

Operating and Maintenance Manual



MPG 400 TM

Dear Customer

Thanks and congratulations for choosing MPG. The design and production process have been completed with the aim of providing high performance, quality and safety. For your crane/platform to operate safely, reliably and economically please follow the instructions bellow:

- Read this manual completely, paying attention to details.
- Your extra attention is required for “Safety Instructions” section.
- Keep your crane clean. Cleaning would decrease wearing and possibility of accidents.
- Check and maintain the crane/platform as instructed by this manual’s “Maintenance and Service” section

Best Regards,

MPG & HEMI Group

Important Notes For The User

This operating and maintenance manual is part of the delivery of your crane with aerial working platform function. It contains information about the permitted scope of usage, safe operation, its care and maintenance.

This operating manual is not a textbook for prospective crane or aerial working platform operators! All descriptions are made on the premise that only those personnel

who have been given through instruction in how to operate this crane/platform will be using it!

Please read carefully and take into consideration at all times:

- You know that you, as the operator of this crane/ platform, are responsible for the equipment and all work connected to it.
- So for the safety of your colleagues and your own, adhere to the following instructions.
- Familiarize yourself with how to operate the crane/platform in all its permissible operating modes before using it for the first time. In order to do this, read this operating manual through and compare all the illustrations with your crane/platform as you do so.
- Follow the activities described step by step on your crane/platform. There may be some changes in technical details as compared to the information and illustrations in the operating manual, but these have no significant influence.
- Plan each job carefully and obtain all information about the journey you are about to undertake (distance, route, load capacity of bridges etc.).
- Find out about the local usage conditions (load capacity of the subsoil, required working height and lateral working range, weight and dimensions of the loads to be lifted, restrictions to movement on account of buildings etc.).
- Put together the equipment necessary for your work (support materials for the outriggers and base plates, tools for platform work etc.).
- Errors in planning lead to improvisation - and improvisation is the cause of many accidents!
- When driving on the roads and operating the platform, be sure to follow all relevant conditions and rules, such as road traffic or accident prevention regulations, which are not contained in this manual.
- Always have this operating manual and the documents belonging to it in the vehicle.
- In this manual you will frequently find tips that draw your attention to particular dangers. Follow these tips carefully!
-

- If there are any persons other than you working with this crane/platform, ensure that they are also instructed and have read this manual carefully. Make sure to obtain prior written confirmation of this.
- Always check all the functions of your crane/platform before using it. Check the carrying vehicle in accordance with the manufacturer's instructions.
- Pay particular attention to the safety installations built into the crane/platform. Always test these installations before use to ensure they work properly. Stop operating the crane/platform immediately if you notice that one of these installations is malfunctioning or not working at all!
- Maintain the operating safety of your crane/platform by conscientiously caring for and maintaining it.
- Follow the instructions in the vehicle manufacturer's technical documentation when operating and maintaining the carrying vehicle.
- The vehicle battery may only be charged with chargers when the battery cables to the vehicle have been disconnected. Also make sure that the polarity of the connections is correct!
- Welding work may only be carried out when all electronic controls of the crane/platform have been unplugged. Please follow the vehicle manufacturer's instructions for how to proceed on the vehicle in this respect.
- Welding work may only be carried out on load-bearing parts of the crane/platform or other parts of the platform that are relevant to safety by qualified specialist personnel in accordance with EN 729-2. Faulty welding work can lead to spontaneous failure of the load-bearing parts, serious damage to persons and property and even death!
- Never postpone any necessary repairs and have repairs carried out by trained staff only.
- MPG's internal customer service team is available to you for repair work at all times.
- Only use parts made by the manufacturer of the original. Use the spare parts list for the crane/platform when ordering spare parts. Always state the type and serial number when placing your order.
- We assume no responsibility for any damage arising from inappropriate use of the crane/platform or disregarding the manual.

- Any alterations, conversions, overriding of safety installations, modifications to electronics and sensors, adjustment of valves, operating errors and faulty maintenance exempt us from any liability.
- We will be glad to advise you on any questions that may arise from your daily use of the crane/platform.
- We are always grateful for any suggestions and tips.
- The right to alter technical details of the crane/platform as compared to the information and illustrations contained in the operating manual is reserved.

MPG Machine Production Group Co.

MPG Makine Prodüksiyon Grubu A.Ş

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1. Safety Instructions

1.1. General safety instructions:

- Must be operated only by trained and certified personnel. No exceptions.
- Safety devices are not to be tampered with. ☐ Prescribed safe distances to be maintained.
- Safe distances from electric power lines to be maintained.
- Be alert to faults before, during or after crane operation.

1.2. Prior to crane operation:

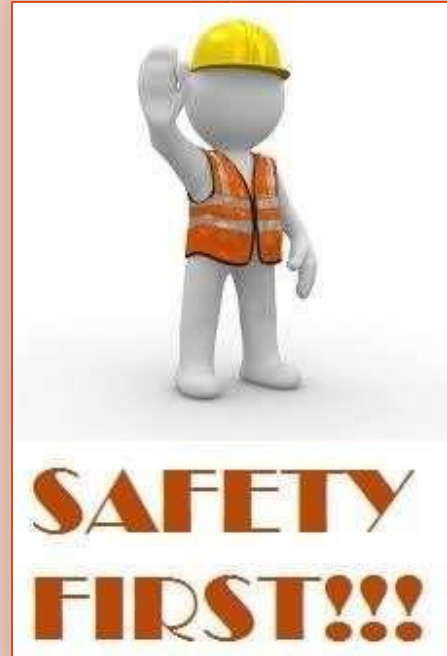
- Pay attention to hydraulic oil level or any leak.
- Make a visual inspection.
- Check the safety devices before start-up
- Please check with legislation of the country you will operate beforehand to see if you need to take any extra precautions

1.3. On start-up:

- Do a site survey and site-risk analysis. Or if you are not authorized get help.
- Be sure you have the right hydraulic fluid for the temperatures.
- Outriggers must be fully extended.
- Lock manually extendable outriggers properly.
- Adjust the support when loading and unloading.
- The slope of the ground must not exceed 3° in any direction.
- When extending outriggers and support cylinders observe the safety distances.
- If necessary, enlarge the support surface according to the condition of the ground.
- The vehicle must not be raised using the support.
- Prevent the support from sinking into the ground.
- Before unfolding the crane any extensions have to be secured properly.

1.4. During crane operation:

- Ensure the crane is used according to the specifications.
- Keep an eye on the working area.
- Do not stay in the danger area of the crane.



- Safeguard the working area.
- Select the right control stand.
- Pick up and secure loads in the due and proper manner.
- Use of load lifting gear and ancillary equipment supplied by MPG.
- Secure attachment of ancillary equipment.
- Adherence to the max. lifting capacity of the crane, ancillary equipment and load lifting gear.
- No load moment increase when lowering the load.

1.5. After crane operation

- Secure crane in transport position.
- Observe safety distances when retracting the outriggers and support cylinders.
- Lock the manually retractable outriggers in the retracted position.
- Check the outrigger locking device before every trip.
- Switch off hydraulic pump.
- Observe maximum head room on bridges and tunnels.

1.6. On maintenance and lubrication

- Carry out maintenance work only when the machine is inoperative.
- Keep steps, standing areas and handles clean.

2. Prerequisites

2.1. Description

This is a crane with optional workman basket.

2.1.1. Basic Structure

This is a vehicle mounted Hydraulic Mobile Crane adaptable to be working as a Mobile Elevating Work Platform (MEWP).

As MEWP this is considered to be Group B Type 1 according to EN 280+A1:2015 standard. (Vertical projection of the center of gravity of the load may be outside the tipping lines, travelling is not allowed unless in transport position)

The chassis is an industrial truck equipped with five axles.

The main base frame, mounted on the truck, has 6 outrigger beams provided with 6 support cylinders for MEWP stabilization. The structure is powered by the engine of the truck. In the rear upper part of

the main frame is mounted the slewing ring for a full circle slewing superstructure by a slewing gear. On the turntable are connected the Lower Boom Base (Column) Section and the Luffing Cylinder.

The extending structure is made of:

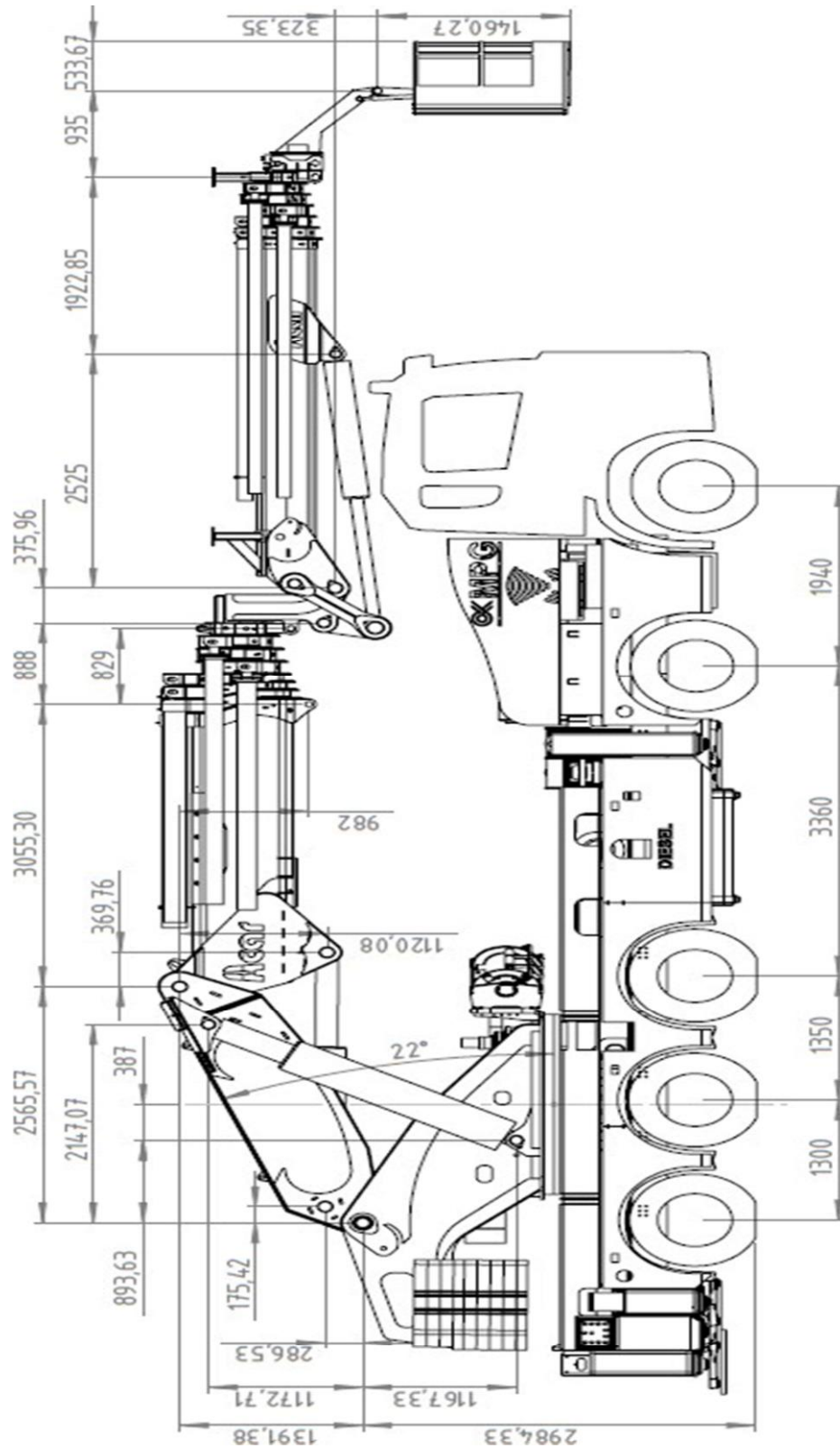
- Main Boom(1st. Boom)
- 2nd. Boom with 7 extending structures
- 3rd. Boom with 6 extending structures
- Personal Basket

Telescoping of the boom sections are obtained by a Hydraulic Cylinder for each extension.

The Crane has the following further specifications when on MEWP mode:

- Max raising/lowering work platform speed: 0,4 m/sec
- Max telescoping speed: 0,4 m/sec
- Max slewing speed (at the platform outer edge): 0,7 m/sec
- Slewing acceleration and braking time: 3 sec
- Max acceleration: 0,24 m/sec²
- Max angle: 82°
- Slewing range: 360° (Infinite)
- Max allowed chassis inclination: 0°

2.1.2. Technical Sketch (with optional workman basket installed)



2.1.3. MEWP Plates

<h1>MPG</h1> <h2>MAKİNA PRODÜKSİYON GRUBU</h2> <h2>MAKİNA İMALAT SANAYİ ve TİC.A.Ş</h2>			
<p>ADRES : 2. Organize Sanayi Bölgesi Evrenköy Cad.No:12</p> <p>Telefon : 0.332.239 12 12 (Pbx) -239 05 50 (Pbx)</p> <p>Fax: 0.332.239 05 32 - 239 02 46 KONYA</p>			
Type Tip	350TMwP MEWP	Max. Wind Speed Azami Rüzgar Hızı	13.89 m/s
Serial No.-Year Seri No.-Yıl	1896 - 2016	Max. Chassis Inclination Azami Şase Eğimi	0
Non-Loaded Mass Yüksüz Ağırlık	47900 KG	Hydraulic Supply Hidrolik Besleme	
Rated Load Beyan Yüğü	200 KG	Electrical Supply Elektrik Besleme	
Max. Manual Force Azami El Kuvveti	400 N	www.mpg.com.tr	
			EN 280-1

<h1>MPG</h1> <h2>MAKİNA PRODÜKSİYON GRUBU</h2> <h2>MAKİNA İMALAT SANAYİ ve TİC.A.Ş</h2>			
<p>ADRES : 2. Organize Sanayi Bölgesi Evrenköy Cad.No:12</p> <p>Telefon : 0.332.239 12 12 (Pbx) -239 05 50 (Pbx)</p> <p>Fax: 0.332.239 05 32 - 239 02 46 KONYA</p>			
Rated Load Beyan Yüğü	200 Kg		
Max. Manual Force Azami El Kuvveti	400 N		
Max. Wind Speed Azami Rüzgar Hızı	13.89 m/s	www.mpg.com.tr	
			EN 280-2

 Soltec S.r.l. Tecnologie in Movimento su Veicoli		Via Valle Piana, snc 63074 S. Benedetto del T. (AP) Tel. 0735 702346 - Fax 0735 652640 www.soltec.org	
CESTELLO PORTA OPERATORE			
modello	SPAZIO 2000 INOX		
matricola	005		
anno di fabbric.	2016		
peso cestello kg.	150		
portata Max kg.	200		
persone n°	2		
			
		N° 0060	

2.2. CE Symbol

Your crane is marked with a CE symbol it meets the requirements of the machine directive of the EEA (European Economic Area).

This symbol is only valid in connection with a conformity declaration issued for your crane.

If the crane is mounted on the truck anywhere other than MPG factory or constructional changes are made to the crane (e.g. hydraulic part change, electronic equipment change, rope winch or remote control change, etc.) the CE symbol must be re-issued by the firm mounting the equipment (new conformity declaration).

As the crane bears a CE symbol, it is fitted with an overload safety device.

Ancillary equipment must bear its own CE symbol.

In the EEA and certain other countries the crane may only be operated if it has a valid CE symbol and valid conformity declaration.

2.3. Assembly, acceptance and regular inspection of the crane unit

If the crane is bought unassembled, the crane must be assembled according to the valid assembly rules of MPG. The valid Installation Instructions may be obtained from the responsible general representative. After successful crane mounting the vehicle still has to be stable throughout the entire working area of the crane.

In addition, country-specific assembly regulations, provisions and rules as well as provisions and rules of the truck manufacturer are to be observed. The acceptance procedure required by law must be carried out.

The firm responsible for assembly must be handing over the crane with instructions for the crane operator in the operation of the crane and point out to the crane operator all possible dangers and risks of injury.

On handover of the crane the customer is to be given the maintenance manual, operating instructions (including assembly-related additions), and the conformity declaration for the EEA.

The firm operating the crane is responsible for ensuring that the regular inspections required by law are carried out.

2.4. Approval from the MPG company is required

- If the crane is going to be used for other operations than those intended by the MPG company.
- In case of structural modifications to any load-bearing components.
- In case of structural modifications which affect the stability.
- In case of structural modifications which obstruct the accessibility of the operating elements.

- In case of structural modifications which do no longer ensure a safe crane operation.

2.5. Requirements for the operating personnel

Operation of the crane requires skill, ability and experience. Therefore for the operation of the crane only entrust people:

- who are physically and mentally suitable for this (not tired, and not under the influence of alcohol, drugs or medication).
- who handle the crane responsibly and reliably.
- who have the right qualifications (training, licenses required).
- who can prove that they have been instructed on how to operate the unit described here
- who are familiar with the content of these operating instructions. this also applies to the operating instructions for ancillary equipment or the personal basket used on the crane.

If the crane is used by persons without training or license there is a high danger of injury.

Observe the regulations valid in your country!

2.6. Safety devices not to be tampered with

Safety devices serve to protect you and were developed to avoid accidents and make your work safer.

On delivery safety devices such as Emergency Off, load holding valve, pressure relief valve, sensors and controllers etc. are adjusted to ensure safe crane operation. They must on no account be interfered with or rendered inoperative.

Caution: If safety devices are tampered with or if lead seals are damaged, any warranty on the part of MPG and its partner companies will cease to apply. You would put yourself and other people at risk of fatal injury. MPG would not be liable for any loss after this point.

2.7. Crane operation in adverse operating conditions

It is suggested to use the crane/MEWP under wind speed of 30km/h.

Safe operation of the crane can no longer be assured if winds are in excess of 50 km/h at the top of the crane. If the wind exceeds this speed, the crane must not be put into operation or operation must stop. Please refer to visible wind speed indications shown on the table below.

Wind speed in Beaufort	Description	m/s	km/h	mph
0-2	Wind can be felt on the face or exposed skin. Tree leaves rustle	0 - 3.4	0-11	0 - 8.1

3	Leaves and twigs are in constant motion while the wind will extend light flags.	3.4 - 5.5	12 - 19	8.1 - 12.7
4	Branches are in motion; the wind will raise dust, leaves, and loose paper.	5.5 - 8.0	20 - 28	12.7 - 18.4
5	Larger branches and trees begin to sway, whitecaps on lakes.	8.0 - 10.8	29 - 38	18.4 - 25.3
6	Large tree branches are in motion, the wind whistles in overhead wires.	10.8 - 13.9	39 - 49	25.3 - 32.2
7	Whole trees are moving in the wind while walking becomes affected by the wind	13.9 - 17.2	50 - 61	32.2 - 39.1

Even though the crane would withstand up to the aforementioned wind speed, even before reaching that speed operator should stop operation and fold the crane whenever he feels any danger arising from wind.

If a thunderstorm is approaching, the crane must not be put into operation or operation must stop.

Our cranes may be used at ambient temperatures ranging from -30°C to $+50^{\circ}\text{C}$. If the temperature drops below or exceeds these limits, operation must be discontinued as it can lead to damage to the hydraulic components. Under 0°C please follow specific instructions.

2.8. Intended use

Use the crane only for handling loads; mechanical interventions (pushing or driving against obstacles), fastening of loads at points other than those provided for this purpose, pulling of loads, etc. are prohibited. Manufacturer will accept no liability for damage caused by doing so.

Lifting persons is only allowed with specifically produced workman basket with its own specific instructions. In addition, national regulations and laws regarding the transport of persons have to be observed. In order to ensure safe operation you should operate the crane only using workman baskets provided or retrofitted by MPG.

2.9. Dangers

2.9.1. Crushing injuries

Avoid operating situations in which there is a risk of you or bystanders being crushed by the crane, the support system or load.

The crush point is not regarded as a danger point for the body parts stated if the safety distances highlighted below are complied with and it is ensured that the next-biggest body part can't penetrate.

Required minimum distances:

Body	Leg & Foot	Arm	Hand	Finger
500mm	180mm	120mm	100mm	25mm

If the distances are not complied with, there is danger of injury and even death.

2.9.2. Burn injuries

Through the flow of oil in the hydraulic unit the hydraulic oil and therefore all components in the hydraulic unit are heated. The control valve, all other valves, hydraulic lines and hoses, hose couplings, hydraulic cylinders etc. can become so hot that they can cause burns if touched. Vehicle engine or exhaust can also heat up. Therefore always be careful of their temperature before touching hydraulic components or the vehicle motor and exhaust.

2.9.3. Noise emission

Main source of noise is the vehicle motor. Hydraulic and mechanical systems also emit sound. High noise pollution puts health at risk. The crane operator is obliged to observe the noise emission and take precautions like wearing ear protectors.

When microphone standing close to the exhaust ($0.5 \text{ m} \pm 0.01 \text{ m}$), noise measured (this would change according to make and model of the truck):

	dB(A)	Engine RPM
1st Measurement	88	1425
2nd Measurement	88	1425
3rd Measurement	88	1425

Operators have to comply with the relevant national noise control standards and laws. In order to reduce noise exposure it is recommended to maintain a low idling speed and use the remote control at a distance from the vehicle motor/exhaust.

2.9.4. Exhaust

Exhaust gas components such as carbon monoxide, nitrous oxides or diesel soot can put the operator at risk if the operator stands close to the exhaust.

It is ensured that, the vehicle exhaust does not flow into the vicinity of fixed operating stands. But the operator also shouldn't stand in front of the exhaust while using remote control.

2.9.5 Power Lines

Keep the required minimum distances to power lines. If this is not possible because of the particular work being carried out, the lines must be disconnected beforehand (switched off).

The appearance and height of electric power lines gives no indication of their voltage.

In the case of lines where the voltage is not known a distance of at least 5 meters between the crane and the line must be maintained. This also applies to all load lifting gear and ancillary equipment attached to the crane. This also applies to all load fixing tools, accessories and for the load mounted on the crane.

In addition, always observe national standards because they may differ from those distances given in this operating instruction.

Take into account that wind can sway out a power line or the load arm of the crane can swing by sudden movements (also upwards). Even unintentional approaching can lead to a flashover.

Flashovers can occur even while just approaching a power line. This entails the risk of fatal injury for the crane operator and auxiliary personnel. For overhead power lines and contact lines of electric railways the following minimum distances apply:

<input type="checkbox"/> up to 1000V	1,0 m
<input type="checkbox"/> 1000V-1500V	1,5m
<input type="checkbox"/> 1500V-10000V	3,0m
<input type="checkbox"/> 110000V-220000V	4,0m
<input type="checkbox"/> 220000V-380000V	5,0m
<input type="checkbox"/> Unknown voltage	5,0m

The crane operator is obliged to observe any additional national standards, yet country specific minimum distances to circuit lines may differ from those given here.

