

LTM 1650-8.1

Instruction manual



Dear scale model enthusiast

Congratulations – You are now the owner of the Liebherr LTM 1650-8.1, 1:50 scale model. The Liebherr LTM 1650-8.1 - introduced at the Bauma 2019 - is the successor of the LTM 1500-8.1, Liebherr's most successful mobile crane.

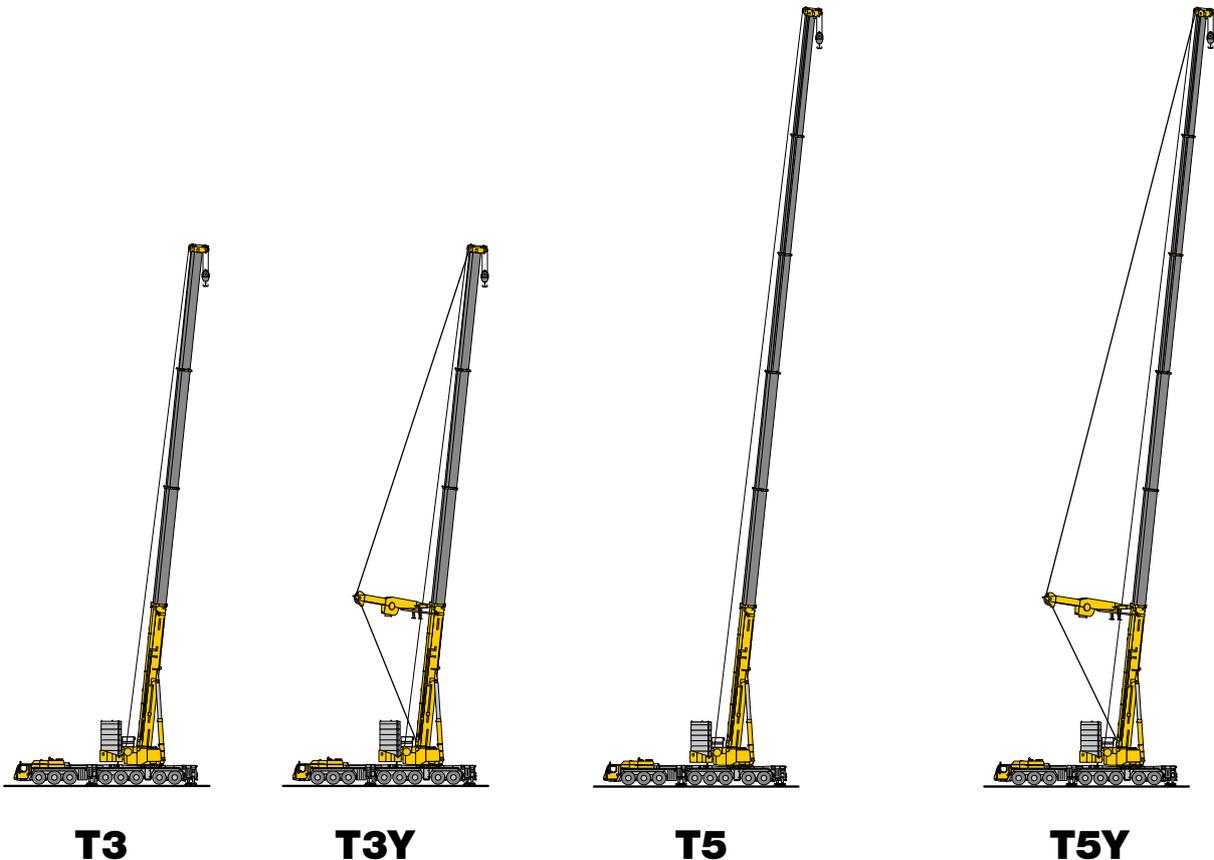
This heavy duty mobile crane has the same generic concept as its predecessor, an ultimate performance on eight axles. The result is that the eight-axle crane is able to perform hoisting work in the 700 tonnes class.

The LTM 1650-8.1 is equipped with a 155/175t VarioBallast® system as well as a detachable outrigger box and T3/T5 boom, allowing a maximum lifting height of 80 meters.

At WSI Models we have brought down those similar characteristics of the Liebherr LTM 1650-8.1 to a 1:50 scale model for you to enjoy.

We wish you lots of joy with the new WSI crane model, however please do read this manual carefully in order to set up this crane correctly.

Liebherr & WSI Models



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1. General assembly recommendations

- Please study the manual before you start building up the model and take your time.
- Execute the set-up of the model step by step, carefully and slowly.
- Please try to guide the wire with your fingers while winding it up to a winch. It will help to avoid that it gets jammed aside of a winch.
- Please don't put too much force on the small and filigree parts. This might cause damages.



The manual can also be found by scanning the QR code below, or you can visit the WSI website www.wsi-models.com/en/manuals

