must be newly paired!

Switch on the electronic unit by pressing the ON/OFF button on the housing.

As soon as the electronic is activated (LED is blinking red/green), press and hold the SPD-button on the HCU.

Then switch the column on by pressing the ON/OFF button on the HCU whilst holding the SPD button pressed.

As soon as the HCU LED is on the SPD-button can be released.

The Display shows „CAL DOLLY".

Info: To stop the calibration procedure press either EXIT or the ON/OFF button on the HCU.

Attention: When the HCU is turned off it automatically turns of the electronic unit too. To turn back on follow the described procedure again i.e. first turn on the electronic unit, then the HCU..

Press the CAL button (RMP) button to begin calibrating.

Attention: During calibration the columns lift range will be driven through and set. The column will drive slowly to the bottom position and then to the top position and finally return to the starting position. Before starting, ensure that the column's lift rage is in no way obstructed!

During calibration the column will drive slowly to the bottom position and then to the top position and finally return to the starting position and the display will show "PLEASE WAIT". When the display shows "DONE" press the EXIT button to leave the calibration mode.

Tastenkombination zum Kalibrieren des Dolly

11 Operating the Hand Control Unit (HCU)

The following explains how to use the HCU.

Info: The HCU can only be used when switched on and when paired with the respective dolly / electronic!

11.1 HCU Settings

The HCU display shows you various settings and provides information such as the following:

- User settings for individual operators or changing from settings
- Display settings such as brightness, contrast, selecting column movement in mm or imperial
- Information about the Dolly

To select the menu proceed as follows:

Ensure that the HCU and column are connected (refer to chapter 7, Activating the HCU and the Dolly).

Simultaneously press the RMP and SPD buttons. This will open the menu.

Attention: The menu can only be accessed in NORMAL mode.
The different modes are described in chapter „11.3. Special HCU modes

Button combination for Menu

Scroll through the various menu points by using the Rocker Switch to go up or down.

Pressing the ENTER buttom will open the respective menu point.

11.1.1 Explanation of the menu points

11.1.1.1 Sub-menu point USER

Scroll to the menu point USER and confirm by pressing ENTER to activate the sub-menu SEL USER (Select USER).

Menu selection USER

There are 4 USER‘s to choose from. Each USER can individualise settings such as LIMIT and MARKER as well as Ramps and Speeds.

To change the USER proceed as follows:

Select the respective USER with the Rocker Switch.

Confirm by pressing ENTER.

Return to NORMAL mode by pressing the EXIT button and backtracking through the menus.

11.1.1.2 Sub-menu point DISPLAY

Use the Rocker Switch to select DISPLAY and confirm by pressing.

Now it is possible to select the preferred contrast, brightness of the display on the HCU and electronic as well as setting measurements to percentage, metric or imperial.

Measuring units:
The columns travel may be measured in:

IMPERIAL = inches, feet (ft)
METRIC = Millimetre (mm)
PERCENT = percentage %

Setting the measurement unit

To change the measurement unit proceed as follows:

Using the Rocker Switch, select the sub-menu point UNIT and confirm by pressing ENTER.

In the sub-menu area UNIT, select either feet, millimeter or percentage by scrolling with the Rocker Switch and confirming by pressing ENTER.

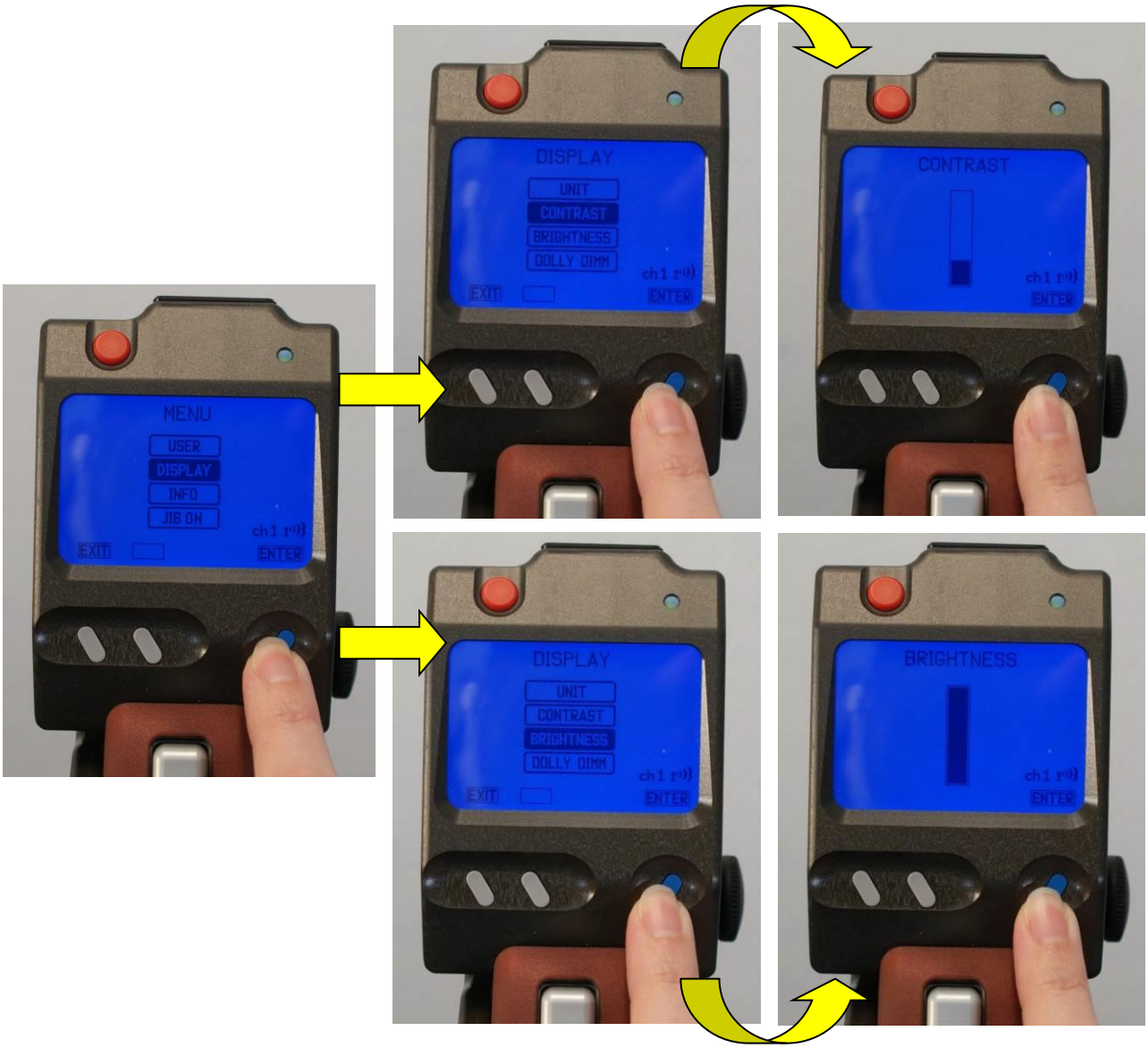
Return to NORMAL mode by pressing the EXIT button and backtracking through the menus.

Setting the display's contrast and brightness:
In the sub-menu CONTRAST or BRIGHTNESS the settings can be changed. Proceed as follows:

Using the Rocker Switch, select the sub-menu point CONTRAST or BRIGHTNESS and confirm by pressing ENTER.

By pressing the Rocker Switch up or down the intensity of the displays contrast or brightness can be adjusted, Confirm by pressing ENTER.

Return to NORMAL mode by pressing the EXIT button and backtracking through the menus.



Setting brightness and contrast

Setting the brightness of the electronics display:
The brightness of the display on the electronic can be set in sub-menu DOLLY DIMM. Proceed as follows:

Using the Rocker Switch, select the sub-menu point DOLLY DIMM and confirm by pressing ENTER.

By pressing the Rocker Switch up or down the intensity of the displays brightness can be adjusted, Confirm by pressing ENTER.

Return to NORMAL mode by pressing the EXIT button and backtracking through the menus.

11.1.1.3 Sub-menu INFO
Scroll with the Rocker Switch and select the sub-menu point INFO. Confirm by pressing ENTER.

Here it is possible to check the HCU's software version, the WORKTIME (switched on time) and the RUNTIME (amount of column movement) and the strength of the wireless radio signal.

SOFTWARE:
In the sub-menu SOFTWARE the current HCU software version can be checked. Proceed as follows:

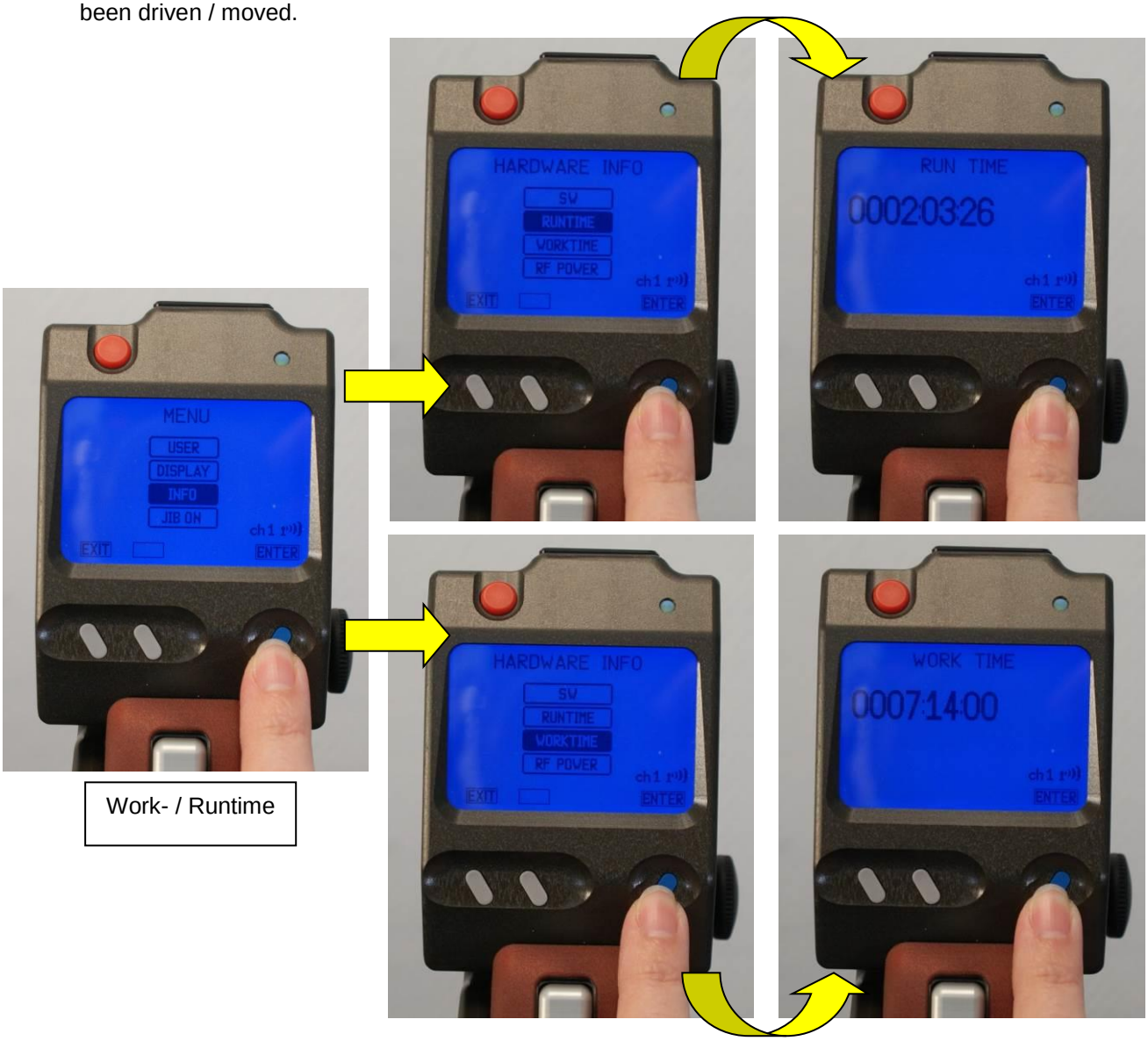
Selecting Info

Using the Rocker Switch, select the sub-menu point SOFTWARE and confirm by pressing ENTER.

The current HCU and electronic software version will be shown.

Return to NORMAL mode by pressing the ENTER button and backtracking through the menus.

WORK- / RUNTIME:
WORKTIME is the time the dolly has been switched on and RUNTIME is the duration the column has been driven / moved.



Work- / Runtime

To check the WORK- or RUNTIME proceed as follows:

Using the Rocker Switch, select the sub-menu point WORK- or RUNTIME and confirm by pressing ENTER.

The selected WORK- or RUNTIME will be shown on the display.

Return to NORMAL mode by pressing the EXIT button and backtracking through the menus.

Wireless signal (RF POWER)
RF POWER or signal strength can be adjusted from range 1 (normal distance or mild signal strength) up to step 4 (for longer distance or strong signal strength). We recommend step 1 or 2.

To adjust or set the RF Power proceed as follows:

Using the Rocker Switch, select the sub-menu point RF Power and confirm by pressing ENTER.

Use the Rocker Switch to increase or decrease the range within 1 to 4.

Return to NORMAL mode by pressing the ENTER button and backtracking through the menus.

11.1.1.4 Sub-menu point JIB ON / JIB OFF

The JIB ON / JIB OFF mode enables the selection of a special jib-arm mode, specifically for use with the GF-Primo Jib. JIB ON must be selected when using the GF-Primo Jib. By doing so, a range of preselected speeds and ramps will be activated to ensure a safe jib arm operation. The maximum speed is reduced to speed 9 whereby the ramp range is restricted to begin at ramp 14. The JIB ON mode will be indicated by a flashing „JIB ON“ and dolly with jib-arm symbol on the HCU display. To leave JIB ON mode, select JIB OFF in the menu and confirm by pressing ENTER.

11.2 General HCU functions

The following describes general functions such as selecting various speed and ramp settings.

11.2.1 Setting Ramps RMP and Speed SPD

A Ramp is the strength of acceleration and deceleration of column when starting or ending a movement. The higher the value or number, the softer the start or stop is. A low value such as “0” gives an abrupt start and hard stop. The ramp range is 0 to 22.
The Speed adjustment range is from 0 to 22 whereby 0 is slow and 22 the fastest speed.

For example to change from Ramp 5 to Ramp 10 Ramp proceed as follows

Selection 1: RMP 5, SPD 22

Selection 2: RMP 10, SPD 10

Press and hold the RMP button.

Press the Rocker Switch up, until 10 is reached

Release the Rocker Switch first, then release the RMP button.

To change the column speed proceed in the same manner but press the SPD button instead.

Info: The Speed and Ramp can only be changed in NORMAL, MARKER und RECORD modes. In ENTER und PLAY modes, changes are not possible.

Setting the Ramp

Setting the speed

11.3 Special HCU Modes

Via the HCU it is possible the select different dolly modes which allow a range of operational features:
LIMIT: restricts the columns lift range
MARKER: selected positions where the column will stop moving
RECORD: movement storage
PLAY: repeat of stored movement
DELETE: cancel / delete position or stored movement
The functions can be found in various operation modes and can be explained as follows:

11.3.1 The various modes

We differentiate between Standard Modes und Extended Modes. The Extended modes are only available when and SD memory card is inserted into the HCU.

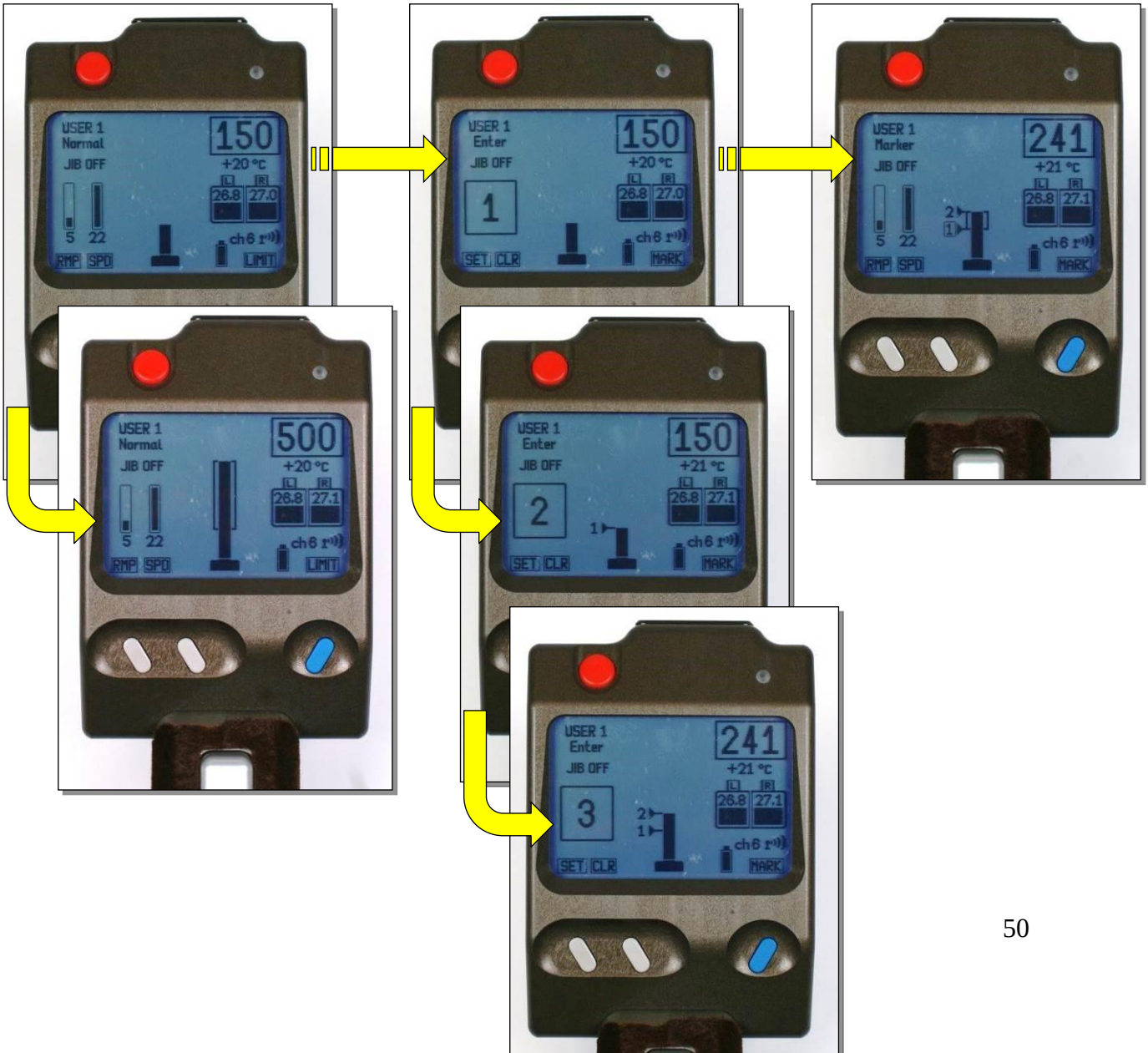
11.3.1.1 Standard Modes “NORMAL”, “ENTER” und “MARKER”:

These modes are available without an SD card.

