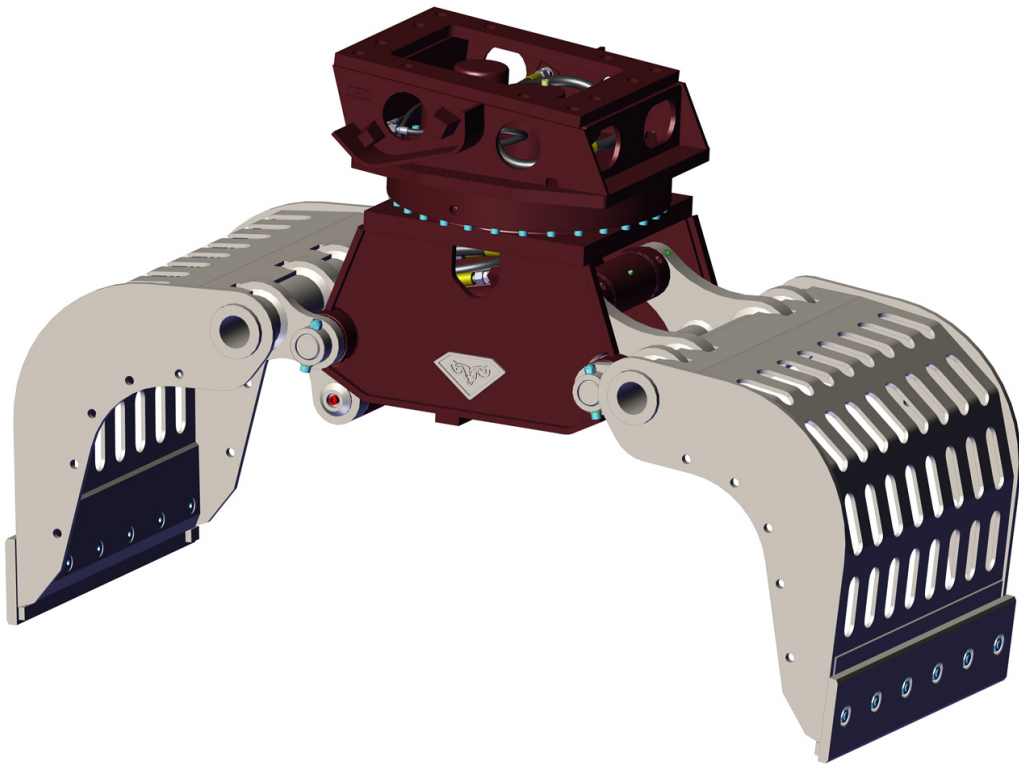


HYDRARAM[®]

DEMOLITION & RECYCLING EQUIPMENT



CE Operating and Maintenance Manual

Demolition and Sorting Grab

HDG-110R

Introduction

Dear User,

The Demolition grab is a piece of equipment for excavators. The demolition grab is available in various weights, capacities and versions and is always a fast and purpose-built demolition 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 demolition 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 demolition grab product is being used, maintained and repaired.

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

Warning

- The excavator with a demolition 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 demolition 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 Hydraram.
- Failure to replace defective parts with original parts from Hydraram will result in cessation of the entire warranty and CE liability.

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EU declaration of compliance for machines (Guideline 2006/42/EC)

Hydraram
Meander 7, 9231DB
Surhuisterveen, Nederland

Hereby declares that the demolition and sorting grabs

Type

HDG-110R

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 Hydraram, makes this declaration void and invalid.

We should draw your attention to the fact that the demolition 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

.....

Safety Regulations

The demolition 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.

Hydraram 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 Hydraram 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

Hydraram 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 the warranty.

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

Any claim made under guarantee will only be taken into consideration once a written appeal is made to the dealer or Hydraram. 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 invoice of the piece of equipment concerned.

Minor repairs can be carried out in consultation with the dealer; the necessary parts which fall under the warranty, will be delivered without charge. For larger repairs the grab should be sent to your dealer or Hydraram 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 Hydraram are not covered.

The Hydraram is not liable for consequential loss caused by a defective demolition 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, improper maintenance without expertise and transport damage.
- 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 down parts are replaced by non-original parts, the entire warranty 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 sorting grab must conform to weight and machine class of the intended excavator.
- The oil flow and the pressure for rotating the demolition 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) at 100 bar.
- The oil flow and pressure of the pinching (opening and closing) of the sorting 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 sorting 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.