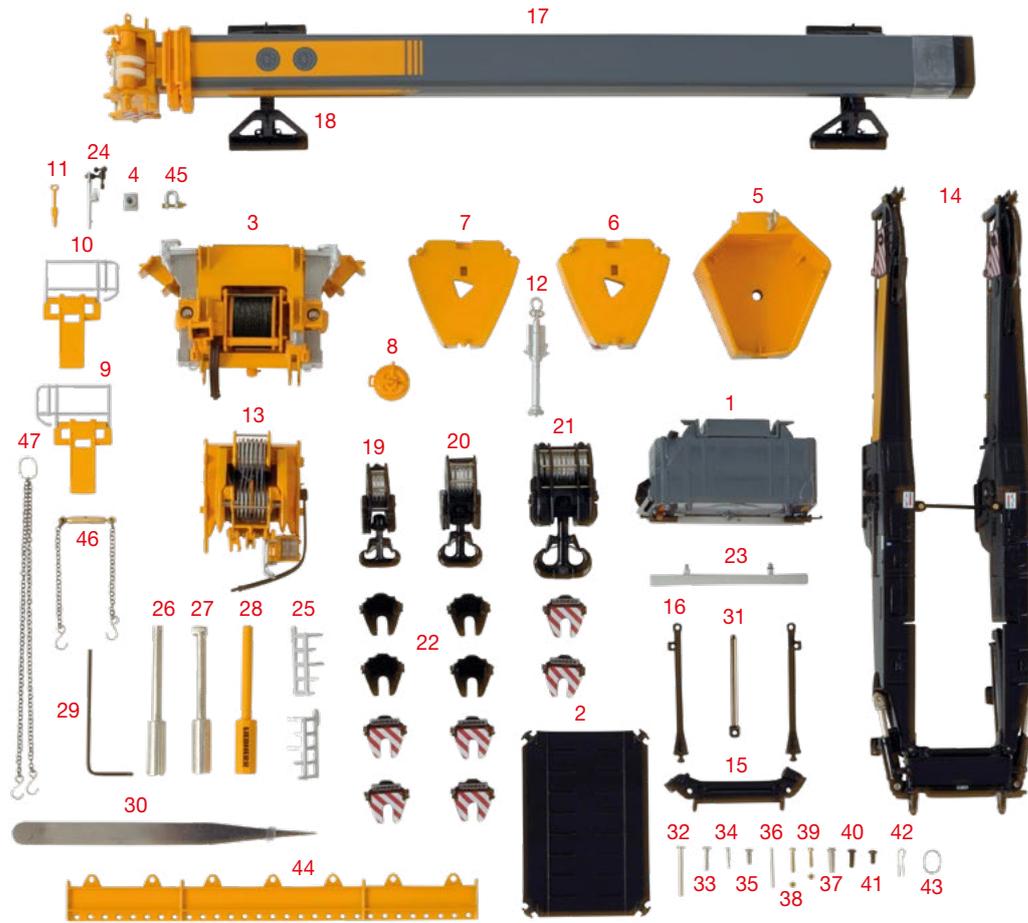


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2. Parts list



1. Outrigger box	1x	25. Ladder LEFT & RIGHT	2x
2. Outrigger pads	4x	26. Bolt key #1	1x
3. Counterweight frame	1x	27. Bolt key #2	1x
4. Cover plates (counterweight frame)	2x	28. Winch key	1x
5. Receptacle plate	2x	29. Allen key	1x
6. Counterweight 10t	14x	30. Tweezers	1x
7. Counterweight 5t	2x	31. Pin 1	1x
8. Counterweight retaining plates	2x	32. Pin 2	2x
9. Counterweight frame railing LEFT	1x	33. Pin 3	4x
10. Counterweight frame railing RIGHT	1x	34. Pin 4	2x
11. VarioBallast® locking pin	2x	35. Pin 5	4x
12. Receptacle stud (twistlock)	1x	36. Pin 6	1x
13. Winch 3 (luffing jib)	1x	37. Pin 7	2x
14. TY-guying system (incl. attachments)	1x	38. Bolt & nut LONG	4x
15. Rod connector (main boom)	1x	39. Bolt & nut SHORT	4x
16. TY rod LEFT & RIGHT	2x	40. Screw Long	6x
17. T5 Telescopic extension 80 meter	1x	41. Screw Short	6x
18. Boom transport brackets	2x	42. Clip	4x
19. Hookblock 3 sheaves	1x	43. Ring	4x
20. Hookblock 5 sheaves	1x	44. Spreader bar	1x
21. Hookblock 9 sheaves	1x	45. Shackle	5x
22. Hookblock counterweight	10x	46. Lashing chain	4x
23. Rear bumper	1x	47. Lifting chain	2x
24. Anemometer (windspeed indicator)	1x		

3. Crane assembly | 3.1 Outrigger and outrigger box assembly



Lower undercarriage support, clockwise rotation.



Extend outrigger first section.



Extend outrigger second section.



Lower support, clockwise rotation.
And secure with clip #42.



Swing the ladder to the outside and let it down.



Swing cabin into operational position.



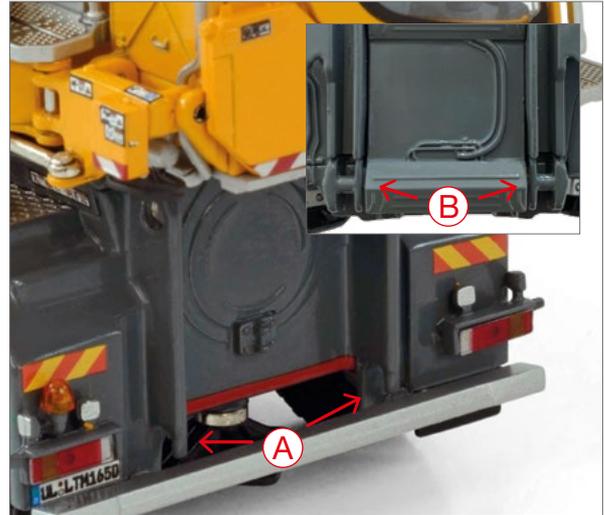
Raise the hand railings.



Luff the boom and secure the hexagon bolt using tool #29.