If the crane touches a power line only your correct reaction can prevent a serious accident. If you touch the crane, vehicle, load or try to leave your location you will put yourself in acute danger of fatal injury.

- Stay calm.
- Persons in the vicinity must keep a distance of at least 10 metres from the vehicle, crane and load (resistance area).
- If the power line has been cut and is touching the ground a distance of at least 10 meters must likewise be maintained (resistance area).
- If there is a person within this 10 metre area this person may leave the danger area only by hopping with legs tight together (step voltage).
- Do not touch the crane, vehicle or load.
- Warn bystanders not to touch the vehicle, crane or load and not to approach.
- Do not attempt to leave the operating stand; and do not touch any metal parts there. ☐ Indicate that the power lines must be disconnected.
- If you are on the loading area or in the operator's cab of the vehicle, do not leave this location. It is essential you remain where you are.

- If someone is in the electric circuit the power line must be disconnected before this person can be removed; if you approach the person before the power is switched off you will put yourself in danger of fatal injury.

2.9.5. Deformation

Observe the crane during operation for any sudden signs of any defects before, during and after operation.

If you discover the following damage or defects to the crane, ancillary equipment, load lifting gear or the carrier vehicle you must stop crane operation immediately:

- Defects, damage or cracks on load-bearing parts.
- Defects in bearings.
- Defects in the hydraulic unit or safety devices.
- Loose screwed connections
- Inadequately secured bolt connections.
- Leaks on hydraulic components or connections.
- Unusual noises.
- Unusually quick or slow working movements.
- Functional errors in the control system.
- Unusually high temperature of hydraulic components

In the case of the above-mentioned damage or defects safe crane operation is no longer ensured. There is acute danger of accident and thus of fatal injury.

The crane may only return to service when the defects have been removed and safe working is once again assured.

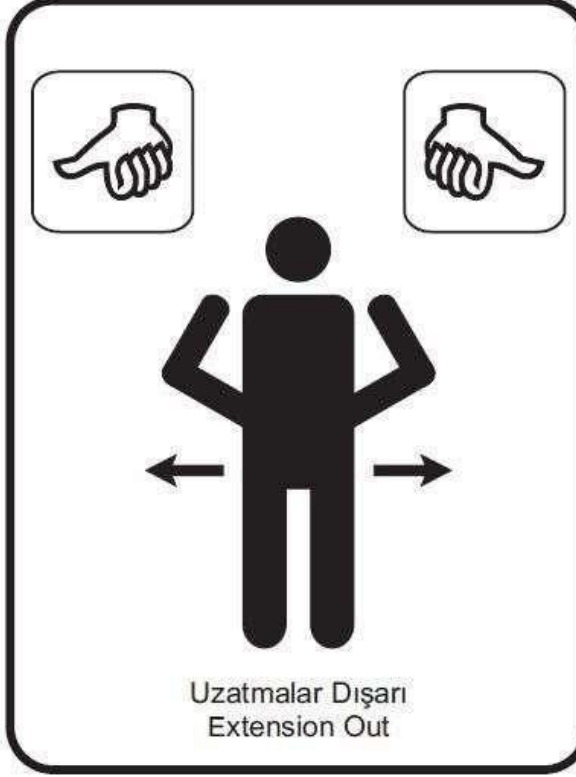
2.9.6. Vibration

The source of vibration is mainly the motor of the truck or the moving equipment of the crane. The highest root mean square value of whole-body vibrations in the workman basket are below the limit value of 0.5 m/s^2 and should stay that way if maintenance and service is carried as required by respective manufacturers. Therefore, there is no limitation of the permissible exposure time of persons on the in the basket.

Operators should be aware of any unexpected and unintentional vibration and call the MPG service immediately.

2.10. Signs and Gestures









3. Controls

3.1. Electronic Controllers

Crane is normally operated from these control units.

3.1.1. MD3 display

MD3 display is inside the panel on the left hind of the vehicle, it consists of 6 screens (menus) and buttons have different functions relevant to screens.

3.1.1.1. 3.1.1.1. Main Screen



- F1 button: Engine start button. Press and hold to start the engine
- F2 button: Engine stop button. The engine is stopped by holding it down
- F3 button: This is the button to switch to the LAMP screen
- F4 button: Switch to the AUTO BALANCE screen
- Back button: prompts for a PIN code to switch to the EMERGENCY screen when pressed for 5 seconds. (NOTE: When PIN code is entered, EMERGENCY screen can be used)
- Menu button: Switch to menu selection
- Down button: This is the button for decreasing the engine speed(RPM)
- OK button: This is the switch to the SYNCHRONOUS OPERATION page
- Up button: This is the button for increasing the increasing speed(RPM) □ Back button: Switch back to main screen

3.1.1.2. 3.1.1.2. Lamp Screen



- F1 button: This is the “swivel lamp” button
- F2 button: This is the button for working “lamps in the 2nd boom”
- F3 button: This is the button for the lamps in stabilizer
- Menu button: This is the MENU button □ Back button: Switch back to MAIN SCREEN

Other buttons are unfunctional.

3.1.1.3. 3.1.1.3. Automatic Balance Screen



- Back button: This is the button to return to MAIN SCREEN
- Menu button: This is the MENU button
- Down button: This is the auto-lift button. It automatically balances stabilizers except the two #5 and #6 in the back. Stabilizers #5 and #6 have to be pushed down manually by the operator afterwards (working position)
- OK button: This is the button to return to MAIN SCREEN
- Up button: This button is the auto-lower button. It automatically lowers all stabilizers (transport position)

Other buttons are ufunctional.

3.1.1.4. 3.1.1.4. Synchronized Working Screen



- F1 button: Sends a request for synchronized use with the other crane (if selected as Master)
- F2 button: Sends a request to use the other crane from its own controller (if selected as Master)
- Back button: This is the button to return to MAIN SCREEN
- Menu button: This is the MENU button
- Down button: Selecting the crane as “Slave”(Is going to be controlled)
- Up button: Selecting the crane as “Master” (is going to use its own controller to move its own and the slave) Other buttons are unfunctional.

Left Top Lamp Colors and meanings:

- **Black**: No request.
- **Yellow**: There is a request.
- **Green**: Request accepted.
- **Red**: Request rejected.

3.1.1.5. 3.1.1.5. Emergency Screen

Be sure to use Emergency screen only in case of an emergency and you must. MPG is not responsible for any misuse.

Use PIN to enter. (PIN is 1517 on delivery)



- F3 button: This is the button to select the desired control (movement) to perform
- Back button: This is the button to return to MAIN SCREEN
- Menu button: This is the MENU button
- Down button: This button activates the selected control (Allows you to do the movement on the left)
- OK button: This is the button to return to HOME
- Up button: This button activates the selected control (Allows you to do the movement on the left)

Other buttons are unfunctional.

3.1.1.6. 3.1.1.6. Menu Screen



- F1 Button: Adjust. This is the part where the parameters that can be changed by the operator in the crane operation are available. The operator can make the following changes from this section.
 - ☐ Slew acceleration: Time to reach max. and min. speed for slewing is set here.
 - ☐ JS% values: This is the rate at which all functions (lifting, rotation, etc.) are set in % here. The % value here also applies to all joysticks in all controls.
 - ☐ Grease: The part where the automatic lubrication period is set and also where the greaser can be started and stopped manually.
 - ☐ Change Password: This is the part where the pin code for all controllers can be set and changed.
 - ☐ Security: This is the section where you can set whether to be asked for the pin code at the opening of any controller. MPG is not responsible of any misuse of the crane if this is set to “pin is not asked”.
- F2 Button: Measure. The part where the sensor information is displayed in list form.
- F3 Button: Preferences. This is the part where screen brightness for this controller and date-time settings are made. Language selection is also done in this section.
- F4 Button: Info. Information about the controller modules connected to the system and log records can be reached from here.
- Back button: This is the button to return to MAIN SCREEN
- Down/Up button: This button activates displayed function on the screen near it

3.1.2. Remote control unit

3.1.1.7. 3.1.2.1. Switches



Switch, button functions:

- Switch #1: No function
- Switch #2: Joystick function switch. Relative pictures are shown on the screen according to the function set.:
 - o When the switch is pulled to the right primary joystick functions (Crane movements) are active
 - o When the switch is pulled to the left secondary joystick functions (Balance weight functions) are active
- Switch #3: Pulled to the left, starts the engine Pulled to the right, stops the engine.
- Switch #4: Pulled to the left Increases the engine speed (RPM). Pulled to the right, it will decrease engine speed (RPM).
- Turtle / Rabbit Switch: speed of all crane functions are reduced by 15% each time it is pulled to the left. When pulled to the right once, speed of all crane functions are 100%.
- Power/Horn Button: If the remote control is off, when pressed for a short time it turns the remote control on. While the remote control is active it will sound the horn. □ Emergency Stop Button: Stops all functions. Used in emergencies.

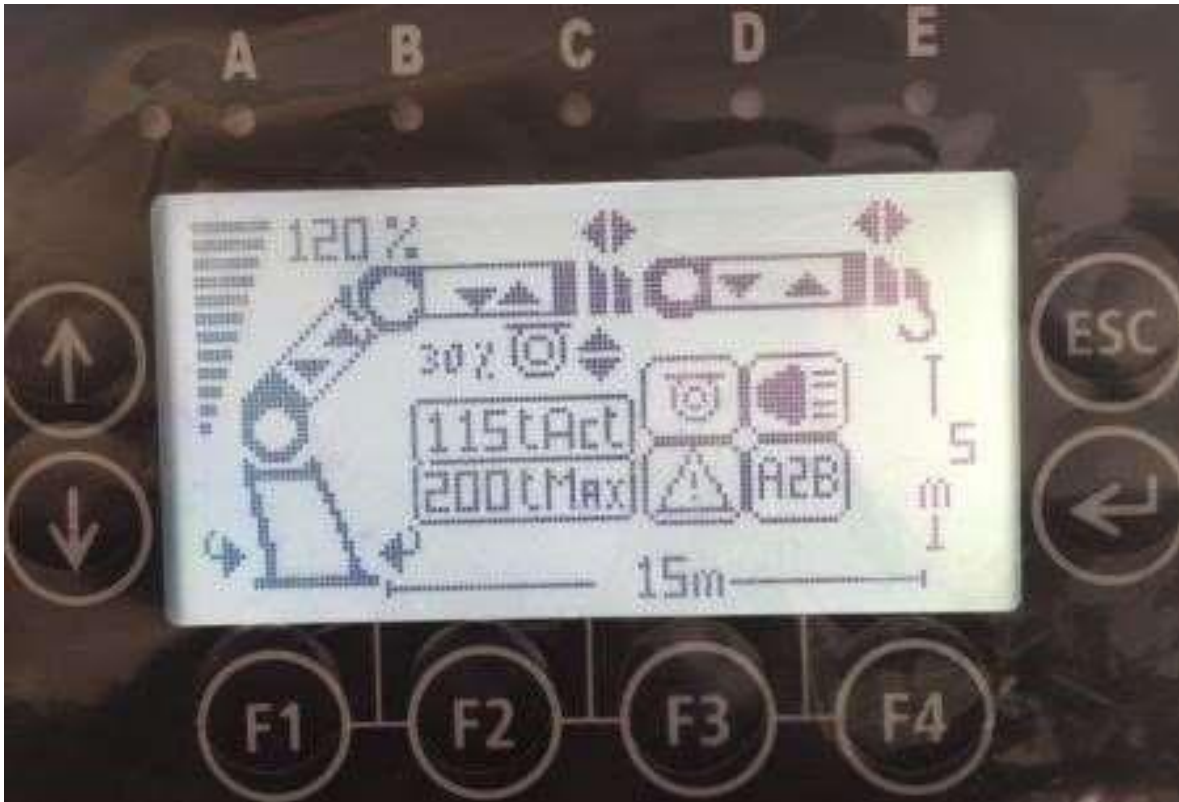
3.1.1.8. 3.1.2.2. Joysticks



Joystick functions from left to right:

- Joystick #1: Both on primary and secondary function sets controls “Slewing”.
- Joystick #2: Primary function controls Main(1st) Boom – “Raise/Lower”. (No effect on secondary function set)
- Joystick #3: Primary function controls 2nd Boom – “Raise/Lower”. (No effect on secondary function set)
- Joystick #4: Primary function controls 2nd Boom extensions- “Extend/Retract”. (No effect on secondary function set)
- Joystick #5: Primary function controls 3rd Boom – “Raise/Lower”. (No effect on secondary function set)
- Joystick #6: Primary function controls 3rd Boom extensions - “Extend/Retract”. (No effect on secondary function set)
- Joystick #7: (No effect on primary function set) Secondary function controls Balance weight extension - “Extend/Retract”.
- Joystick #8: Primary function controls Crane Rope – “Hoist/Release”. Secondary function controls Balance weight positions - “Up/Down”.

3.1.1.9. 3.1.2.3. Screen

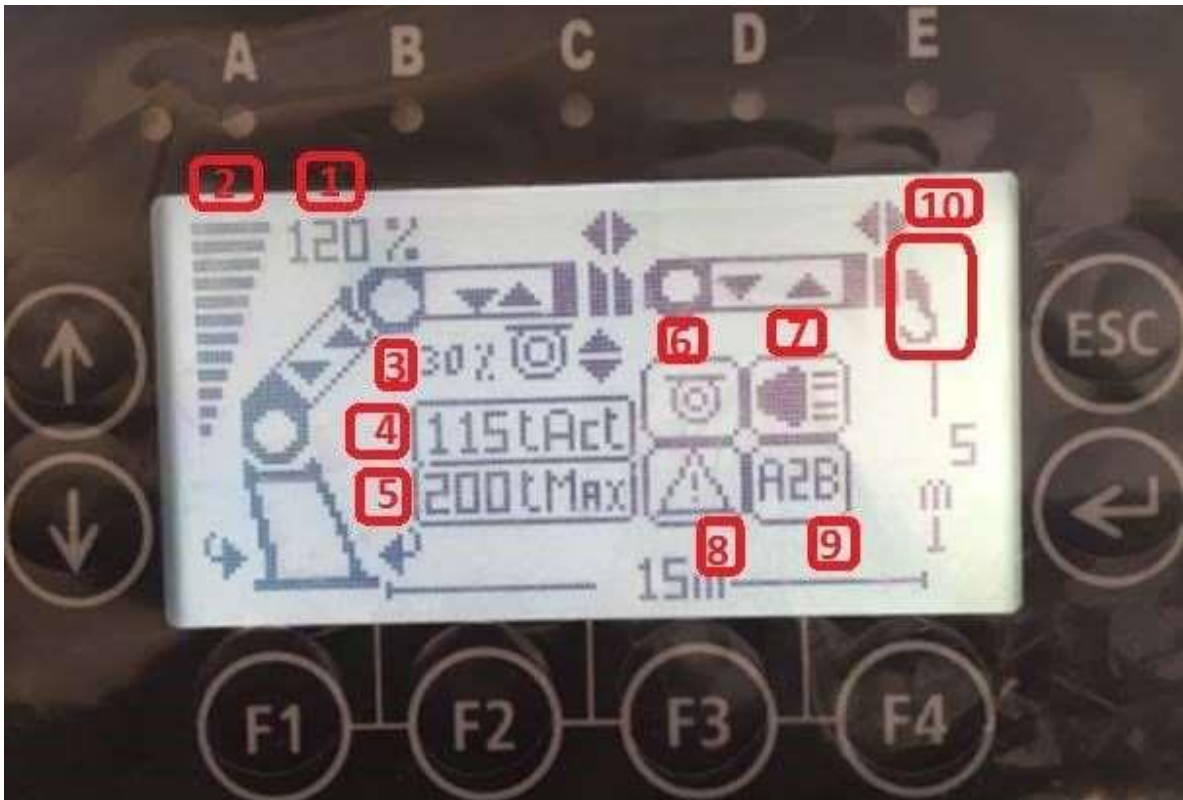


Buttons around the screen

- F1 button: Rope active / passive button. When the rope is activated a drum shape, when inactive a crossed off drum appears. (The drum mark is in the middle of the page display)
- F2 button: This is the button for lighting the boom lamps. (It is shown in the middle of the crane page display if it is on or off)
- F3 button: Opens the page where the information like pressure, slope, etc. is displayed.
- F4 button: Opens the settings menu page.
- Back arrow button: Empty.
- ESC button: Exits from pages opened by F3 or F4 buttons

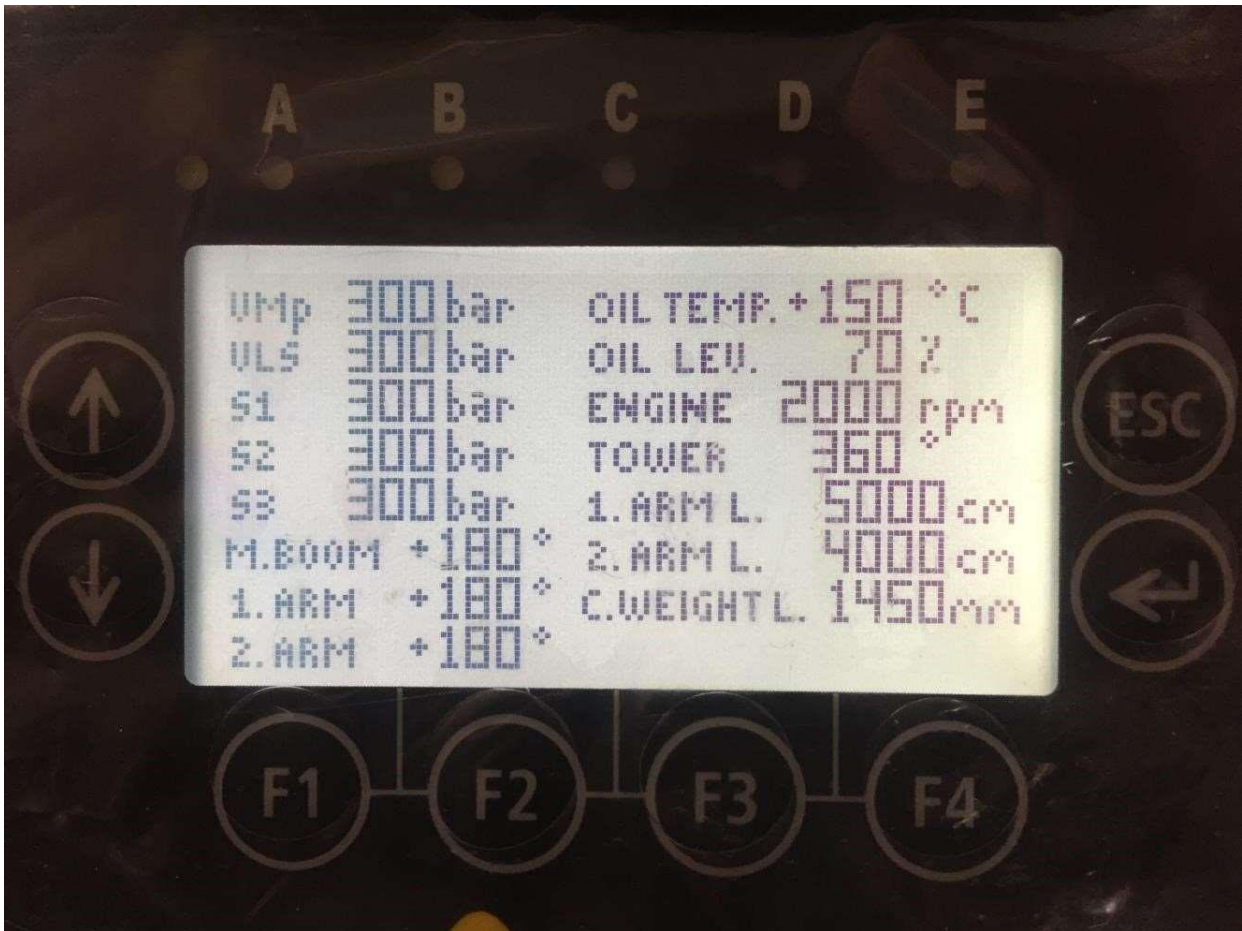
Lamps over the screen

- Lamp A: Lights up when the moment of the load is up to 24% of capacity.
- Lamp B: Lights up when the moment of the load is between 25-49% of capacity. □ Lamp C: Lights up when the moment of the load is between 50-74% of capacity.
- Lamp D: Lights up when the moment of the load is between 75-99% of capacity.
- E lamp: Lights up when the moment of the load is between 100-120% of capacity.



Display Main Screen

- #1. Display of Moment Value in %.
- #2. Display of Moment Value as a bar graph.
- #3. Display of the rope strain value in % (NOTE: It is shown on rope drums which have load sensor)
- #4. Dynamic load value
- #5. Maximum load that can be lifted from the current crane configuration.
- #6. Information on whether the use of the rope is active or inactive (NOTE: When passive drum is crossed).
- #7. This shows whether boom lamps are turned on or off. (NOTE: The lines in front of the lamp disappear if it is closed)
- #8 = Moment control inactive warning. (NOTE: An exclamation mark appears if it is passivized through use of emergency procedure; a blank box appears if it is active.)
- #9 = A2B activity information. (NOTE: "A2B" will appear when A2B activates and shuts moment increasing movements or rope movement. Blank box appears when inactive)
- #10 = Platform / Crane indicator. (NOTE: Basket sign if basket is attached, hook mark if not.)



Display Measurements Screen

- VMp: Valf Mp line pressure.
- VLS: Valve LS line pressure.
- S1: Main luffing cylinder pressure.
- S2: 2nd boom luffing cylinder pressure.
- S3: 3rd boom luffing cylinder pressure.
- M.BOOM: Main boom slope.
- 1.ARM: 2nd boom slope
- 2nd ARM: 3rd boom slope.
- OIL TEMP: Tank oil temperature.
- OIL LEV: Tank oil level.
- ENGINE: Engine RPM.
- TOWER: Column rotation angle.
- ARM L.: 2nd boom length with extensions.
- 2.ARM L.: 3rd boom lengthwith extensions

- C.WEIGHT L.: Distance of balance weights.

3.1.3. Stabilizer Controls

3.1.1.10. 3.1.3.4. Left Stabilizer Control Panel:

This panel is on the left hind of the vehicle. Only the functions of the left hand side and rear stabilizers can be controlled.