“NORMAL”-Mode:
offers standard movement with selection of speeds and ramps. Lower and upper limits can be set (LIMIT)

“ENTER”-Mode:
Entering up to 6 Markers

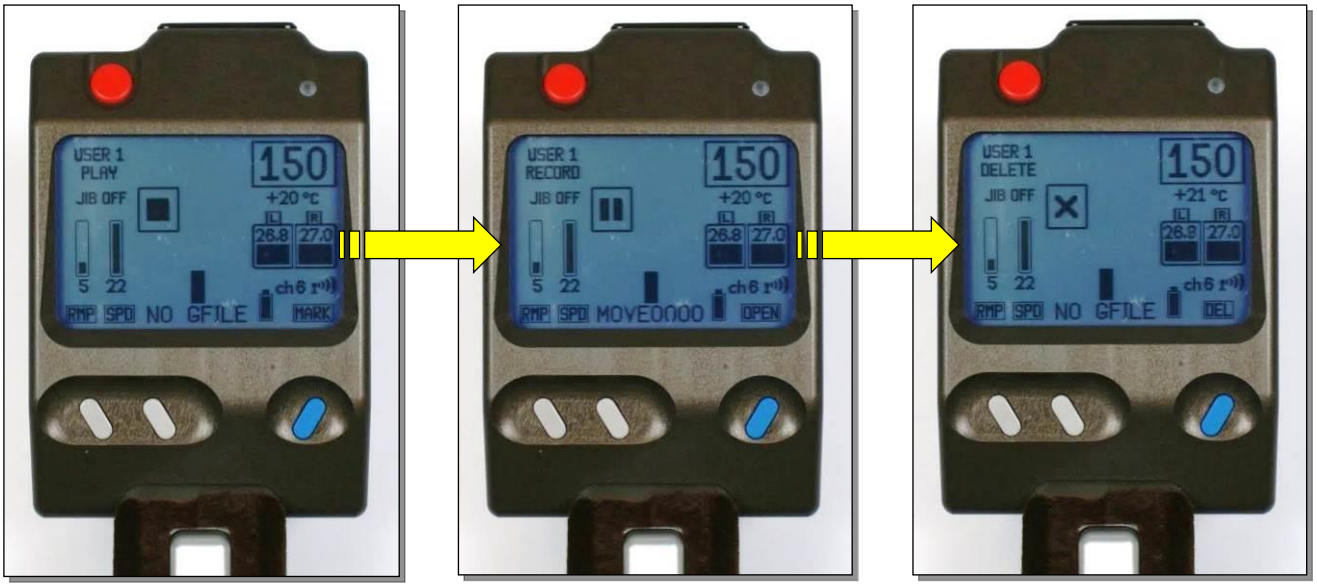
“MARKER”-Mode:
Shows the entered Markers. Variable speeds and ramps



11.3.1.2 Extended Modes “PLAY”, “RECORD” and “DELETE”:

These modes are available with an SD card only.

“PLAY” Mode:	“RECORD”-Mode:	“DELETE”-Mode:
Recorded movement can be selected and repeated / played.	A move can be recorded and stored, Variable Ramps and Speeds.	Recorded movement can be deleted.



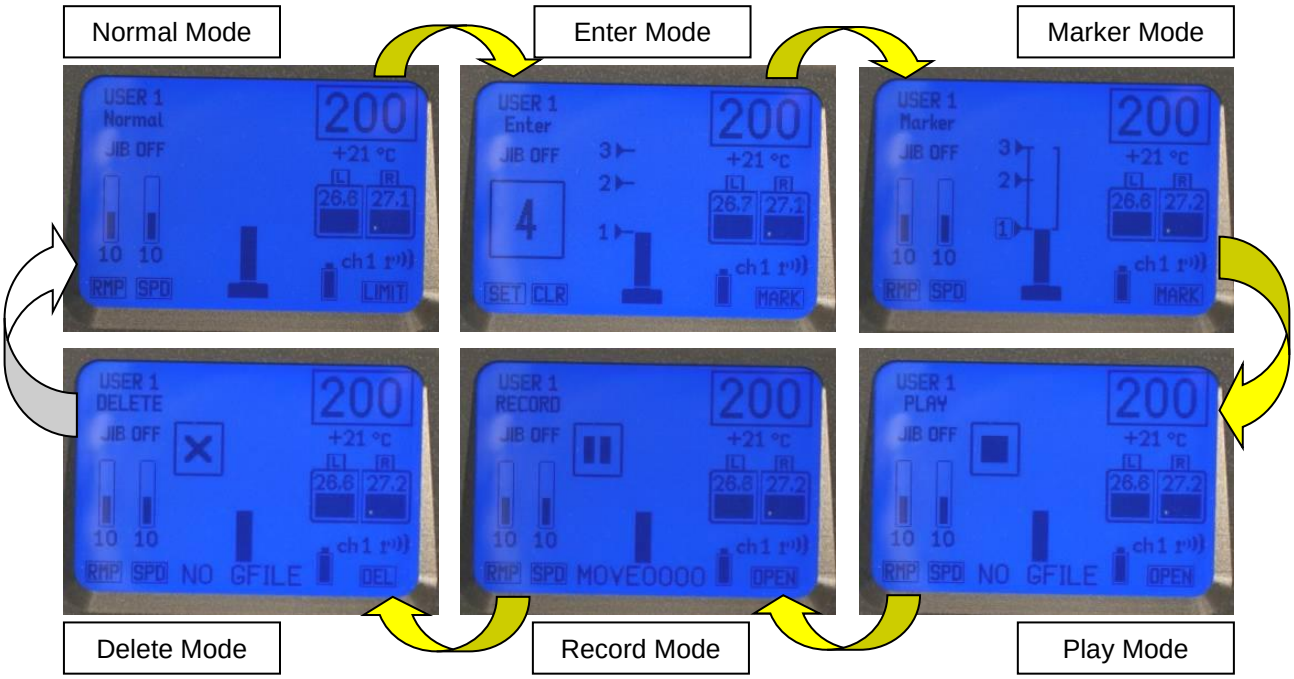
11.3.2 To change Modes

To change from one Mode to the other proceed as follows:

Info: After switching on the HCU, it will revert back to the previously selected mode.

Switch on the dolly (either in wireless or cable mode).

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



11.4 HCU Modes and the respective Display

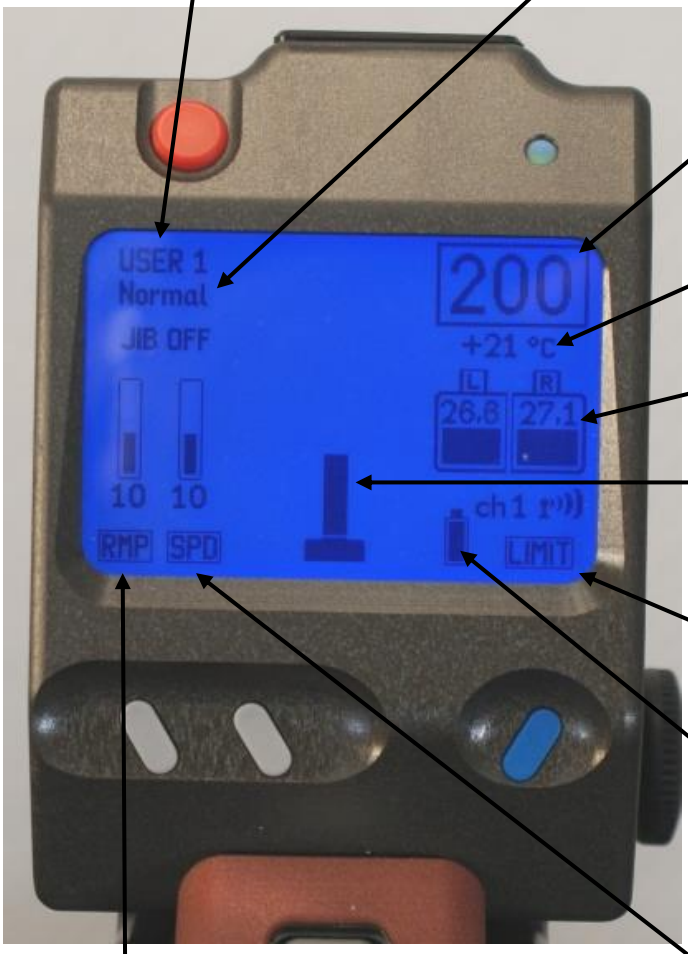
The software allows for a range of modes to be selected indicating various settings and providing specific information on the display.

11.4.1 NORMAL Mode

Offers standard movement with a selection of speeds and ramps. Lower and upper limits can be set. (For setting RMP and SPD see „11.2.1).

The complete lift range is available from 0 to 705 mm.

Here is an example of the Display in Normal Mode:



Selected User = U1
Choice of 4 users. U1 to U4,

HCU Mode

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

Motor temperature, °Celsius

Voltage of columns batteries

Column height / position

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

HCU Battery status

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

SPD = Speed (sets speed of columns travel: slow→00; fast→22)

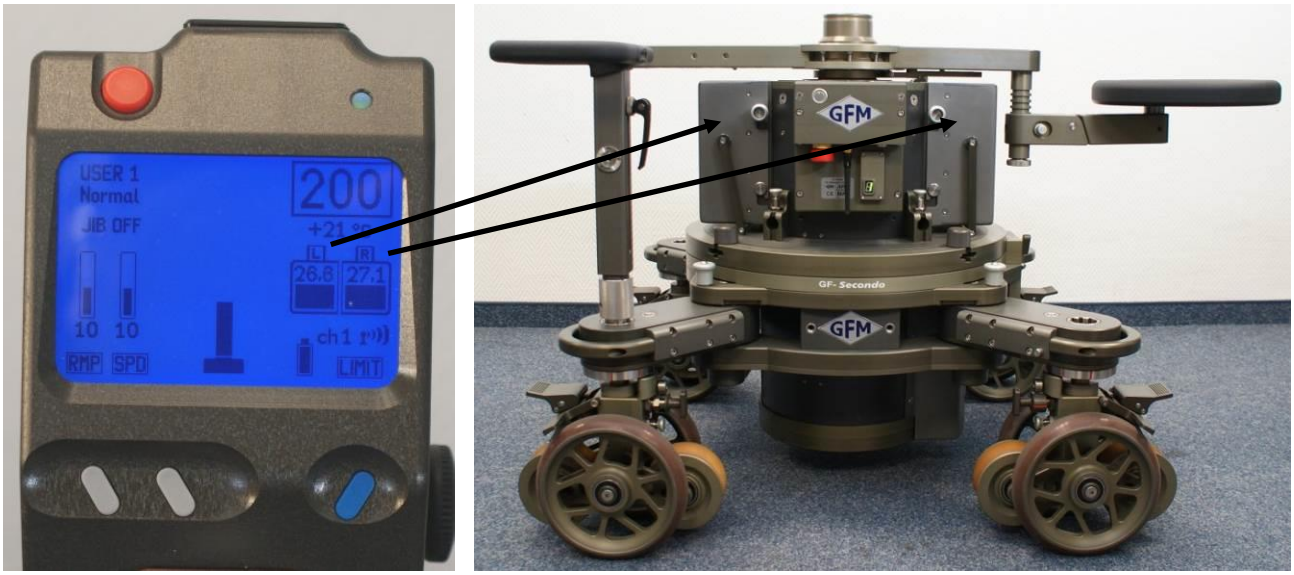
Explanation of the information shown on the Display:

Selected User:
The HCU can store 4 different USERS ⇒ U1, U2, U3, U4. Each USER can set their individual RMP, SPD, Limits as well as Markers for repeated usage. (Setting Limits see „11.4.1.1)"; setting Markers see „11.4.1.2.1").

HCU Mode:
Shows selected Mode; NORMAL, ENTER, MARKER, PLAY, RECORD or DELETE Mode.

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 %.. (See paragraph „11.1.1) 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



Battery identification

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: Overheating 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
Ramp	Hard	→ Level 00	Soft → Level 22
			(Longer acceleration and deceleration)

11.4.1.1 Setting individually adjustable LIMITs

LIMIT mode allows the columns lift range to be reset. The standard range from 0 bis 705 mm can be restricted to e.g. 200 to 500 mm.
Proceed as follows:

Position the column at the new lower position of e.g. 200 by using the Rocker Switch.

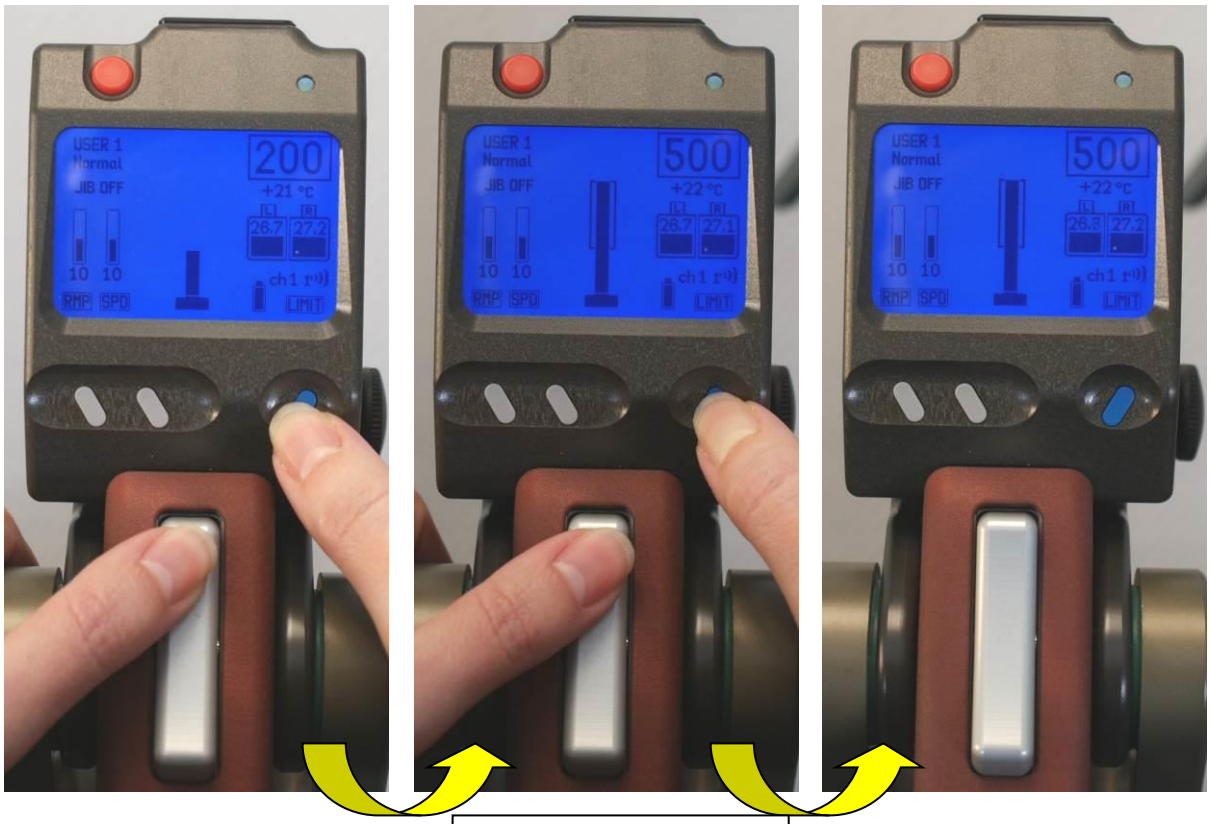
Tip: It's easier to reach the required position when using a low speed.

Upon reaching the position, press and hold the blue LIMIT button.

Use the Rocker Swich to drive to the second position, keeping the blue LIMIT button pressed.

When the second position is reached e.g. 500mm firstly release the Rocker Switch and then the blue LIMIT button.

The newly set LIMITs will be shown by a change in the Vertical Bar Display.



Setting LIMIT´s

It is also possible to set the top limit first, then the lower limit.

