



ZIJTVELD

CE Operating and maintenance manual

Multi grab
MU450-D

Introduction



Dear user,

The Multi grab is a piece of equipment for excavators. The Multi grab is available in various weights, capacities and versions and is always a fast and purpose-built device.

It is imperative you read this manual and follow all the instructions given when working with our machinery in accordance with our recommendations.

The Multi Grab products are provided with a CE marking, thereby complying with all the necessary European regulatory safety regulations.

It is essential to follow the safety regulations at all times.

These safety regulations refer to those laid out in this manual, including both the operating instructions for excavators and the safety regulations that apply to the vicinity in which the Multi grab product is being used, maintained and repaired.

Modifications made to the Multi Grab may only be implemented with the written consent of the manufacturer. Only under these circumstances do the warranty conditions and CE liabilities remain applicable.

Warning



- The excavator with a Multi Grab may only be operated by a qualified person.
- Maintenance and/or repairs may only be carried out by appropriately trained and competent personnel.
- Prevent dangerous work situations. Stay at a safe distance from moving parts.
- Ensure that whilst operating the machinery no other people are within the working vicinity of the excavator with selector grab.
- Maintenance or repair work must only be carried out when the engine is turned off.
- Refer to the safety regulations before starting on any maintenance or repair work.
- Replace defective parts only with original parts from the manufacturer.
- Failure to replace defective parts with original parts from the manufacturer will result in cessation of the entire warranty and CE liability.

Content	Page
EU declaration of compliance	04
Safety regulations	05
Conditions of guarantee	06
Operation	07
Daily maintenance	08
Lubrication schedule	09
Exploded view	10
Part list 1	11
Part list 2	12
Part list + exploded view cylinder	13
Part list + exploded view C.O.D.	14
Tightening torques	15
Technical specifications	16

® Zijtveld Grippers is a registered brand name of Zijtveld Grippers BV te 's-Graveland, Nederland. None of the content of this publication may be copied elsewhere without the express permission of Zijtveld Grippers BV. The manufacturer reserves the right to make alterations or modifications to products and literature at all times.

EU declaration of compliance



(Guideline 2006/42/EC)



Manufacturer Zijtveld Grippers B.V.
Adress De Boomgaard 1
 's Graveland

Hereby declares that Zijtveld Gripper®

Type	MU450-D
Serial number	

meets all the required machine guidelines (Guideline 2006/42/EC, as most recently updated) as well as national legislative implementation of this directive.

Attention: Any adjustment that is made to this product without written consent on the manufacturer, makes this declaration void and invalid.

We should draw your attention to the fact that the selector grab product is designed to be assembled with another machine, and that the product, on the grounds of the machine Guide Line, can only be used once the whole machine is in accordance to the conditions laid down by European regulations.

Date

.....

(signed)

The Multi Grab should always be attached to an excavator of the correct weight, class and capacity of machine. Refer to the data information plate on the grab and consult the technical specifications in this manual. When in doubt contact the supplier.

The weight of the grab, increased by the weight of the load being picked up, must never exceed the maximum allowance of lifting power. For further information consult the excavator manual.

It is prohibited for people to be within the rotation range of the machine and grab. Keep in mind that material being lifted that extrude from the grab will enlarge the rotation range.

It is always possible that material can fall out of the excavator's grab. For this reason, never rotate the machinery above people, machines nor vehicles.

Always pick up a long load at its centre of gravity, to prevent the excavator from either rotating or tipping over. It is not permissible to use the grab to hit or pound.

Whilst connecting or disconnecting, lubricating or other maintenance work, the grab must be stable and on a flat surface. Before performing lubricating or other maintenance work the engine should always be shut down.

Warning

Never work on the hydraulic system if the system is still under pressure! Keep hands away from moving parts at all times.

The manufacturer cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication are, therefore, not all-inclusive. If a tool, procedure, work method or operating technique that is not specifically recommended by the manufacturer is used, then you must assure yourself that it is safe for you and others.

You should also ensure that the product will not be damaged or made unsafe by the operation, lubrication, maintenance or repair procedures that you choose.