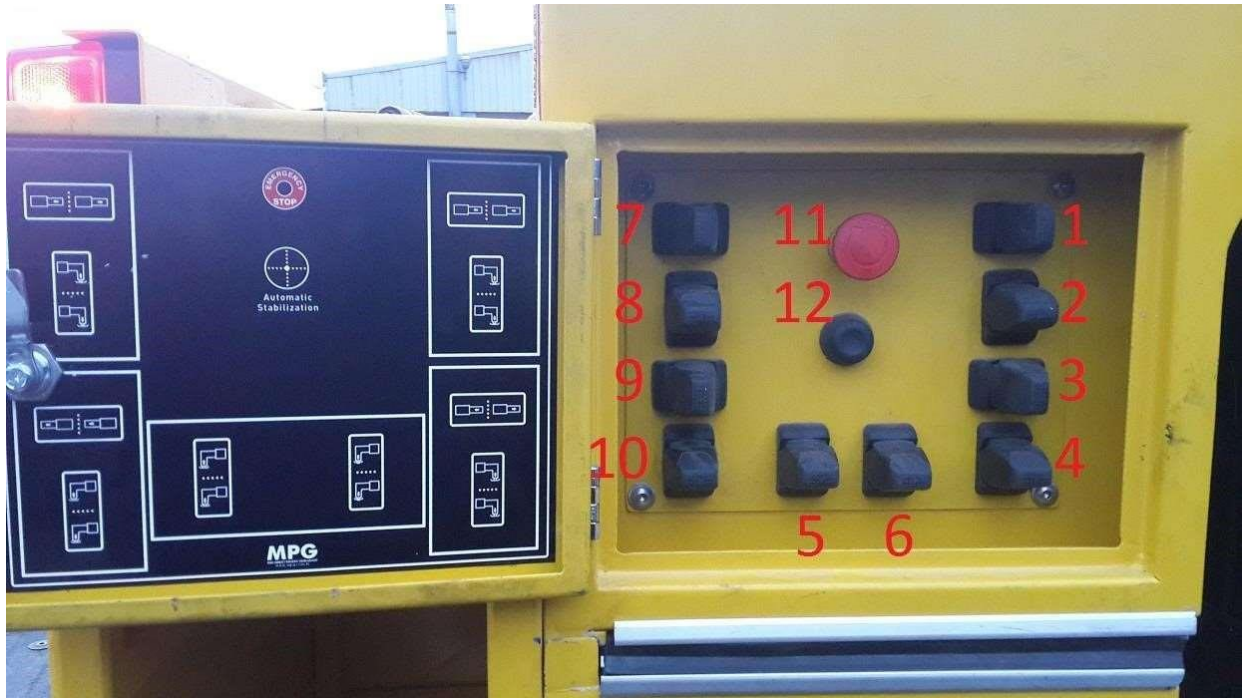


Functions of Joysticks, button and switch:

- Joystick #1: Left Front (1st) Stabilizer – “Extend/Retract”
- Joystick #2: Left Front (1st) Stabilizer Foot – “Push down/Pull up”
- Joystick #3: Left Rear (3rd) Stabilizer – “Extend/Retract”
- Joystick #4: Left Rear (3rd) Stabilizer Foot – “Push down/Pull up”
- Joystick #5: Right Front (2nd) Stabilizer Foot – “Push down/Pull up”
- Joystick #6: Right Rear (4th) Stabilizer Foot – “Push down/Pull up”
- Joystick #7: Rear Right (6th) Stabilizer – “Extend/Retract”
- Joystick #8: Rear Right (6th) Stabilizer Foot – “Push down/Pull up”
- Joystick #9: Rear Left (5th) Stabilizer – “Extend/Retract”
- Joystick #10: Rear Left (5th) Stabilizer Foot – “Push down/Pull up”
- Switch #11: Switches the oil route between lower body (stabilizers) and upper body (crane)
- Button #12: Emergency stop
- Screen #13: MD3 Display/Controller

3.1.1.11. 3.1.3.4. Right Stabilizer Control Panel:

Only the functions of the right hand side and rear stabilizers are controlled



Functions of Joysticks and buttons:

- Joystick #1: Right Front (2nd) Stabilizer – “Extend/Retract”
- Joystick #2: Right Front (2nd) Stabilizer Foot – “Push down/Pull up”
- Joystick #3: Right Rear (4th) Stabilizer – “Extend/Retract”
- Joystick #4: Right Rear (4th) Stabilizer Foot – “Push down/Pull up”
- Joystick #5: Left Front (1st) Stabilizer Foot – “Push down/Pull up”
- Joystick #6: Left Rear (3rd) Stabilizer Foot – “Push down/Pull up”
- Joystick #7: Rear Left (5th) Stabilizer – “Extend/Retract”
- Joystick #8: Rear Left (5th) Stabilizer Foot – “Push down/Pull up”
- Joystick #9: Rear Right (6th) Stabilizer – “Extend/Retract”
- Joystick #10: Rear Right (6th) Stabilizer Foot – “Push down/Pull up”
- Button #11: Emergency stop
- Button #12: Automatic stabilization (Push down all feet reaching 0° slope for chassis)

3.2. Manual Controls

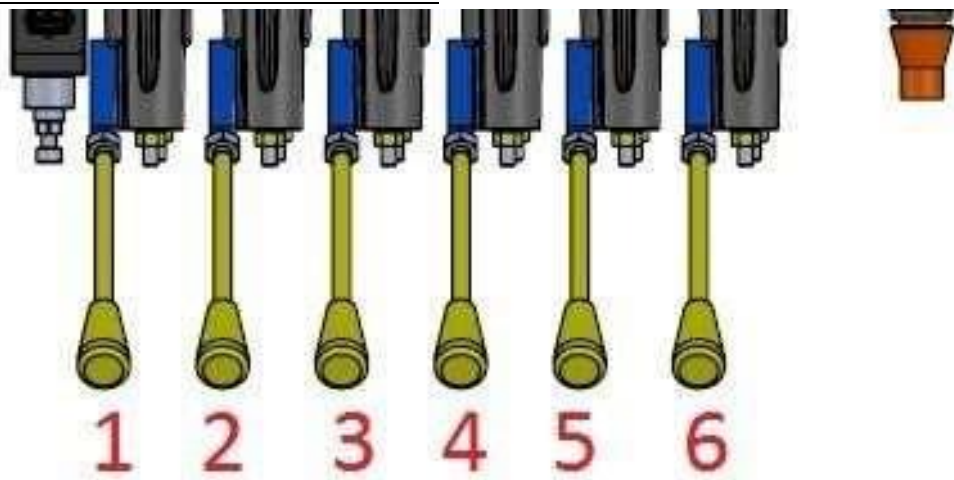
Be sure to use these controls only in case of an emergency when you must. MPG is not responsible for any misuse.

In an emergency situation use emergency key to unlock manual controls.

3.2.1. Stabilizers' Manual Controls

Be sure to switch the oil route to lower body (stabilizers) from the Left Stabilizer Control Panel on the left hind of the vehicle first.

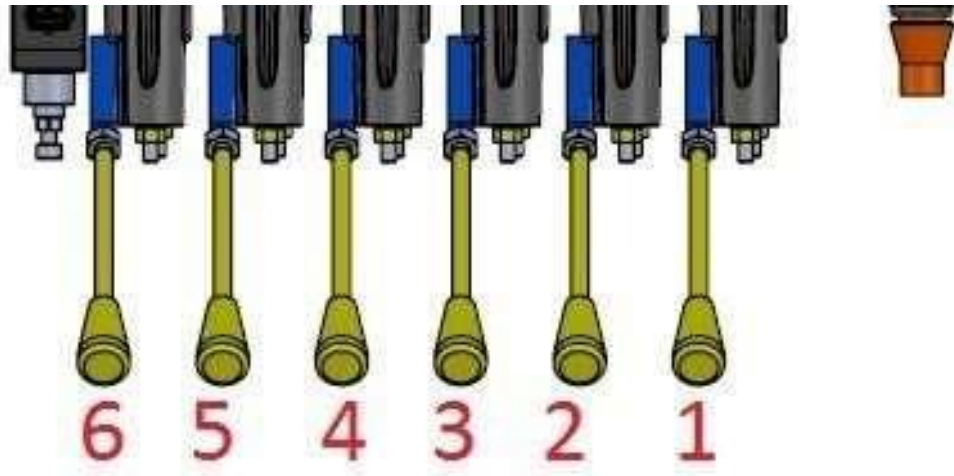
3.1.1.12. 3.2.1.1. Left Stabilizers' Manual Controls:



Controls:

- Lever #1: Controls Left Front (1st) Stabilizer – “Extend/Retract”
- Lever #2: Controls Left Front (1st) Stabilizer Foot – “Push down/Pull up”
- Lever #3: Controls Left Rear (3rd) Stabilizer – “Extend/Retract”
- Lever #4: Controls Left Rear (3rd) Stabilizer Foot – “Push down/Pull up” □ Lever #5: Controls Rear Left (5th) Stabilizer – “Extend/Retract”
- Lever #6: Controls Rear Left (5th) Stabilizer Foot – “Push down/Pull up”

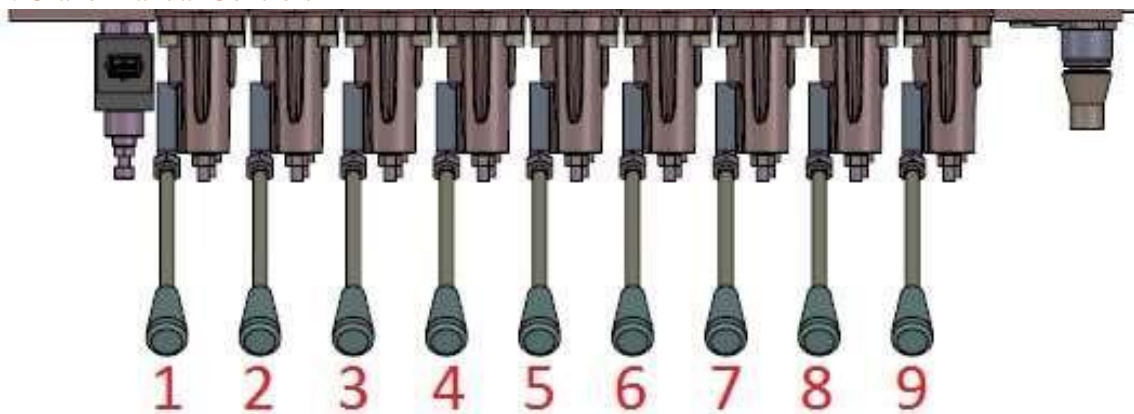
3.1.1.13. 3.2.1.2. Right Stabilizers' Manual Controls:



Controls:

- Lever #1: Controls Right Front (1st) Stabilizer – “Extend/Retract”
- Lever #2: Controls Right Front (1st) Stabilizer Foot – “Push down/Pull up”
- Lever #3: Controls Right Rear (3rd) Stabilizer – “Extend/Retract”
- Lever #4: Controls Right Rear (3rd) Stabilizer Foot – “Push down/Pull up” □ Lever #5: Controls Rear Right (5th) Stabilizer – “Extend/Retract”
- Lever #6: Controls Rear Right (5th) Stabilizer Foot – “Push down/Pull up”

3.2.2. Crane Manual Controls



Controls:

- Lever #1: Controls Main(1st) Boom – “Raise/Lower”.
- Lever #2: Controls Crane Rope – “Hoist/Release”.

- Lever #3: Controls 3rd Boom – “Raise/Lower”. Lever #4: Controls 2nd Boom extensions- “Extend/Retract”.
- Lever #5: Controls 2nd Boom – “Raise/Lower”.
- Lever #6: Controls 3rd Boom extensions - “Extend/Retract” □ Lever #7: Controls Balance weight positions - “Up/Down”.
- Lever #8: Controls “Slewing”.
- Lever #9: Controls Balance weight extension - “Extend/Retract”.

4. Crane Operation

4.1. Starting Operation

Parking the vehicle properly

The crane must only be operated in properly supported condition. Park the vehicle properly and apply the handbrake. Keep the motor running.

Wear PPE required operating crane beforehand. (Safety clothing, work gloves, hard-capped boots, helmet and if the environment has high decibel noise hearing protection)

Switch on

Turn the engine on if it isn't running already.

Switch power to the pump and set the correct rpm for the engine.

Stabilizers (Outriggers)

Before supporting the vehicle on surfaces ensure that there are no hollow spaces under them. Before supporting the vehicle examine the condition of the ground.

Place outrigger(stabilizer) pads where the stabilizer feet will stand. Using pads will prevent the crane from sinking into the ground during work. Suitable pads are provided with a new crane or can be obtained from MPG. Other supports used by you must not break or sink under the extreme load of the crane.

Using pads to support the vehicle over holes is prohibited.

Balancing

Crane is prohibited from operation without proper balancing. All crane functions halt except emergency situations.

Extend all outriggers to the full width before pushing stabilizer legs downwards. While extending outriggers, always keep the moving parts in your field of vision.

The crane would not fully function if outriggers are not extended fully.

Control if the stabilizer pads are in place. Use of pads is recommended.

Then preferably use automatic stabilization (only stabilizes the 4 outriggers on the sides, you would have to push 5th and 6th stabilizer legs down using controls) or push legs separately, checking the balance screen.

Always observe the minimum safety distances.

Preparation

After balancing the crane you need to open booms to start operation. Use of remote control after this point is strongly recommended. First unfold main boom (1st boom) outwards Rotate the crane to an angle where it can unfold.

Extend the second boom (1st knuckle boom) until there is enough room for the third boom to unfold.

Unfold the third boom (2nd knuckle boom) Crane is ready to operate.

4.2. Crane Operation

Working area

Select your working area where:

- Crane movements will not be hindered by trees, masts, lines or other objects.
- If working indoors exhaust of the truck should be let to outside using a suitable hose for this.
- No other works are carried out in the same area.
- No people should be in close range other than your team members.
- The crane and you are on the nearest possible place of operation.
- That roads or walkways which cross the working area are blocked during the entire use of the crane. Stepping in the working area is strictly forbidden for everybody (except the crane operator and the instructor).
- Staying under hanging load is forbidden for everyone (including crane operator and instructor).
- All crane movements and the loading and unloading point are in your field of vision and you can keep the load constantly in sight. If it is not possible to see the entire working area the crane operator is obliged to follow the instructions of a person qualified for this (instructor). Any crane operator sign set can be used. You may use the one provided in this manual. The crane operator and the person giving the instructions must both be fully conversant with the Crane operator sign set; the person giving the instructions must be informed of the operation before starting. Only one person may give instructions. In the case of a work group the person giving instructions must be distinctly identified (flag, different-color hard hat etc.).

In semi-darkness or darkness the entire working area must be lit so that safe working is guaranteed.

Loading activity

- Only use the crane for lifting loads and never for freeing, hitting, pulling (dragging) loads, pressing or driving against solid obstacles or for towing vehicles. Any angled hoisting is prohibited.
- Further, the country-specific regulations for truck loading crane operation must be obeyed.

- During the loading or unloading process the crane operator may not leave the crane operation ground or put the remote control out of hand.
- Only raise loads above the center of gravity. Moment control will help you achieve this. You will be able to see how much load you are carrying, how much you can carry etc. on the screen of the remote control.
- Secure the load against slipping.
- Handle wet or icy loads with caution; there is danger of them slipping or the ice particles breaking.
- If there is so much ice or snow on the load, safe lifting cannot be guaranteed, the ice or snow must be removed before it is lifted.
- When you activate a lever on the remote control (or any lever) first use it until the crane fully responds. If you are still unhappy with the speed then you can increase or decrease it.
- Start and stop the crane movements slowly and evenly. Operate the crane so that it performs gentle movements. Abrupt crane movements, such as quick pressing through or momentary stopping of a crane function can cause the load to swing and drop or loss of balance.
- Move the raised load and always check where the booms are so that they do not hit against the crane or other obstacles.
- During crane operation the crane operator must not be executing any other jobs.
- When the crane operator himself removes the load he has to press the emergency-off switch first (on all crane control points and remote control).
- When another person enters the work area use horn and warn, if in the danger zone use emergency stop all the same.
- The emergency off switch may only be released when the crane operator or the person mentioned above is out of the danger zone.
- Loads must only be attached and removed when the crane is completely at a standstill. Before moving the load arm ensure that the person who has attached or removed the load is no longer in the danger area of the crane.

A2B (Anti 2 Block) will stop movement if the load is over capacity.

- If persons are in the area inside the diameter of the working booms they are in acute danger.
- Do not move the crane at full working speed to the stop, this increases wear and shortens service life.
- You can operate several functions at the same time.
- If the crane is operated with several functions at the same time it must be ensured that if one function is switched off the working speed of the other functions can increase.
- If the loading activity is interrupted the load arm is to be retracted, the hydraulic pump switched off and the crane secured against unauthorized operation.
- In order to continue working safely after an interruption of loading activity, check whether the crane has been tampered with before resuming operation. ☐ Intentionally causing vibrations is prohibited.

- If the crane moves unexpectedly or vibrates too much stop the operation and contact MPG service.

4.3. Emergency Operation

- In an emergency situation, emergency use can be activated from the MD3 display. Unlock it entering pin and crane can be used. Use it as described on the previous clause. Use of emergency screen will be reported to MPG via 3g and recorded on the memory of main controller.
- If for any reason this emergency function does not work, you can use manual controls. Unlock the panel to use them as described on the previous clause. Unlocking will leave visible marks.
- Emergency operation might require the crane to work with irregularly high capacity. So it will function without the electronic limitation for its intended use capacity.
- If the engine of the truck stopped working start using the power pack installed on the vehicle.
- If both engine and power pack won't work, use the manual pump as the last resort to provide necessary power for movements.
- Unnecessary use is prohibited and will annul your warranty. MPG is not responsible for any misuse.

4.4. Ending Operation

- Uninstall all equipment installed and used during operation.
- Always fold the crane the opposite way of starting up to transport position even when not traveling. You have to get the upper part of the crane into transport position completely before being able to move outriggers.
Unless the crane will travel keep stabilizers (outriggers) set. Always keep outriggers set unless traveling.
- Until the crane is folded to transport position and all outriggers closed up, you shouldn't try to move the truck. Safety system will not let you. If the truck won't move please be sure upper booms and outriggers are all set in transport position.
- If not going to be used for a long time, Use grease oil to cover all joints and mechanically moving, sliding, turning parts and try to keep the crane indoors if possible □ Do not keep remote control unlocked in or around the crane.

4.5. Operation in adverse conditions

Use in low temperature

In cold environment, before beginning of the work all appearances, operating stations (spaces occupied) and all mobile crane construction units are to be cleaned if necessary from ice and snow.

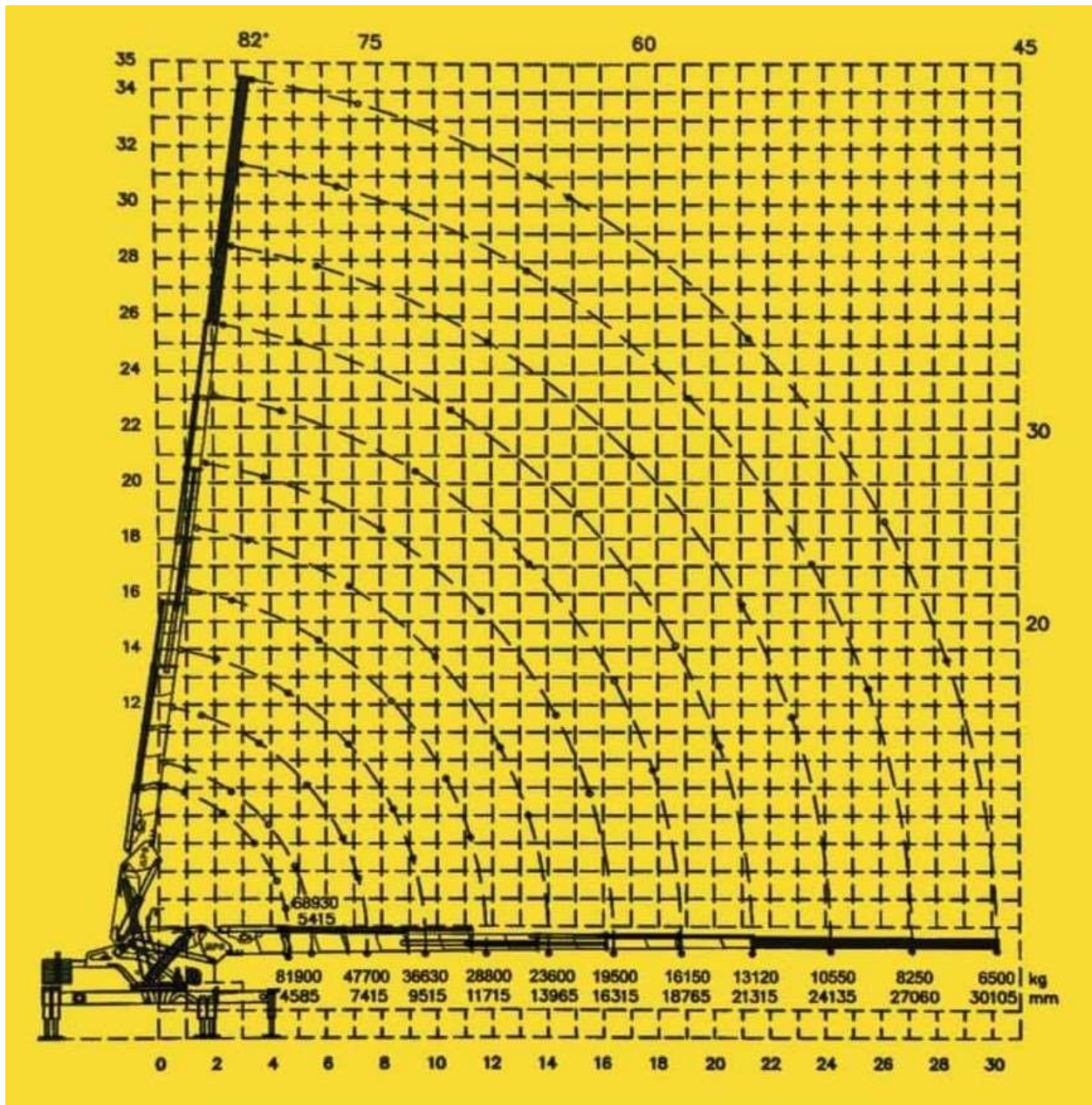
- Switch on the pump unit at lowest motor speed.
- Let the oil pump work without pressure for a few minutes to warm up.
- To reduce warming up time extend a cylinder to the end.

At temperatures below 0° C make sure crane is filled with a suitable hydraulic fluid for the temperature.