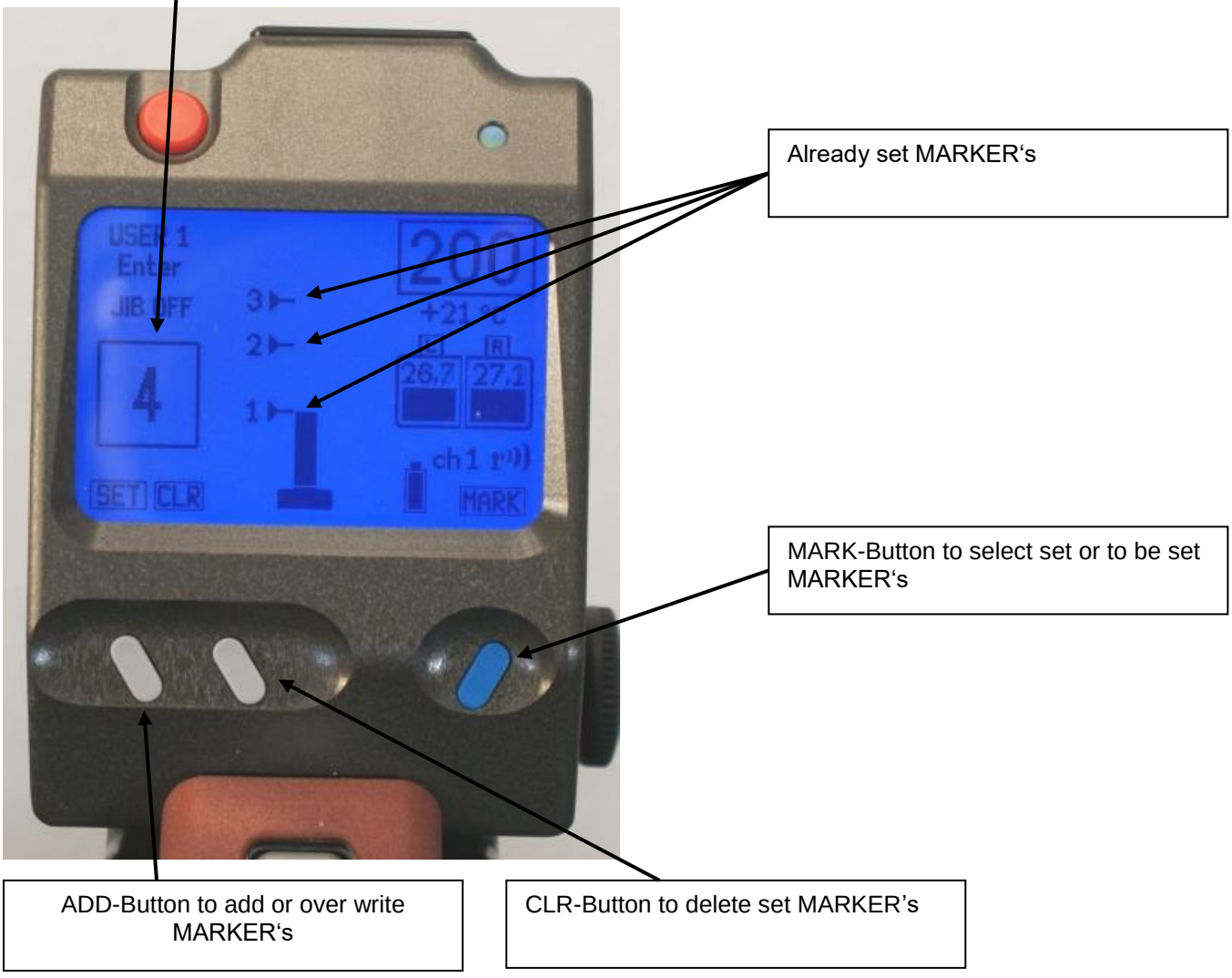
To cancel the limits press the LIMIT Button.

11.4.1.2 ENTER Mode

Entering, editing, deleting and replacing 6 Markers. Setting up the shot Im
ENTER Mode enables the storage of 6 positions / MARKERS, or their cancellation or editing.

ENTER Mode shows up differently on the display to NORMAL Mode:

- With the SET-button (in NORMAL Mode RMP) MARKERs can be set
- With the CLR-button (in NORMAL Mode SPD) set MARKERs can deleted
- with the MARK-button (in NORMAL Modus LIMIT) already set MARKERs can be selected



Explanation of the individual display symbols:

Currently selected or next MARKER:
Shows the MARKERs that can currently be set, over written or deleted.

Already set MARKER:
Shows already set MARKERs that can be over written or deleted and are indicated beside the Vertical Bar display.

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

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

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

11.4.1.2.1 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.

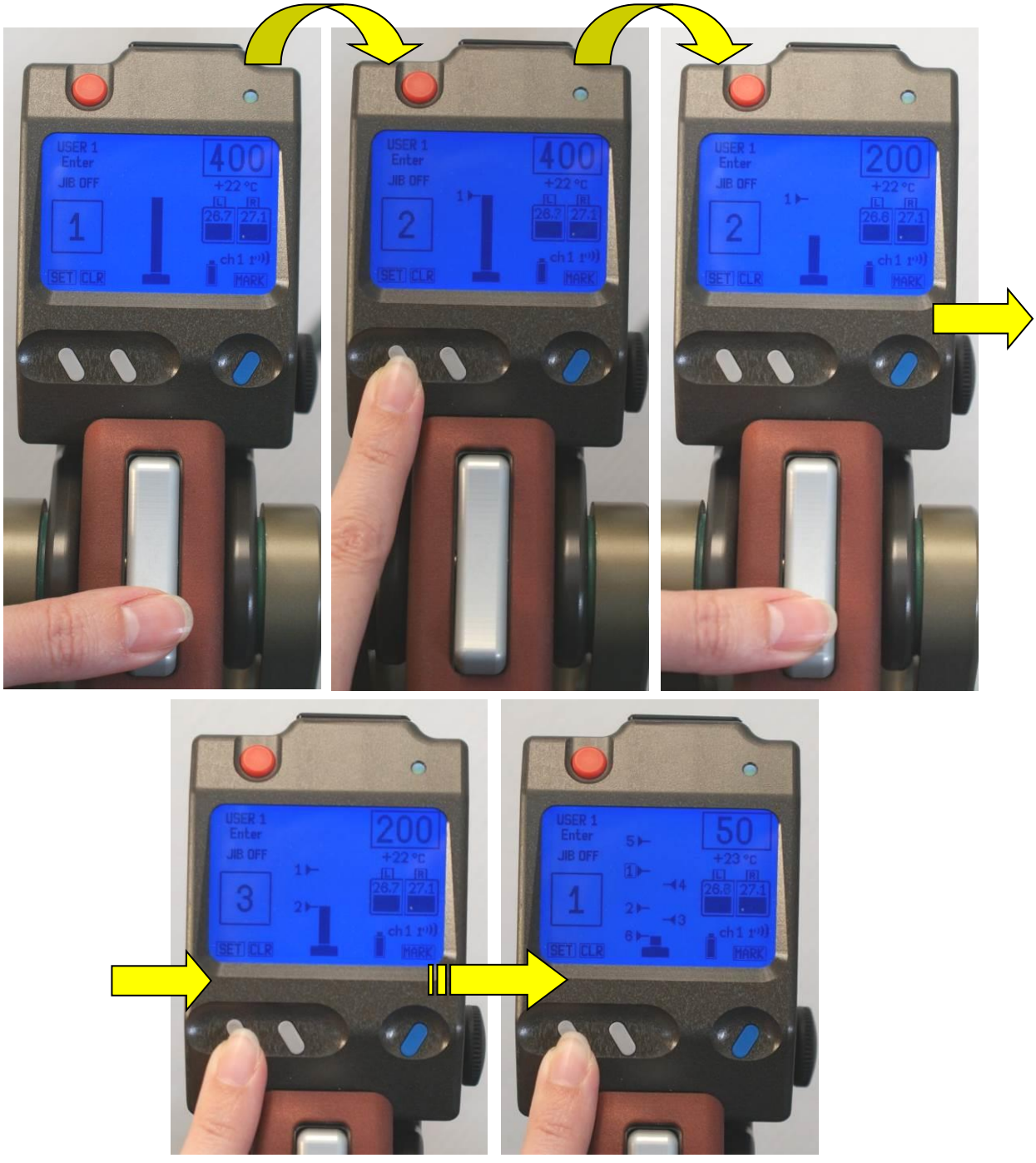
Now press the SET-Button, to allocate MARKER 1 to this position.

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 SET-Button again to allocate MARKER 2 to this position.

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



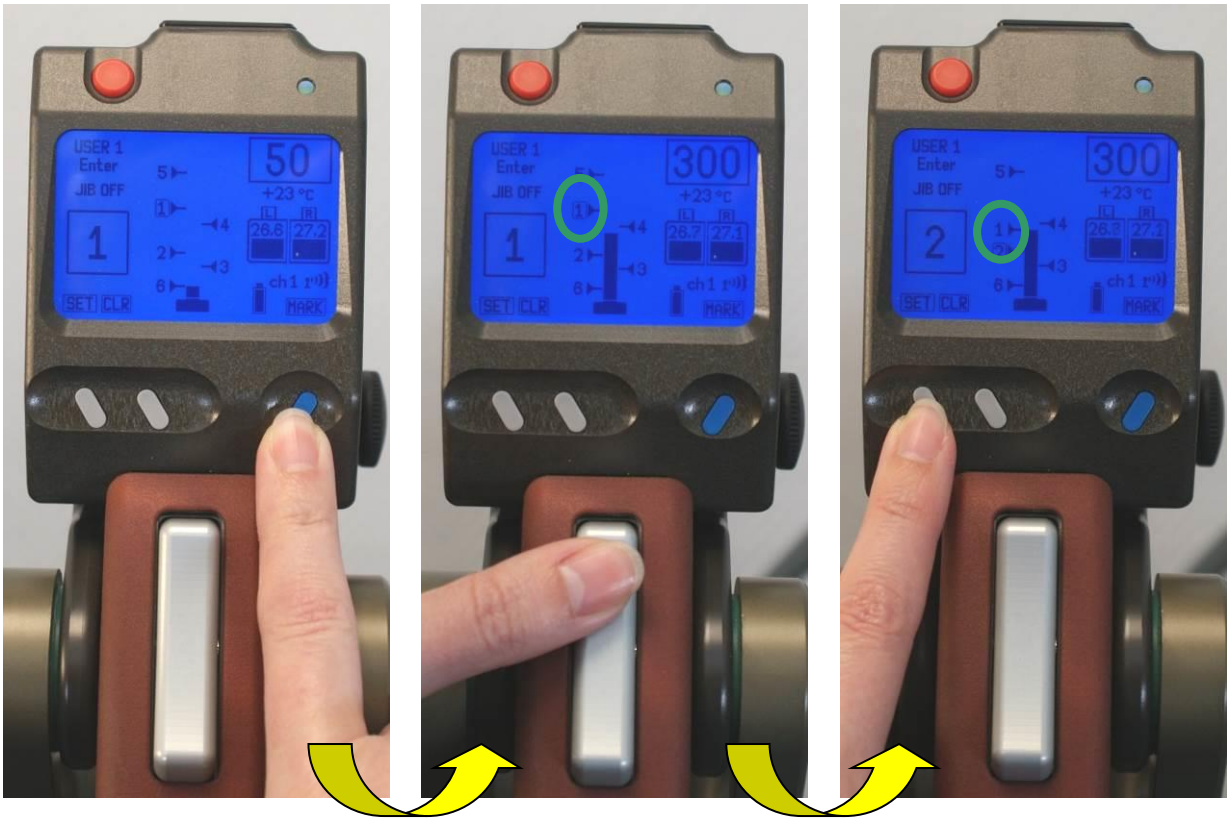
Setting MARKERs

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 400 mm)

By using the Rocker Switch drive the column to the new required height e.g. 300mm

Now press the SET-Button to reset the MARKER 1 from 400mm to 300mm.



Over writing the set MARKER

Setting MARKERs in a non-numerical order:
Markers must not necessarily be set in a numerical order:

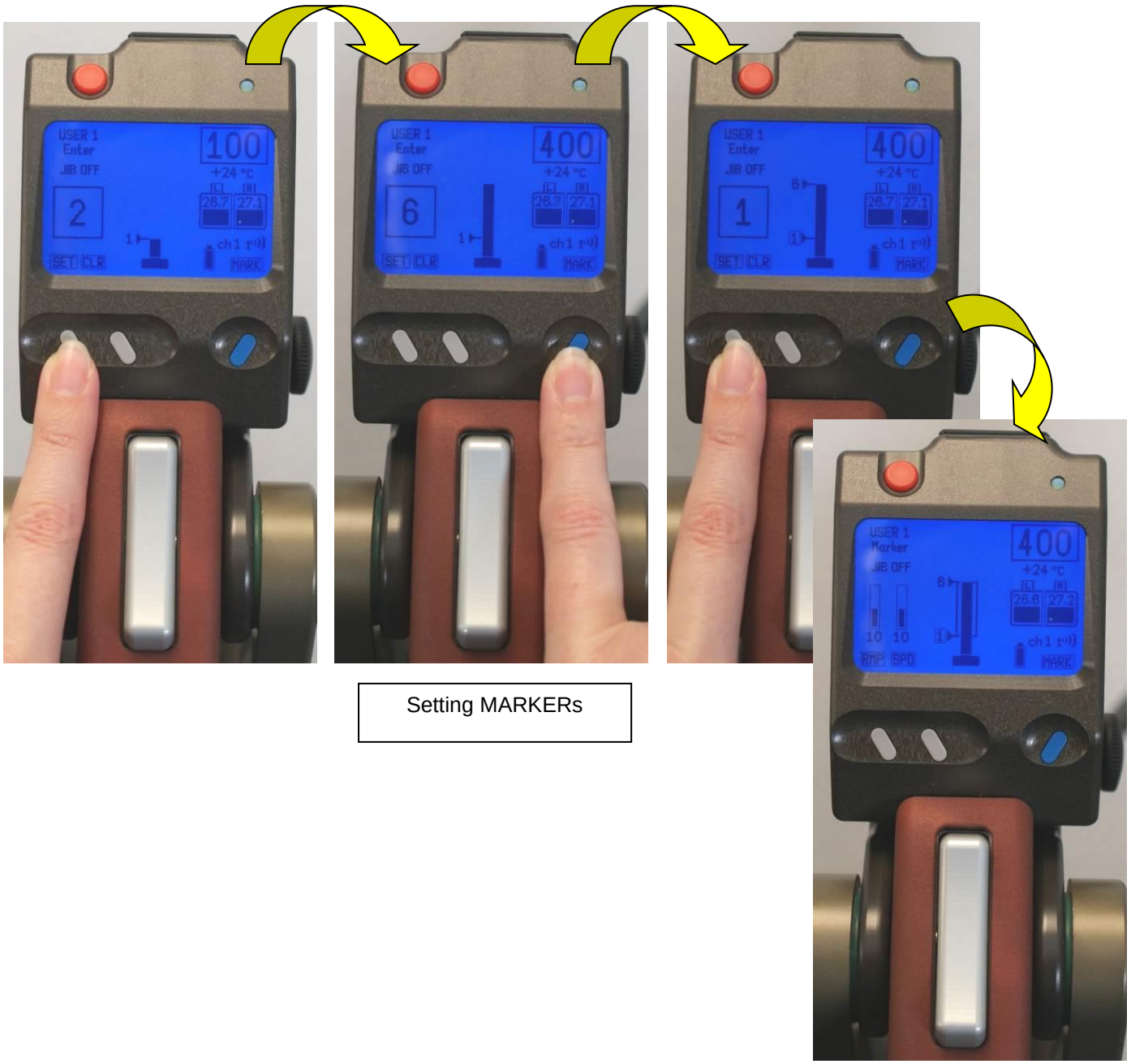
Press the MARK-key until the required MARKER shows on the display as the currently selected MARKER.

Using the Rocker Switch, drive the column to the required height.

Now press the SET-button, to allocate the selected number as the specific MARKER.

The next digit in sequence will become the following MARKER. Should wish to select a different number as the MARKER, press the MARK button to skip the next digit.

The remaining MARKERs can be set as described.
In this manner it is possible to set, for example the MARKER 1 and MARKER 6.



Setting MARKERs

Deleting MARKERs:
To delete set MARKERs proceed as follows:

By pressing the MARK button, scroll to the MARKER that will be deleted, e.g. MARKER 4.

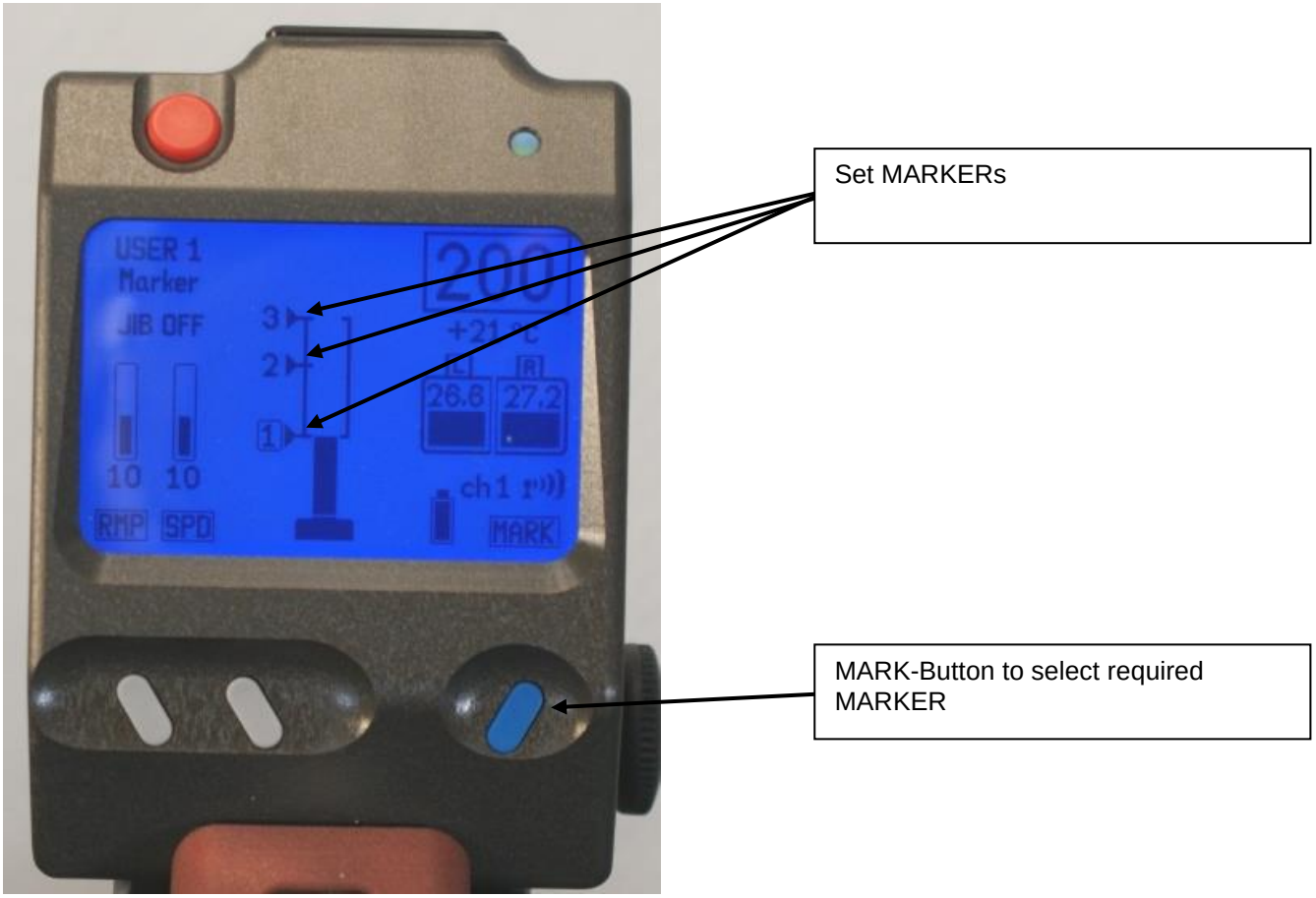
To delete the selected MARKER press the CLR-button.

