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Manual # 99906485

Articulating Crane Instruction Manual

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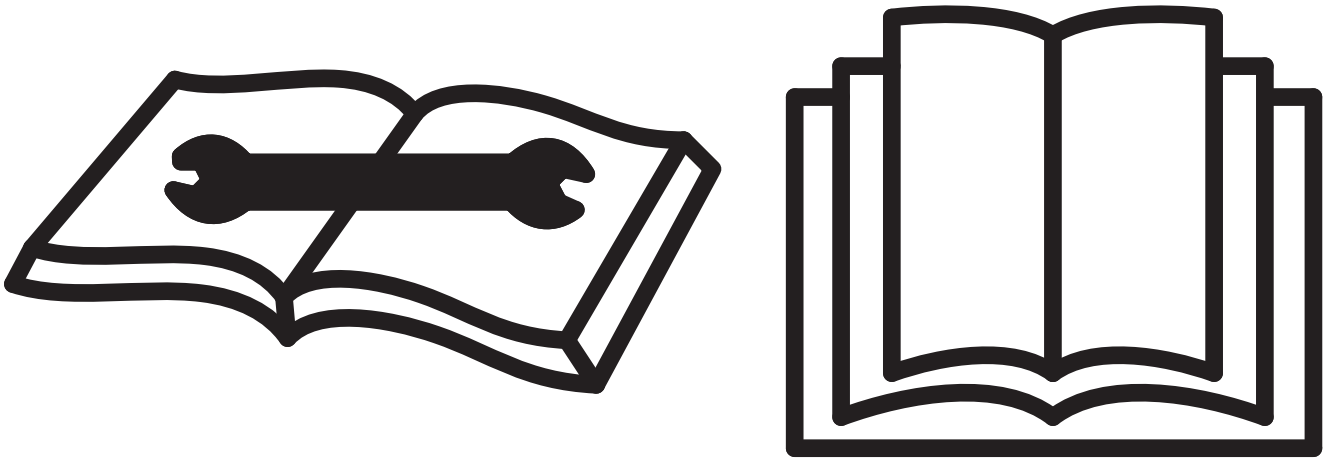
WARNING



Only trained personnel should operate this equipment.

Do not operate or service until you have read and understood:

- Operation and service manuals supplied with this equipment.
- Crane load and work area charts.
- Safety signs and instructions.
- Employer work rules and applicable government and OSHA regulations.

Manuals can be obtained from the manufacturer's website or by contacting customer service.

Operating this equipment without knowledge or training may lead to injury or death for you or others.

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1. Introduction

This Instruction Manual contains a description of the crane, instructions for operation as well as for maintenance and servicing of the crane.

The Instruction Manual includes the following chapters:

Chapters 1 through 8 contain general instructions for the daily operation of the crane.

Chapters 9 through 14 are primarily aimed at crane operators, crane fitters and maintenance personnel and contain instructions for mounting, adjustment, inspection and maintenance.

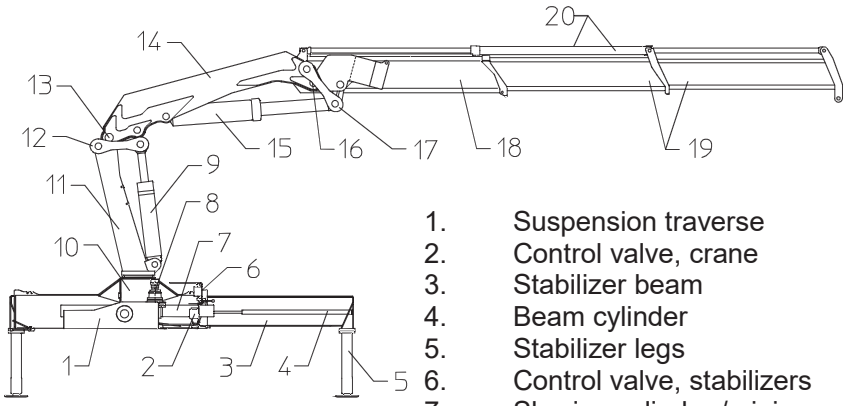
It is very important that you familiarize yourself with the contents of this Instruction Manual before putting the crane into operation, the same of course applies to any assistants or co-users of the crane.
This also goes for the other manuals and instructions delivered together with the crane, especially the **Safety Manual, the RCL Instruction Manual,** the **Scanreco Instruction Manual** as well as the **Service Booklet.**

It is also important to attend the recommended service overhauls. These service overhauls are designed to ensure operational safety at all times and will also be of importance in case of guarantee claims at a later stage, where great importance will be attached to whether these overhauls have been carried through by an authorized IMF service center or not.

As IMT is constantly developing and improving the cranes, your crane model may have been changed slightly since printing of this Instruction Manual.

2. Description of loader crane, terminology

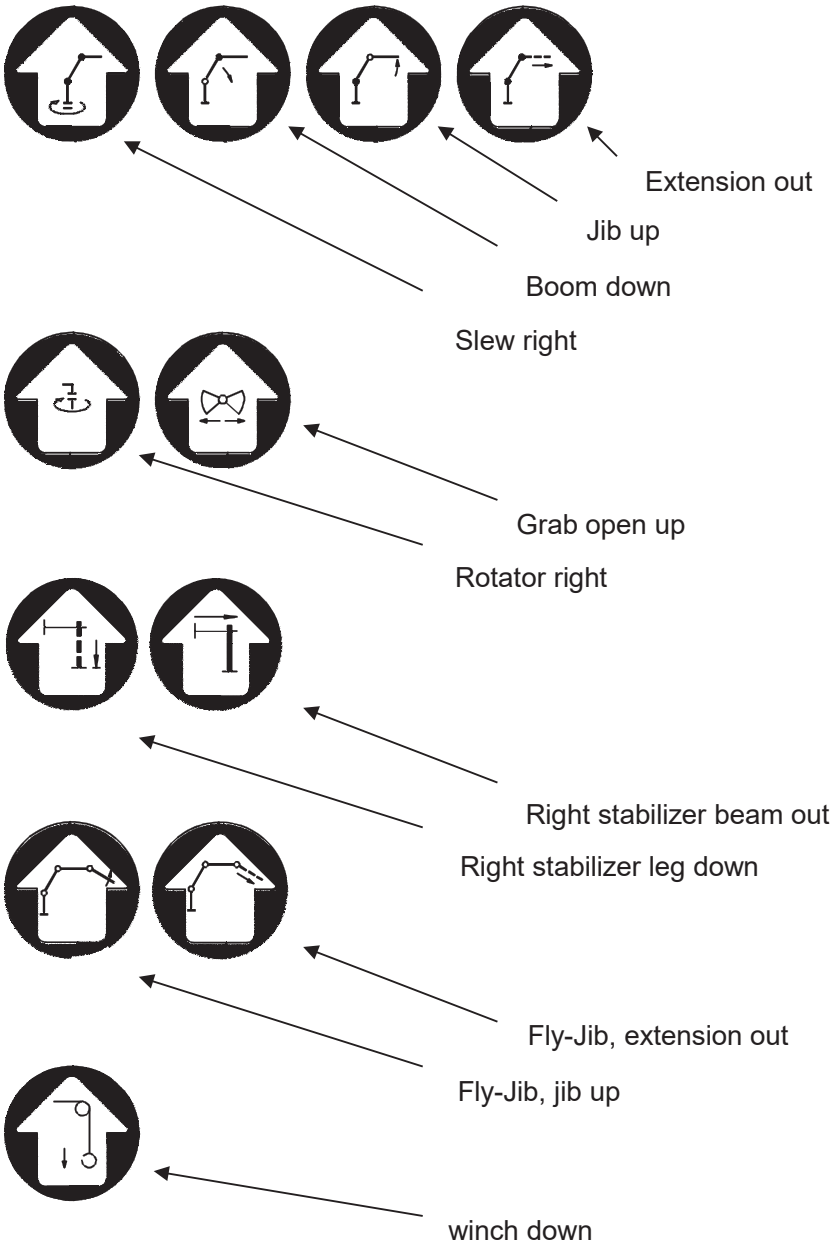
The crane is designed as a truck-mounted crane and therefore stationary mounting of the crane, mounting on agricultural tractors, special purpose vehicles etc. must only take place according to specific agreement with IMT.



1.	Suspension traverse	11.	Column
2.	Control valve, crane	12.	Link arm, boom
3.	Stabilizer beam	13.	Hinge pin
4.	Beam cylinder	14.	Main boom
5.	Stabilizer legs	15.	Jib cylinder
6.	Control valve, stabilizers	16.	Jib pin
7.	Slewing cylinder / pinion	17.	Link arm, jib
8.	Planetary gear	18.	Jib
9.	Boom cylinder	19.	Extensions
10.	Base	20.	Extension cylinders

3. Control valves, symbols

Each control valve has a label showing the functions of that particular valve.



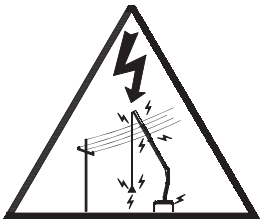
4. Using the loader crane

4.1 Start-up

Before crane operation, the operator must make sure that the crane operation does not entail any unnecessary risk. Special attention must be paid to the following factors:

1. The surface must be stable, level and horizontal.

2. The ground must be sufficiently firm to take up the pressure from the stabilizer legs. Use of stabilizer pads under the footplates are recommended in case of heavy lifting.



3. The ground must not be slippery (i.e. covered with ice or sand). When the parking brake is applied, the truck must be able to take up the horizontal forces from the crane without skidding or moving.

4. The truck must be parked in such a way that the operator has a complete view of the working area.

Safety distance to electric wires

5. The operator must make sure that there are no electric wires or any other obstacles within the working radius of the crane.

6. The area where crane operation takes place must be barred and the operator must inform any unauthorized person that entry into the working area is not permitted.

General rules

For all work in the vicinity of power plants or overhead wires, the following general rules apply:

1. Due care and caution must be exercised in the planning, instructing for and execution of such work in order to prevent any risk or danger to people, equipment or goods.

2. Any power supply plant, installation or wire must be considered live until the responsible power supply authority has provided a declaration to the opposite effect.

3. Any directions or guidelines from the responsible power supply authorities or public bodies should be strictly observed.

Any person or company directly responsible for the implementation of work in the proximity of overhead wires or electric power stations must make sure that all personnel involved in the execution of such work is familiar with any laws, rules or safety regulations, national as well as local, governing such work in the relevant country, territory or zone.

Not until the operator has checked the above, may crane operation start.

1. Activate the parking brake of the vehicle.

2. Engage the PTO at low revolutions.
The engine revolution speed is regulated by means of the hand accelerator in order to ensure that the oil flow from the hydraulic pump corresponds to the recommended pump flow for the crane.
When starting up in the cold, the oil should be allowed to circulate for a few minutes before operation starts.

3. Start-up:

a) Pull out the stop button – remember both sides of the crane, if necessary.
b) Push the green button once on the RCL 5300 controller, the “RUN” diode is lit and the safety system is activated.

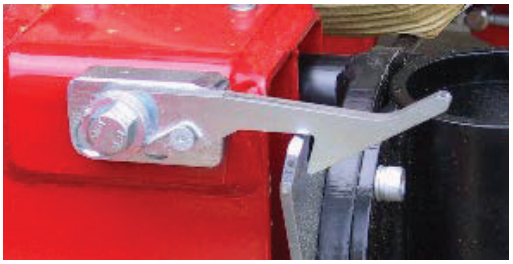
Stabilizer function:
c) Push the yellow button twice and the “FUNC” and “F5” diodes are lit. After 2 seconds the diodes are turned off, but the stabilizer function remains activated.
Now the stabilizer function is activated and items 5 through -7 below must be carried out.

Please note:
On certain crane models the stabilizers are operated by means of the radio remote control.
Please see the **IRC Instruction Manual** .

Crane function:
d) Either: Activate one of the control valve levers of the crane.
or: Push the yellow button twice; “FUNC” is lit and “F5” is turned off.

All crane functions are now activated – carry out item 8.

4. Release the stabilizer lock and the safety lock, extend the stabilizer beam completely, and **lock it again**.



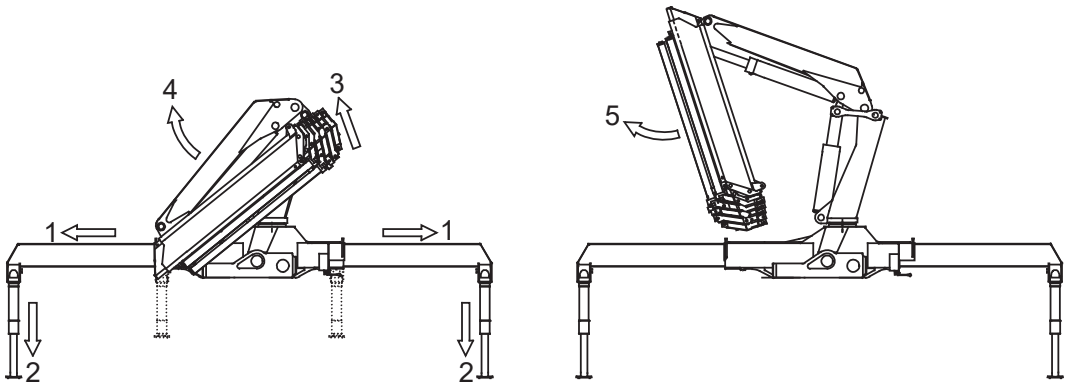
5. If the crane is equipped with a hydraulic extension function, it must **only** be used for extending and retracting the stabilizer beam. The stability of the crane and the vehicle is based on the stabilizers in their extreme position and the crane should only be used at maximum stabilizer spread. The operator must know whether or not the vehicle is stable in the area in front of the stabilizers (over the driver's cab). Lower the stabilizer legs just enough to raise the truck chassis a little in its suspensions. The wheels must still have full contact with the ground. During loading of the truck the stabilizer legs must be raised from time to time, to ensure that the truck carries the weight of the load. The stabilizer legs are not designed to support this excessive load.

6. The best possible crane operation will be achieved when the vehicle is positioned as close to horizontal as possible. Therefore, the vehicle should be levelled to horizontal position by means of the stabilizer legs before the crane is operated.

7. If the ground is not firm enough to take up the pressure of the stabilizer legs, a steel plate, or the like must be placed under the footplates.

8. Unfolding the crane

Unfolding of a knuckle boom crane takes place as set out below.



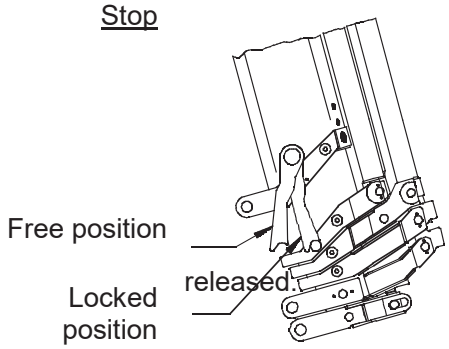
1. Extend the stabilizer beams completely.
   This also goes for the separate traverse (if any).
2. Lower the stabilizer legs according to items 5, 6, and 7.
   This also goes for the separate traverse (if any).

Important:

3. The jib **must** be raised (the "jib down" movement of the lever), so that the jib is released from the bracket.

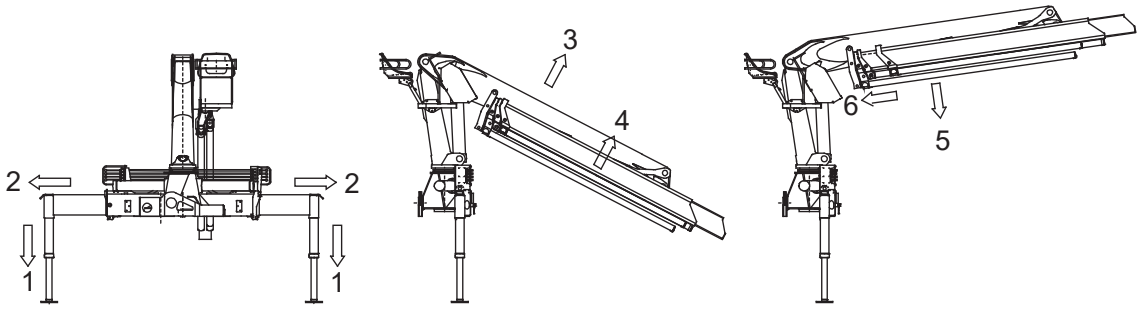
Raise the main boom and thereby release it from the bracket. Raise the main boom somewhat above horizontal, so that the jib can be moved freely downwards.

4. Raise the jib until it is free of the base.



Please note:
In case of cranes equipped with stop bracket on the jib, extend the jib extensions a little, until the stop bracket is

8.2 Unfolding of a long boom range crane (so-called L-crane) takes place as set out below:



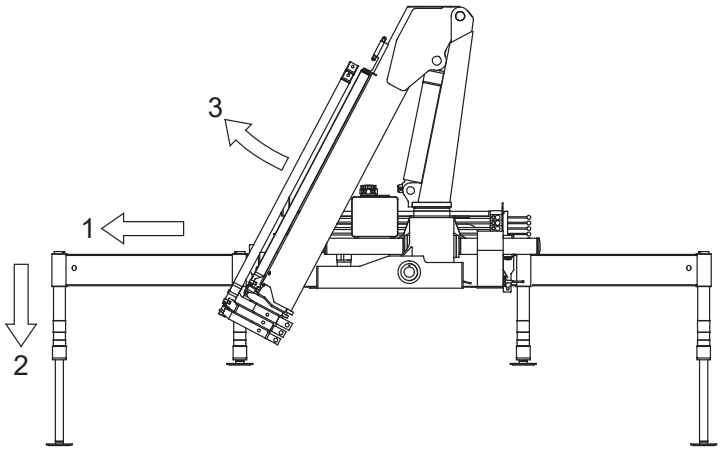
1, 2 and 3 See item 8.1

4. Raise the main boom above horizontal, so much that the jib can be moved freely downwards.

5. Extend the first extension a little, until it is released from the lock plate on the main boom.

6. Lower the jib (the “jib up” movement of the lever) and turn it into the working position required.

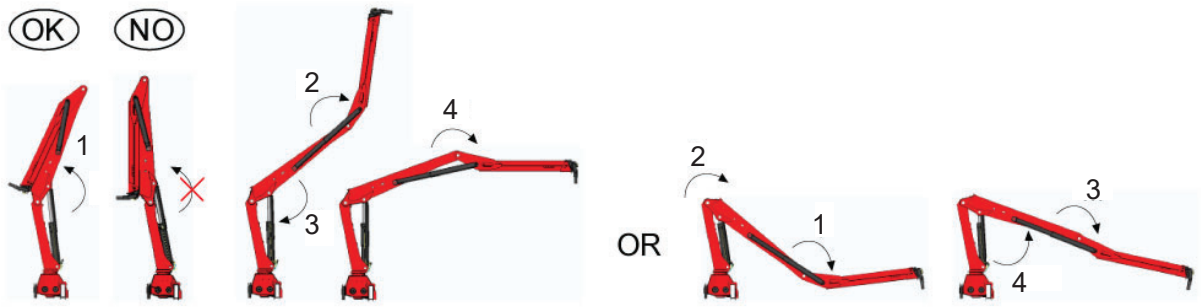
8.3 Unfolding of a T-boom range crane (so-called T-crane) takes place as set out below:



1 and 2 See item 8.1

3. Raise the main boom and thereby release it from the stowing bracket.

8.4 Unfolding of a recycling crane (so-called Z-crane) takes place as set out below:



Extend the stabilizer beams and lower the stabilizer legs as shown in item 8.1.

1. Raise the main boom into a position as indicated (OK), but not completely into vertical position (NO).

2. Raise the jib close to vertical position.

3. Lower the main boom carefully downwards, until the jib forms an angle with the vertical as indicated.

4. Lower the jib exceeding the dead-point. Handle the crane carefully in order to avoid shock movements around the dead-point of the jib.