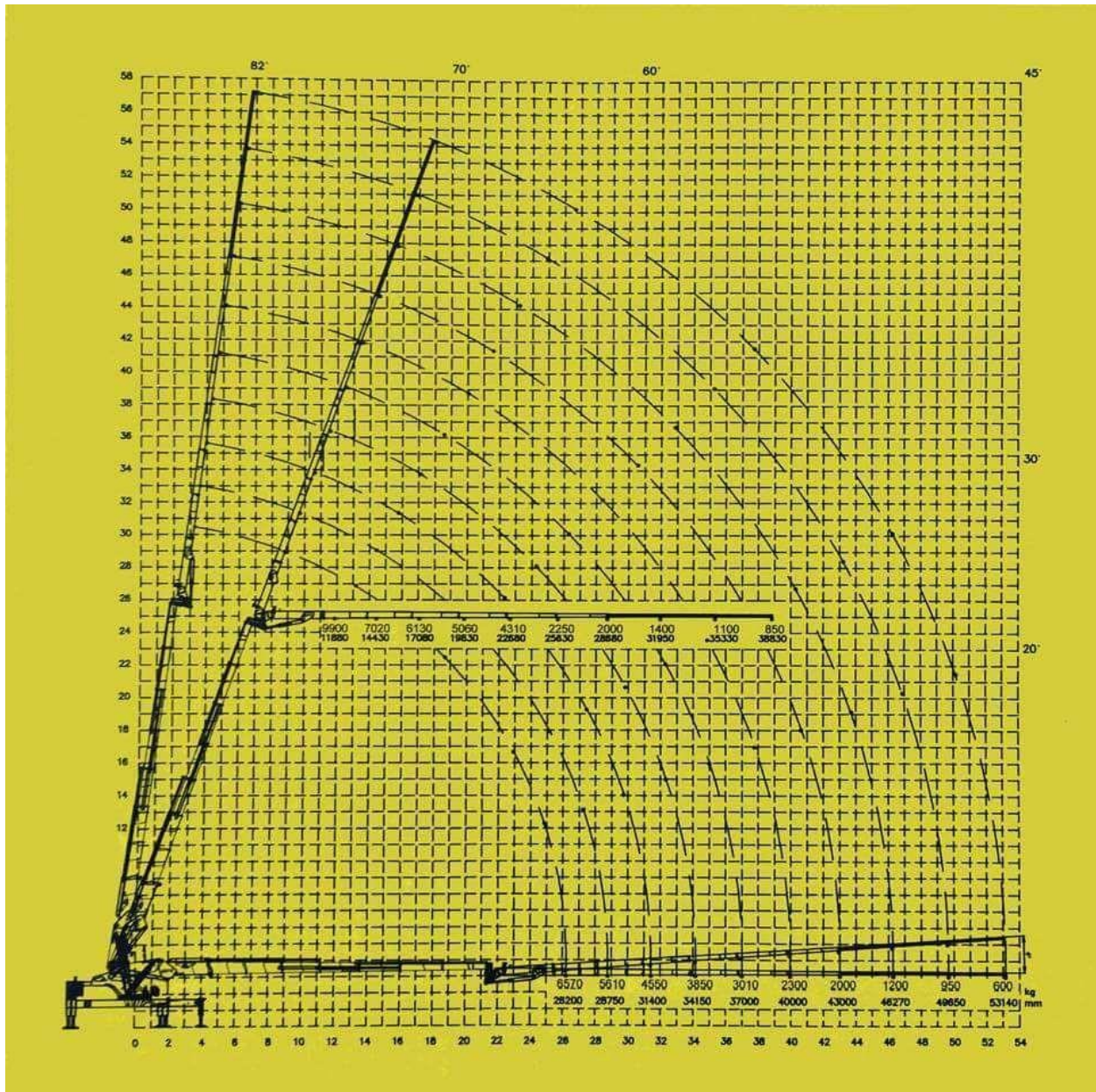
The crane may only be operated by one person (operator) and all necessary precautions including PPE(Personal protection equipment) specific to conditions.

4.6. Load Charts

4.6.1. Use with 1 Knuckle boom



4.6.2. Use with 2 Knuckle Booms



5. Platform Operation

5.1. Starting Operation

Always check all equipment visually for any marks of deformation that could be dangerous.

Always check battery level of the remote controller.

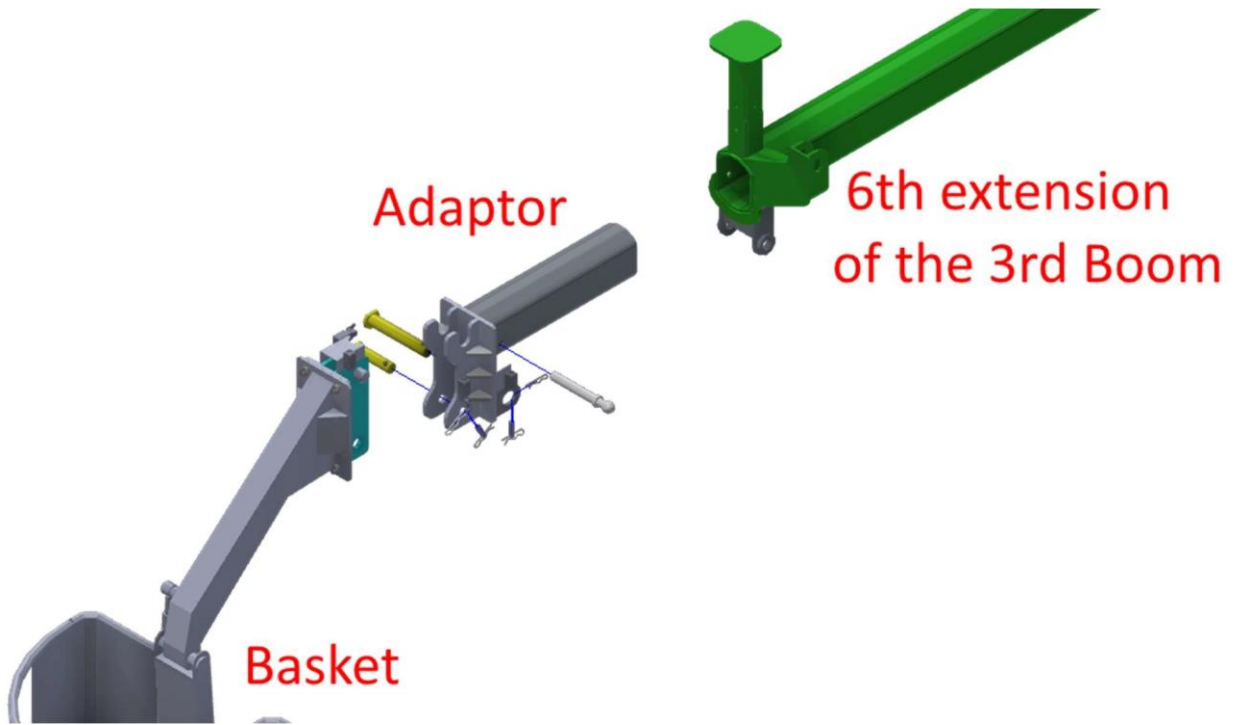
Follow crane operations procedure first to get crane ready and working.

5.1.1. Attaching Personal Basket

Crane itself could be used to get main parts in required place and position for this procedure.

After all connections are made, system automatically goes into MEWP mode but it won't work unless remote control is put into position on the basket.

The Crane acts in crane mode until the basket is attached. Main parts used in this connection can be seen on the illustration below.

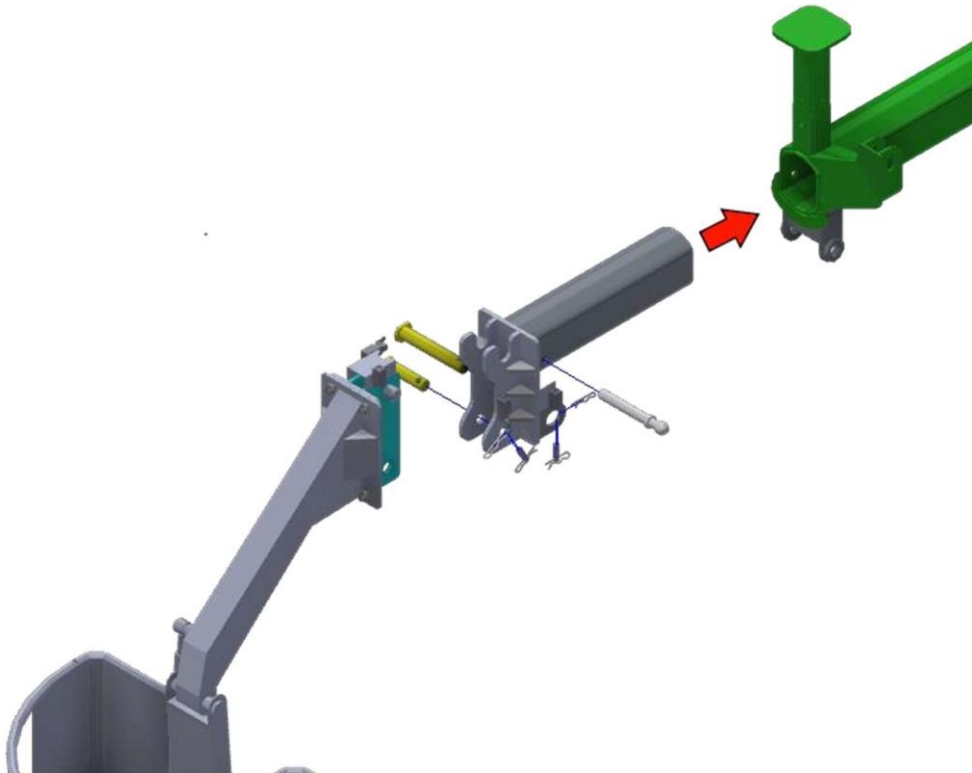


Connections are:

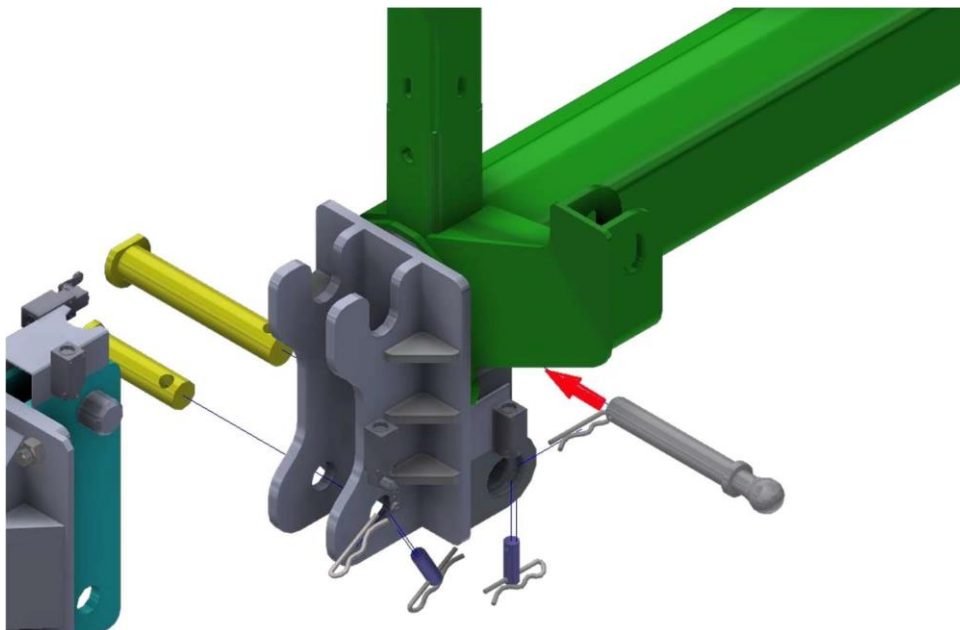
- Between the 6th extension of the 3rd boom basket and the basket adaptor; 2 large pins are used to lock these parts, 1 pin and 1 clip pins to interlock; 2 clip pins for fixing the interlocking pin.
- Between the basket and basket adaptor; 1 large pin to lock these parts together, 1 pin to interlock and 2 clip pins for fixing the interlocking pin.

Attaching adaptor step by step:

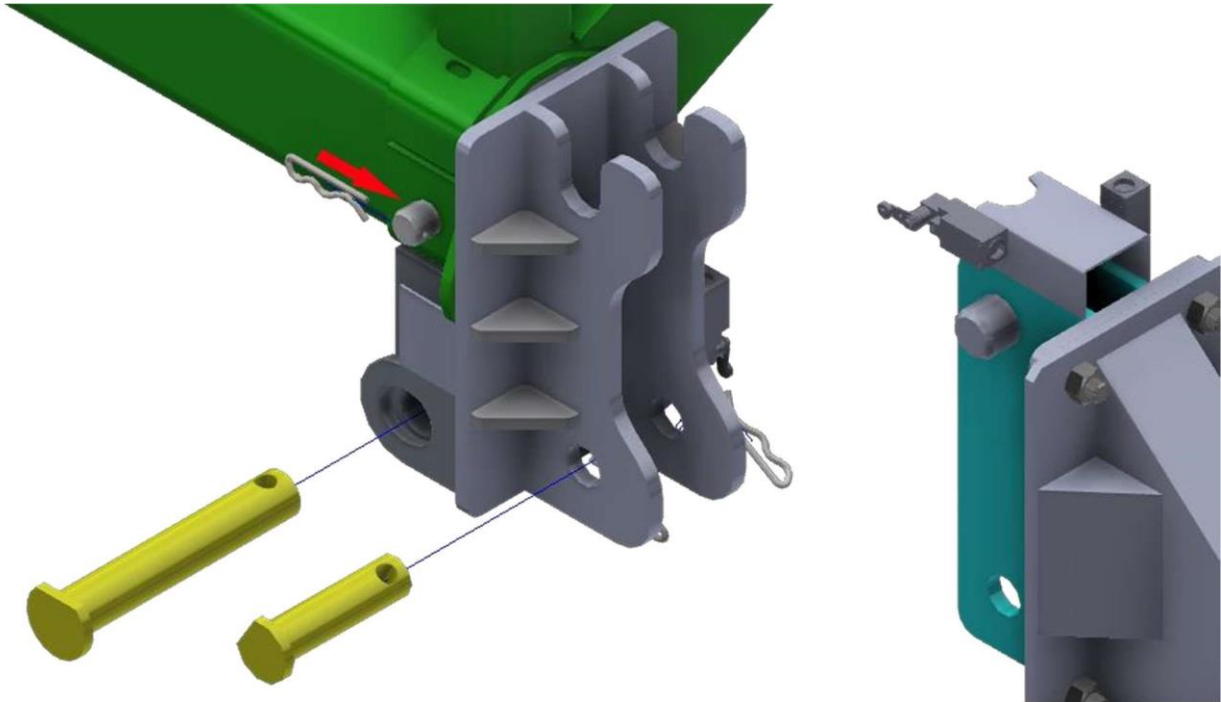
- Put the adaptor into the front end of the 6th extension of the 3rd boom.



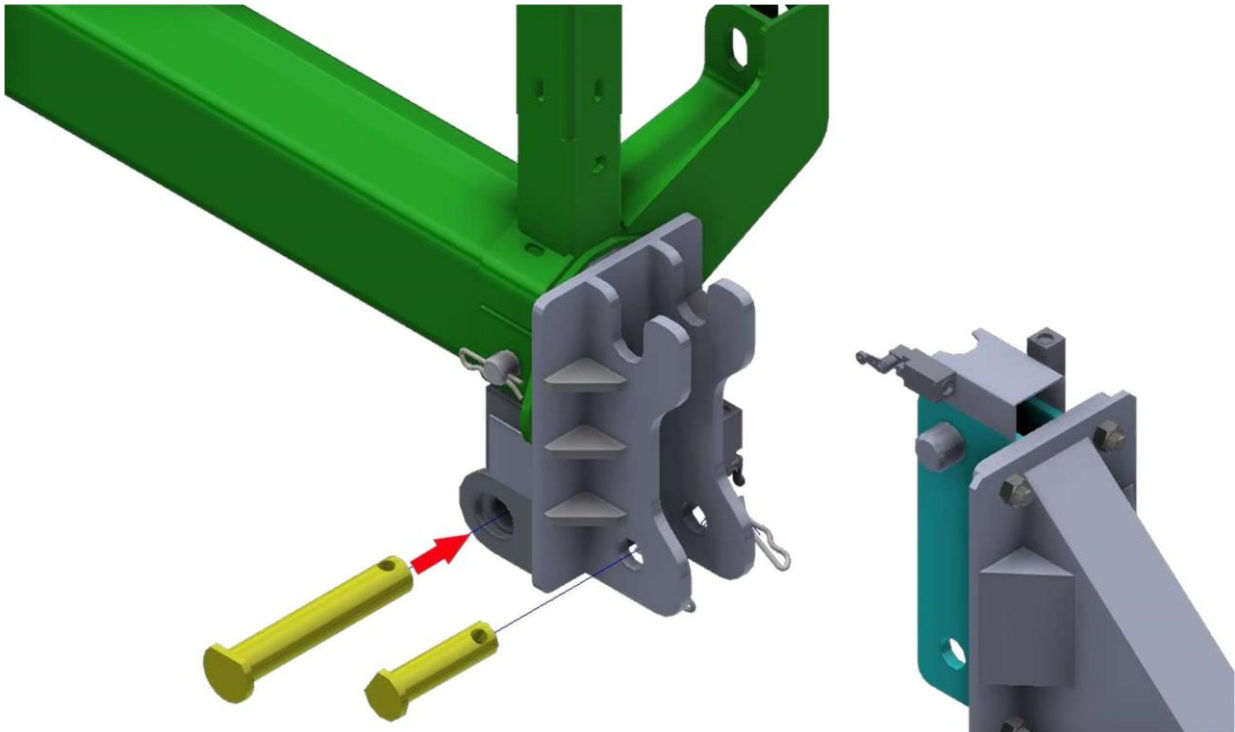
- Push the 1st large pin



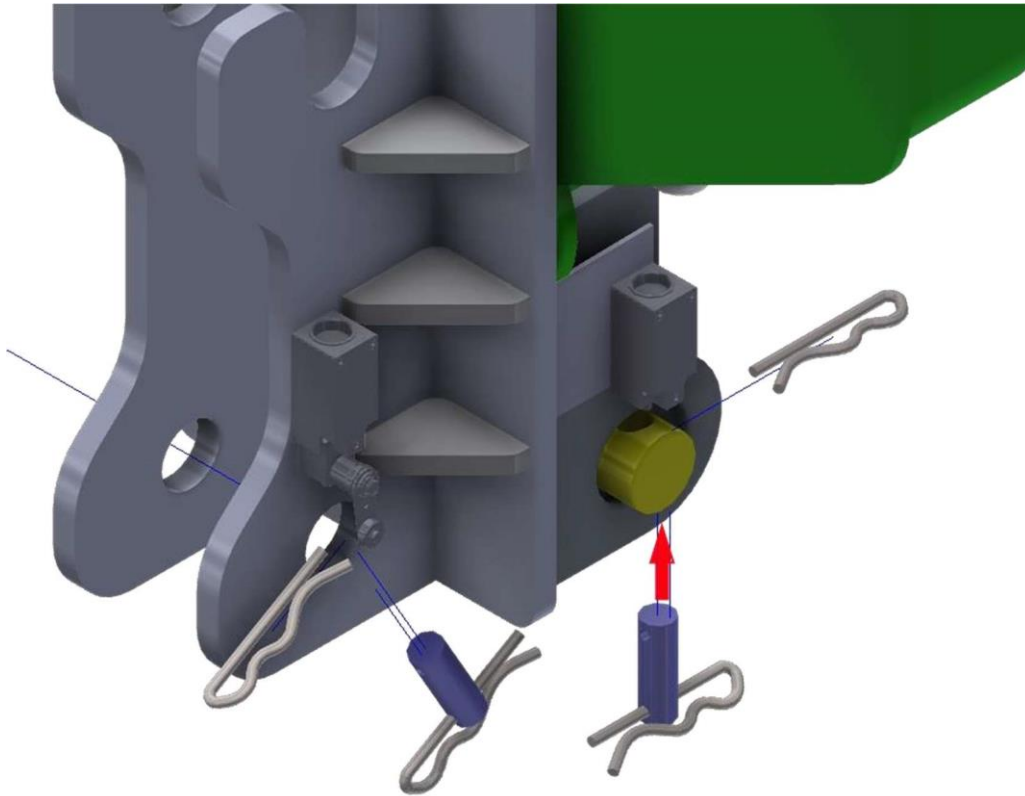
- Interlock this large pin using a clip pin (opposite side)



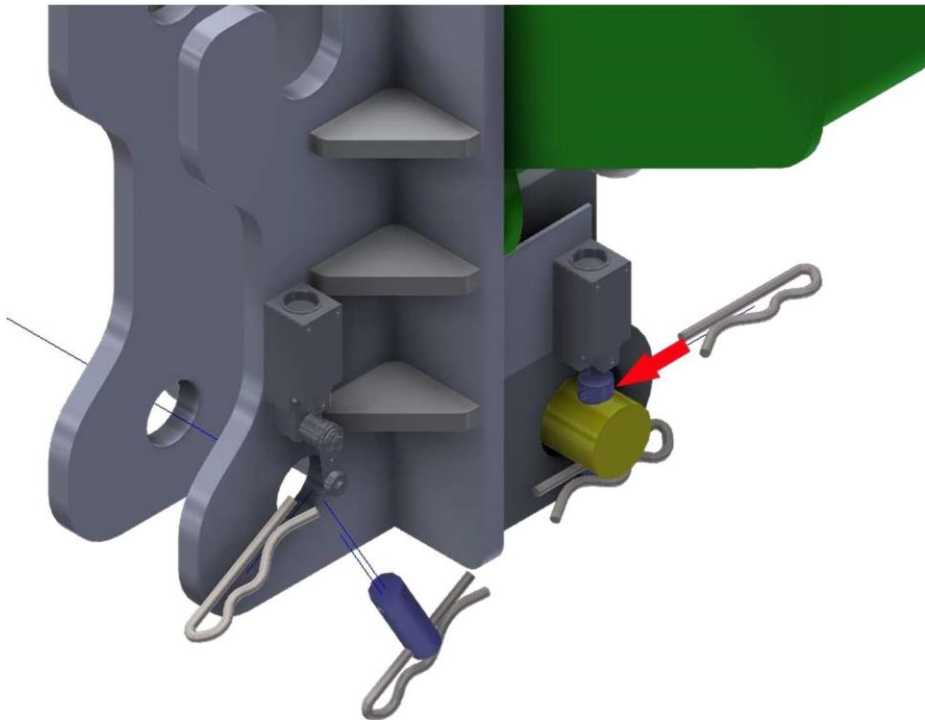
- Push the 2nd large pin to lock adaptor into the end of extension.



