



## ASSEMBLY & OPERATING INSTRUCTIONS

Hydraulic engine hoist

MHK2000



Please read this manual before using the product and follow the instructions it contains!

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## FOREWORD

Congratulations on the purchase of your new hydraulic engine hoist. The MHK2000 has been manufactured from high quality materials, specially designed for durable and reliable use.

For your own safety and for the correct operation of the workshop crane, it is essential that you read and follow these operating instructions before commissioning. Keep these operating instructions.

Check the MHK2000 for transport damage. Damaged motor cranes must not be put into use. The motor crane is used as a lifting device for manually lifting and lowering loads weighing up to 2000 kg. Improper handling may result in injury or damage to the equipment.

SolidHub is not liable for damages resulting from the improper use of the motor crane, or the disregard of specifications and rules of conduct of this operating manual. The operator / user must ensure the correct use of the MHK2000 by trained and authorized personnel.

## SAFETY INSTRUCTIONS

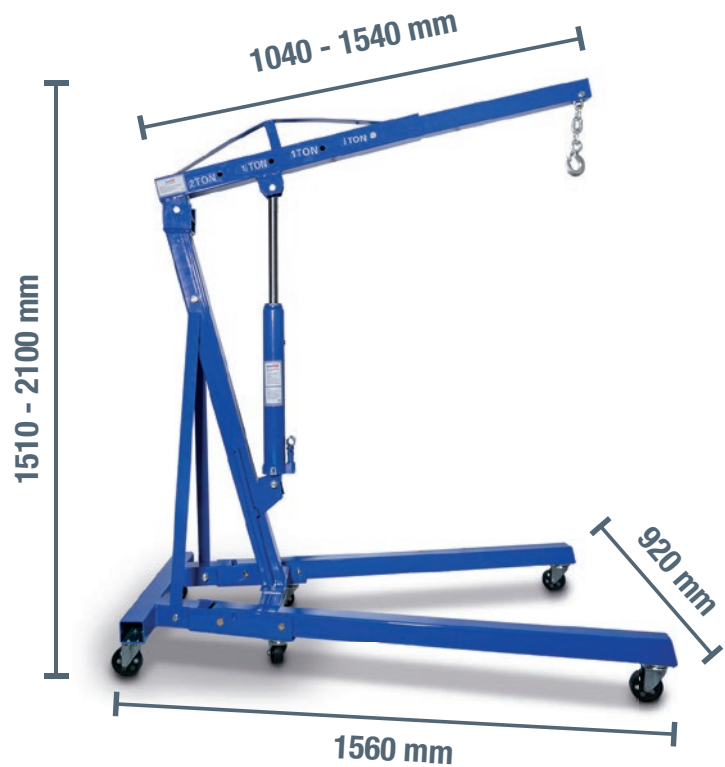
- The motor crane may only be operated by instructed persons who have read and understood the operating instructions.
- Observe the safety instructions on the motor crane.
- Check the motor crane for transport damage before using it for the first time.
- Carry out a detailed visual inspection before each use. Make sure that all bolts and nuts are tight.
- Do not use the motor crane if any components are visibly bent, broken or otherwise damaged.
- Wear appropriate clothing (helmet, safety shoes and work gloves) when using the MHK2000.
- Bystanders must keep a minimum safety distance of 1 metre.
- Do not lift persons or animals with the motor crane.
- Observe the load instructions. The maximum load is 2 tonnes when retracted. **Important:** If you extend the telescopic arm, the maximum load is reduced! DO NOT exceed the relative rated capacity at any outrigger position.
- Loads must only be attached to the load hook of the crane arm.
- Only lift loads vertically with the motor crane. Inclined lifting is not permitted.
- Make sure that suspended loads do not swing.
- Never leave lifted loads unattended.
- DO NOT work under the lifted load.
- Keep your hands and feet away from moving parts at all times.
- Transport the load as low as possible, under observation of the ground clearance.
- If you need to move the motor crane, move it slowly and carefully.
- The motor crane may only be moved manually, the use of additional means of transport is prohibited.
- Only use the MHK2000 on a surface that is stable, level, dry and not slippery. The ground must be able to support the load.
- Never use the motor crane in areas that cannot be easily seen.
- Do not expose the motor crane to rain or other bad weather conditions.
- Have the MHK2000 inspected annually by an expert.
- Observe the specifications regarding the ordinance on industrial safety and health, country-specific regulations and the accident prevention regulations.
- Do not make any modifications or changes to the motorised crane without the manufacturer's consent. Such action will invalidate the warranty.