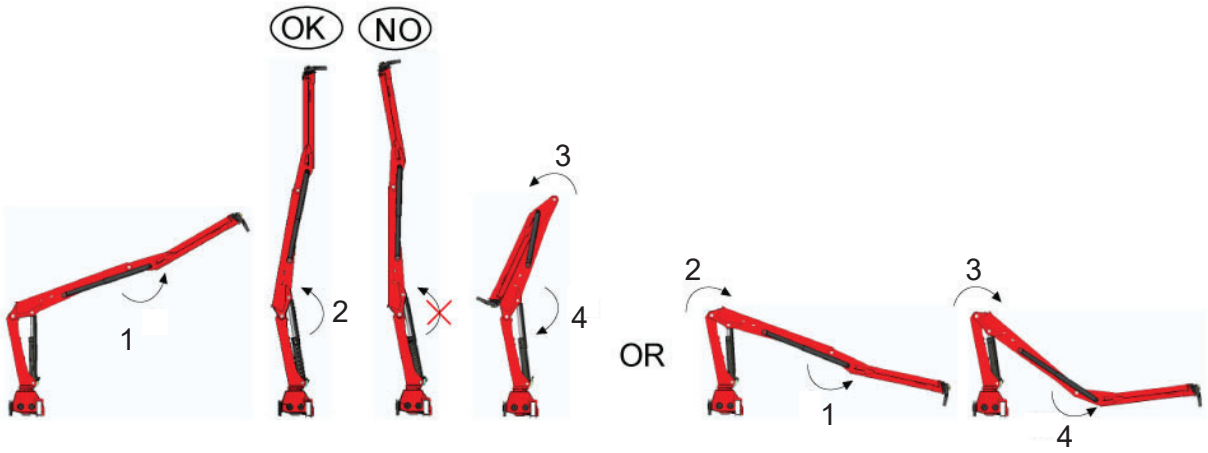
Or

1. Move the jib away from the main boom and lower it till it forms an angle with the main boom as indicated.

2. Lower the main boom below horizontal as indicated, until the tool in the hook suspension touches the surface, and the boom system is released.

3, 4. Carefully raise the main boom and at the same time carefully lower the jib exceeding the dead-point.

8.5 Folding of a Z-crane takes place as set out below:



1. Raise the jib as high up as possible.

2. Raise the main boom, but only so much that the jib exceeds the dead-point by means of its own weight (OK).
Please note: Do not raise the main boom completely into vertical position (NO).
Handle the crane carefully in order to avoid shock movements around the dead-point of the jib.

3. Lower the jib against the main boom.

4. Slew the crane, and lower the main boom into the stowing bracket.

Please note:
This procedure for folding of the crane must not be used, if the crane is fitted with a top seat (TS), where the operator sits behind the column.

Or

1. Raise the jib as high up as possible.

2. Lower the main boom, until the tool in the hook suspension touches the surface, and the boom system is released.

3, 4. Carefully lower the main boom and at the same time carefully raise the jib. The jib is thus pushed till it exceeds the dead-point.
Handle the crane carefully in order to avoid shock movements around the dead-point of the jib.

4. Raise the jib against the main boom. Slew the crane, and lower the main boom into the stowing bracket.

4.2 Using the loader crane

When the crane has been unfolded, the work can begin.

The lifting capacity of the crane appears from the lifting capacity label on the crane and the lifting capacity diagram in the **Crane Data** booklet. The capacity limits indicated must never be exceeded.

The crane is designed to *lift* loads vertically and therefore diagonal stresses should be avoided. It is not permitted to drag loads across the ground using the extension cylinders or the slewing system. These functions must only be activated once the load is free of the ground.

When mounting a grab, the total weight (grab, rotator and sand/contents) must not exceed the crane's lifting capacity at maximum reach. The grab/clamshell bucket must be used for moving excavated soil only. Excavating is not permitted.

Damage caused by maloperation of the crane will not be covered by the guarantee.

If the load is extended so far that the crane's lifting capacity is exceeded, the load moment increasing movements will be stopped. Please see the **Instruction Manual – RCL Safety System**. As regards non CE-cranes, the main boom will slowly begin to sink in case of overloading. To stop this movement, the load should be brought closer towards the crane column by means of the "extension retract"-movement.

Never stand under the boom when the crane is working !

Please note:

Position the truck as closely to the load as possible, so that the load can be lifted on the shortest possible boom.

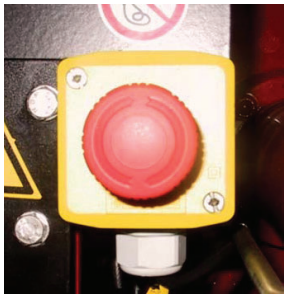
The slewing system should be operated with care, especially when the main boom is at an acute angle with the jib.

Do not activate the stabilizers when the crane is working.

Never drive off with a suspended load.

4.3 Load indicator – stop button

Load indicator
The load indicator states the load moment of the crane in [bar].
When the load moment is increased, the indicator approaches the red **"DANGER OVERLOAD"** zone.
When the indicator reaches the red zone, the crane is 100% loaded, and the load on the crane must not be further increased.



Stop button
If a dangerous situation occurs during crane operation, release the control lever and push the stop button into locked position.
The power supply for the crane is thus interrupted, i.e. the dump valve opens and the oil is led to tank.

4.4 Emergency operation of crane and stabilizer functions

In case of interrupted power supply for the electronic safety and operating system, emergency operation of the crane is possible by following the below instructions. It will thus be possible to fold the crane into transport position, and the vehicle/crane can drive to a service center.

Please note: As an operator you must carry out emergency operation of the crane functions in a calm and considerate way, so that you do not injure yourself.

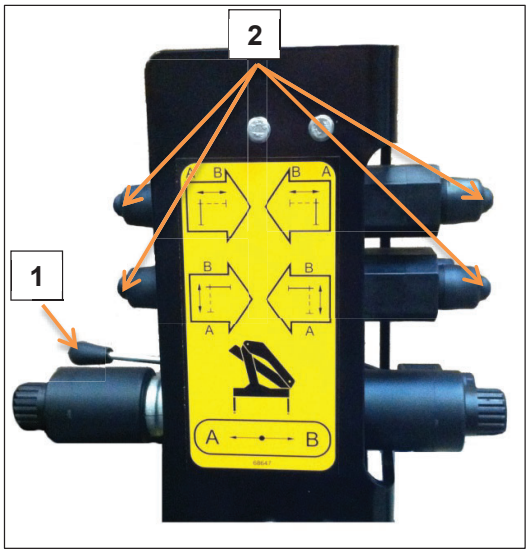
Emergency operation, 6-28 tm loader cranes

Emergency operation of the crane

1. Start the engine of the vehicle.
2. Start up the PTO/the hydraulic pump.
3. Do not start up the RCL 5300 nor the radio remote control
4. Fit a 9 mm spanner on the change-over valve:
   Control valve PVG 32 - photo no. 1
   Take off the cover for sealing on the PVSKM change-over valve to the left, and fit the 9 mm spanner on the hexagonal tap. Depending on the version of the control valve, the change-over valve (the PVSK version) may be mounted in the right side of the valve group (corresponding to photo no. 2).
   Control valve PVG 16 - photo no. 2
   Take off the cover for sealing on the PVSKM change-over valve to the right,and fit the 9 mm spanner on the hexagonal tap.
5. Move the spanner upwards to operate the crane functions and keep it in this position.
6. Carefully operate the crane functions on the PVG 32 control valve by means of the manual control valve levers in the direction you require, by following the directions for use on the label. The PVG 16 control valve is operated by means of the control valve levers delivered not fitted.
7. When operating as stated above, it is possible to fold the crane into transport position.

Emergency operation of stabilizer beams and legs

1. Move the spanner downwards on the PVSKM change-over valve for operating the stabilizer functions and keep it in this position.
2. The lever pos. 1 on the stabilizer control valve determines in which direction the stabilizer functions can be operated. If the lever is operated in direction A, the stabilizer beams can be extended and the stabilizer legs lowered. In direction B it is possible to operate in the opposite direction.
3. While the lever is kept activated in direction B, the “stabilizer leg, up” and “stabilizer beam, retract” movements are operated by activating the push buttons according to the operating instructions on the label.
4. When operating as stated above, it is possible to stow the stabilizer beams and legs in transport position.

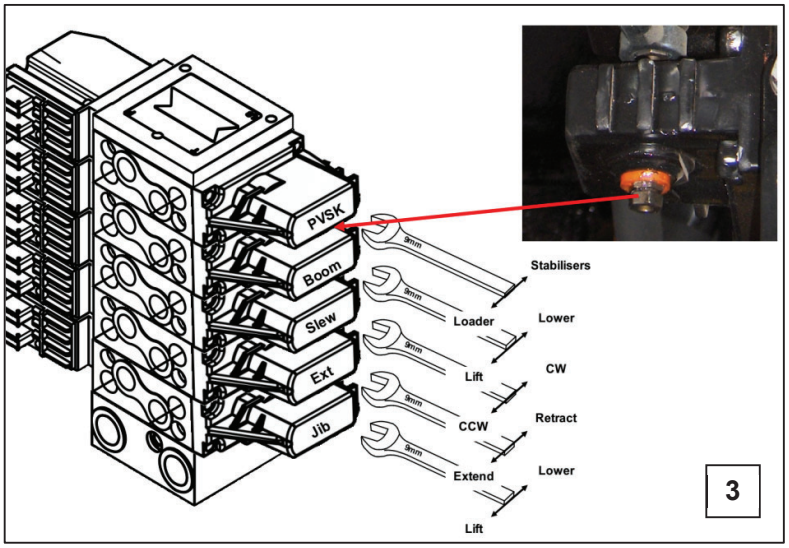


Please note: As an operator you must carry out emergency operation of the stabilizer beams and legs in a calm and considerate way

Emergency operation, 28-95 tm loader cranes

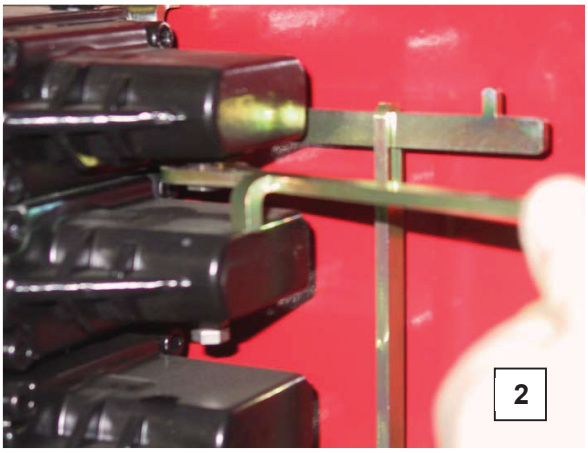
Emergency operation of the crane

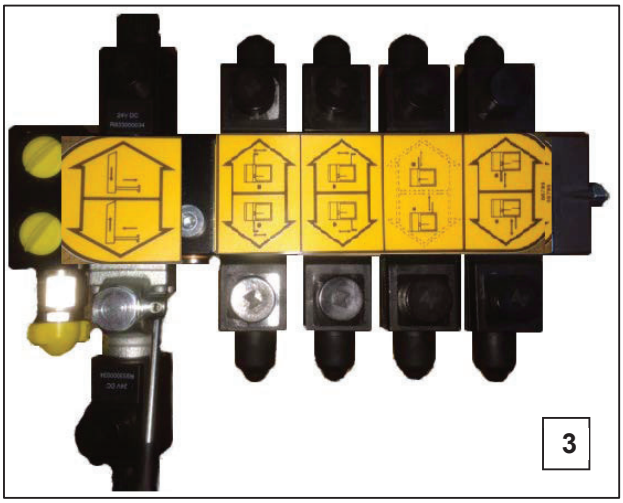
1. Start the engine of the vehicle
2. Start up the PTO/the hydraulic pump.
3. Do not start up the RCL 5300 nor the radio remote control
4. Step up to the side of the crane column and take up a safe position with a secure footing.
5. Dismount the plastic shielding above the control valve on the column by turning the lock pins to the left (photo no. 1).
6. Take off the two 9 mm spanners from the bracket by the control valve (photo no. 2).
7. Put one of the spanners on the hexagonal tap on the section called “PVSK” (photo no. 3).
8. Turn the spanner clockwise in the direction away from the column and keep it in this position.
9. Put the other spanner on the hexagonal tap on the control valve section that you wish to operate.
10. Carefully operate the crane functions by moving the spanner on the crane function and in the direction required by following the instruction shown in photo no. 3.
11. When operating as stated above, it is possible to fold the crane into transport position.

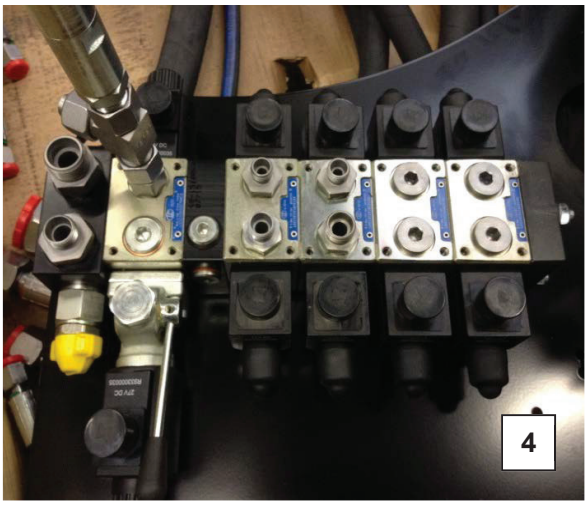


Emergency operation of stabilizer beams and legs

1. Dismount the plastic shielding above the control valve on the base by turning the lock screws to the left (photo no. 1).
2. Put one of the 9 mm spanners on the section called “PVSK” (photo no. 2).
3. Turn the spanner counter-clockwise in the direction towards the column, and in this position it is locked by a holder-up on the lever module on the section next to it (photo no. 2), so it keeps itself in the activated position.
4. Move the control lever on the last valve section to the left (the directional valve) in the direction away from the control valve and keep it in this position - as regards “stabilizer beam, retract” and “stabilizer leg, up (photos nos. 3 and 4).
5. While the directional valve is kept activated (item 4), the “stabilizer leg, up” and “stabilizer beam, retract” movements are operated by activating the push buttons according to the instructions (photo no. 3).
6. The stabilizer cylinders and stabilizer beams of the crane are operated by means of the two valve sections in the middle. The cylinders on the separate traverse, if fitted, are operated by means of the two last valve sections to the right.
7. When operating as stated above, it is possible to stow the stabilizer beams and cylinders in transport position.



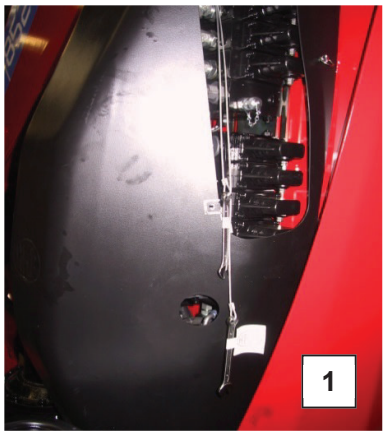


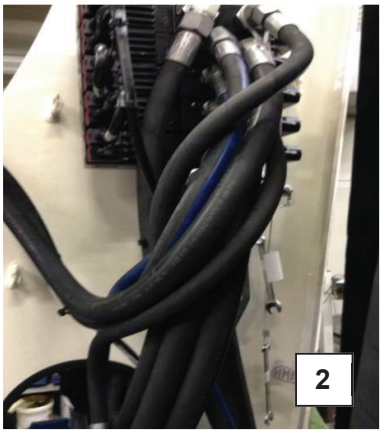


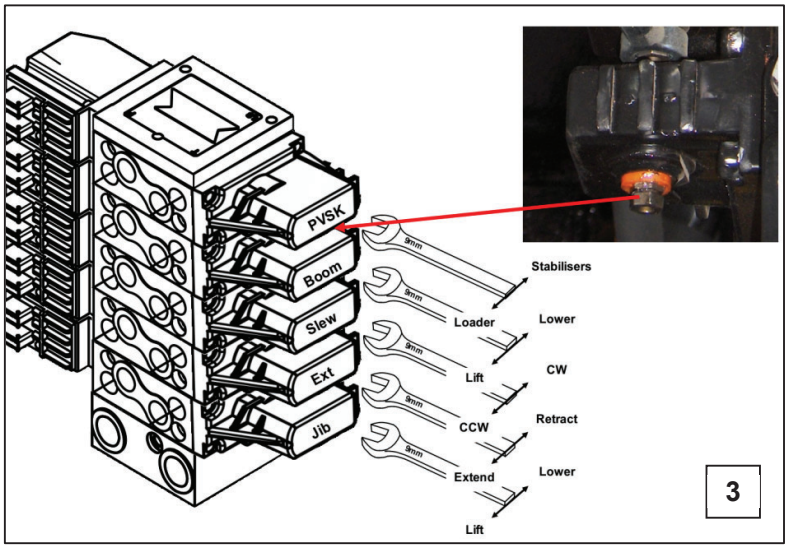
Emergency operation, 51-77 tm loader cranes

Emergency operation of the crane

1. Start the engine of the vehicle
2. Start up the PTO/the hydraulic pump.
3. Do not start up the RCL 5300 nor the radio remote control
4. Step up to the side of the crane column and take up a safe position with a secure footing.
5. Dismount the small plastic shielding on the larger plastic shielding above the control valve on the column by turning the lock pins to the left (photo no. 1).
6. Take out the two 9 mm spanners (photos no. 1 and 2).
7. Put one of the spanners on the hexagonal tap on the section called “PVSK” (photo no. 3).
8. Turn the spanner clockwise in the direction away from the column and keep it in this position.
9. Put the other spanner on the hexagonal tap on the control valve section that you wish to operate.
10. Carefully operate the crane functions by moving the spanner on the crane function and in the direction required by following the instruction shown in photo no. 3.
11. When operating as stated above, it is possible to fold the crane into transport position.
12. If a crane has an extra Danfoss control valve (e.g. for operating boat supports), the dump valve on this must also be held down.