Deleteing MARKERs

Info: The deleted MARKER position must not necessarily be repositioned as the software recognizes that there is a digit missing and during the movement will show the next available MARKER. In our case 3 to 5.

11.4.1.3 MARKER Mode

In Marker 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 MARKER Mode
In MARKER 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.

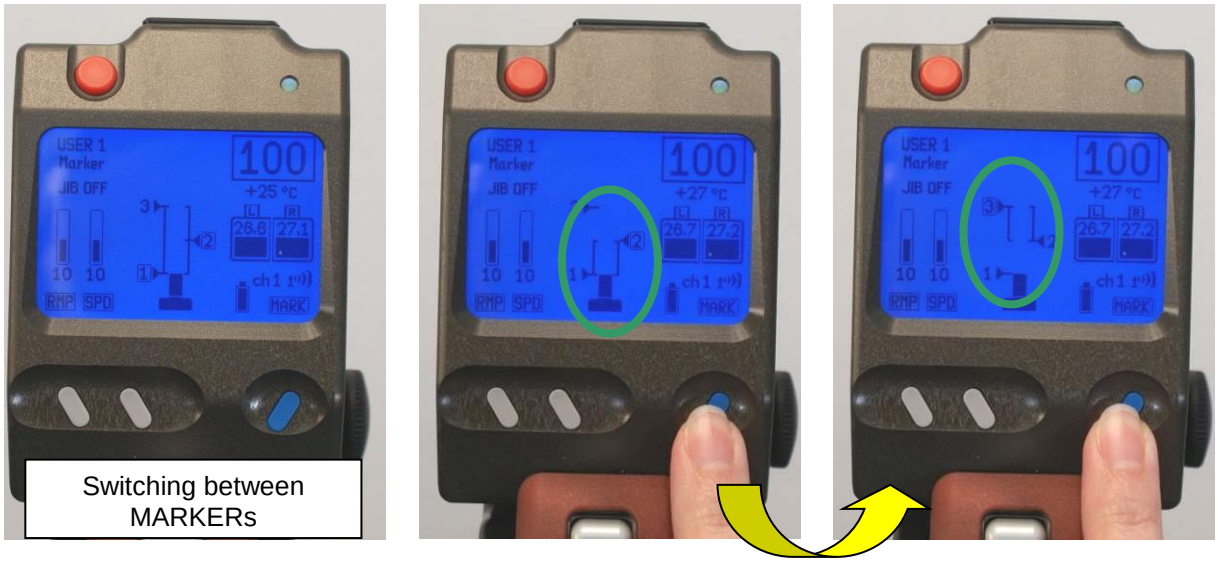
Settings such as Speed and Ramp are accessible and even different Speeds and Ramps can be selected between the various positions.

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.



Switching between MARKERs

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 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.

11.4.1.4 Mode PLAY, RECORD and DELETE

To access the Mode's PLAY, RECORD and DELETE an SD-Card is required.

Inserting the SD-card

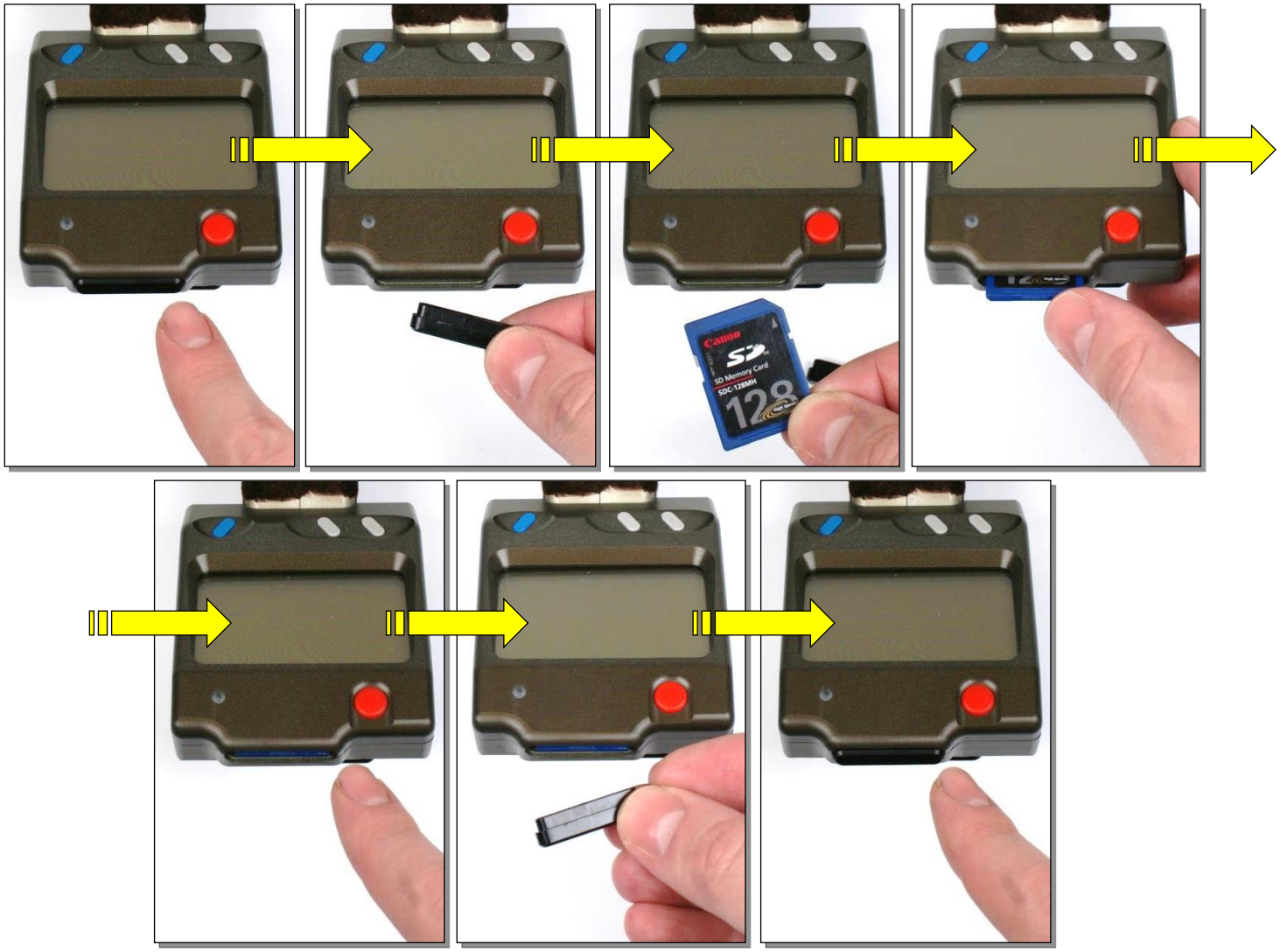
To insert the card proceed as follows:

Remove the CS card cover

Insert the card fully until it clicks into position.

Replace the cover.

INFO: The cover has a groove on one side. The groove should be facing away from the HCU display.



11.4.1.4.1 RECORD Mode – Recording a movement sequence

Attention: Before recording, ensure that the complete liftrange of the column is clear from obstructions.

Proceed as follows:

In NORMAL Mode, set the required RMP and SPD and move the column to the required position e.g. 150mm.

Change to RECORD mode by pressing the mode selector button on the underneath of the HCU.

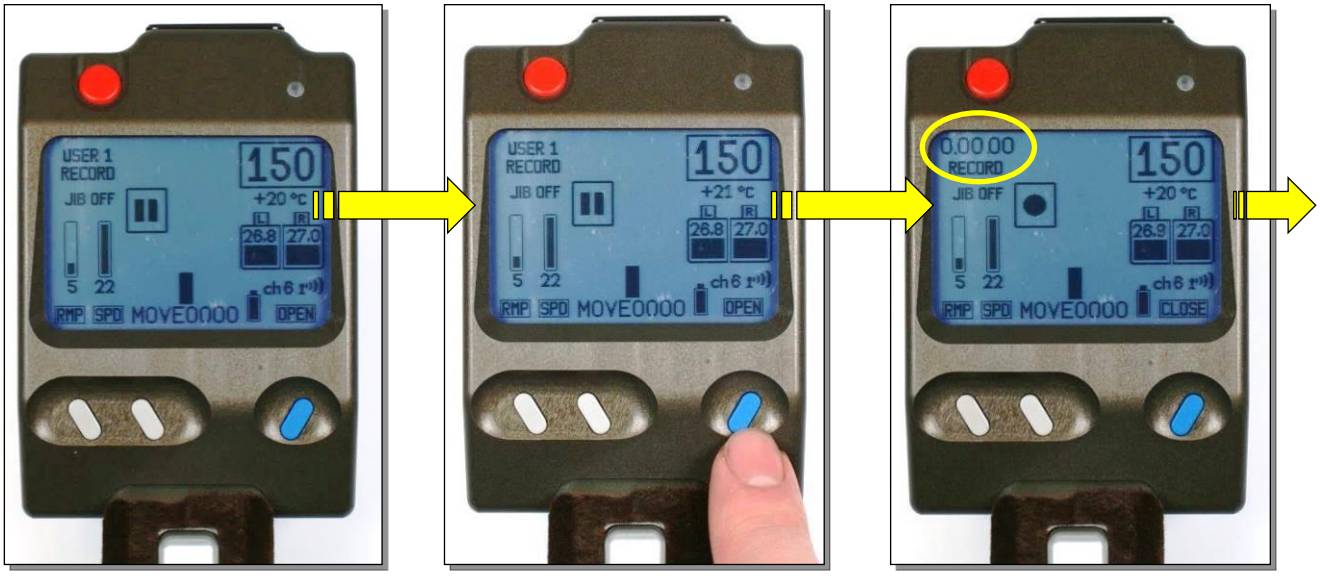
By pressing the OPEN button a „MOVE0000“file will be opened where the sequence will be recorded.

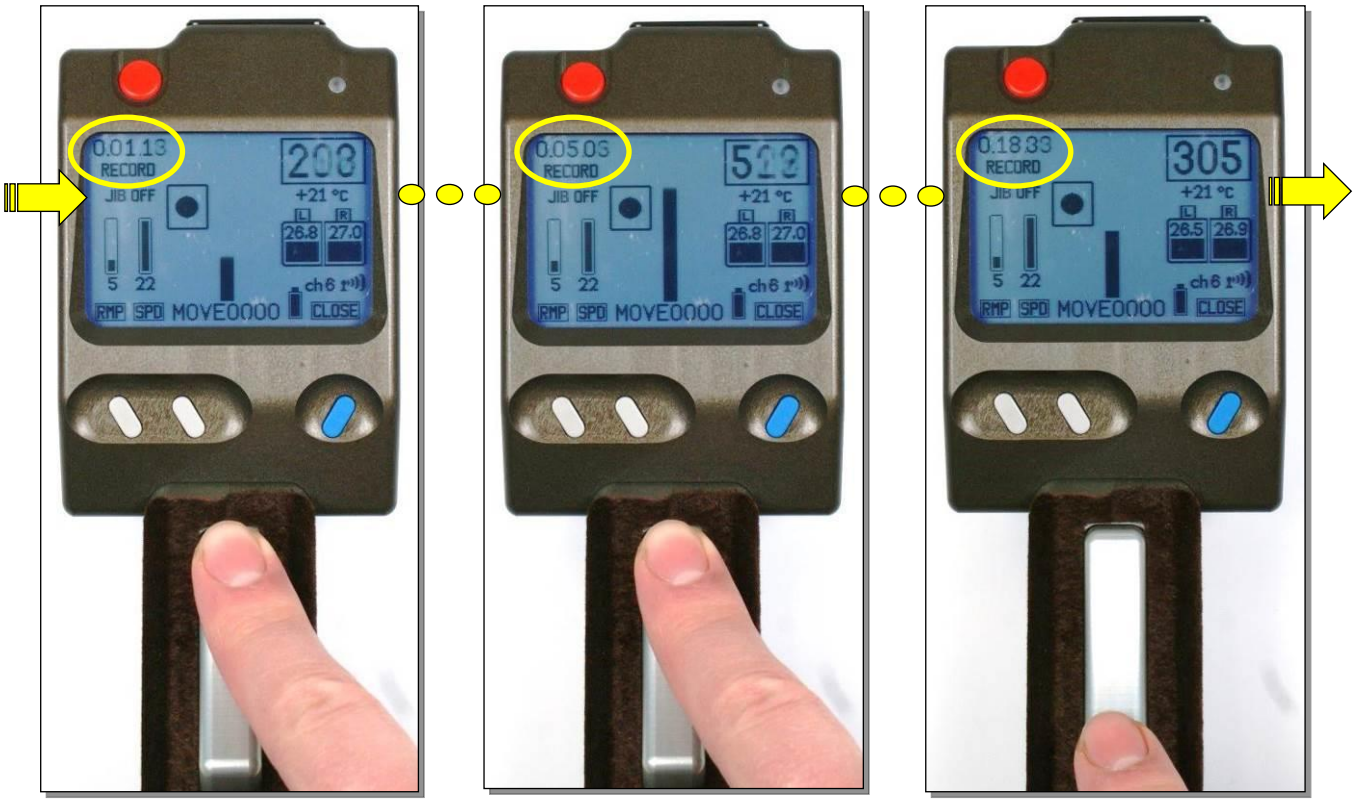
Upon pressing the OPEN button the time bar will show in the top left-hand corner of the display.

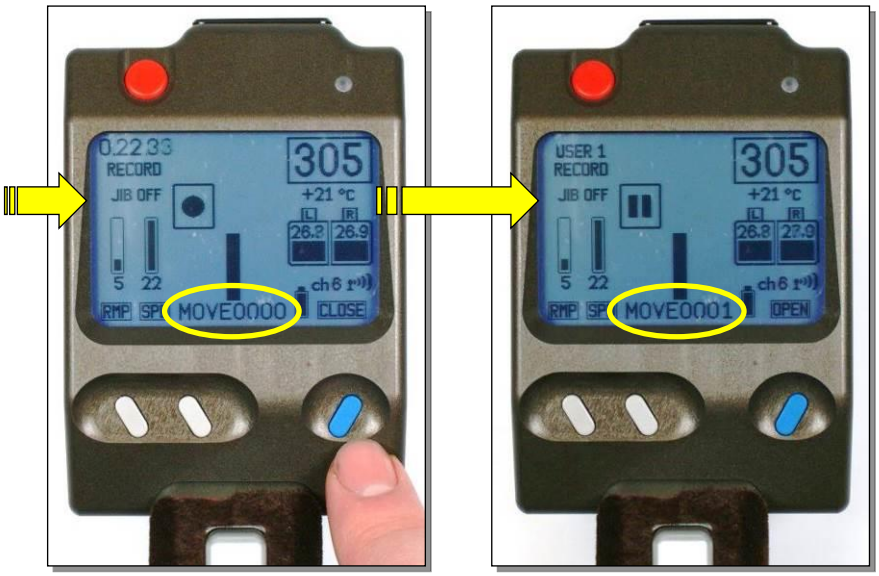
To start recording, press the Rocker Switch and proceed to drive the column as required. The time bar will indicate the running time and you can record as much movement o ras many stops as you wish.

INFO: During RECORD mode the RMP and SPD are adjusted by using the Rocker Switch accordingly and not with the RMP and SPD buttons.

Press CLOSE to finish the recording. The sequence will be stored as file „MOVE0000“ and a new file name „MOVE0001“ for the recording of a new sequence.







Recording a sequence

11.4.1.4.2 PLAY Mode - Abspielen einer gespeicherten Fahrtsequenz

Attention: Before replaying a recorded sequence, ensure that the complete lift range of the column is clear from obstructions.

Proceed as follows:

Change to PLAY mode by pressing the mode selector button on the underneath of the HCU.

If you have more than 1 sequence recorded scroll to the required file with the Rocker Switch and press the OPEN button to select the file.

As soon as the recorded sequence is opened a start position S will appear beside the height bar indicator.

To commence with the play back, drive manually to the start position using the Rocker Switch.