Daily Maintenance

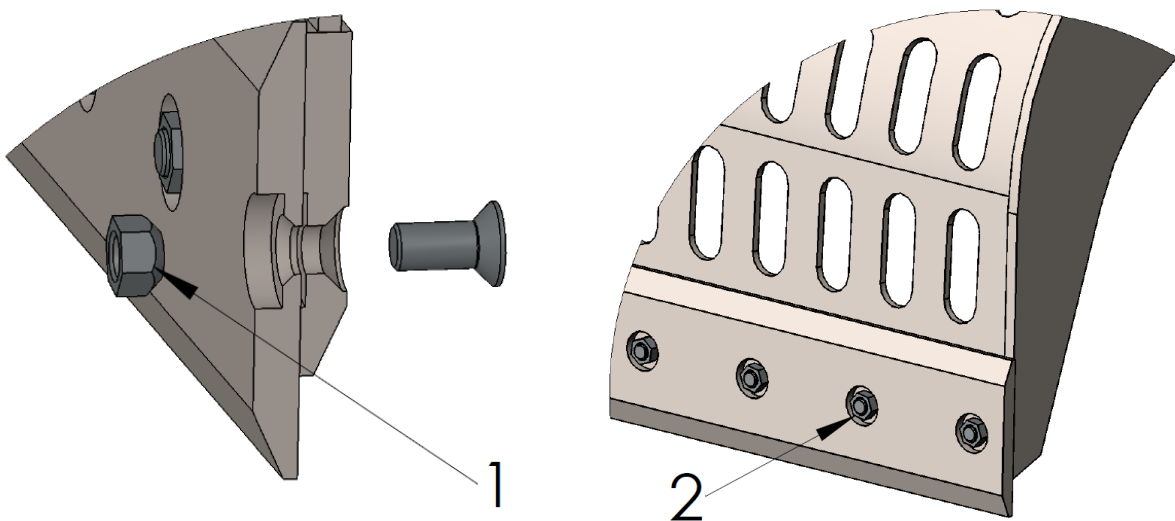
For maintenance work, always place the grab in open position on a flat and stable surface and ensure the excavator cannot move.

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 9.

When the cutting blades of the grab shells are worn down to such a degree that the grab can no longer close fully, all work should be suspended immediately and the exchangeable wear blades must be changed or replaced (Note that the wear blades also function as final stop of the cylinder—neglect or excessive wear can lead to damage).

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

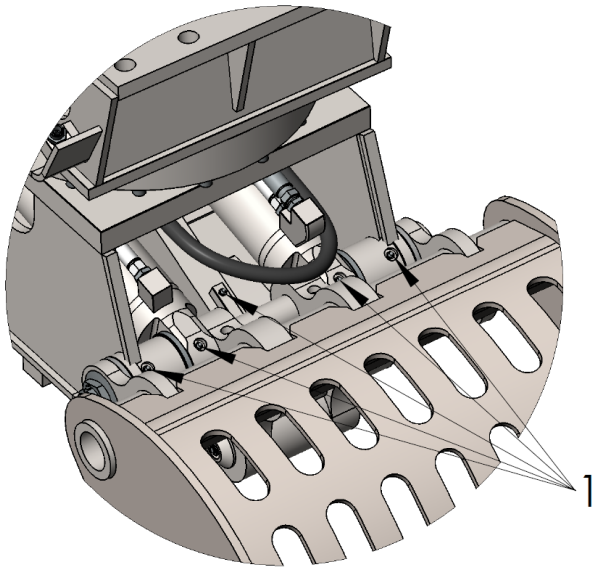


1 = Attention: fix nut with the conical side to the inside

2 = Bolts need to be tightened with a torque as shown in the table (see page 15)

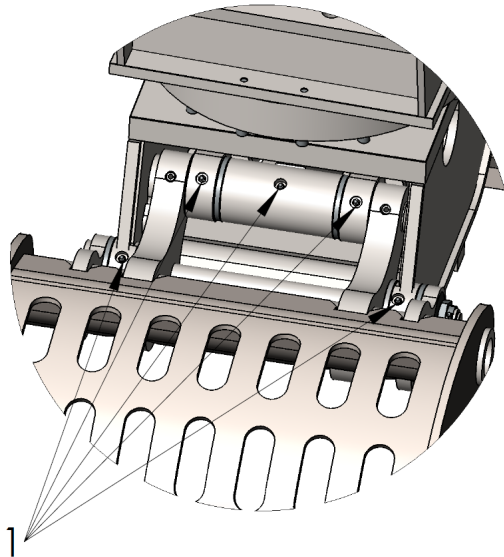
To ensure the wear blades are securely fastened to the shell it is recommended to place some additional spot welding between knives and shell base.