Only load the motor crane when the stands have been folded out and secured with the safety bolts. Otherwise there is a risk of injury if the crane tips over!

## TECHNICAL DATA

Type	Unit	Value
Model		MHK2000
Colour		RAL5005
Material		Steel
Traction weight	kg	2000
Weight	kg	70
Max. height	mm	2100
Max. height to load hook	mm	1800
Height (arm parallel to ground)	mm	1510
Length telescopic arm	mm	1040 - 1540
Total length	mm	1560
Width	mm	920
Material wheels		Steel
Size of wheels	mm	2 x 76; 4 x 102

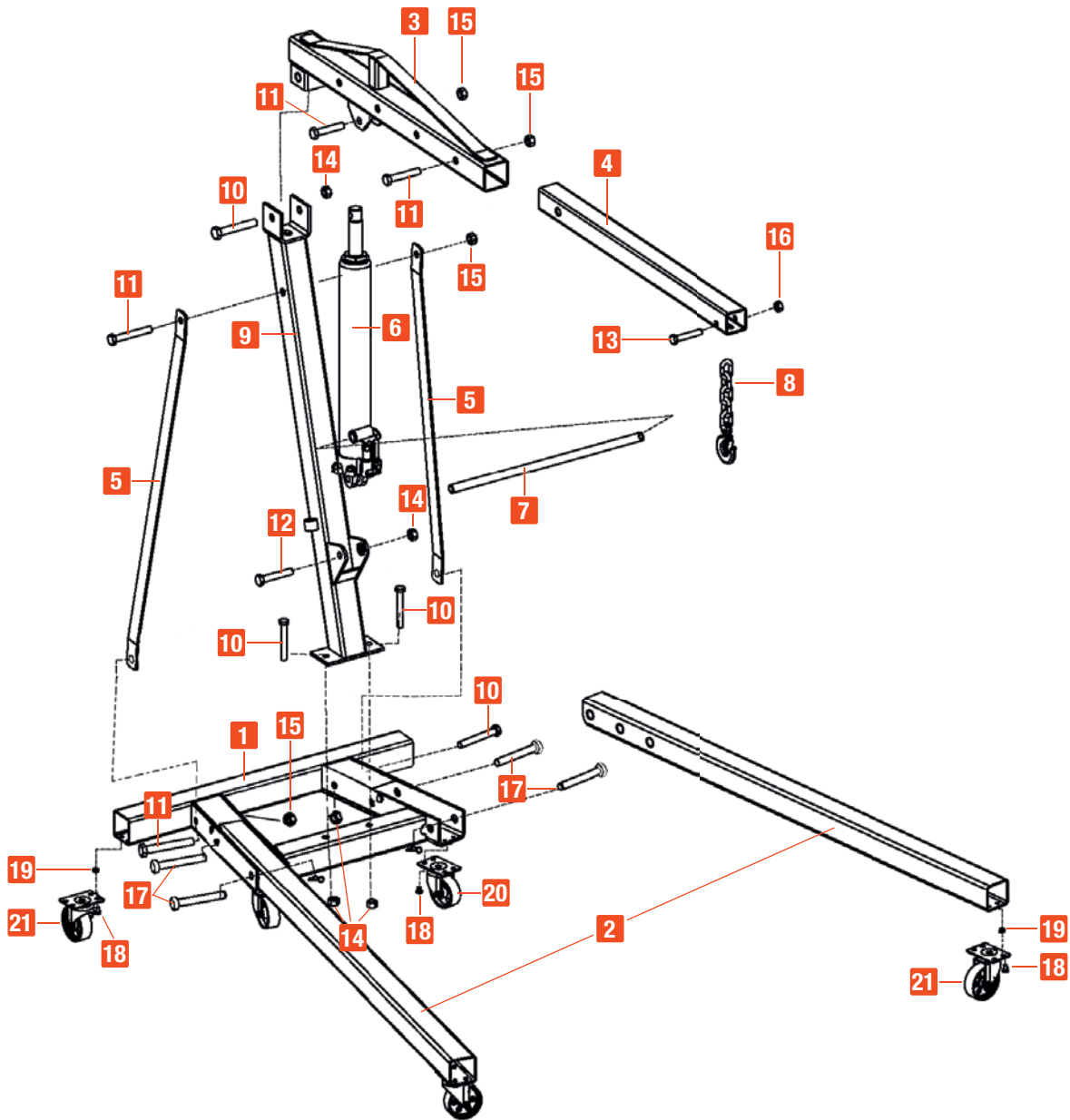


## OVERVIEW OF THE MAIN COMPONENTS



No.	Designation
1	Load hook