Terms of guarantee



The manufacturer provides a warranty of 12 months from the date of delivery.

All defective parts proven to be caused by faults in either manufacture, production or material are covered by warranty.

Defective parts that are replaced and fall under guarantee become property of the manufacturer. They must be kept available and returned immediately, in complete and unaltered condition, upon the first request from the manufacturer.

Any claim that is made under guarantee will only be taken into consideration once a written appeal is made to the dealer or manufacturer. This must be done directly after the damage or fault occurs and at least within 24 hours of any irregularities and problems arising.

All claims under conditions of the warranty must contain the following data; the type of machine the product has been mounted on, the serial number of the grab, the record of the defective part(s) and a description of the fault, photographs, copy of the delivery papers and invoice and a copy of the piece of equipment concerned.

Minor repairs can be carried out in consultation with the dealer; necessary parts which fall under the warrantee, will be delivered without charge. For larger repairs the grab should be sent to your dealer or manufacturer for repairs or modifications. The work and necessary parts are free of charge. However, transport costs and call-out charges to and from your dealer or manufacturer are not covered.

The manufacturer is not liable for consequential loss caused by a defective Multi grab (consequential loss to excavators, consequential loss due to a stationary excavator or the suspending of work activity).

EXCLUDED FROM GUARANTEE

- Damage caused by faulty assembly of a machine and/or the hydraulic system.
- Defects resulting from improper repairs and/or maintenance including that carried out by an unauthorised third party.
- Defects arising from neglect or improper execution of preventive maintenance procedures e.g. regular lubrication or greasing.
- Defects to parts which are subject to normal wear like blades.
- Consequential loss caused by failure to replace normal wearing parts in time.

N.B. If defective or worn parts are replaced by non-original parts, the entire warrantee and liability will cease to apply.

Procedures to follow before initial use



Before taking the machine into operation and to ensure the good functioning of the apparatus, it is important that the following points are checked and correspond to the technical specifications as shown on the information plate and in the manual.

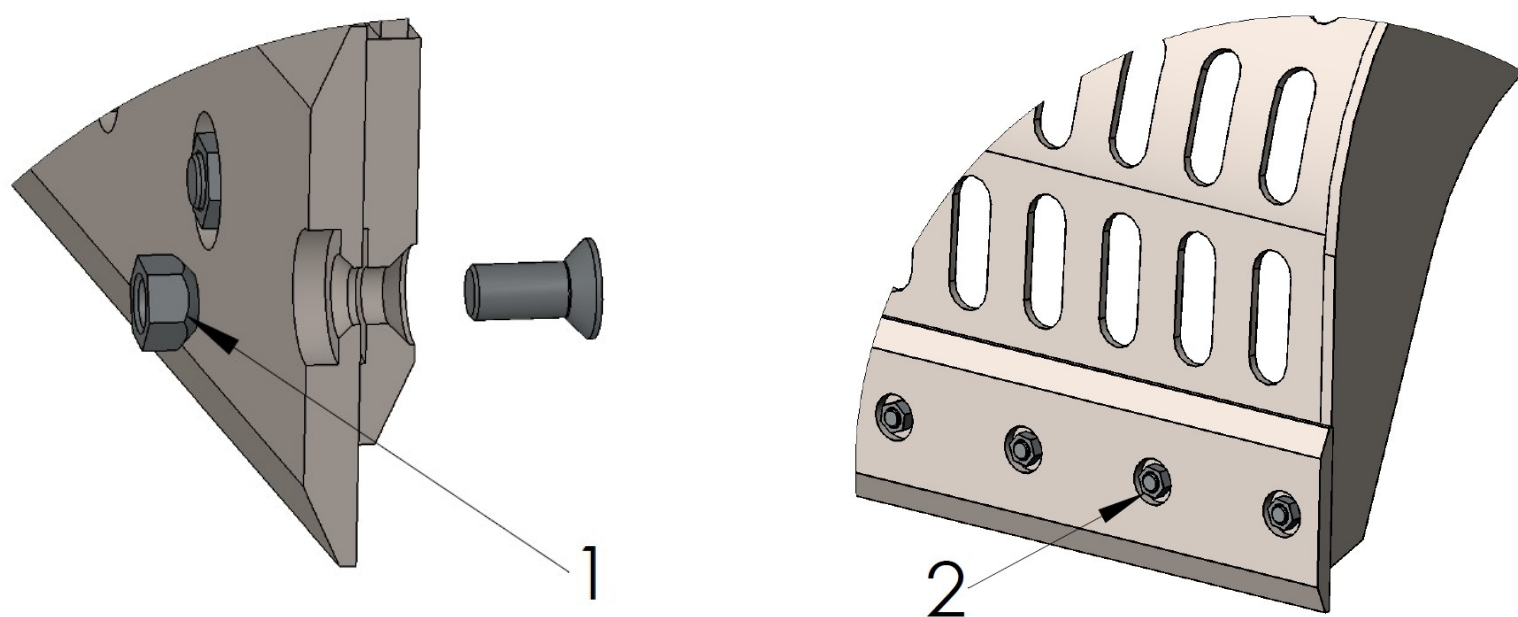
- The type and weight of the Multi grab must conform to weight and machine class of the intended excavator.
- The oil flow and the pressure for rotating the Multi grab should be checked and adjusted.
- Beware: the return pressure of the rotating oil at a continuous level may be at a maximum of 25 bar and only briefly (maximum of 10% of the working time).
- The oil flow and pressure of the pinching (opening and closing) of the tree grab needs to be controlled and adjusted.
- Check if the hydraulic quick release hitch is in good order and screwed on firmly.
- Check if the ball valves and valves are in the correct position.
- Check if the connecting pins between the excavator and the Multi grab are well secured, as well as the wedge and the security pin of the quick release hitch system.
- Ensures that the hoses have the correct length and are at no risk of interfering with any of the moving parts. Also make sure they cannot wear or damage because of contact with the grab or material that is moved by the grab.