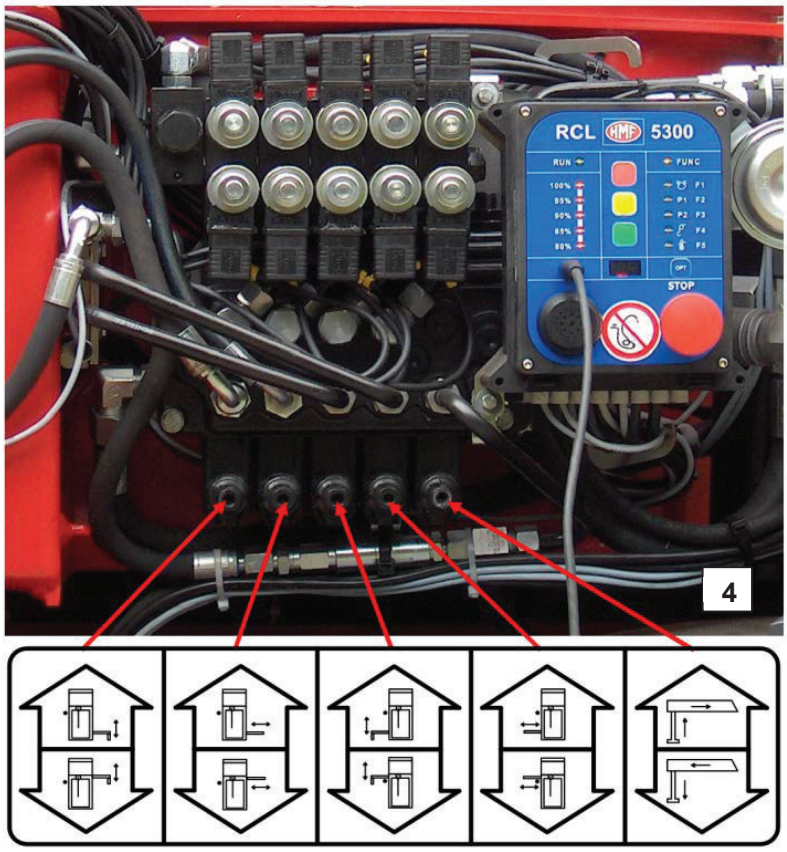






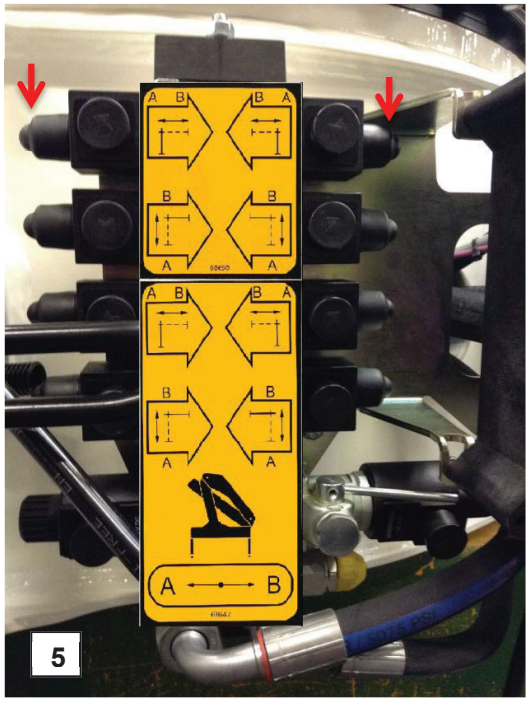
Emergency operation of stabilizer beams and legs, cranes before June - 2015

1. Call an assistant and ask him to step up to the side of the crane column and take up a safe position with a secure footing.
2. He must put one of the 9 mm spanners on the section called “PVSK” (photo no. 3 above).
3. Then he must turn the spanner counter-clockwise in the direction towards the column and keep it in its extreme position.
4. Move the control lever on the directional valve placed furthest to the right on the stabilizer control valve (photo no. 4) upwards, which makes emergency operation of all “stabilizer leg, up“ and “stabilizer beam, retract” functions possible.
5. While the directional valve is kept activated (item 4), the “stabilizer leg, up” and “stabilizer beam, retract” movements are operated by activating the other control levers downwards according to the instructions (photo no. 4).
6. Operation downwards of lever 1 from the left controls the right “stabilizer leg, up” movement of the crane.
7. Operation downwards of lever 2 from the left controls the right “stabilizer beam, retract” movement of the crane.
8. Operation downwards of lever 3 from the left controls the left “stabilizer leg, up” movement of the crane.
9. Operation downwards of lever 4 from the right controls the right “stabilizer beam, retract” movement of the crane.
10. The separate traverse is operated in the same way be operating the levers 1 through 4 upwards.
11. When operating as stated above, it is possible to lift the stabilizer cylinders and retract the stabilizer beams into transport position.



Emergency operation of stabilizer beams and legs, cranes after June - 2015

1. Call an assistant and ask him to step up to the side of the crane column and take up a safe position with a secure footing.
2. He must put one of the 9 mm spanners on the section called “PVSK” (photo no. 3 above).
3. Then he must turn the spanner counter-clockwise in the direction towards the column and keep it in its extreme position.
4. Move the control lever on the valve section at the bottom (the directional valve) in the direction away from the control valve and keep it in this position - “stabilizer beam, retract” and “stabilizer leg, up” (photo no. 5).
5. While the directional valve is kept activated (item 4), operate the “stabilizer leg, up” and “stabilizer beam, retract” movements by activating the push buttons according to the instructions (photo no. 5).
6. The stabilizer cylinders and stabilizer beams of the crane are operated by means of the two valve sections at the bottom. The cylinders on the separate traverse, if fitted, are operated by means of the two valve sections at the top.
7. When operating as stated above, it is possible to stow the stabilizer beams and cylinders in transport position.

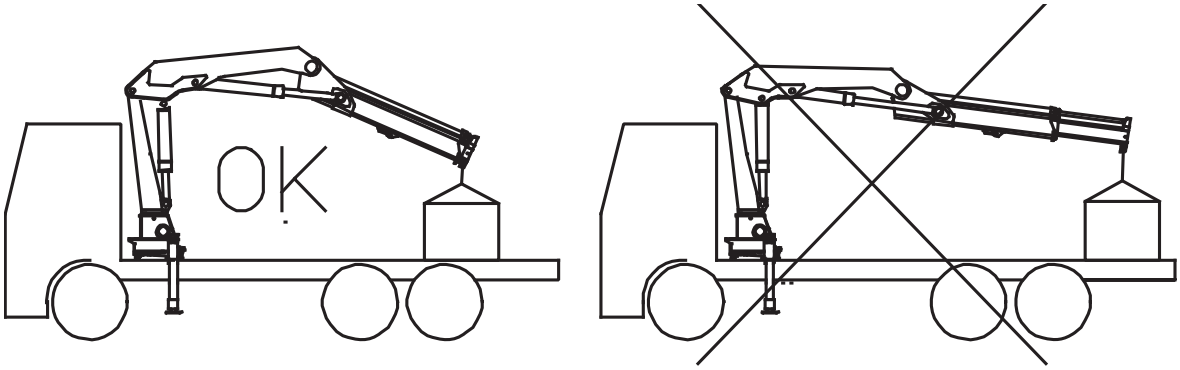


5

4.5 After operation

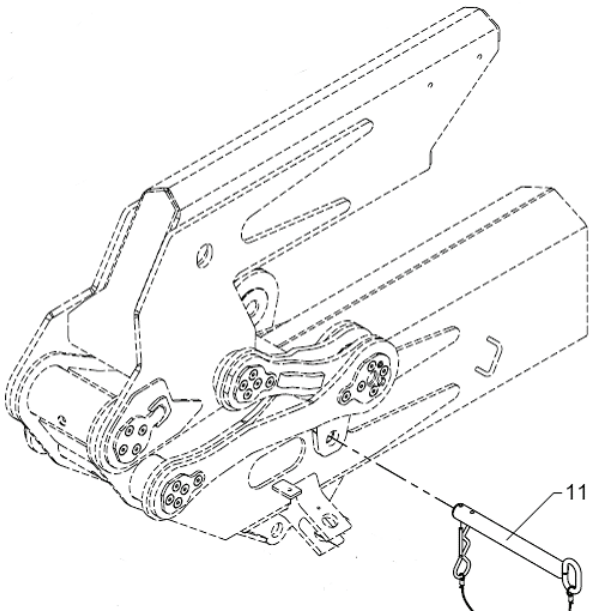
The crane is folded up by reversing the procedure described in item 8 chapter 4.1 “Starting Up”.

If the boom system is parked in the platform body, the extensions must be retracted and the jib must be angled a bit in relation to the main boom.
The boom system must be properly secured to prevent the boom from swinging out during transport. Also the operator must check that the total height does not exceed 4000 mm.



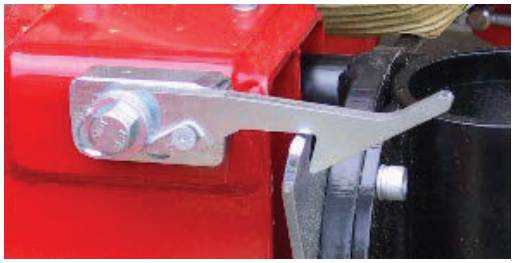
Mechanical securing of the Fly-Jib extensions

If the crane is equipped with Fly-Jib, and it remains fitted in the crane after operation, the lock bolt pos. 11 MUST be fitted correctly with a pin in order to prevent the Fly-Jib extensions from sliding out in case of leakage in the hydraulic system.



Mechanical securing of stabilizer beams

Please note
It is very important to check that both the stabilizer lock and safety lock are in place and properly secured, otherwise the stabilizer beam might extend by itself during transport.



If the crane is equipped with swing-up stabilizer legs, they must also be locked in swing-up position before driving off.

Before the vehicle is started, the PTO must be disengaged; i.e. the pump must be turned off.

4.6 Hydraulic swing-up stabilizer legs

The swing-up system is activated by means of a connecting rod, which is in contact with the footplate of the stabilizer leg, when the stabilizer leg is in swing-up position (see figure 2). The swing-up and swing-down movements of the stabilizer leg takes place at the same time as the "stabilizer - up" or "stabilizer - down" movement is activated.

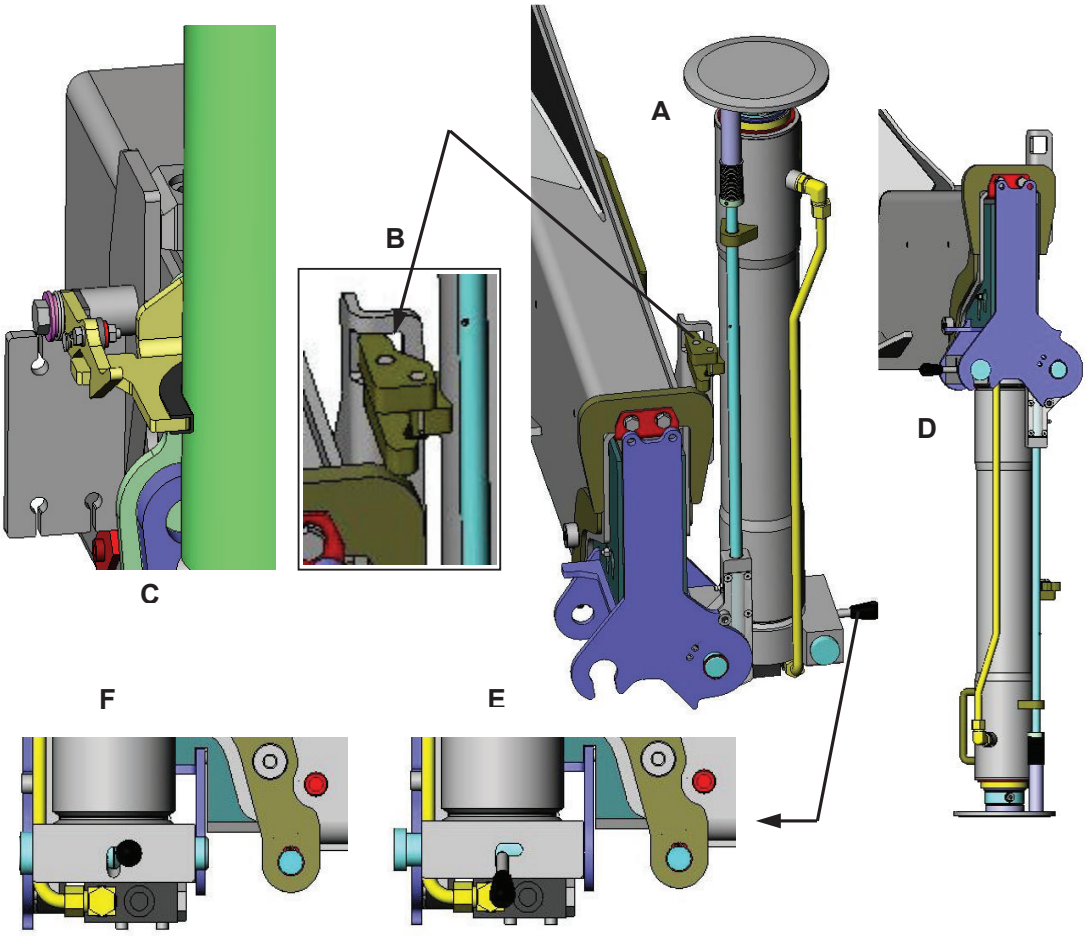


Figure 2

Swinging down the stabilizer leg from its stowing position

1. In stowing position **(A),** the stabilizer leg is fixed in a bracket **(B).** Before extending the stabilizer beam, you must ensure that the stabilizer leg is completely swung up against stop in stowing position, and that the rod of the swing-up system is in contact with the footplate.
2. Deactivate the safety lock **(C),** and extend the stabilizer beam. Keep a safe distance to the rotation area of the stabilizer leg!
3. Deactivate the lock for rotation of the stabilizer leg – position **(E)**, so that it is possible to swing down the stabilizer leg. Keep a safe distance to the rotation area of the stabilizer leg!
   *If you try to swing down the stabilizer leg without deactivating this lock, you must repeat the procedure in item 1. Otherwise there is a risk of the stabilizer leg swinging down at uncontrolled speed, after deactivating the lock **(E)**.*
4. Carefully operate the ”stabilizer leg – down” function, and the stabilizer leg swings down.
5. When the stabilizer leg is completely swung down, activate the lock for rotation of the stabilizer leg – position **(F).**
6. Lower the stabilizer leg until the vehicle is correctly supported.

Swinging up the stabilizer leg into stowing position

1. Raise the stabilizer leg a little bit till the footplate no longer touches the surface.
2. Deactivate the lock for rotation of the stabilizer leg - position **(E).**
3. Raise the stabilizer leg – the last bit very slowly – until the rod of the swing-up system is in contact with the footplate.
4. Carefully activate the ”stabilizer leg – up” function, and the stabilizer leg swings up.
5. When the stabilizer leg is completely swung up against stop in stowing position, activate the lock for rotation of the stabilizer leg – position **(F).**
6. Retract the stabilizer beam and activate the safety lock **(C).**

5. Maintenance

Careful maintenance of the crane is the best way to ensure reliable crane operation at all times. At regular intervals - every day or every week, depending on frequency of crane application, the following should be carried out:

1. Check the oil level in tank. The oil must be visible in the oil level indicator of the tank when the crane is folded.
   If the crane is equipped with a planetary gear, check the oil level in it.

2. Make sure that any defects, damage or leaks are repaired at an authorized IMT service center as soon as they are discovered.

3. Check that mounting of crane to truck is safe.

4. Slide blocks and bushings reduce friction and therefore they are naturally subject to wear and tear. Replace slide blocks if too much free play is found in the boom system. Replace bushings before the metal components physically touch each other.

5. Check all hoses for defects and kinks.

6. Check that hooks, wire ropes, straps and the like are in good working order.

7. Check all lock pins and bolts for wear and tear.

Important:
If the crane is not folded after use, make sure that all cylinders are completely retracted at least once a day. The protective oil coat on the piston rods is thus maintained, preventing corrosion from occurring on the chromium surface.

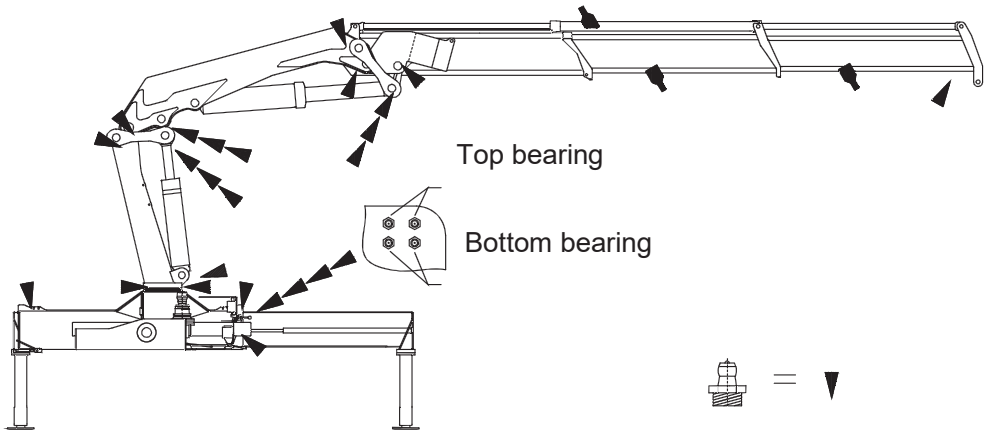
5.1 Lubrication intervals

The pinion of the column/the planetary gear, if any	after 50 hours of operation /1 month (whatever occurs first)
Turntable	after 50 hours of operation /1 month (whatever occurs first)
The rack/the pinion of the column (crane base excl. oil)	after 50 hours of operation /1 month (whatever occurs first)
Base bearings	after 20 hours of operation/1 week (whatever occurs first)
Jib extension system/slide blocks	after 50 hours of operation /1 month (whatever occurs first)
Guide rail on extension cylinders	after 50 hours of operation /1 month (whatever occurs first)
Pin connections	after 50 hours of operation /1 month (whatever occurs first)
Stabilizer beams	when required
Control valve and connecting rods (oil spray)	when required

Note: After some time of standstill, the crane has to be lubricated again independently of the above lubrication intervals.

5.2 Lubrication chart

Example of a lubrication chart. For specific crane model, please see lubrication label on crane/Fly-Jib.

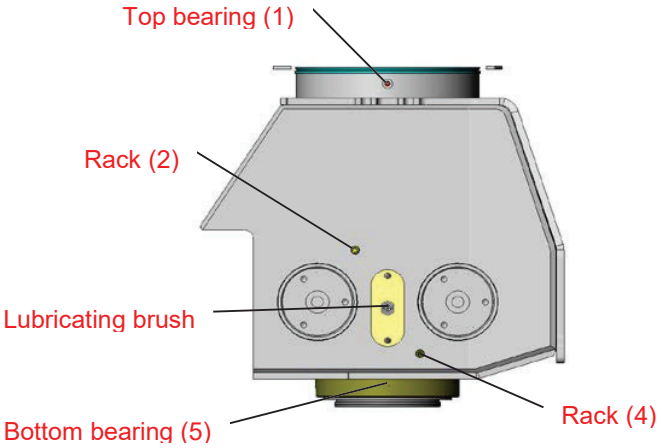


The slewing system should be activated and the crane swung from stop to stop several times within the whole slewing area at the same time as the bearings in the base are lubricated.

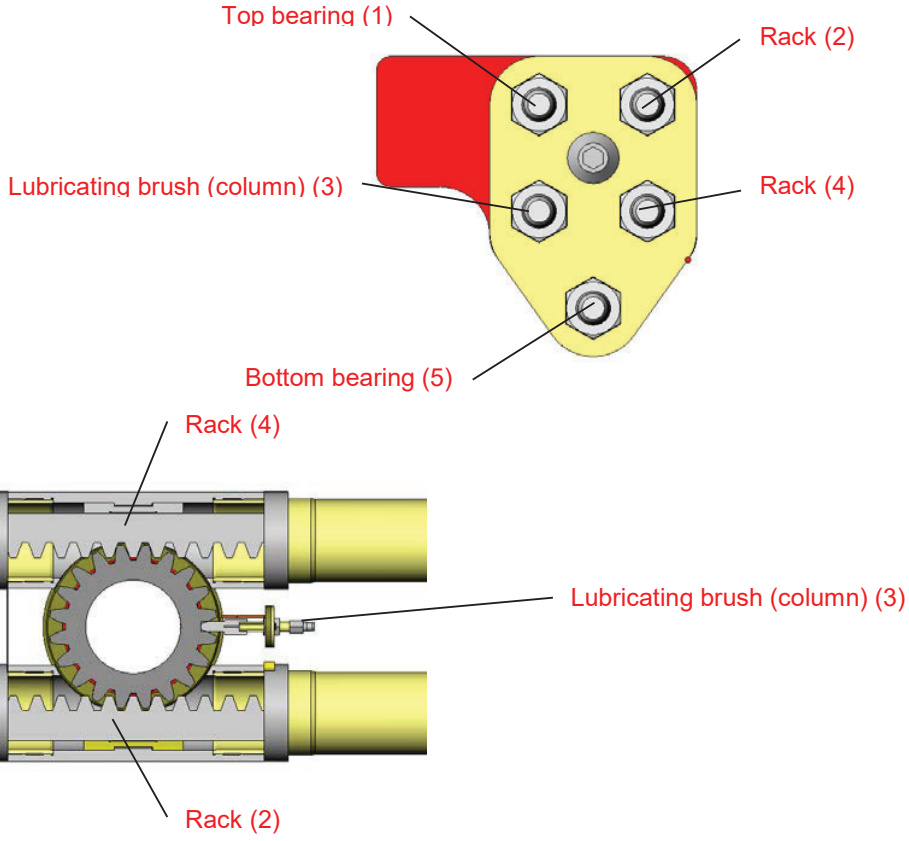
The jib extensions and the planetary gear are lubricated with a special grease, please see chapter 5.3.