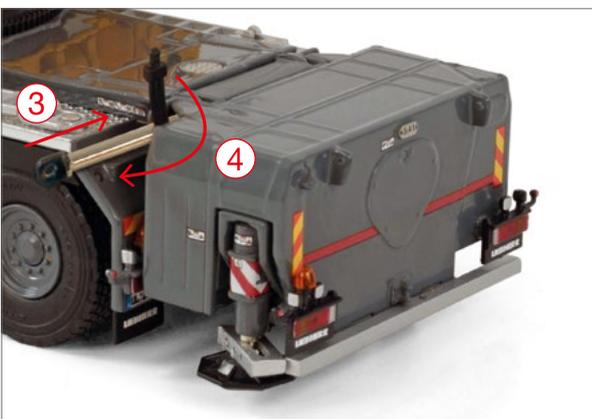
Pin #31 required for installation.



Carefully check and align A and B!
Always remove the rear bumper before
outrigger box installation.



Attach outrigger box to back of the crane.



Secure outrigger box to back of the
crane using pin #31. Attach hose to
undercarriage.



Extend outriggers and lower supports
counterclockwise and secure with clip #42.



Position outrigger pads.



Overview photo. Make sure the crane is level and in stable position.

3. Crane assembly | 3.2 Counterweight installation



Add receptacle plate to counterweight frame and secure it using pin #32.



Lift counterweight assembly onto the undercarriage using the lifting chains (#47).



Counterweight can now be added. Receptacle stud (part #12) can be used to generate a realistic look.



Add 1 x 10t counterweight at the left side.



Place two blocks at the right side, then two blocks at the left side. Counterweights can be stacked with max 10t difference per side.



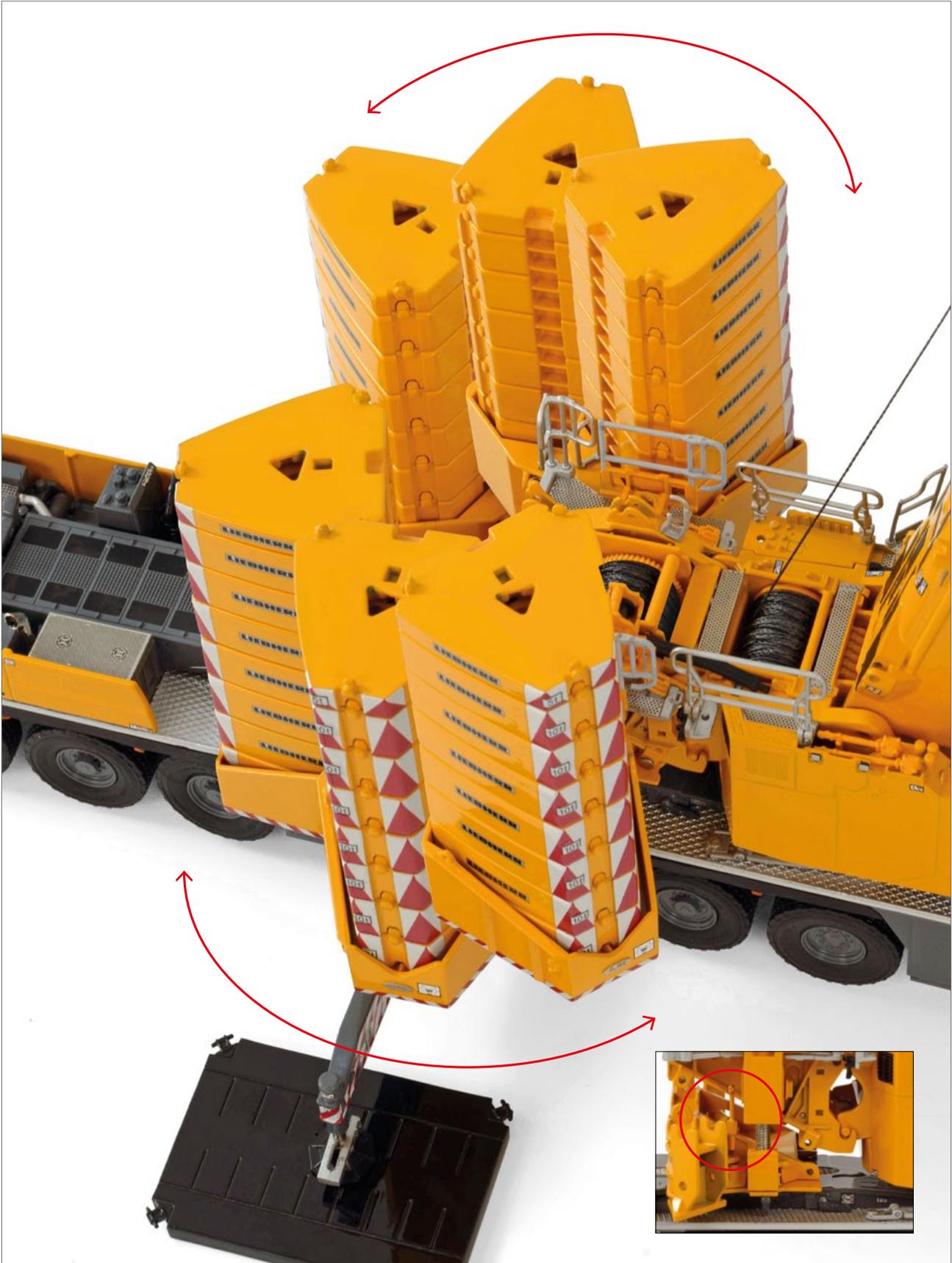
Repeat these steps and finish with one counterweight at the left side.



Use tool #28 to raise the counterweight baseplate until it lines up with the connecting points of the uppercarriage. (On the photo the counterweights are left away to get a better view of the process).