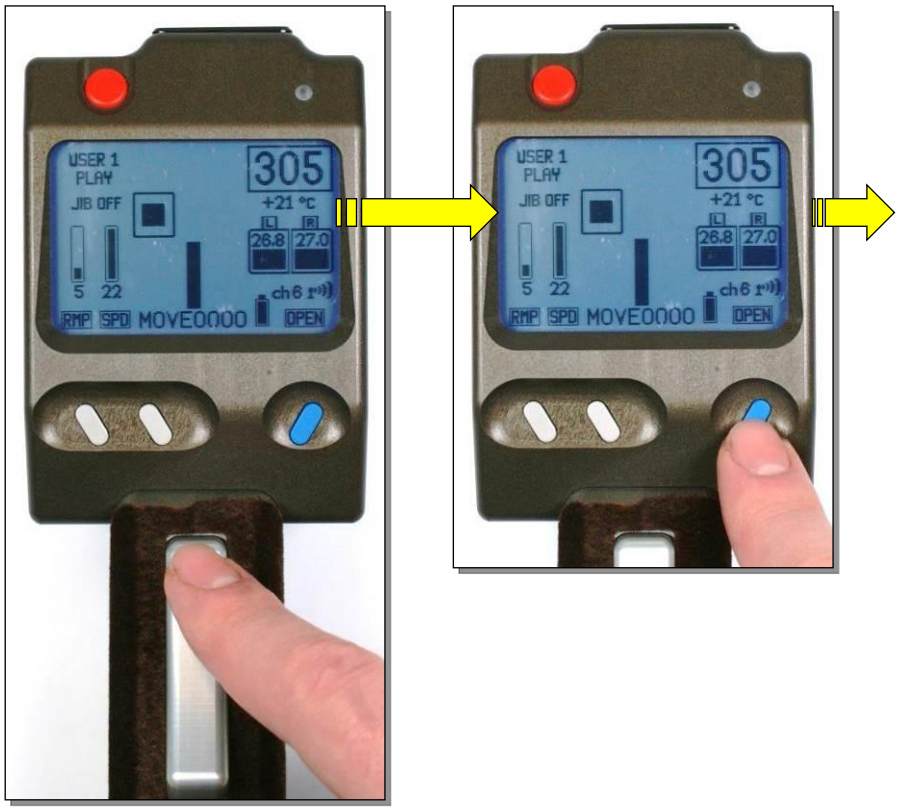
Upon reaching the S position the time bar in the top left hand corner of the display will indicate that the sequence can now be replayed.

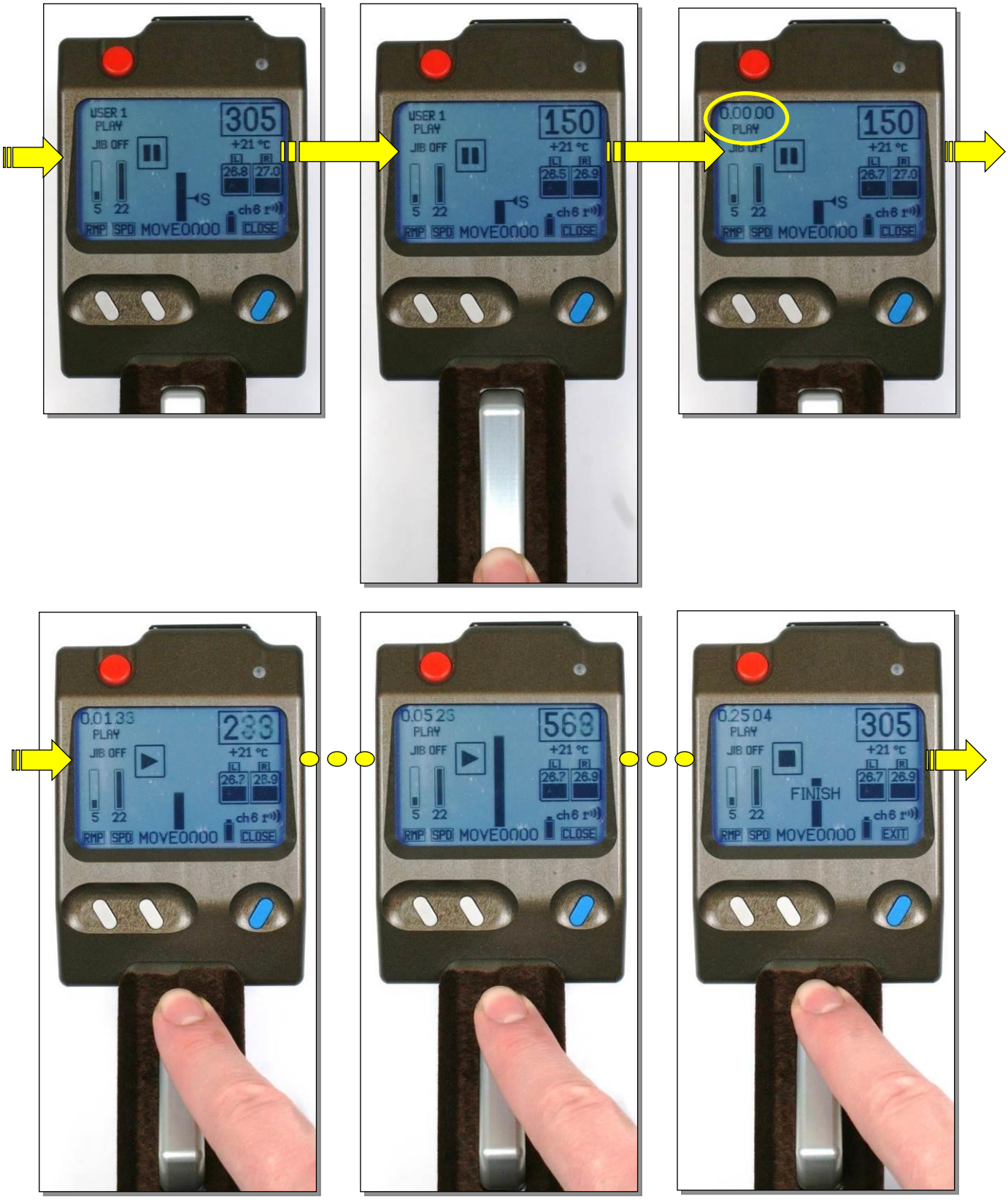
To replay the sequence, press and hold down the Rocker Switch.

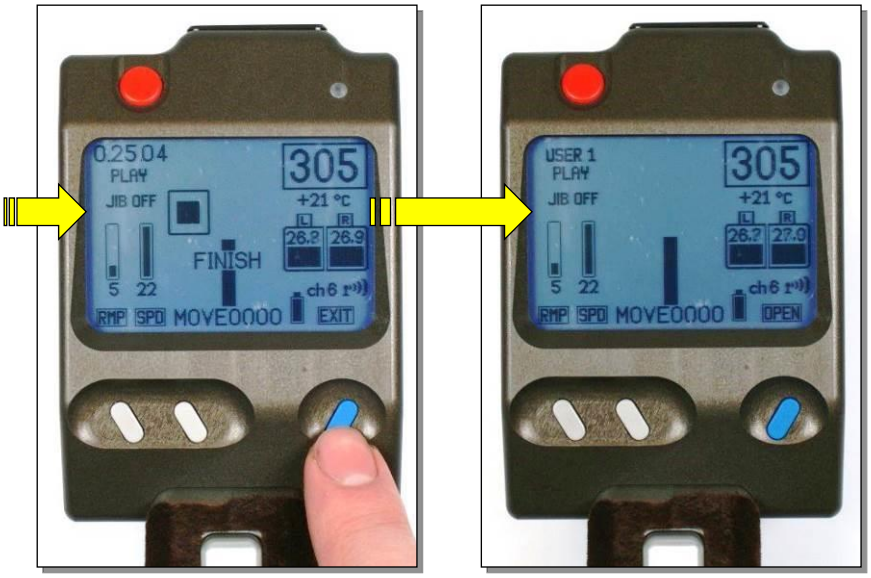
INFO: To replay the sequence it doesn't matter whether the Rocker Switch is pressed up or down or how hard it is pressed. The play back will stop when the Rocker Switch is let go. To proceed further press the Rocker Switch again.

The sequence is over when FINISH appears on the display.

To return to other stored sequence files press the EXIT button to activate PLAY Modus. Now, upon selection, you can replay any stored sequences.




USER 1
PLAY
JIB OFF
305
150
+21 °C
0.00 00
RMP
SPD
MOVE0000
CLOSE
0.01 33
293
0.05 23
568
0.25 04
FINISH
EXIT



11.4.1.4.3 DELETE Mode – Deleting a recorded sequence

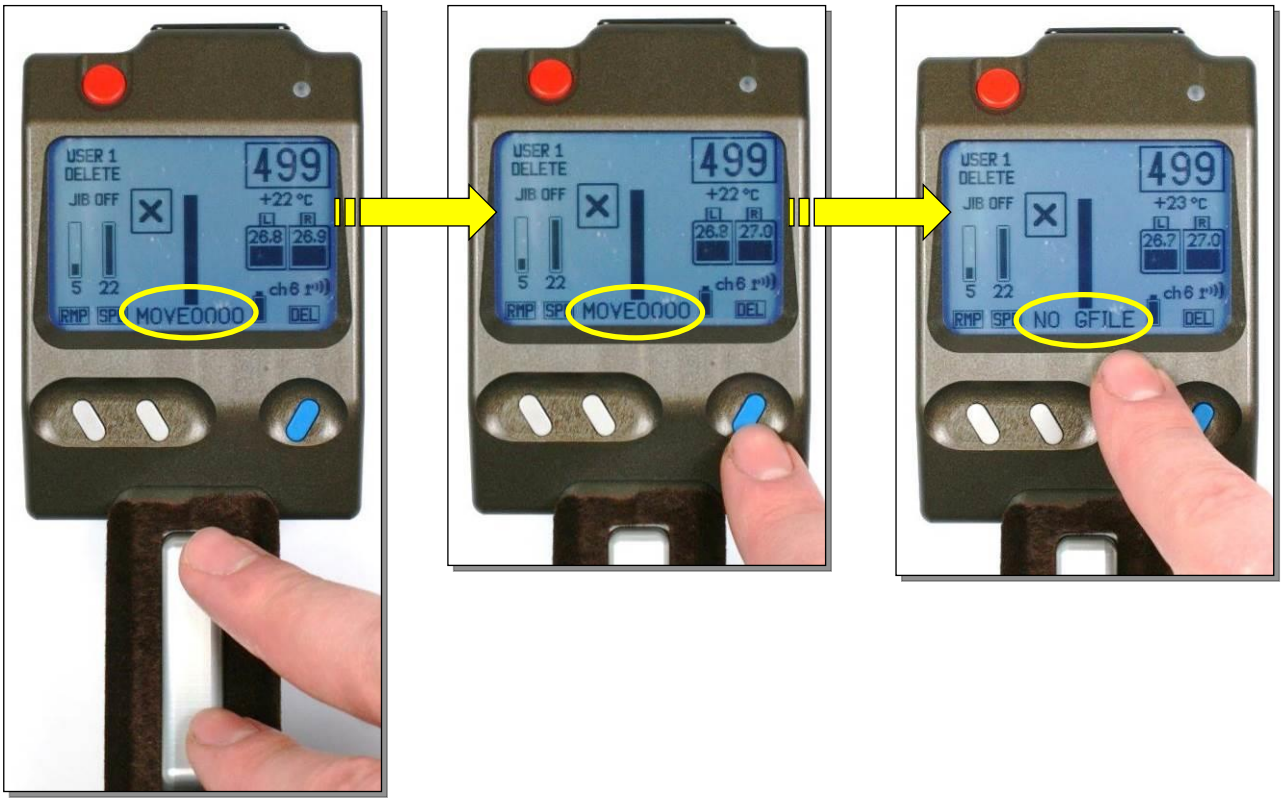
To delete a recorded sequence, proceed as follows:

Change to DELETE mode by pressing the mode selector button on the underneath of the HCU.

Scroll to the required file with the Rocker Switch e.g. „MOVE0000“ then press the DEL button

If you have more than 1 sequence recorded repeat these steps.

When all files are deleted the display will indicate NO GFILE.



12 Emergency Operation of the Column

The GF-***Primo*** and GF-Secondo 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!

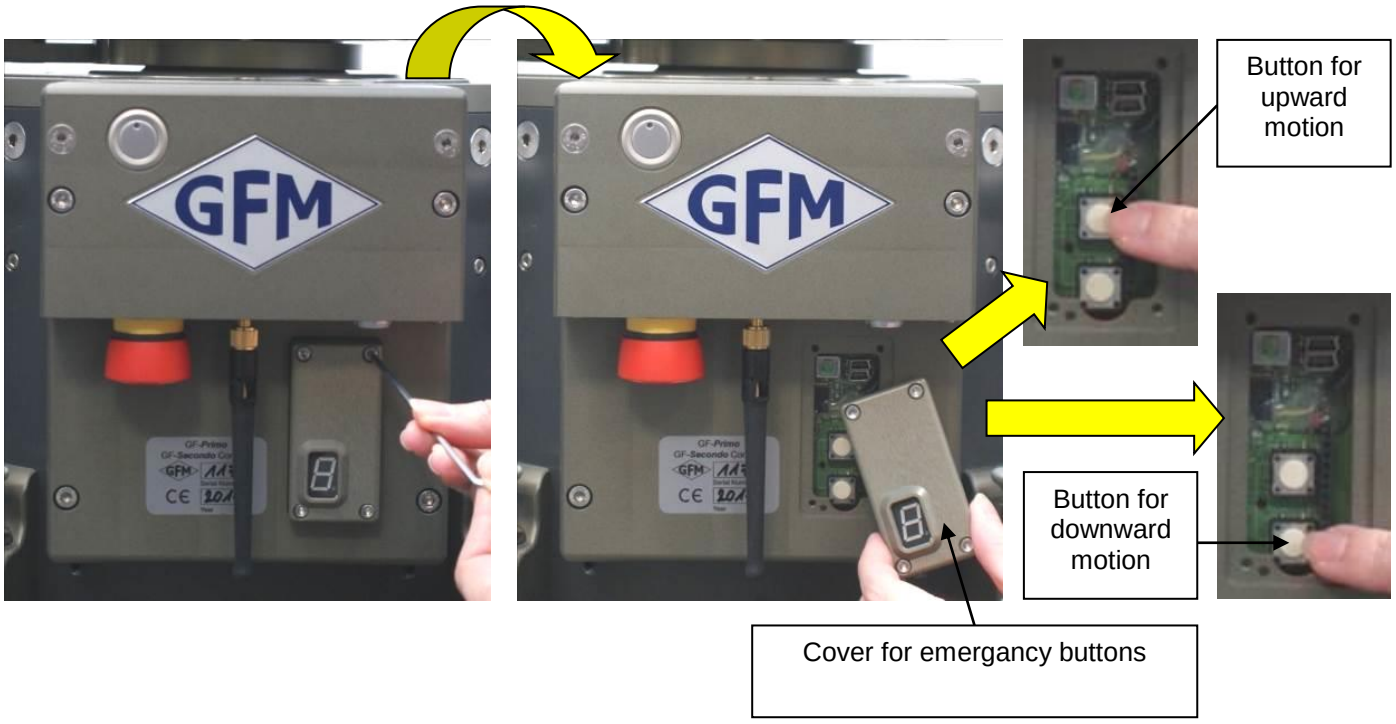
Attention: As soon as the emergency switch is activated the column moves with a preset speed and NO Ramp. Ensure that no equipment or persons are on the column. Jib arms etc must be dismantled prior to activation of the emergency switch. Working in emergency mode is not allowed!

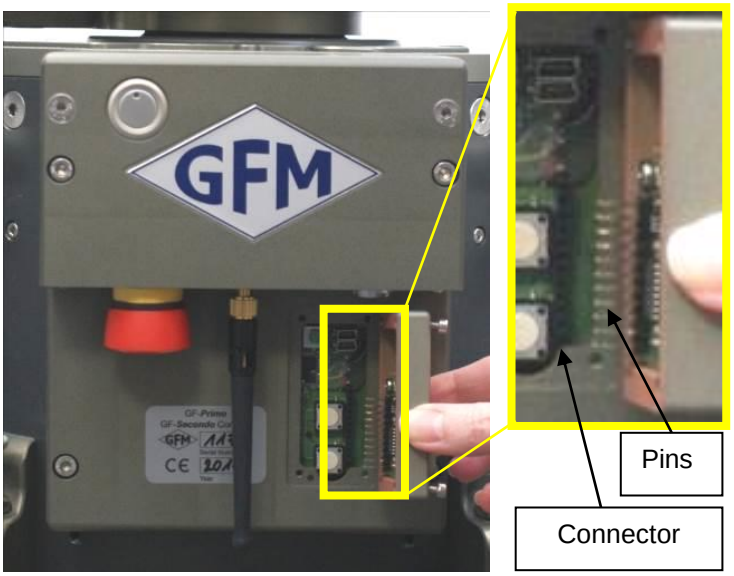
To activate the emergency mode proceed as follows:

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

Upon removing the cover, 2 white buttons can be seen.
To move the column up, press the top button
To move the column down, press the bottom button

Attention: When replacing the cover, ensure the circuit pins are inserted into the circuit board connector correctly and gently to avoid damage.





13 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

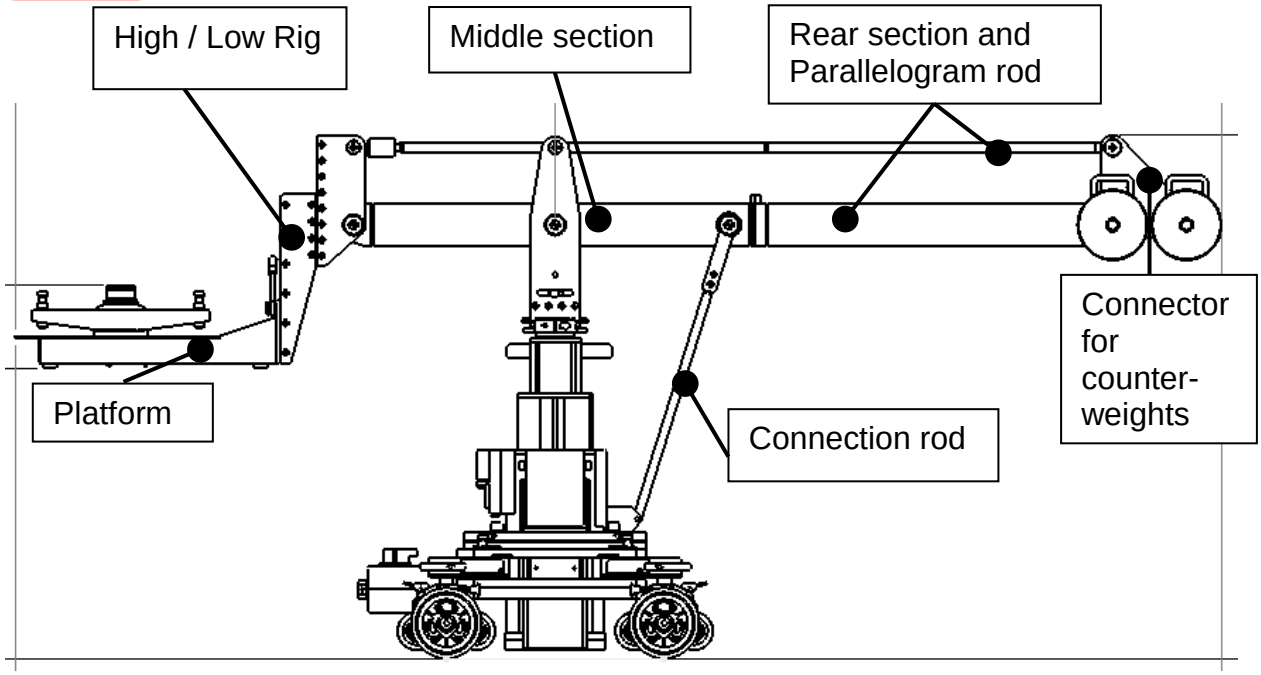
- the connection to the electronic is disrupted.
- the motor temperature is too high.
- the battery voltage is too low.