Lubrication of crane base

Example



Cranes that do not have oil in the base are lubricated by pumping grease (NLGI 2) to the crane column, the top and bottom bearings as well as the rack/s (2 or 4 slewing cylinders), while the crane is swung from stop to stop several times.
Repeat greasing point no. 3 twice.



Hydraulic oil and lubricating grease must fulfil the specifications according to the Service Booklet.

6. Optional extras

Various extras are available with the crane such as Fly-Jib, manual extensions, winch, grab / rotator, pallet fork and radio remote control.

Some crane models can as standard be equipped with optional extras such as manual extensions, winch and Fly-Jib.
For these cranes you will – apart from the description in this manual – also find enclosed Crane Data incl. lifting capacity diagrams for the Fly-Jib.
You should always consult an authorized IMT dealer/service center before mounting any kind of optional extra. This also applies to equipment already in your possession.

Please note:
All optional extras on the crane must be protected by the safety system.
Please see the *Instruction Manual – RCL Safety System*.

Welding onto or drilling into the structural components of the crane will automatically invalidate any liability on the part of IMT.

6.1 Manual extensions

When working with manual extensions, please note:

The load limits indicated on the lifting capacity diagram for manual extensions must never be exceeded.

Great care should be taken if the slewing system is to be activated during work with manual extensions.

If the crane is fitted with manual extensions or other equipment, the lifting capacity of the crane must be reduced by the weight of this equipment.

Always check that lock bolts are fitted correctly with a pin.

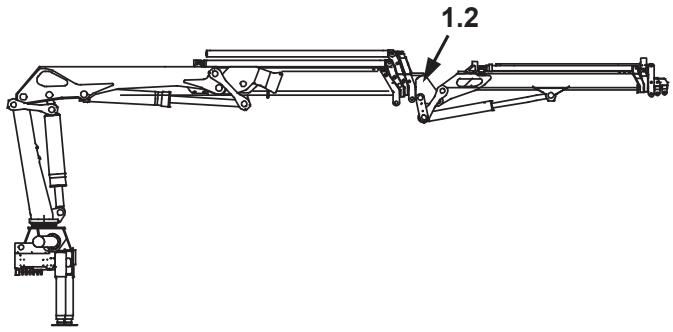
If the crane is fitted with several extensions and a certain lifting job requires the use of one extension only, use the extension with the largest box profile.

Only pull out the manual extensions when the jib is as close to horizontal as possible.
If the jib is pointing downwards when the lock bolt is removed, the extensions will drop out at uncontrollable speed. This may ruin the stop at the risk of resulting in personal injury.

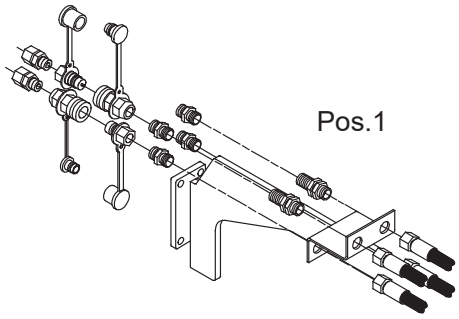
The load must not be extended from the stop, i.e., the extension lock pins must always remain in place.

6.2 Fly-Jib

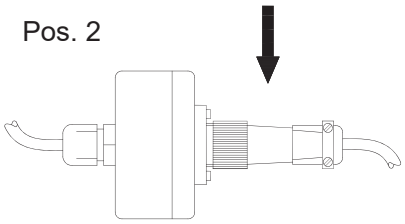
A Fly-Jib, which is fitted at the end of the jib extensions, is detachable, and therefore there are hydraulic quick-release couplings and an electric plug and socket-outlet (pos. 1, 2), which must be removed and re-fitted.



When the Fly-Jib is dismounted, all quick-release couplings must be plugged up with dust caps in order to avoid penetration of dirt in the hydraulic system (pos. 1).



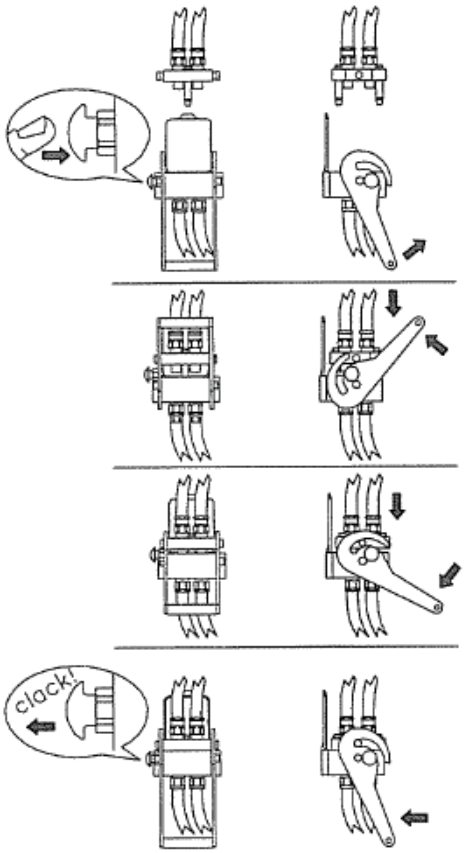
When working with Fly-Jib, the electric plug must be fitted on the plug box (pos. 2).
When the Fly-Jib is dismounted, the dummy plug must be fitted. Keep the dummy plug in the driver's cab when not in use.



Also the Fly-Jib is protected against overloading by the RCL Safety System in its entire lifting area, please see the **Instruction Manual – RCL Safety System**.

On certain crane models, all hydraulic connections are connected and disconnected by means of a multi-coupling system.

Please note: The hydraulic system must be de-pressurized before connection and disconnection.



Connection

- Take off the dust cap.
- Hold down the lock knob, while lifting the lever.
- Push the movable part against the fixed part.
- Move the locking pins against the curved slot in the lever.
- Push the lever completely down against stop.
- Correct connection has been obtained when the lock knob jumps out.

Disconnection

- Hold down the lock knob.
- Lift the lever till the locking pins are free of the curved slot in the lever.
- Pull out the movable part from the fixed part.
- Put on the dust cap.

Please note: Both the fixed and the movable part must be thoroughly cleaned before assembling.

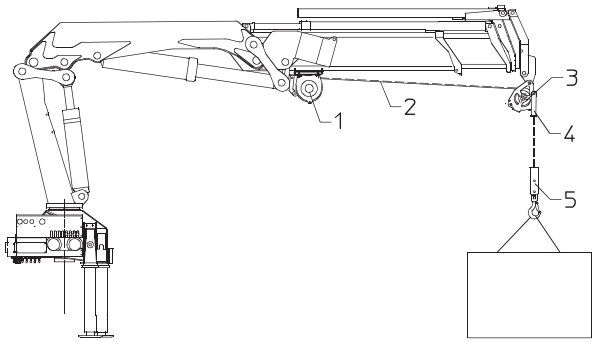
Good advice when working with crane and Fly-Jib

- When the Fly-Jib is mounted, always check that the lock bolt is fitted correctly with a pin.
- The load limits indicated on the lifting capacity diagram of the manual extensions must never be exceeded.
- The Fly-Jib increases the crane's reach considerably. Therefore generally operate the crane in a calm and considerate way.
- Lower a load carefully, when working in high positions with crane and Fly-Jib. The load moment is increased suddenly and very fast, and can easily lead to serious overloading/instability.
- Always carry out a slewing movement carefully. Especially when moving a heavy load at a long reach.

6.3 winch

A winch system on an IMT crane can be designed as indicated on the below sketches, where the winch is fitted on the jib.

winch (pos.1)
Depending on the size of the crane, three types of winch are used with a mean wire pull of 1.5 t, 2.5 t or 3.2 t respectively.



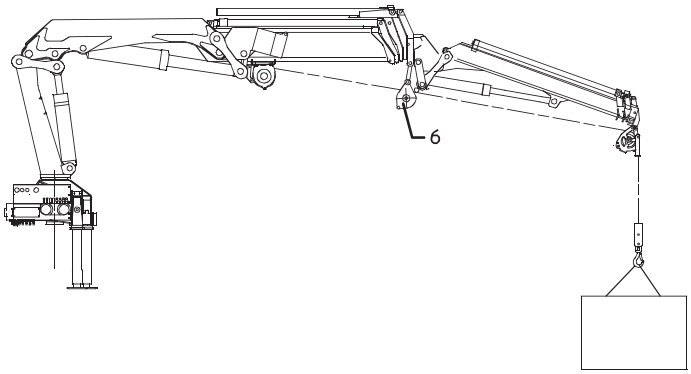
Wire (pos. 2)
The wire rope is of a torsion free type, and two standard types are used with a diameter of Ø10 or Ø12 mm respectively.

Please note: Do not use a wire rope with another diameter, because there are grooves in the surface of the winch drum.

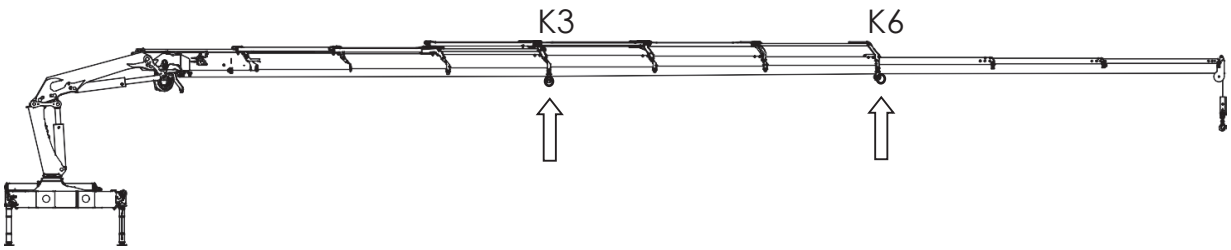
Wire pulley (pos. 3)
At the end of the jib next to the hook suspension of the crane, the wire rope runs over a wire pulley with a winch stop bracket (pos. 4) or another stop device, which makes out the stop for the swivel hook.

Swivel hook (pos. 5)
A swivel hook is fitted to the wire rope. At the same time the swivel hook functions as a counter weight, which can keep the wire rope tight in case of a high boom position.
On the swivel hook there is a sticker indicating the max. permissible load on the wire rope (SWL).

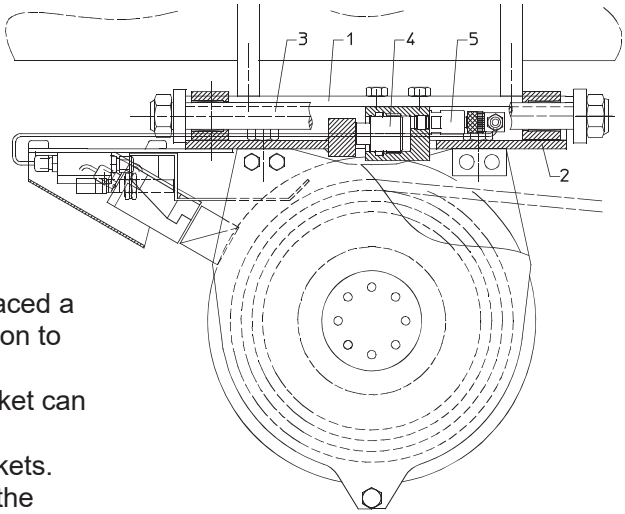
Wire roller guide (pos. 6)
If also a Fly-Jib has been fitted in connection with the winch, the wire rope is kept close to the jib extensions by means of a wire roller guide.



Depending on crane type, it is necessary to use a wire roller guide for approx. every 3rd - 4th hydraulic extension/manual extension.

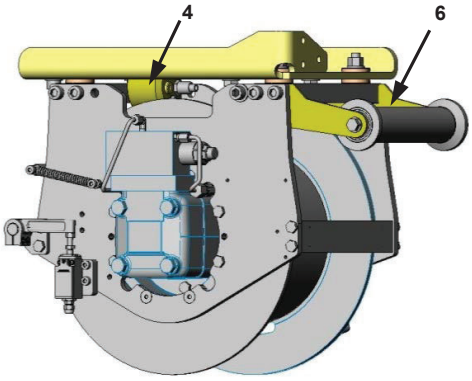


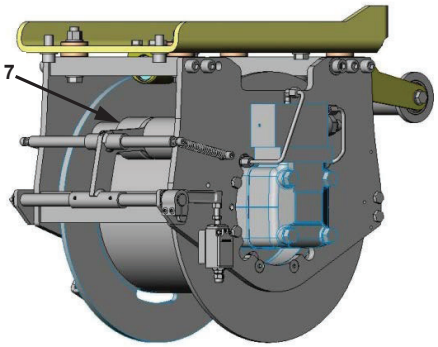
Installation of the winch on the jib

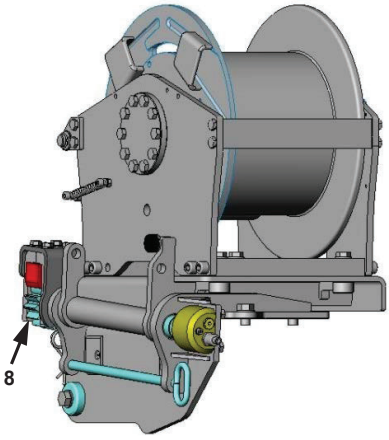


The winch itself is fitted to a winch bracket, which, depending on crane type, can be designed as indicated in the sketch:

- A fixed bracket (pos. 1) is welded onto the jib of the crane.
- A movable bracket (pos. 2) which can be displaced a bit in the longitudinal direction of the jib in relation to the fixed bracket.
- Two axles (pos. 3), on which the movable bracket can be displaced.
- A cylinder (pos. 4), fitted between the two brackets. The tractive effort from the wire rope is led via the movable bracket directly onto the cylinder. The oil pressure in the cylinder is thus constantly proportional to the wire pull.
- A pressure transducer (pos. 5) is fitted in the cylinder, which converts the hydraulic pressure in the cylinder into electric voltage. The voltage variation, which is proportional to the wire pull, is thus the control signal for the safety system. Please see the *Instruction Manual – RCL Safety System*.
- On certain winch types, a conical wire roller (pos. 6) is fitted, which prevents lopsided winding of the wire rope along the flange of the cable drum.
- On certain winch types, a wire rope pressure drum (pos. 7) is fitted on the back of the winch. The wire rope pressure drum activates a sensor, when there are 3 winds of cable left on the cable drum (the safety system stops the ease movement), as well as it ensures a correct winding of the wire rope.
- A winch, which is fitted on the main boom, can have a swing-up stowing bracket, swinging up from the side till on top of the main boom (pos. 8).







Warning when working with crane and winch

- The crane safety system prevents the crane and winch system from being overloaded, but being the operator you are still responsible for safe operation of the crane/winch.
- Do not try to lift a load that weighs more than indicated on the SWL label on the swivel hook. The value indicates the max. permissible stress on the wire rope.
- Always operate the winch in a considerate way, and make sure that the wire rope has a correct winding and not for instance lopsided winding.
- Never make diagonal movements with the winch. Only make vertical lifts with a winch.
- Never drag a load across a surface. The winch is only meant for lifting vertically.
- Constantly keep the wire rope tight when working with a winch. Stop the *winch down* movement as soon as the load is placed on the surface.
- Always operate the *winch up* movement carefully when the hook reaches the winch stop.
- Avoid fast movements with the winch when working at a long reach.
- Avoid oscillation of the load when it is hanging in a long wire rope.
- Operate the winch carefully up and down, when working in high positions with crane and Fly-Jib, and manual extensions, if any.
- Extend the jib extensions to the position where the load is to be handled by means of the winch. Avoid extending the extensions on the crane and the Fly-Jib when a load is hanging in the wire rope.
- Always respect when the safety system stops the crane/winch function and check what was the reason for the crane stop.

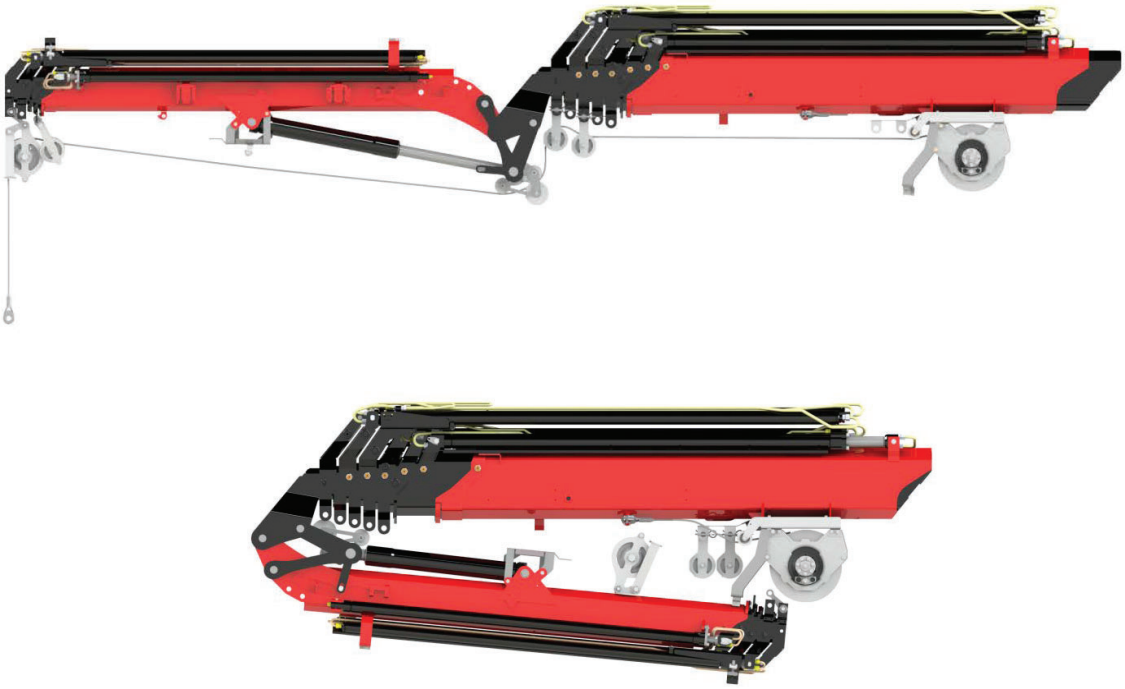
6.4 Cranes with winch and Fly-Jib

The following pages are a step-by-step guide concerning unfolding and stowing of IMT cranes with winch and Fly-Jib.

Preparing, unfolding and stowing of crane with winch and FJ350

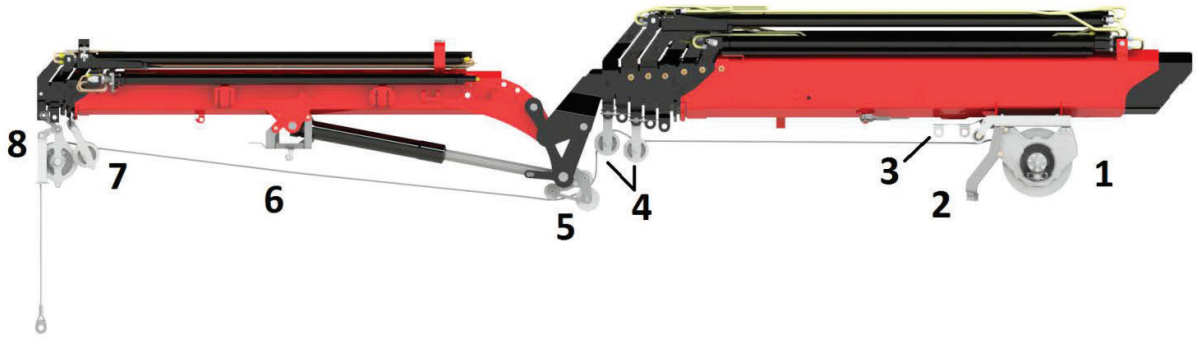
The guide applies to the following cranes that are available with both winch and FJ350:

For example: 1720-K4, 1720-K5, 1820-K4, 1820-K5, 2020-K5, 2120-K5, 2420-K6 and 2620-K6.