Secure the counterweight baseplate at three points by using pins #33, #35 and #39. Install counterweight baseplate covers at indicated points (A and B).



Adjustable ballast set-up (VarioBallast®). The VarioBallast® arms can be fixed at transportation mode with pin #11. For working mode please remove pin #11.

3. Crane assembly | 3.3 Boom erection



T3 configuration, boom at 46% position. It is also possible to extend to 92% and 100%.

3. Crane assembly | 3.4 Retracting the boom

Please note that the boom must be fully extended before you can retract it again. This is a technical reason, as you need to release the lock parts to retract each single boom section. Therefore the boom must be extended completely. At the first position the lock parts are covered by the boom sections and you won't be able to push them inside to release the section.



Push the upper lock part inside at the third boom end.



Simultaneously push the smallest boom section downwards into the next bigger section until it is completely retracted. Repeat these steps for the remaining boom sections.

3. Crane assembly | 3.5 Accessories



Anemometer (windspeed indicator).



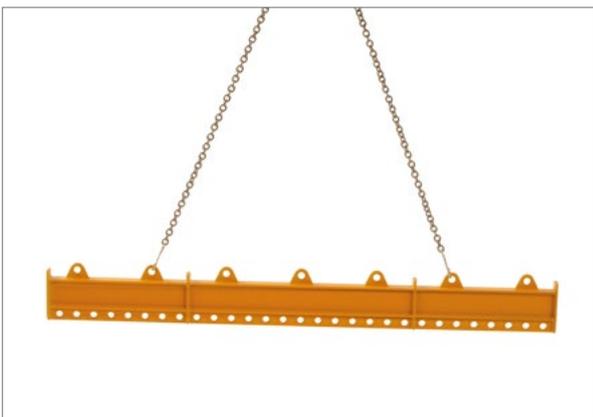
Rear bumper. Always remove before outrigger box installation.



Winch #3, only used when the crane is equipped with a luffing jib.



Winch #3 (luffing jib) attached to counterweight system.



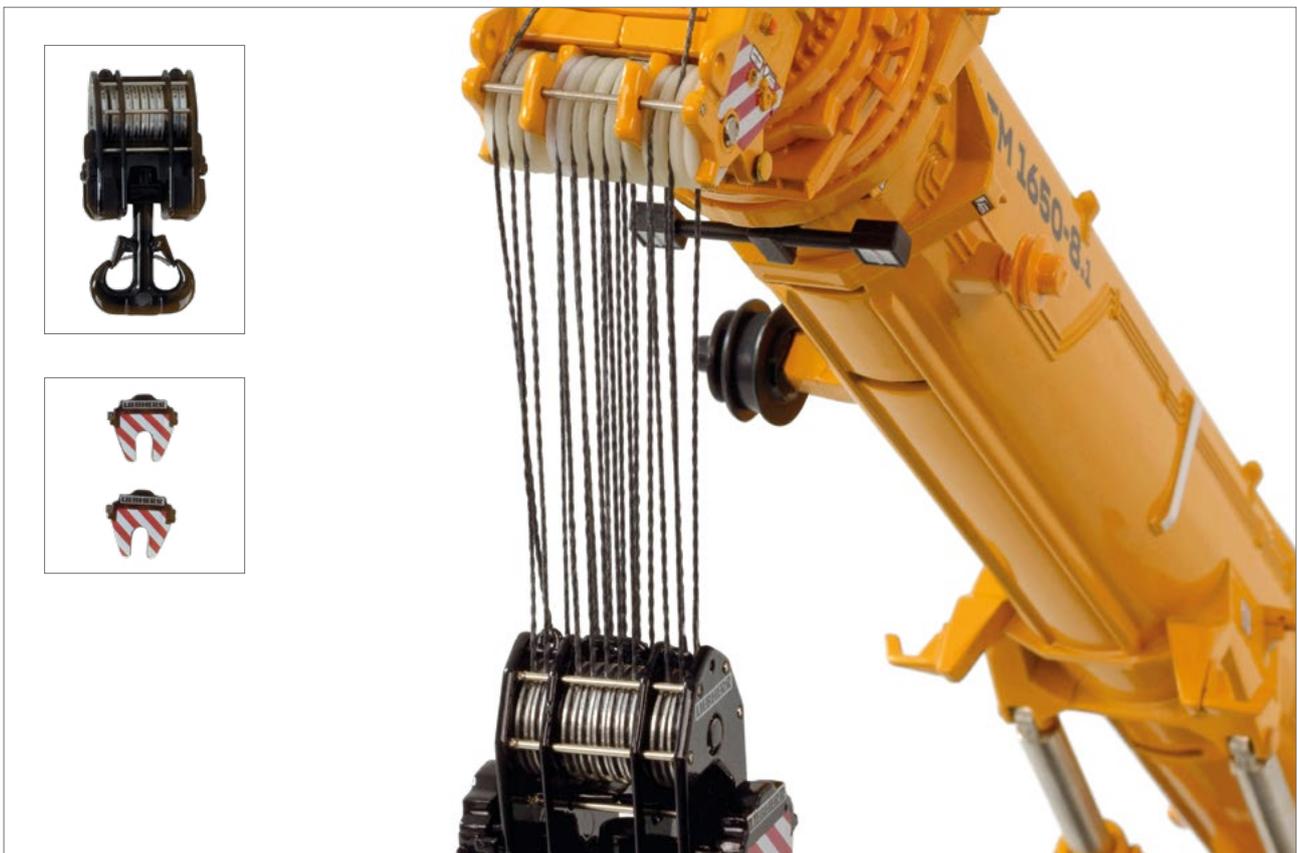
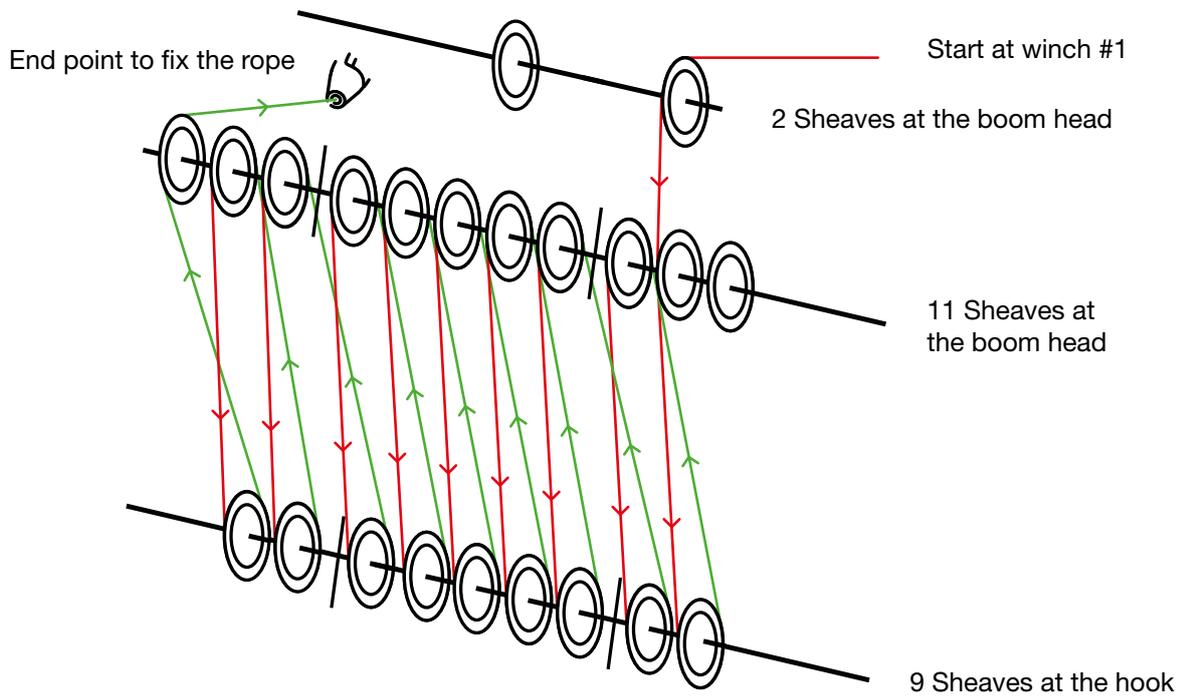
Lifting spreader bar #44.