2	Telescopic arm
3	Hydraulic cylinder
4	Safety bolt
5	Lever
6	Swivel castors
7	Retractable outriggers
8	Drain valve

## EXPLOSION DRAWING

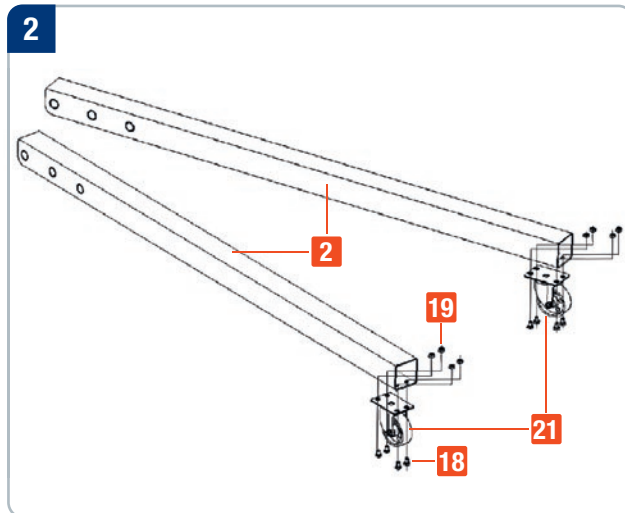
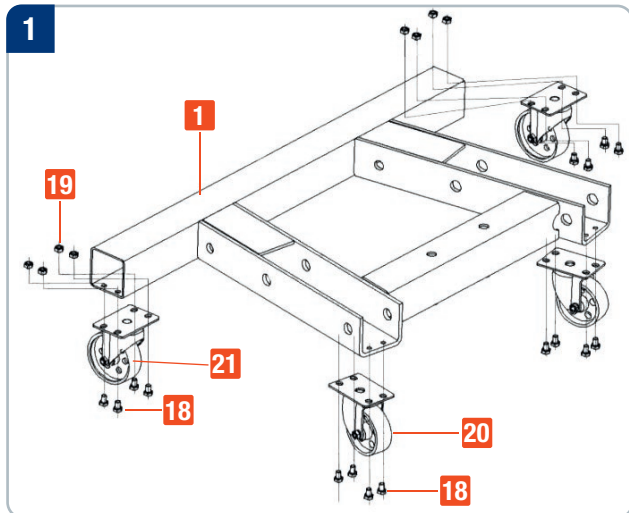


No.	Designation	Amount
1	Base frame	1
2	Outrigger	2
3	Beam	1
4	Telescopic arm	1
5	Brace	2
6	Hydraulic cylinder	1
7	Pump lever	1
8	Load hook	1
9	Column	1
10	Screw M14 x 100	4
11	Screw M12 x 90	4

No.	Designation	Amount
12	Screw M14 x 90	1
13	Screw M10 x 70	1
19	Nut M14	5
20	Nut M12	4
21	Nut M10	1
17	Bolt and split pin	4
18	Screw M8 x 12	24
19	Nut M8	24
20	Small wheel	2
21	Large wheel	4