Lubrication Schedule



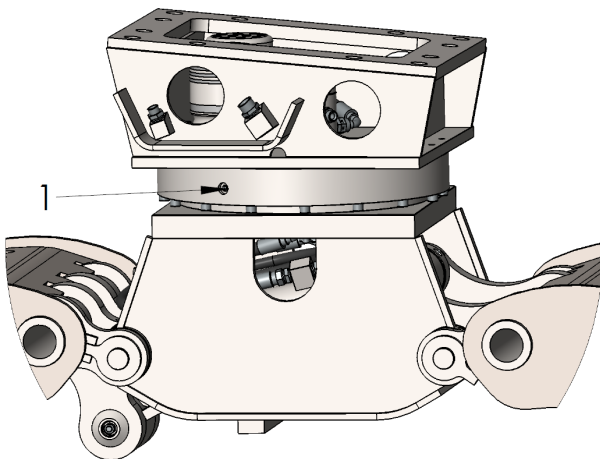
Picture 3: Lubricating pivoting points

1 = Lubricate 1 x per 8 operating hours.



Picture 4: Lubricating pivoting points

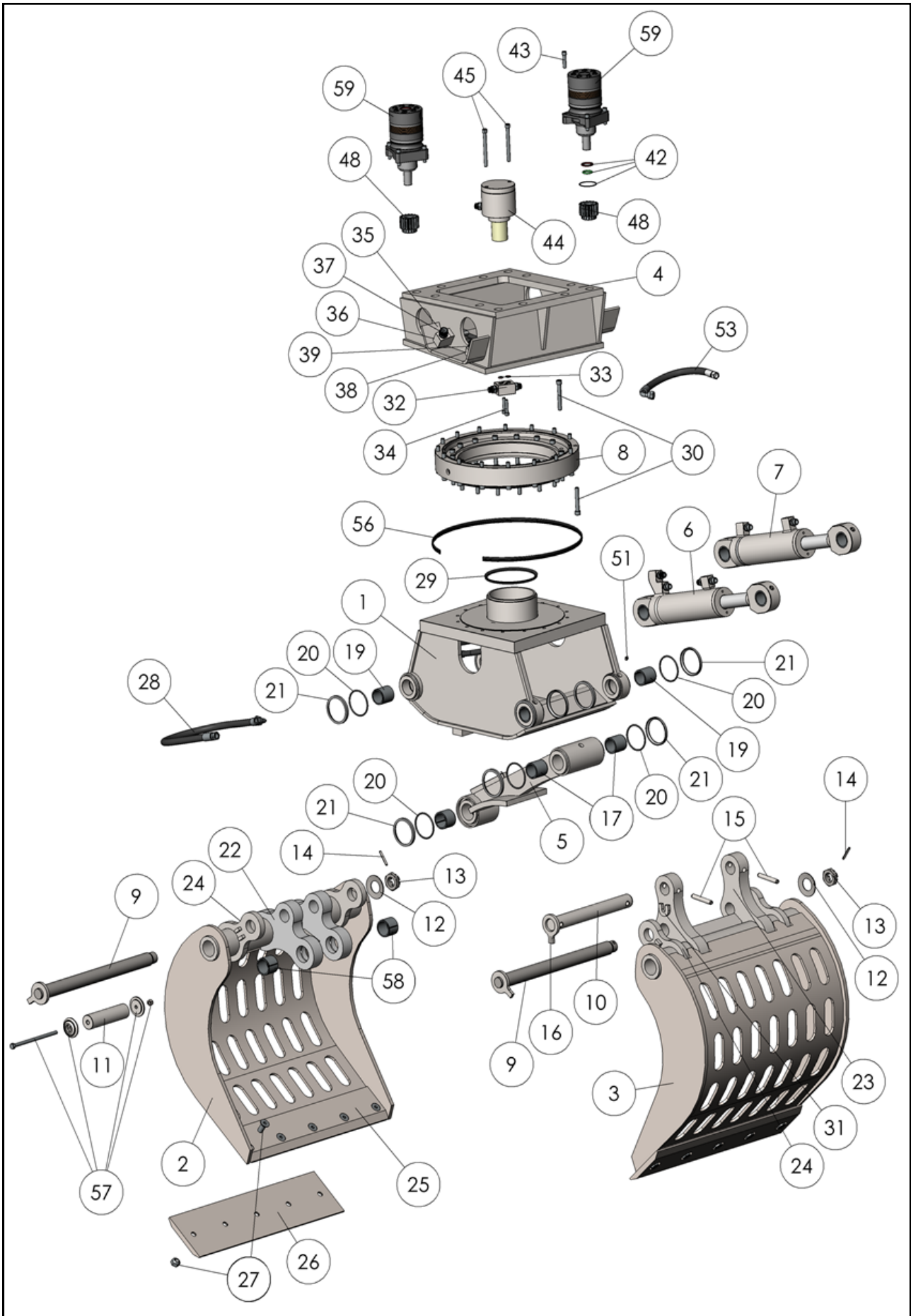
1 = Lubricate 1 x per 8 operating hours.