Illustrated by the FJ350-K4 fitted on a 2620-K6

Parts for using a winch on a crane with a FJ350



1: The winch may be one of the following:
P9E (1.5 t) with mounting fittings and load cylinder. Part number: 63 42 360.
P15E (2.5 t) with mounting fittings and load cylinder. Part number: 63 42 340

2: Stowing of winch.
P9E. Part number: 63 48 490.
P15E. Part number: 63 48 470.

3: Stowing for wire roller guides in case of basic cranes with 4 or 5 extensions. Part number: 63 48 520.

4: Wire roller guide. Use two (2) in case of a 2420-K6 and a 2620-K6. Part number: 63 04 410.

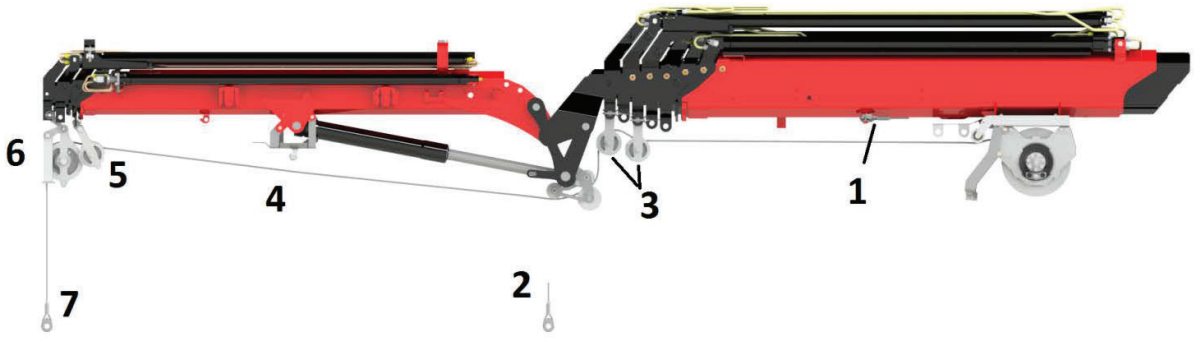
5: Guide rollers on Fly-Jib. Part number: 63 48 460.

6: Wire guide roller. Part number: 63 48 480.

7: Wire roller guide in case of FJ350 with 4 extensions. Part number: 63 48 510.

8: Wire pulley. Part number: 63 48 500.

Preparation of crane with FJ350 before use of the winch for the first time.



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Dismount the wire rope from the jib.

2: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

3 : Fit the wire roller guide on the fourth jib extension with the wire rope over the wire sheave. Also fit a wire roller guide on the sixth extension in case of the 2420-K6 and 2620K-K6 cranes.

4: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

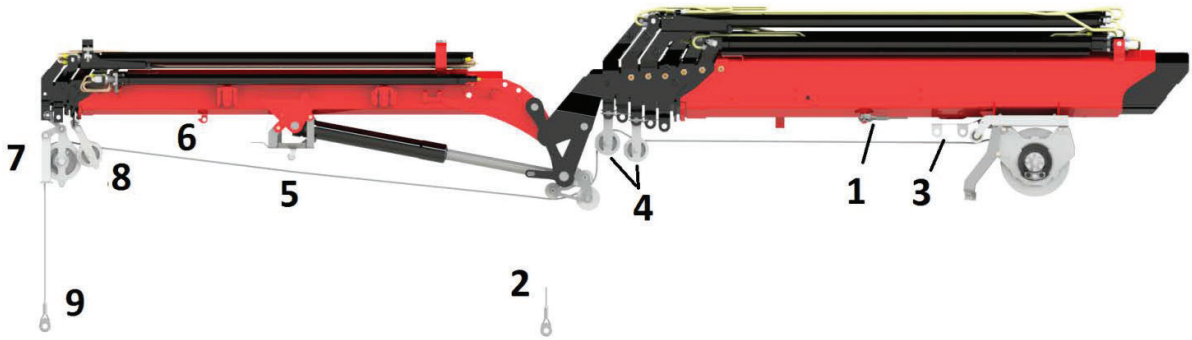
5: Fit the wire roller guide on the first extension of the Fly-Jib.

6: Fit the wire pulley on the last extension of the Fly-Jib.

7: Now lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave.

Now the crane is ready for using a winch.

Unfolding of crane with FJ350 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated.

1: Dismount the wire rope from the jib.

2: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

3 & 4: Move the wire roller guide from the bracket for wire roller guides (3) to the fourth jib extension (4) with the wire rope over the wire sheave. Also fit a wire roller guide on the sixth extension in case of the 2420-K6 and 2620K-K6 cranes.

5: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

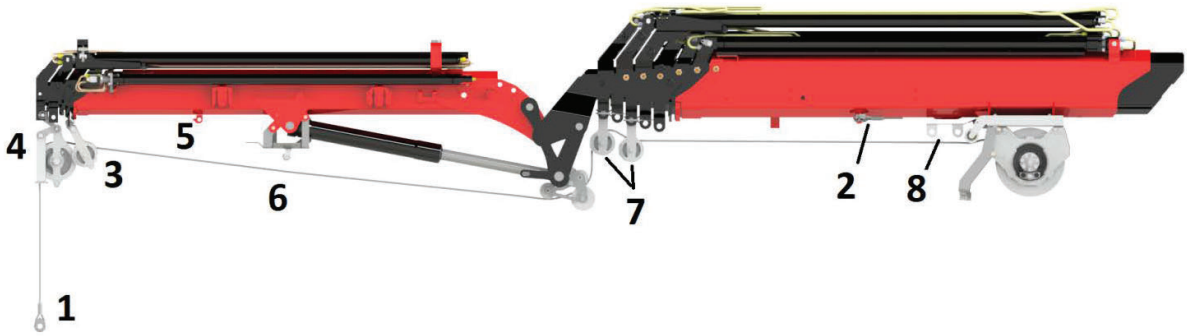
6 & 7: Move the wire pulley from position 6 to the end of the Fly-Jib (7).

8: Fit the wire roller guide on the first extension of the Fly-Jib.

9: Lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave.

Now the crane is ready for using a winch.

Stowing of crane with FJ350 and winch



Before stowing of the crane after using the winch, it is important to dismount certain components.

1 & 2: Lead the wire rope through the wire sheave, the wire roller guides and the guide roller. Place the wire rope thimble on the jib (2).

3: Dismount the wire roller guide on the Fly-Jib and store it away.

4 & 5: Dismount the wire pulley from the end of the Fly-Jib (4) and mount it on the jib of the Fly-Jib (5).

6: Dismount the wire guide roller and store it away.

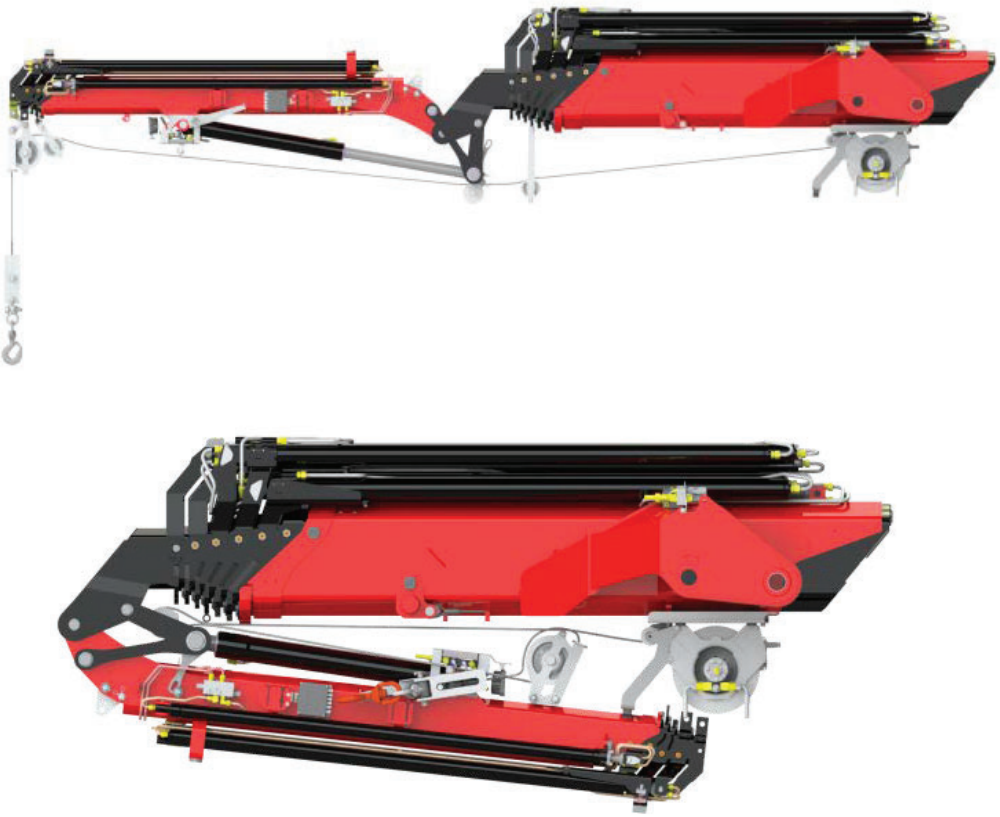
7 & 8: Move the wire roller guides on the jib of the crane from position 7 to the bracket for wire roller guides (8).

It is now possible to fold up the crane to stowing position.

Preparing, unfolding and stowing of crane (17 through 25 tm) with FJ600 and winch

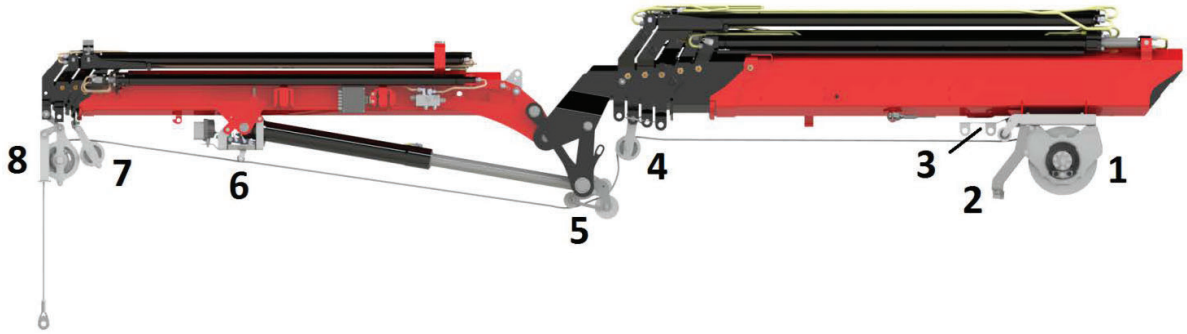
The guide applies to the following cranes that are available with both winch and FJ600:

For example: 1720-K3, 1820-K3, 2020-K3, 2020-K4, 2120-K3, 2120-K4, 2420-K4, 2420-K5, 2620-K4 & 2620-K5



Illustrated by the FJ600-K4 fitted on a 2620-K5

Parts for using a winch on a crane (17 through 25 tm) with a FJ600



1: The winch may be one of the following:
P9E (1.5 t) with mounting fittings and load cylinder. Part number: 63 42 360
P15E (2.5 t) mounting fittings and load cylinder. Part number: 63 42 340

2: Stowing of winch.
P9E. Part number: 63 48 490
P15E. Part number 63 48 470

3: Stowing for wire roller guides in case of basic cranes with 4 or 5 extensions. Part number: 63 48 520

4: Wire roller guide. Part number: 63 04 410

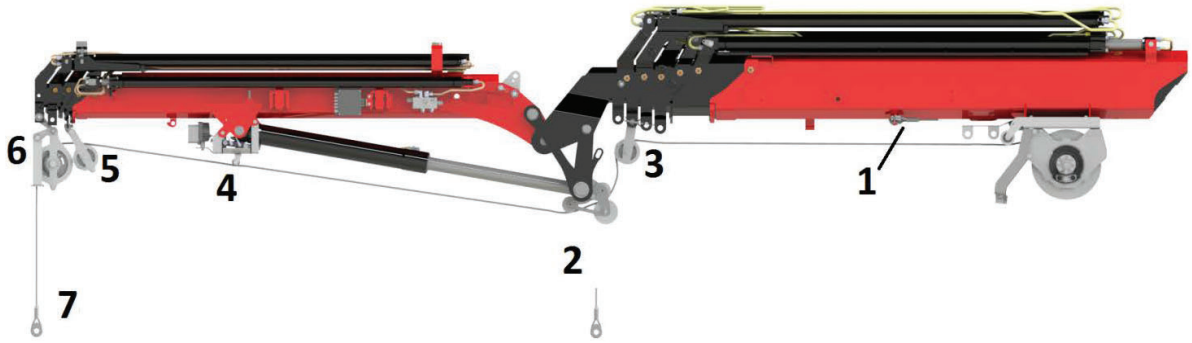
5: Guide rollers on Fly-Jib. Part number: 63 48 460

6: Wire guide roller. Part number: 63 48 480

7: Wire roller guide in case of FJ600 with 4 extensions. Part number: 63 48 510

8: Wire pulley. Part number: 63 48 500

Preparation of crane (17 through 25 tm) with FJ600 before use of the winch for the first time



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Dismount the wire rope from the jib.

2: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

3: Fit the wire roller guide on the fourth jib extension with the wire rope over the wire sheave.

4: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

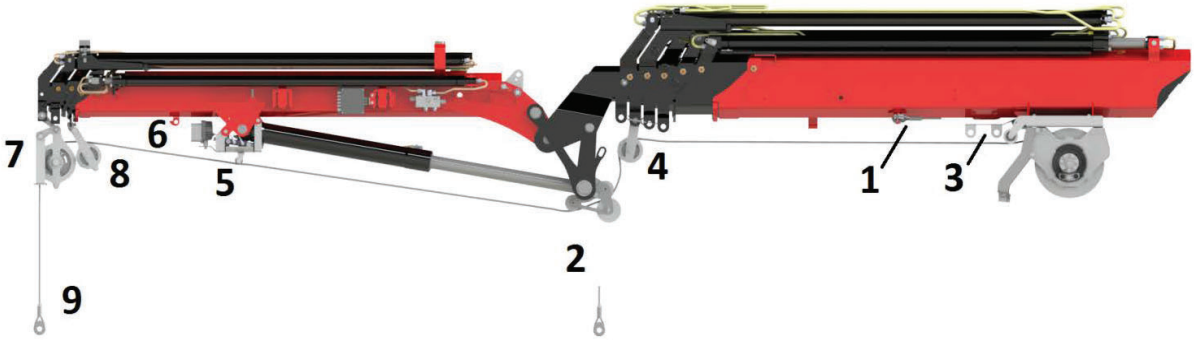
5: Fit the wire roller guide on the first extension of the Fly-Jib.

6: Fit the wire pulley on the last extension of the Fly-Jib.

7: Now lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave.

Now the crane is ready for using a winch.

Preparing, unfolding and stowing of crane (17 through 25 tm) with FJ600 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated.

1: Dismount the wire rope from the jib.

2: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

3 & 4: Move the wire roller guide from the bracket for wire roller guides (3) to the fourth jib extension (4) with the wire rope over the wire sheave.

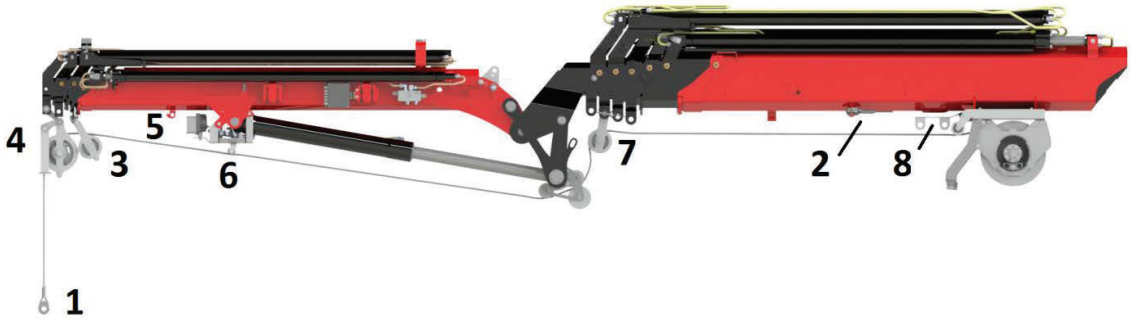
5: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

6 & 7: Move the wire pulley from position 6 to the end of the Fly-Jib (7).

8: Fit the wire roller guide on the first extension of the Fly-Jib.

9: Lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave. Now the crane is ready for using a winch.

Stowing of crane (17 through 25 tm) with FJ600 and winch



Before stowing of the crane after using the winch, it is important to dismount certain components.

1 & 2: Lead the wire rope through the wire sheave, the wire roller guides and the guide roller. Fit the thimble on the jib (2)

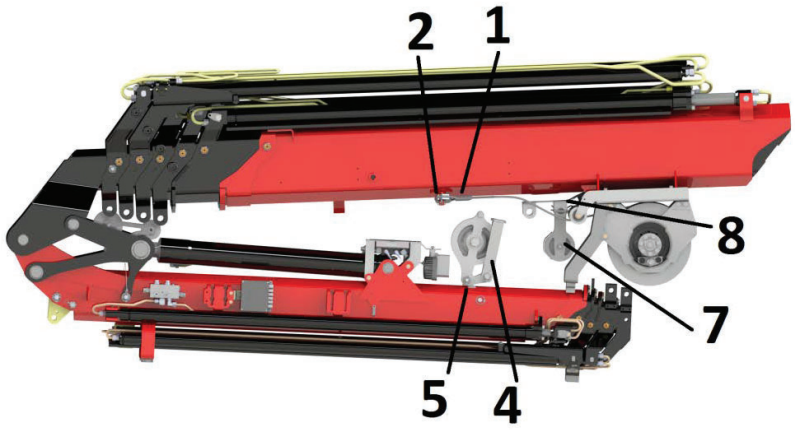
3: Dismount the wire roller guide on the Fly-Jib and store it away.

4 & 5: Dismount the wire pulley from the end of the Fly-Jib (4) and mount it on the jib of the Fly-Jib (5).

6: Dismount the wire guide roller and store it away.

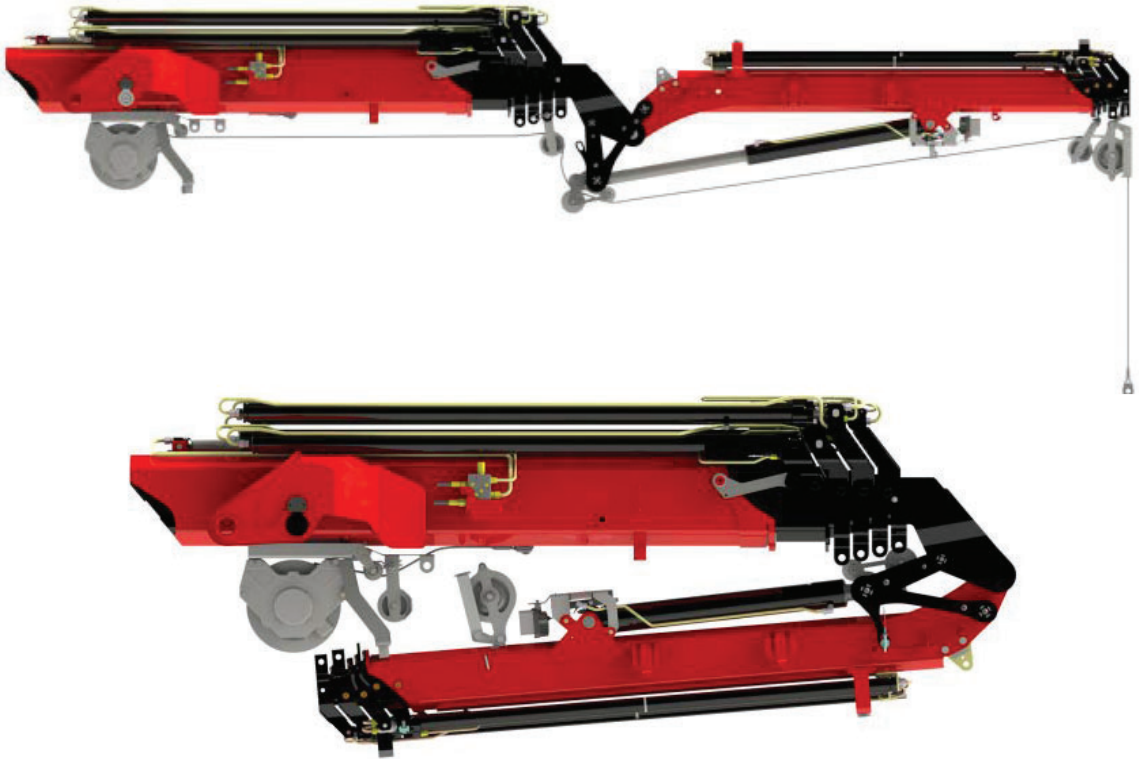
7 & 8: Move the wire roller guide on the jib of the crane from position 7 to the bracket for wire roller guides (8).