For maintenance work, always place the grab in open position on a flat and stable surface and ensure the excavator cannot move.

During maintenance on the hydraulic system the hydraulic hoses need to be disconnected. Before disconnecting ensure there is no pressure on the hoses. Consult the manual for the excavator.

The grab must be lubricated once every 8 operating hours with the same lubricant recommended for the excavator. For the position of the grease nipples and frequency of lubrication, see the schedule on page 10.

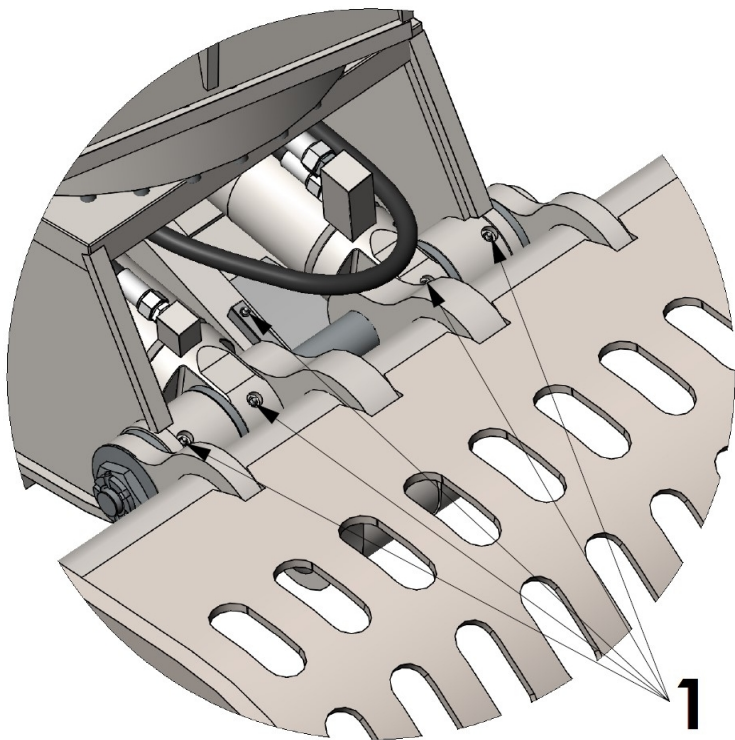
Picture 1 and 2 : Instructions for assembling the wear blades.