Boom transport brackets.

4. Reeving plan | 9 Sheaves (211t)

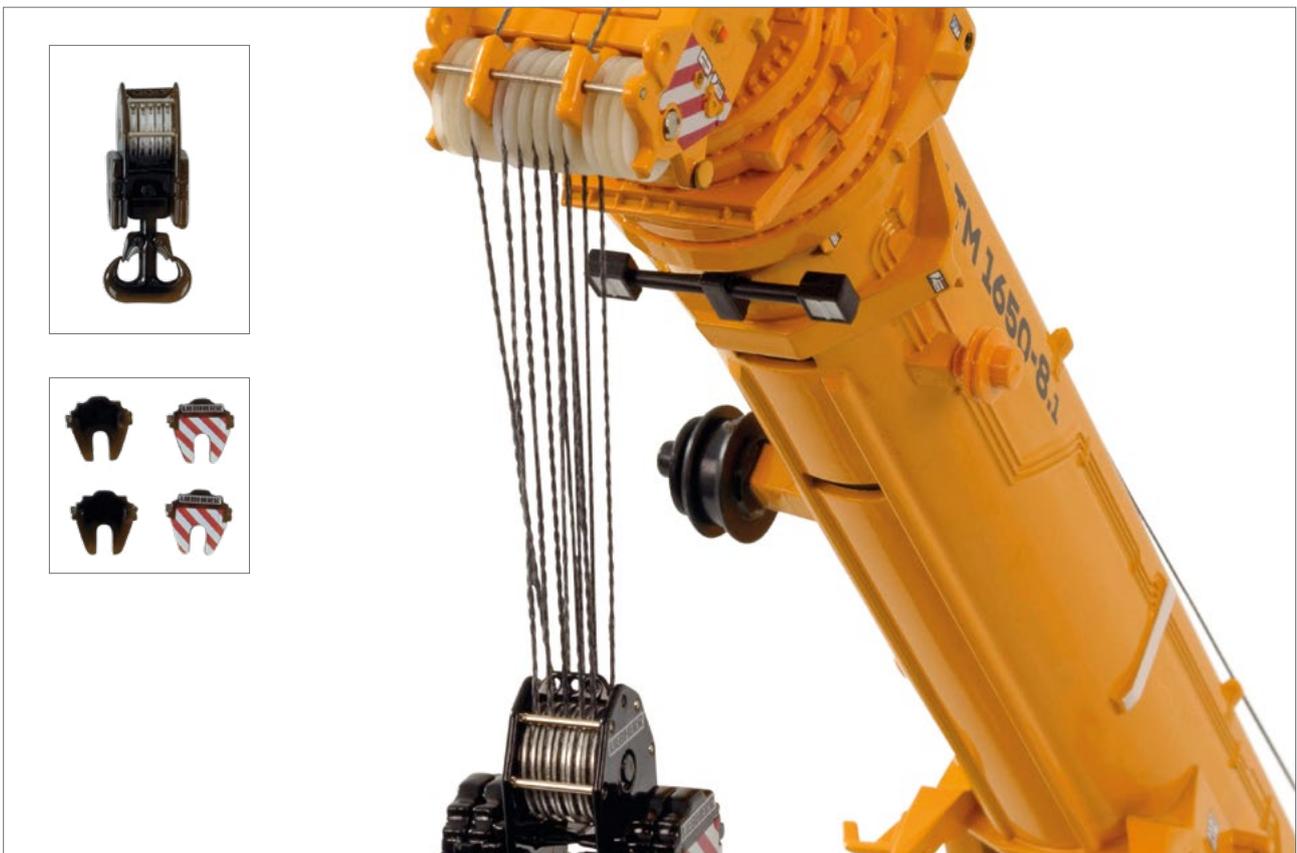
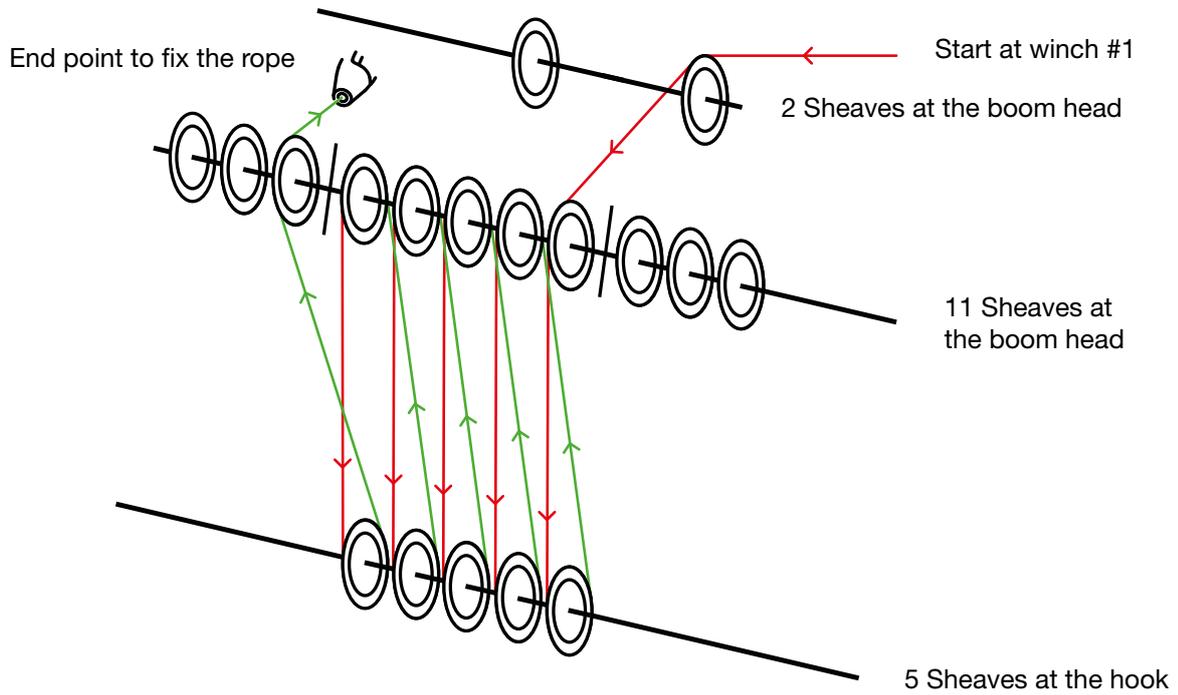
RED line is front side of the Sheaves
GREEN line is rear side of the Sheaves