It is now possible to fold up the crane to stowing position.



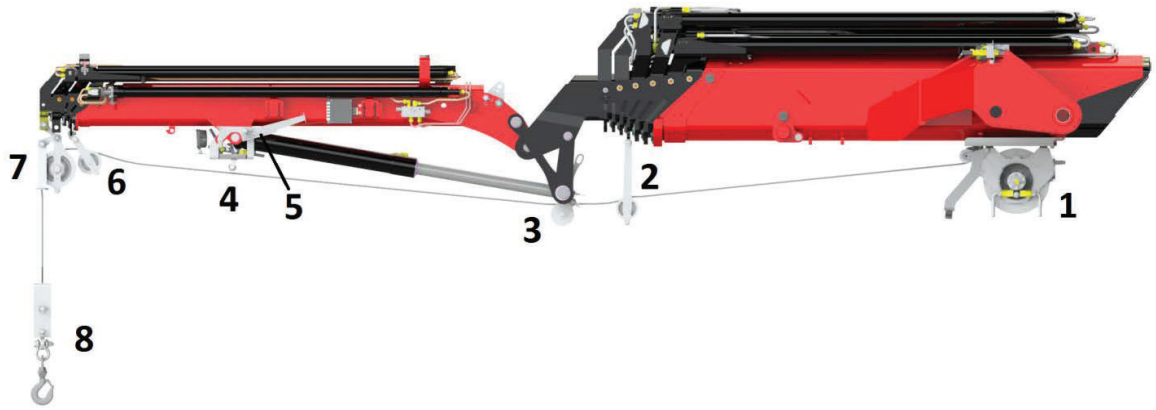
Preparing, unfolding and stowing of crane (25+ tm) with FJ600 and winch

The guide applies to the following cranes that are available with both winch and FJ600: **For example: 3220-K6, 3820-K6, 4720-K7, 4020-K6 & 5020-K7**



Illustrated by the FJ600-K4 fitted on a 4020-K6

Parts for using a winch on a crane (25+ tm) with a FJ600



1: The winch may be one of the following:
winch 2.5 t, mounting fittings and load cylinder for 3220-K6. Part number: 63 94 870
winch 2.5 t, mounting fittings and load cylinder for 3820-K6, 4720-K7, 4020-K6 and 5020-K7. Part number: 63 90 870

2: Wire roller guide. Part number: 63 90 520

3: Guide rollers for Fly-Jib Part number: 63 49 100

4: Wire guide roller. Part number: 63 48 480

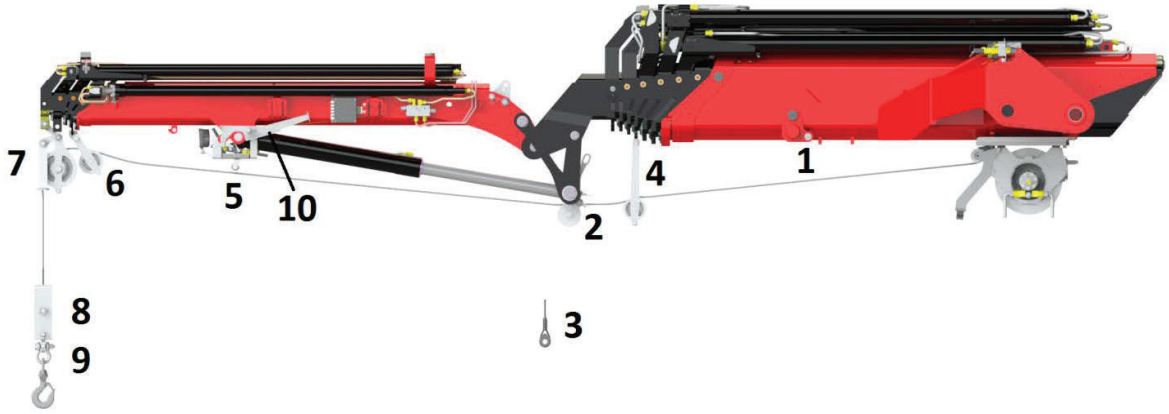
5: Stowing bracket. Part number: 63 49 400

6: Wire roller guide in case of FJ600 with 4 extensions. Part number: 63 48 510

7: Wire pulley. Part number: 63 48 500

8: Hook suspension. Part number: 63 91 910

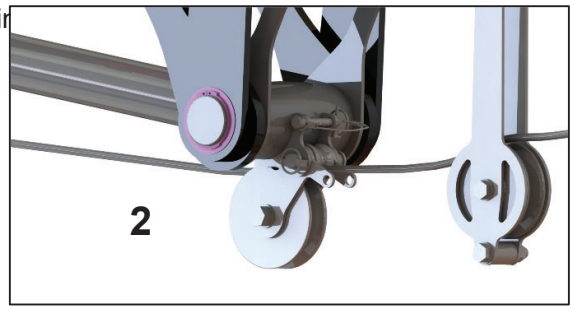
Preparation of crane (25+ tm) with FJ600 before use of the winch for the first time



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Dismount the wire rope from the jib.

2: Take out the cotter bolt from the guide roller so that the guide roller is hanging freely. Then it is possible to fix the cotter bolt ir



3: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

4: Fit the wire roller guide on the third jib extension with the wire rope over the wire sheave.

5: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

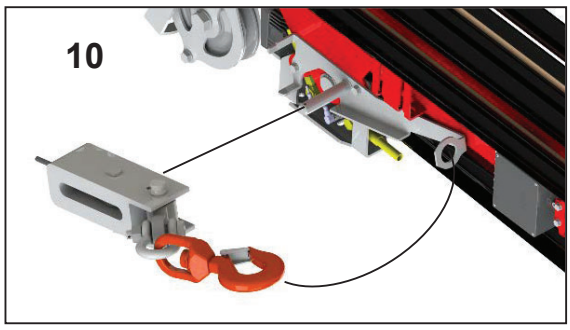
6: Fit the wire pulley on the second extension of the Fly-Jib.

7: Fit the wire sheave on the last extension of the Fly-Jib.

8: Now lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave.

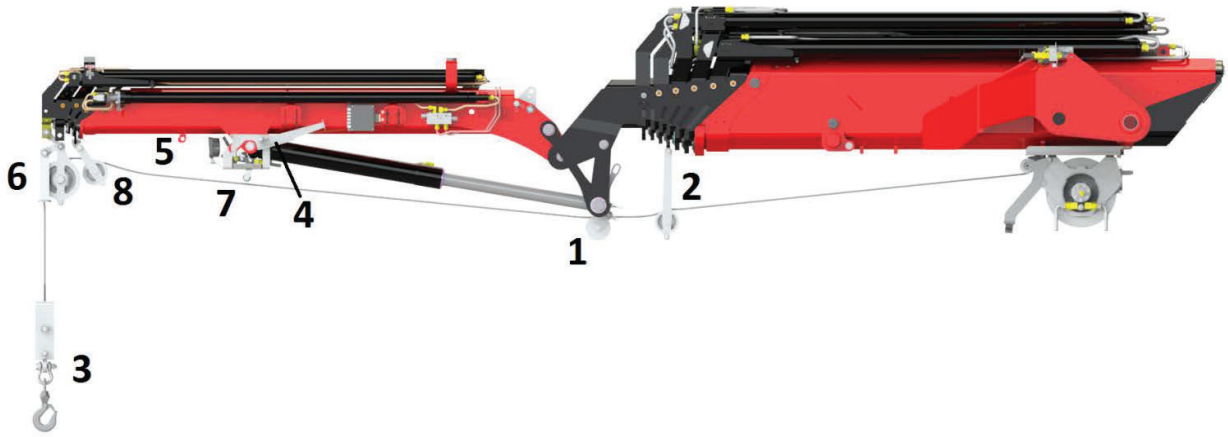
9: Fit the swivel hook on the wire rope thimble.

10: Fit the stowing bracket for the counterweight and the hook on the side of the jib of the Fly-Jib.



Now the crane is ready for using a winch.

Unfolding of crane (25+ tm) with FJ600 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated.

1: Take out the cotter bolt from the guide roller so that the guide roller is hanging freely. Then fix the cotter bolt in the holes above the guide roller.

2: Fit the wire roller guide on the third jib extension so that the wire rope is running over it.

3 & 4: Take the hook and counterweight (3) off of the stowing bracket (4).

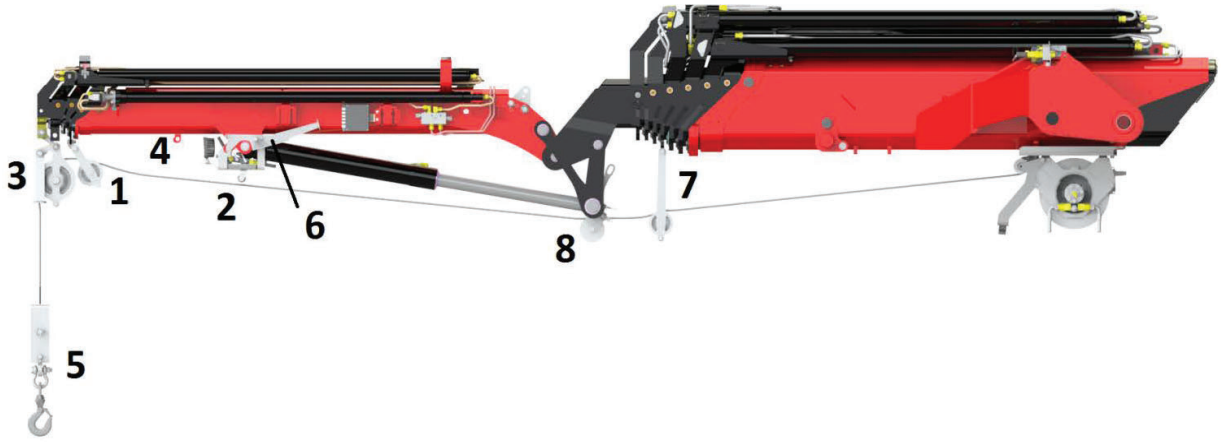
5 & 6: Move the wire pulley from position 5 to the end of the Fly-Jib (6).

7: Fit the wire guide roller on the shielding under the jib cylinder of the Fly-Jib.

8: Fit the wire roller guide on the Fly-Jib so that the wire rope runs over it.

Now the crane is ready for using the winch.

Stowing of crane (25+ tm) with FJ600 and winch



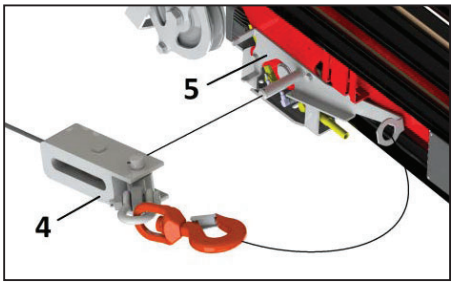
Before stowing of the crane after using the winch, it is important to dismount certain components.

1: Dismount the wire roller guide on the Fly-Jib and store it away.

2: Dismount the wire guide roller and store it away.

3 & 4: Dismount the wire pulley from the end of the Fly-Jib (2) and mount it on the jib of the Fly-Jib (4). The wire rope remains on the cable drum.

5 & 6: Lock the hook and the counterweight (4) on the stowing bracket (5). Put the counterweight on the pin and fix the hook in the hole at the end of the stowing bracket.



7: Dismount the wire roller guide on the jib of the crane and store it away.

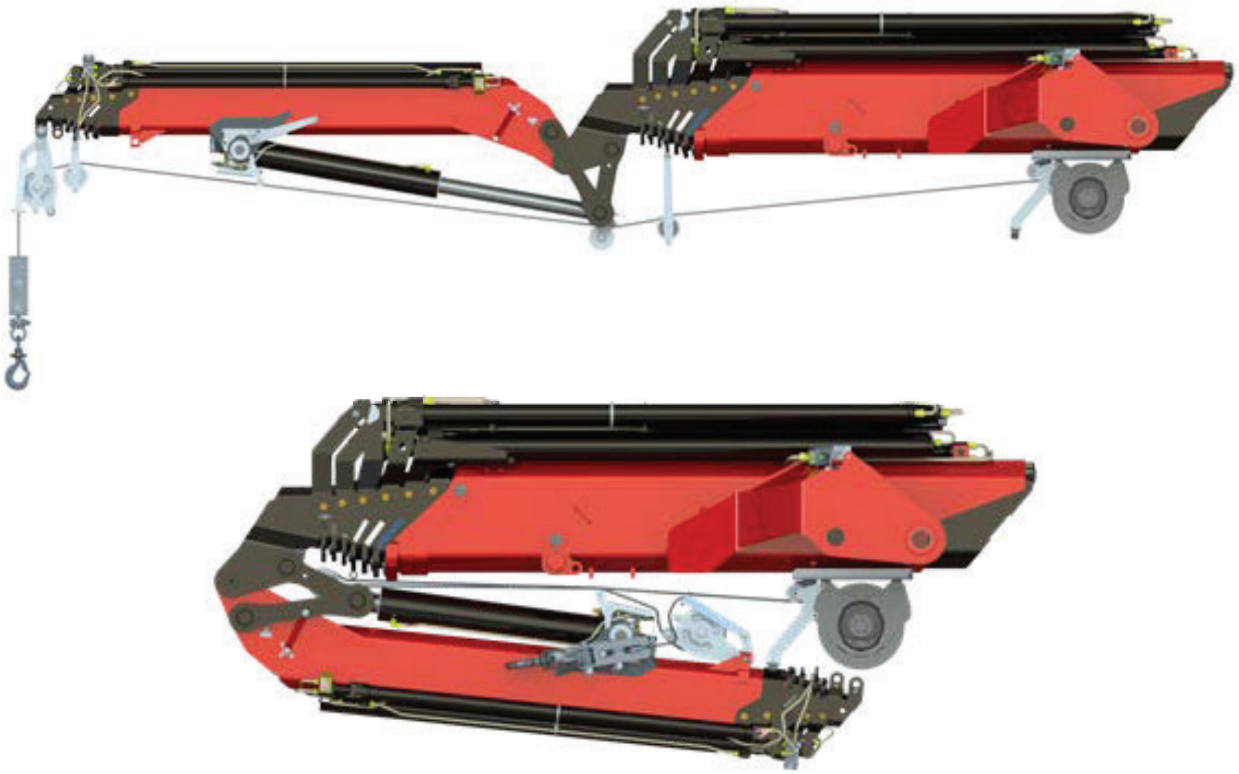
8: Lock the guide roller by means of the cotter bolt. Do this by taking out the cotter bolt and then move up the guide roller until the holes of the guide roller can be locked by means of the cotter bolt.

Please note during stowing to wind the wire rope onto the winch so that the wire rope is kept a little tight at the wire pulley.

Preparing, unfolding and stowing of crane with winch and FJ1000

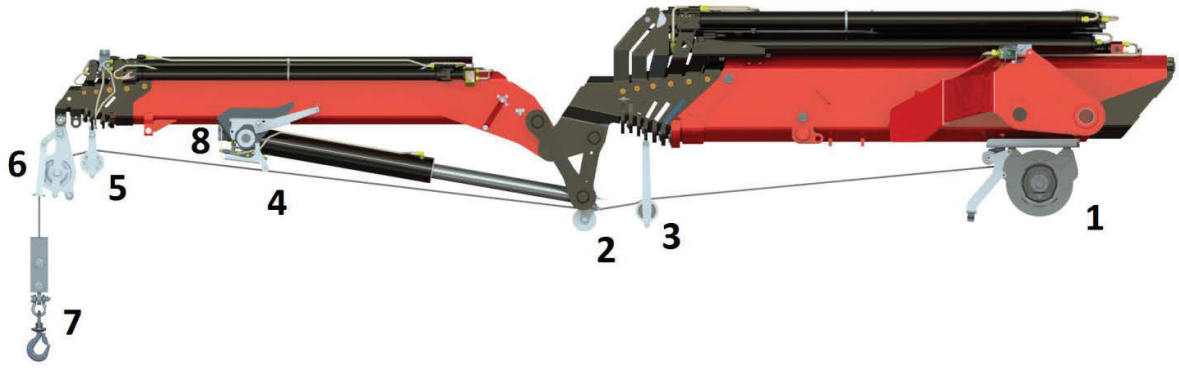
The guide applies to the following cranes that are available with both winch and

FJ1000: **For example: 3220-K4, 3220-K5, 3820-K5, 4020-K5, 4720-K6 and 5020-K6**



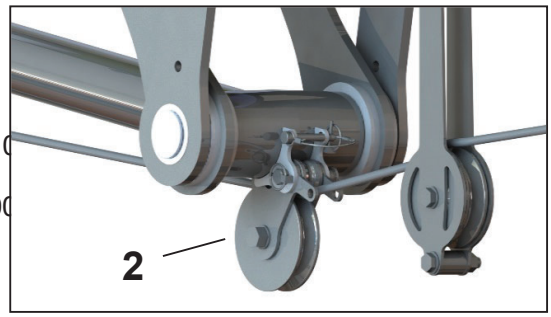
Illustrated by the FJ1000-K5 fitted on a 5020-K6

Parts for using a winch on a crane with a FJ1000



1: winch. The winch may be one of the following:
winch 2.5 tonnes for 4720-K, 5020-K, 3820-K and 4020-K. Part number: 63 90
870 winch 2.5 tonnes for 2800-K, 3020-K and 3220-K. Part number: 63 94 870

2: Guide roller for FJ. Part number: 63 49 100



3: Wire roller guide. Part number: 63 90 520

4: Wire guide roller for FJ1000. Part number: 63 96 51

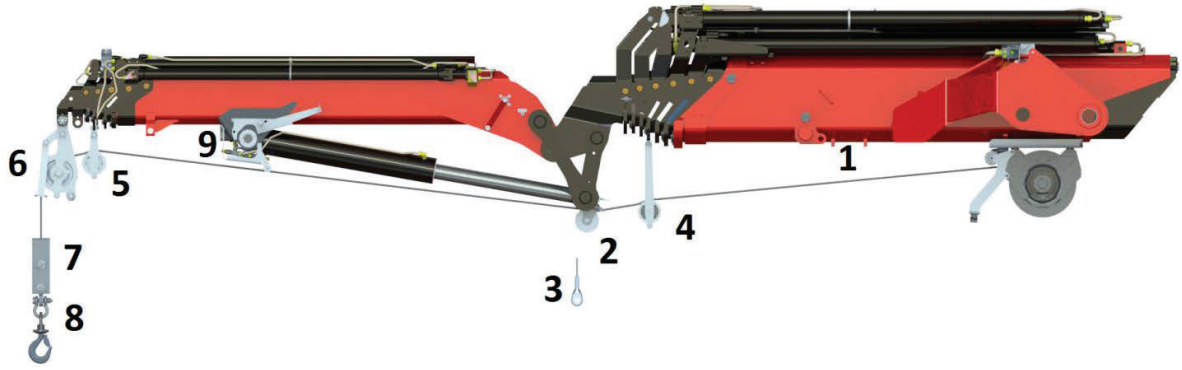
5: Wire roller guide for FJ1000. Part number: 63 96 50

6: Wire pulley for FJ1000. Part number: 63 42 280

7: Swivel hook, 2.5 tonnes Part number: 63 91 910

8: Stowing bracket for counterweight and hook. Part number: 63 96 550

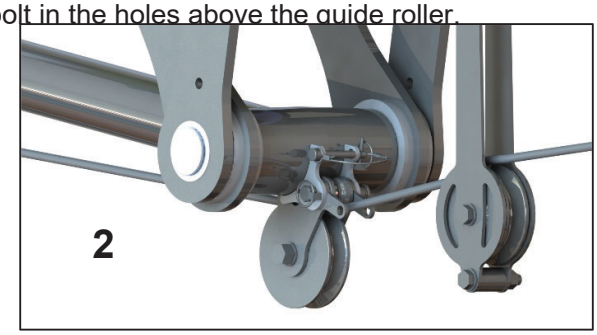
Preparation of crane with FJ1000 before use of the winch for the first time



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Dismount the wire rope from the jib.