1 = Attention: fix nut with the conical side to the inside.

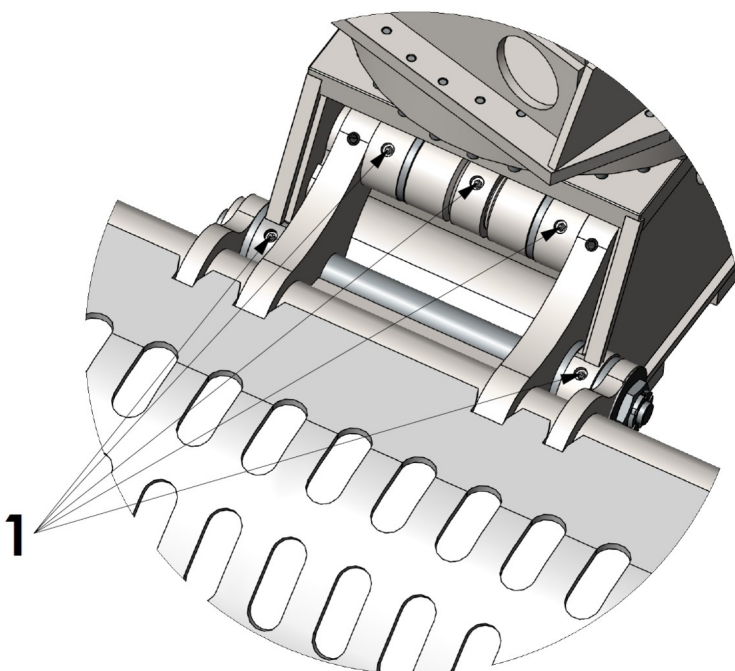
2 = Bolts need to be tightened with a torque as shown in the table (see page 16).

To ensure the wear blades are securely fastened to the shell it is recommended to place some additional spot welding between knives and shell base.



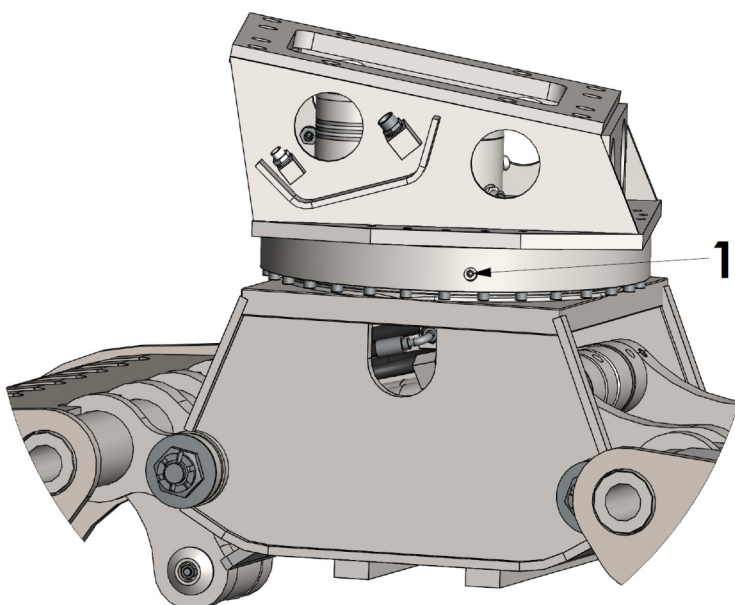
Picture 3: Lubricating pivoting points

1 = Lubricate 1 x per 8 operating hours.