- Interlock this large pin using a pin (opposite side)

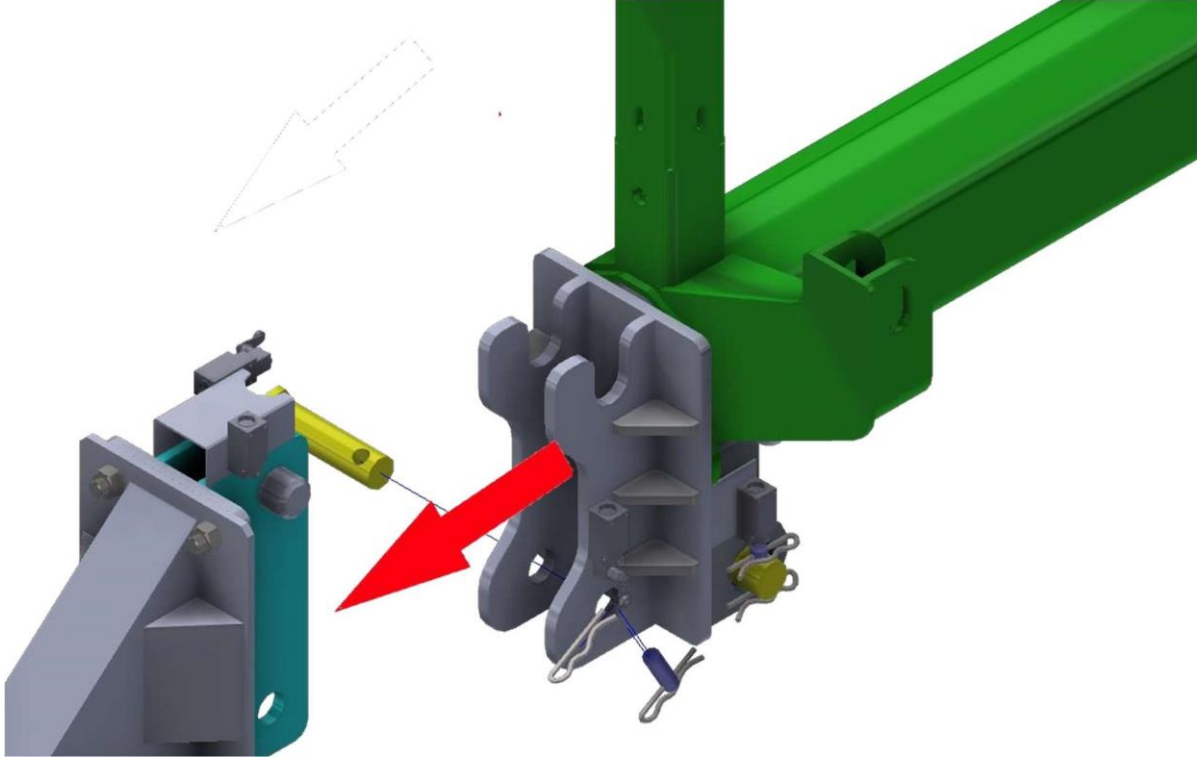


- Fixate this pin using 2 clip pins(one of the clip pins should already be on the pin)

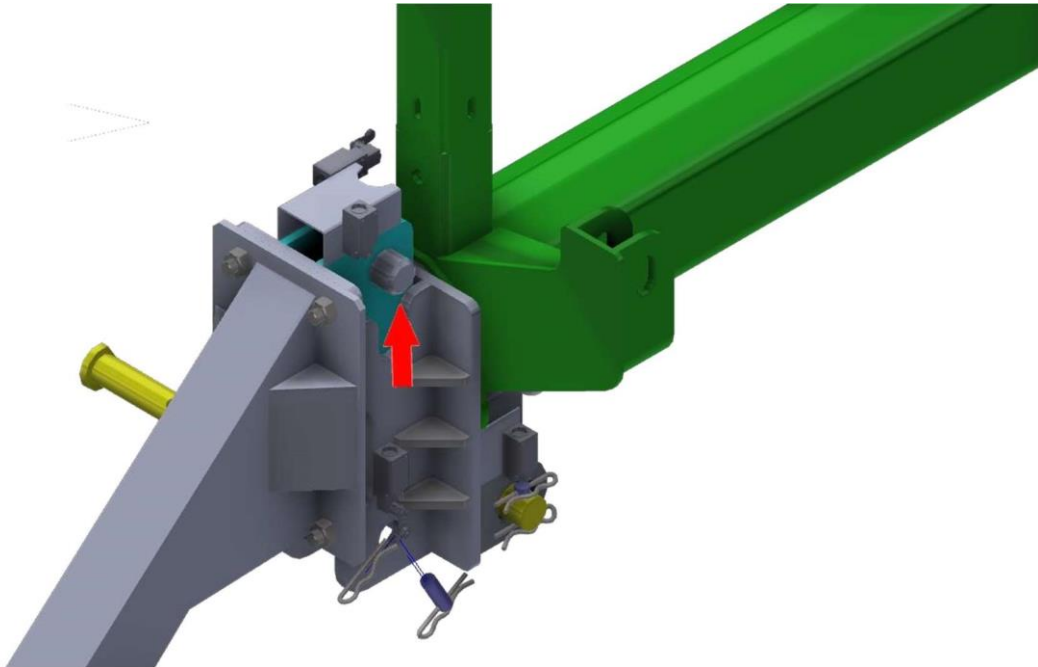


Attaching basket step by step:

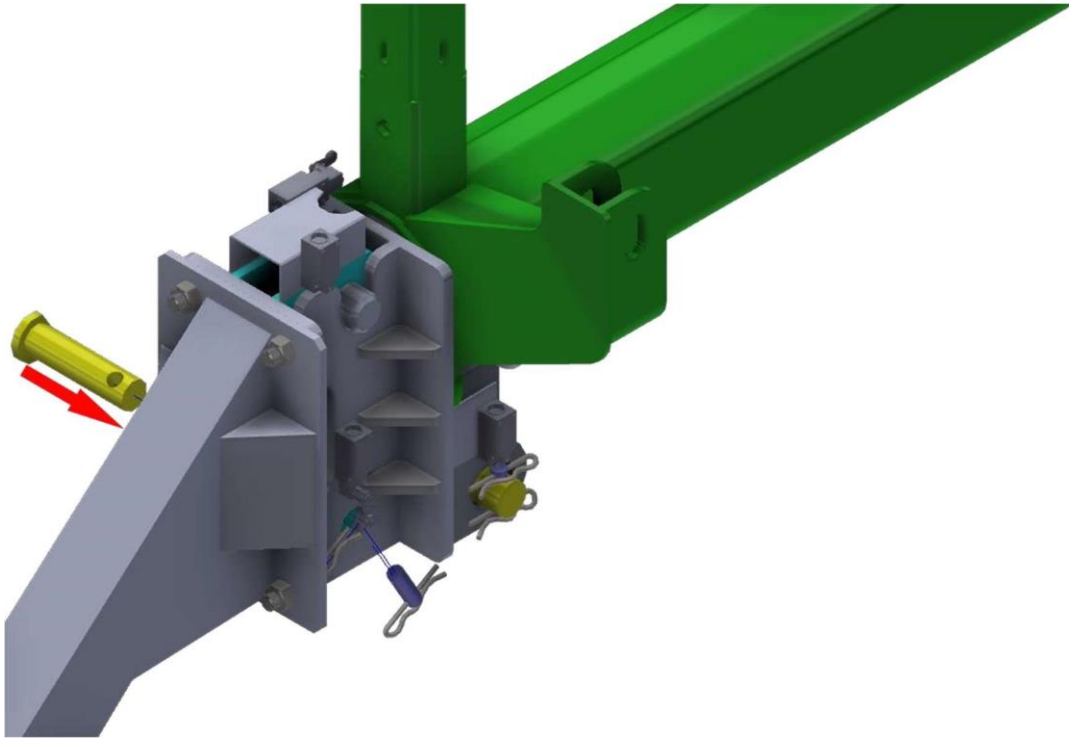
- Level the adaptor end a little downwards and parallel to the basket and push the boom until it touches the wall of the basket's mounting apparatus.



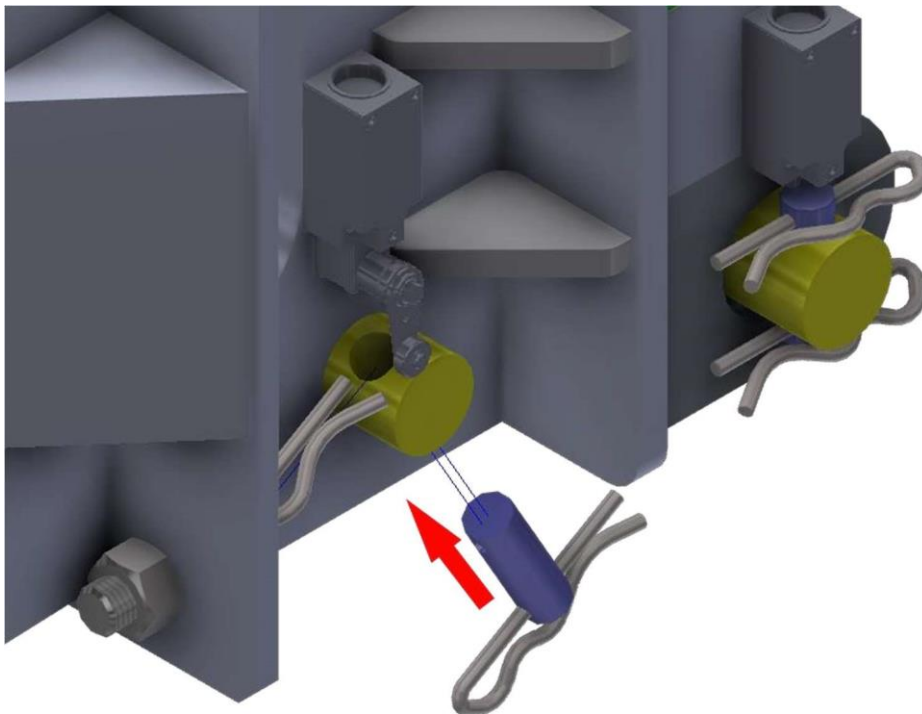
- Push up to get the hook of the adaptor into the bar in the apparatus.



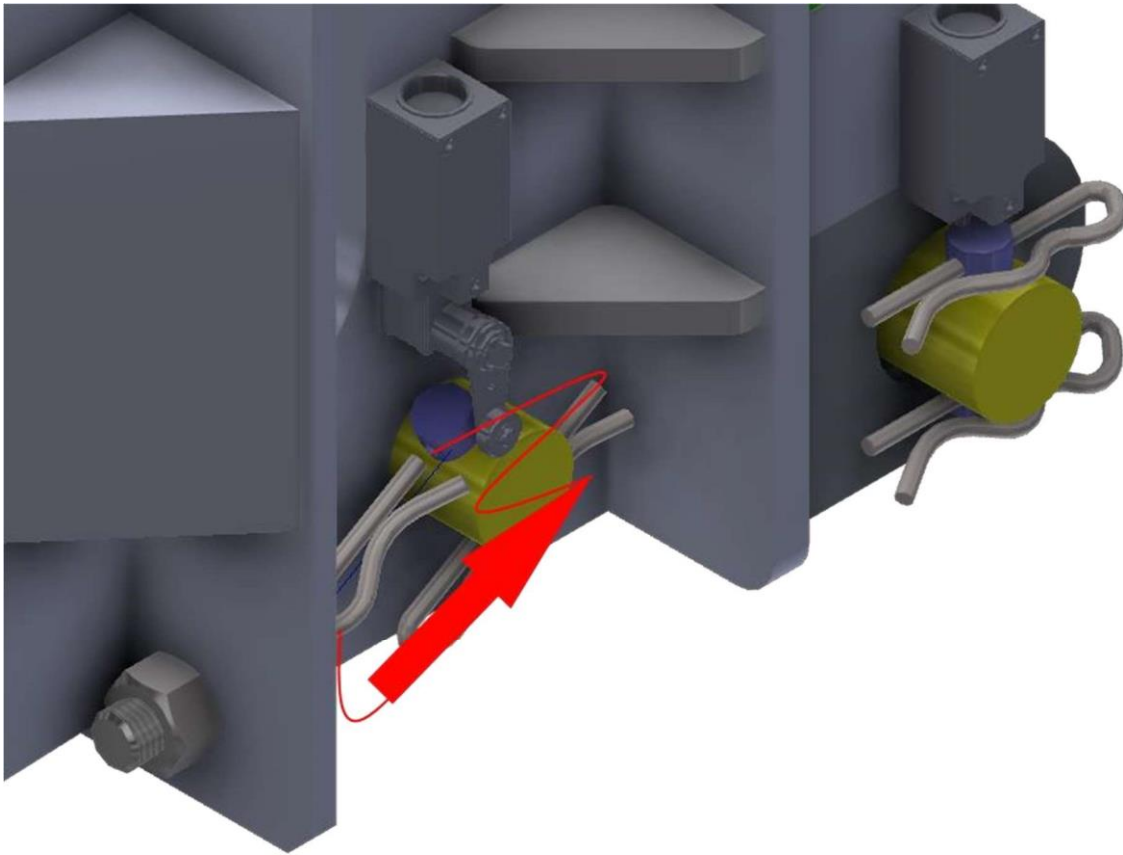
- Push the large pin to lock the basket.



- Interlock the large pin using a pin



- Fixate this pin using 2 clip pins(one of the clip pins could already be on the pin)



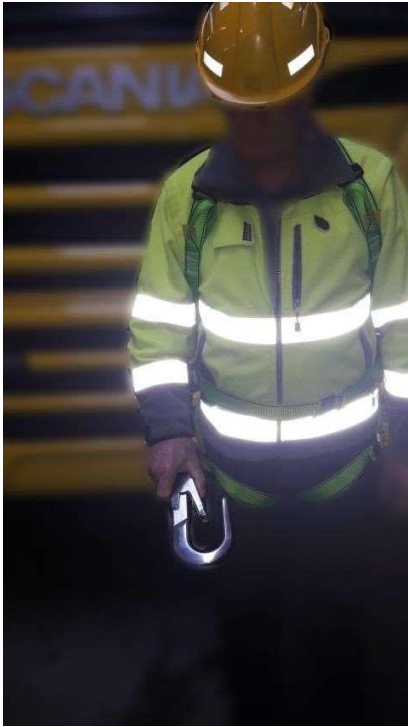
Connect the Electric/Data socket

Socket on the basket should be connected to the crane. This is the last step of the procedure to attach the basket.

No control, electronic or manual, would be responsive until this socket is connected and the remote controller is positioned in its position on top of the basket.

5.1.2. Inside the Basket

If the operator (and the other workman-incase of 2 people working on the platform) should check if they are wearing all PPE required and wear a safety belt/harness (Shown below left).



Open the door to the basket using the latch. (Shown above right)

Attach the belt hook to the lanyard. (Shown below left)



Mount the remote controller on its designated shelf and start operation. The shelf has another emergency stop button on the right. (Shown above right)

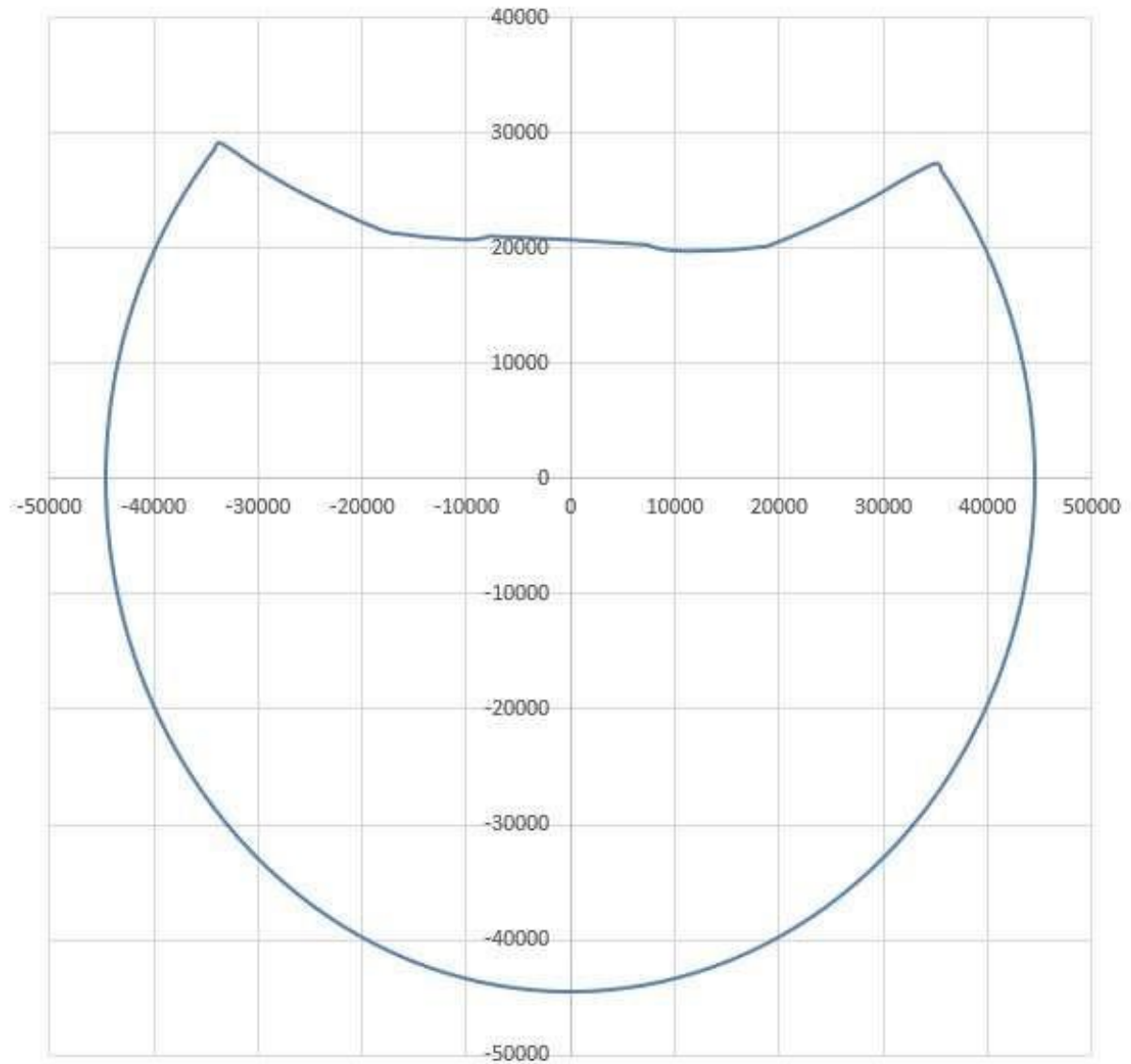
5.2. MEWP Operation

- The workman basket has a weight limit. The weight limit for is written on the manufacturer's plates. Be careful not to overload.

- Geometrical control is active while using MEWP. Nearly all configurations of boom positions are within the limits except 101° in the front (check clause 5.3.1.) □ Never try to get in or get out of the MEWP while elevated.
- Weights and extra equipment prohibited to be carried outside the basket.
- Basket should not be used without the operating personnel in it. This is ensured by the electronic safety system. Mingling with sensors or tricking them (by using extra equipment etc.) is prohibited. This would void the warranty. MPG is not responsible for any harm from this point on.
- While on the MEWP mode, crane should not be used to lift weights other than the ones on the basket with the personnel.
- For there is always a possibility of an emergency situation (operator is disabled on top of the MEWP, battery of the remote controller empty etc.) a personnel who is able to use the crane, should always be waiting on the ground and watching the MEWP operation.
- Radio communication between the personnel on the ground and in the basket is strongly recommended.
- MEWP operator should always be looking where the basket is going and be alert to his surroundings all the time.
- Avoid contact of the basket with any fixed or mobile objects during operation.
- Use of equipment in/on the basket (ladder, log or any equipment on the crane) or using safety railings of the basket to increase your reach is prohibited without exceptions.
- Use or installation on the crane of anything (with a large flat surface) that would increase wind load unexpectedly is prohibited.
- MEWP remote control functions don't differ from crane remote control, except speed limitations.
- In case of an emergency, the personnel on the ground should follow procedure according to crane operation-emergency operation instructions.