2: Take out the cotter bolt from the guide roller so that the guide roller is hanging freely. Then it is possible to fix the cotter bolt in the holes above the guide roller.



3: Lead the wire rope thimble from the winch through the guide roller. Let it hang there, while fitting the remaining parts.

4: Fit the wire roller guide on the third jib extension with the wire rope over the wire sheave.

5: Fit the wire pulley on the second extension of the Fly-Jib.

6: Fit the wire pulley on the last extension of the Fly-Jib.

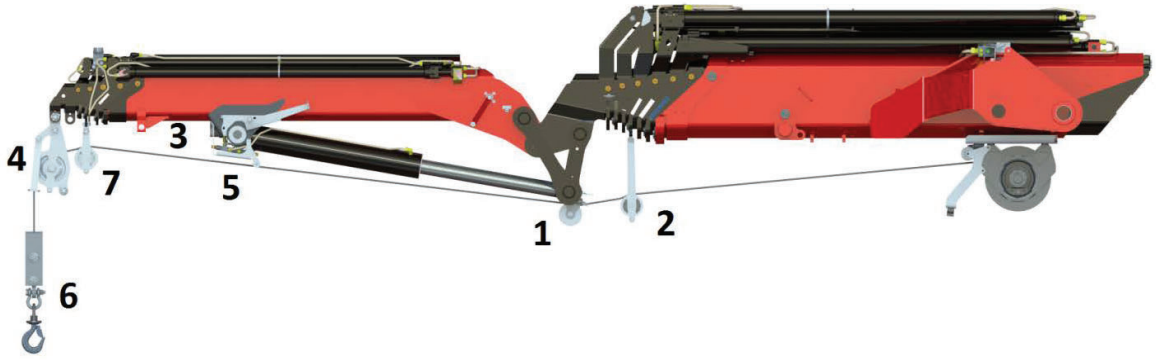
7: Now lead the wire rope thimble through the wire roller guide on the Fly-Jib and the wire sheave.

8: Fit the swivel hook on the wire rope thimble.

9: Fit the stowing bracket for the counterweight and the hook on the side of the jib of the Fly-Jib.

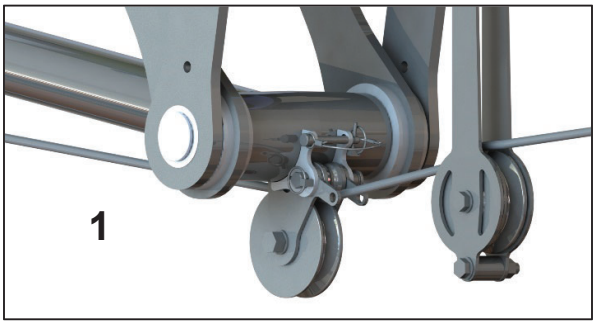
Now the crane is ready for using a winch.

Unfolding of crane with FJ1000 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated.

1: Take out the cotter bolt from the guide roller so that the guide roller is hanging freely. Then it is possible to fix the cotter bolt in the holes above the guide roller.



2: Fit the wire roller guide on the third jib extension so that the wire rope is running over it.

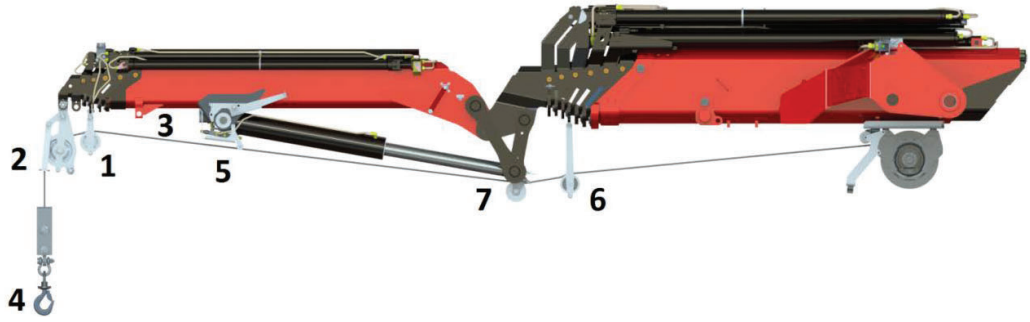
3 & 4: Move the wire pulley from position 3 to the end of the Fly-Jib (4).

5 & 6: Take the hook and counterweight (6) off of the stowing bracket (5).

7: Fit the wire roller guide on the second jib extension so that the wire rope is running over

it. Now the crane is ready for using the winch.

Stowing of crane with FJ1000 and winch

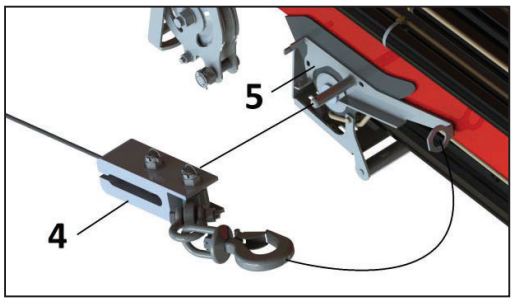


Before stowing of the crane after using the winch, it is important to dismount certain components.

1: Dismount the wire roller guide on the Fly-Jib and store it away.

2 & 3: Dismount the wire pulley from the end of the Fly-Jib (2) and mount it on the jib of the Fly-Jib (3). The wire rope remains on the cable drum.

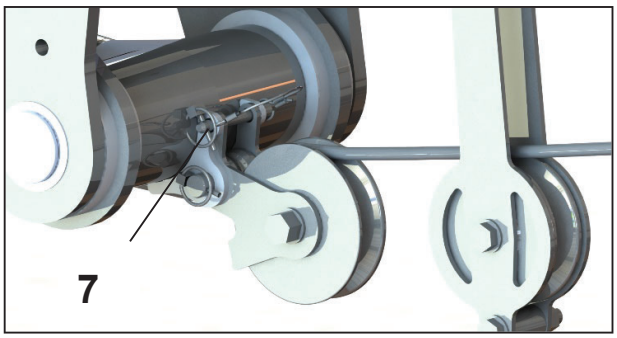
4 & 5: Lock the hook and the counterweight (4) on the stowing bracket (5). Put the counterweight on the pin and fix the hook in the hole at the end of the stowing bracket.



6: Dismount the wire roller guide on the jib of the crane and store it away.

7: Lock the guide roller by means of the cotter bolt. Do this by taking out the cotter bolt and then move up the guide roller until the holes of the guide roller can be locked by means of the cotter bolt.

Please note during stowing to wind the wire rope onto the winch so that the wire rope is kept a little tight at the wire pulley.

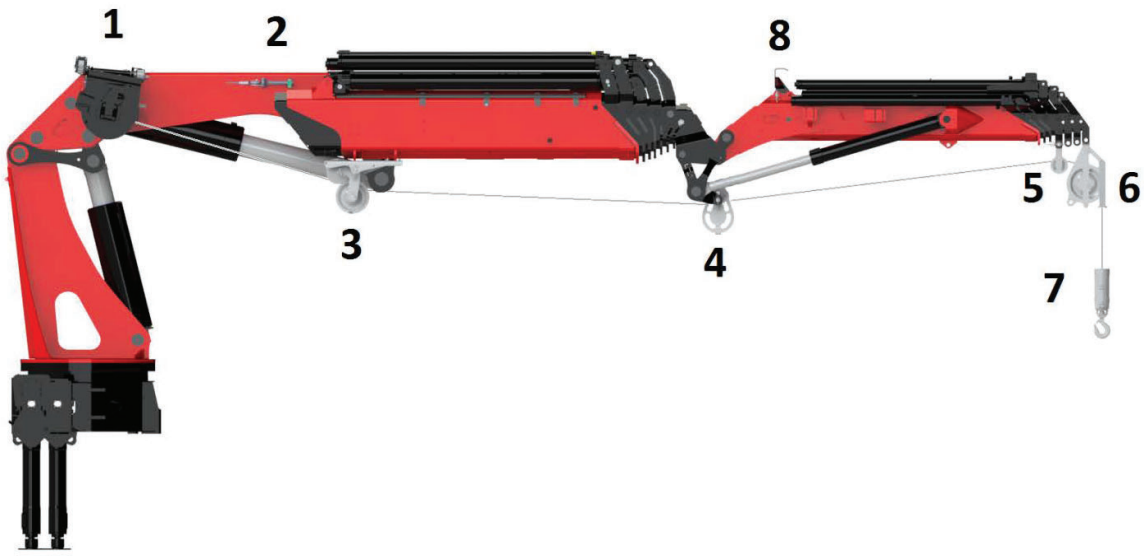


Preparing, unfolding and stowing of crane with winch and FJ1200

The guide applies to the following cranes that are available with both winch and FJ1200: **For example: 6020-K6, 6020-OK5, 6020-OK6 and 8520-K8.**

Illustrated by the FJ1200-K6 fitted on a 6020-K6

Parts for using a winch on a crane with a FJ1200



1: The winch may be one of the following:
For 6020-K: Swing-up winch, 3.2 t. Part number: 63 08
760 For 8520-K: Swing-up winch, 3.2 t. Part number: 63
03 750
2. Wire bracket with hook. Part number: 64 404

3. Movable wire guide. Part number: 63 01 010

4. Wire pulley. Part number: 63 02 600

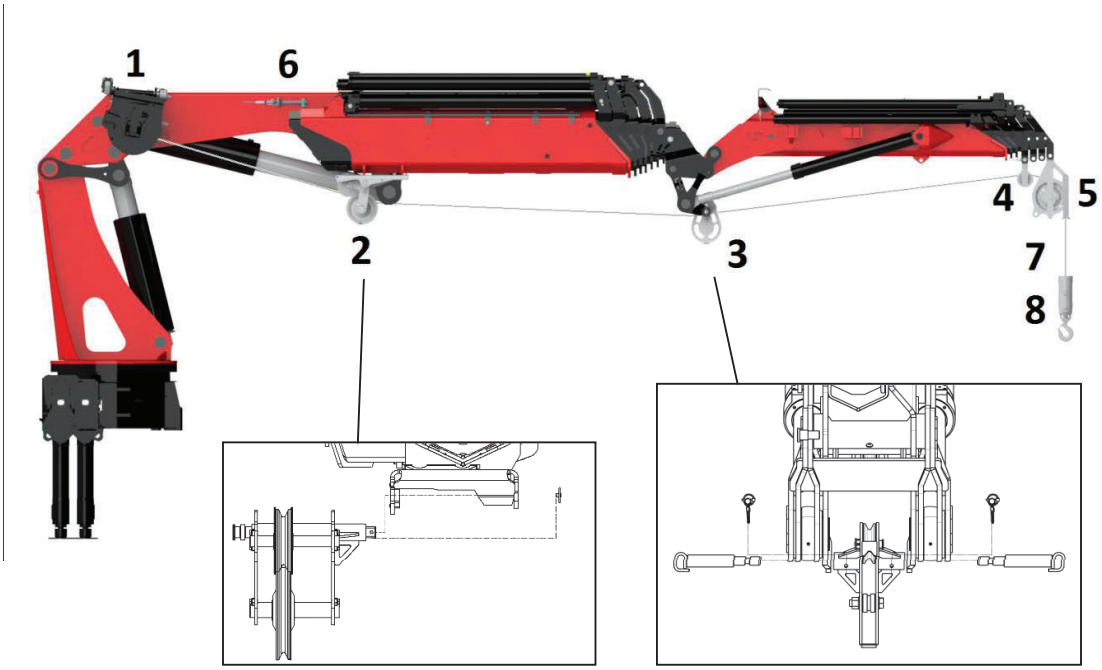
5. Wire roller guide for Fly-Jibs with 5 or 6 extensions. Part number: 63 04 410

6. Wire pulley. Part number: 63 01 037

7. Swivel hook 3.2 t. Part number: 63 90 900

8. Stowing bracket (+ winch). Part number: 63 05 500

Preparation of crane with FJ1200 before use of the winch for the first time



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Unfold the winch.

2: Fit the movable wire guide on the jib.

3: Fit the wire sheave on the two link arms for the jib cylinders of the Fly-Jib.

4: If the Fly-Jib is equipped with 5 or 6 extensions, fit a wire roller guide on the third extension of the Fly-Jib.

5: Fit the wire pulley on the last extension of the Fly-Jib.

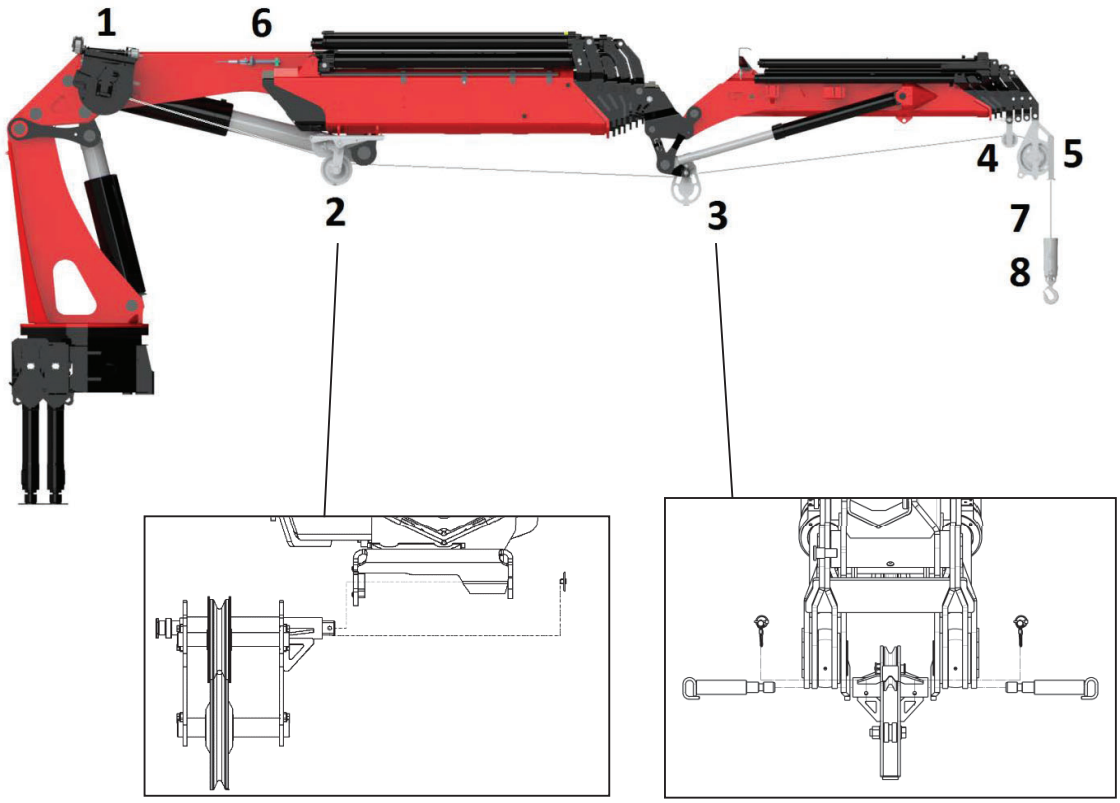
6: Dismount the wire rope from the wire bracket on the main boom.

7: Lead the wire rope between the two wire sheaves on the wire pulley (2), over the wire sheave on the link arms of the Fly-Jib (3), the wire roller guide (4) and the wire sheave on the last extension (5) of the Fly-Jib.

8: Fit the swivel hook on the wire rope thimble.

Now the crane is ready for using a winch.

Unfolding of crane with FJ1200 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Unfold the winch.

2: Put the wire sheaves for the movable wire guide on the wire pulley

3: Fit the wire sheave on the two link arms for the jib cylinders of the Fly-Jib.

4: If the Fly-Jib is equipped with 5 or 6 extensions, fit a wire roller guide on the third extension of the Fly-Jib.

5: Fit the wire pulley on the last extension of the Fly-Jib.

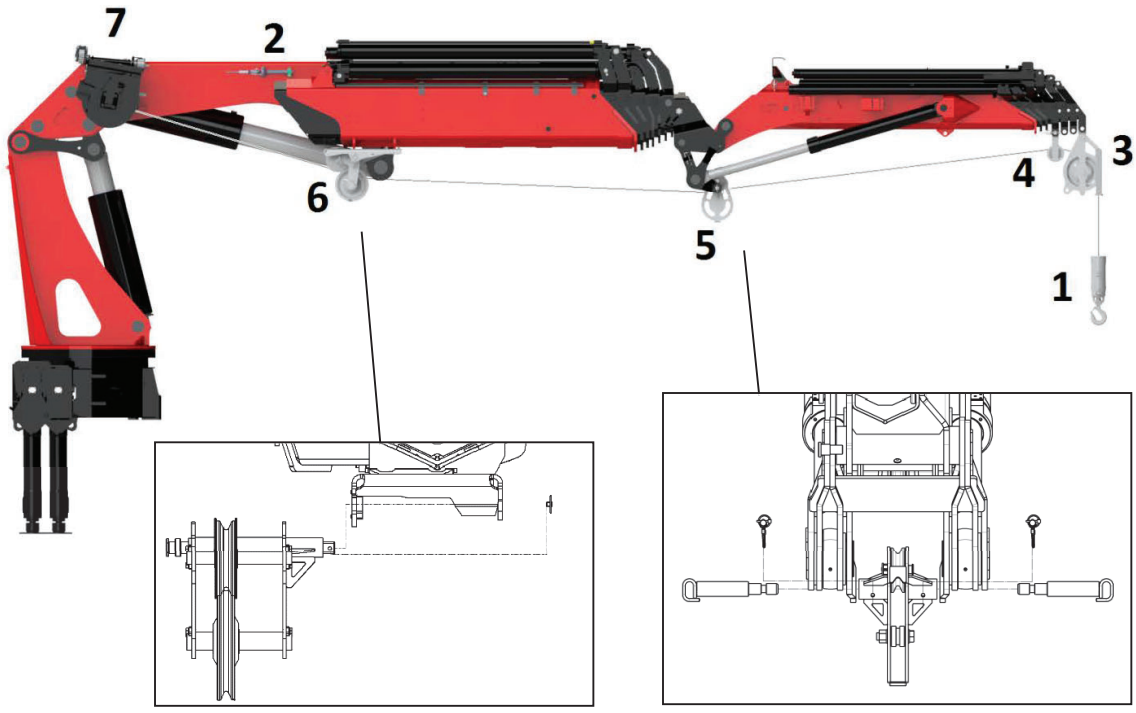
6: Dismount the wire rope from the wire bracket on the main boom.

7: Lead the wire rope between the two wire sheaves on the wire pulley (2), over the wire sheave on the link arms of the Fly-Jib (3), the wire roller guide (4) and the wire sheave on the last extension (5) of the Fly-Jib.

8: Fit the swivel hook on the wire rope thimble.

Now the crane is ready for using a winch.

Stowing of crane with FJ1200 and winch



Before stowing of the crane after using the winch, it is important to dismount certain components.

1: Take off the swivel hook from the wire.