Picture 4: Lubricating pivoting points

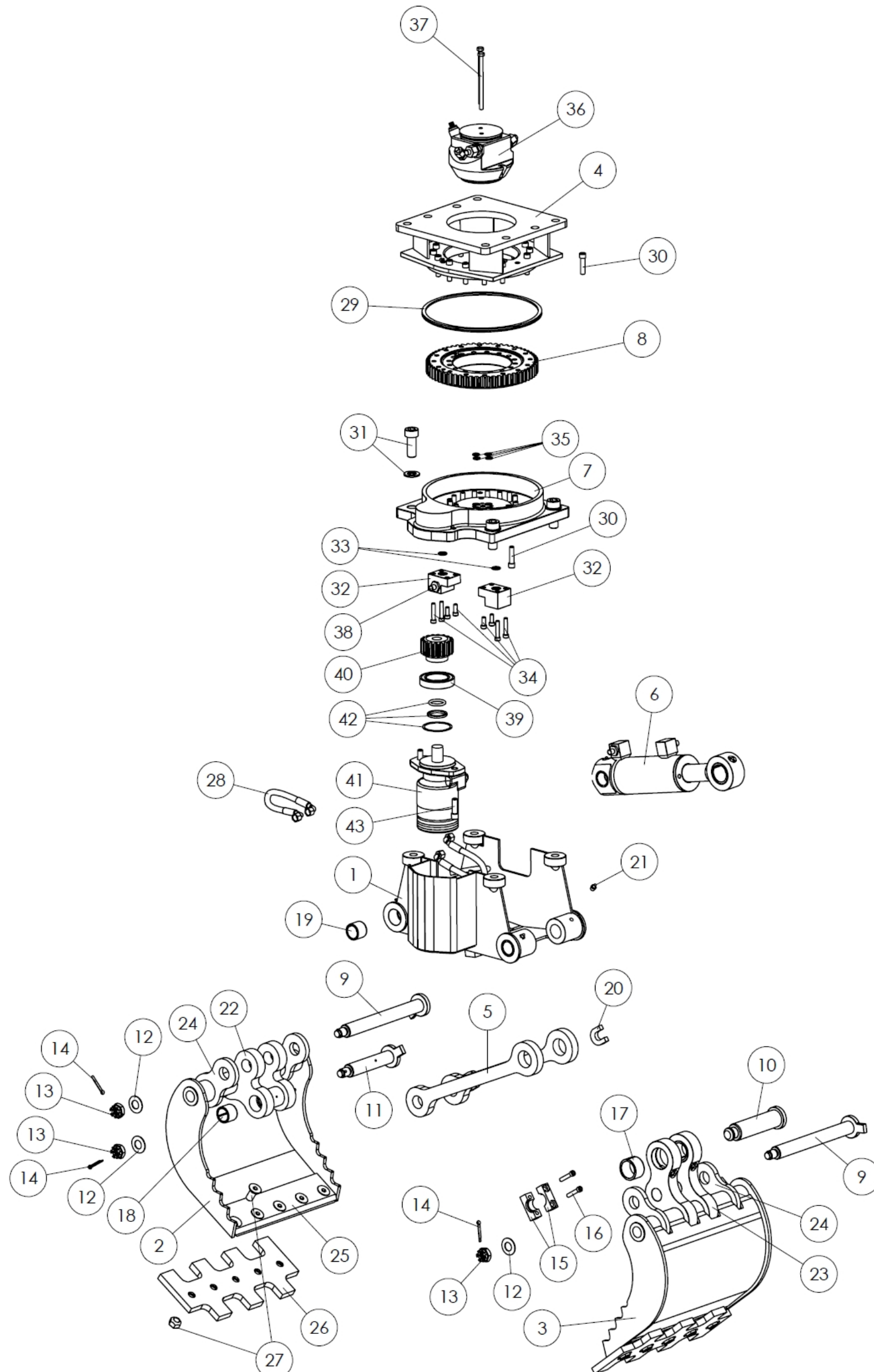
1 = Lubricate 1 x per 8 operating hours.



Picture 5: Lubricating rotator

1 = Lubricate 1 x per 8 operating hours.