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.

14 Assembling the GF-*Primo* Jib

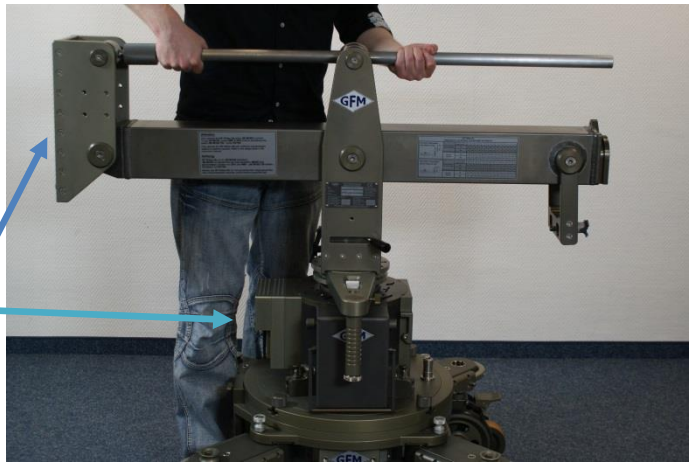
Attention: Crushing hazard when assembling the GF-*Primo Jib* Arm!



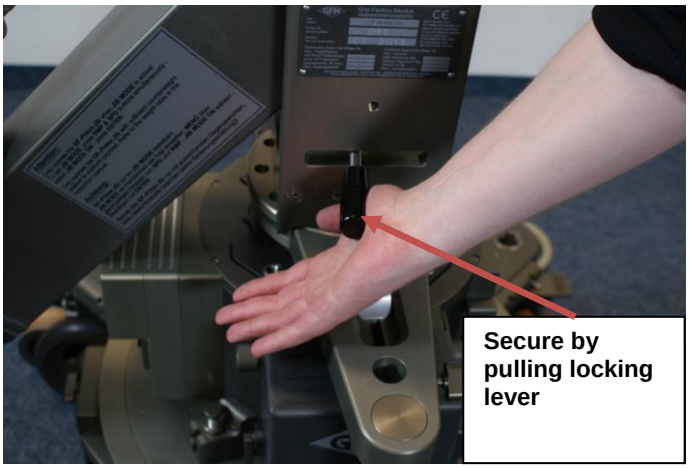
Attention:
Before you start assembly of the GF-*Primo Jib*, drive the column to a height of 50mm!

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.

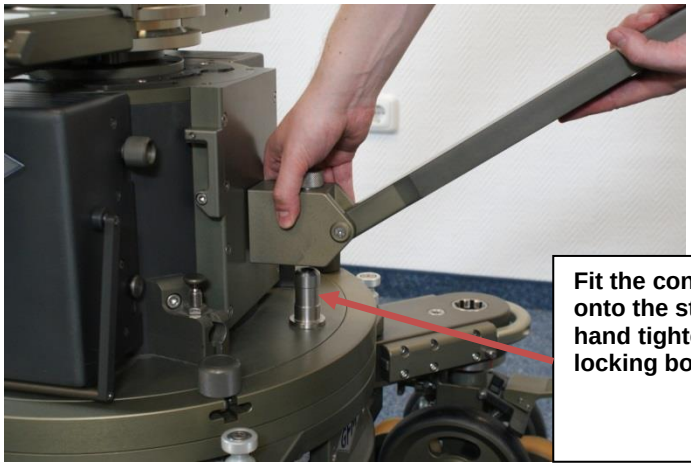
Jib front and electronic housing

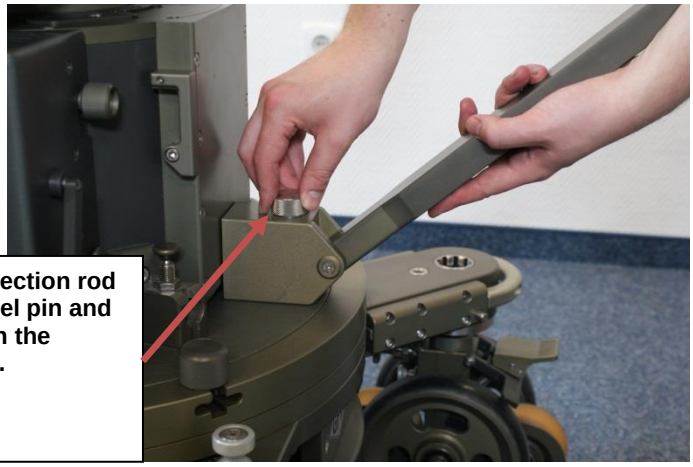


Secure the locking bolt by turning it into the Euro-adapter

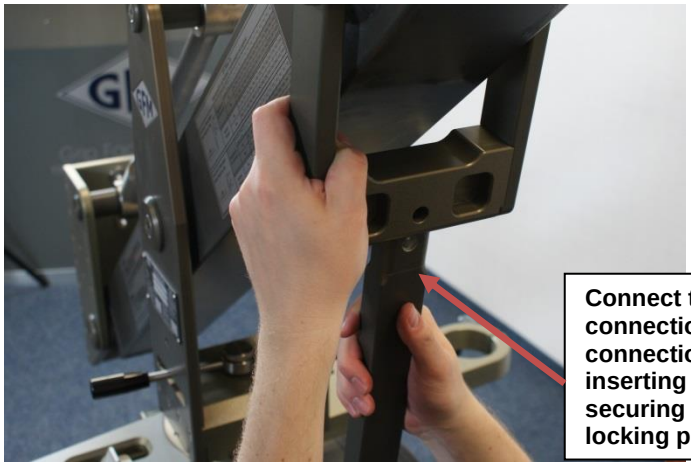


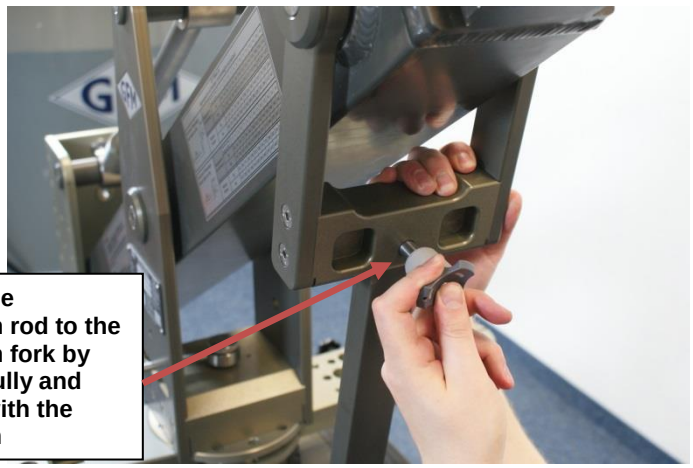
Secure by pulling locking lever





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

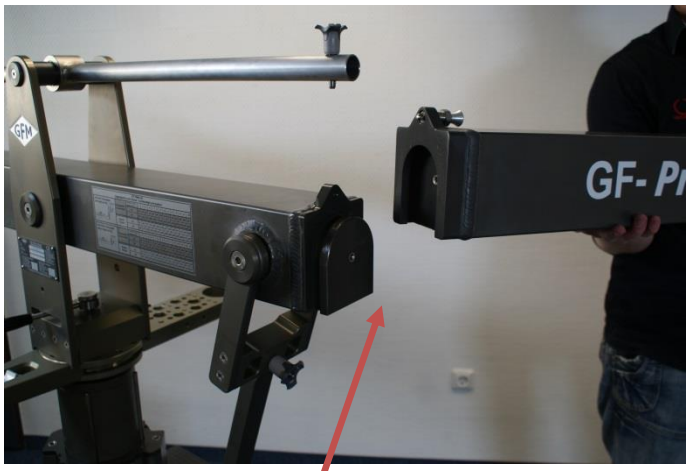


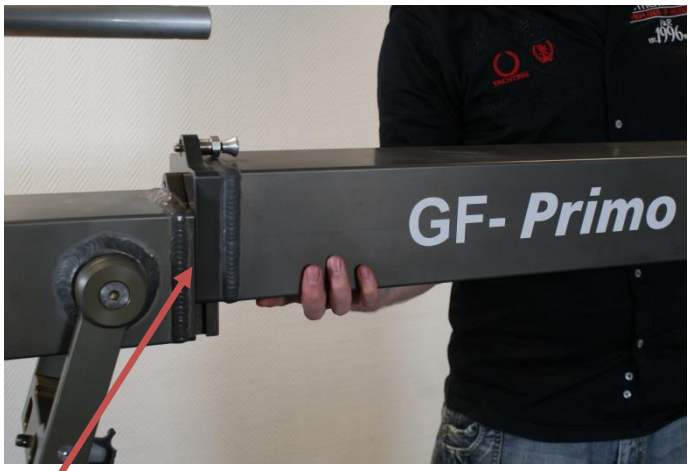


Connect the connection rod to the connection fork by inserting fully and securing with the locking pin

Attention:

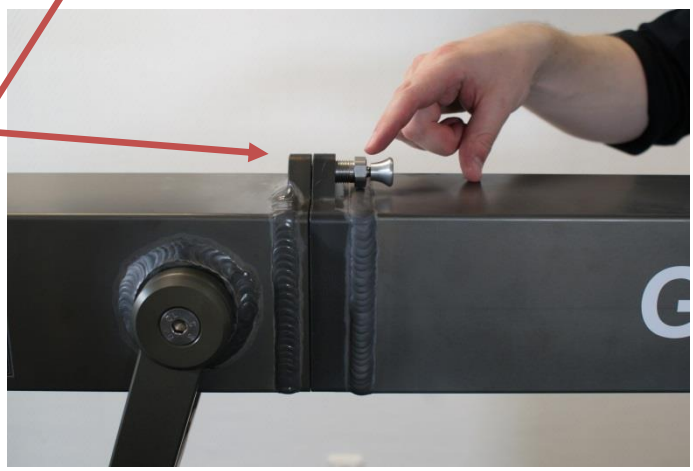
Before proceeding with the assembly of the GF-*Primo Jib*, drive the column to a height of 305mm!

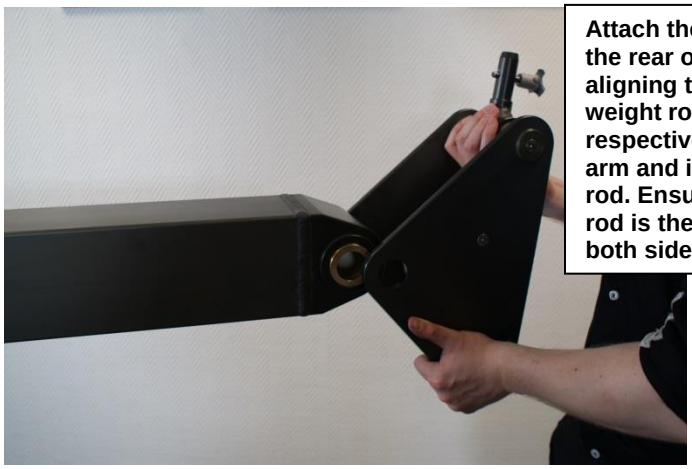


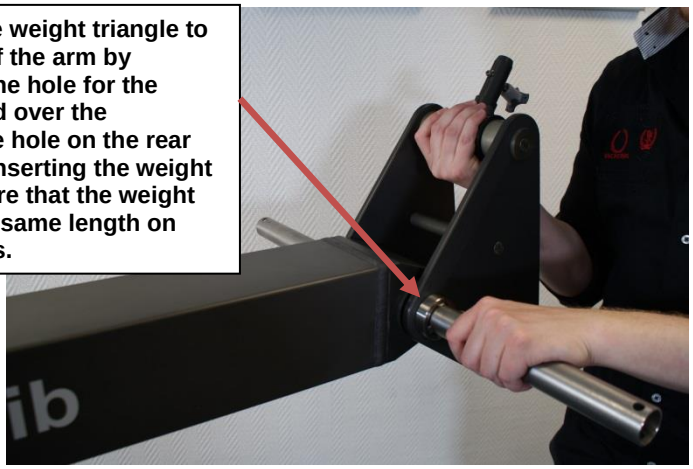


Connect the rear section to the middle section by sliding the female flange onto the male flange. Ensure the fit is parallel.

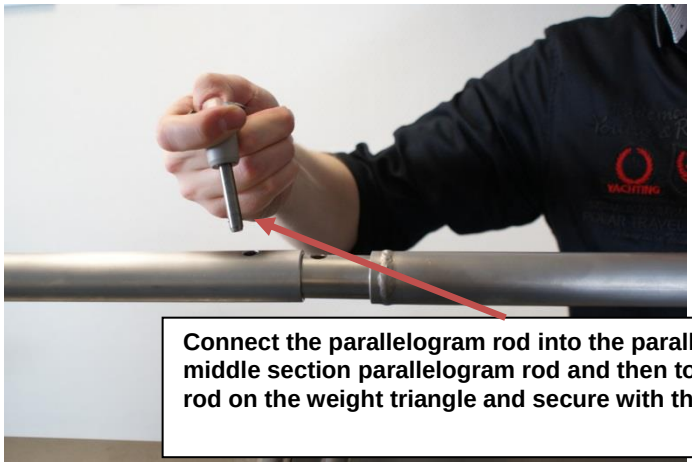
Check to make sure the locking is inserted fully

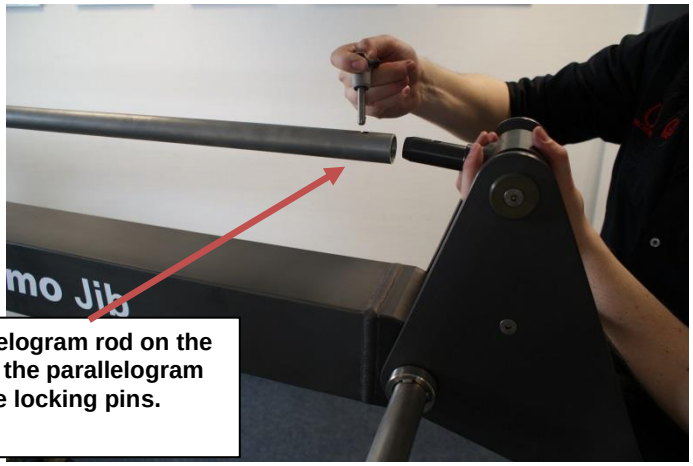




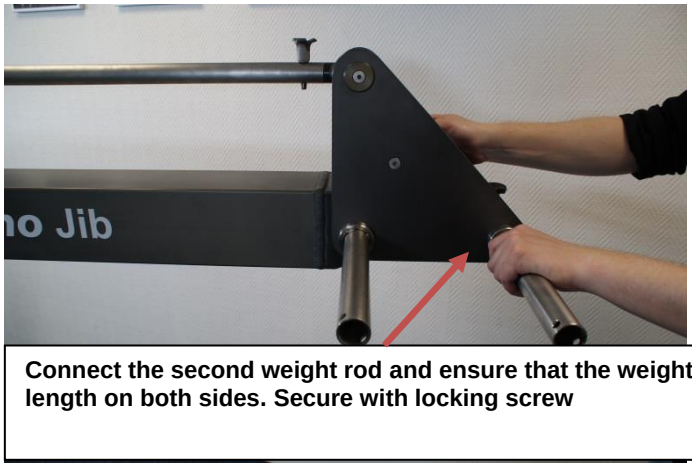


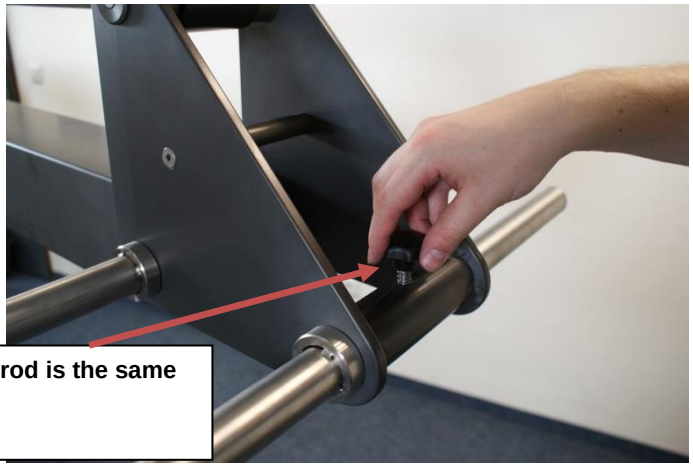
Attach the weight triangle to the rear of the arm by aligning the hole for the weight rod over the respective hole on the rear arm and inserting the weight rod. Ensure that the weight rod is the same length on both sides.