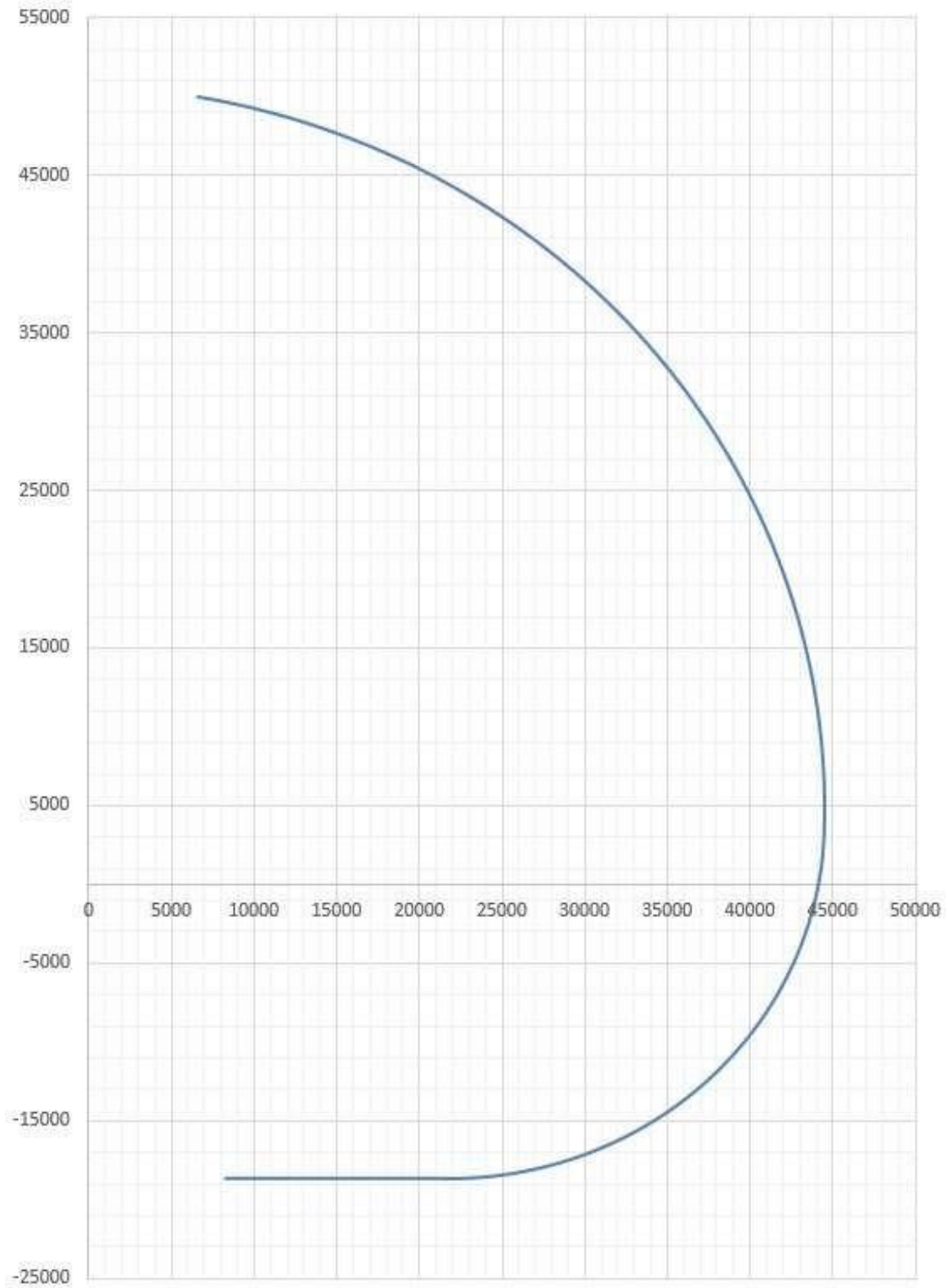
5.3. Load Charts

5.3.1. Top View



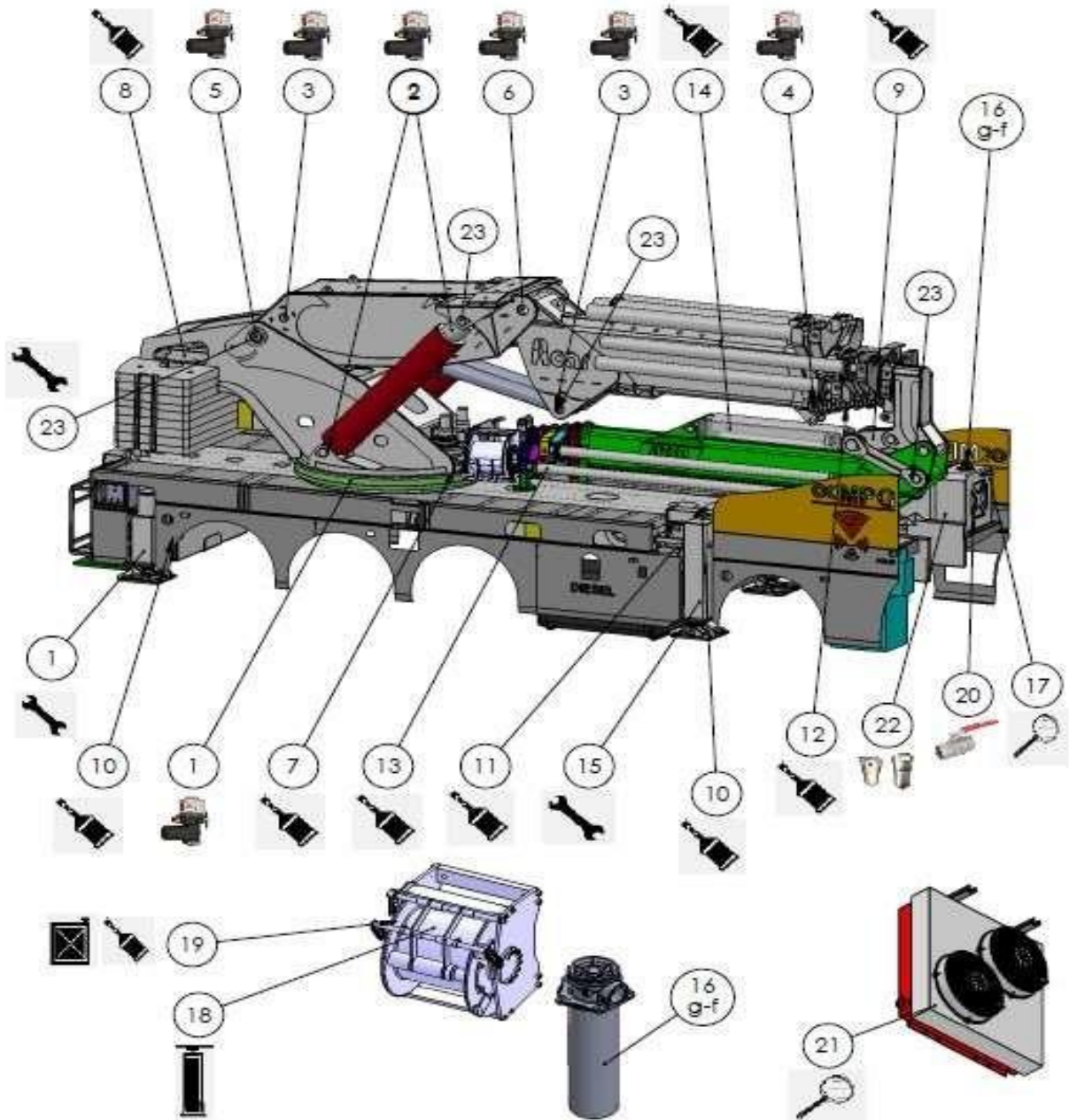
Top View Load Diagram for Maximum Load

5.3.2. Side View



Side View Load Diagram for Maximum Load(Except 101° on the front side shown on the top view)

6. Maintenance and Service



= Visual Control



= Grease Oil



= Torque control of the bolts



= Ball Valve



= Hydraulic Oil



= Automatic Lubrication



= Rope Greasing



= Pressure Filter

- 1- Slewing Ring
- 2- Pins of Main luffing cylinder connections
- 3- Pins of 2nd boom luffing cylinder connections
- 4- 1st extension cylinder keastamide
- 5- Column-Main boom connection pin
- 6- Main boom- 2nd boom connection pin
- 7- Slewing wheel - Pinion
- 8- Balance weight extension boom
- 9- Bronze beddings in joint boom
- 10- Stabilizer elongation booms
- 11- Stabilizer hydraulic cylinders connection pins
- 12- 2,3,4,5,6,7 extensions keastamides
- 13- 8,9,10,11,12,13 extensions ketamides
- 14- 3rd boom hydraulic cylinder connection pins



15- Anchorages of stabilizers



16- Return filter



17- Hydraulic oil telltale



18- Rope



19- Rope drum lubrication and adding hydraulic oil



20- Ball valve on the oil tank should be checked during work



21- Checking the cooler visually or from the controller screen

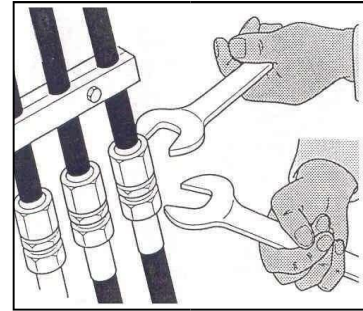
22- Pressure filter cleaning

23- Torque control of pin anchorage bolts

6.1. Regular Maintenance

6.1.1. Tightness Control of Hydraulic System Connections

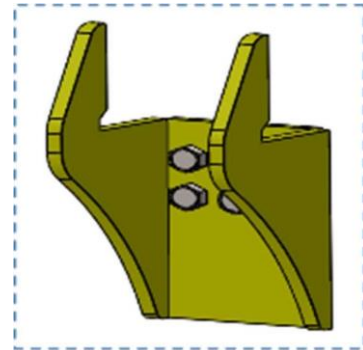
If any leakage on hydraulic system connection is noticed, connections must be tightened. Regularly controlling tightness of connections is advised.



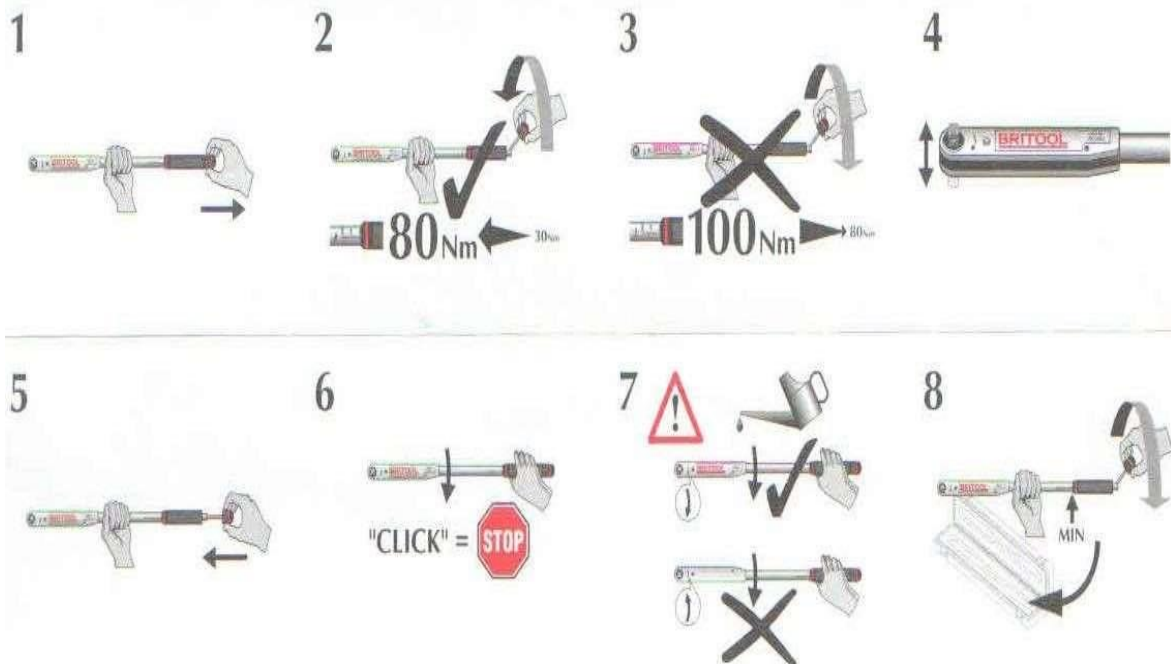
6.1.2. Torque Control on Crane and Chassis Connections

Torque control of connection screws on or between the crane and chassis must be done carefully using torquemeter periodically every 150 workhours.

All connections at the reduction gear must be checked once a month.



6.1.2.1. How to do torque control



6.1.2.2. Torque values

Thread	Stability			Tolerance
	8,8	10,9	12,9	
M12	86	122	145	±10
M14	136	190	230	±10
M16	210	300	360	±10
M18	290	410	495	±10
M20	410	590	710	±10
M22	560	790	950	±10
M24	710	1000	1200	±50
M27	1040	1460	1750	±50
M30	1410	2000	2400	±50
M33	1910	2700	3250	±50
M36	2460	3500	4200	±50

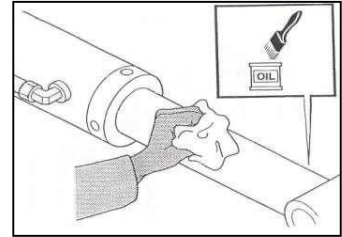
6.1.3. PTO Pump Connection Screw Tightness Control

4 connection bolts that connect PTO with the hydraulic pumps should be checked and tightened if needed



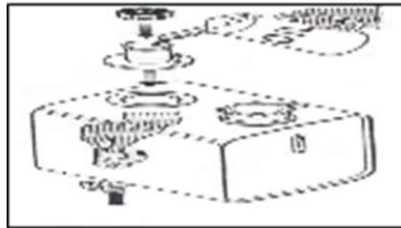
6.1.4. Staying Idle for a Long Time

Dust and dirt sedimentation on cylinder rods must be prevented. If crane is going to be idle for a long time all unpainted parts should be lubricated with grease.



6.1.5. Hydraulic Oil Level Control

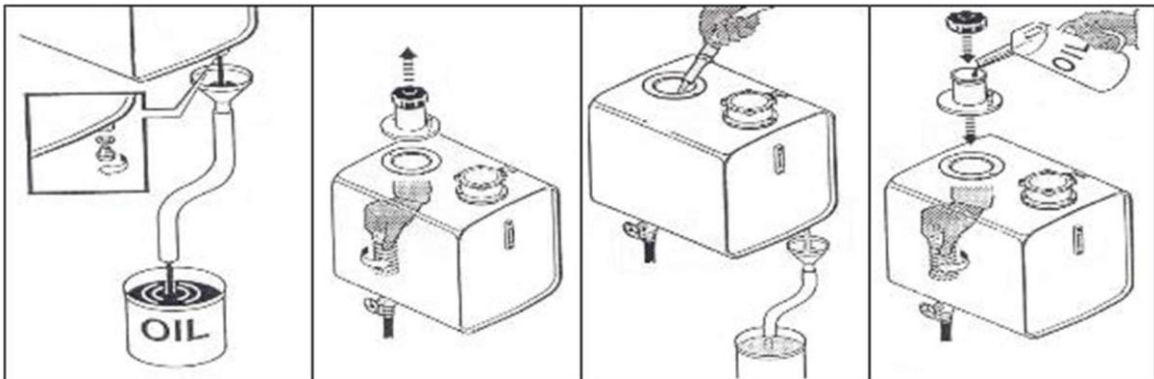
Make sure to check operation.



hydraulic oil level before every

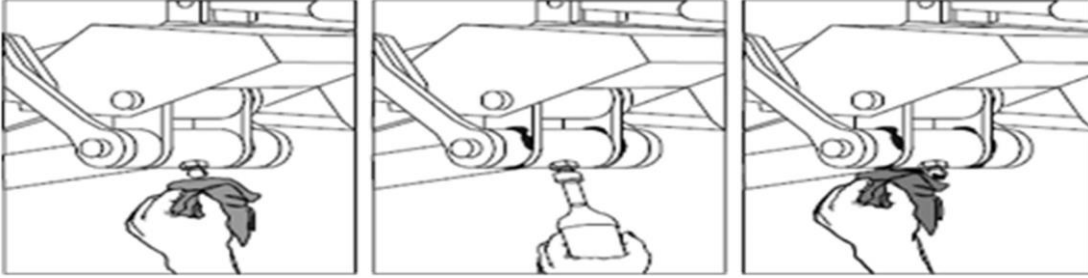
6.1.6. Oil Changing

Hydraulic system oil changing is advised to be done at least once in a year. While changing the oil, tank should be washed and oil filter cartridges should be changed.



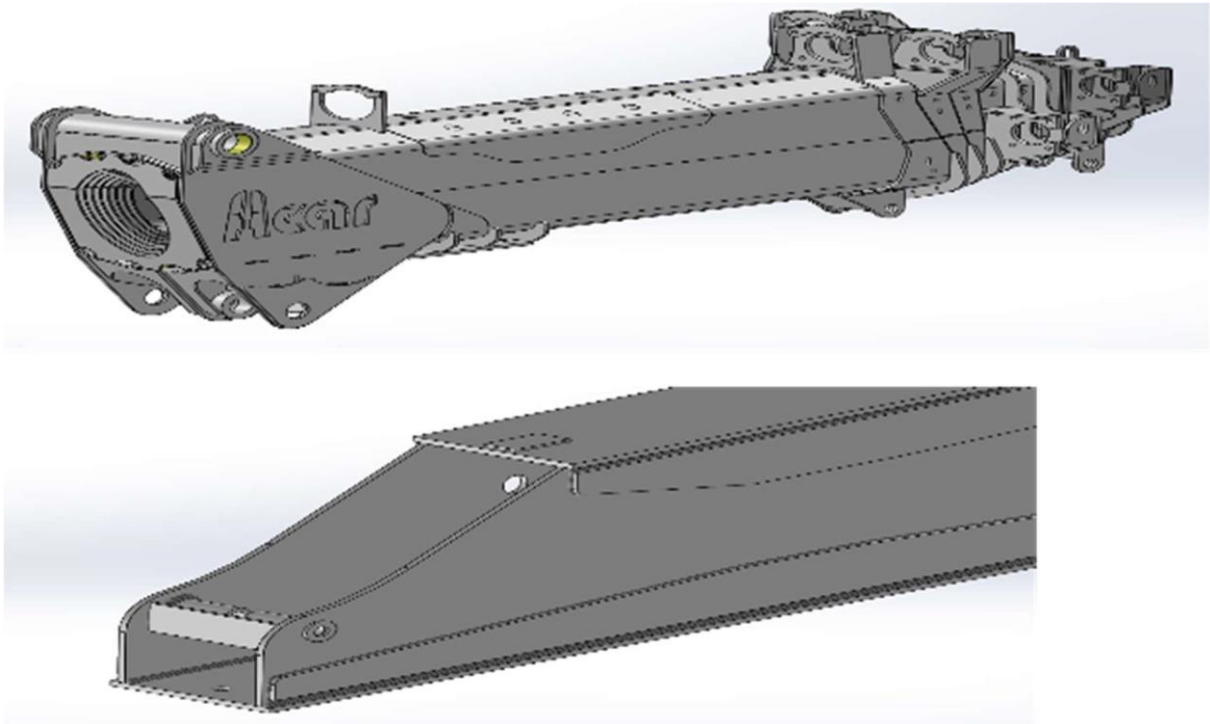
6.1.7. Lubrication

All joints, sliding and moving parts should be greased regularly every month. (Using automatic lubrication some parts are lubricated. Others should be regularly checked and at least greased monthly)



6.1.8. General Control

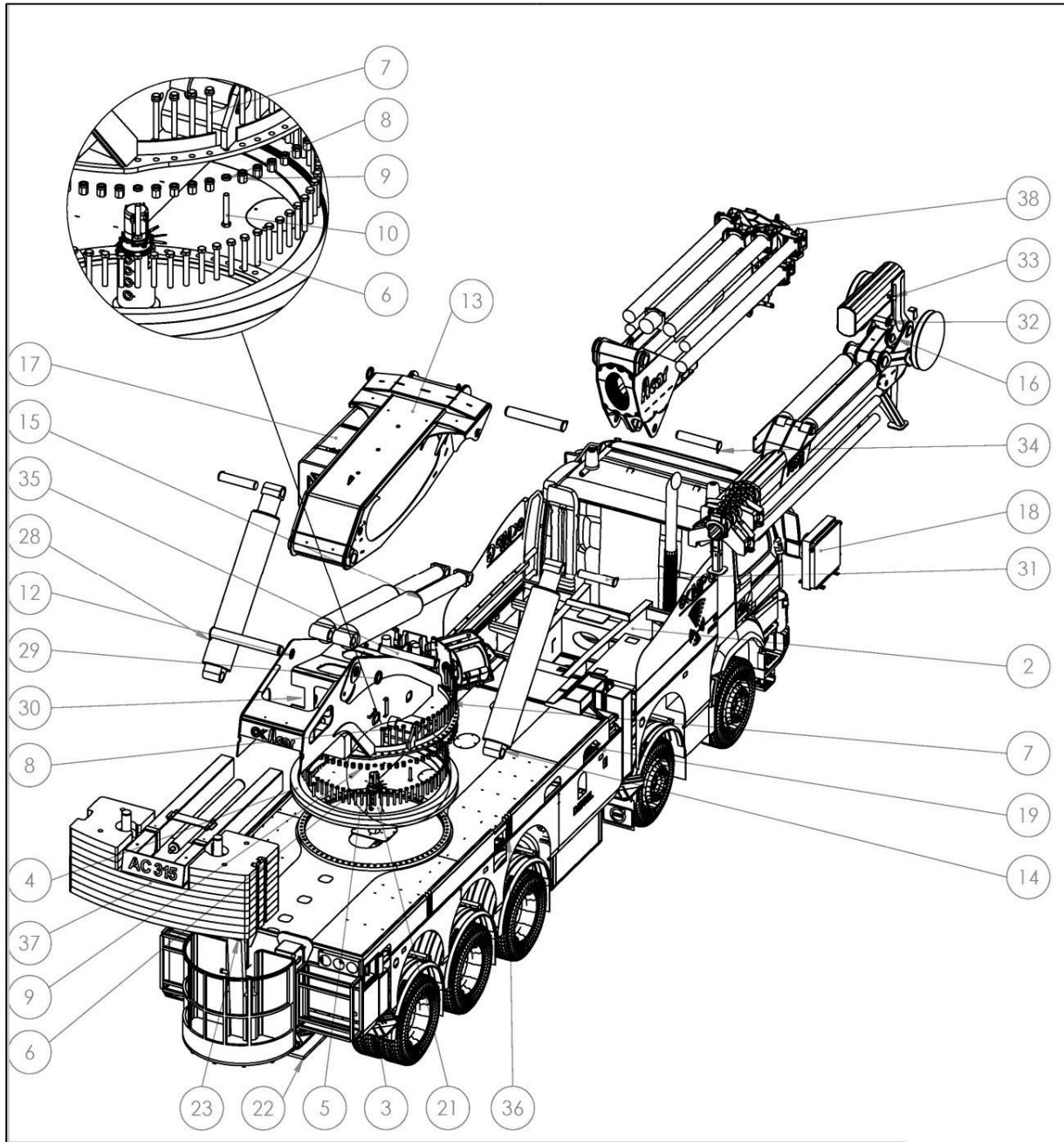
Visible welding and connections of stabilizers, chassis, booms and their extensions should be checked monthly. Any unexpected or dangerous looking wear and tear should be reported to the authorized service.



Anything that would damage the paint (small scratches, bird droppings, salt water etc.) should be cleaned and painted if necessary to protect the machine from corrosion.

Check truck's instructions for maintenance for the truck part of the crane.