Exploded view MU450-D



Part list MU450-D



Part No.	Qty	Description	Order No.
		Demolition and sorting grab MU150-D	MU450D.000
1	1	Welded main frame construction	S450D.001
2	1	Shell left (short lever)	MU450D.002
3	1	Shell right (long lever)	MU450D.003
4	1	Welded rotator frame construction	S450D.004
5	1	Welded linkage construction	S450D.005
6	1	Hydraulic cylinder	S450D.006
7	1	Baseplate head	S450D.007
8	1	Slewing ring	S450D.008
9	2	Main hinge pin	S450D.009
10	1	Linkage axis (top/long)	S450D.010
11	1	Linkage axis (under/short)	S450D.011
12	2	Disk spring	S450D.012
13	2	Castellated nut	S450D.013
14	1	Split pin	S450D.014
15	1 set	Locking/clamping set linkage axis (top/long)	S450D.015
16	1 set	Bolt set lock bushing linkage axis (top/long)	S450D.016
17	2	Bearing	S450D.017
18	2	Bearing	S450D.018
19	4	Bearings main frame	S450D.019
20	1	Locker U	S450D.020
21	1 set	Lucrication nipple set	S450D.021
22	2	Shell hinge	S450D.022
23	2	Shell hinge	S450D.023
24	4	Shell hing support	S450D.024
25	1 set	Fixed blade	S450D.025
26	1 set	Cutting edges	MU450D.026
27	1 set	Bolt set replaceable blades	S450D.028
28	1	Hose set	S450D.029
29	1 set	V-ring	S450D.030