9 Sheaves hook block.

5 Sheaves (129t)

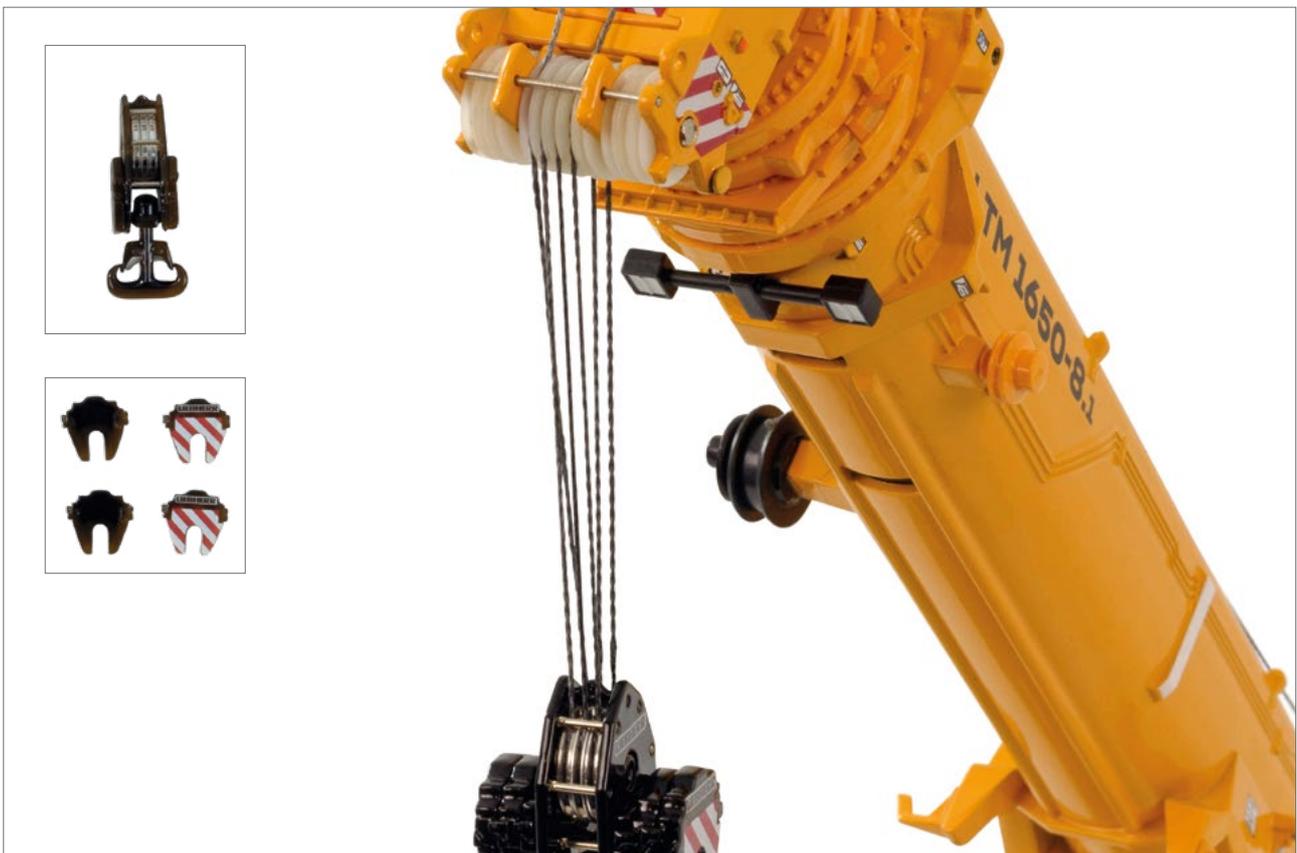
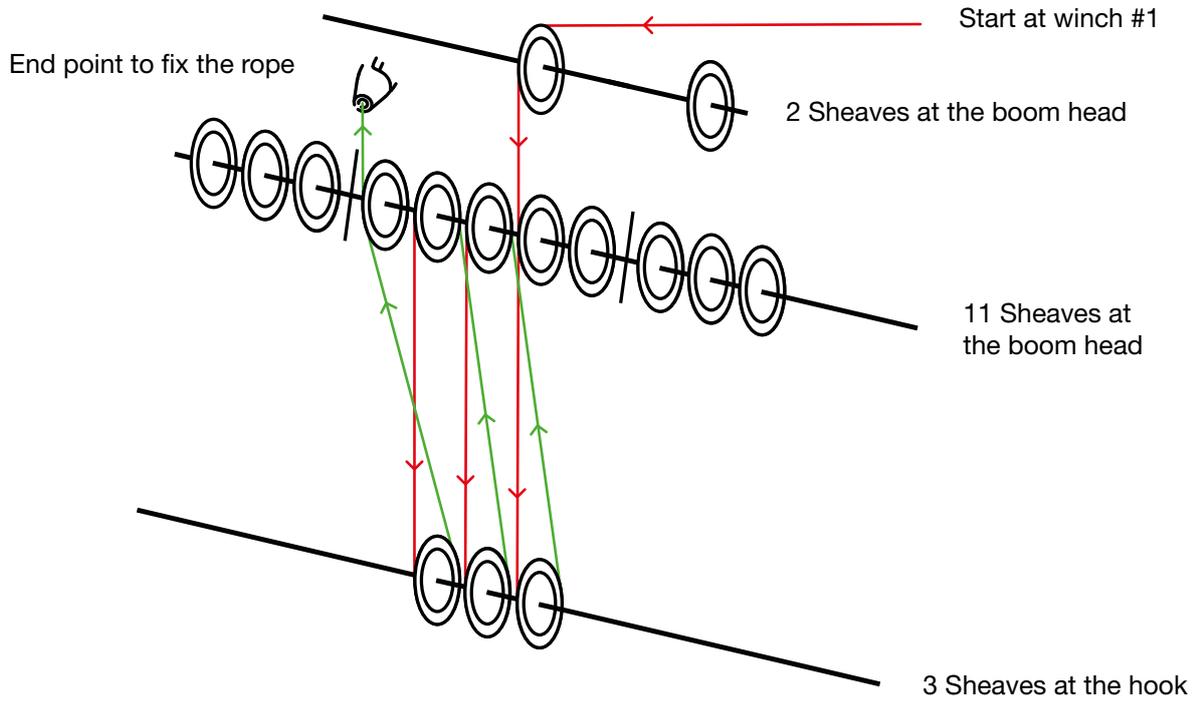
RED line is front side of the Sheaves
GREEN line is rear side of the Sheaves



5 Sheaves hook block.

3 Sheaves (84t)

RED line is front side of the Sheaves
GREEN line is rear side of the Sheaves



3 Sheaves hook block.

5. Options | 5.1 TY-Guying system installation



Install the rod connector to the main boom. Use screw #41 and a screwdriver to secure the rod connector.



Click the TY rods to the rod connector #15.



Overview prior to installation TY-Guying system, boomed down using tool #29.