Picture 5: Lubricating rotator

1 = Lubricate 1 x per 8 operating hours.

Exploded View HDG-110R TOTAL



Partslist HDG-110R TOTAL

Part No.	Qty	Description	Order part No.
1	1	Welded main frame construction	S803D.001
2	1	Shell left (short lever)	S803D.002
3	1	Shell right (long lever)	S803D.003
4	1	Welded rotator frame construction	S803D.004
5	1	Welded linkage construction	S803D.005
6	1	Hydraulic cylinder right (high nipple)	S803D.006
7	1	Hydraulic cylinder left (low nipple)	S803D.007
8	1	Slewing ring	S803D.008
9	2	Main hinge pin Ø50mm	S803D.009
10	1	Linkage axis Ø50mm (top/long)	S803D.010
11	1	Linkage axis Ø50mm (under/short)	S803D.011
12	2	Disk spring	S803D.012
13	2	Castellated nut M42	S803D.013
14	2	Spline pin 8mm x 60 (secure on M42)	S803D.014
15	2	Spline pin 16mm	S803D.015
16	1	Locker plate Linkage axis top/long Ø50mm	S803D.016
17	2	Bearings linkage axis top	S803D.017
18	2	Bearings linkage axis under	S803D.018
19	4	Bearings main frame	S803D.019
20	12	O-ring Metal Seal (Ø106mm)	S803D.020
21	12	Metal Seal (Ø106mm)	S803D.021
22	2	Shell hinge short	S803D.022
23	2	Shell hinge long	S803D.023
24	4	Shell hinge support	S803D.024
25	2	Fixed blade	S803D.025
26	1 set	Exchangeable wear blades (2 pcs)	S803D.026
27	1 set	Bolt set exchangeable wear blades (for 2 blades)	S803D.027
28	1 set	Hose kit main frame (4 pcs)	S803D.028
29	1	V-ring (central ring)	S803D.029