Part list MU450-D

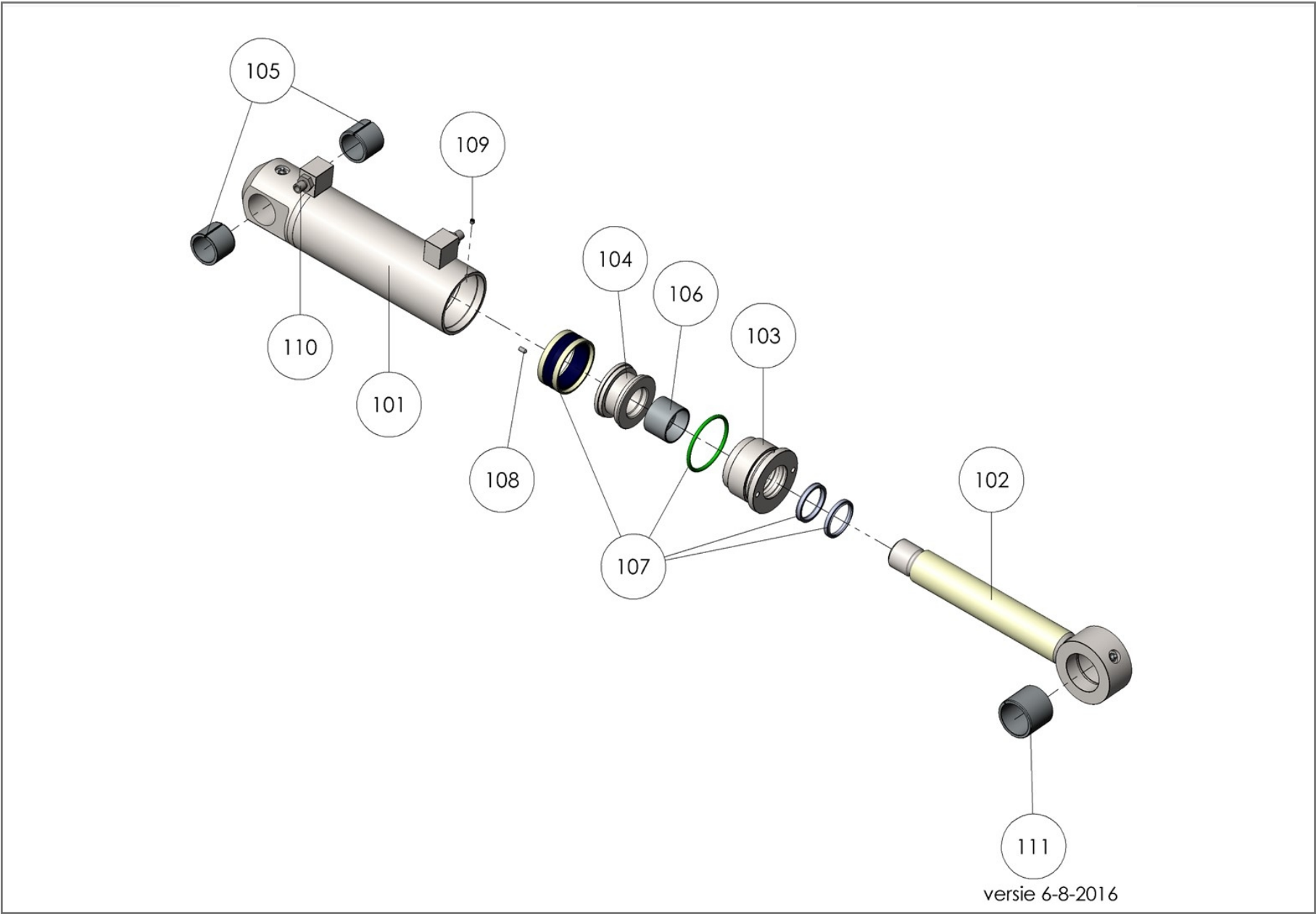


Part No.	Qty	Description	Order No.
30	1 set	Bolt set slewing ring	S450D.030
31	1 set	Bolt set main frame	S450D.031
32	2	Connection block main frame head	S450D.032
33	1 set	O-ring connection block welded plate	S450D.033
34	1 set	Bolt set connection block	S450D.034
35	1 set	O-ring C.O.D.	S450D.035
36	1	C.O.D.	S450D.036
37	1 set	Bolt set C.O.D.	S450D.037
38	1 set	Connection nipples	S450D.038
39	1	Bearing gear	S450D.039
40	1	Gear	S450D.040
41	1	Hydro motor	S450D.041
42	1 set	Seal kit hydro motor	S450D.042
43	1 set	Bolt set hydro motor	S450D.043
56	1	Slewing ring seal	S450D.056

Part list cylinder MU450-D

Part No.	Qty	Description	Order No.
101	1	Cylinder housing	S450D.101
102	1	Piston rod	S450D.102
103	1	Cylinder nut	S450D.103
104	1	Cylinder piston	S450D.104
105	2	Bearing (cylinder housing)	S450D.105
106	1	Bearing (cylinder nut)	S450D.106
107	1 set	Cylinder seal kit	S450D.107
108	1	Secure bolt	S450D.108
109	1	Secure bolt	S450D.109
110	1 set	Cylinder nipple set	S450D.110
111	1	Bearing (cylinder piston)	S450D.111