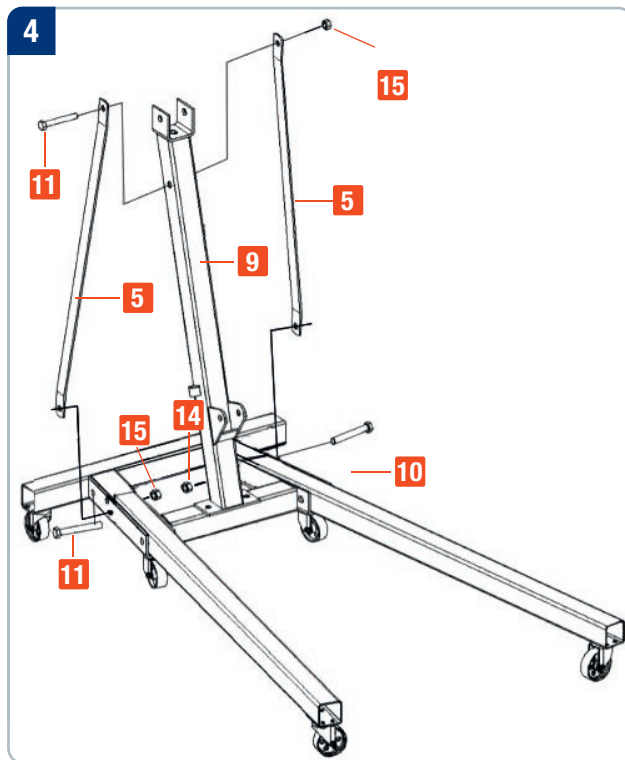
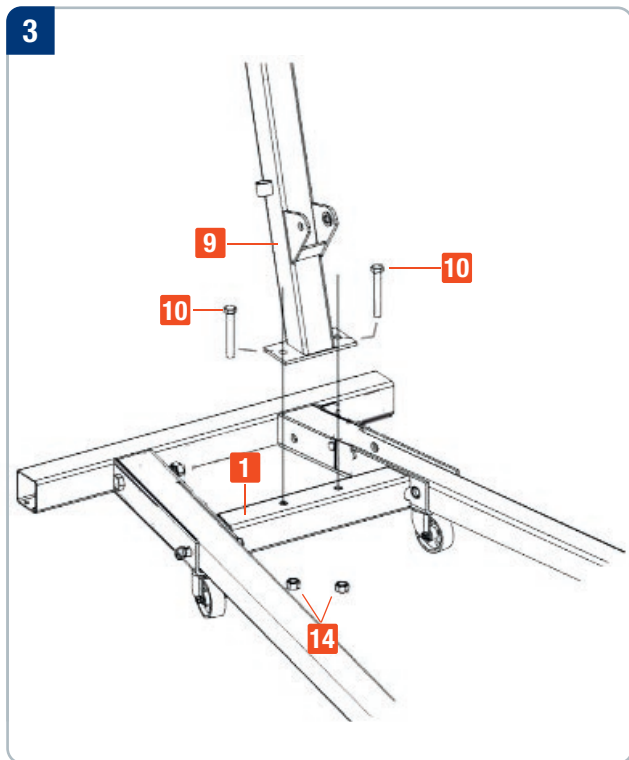
## ASSEMBLY

For safety reasons, be sure to have a second person help you while assembling the motor crane. Wear safety shoes and gloves. Use the explosion drawing as a guide for assembly. Before starting, place all parts and assemblies in front of you. The following procedure is recommended:



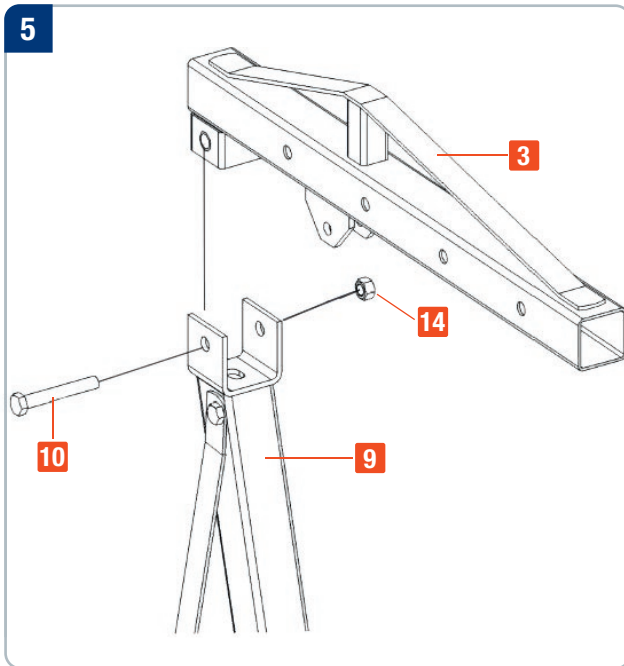
1. First attach the 4 wheels to the base frame with bolts and nuts. Make sure that you mount two large wheels (diameter 9 cm) at the back and the two small wheels (diameter approx. 8 cm) at the front.

2. Now fix the remaining wheels to the outriggers with M8 x 12 bolts and nuts.

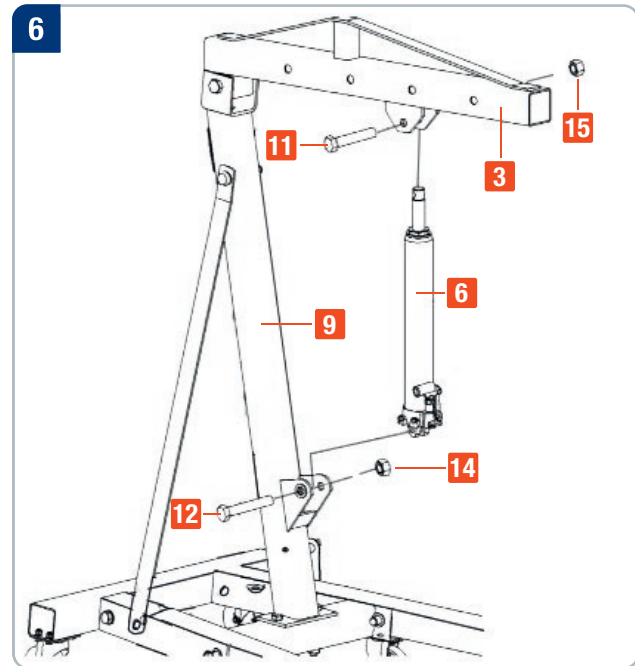


3. Mount the column.

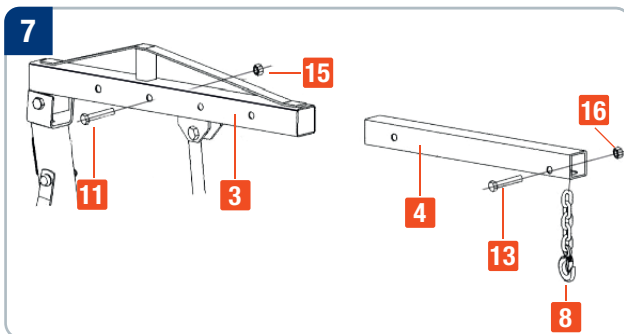
4. Mount the two struts on the outside of outriggers.



5. Mount the carrier.



6. Attach the hydraulic pump.



7. Insert the telescopic arm.

## OPERATING INSTRUCTIONS

### BEFORE FIRST USE

#### Vent the air

It is possible that air enters the hydraulic system and causes a poor lifting performance. You can remove the air by opening the bleed valve completely (turn the handle anti-clockwise). Then hold the pump lever down and use the pump handle quickly several times.

### LIFT

1. Move the engine hoist so that the load hook is directly above the object to be lifted.
2. Hook the load and make sure that the load hook is properly closed.
3. Move the pump lever alternately up and down to build up the oil pressure in the cylinder.
4. As soon as the crane is raised to the stop, do not operate the pump lever any more.