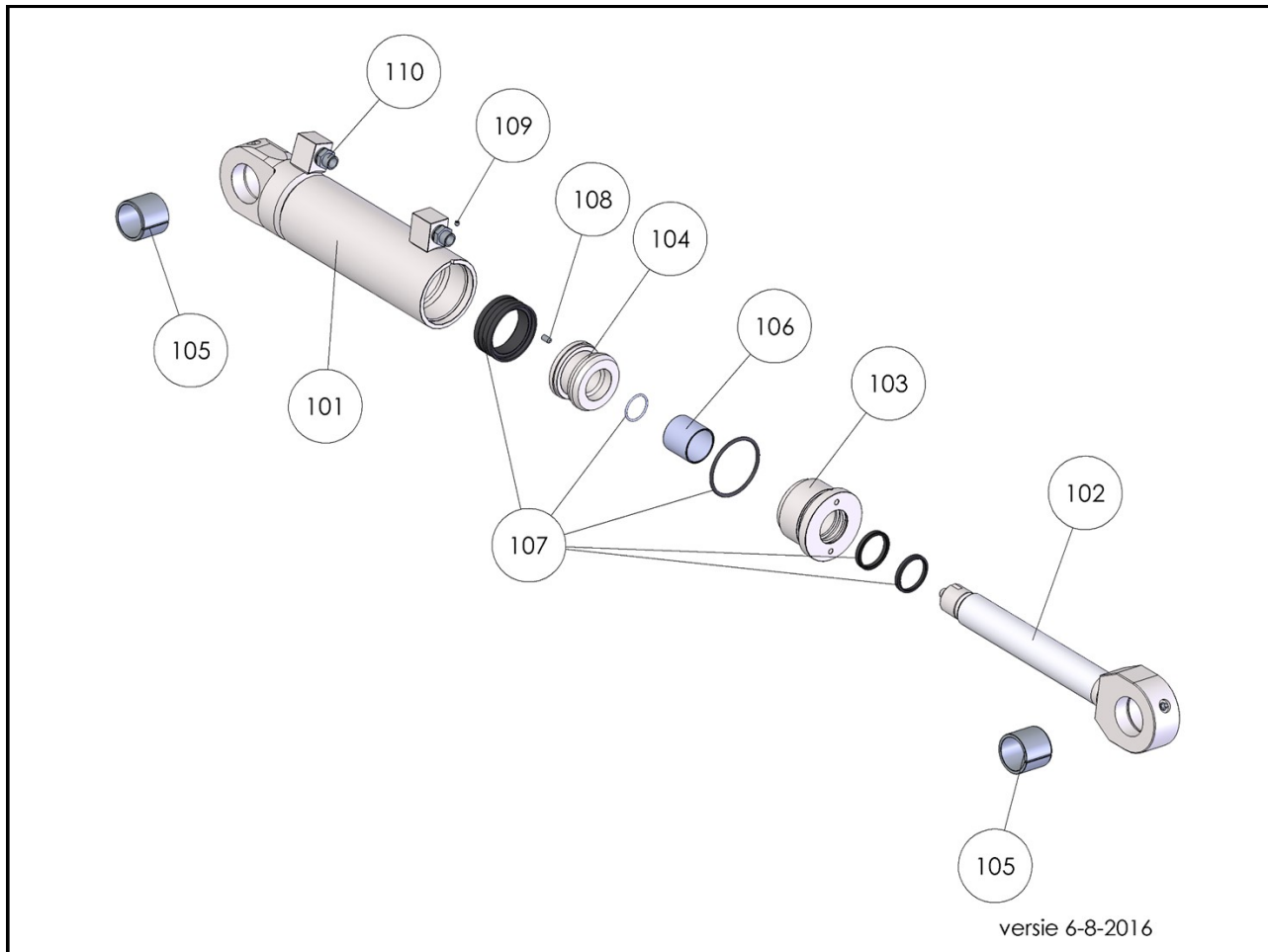
Partslist HDG-110R TOTAAL

Part No.	Qty	Description	Order part No.
30	1 set	Bolt set slewing ring	S803D.030
31	1	Locker-u	S803D.031
32	1	Connector block C.O.D.	S803D.032
33	1 set	O-ring to C.O.D. (2 pcs)	S803D.033
34	1 set	Bolt set connector block C.O.D. (2 pcs)	S803D.034
35	2	Protective cover (connection nippels)	S803D.035
36	2	Main connect block (closing/open function) 3/4"G	S803D.036
37	2	Main connect nipple (closing/open function)	S803D.037
38	2	Main connect block (rotation function) 1/2"G	S803D.038
39	2	Main connect nipple (rotation function)	S803D.039
42	1 set	Seal kit hydro motor (for 1 motor)	S803D.042
43	1 set	Bolt set hydro motor (for 2 motors)	S803D.043
44	1	C.O.D. complete	S803D.044
45	1 set	Bolt set C.O.D.	S803D.045
48	2	Gear	S803D.048
51	1 set	Lubrication nipple 1/8"G (12 pieces)	S803D.051
53	1 set	Hose kit rotating frame (6 pcs)	S803D.053
56	1	Slewing ring seal	S803D.056
57	1 set	Locker set linkage axis (under/short)	S803D.057
58	2	Bearings linkage axis '(under/short)	S803D.058
59	2	Hydro motor square flange	S803D.059
	1 set	Maintenance kit pivot points (incl. all axes, bushes etc.)	S803D.PBS

Partslist cylinder left HDG-110R

Part No.	Qty	Description	Order part No.
101	1	Cylinder housing (low connection / 2 ports)	S803D.101
102	1	Piston rod	S803D.102
103	1	Cylinder nut	S803D.103
104	1	Piston	S803D.104
105	2	Bearing cylinder housing	S803D.105
106	1	Bearing cylinder nut	S803D.106
107	1 set	Cylinder seal kit	S803D.107
108	1	Secure bolt M8 x12	S803D.108
109	1	Secure bolt M6 x 6	S803D.109
110	1 set	Cylinder nipple set (2 pcs)	S803D.110