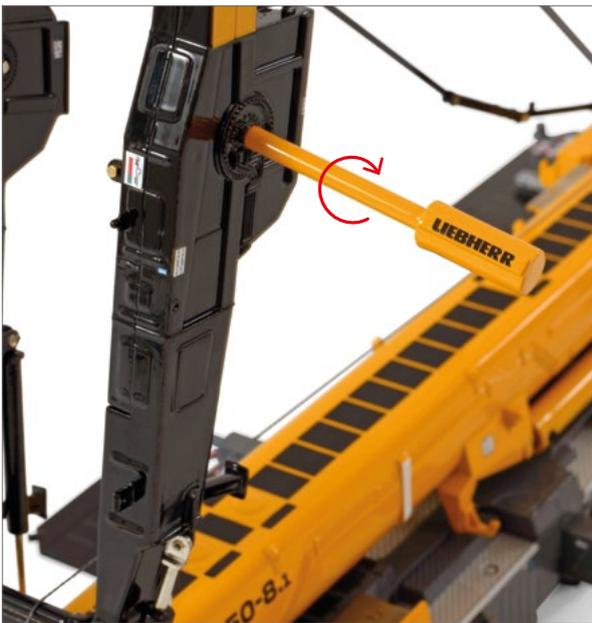
Secure TY-Guying system using screw #40 by screwdriver, then secure TY-Guying system cylinders using screw #41 by screwdriver.



TY arms in upward position prior to installation of rods.



Secure TY rods to parts #16 by using nut/bolt #39 and tool #26 and #27.



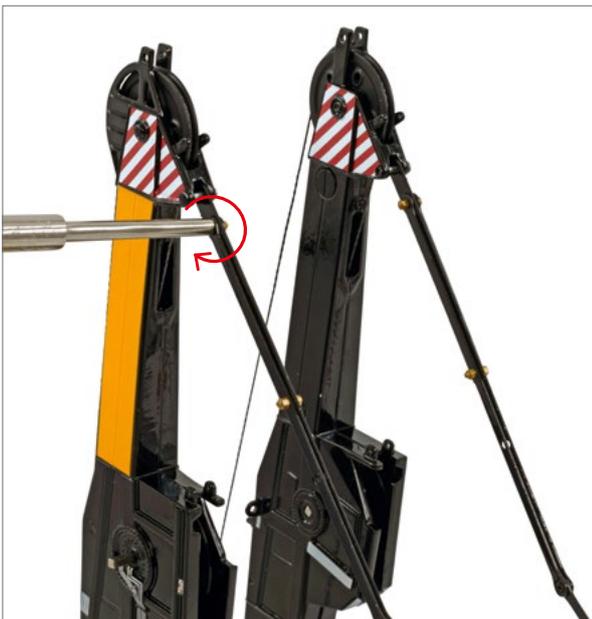
Unwind the TY winch on both sides using tool #28.



Connect the loose ropes to boom head by using bolts and nuts #38 and tool #26 and #27.



Overview after TY-Guying system installation.



Loosen the two nut/bolt connections at the upper end of the TY rods using tool #26 and #27. Please note the nut/bolt connection should not be taken off.



Extend the TY rods by pulling down the TY rods gently. Now the TY arms can be put at 90° position.

[See instruction video.](#)



TY3 configuration. To tension up the TY-Guying system, carefully wind up the TY winches using tool #28.

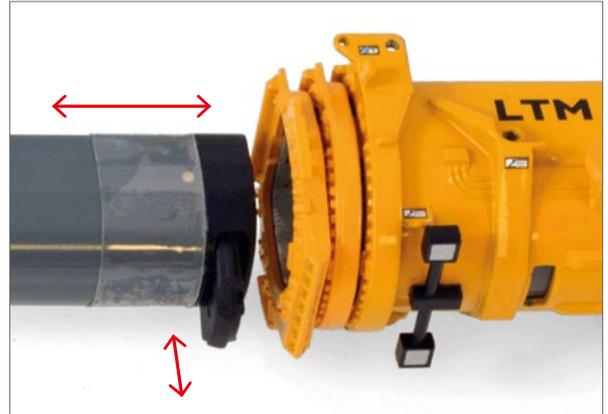


TY3 configuration.

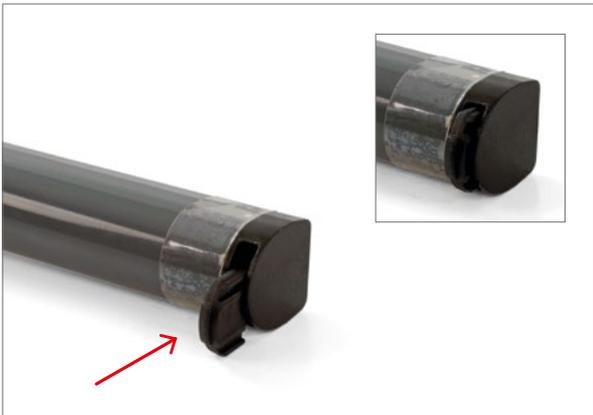
5. Options | 5.2 T5 section inset



T3 boom configuration (54 meters).



Watch out! The locking pin can shoot out while changing the boom.



Insert the locking pin into the boom.



T5 boom configuration (80 meters).



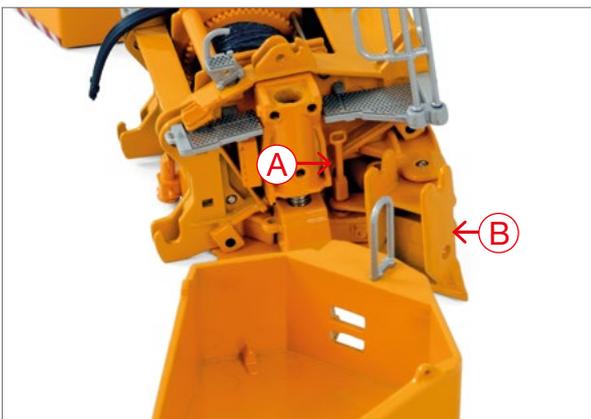
5. Options | 5.3 Transport options



Optional TY-Guying system in transport position.



Optional 80 meter boom on transport brackets.



For transport setup the swingable connectors (B) (for the receptacle plates) must be secured with pin #11 (A).

T5 Configuration



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