2: Lead the wire rope back through the wire sheave on the last extension (3) of the Fly-Jib, the wire roller guide (4) on the Fly-Jib, over the wire sheave on the link arms for the jib cylinders (5) for the Fly-Jib and through the wire sheaves of the movable wire guide (6), and then place the wire rope thimble on the wire bracket on the main boom (2) of the crane.

3: Dismount the wire sheave on the last extension of the Fly-Jib and store it away.

4: If the crane is equipped with a wire roller guide for Fly-Jib, dismount it and store it away.

5: Dismount the wire sheave on the last extension of the Fly-Jib and store it away.

6: Dismount the wire sheaves for the movable wire guide and store it away.

7: Fold up the winch.

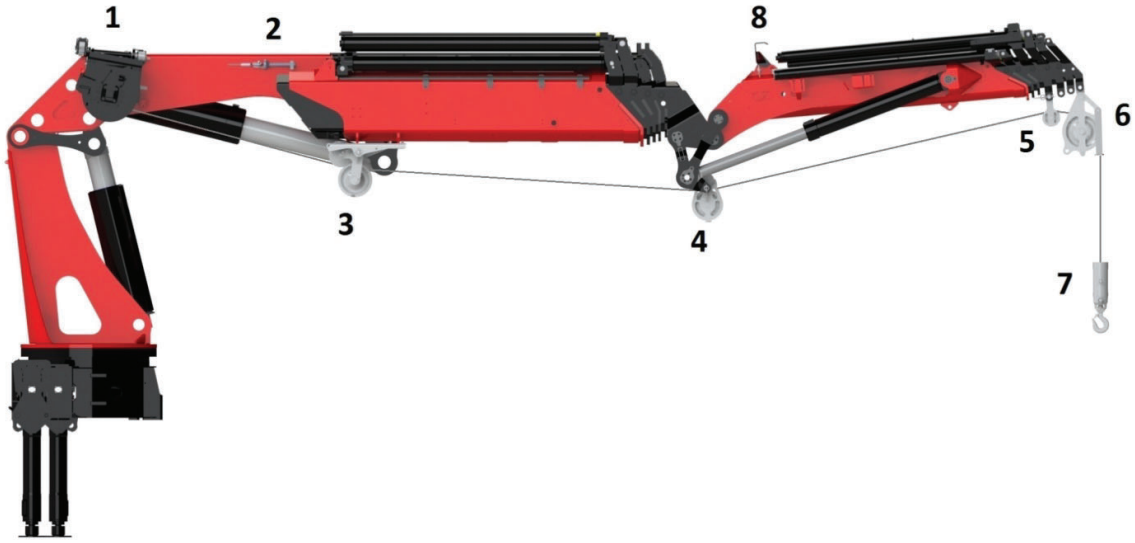
It is now possible to fold up the crane to stowing position.

Preparing, unfolding and stowing of crane with winch and FJ2000

The guide applies to the following cranes that are available with both winch and FJ2000: **For example: 6020-OK4, 8520-OK5, 8520-OK6 and 8520-K6.**

Illustrated by the FJ2000-K6 fitted on a 6020-OK4

Parts for using a winch on a crane with a FJ2000



1: The winch may be one of the following:
For 6020-K: Swing-up winch 3.2 t Part number: 63 08
760 For 8520-K: Swing-up winch 3.2 t Part number: 63
03 750
2. Wire bracket with hook. Part number: 64 404

3. Movable wire guide. Part number: 63 01 010

4. Wire pulley. Part number: 63 05 600

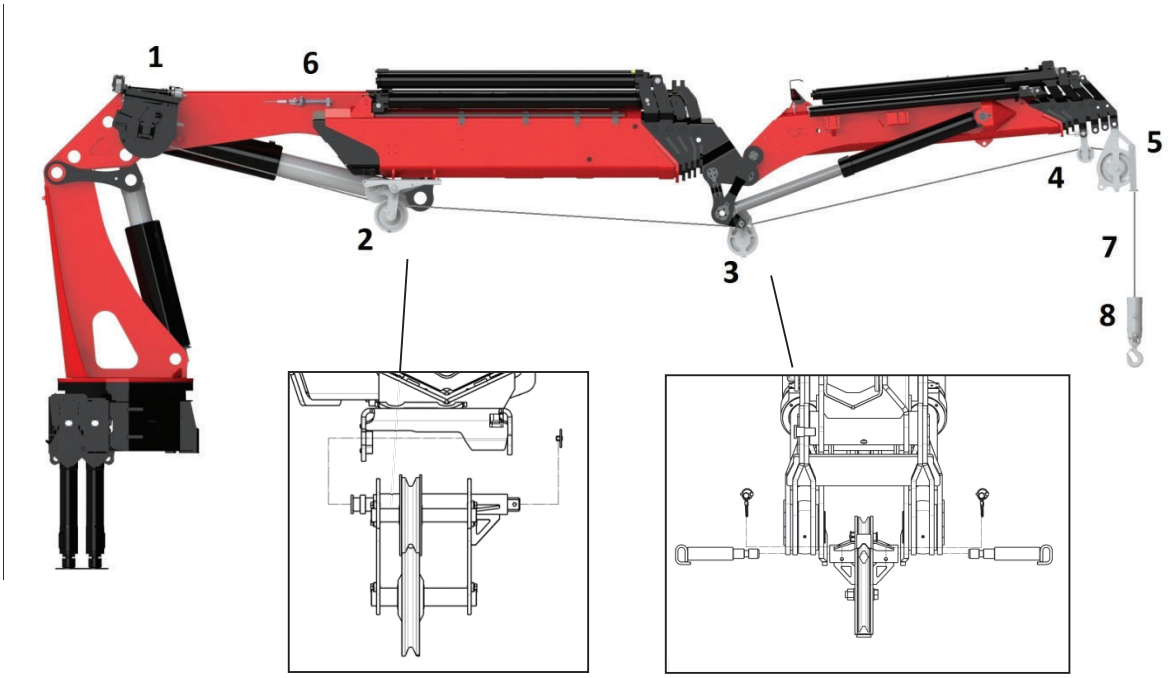
5. Wire roller guide for Fly-Jibs with 5 or 6 extensions. Part number: 63 04 410

6. Wire pulley. Part number: 63 01 037

7. Swivel hook 3.2 t Part number: 63 90 900

8. Stowing bracket (+ winch). Part number: 63 05 500

Preparation of crane with FJ2000 before use of the winch for the first time



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Unfold the winch.

2: Fit the movable wire guide on the jib.

3: Fit the wire sheave on the two link arms for the jib cylinders of the Fly-Jib.

4: If the Fly-Jib is equipped with 5 or 6 extensions, fit a wire roller guide on the third extension of the Fly-Jib.

5: Fit the wire pulley on the last extension of the Fly-Jib.

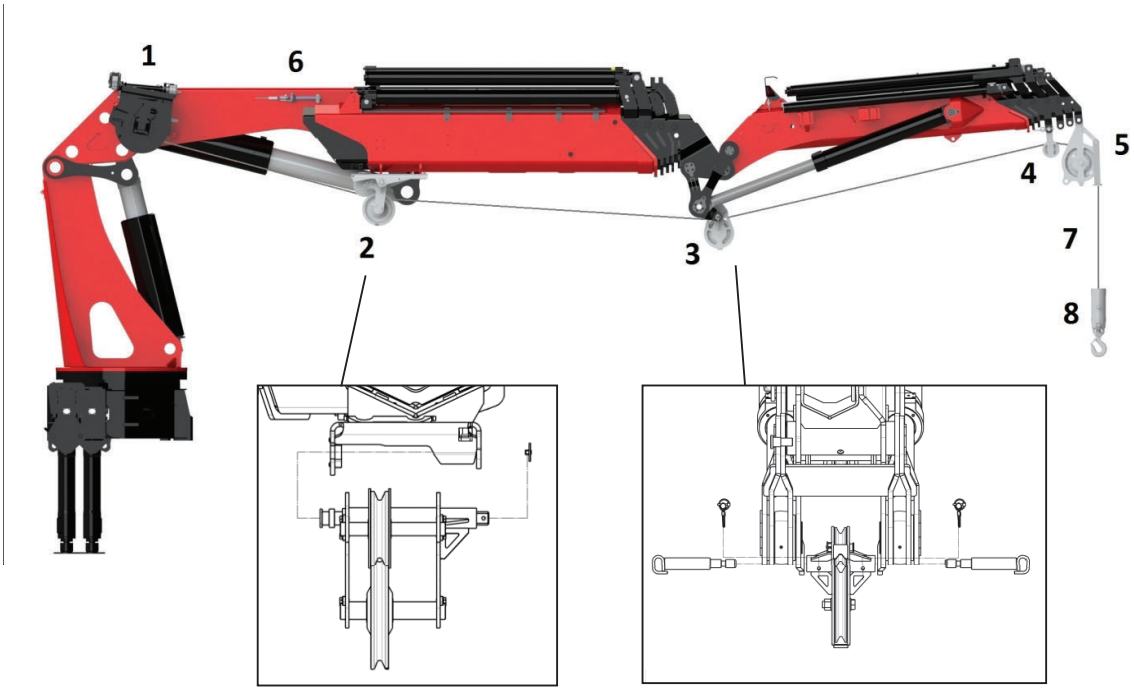
6: Dismount the wire rope from the wire bracket on the main boom.

7: Lead the wire rope between the two wire sheaves on the wire pulley (2), over the wire sheave on the link arms of the Fly-Jib (3), the wire roller guide (4) and the wire sheave on the last extension (5) of the Fly-Jib.

8: Fit the swivel hook on the wire rope thimble.

Now the crane is ready for using a winch.

Unfolding of crane with FJ2000 and winch



Before starting to fit the parts for winch, place the crane in a position, where it is possible for the crane fitter to reach the points indicated in the drawing.

1: Unfold the winch.

2: Put the wire sheaves for the movable wire guide on the wire pulley

3: Fit the wire sheave on the two link arms for the jib cylinders of the Fly-Jib.

4: If the Fly-Jib is equipped with 5 or 6 extensions, fit a wire roller guide on the third extension of the Fly-Jib.

5: Fit the wire pulley on the last extension of the Fly-Jib.

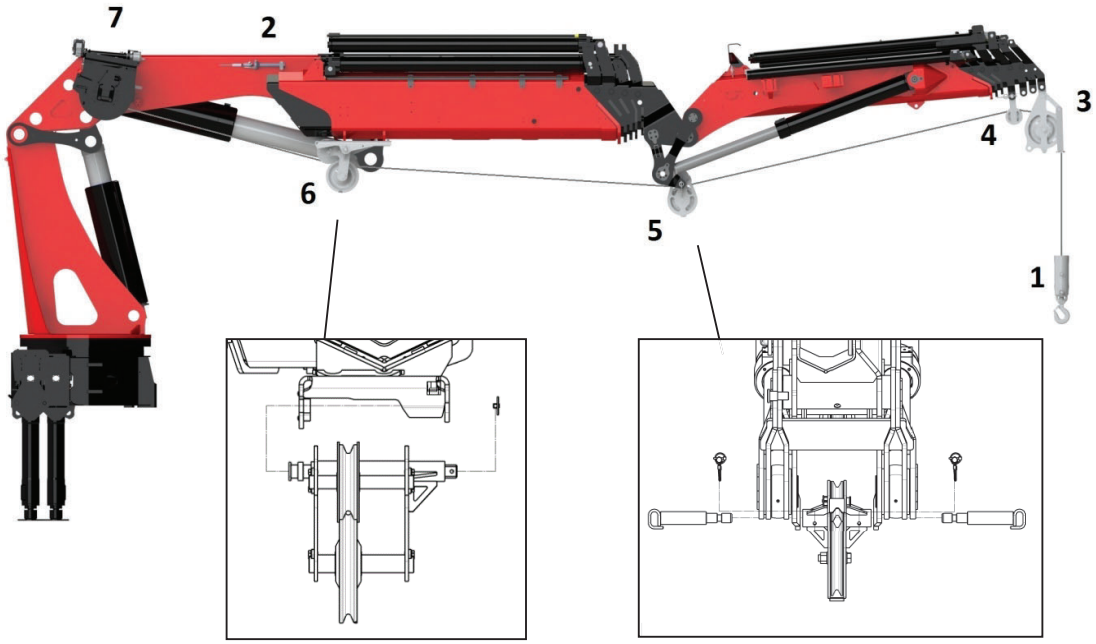
6: Dismount the wire rope from the wire bracket on the main boom.

7: Lead the wire rope between the two wire sheaves on the wire pulley (2), over the wire sheave on the link arms of the Fly-Jib (3), the wire roller guide (4) and the wire sheave on the last extension (5) of the Fly-Jib.

8: Fit the swivel hook on the wire rope thimble.

Now the crane is ready for using a winch.

Stowing of crane with FJ2000 and winch



Before stowing of the crane after using the winch, it is important to dismount certain components.

1: Take off the swivel hook from the wire.

2: Lead the wire rope back through the wire sheave on the last extension (3) of the Fly-Jib, the wire roller guide (4) on the Fly-Jib, over the wire sheave on the link arms for the jib cylinders (5) for the Fly-Jib and through the wire sheaves of the movable wire guide (6), and then place the wire rope thimble on the wire bracket on the main boom (2) of the crane.

3: Dismount the wire sheave on the last extension of the Fly-Jib and store it away.

4: If the crane is equipped with a wire roller guide for Fly-Jib, dismount it and store it away.

5: Dismount the wire sheave on the last extension of the Fly-Jib and store it away.

6: Dismount the wire sheaves for the movable wire guide and store it away.

7: Fold up the winch.

It is now possible to fold up the crane to stowing position.

7. Lifting Capacity and Lifting Capacity Diagrams

7.1 Lifting Capacity Labels on the Crane

From the factory, the crane is equipped with lifting capacity labels for the crane as well as for the optional extras, if any (manual extensions, Fly-Jib).
These labels must, just like any other labels on the crane, be intact and legible.
If the label has been damaged or removed, you can get a new one from IMT . Use the part number at the bottom of the label, if any, or see the spare parts catalogue.

7.2 Lifting Capacity Diagrams

As a supplement to the crane's lifting capacity labels, the **Crane Data** contain load and lifting capacities of the different K-versions in standard configurations, i.e. special applications and customized cranes and options are not taken into consideration.
In these cases we refer to the supplementary documentation delivered and/or the lifting capacity labels on the crane.

The lifting capacity limits indicated must never be exceeded.

8. Technical data

The **Crane Data** booklet contains tables with technical data on crane and Fly-Jib respectively, if a Fly-Jib is available as standard.

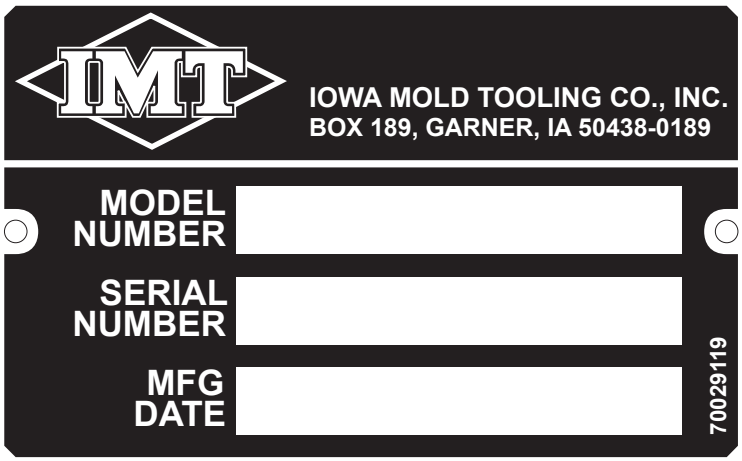
8.1 Loading Groups

Different crane applications imply different types of stress to the crane construction, and consequently the cranes are divided into loading groups according to application.

In the standard application, the crane belongs to a certain loading group indicated by the last digit of the crane type denomination.
(I.e.: 282(3)-K2 means a 2820-K2 crane classified in loading group 03).

If the crane is stationary or the working speed increased, for instance by means of a dual circuit hydraulic system (2 pumps), the load moment of the crane is reduced.

Type Plate



9. Working Pressure and Pump Performance

The working pressure must only be set with a calibrated pressure gauge by an authorised IMT service center.

Check the working pressure during the annual service overhaul and in case of any major repairs.

The procedure for checking and setting of load-holding valves is described in the Service Information sheets. All adjustable valves are re-sealed after pressure setting adjustment.

Please note that any guarantee obligations on the part of IMT will be invalidated if the conditions stated in this information are not complied with.

10. Description of the Hydraulic System

The valve block of the crane is of the "sandwich" type, i.e., it is made up of a number of separate control valves; this ensures great flexibility and low maintenance costs.

A main relief valve is fitted in the inlet section of the valve block to ensure that the oil pressure in the pump line does not exceed the permissible limit. This valve is adjustable and must always remain sealed.

Port relief valves are mounted at the ports of the individual control valves in order to limit the pressure in the individual hydraulic circuits. Normally the port relief valves will be pre-set and non-adjustable.

The boom, jib and extension cylinders are fitted with load holding valves with the following functions:

1. Protection of cylinders against excessive pressure

2. Checking of the lowering speed of the boom

3. Maintaining the boom in position during operations where a fixed boom position is required.

4. Locking the boom and maintaining the load in position in case of hose or pipe rupture.

The stabilizer cylinders are equipped with a piloted check valve, which locks the cylinder in case of damage to the hydraulic system.

Important:

The main relief valve, the load holding valves, the dump valve and the external relief valve are sealed. If these seals are broken or removed, the IMT guarantee will automatically be invalidated. Therefore, it is in your own interest to have the seals checked from time to time and to make sure that they are replaced by an authorized IMT service center, should they be damaged.

Any modification or alteration to the hydraulic system must be in accordance to specific agreement with IMT and such alterations should always take place at an authorized IMT service center.

11. Load moment limitation

The crane is equipped with a load moment limitation system (LMB). This system ensures that the permissible load moment is never exceeded, irrespective of the operator's doings.

However, it is important to keep in mind that the LMB-system does not necessarily ensure sufficient vehicle stability. Before starting to work with the crane, the operator must always make sure that the vehicle is stable in the entire slewing area of the crane.

However, if the crane is equipped with an EVS-system (Electronic Vehicle Stability), the stability of the vehicle is ensured in the entire working area, because the system is constantly checking the vehicle, and immediately stopping the load moment increasing movement in case of instability, irrespective of the operator's doings.

Description of the LMB-system is in the manual: Instruction Manual - RCL Safety System. It is of great importance that the operator is familiar with the safety system!

12. Heavy Duty Lifting - HDL

If the crane is equipped with a Heavy Duty Lifting (HDL) system, an increased lifting capacity is obtained, although at reduced speed.

When the crane reaches its normal lifting capacity limit, the HDL-system will automatically couple in, irrespective of the operator's doings, and the oil flow to the control valve will be reduced to approx. 20% of the normal oil flow. At the same time the crane's lifting capacity is increased by approx. 10% in the entire working area of the crane.

When the HDL-system couples in, the operator will be able to continue extending the load without interruption, although at reduced speed.

If the load moment is reduced to the permitted load limits again, the HDL-system will increase the oil flow to normal and the working speed will increase again.

However, the automatic disconnection implies that all control levers have been into neutral position at the same time as the load moment has been reduced to the permitted load limit.

Please also see chapter on "Heavy Duty Lifting, HDL" in the manual: Instruction Manual - RCL Safety System.

13. Bleeding of Air

If for some reason air has entered into the hydraulic system, the crane is bled as follows:

1. Raise and lower each stabilizer leg twice.

2. Extend and retract the boom cylinder twice.

3. Extend and retract the jib cylinder twice with the main boom pointing downwards and twice with the main boom pointing upwards.

4. Extend and retract the extension cylinder twice with the jib cylinder pointing almost vertically upwards and twice with the jib cylinder pointing almost vertically downwards.

14. Repair

If you discover defects, damage or leaks they must be repaired as soon as possible. Always take your repairs to an authorized IMT service center. Repairs to the hydraulic system must only be made by an authorized service center.

When you order spare parts for your crane, please state:

- Crane type
- Serial number

This information appears from the Service Booklet or stamped into the metal plate on the backside of the crane column.