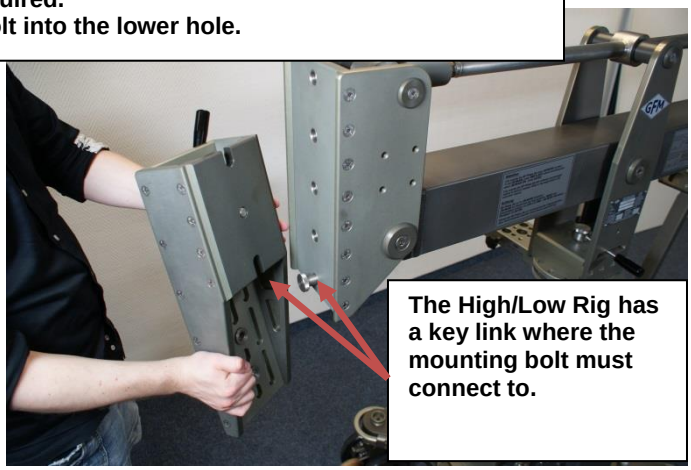
Connect the parallelogram rod into the parallelogram rod on the middle section parallelogram rod and then to the parallelogram rod on the weight triangle and secure with the locking pins.



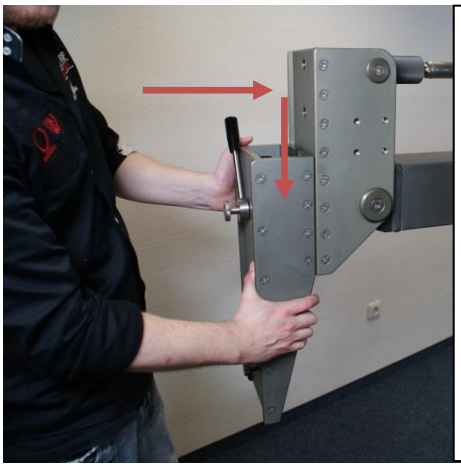


Connect the second weight rod and ensure that the weight rod is the same length on both sides. Secure with locking screw

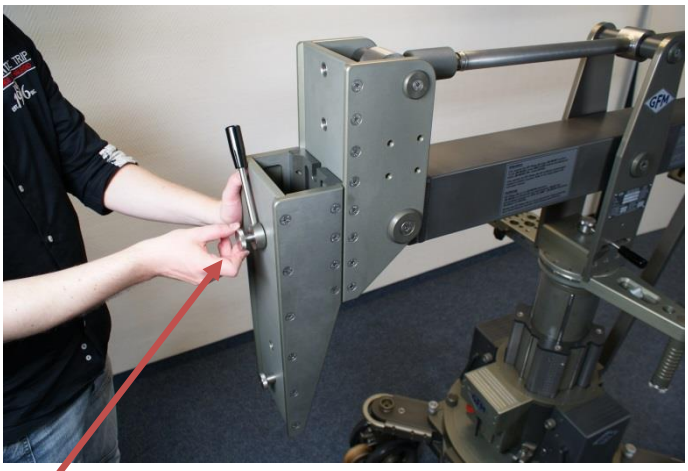
The front plate of the jib has 4 threaded holes where the mounting bolt is inserted depending on which platform position is required.
E.g. for low position. Screw the mounting bolt into the lower hole.



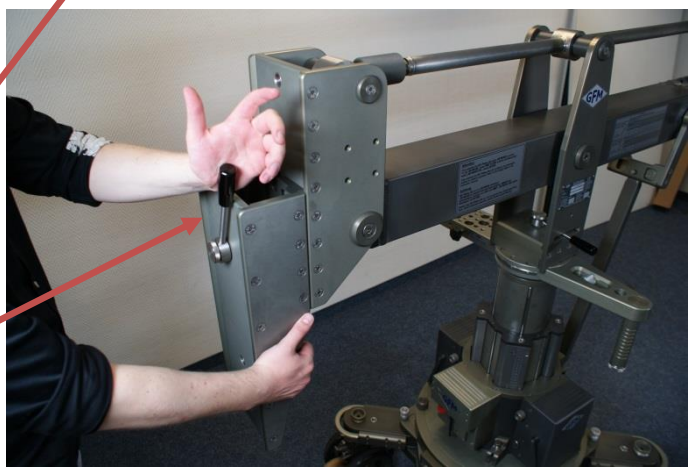
The High/Low Rig has a key link where the mounting bolt must connect to.

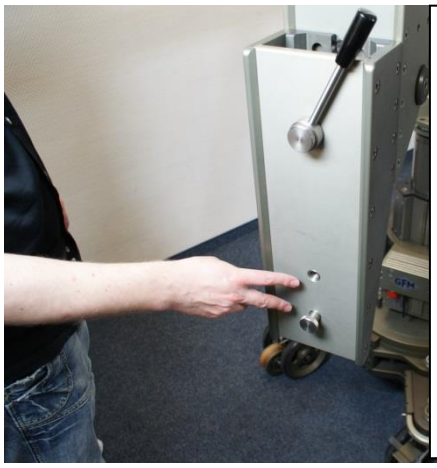


Connect the High / Low Rig by pressing it to the front plate and allowing the key link to slide onto the mounting bolt



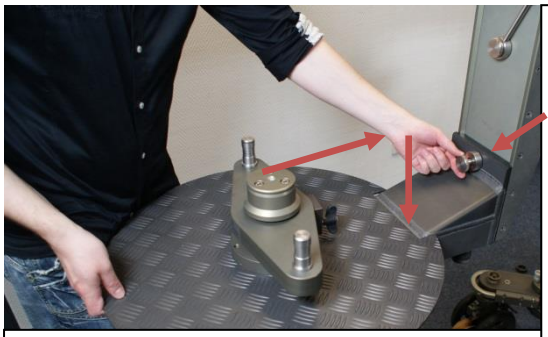
Secure the High/Low Rig by inserting the locking bolt and screwing it into the mounting plate. Tighten securely with the locking lever.





The front plate of the Hi / Low Rig has 2 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.

The Platform has a key link where the mounting bolt must connect to.

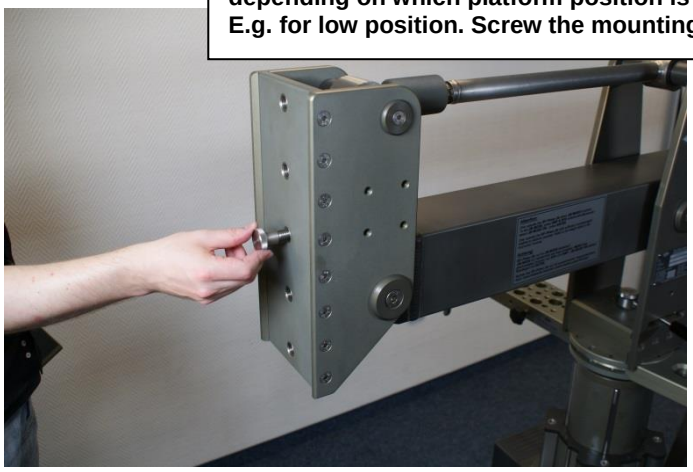


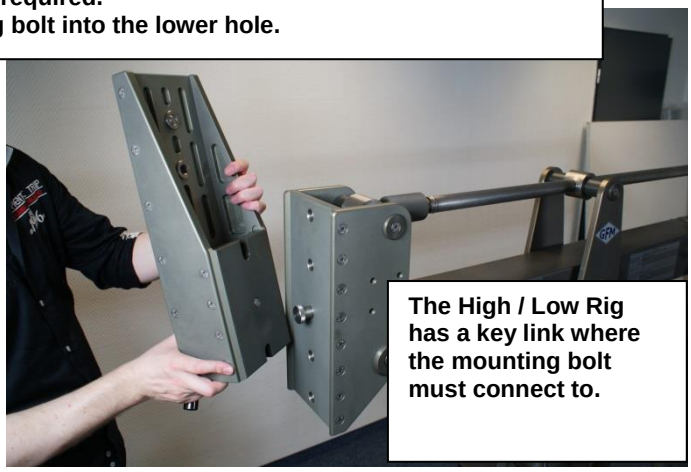
Connect the Platform by pressing it to the High / Low Rig and allowing the key link to slide onto the mounting bolt

Secure the platform by inserting the locking bolt and screwing it into the High / Low Rig. Tighten securely with the locking lever.

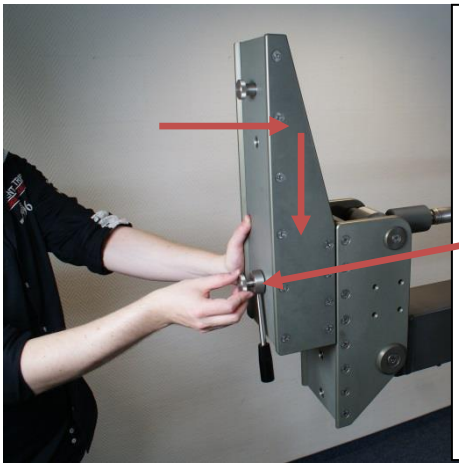
Attention:
The Plattform may be mounted directly onto the front plate, without the High / Low Rig.

The front plate of the jib has 5 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.

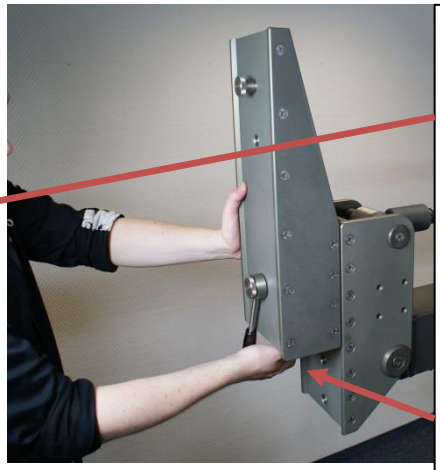




The High / Low Rig has a key link where the mounting bolt must connect to.

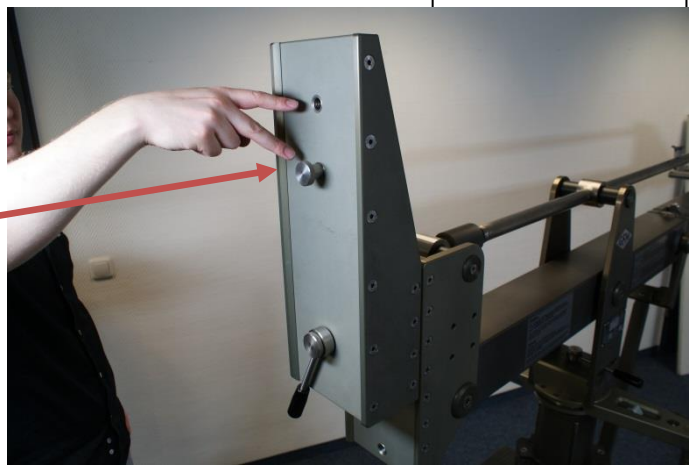


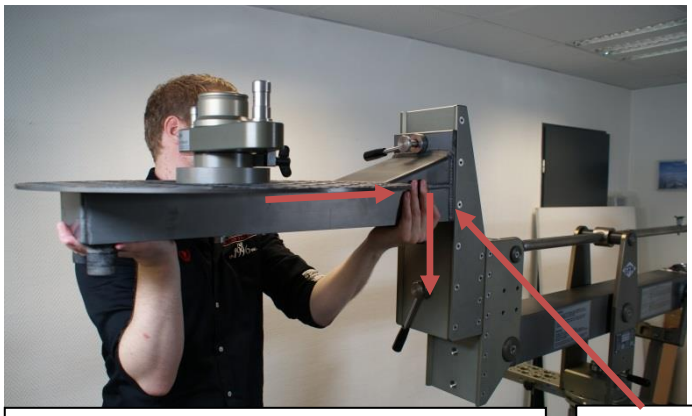
Connect the High / Low Rig by pressing it to the front plate and allowing the key link to slide onto the mounting bolt



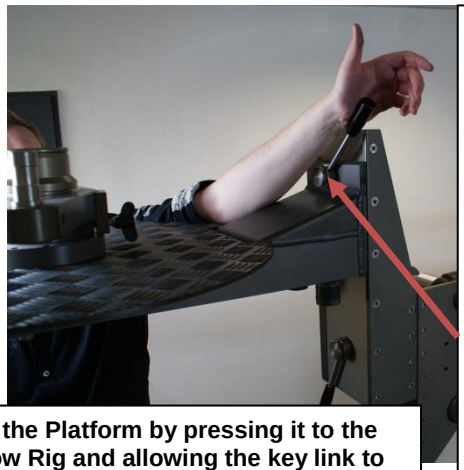
Secure the High/Low Rig by inserting the locking bolt and screwing it into the mounting plate.
Tighten securely with the locking lever.

The front plate of the Hi / Low Rig has 2 threaded holes where the mounting bolt is inserted depending on which platform position is required.
E.g. for the high position. Screw the mounting bolt into the lower hole.



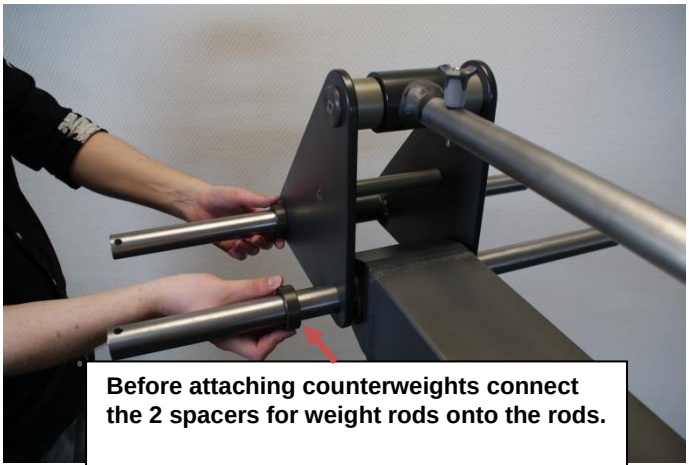


The Platform has a key link where the mounting bolt must connect to.

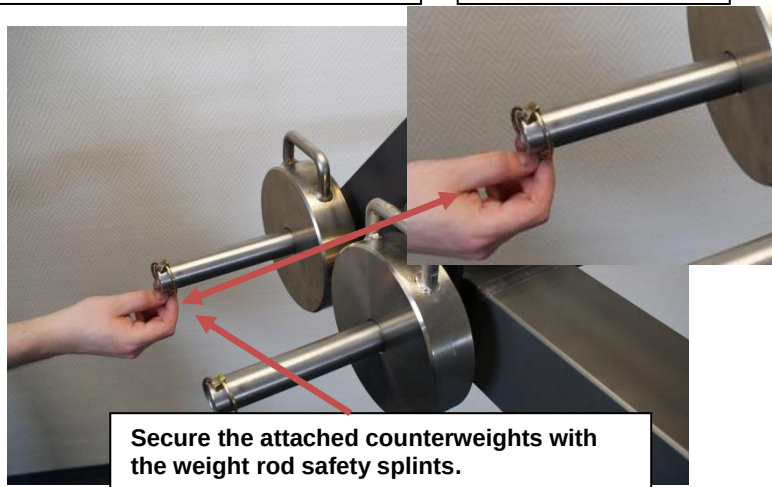


Connect the Platform by pressing it to the High / Low Rig and allowing the key link to slide onto the mounting bolt

Secure the platform by inserting the locking bolt and screwing it into the High / Low Rig.
Tighten securely with the locking lever.



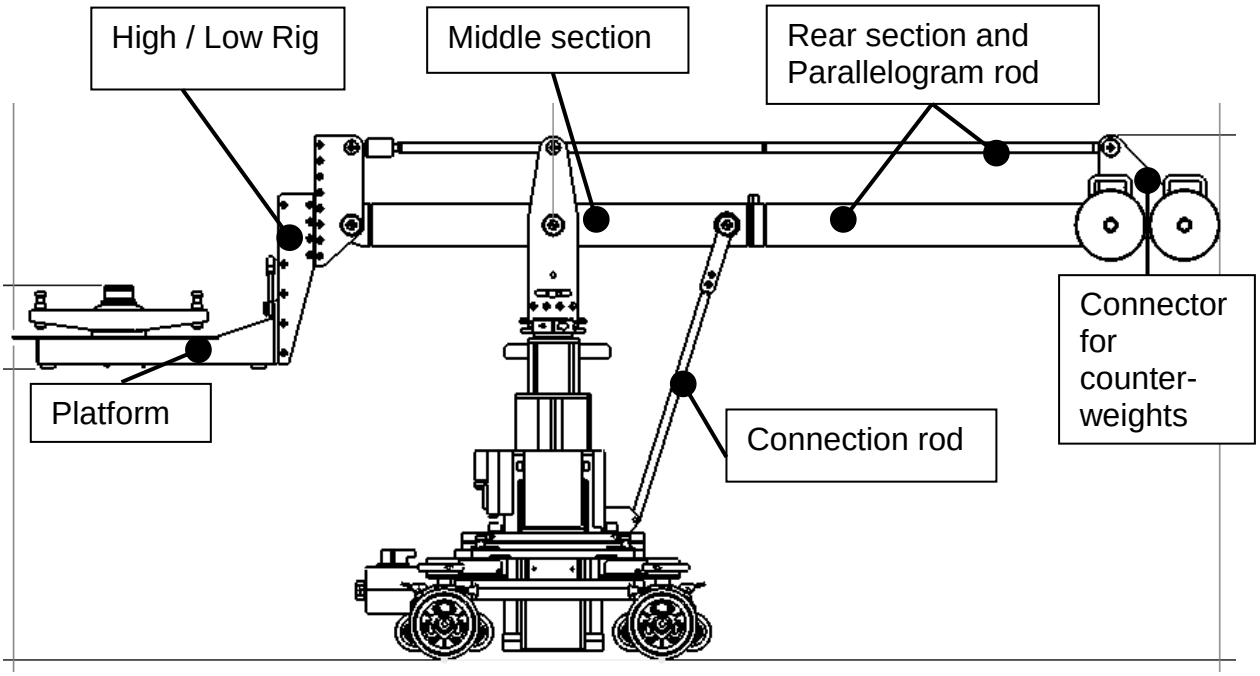
Before attaching counterweights connect the 2 spacers for weight rods onto the rods.



Secure the attached counterweights with the weight rod safety splints.