6.2. Parts

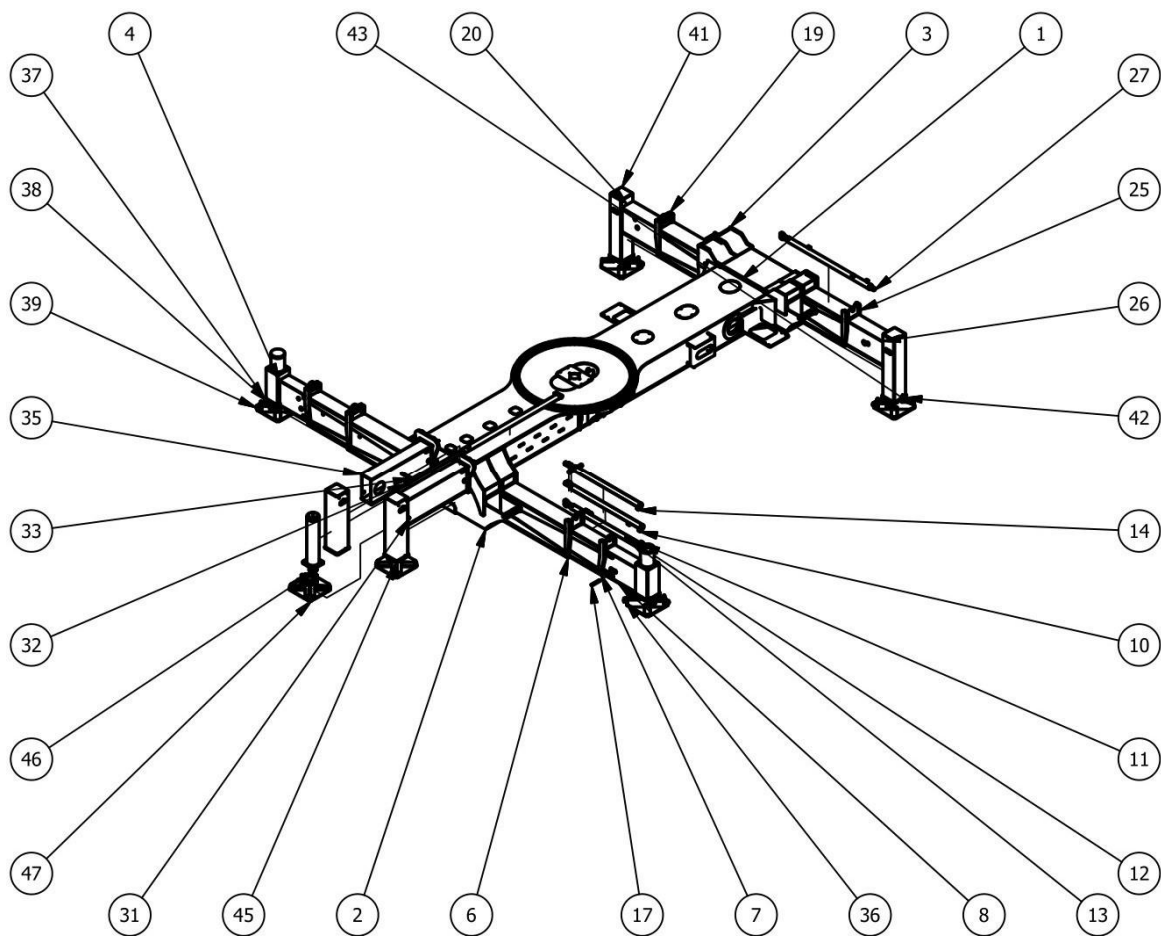


ITEM	CODE	PART	PCS
2	20500950000306	extension chasis assembly	1
3	20000950100711	sub-assembly	1
4	02400100040000	Ball bearing assembly Rotis	1
5	01500100140000	Hexagon head screw for connecting chasis	12

6	01500100130000	Hexagon head screw for connecting chasis	62
7	01500100170000	Hexagon head screw for connecting turntable_2	64
ITEM	CODE	PART	PCS
8	01800100040000	M26X10 stainless washer	126
9	01800100040000	M24X40 Hexagon head nut	64
10	01500100150000	Hexagon head screw for connecting turntable	2
11	01500101530000	Hexagon head screw for connecting slewing gear	20
12	21000950000508	turntable assembly	1
13	22000950000413	main boom assembly	1
14	32000950000213	luffing cylinder assembly	2
15	32000950500213	1. knuckle boom cylinder assembly	2
16	24000950210611	construction hydraulic of 2. knuckle boom assembly	1
17	52000150360134	oil tank assembly	1
18	07600100120000	Oil Radiator	1
19	05600100740000	outrigger valve block Parker pv70	2
20	03000100030000	pressure filter	1
21	07400100030000	swivel joint 8 port	1
22	09700900010000	outrigger pad	6
23	24500951000411	assembly of man basket for two person	1
25	15000101060000	wire length transducer for outrigger extension	1
28	44000950100106	pin turntable-main boom	1
29	43000900010102	pin lock	1
30	44000950150106	main boom luffing cylinder pin	2
31	44000900140102	1.knuckle boom luffing cylinder pin	2
32	41000900320102	linkage boom -1.knuckle boom connection pin	1
33	41000900230102	7. boom extension pin connection	1
34	44000950130106	pin main boom luffing cylinder assembly	1
35	44000950110106	pin 1.knuckle boom luffing cylinder assembly	1
36	30000950000811	chasis cover parts	1

37	21500950100311	cunstruction hydraulic of Counterweight assembly	1
38	23000950120611	cunstruction hydraulic of 1. knuckle boom assembly	1

6.2.1. Chassis and Outriggers (Stabilizers)



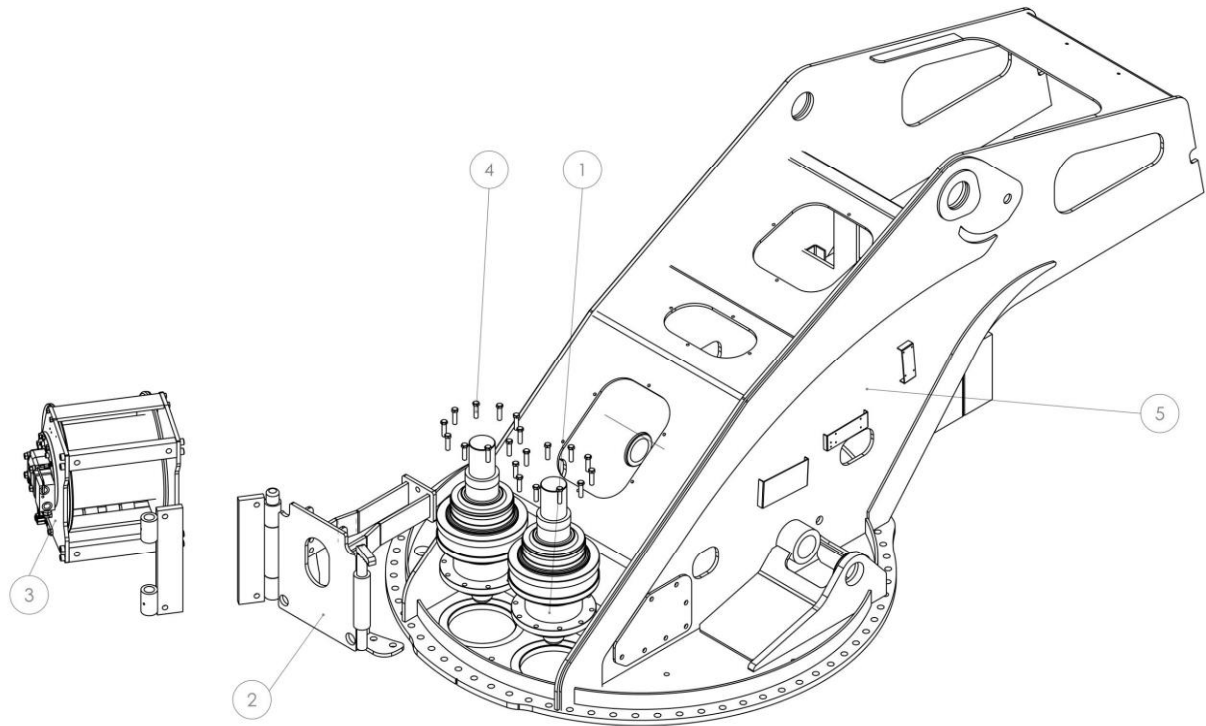
ITEM	CODE	PART	PCS
1	20000950000711	assembly of main chasis	1
2	26000950000406	assembly of rear outrigger extensionbeam	1
3	27000950000406	assembly of front outriggerextension beam	2
4	26000950110411	cunstruction hydraulic assembly of outrigger extension beam	1
5	26000950100411	cunstruction hydraulic assembly of outrigger extension beam	1

6	26000951000406	assembly of rear outrigger extension beam 1	1
7	26000952000406	assembly of rear outrigger extension beam 2	1
8	26000953020406	assembly of rear outrigger extension beam 3	2
9	32000951550311	assembly of rear outrigger extension cylinder	2
10	32000150160111	B_45_63_1578	1
11	32000150980205	45_63_1618_	1

12	01500105300000	allen head bolt M20x110	1
13	01600100280000	Hexagon head fibered nut M20	1
14	32000150160111	B_45_63_1578	1
15	44000900070102	rear outrigger extension cylinder pin 1	1
ITEM	CODE	PART	PCS
16	44000900040102	rear outrigger extension cylinder pin 1	2
17	44000900010102	assembly of rear outrigger extension cylinder pin	2
18	27000950110111	cunstruction hydraulic assembly of outrigger extension beam	1
19	27000951000406	assembly of front outrigger extension beam 1	1
20	27000952010406	assembly of front outrigger extension beam 2	1
21	32000953100311	assembly of front outrigger extension cylinder	1
22	44000900060102	front outrigger extension cylinder pin 1	1
23	44000900030102	front outrigger extension cylinder pin 2	1
24	27000950100411	cunstruction hydraulic assembly of outrigger extension beam	1
25	27000951000406	assembly of front outrigger extension beam 1	1
26	27000952020406	assembly of front outrigger extension beam 2	1
27	32000953100311	assembly of front outrigger extension cylinder	1
28	44000900060102	front outrigger extension cylinder pin 1	1

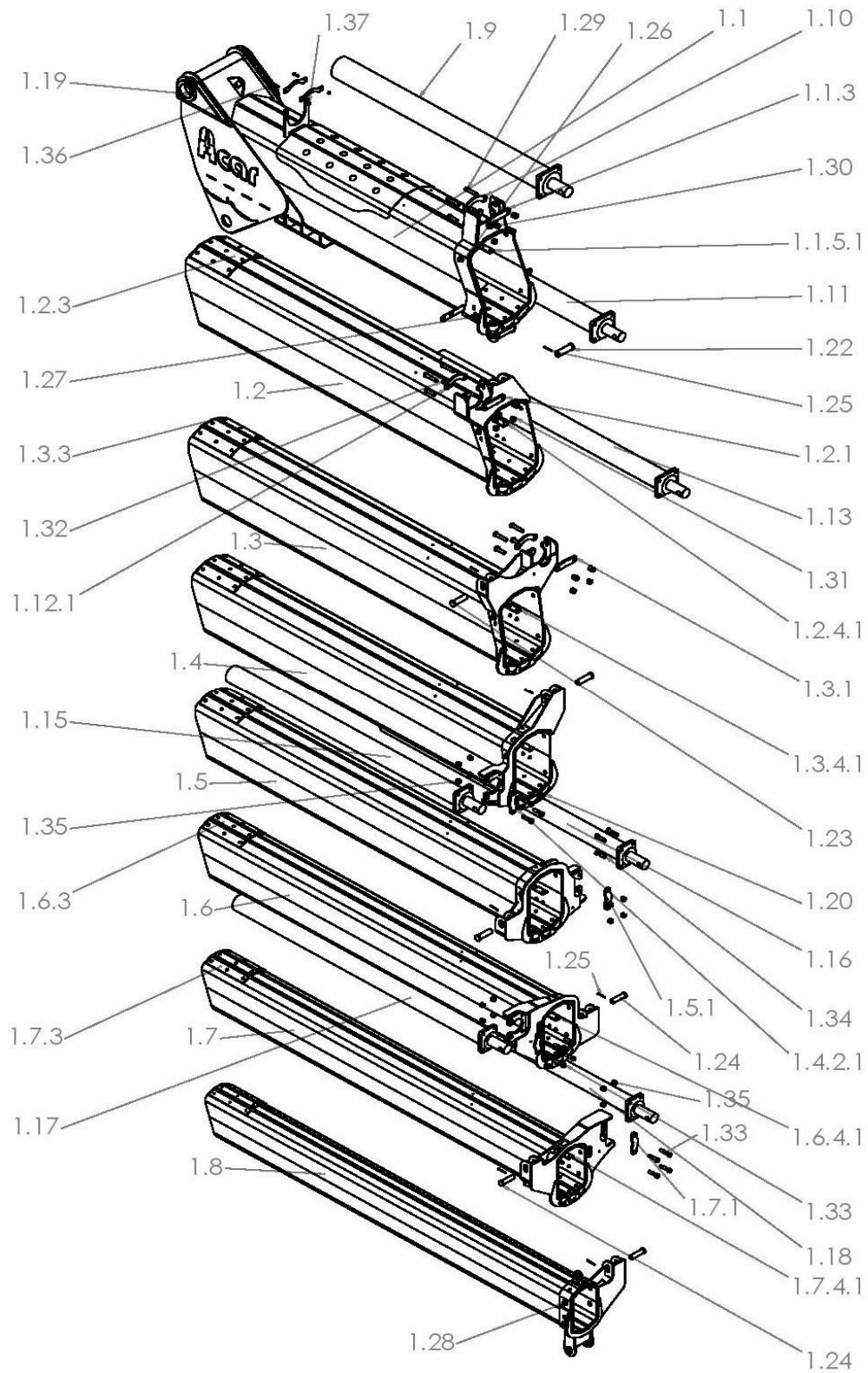
29	44000900030102	front outrigger extension cylinder pin 2	1
30	27500950100411	construction hydraulic assembly of outrigger extension beam	1
31	27500951000406	assembly of 5-6 right outrigger extension beam	1
32	32000954000306	assembly of 5-6 outrigger extension cylinder	2
33	44000900020102	5-6 outrigger extension cylinder pin	1
34	27500950110411	construction hydraulic assembly of outrigger extension beam	1
35	27500951010406	assembly of 5-6 left outrigger extension beam	1
36	28000950000406	assembly of rear outrigger jack cylinder	1
37	28000950010406	assembly of rear outrigger jack beam	1
38	28000950000406	assembly of rear outrigger jack cylinder	1
39	26000950030406	assembly of outrigger pad	1
40	29000950000406	assembly of front outrigger jack cylinder	1
41	29000950010406	assembly of front outrigger jack beam	1
42	29000950000406	assembly of front outrigger jack cylinder	1
43	26000950030406	assembly of outrigger pad	1
44	29500950000406	assembly of front outrigger jack cylinder	1
45	29500950010406	assembly of front outrigger jack beam	1
46	29500950000406	assembly of front outrigger jack cylinder	1
47	26000950030406	assembly of outrigger pad	1

6.2.2. Pillar



ITEM	CODE	PART	PCS
1	05900100100000	slewing gear RE1022	2
2	21000950100411	assembly of turntable-drum winch	1
3	03100100440000	drum winch S45-2	1
4	01500101530000	hexagon head bolt M16X60	20
5	21000950000508	turntable	1

6.2.3. Second Boom (1st Knuckle Boom) and Extensions



ITEM	CODE	PART	PCS
1	23000950000611	assembly of 1.knuckle boom group	1
1.1	23000950020706	assembly of 1.knuckle boom	1
1.1.3	23000900300101	extension boom cylinder reinforcement	1
1.1.4	23000950050411	sliding pad knuckle boom	3
1.1.5	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.1.6	23000900270101	extension cylinder pipe of knuckle boom connection part	1
1.10	23000900320101	extension boom cylinder reinforcement_2	1
1.11	32000957000306	cylinder assembly to 2. extension boom	1
1.12	23000901130101	1.extension boom cylinder reinforcement	1
1.13	32000957500306	cylinder assembly to 3. extension boom	1
1.14	23000902140101	2.extension boom cylinder reinforcement_2	1
1.15	32000958000306	cylinder assembly to 4. extension boom	1
1.16	32000958500306	cylinder assembly to 5. extension boom	1
1.17	32000959000306	cylinder assembly to 6. extension boom	1
1.18	32000959500306	cylinder assembly to 7. extension boom	1
1.19	02900100150000	bushing bronze for 1.knuckle boom	2
1.2	23000951000706	1.extension boom assembly	1
1.2.1	23000901120101	1.extension boom cylinder reinforcement	1
1.2.2	23000951050411	1.extension boom sliding pad kestand	3
1.2.3	02800100360000	sliding pad kestand assembly of 1.knuckle boom group _1	3
1.2.4	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.2.5	02800100070000	sliding pad kestand assembly of 1.knuckle boom group	1

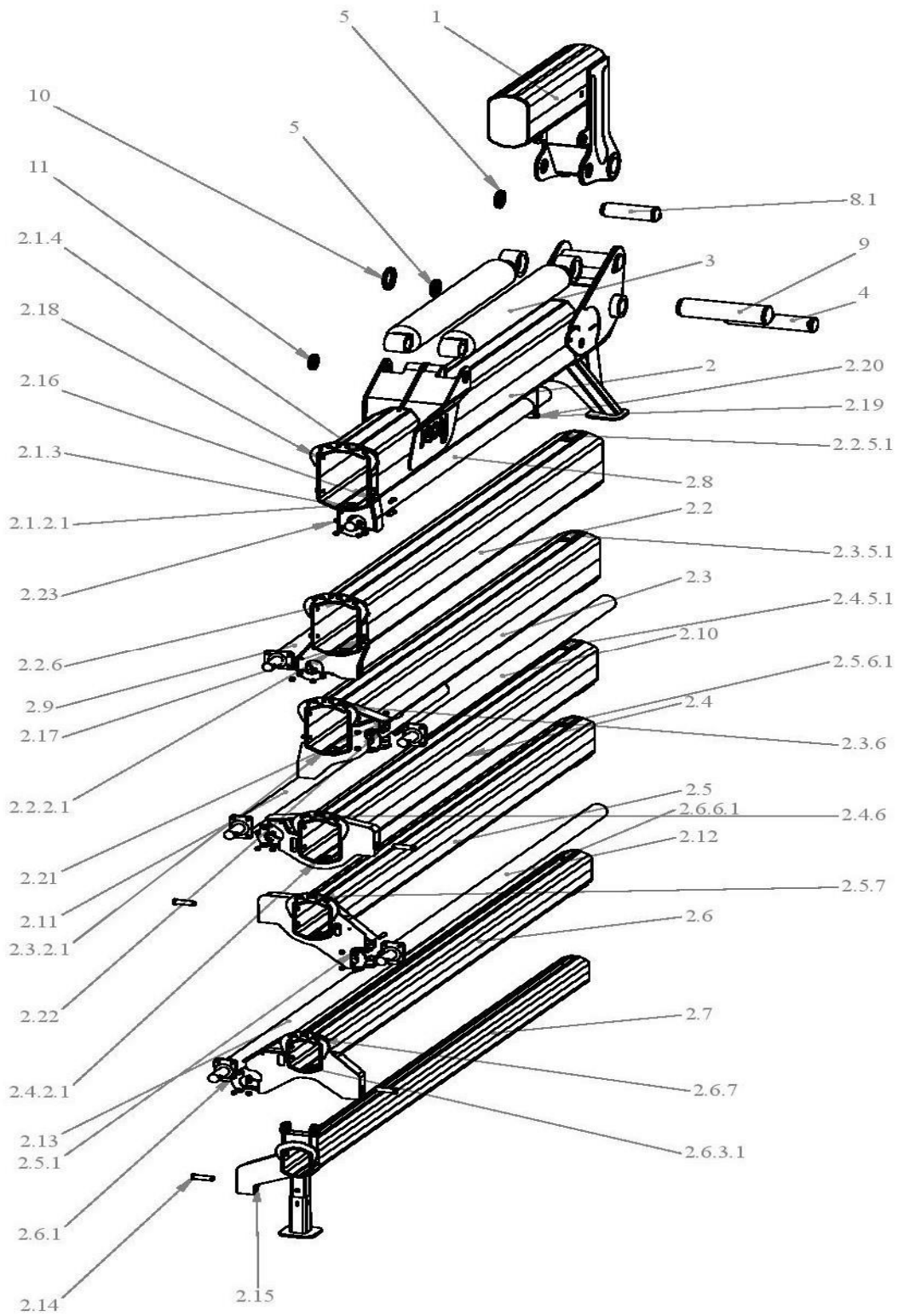
1.20	01500100580000	Hexagon head bolt M12x40	42
1.21	01600100240000	Hexagon head fibered nut M12	42
1.22	44000900300102	1. Extension cylinder connection pin	1
1.23	44000900290102	2. Extension cylinder connection pin	3
1.24	44000900280102	5. Extension cylinder connection pin	3
1.25	02000100100000	cotter pin Ø5X60	7
1.26	01600100840000	adjusting nut for boom both side	29
1.27	01600100850000	adjusting nut for boom both side	29
1.28	01500101550000	adjusting nut for boom both side	29
1.29	01500100310000	Hexagon head bolt M22X110	6
1.3	23000952000706	2.extension boom assembly	1
1.3.1	23000902130101	2.extension boom cylinder reinforcement	1
1.3.2	23000952050411	2.extension boom sliding pad kestamid	3
1.3.3	02800100340000	sliding pad kestamid assembly of 1.knuckle boom group _2	3
1.3.4	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.3.5	02800100070000	sliding pad kestamid assembly of 1.knuckle boom group	1
1.30	01600100360000	Hexagon head nut M22X40	6
1.31	01600100350000	Hexagon head nut M22X25	6
1.32	01500100320000	Hexagon head bolt M22X75	6

ITEM	CODE	PART	PCS
1.33	01500100270000	Hexagon head bolt M20X90	8
1.34	01500100250000	Hexagon head bolt M20X80	8
1.35	01600100340000	Hexagon head nut M20X25	16

1.36	01500100410000	Hexagon head bolt M10x40	2
1.37	01600100050000	Hexagon head nut M10	2
1.4	23000953000706	3.extension boom assembly	1
1.4.1	23000953050411	3.extension boom sliding pad kestamid	3
1.4.2	23000903120101	3.extension boom cylinder reinforcement	1
1.4.3	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.4.4	02800100300000	sliding pad kestamid assembly of 1.knuckle boom group _3	3
1.4.5	02800100070000	sliding pad kestamid assembly of 1.knuckle boom group	1
1.5	23000954000706	4.extension boom assembly	1
1.5.1	23000904140101	4.extension boom cylinder reinforcement	1
1.5.2	23000954050411	4.extension boom sliding pad kestamid	3
1.5.3	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.5.4	02800100280000	sliding pad kestamid assembly of 1.knuckle boom group _4	3
1.5.5	02800100070000	sliding pad kestamid assembly of 1.knuckle boom group	1
1.6	23000955000706	5.extension boom assembly	1
1.6.1	23000905130101	5.extension boom cylinder reinforcement	1
1.6.2	23000955050411	5.extension boom sliding pad kestamid	3
1.6.3	02800100260000	sliding pad kestamid assembly of 1.knuckle boom group _5	3

1.6.4	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.6.5	02800100070000	sliding pad kestand assembly of 1.knuckle boom group	1
1.7	23000956000706	6.extension boom assembly	1
1.7.1	23000906140101	6.extension boom cylinder reinforcement	1
1.7.2	23000956050411	6.extension boom sliding pad kestand	3
1.7.3	02800100230000	sliding pad kestand assembly of 1.knuckle boom group _6	3
1.7.4	23000900470000	sliding pad bronze assembly of 1.knuckle boom group	1
1.7.5	02800100070000	sliding pad kestand assembly of 1.knuckle boom group	1
1.8	23000957000706	7.extension boom assembly	1
1.8.1	02800100190000	sliding pad kestand assembly of 1.knuckle boom group _7	3
1.8.2	02800100070000	sliding pad kestand assembly of 1.knuckle boom group	1
1.9	32000956500306	cylinder assembly to 1. extension boom	1