The crane is only suitable for short distances when moving loads. When moving with a load, make sure that the load does not swing / sway. Only move the crane by the handle, never move it via the discharge lever or the pump lever. Store the motor crane in a dry place when not in use.

## LOWER

Move the lowering lever slowly in the direction of the arrow. Adjust the lowering speed to the load.



When the lowering lever is released, the lowering movement is interrupted. The max. lowering speed is controlled independently of the load by a lowering brake valve.

## ADJUST THE TELESCOPIC ARM

1. Pull out the safety cotter pin and bolt.
2. Move the telescopic arm to the desired position.
3. Insert the pin into the corresponding hole and secure.

Make sure that the load capacity of the motor crane is not exceeded. The respective load specifications must be observed:



	Position 1	Position 2	Position 3	Position 4
Max. load	2 t	1.5 t	1 t	0.5 t

## DAILY VISUAL INSPECTION

Visual inspection of the safety-relevant components (frame, load hook, hook safety device, bolt connections, wheels, drain valve, lever, cylinder).

## REGULAR INSPECTIONS

Clean the frame of the motor crane with a dry, clean and soft cloth and lubricate the joints and all moving parts regularly.

Maintenance & inspection work	Interval		
	Before each use	Every six months	Annually
Visual inspection (frame, load hook, hook safety device, bolt connections, wheels, drain valve, lever, cylinder)	•		
Check functions	•		
Check for leaks	•		
Check, clean and oil load handling attachments and moving parts		•	
Check hydraulic oil level			•
Check engine crane for wear			•
Have inspection carried out by a qualified specialist			•
Check that the warning signs on the engine crane are legible			•



The respective inspection points (plus equipment identification) for the periodic inspections/thorough examinations are to be checked in an integrated manner in the associated inspection report of the lifting equipment, taking into account the mandatory fulfilment of the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). (Recommendation: FEM4.004)



**Use only low-foaming jack oil and no engine oil.**

Before starting maintenance and repair work on the hydraulic pump, it must be relieved (depressurised). Never operate the hydraulic pump without oil!

## TROUBLESHOOTING

Problem	Reason	Solution
Crane does not lift load	Load too heavy	Reduce load
	Discharge valve no longer closes or valve seat leaks due to contamination	Clean or replace
Crane lifts despite using the lever, with or without load, slowly or not at all	Pressure relief valve misaligned or valve seat dirty	Adjust or clean valve
	Hydraulic pump defective	Repair or replace hydraulic pump
Lifted load sinks by itself	Leaky hydraulic system	Repair or replace hydraulic system
	Drain valve no longer closes or valve seat is leaking due to oil contamination	Clean or replace
Lifted load sinks only slowly	Outside temperatures too low, hydraulic oil too viscous	Move to a warmer room Use hydraulic oil for winter
Lifted load is lowered too quickly	Lowering brake valve misaligned or defective	Remove cylinder from pump unit, remove valve and check / replace
Pump lever does not move	Check valve dirty or defective	Clean or replace valve
Lifting height is not reached	Pump unit seals damaged	Remove pump unit and replace seals
	Not enough oil	Refill oil
The telescopic arm does not remain in the desired working position	Cylinder seal damaged	Renew seals
	Lowering valve dirty or defective	Clean or replace the valve

## SERVICE & CONTACT

Contact our product experts and find help and solutions for your product. Here you will find all contact information listed by country and language: [www.topregal.com/en/service](http://www.topregal.com/en/service)

Responsible for the content:  
 TOPREGAL GmbH  
 Industriestrasse 3  
 70794 Filderstadt  
 GERMANY  
[www.topregal.com](http://www.topregal.com)

# UKCA Declaration of Conformity

The manufacturer / distributor

**TOPREGAL UK Ltd.**  
**Carlton Drive Crumlin, Gwent NP11 4EA**

declare under our sole responsibility for the equipment

Product designation:

**SolidHub  
Engine Hoist**

Type:

**MHK2000**

that the equipment is in conformity with the following relevant UK legislations and applied standards:

**Supply of Machinery (Safety) Regulations 2008**

Applied standards:

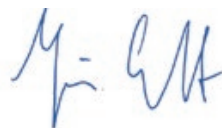
**EN ISO 12100**

**EN 16851**

**EN 60204-32**

Name and address of the person who is authorized, compile the technical documentation:

TOPREGAL UK Ltd.  
Carlton Drive Crumlin,  
Gwent NP11 4EA



Place: Crumlin UK  
Date: 13.09.2021

Juergen Effner  
Chief Executive Officer

## INSPECTION CHECKLIST HYDRAULIC ENGINE HOIST MHK2000 ACCORDING TO GERMAN DGUV 52

Acceptance test / Recurring test every 12 months.

### **Documentation:**

- Operating manual: (existence / completeness / table of contents)
- Technical data motor crane with load hook
- Test report on acceptance of motor crane (reference motor crane manufacturer's works)
- Proof of conformity declaration motor crane

### **Visual inspection:**

- Identity / factory plate (load capacity, operating regulations, UKCA mark, marking of control elements)
- Inspection of supporting structure for damage, corrosion, cracks, welded joints

### **Functional test (without load):**

- Test lifting and lowering to stop (intactness)
- Checking noise development and vibration during all travels (uniform quiet running)
- Test crane hook test dimension  $32 + / - 1.5$  mm

### **Function test (with load):**

- Test lifting and lowering to stop (intactness, smooth running)
- Noise and vibration test for all travels (smooth, quiet operation)

**Test result: Documentation in test protocol.**

## TEST PROTOCOL

# Inspection before first commissioning hydraulic engine hoist MHK2000

(Acceptance at reference hydraulic engine hoist manufacturer)

Manufacturer: SolidHub

Construction year: \_\_\_\_\_

Model: Engine hoist

Date: \_\_\_\_\_

Type: MHK2000

Load capacity: 2000 kg

Serial no. \_\_\_\_\_

Examiner: \_\_\_\_\_

Documentation	OK	NOK
Operating instructions: Existence / contents		
Technical data for engine crane and load hook		
Circuit diagrams for hydraulics		
Declaration of conformity available		

Function test (without load)	OK	NOK
Inspection of load hook Inspection dimension 32 + / - 1.5 mm (see regular inspection)		

Function test (with load)	OK	NOK
Noise and vibration testing for all travels		

Visual inspection	OK	NOK
Identity / factory plate		
Inspection of supporting structure for damage, corrosion, material cracks		
Check for leaks in the hydraulic system		
Inspection of load hook		

Inspection result: \_\_\_\_\_

Safety defects: \_\_\_\_\_

Notes: \_\_\_\_\_

German DGUV52 - Topregal

Signature examiner

# TEST PROTOCOL

## Periodic inspection

(Inspection according to German DGUV52 §26 every 12 months)

Manufacturer: SolidHub

Construction year: \_\_\_\_\_

Model: Engine hoist

Date: \_\_\_\_\_

Type: MHK2000

Load capacity: 2000 kg

Serial no. \_\_\_\_\_

Examiner: \_\_\_\_\_

Documentation	OK	NOK
Operating instructions: Existence / contents		
Technical data for engine crane and load hook		
Circuit diagrams for hydraulics		
Declaration of conformity available		

Function test (without load)	OK	NOK
Inspection of load hook Inspection dimension 32 + / - 1.5 mm (see regular inspection)		

Function test (with load)	OK	NOK
Noise and vibration testing for all travels		

Visual inspection	OK	NOK
Identity / factory plate		
Inspection of supporting structure for damage, corrosion, material cracks		
Check for leaks in the hydraulic system		
Inspection of load hook		

Inspection result: \_\_\_\_\_

Safety defects: \_\_\_\_\_

Notes: \_\_\_\_\_

German DGUV52 - Topregal          Signature examiner	Signature customer / operator
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# SolidHub<sup>®</sup>