Individual GF-*Primo* Jib components

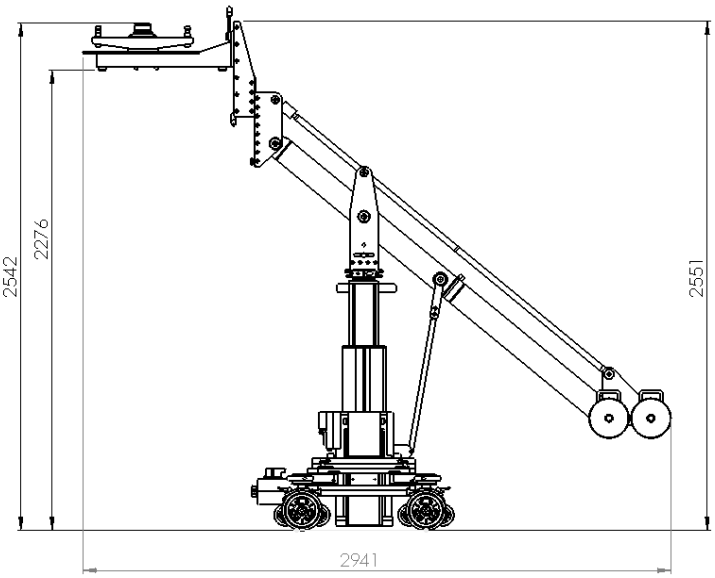
Component	**Weight**
	Kg / lbs
Platform	16,6 / 36,6
High / Low Rig	7 / 15,4
Middle section	40 / 88
Rear section + Parallelogram rod	9,8 / 21,5
Connector for weights	7,5 / 16,5
Connection rod	2 / 4,4
Total weight	**82,9 / 182,3**

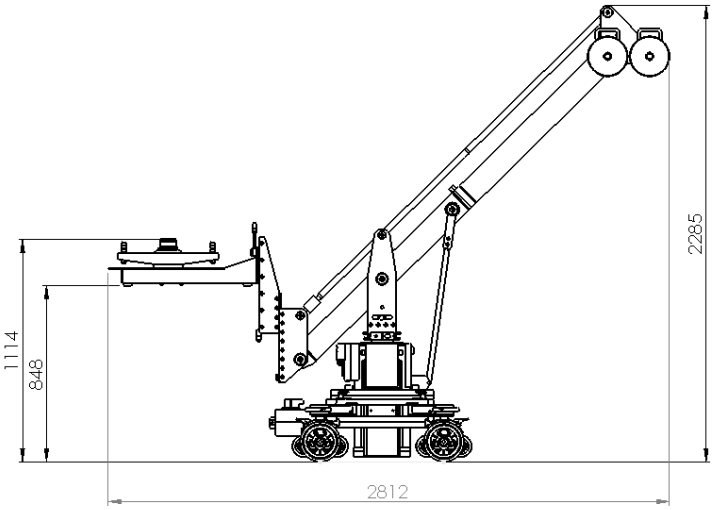


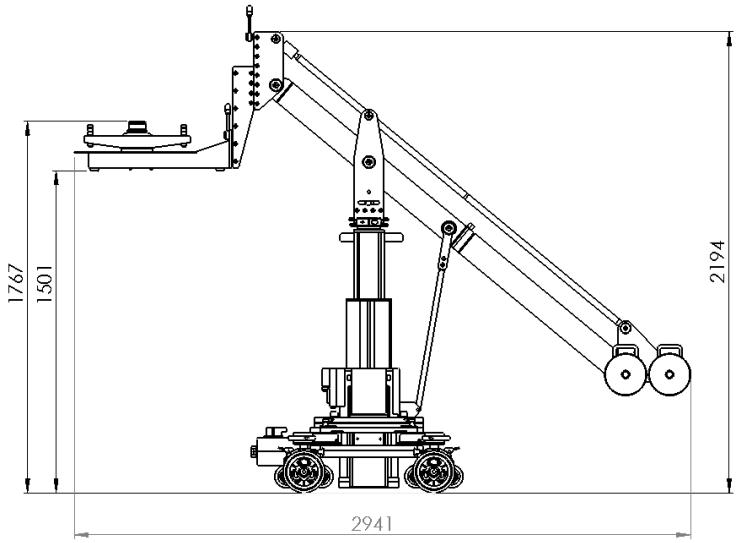
14.2 GF-*Primo* Jib set-up configurations

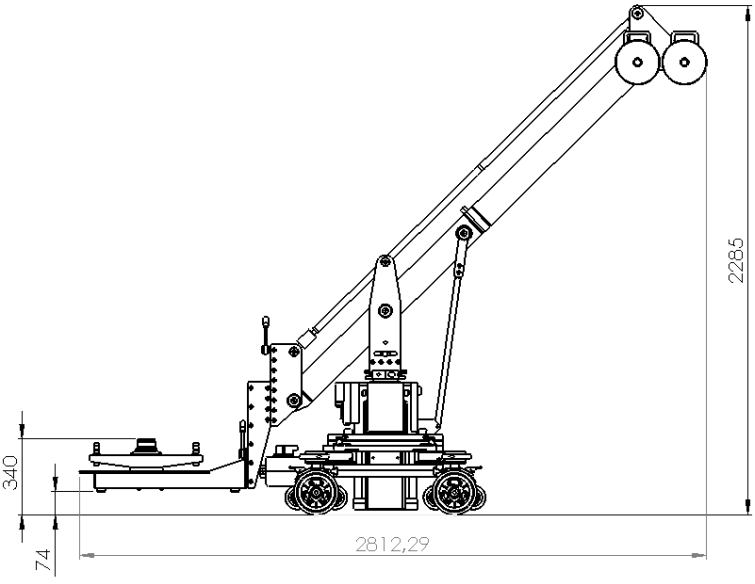
Set-up with High/Low Rig

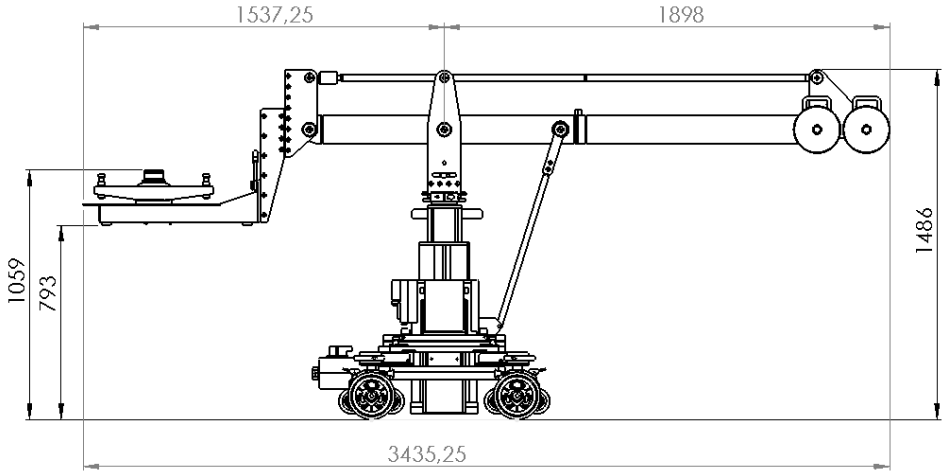
The maximum payload on the Platform is limited to **200kg / 440lbs**







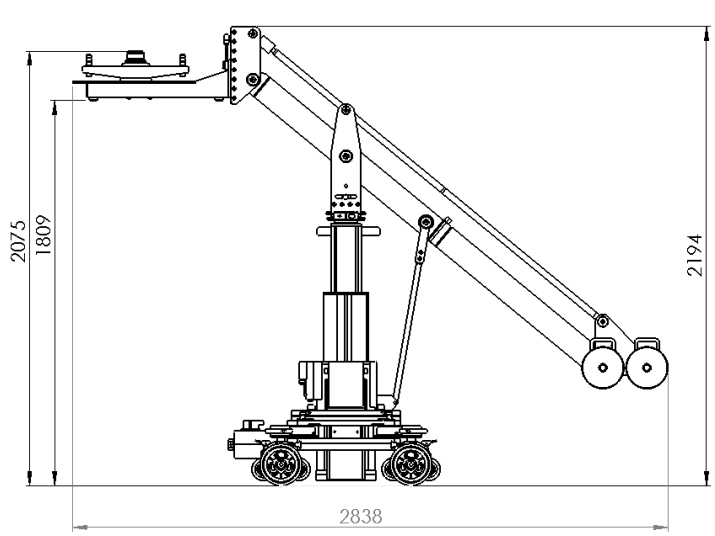


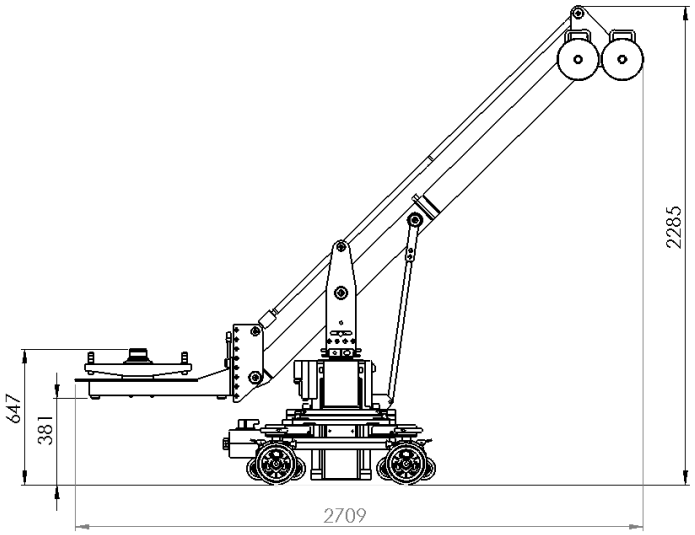


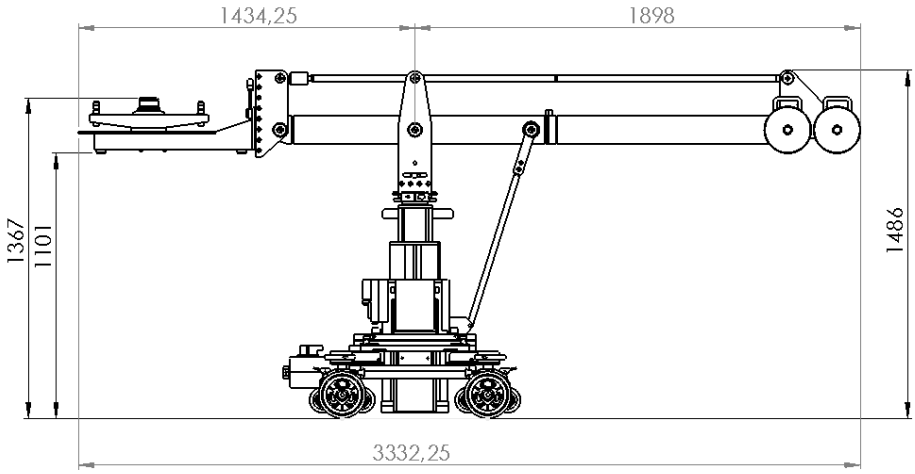
Attention: Before assembling or operating the GF-Primo Jib ensure that the "Jib On" operational mode is selected and that the HCU display is showing "Jib On". (siehe 11.2).

Set-up without High/Low Rig

The maximum payload on the Platform is limited to **250kg / 550lbs**







Attention: 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". (siehe 11.2).

14.3 Selecting the “Jib On” mode on the Hand Control Unit

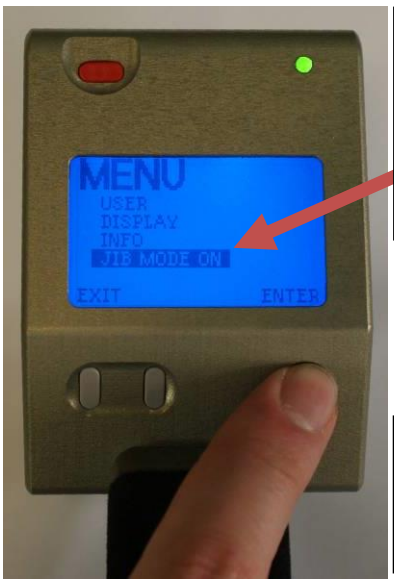
In this mode, selected Ramps and Speeds are pre-set to ensure a safe Jib arm operation with the GF-***Primo*** **Jib**.

Attention: Operating the GF-***Primo Jib*** on the GF-***Primo***- or GF-***Secondo*** Dolly is only allowed in „Jib-On“ mode.

To select the Jib-On Modus proceed as follows:

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

14.4 Operational Guidelines for the GF-*Primo* Jib

When operating the GF-Primo Jib observe the following guidelines as well as the guidelines on page 3 & 5:

1. Know the precise weight that will be placed on the platform i.e. person, camera and accessories. Do not exceed the maximum payloads
- Jib-Operation with High/Low Rig ⇒ **m_{max} = 200kg / 440lbs**
- Jib-Operation without High/Low Rig ⇒ **m_{max} = 250kg / 550lbs**

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

Tip: In general the counterweights and platform load should be evenly applied e.g. do not load all the weights in one go or do not place the camera or operators on the platform in one go. Proceed step by step in a balanced procedure.

3. Drive the platform to the lowest position and proceed to mount the riser, camera, seat arms and seat on the platform. Simultaneously load the respective amount of counterweights.

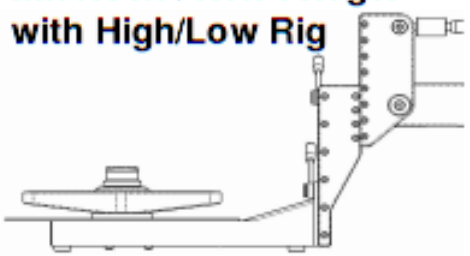
Attention: When taking position on the platform use caution and make no sudden or abrupt movements. Depending on the position of the platform i.e. high, middle or low, a ladder or rostrum should be used to assist the operator onto the platform.
Do not climb onto the jib!!
A second person should only take place on the platform when the first person and load are fully balanced.

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 (9 weights @ 12kg) in counterweights.

Please follow the following weight scale:

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

mit Hoch-/Tiefausleger
with High/Low Rig



		Gewichte (12 kg) x weights (26 lbs) x	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Gegengewicht Counterweight		kg	36	48	60	72	84	96	108	120	132	144	156	168	180	192
		lbs	79	106	132	159	185	212	238	265	291	318	344	370	397	423
Nutzlast Payload		kg	31	44	57	70	83	96	109	122	135	148	161	174	187	200
		lbs	68	97	126	154	183	212	240	269	298	326	355	384	412	441

ohne Hoch-/Tiefausleger
without High/Low Rig

		Gewichte (12 kg) x weights (26 lbs) x	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Gegengewicht Counterweight		kg	36	48	60	72	84	96	108	120	132	144	156	168	180	192
		lbs	79	106	132	159	185	212	238	265	291	318	344	370	397	423
Nutzlast Payload		kg	42	58	74	90	106	122	138	154	170	186	202	218	234	250
		lbs	93	128	163	198	234	269	304	340	375	410	445	481	516	551

15 Service

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 dolly system is in good condition.

Simple maintenance procedures are

- Checking that all bolts et care secured correctly
- Cleaning and occasionally oiling the guide bars
- Monitoring the columns movement quality etc
- Checking the wheel alignment and the gearbox performs smoothly
- Maintaining clean track and studion wheels
- Checking the adjustability and locked position of the wheel arms
- Checking the wheel brakes as well as the brakes on the turnstile mount and column bearing
- Monitoring the functionality of the electronic, hand control unit, (Emergency on/off switch, HCU on/off, HCU control buttons and rocker switch, cable and wireless mode)
- Checking the HCU battery and main dolly batteries

Intensive maintenance procedures are

Servicing the column

Attention: Because the column is under pressure, should you need to service the dolly, first ensure that the column is fully extended, to its maximum height. Only then is it safe to start removing covers or dismantling the column in any way.
Under no circumstances should any covers or housings be removed before the column is fully extended!

When servicing the column inspect the following components:

Column cables

→ The cables should not be damaged or split

→ The cables must be tensioned properly (Turn the tension bolt fully until it ceases, then reverse ¾ of a revolution)

Column bearings and guide bars

→ Keep clean and slightly lubricated with oil

Column drive belt

→ The drive belt, the motor's drive pinion and drive pulley / plate must be undamaged, clean and dry

→ The drive belt must be tensioned correctly (Using the 2 tension bolts, set the distance between the motor holder and the mounting plate to 4-5mm)

Spindle drive

→ Apply sufficient grease to the spindle and spindle nut (to do so remove the bottom column plate and motor cables. Remove the bolts connecting the spindle mounting plate to the column housing. Lift up the motor and pull out the spindle mounting plate approx. 15cm then apply grease to the spindle)

Servicing the base dolly

Inspect the following components:

→ Wheel alignment
→ Chain tension on the dolly chassis and wheel arms
→ Smoothness of the gear selector / gearbox

Keep the dolly clean and free of moisture. We recommend using of the protection cover.

Servicing the GF-Primo Jib:

Inspect the following components:

→ Ensure that all connections, locking bolts are connected securely
→ Ensure that the extension arm connections, platform, counterweight rods, parallelogram rod are not damaged and fitted correctly
→ The smoothness of the pan bearing and the joints

For further information or enquiries concerning maintenance and service please contact us.

In case of any damage to the dolly / jib, the manufacturer must be informed immediately about the accident details and the seriousness 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 dolly / jib 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 dolly / jib arm.

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

Technical specifications subject to change without notice!

16 Regular Inspections

- According to guideline DGUV regulation 17, § 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 dolly.
- Technical experts must meet the requirements of DGUV regulation 17, § 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).

17 EC Declaration of Conformity

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

declares, that the

- Camera dolly sytem

  Type: GF-Primo / Secondo
  Serial no. See type plate
  Built: See type plate

- GF-Primo Jib (where applicable)
  Serial no. See type plate
  Built: See type plate

complies with the machine guidelines 2006 /42 / EG.

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

Eching, Feb. 2015

Paolo Tundo - Geschäftsführer