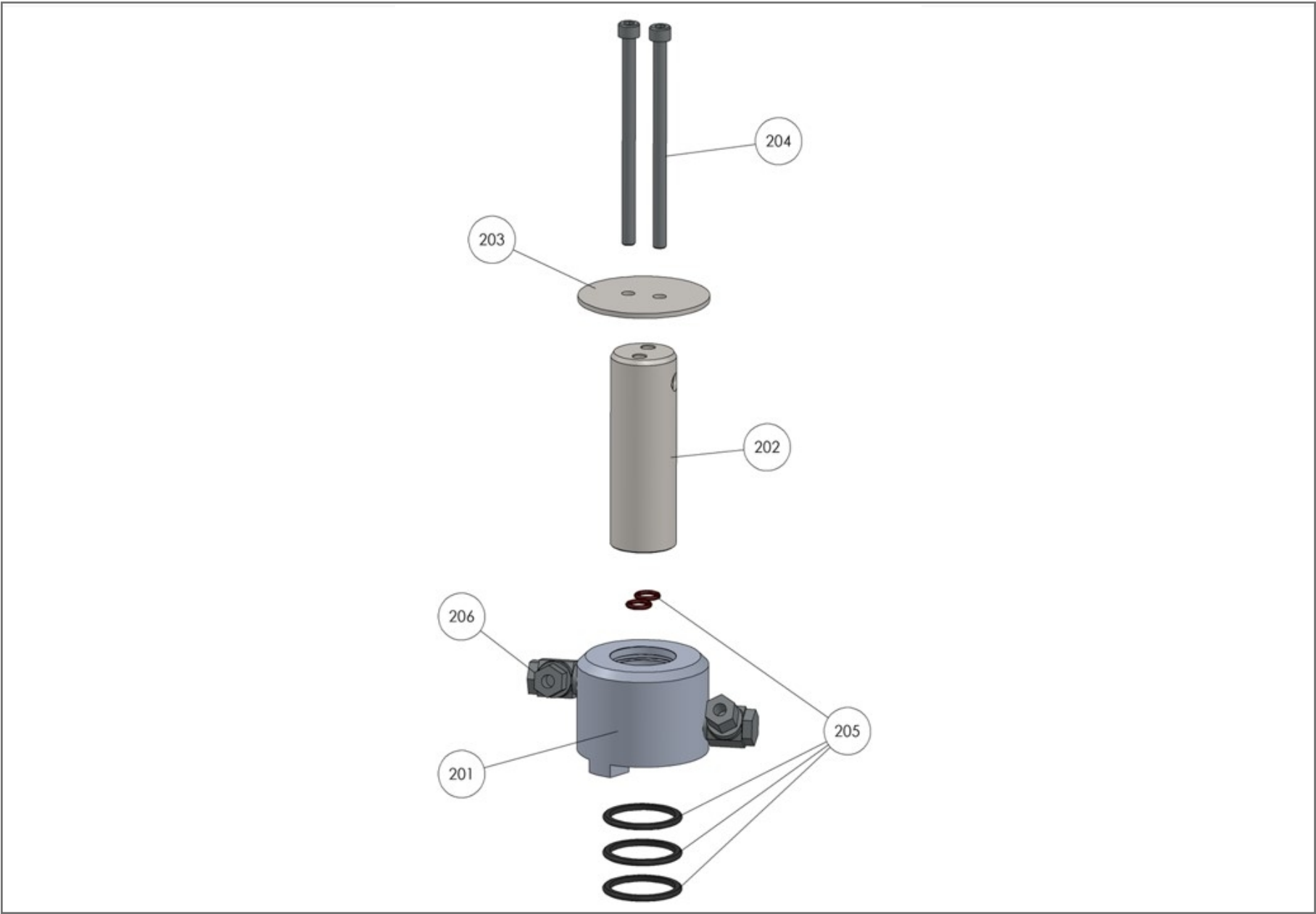
Exploded view cilinder MU450-D



Part list C.O.D. MU450-D

Part No.	Qty	Description	Order No.
201	1	C.O.D. housing	S450D.201
202	1	C.O.D. rotor	S450D.202
203	1	C.O.D. cover	S450D.203
204	1 set	Bolt set C.O.D.	S450D.204
205	1	Pressure relief cartridge	S450D.205
206	1 set	Connection nipples C.O.D. housing	S450D.206
207	1 set	Seal kit C.O.D.	S450D.207

Exploded view C.O.D. MU450-D



Torques specification



Maximum torque specified to bolts on the cutting blades and rotator of the multi grab.

Please consult this listing on diameter, pitch and metric size and maximum torque specified prior to fastening.

Bolt size	Torque (Nm)	Torque (Kgm)
	Bout 10,9	Bout 10,9
M8	40 Nm	4 Kgm
M10	80 Nm	8 Kgm
M12	130 Nm	13 Kgm
M12x1,25	110 Nm	11 Kgm
M14	200 Nm	20 Kgm
M16	300 Nm	30 Kgm
M20	600 Nm	60 Kgm
M24	1000 Nm	100 Kgm
M27	1500 Nm	150 Kgm
M30	2000 Nm	200 Kgm
M36	3600 Nm	360 Kgm
M39	4600 Nm	460 Kgm

Note, fine pitch

Technical specifications

MU450-D



		MU450-D
Weight class excavator	ton	5-8
Weight	kg	400
Operating pressure max.	bar	300
Operating pressure rotation min.	bar	190
Operating pressure rotation max.	bar	210
Oil flow max.	l/min.	50
Oil flow rotation max.	l/min.	12
Shell width	mm	600
Width opened	mm	1500
Height opened	mm	1065
Capacity	ltr	170
Closing force	Kn	24