6.2.4. Third Boom (2nd Knuckle Boom) and Extensions



ITEM	CODE	PART	PCS
1	25000950000408	Linkage(joint) boom assembly	1
2	24000950000611	assembly of 2.knuckle boom group	1
2.1.1	24000950050411	2.knuckle boom sliding pad kestamid	3
2.1.2	23000900480000	sliding pad bronze assembly of 2.knuckle boom group_1	1
2.1.3	01500102660000	countersunk bolt M10x15	2
2.1.4	01500100400000	Hexagon head bolt M10x35	6
2.1.5	01600100230000	Hexagon head fibered nut M10	6
2.10	32000961000306	cylinder assembly to 10. extension boom	1
2.11	32000961500306	cylinder assembly to 8. extension boom	1
2.12	32000962000306	cylinder assembly to 8. extension boom	1
2.13	32000962500306	cylinder assembly to 8. extension boom	1
2.14	44000900310102	4-bar-joint pin	6
2.15	02000100100000	cotter pin Ø5X60	6
2.19	01500100400000	Hexagon head bolt M10x35	2
2.2	24000951000706	assembly of 2.knuckle boom group	1
2.2.1	24000950100411	8.extension boom sliding pad kestamid	3
2.2.2	23000900480000	sliding pad bronze assembly of 2.knuckle boom group_1	1
2.2.3	02800100240000	sliding pad kestamid assembly of 1.knuckle boom group _1	2
2.2.4	02800100200000	sliding pad kestamid assembly of 1.knuckle boom group _3	1
2.2.5	02800100030000	sliding pad kestamid assembly of 2.knuckle boom group	1
2.2.6	01500100400000	Hexagon head bolt M10x35	6
2.2.7	01600100230000	Hexagon head fibered nut M10	6
2.20	01600100050000	Hexagon head nut M10	2
2.21	01500101570000	Hexagon head bolt M18x70	12
2.22	01500101560000	Hexagon head bolt M18x50	12

2.23	01600100320000	Hexagon head fibered nut M18	24
2.3	24000952000706	9.extension boom	1
2.3.1	24000952050411	9.extension boom sliding pad keastamid	3
2.3.2	23000900480000	sliding pad bronze assembly of 2.knuckle boom group_1	1
2.3.3	02800100200000	sliding pad keastamid assembly of 1.knuckle boom group _3	2
2.3.4	02800100170000	sliding pad keastamid assembly of 1.knuckle boom group _4	1
2.3.5	02800100030000	sliding pad keastamid assembly of 2.knuckle boom group	1

2.3.6	01500100400000	Hexagon head bolt M10x35	6
2.3.7	01600100230000	Hexagon head fibered nut M10	6
2.4	24000953000706	10.extension boom	1
2.4.1	24000953050411	10.extension boom sliding pad keastamid	3
2.4.2	23000900470000	sliding pad bronze assembly of 2.knuckle boom group_2	1
2.4.3	02800100160000	sliding pad keastamid assembly of 1.knuckle boom group _5	2
2.4.4	02800100150000	sliding pad keastamid assembly of 1.knuckle boom group _6	1
2.4.5	02800100030000	sliding pad keastamid assembly of 2.knuckle boom group	1
2.4.6	01500100400000	Hexagon head bolt M10x35	6
ITEM	CODE	PART	PCS
2.4.7	01600100230000	Hexagon head fibered nut M10	6
2.5	24000954000706	11.extension boom	1
2.5.1	24000904140101	11.extension boom cylinder reinforcement	1
2.5.2	24000954050411	8.extension boom sliding pad keastamid	3
2.5.3	23000900470000	sliding pad bronze assembly of 2.knuckle boom group_2	1
2.5.4	02800100150000	sliding pad keastamid assembly of 1.knuckle boom group _6	2
2.5.5	02800100140000	sliding pad keastamid assembly of 1.knuckle boom group _7	1
2.5.6	02800100100000	sliding pad keastamid assembly of 2.knuckle boom group	1

2.5.7	01500100400000	Hexagon head bolt M10x35	6
2.5.8	01600100230000	Hexagon head fibered nut M10	6
2.6	24000955000706	12.extension boom	1
2.6.1	24000905140101	12.extension boom cylinder reinforcement	1
2.6.2	24000955050411	8.extension boom sliding pad kestand	3
2.6.3	23000900470000	sliding pad bronze assembly of 2.knuckle boom group_2	1
2.6.4	02800100140000	sliding pad kestand assembly of 1.knuckle boom group _7	2
2.6.5	02800100120000	sliding pad kestand assembly of 1.knuckle boom group _8	1
2.6.6	02800100100000	sliding pad kestand assembly of 2.knuckle boom group	1
2.6.7	01500100400000	Hexagon head bolt M10x35	6
2.6.8	01600100230000	Hexagon head fibered nut M10	6
2.7	24000956000706	13.extension boom	1
2.7.1	02800100120000	sliding pad kestand assembly of 1.knuckle boom group _8	2
2.7.2	02800100080000	sliding pad kestand assembly of 1.knuckle boom group _9	1
2.7.3	02800100100000	sliding pad kestand assembly of 2.knuckle boom group	1
2.8	32000960000306	cylinder assembly to 8. extension boom	1
2.9	32000960500306	cylinder assembly to 9. extension boom	1
3	32000951000213	cylinders of 2.knuckle boom group	2
4	44000950150106	4-bar-joint pin	1
5	43000900030101	4-bar-joint pin lock	2
6	44000900170106	4-bar-joint pin	1
7	43000900050101	4-bar-joint pin lock	1
8	44000950180106	4-bar-joint pin	1
9	44000950160106	4-bar-joint pin	1
10	43000900040101	4-bar-joint pin	1
11	43000100050101	2.knuckle boom -2 knuckle boom luffing cylinder pin connection	1

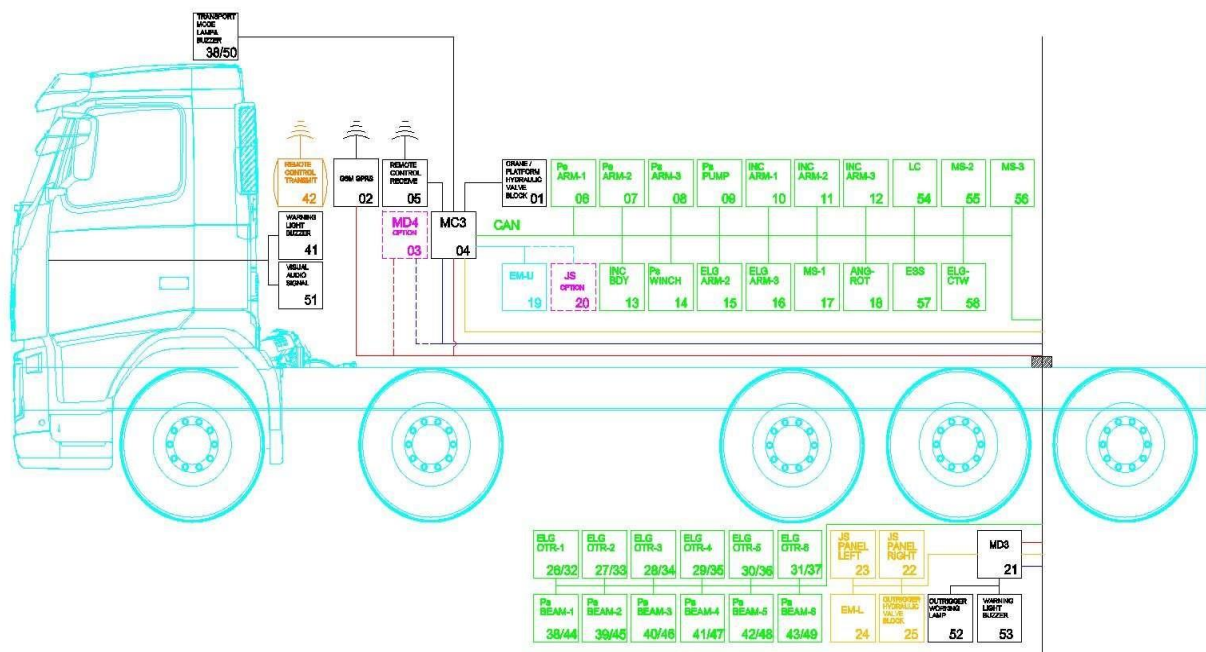
6.2.5. Hydraulic Parts

Item	Code	Part	PCS
01.00	150-1-28-0169	Oil Tank 750 Liters - MPG	1
02.00	150-1-28-0255	Tank Lid - Parker	1
03.00	150-1-28-0130	Oil Level Indicator Long Type -Ikron	1
04.00	150-1-22-0320	Manual Pump - Fulcro	1
05.00		Power Pack - Hydac	1
06.00	150-1-28-0259	Return Filter - Palfinger	1
07.00	150-1-27-0650	Check(non-return) Valve 1/2"	2
08.00		Pump with Variable Displacement - Parker	1
09.00	150-1-27-0665	Check(non-return) Valve 1 1/4"	1
10.00	150-1-08-2251	Oil Filter - Hydac	1
11.00	150-1-20-0222	G16 Body TB (DS07-TA/10N-II)	1
12.00	150-1-20-3220	Hydraulic Control Block + Caps	1
13.00	150-1-29-0033	Oil Cooler - Parker	1
14.00	150-1-20-2120	Valve Block 6 Pieces- Parker	2
15.00	150-1-20-0281	Valve Block 9 Pieces- Bucher	1
16.00	150-1-09-0045	Rope Drum S45 -Dinamicoil	1
17.00	150-1-23-0040	Reduction Gear RE 1522	2
18.00	150-1-27-1090	Load Check Valve Double 3/8"- HBS	7

19.00	150-1-27-0354	Sequencing Valve 3/8" Pipe Type - HBS	2
20.00	150-1-27-2120	Sequencing Valve 3/4" - Oilcontrol	6
21.00		Sequencing Valve 3/4" - HBS	5
22.00	150-1-27-2025	Load Check Valve 3/4" - Oilcontrol	2
23.00	150-1-27-1060	Load Check Valve 3/4" - HBS	2
24.00	150-1-27-1140	Load Check Valve 1" Double- HBS	1
25.00	150-1-27-0534	Relief Valve 3/4" -Oilcomp	2
26.00	150-1-27-1061	Load Check Valve 3/4" Double- HBS	1

6.2.6. Electric-Electronic Parts

6.2.6.1. Safety Related Parts



Block #	Name	Details	Type	Make	Model
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1	Crane/Platform hydraulic valve block	Bucher LVS OnboArd electronic hydraulic valve block.	Electro-Hydraulic	Bucher	LVS12
2	GSM/GPRS Modem	Parker IQANG2/G3 remote update software and diagnostics.	Electronic	Parker	IQAN G3
3	MD4	Optional Parker IQAN-MD4 screen for cranes with operator cabin.	Electronic	Parker	MD4-7
4	MC3	Parker IQAN-MC3 functional safety controller.	Electronic	Parker	MC3
5	Remote control	Scanreco radio remote controller.	Electromechanic	Scanreco	MAXI TRANSMITTER RC 400

Block #	Name	Details	Type	Make	Model
6	Ps-Arm-1	Pressure sensor for first boom hydraulic cylinder.	Electronic	Trafag	CMP 8270
7	Ps-Arm-2	Pressure sensor for second boom hydraulic cylinder.	Electronic	Trafag	CMP 8270
8	Ps-Arm-3	Pressure sensor for third boom hydraulic cylinder.	Electronic	Trafag	CMP 8270

9	Ps-Pump	Pressure sensor for hydraulic pump.	Electronic	Trafag	<u>CMP 8270</u>
10	Inc-Arm-1	Inclination sensor for first boom.	Electronic	Siko	<u>IK360-1-CAN</u>
11	Inc-Arm-2	Inclination sensor for second boom.	Electronic	Siko	<u>IK360-1-CAN</u>
12	Inc-Arm-3	Inclination sensor for third boom.	Electronic	Siko	<u>IK360-1-CAN</u>
13	Inc-Bdy	Inclination sensor for chassis.	Electronic	Kübler	<u>8.IS60.22523</u>
14	Ps-Winch	Pressure sensor for winch.	Electronic	Trafag	<u>CMP 8270</u>
15	Elg-Arm-2	Measuring length sensor for second boom.	Electromechanic	Atek (Sick)	<u>ACR 530 25000 N 1XS13 C SLP (AHM36A-S3CC014x12)</u>
16	Elg-Arm-3	Measuring length sensor for third boom.	Electromechanic	Atek (Sick)	<u>ACR 530 25000 N 1XS13 C SLP (AHM36A-S3CC014x12)</u>
17	MS-1	Mechanical switches.	Electromechanic	Schmers al	<u>ZV14H235-11Z/ZS235-11Z</u>
18	Ang-Rot	Sensor for determining horizontal angle of rotating structure.	Electromechanic	ALA Officine	<u>ST350-H2-360-CB</u>
19	EM-U	Expansion module for upper control	Electronic	Parker	<u>IQAN XA2</u>

Block #	Name	Details	Type	Make	Model
20	JS	Optional joystick control for cranes with operator cabin.	Electromechanic	Parker	<u>IQAN LC5</u>

21	MD3	Parker IQANMD3 screen for setting software parameters and visiolation of chassis Inclination (together JSPanelR).	Electronic	Parker	<u>IQAN MD3</u>
22	JS-Panel-R	Operator control for the right side outriggers and lowering all beams.	Electromechanic	Parker	<u>IQAN-LST</u>
23	JS-Panel-L	Operator control for the left side outriggers and lowering all beams.	Electromechanic	Parker	<u>IQAN-LST</u>
24	EM-L	Expansion module for lower part control.	Electronic	Parker	<u>IQAN XA2</u>
25	Outrigger hydraulic valve block	Outrigger control hydraulic control block	Electro hydraulic	Parker	<u>P70</u>

26	Elg-Otr-1	Measuring length sensor for Outrigger extension 1 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
27	Elg-Otr-2	Measuring length sensor for Outrigger extension 2 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
28	Elg-Otr-3	Measuring length sensor for Outrigger extension 3 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
29	Elg-Otr-4	Measuring length sensor for Outrigger 4 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000

Block #	Name	Details	Type	Make	Model
30	Elg-Otr-5	Measuring length sensor for Outrigger extension 5 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
31	Elg-Otr-6	Measuring length sensor for Outrigger extension 6 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000

32	Elg-Otr-7	Measuring length sensor for Outrigger extension 1 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
33	Elg-Otr-8	Measuring length sensor for Outrigger extension 2 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
34	Elg-Otr-9	Measuring length sensor for Outrigger extension 3 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
35	Elg-Otr-10	Measuring length sensor for Outrigger extension 4 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
36	Elg-Otr-11	Measuring length sensor for Outrigger extension 5 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
37	Elg-Otr-12	Measuring length sensor for Outrigger extension 6 boom.	Electromechanic	Kübler	D8.OPS.37.0500.RC5.3.0000
38	Ps-Beam-1	Pressure sensor for Outrigger beam 1.	Electronic	Trafag	CMP 8270

39	Ps-Beam-2	Pressure sensor for Outrigger beam 2.	Electronic	Trafag	CMP 8270
40	Ps-Beam-3	Pressure sensor for Outrigger beam 3.	Electronic	Trafag	CMP 8270
41	Ps-Beam-4	Pressure sensor for Outrigger beam 4.	Electronic	Trafag	CMP 8270

Block #	Name	Details	Type	Make	Model
42	Ps-Beam-5	Pressure sensor for beam Outrigger 5.	Electronic	Trafag	CMP 8270
43	Ps-Beam-6	Pressure sensor for beam Outrigger 6.	Electronic	Trafag	CMP 8270
44	Ps-Beam-7	Pressure sensor for beam Outrigger 7.	Electronic	Trafag	CMP 8270

45	Ps-Beam-8	Pressure sensor for Outrigger beam 8.	Electronic	Trafag	CMP 8270
46	Ps-Beam-9	Pressure sensor for Outrigger beam 9.	Electronic	Trafag	CMP 8270

47	Ps-Beam-10	Pressure sensor for Outrigger beam 10.	Electronic	Trafag	<u>CMP 8270</u>
48	Ps-Beam-11	Pressure sensor for Outrigger beam 11.	Electronic	Trafag	<u>CMP 8270</u>
49	Ps-Beam-12	Pressure sensor for Outrigger beam 12.	Electronic	Trafag	<u>CMP 8270</u>
50	Transport mode lamp and buzzer	For giving visual and sound signals to the driver in the cabin.	Electronic		
51	Visual audio signal	Signaling operator operator and pedestrians.	Electronic		
52	Outrigger working lamp	Lamp on outriggers for visual signal while working.	Electronic		
53	Warning light horn	For on-road warning light siren.	Electronic		
54	LC	Loadcell is measurement weight the basket.	Electromechanic	Moba	<u>MRW-1000 CAN</u>
55	MS-2	Mechanical switches.	Electromechanic	Schmers al	<u>ZV14H235-11Z/ZS235-11Z</u>
56	MS-3	Mechanical switches.	Electromechanic	Schmers al	<u>ZV14H235-11Z/ZS235-11Z</u>
57	ESS	Electrical safety switches.	Electronic	Sick	<u>TR4-SBM03P</u>

58	Elg-Ctw	Measuring length sensor for counter weight	Electromechanic	Sick	BTF08-C1QM0282
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6.2.6.2. Electrical Parts

#	Name	Brand	Code	Unit	Amount
1	BOOT	TYCO	880810-1	PCS	50
2	BOOT	DEUTSCH	DT4S-BT	PCS	30
3	BOOT	DEUTSCH	DT4P-BT	PCS	10
4	BOOT	DEUTSCH	DT6S-BT	PCS	5
5	ETHERNET SWITCH	MOLEX	112111-5001	PCS	1
6	Horn/Siren			PCS	1
7	I/O Card	PARKER	IQAN-XA2 (5010033)	PCS	4
8	ID-TAG	PARKER	ADRES-0 (5030060)	PCS	1
9	ID-TAG	PARKER	ADRES-2 (5030062)	PCS	1
10	ID-TAG	PARKER	ADRES-3 (5030063)	PCS	1
11	ID-TAG	PARKER	ADRES-4 (5030064)	PCS	1
12	ID-TAG	PARKER	ADRES-5 (5030065)	PCS	2
13	ID-TAG	PARKER	ADRES-6 (5030066)	PCS	1
14	ID-TAG	PARKER	ADRES-7 (5030067)	PCS	1
15	JOYSTICK	PARKER	IQAN-LC5-C01-MPB2W2T1 (20076999)	PCS	2
16	JOYSTICK	PARKER	IQAN-LST-D (20014070)	PCS	16
17	Cable		4X0,50 MM² KUMANDA	METERS	200
18	Cable		16X1 MM² KUMANDA	METERS	35
19	Cable		5X1 MM² KUMANDA	METERS	10
20	Cable		2X0,50 MM² KUMANDA	METERS	220

21	Cable		2X0,50 MM² CAN-BUS	METERS	50
22	Cable		6 MM² NYAF	METERS	25
23	Cable		0,50 MM² NYAF	METERS	50
24	Cable		30X0,75 MM² KUMANDA	METERS	15
25	Cable Connection	KLEMSAN	533 292S	PCS	1000
26	Cable Connection	KLEMSAN	537 380B	PCS	1000

27	Cable Tag	KLEMSAN	KBE1	BOX	2
28	Cable Drum	ATEK	ACR 530 25000 N 1XS13 C SLP	PCS	2
29	Camera (Optional)	PARKER	IQAN-SV (20085106)	PCS	2
30	Connector		M12X5 DÜZ	PCS	20
31	Connector	METE ENERJİ	6 PİN ERKEK 403093	PCS	1
32	Connector	METE ENERJİ	6 PİN DIŞI 403096	PCS	1
33	Connector	METE ENERJİ	24 PİN ERKEK 403043	PCS	1
34	Connector	METE ENERJİ	24 PİN DIŞI 403040	PCS	1
35	Connector	TYCO	1-967629-1	PCS	11
36	Connector	TYCO	8-968974-1	PCS	11
#	Name	Brand	Code	Unit	Amount
37	Connector	DEUTSCH	DT06-4S	PCS	26
38	Connector	DEUTSCH	DT04-4P	PCS	10
39	Connector	TYCO	282080-1	PCS	5
40	Connector	TYCO	282104-1	PCS	5

41	Connector		DIN VALF SOKETİ 24VDC.	PCS	12
42	Connector Kit	PARKER	5031063	PCS	4
43	Connector Kit	PARKER	5035007	PCS	1
44	Connector Kit	PARKER	5031113	PCS	16
45	Connector Kit	TYCO	963040-3 KONTAK VE SEAL DAHİL	PCS	26
46	Connector Kit	PARKER	5035016	PCS	1
47	Connector Kit	PARKER	20073081	PCS	2
48	Connector Kit	PARKER	5031086	PCS	1
49	Contact Part	DEUTSCH	0460.202.16141 PIN	PCS	100
50	Contact Part	DEUTSCH	0462.201.16141 SOCKET	PCS	200
51	Contact Part	DEUTSCH	0462-201-20141 SOCKET	PCS	72
52	Contact Part	TYCO	929940-1	PCS	52
53	Contact Part	TYCO	1-968849-1 DIŞI TERMİNAL	PCS	200
54	Contact Part	TYCO	1-968851-1 DIŞI TERMİNAL	PCS	200
55	Contact Part	TYCO	1-962841-1 ERKEK TERMİNAL	PCS	200
56	Contact Part	TYCO	1-962842-1 ERKEK TERMİNAL	PCS	200
57	Contact Part	TYCO	282110-1 DIŞI TERMİNAL	PCS	10
58	Contact Part	TYCO	282109-1 ERKEK TERMİNAL	PCS	10
59	Panel	METE ENERJİ	402530H MENTEŞELİ	PCS	2
60	Panel	METE ENERJİ	402524H MENTEŞELİ	PCS	2
61	SEAL	TYCO	828904-1	PCS	52
62	SEAL	TYCO	281934-2	PCS	10
63	Temperature Sensor	PARKER	IQAN-ST (20073657)	PCS	1

64	Warning Light	KABİN VS.		PCS	3
65	Warning Light	ŞASE YANI		PCS	6
66	Controller	SCANRECO AB	Maxi Transmitter RC 400	SET	1