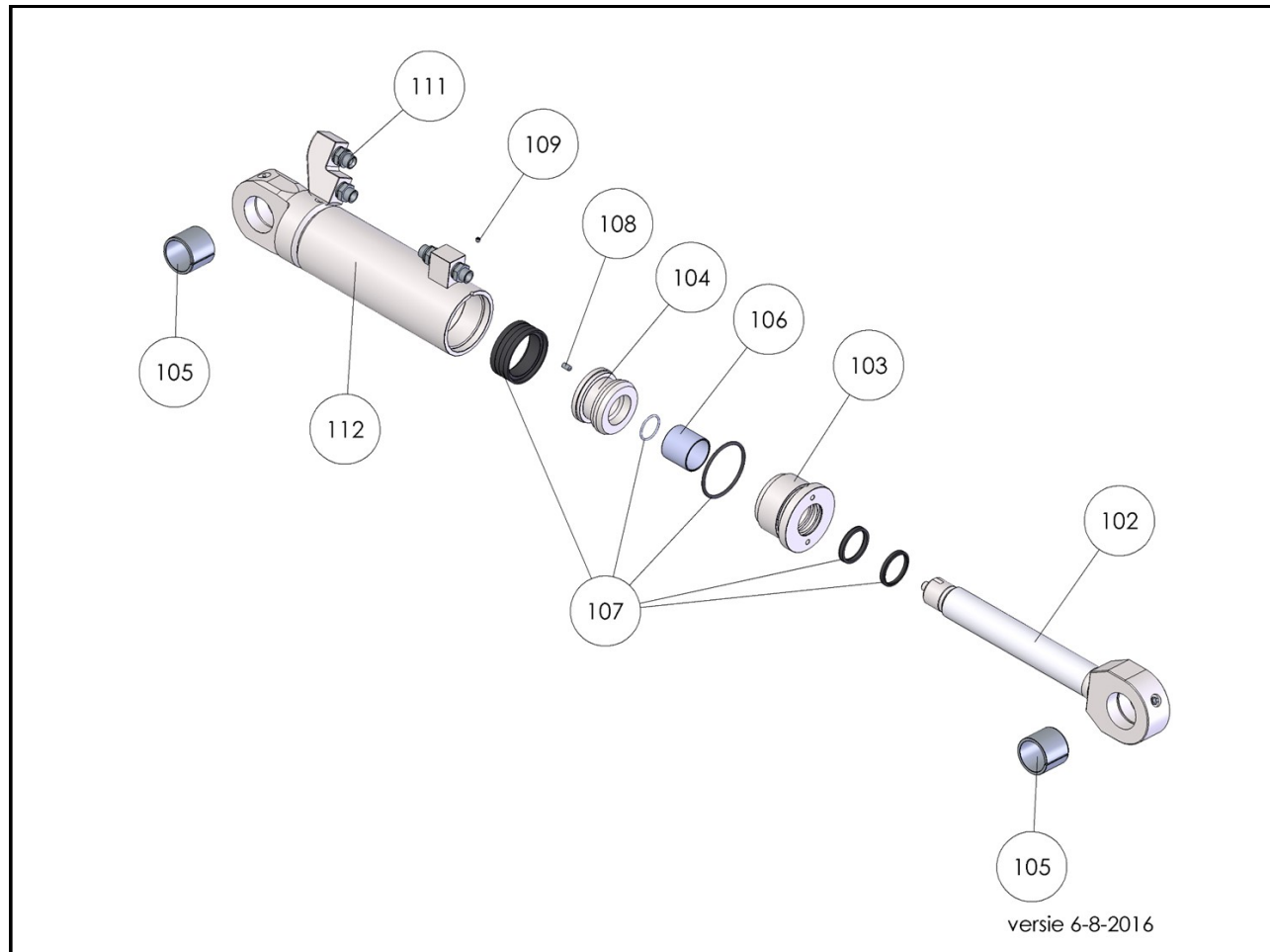
Exploded view cylinder left HDG-110R



Partslist cylinder right HDG-110R

Part No.	Qty	Description	Order part No.
112	1	Cylinder housing (high connection / 4 ports)	S803D.112
102	1	Piston rod	S803D.102
103	1	Cylinder nut	S803D.103
104	1	Piston	S803D.104
105	2	Bearing cylinder housing	S803D.105
106	1	Bearing cylinder nut	S803D.106
107	1 set	Cylinder seal kit	S803D.107
108	1	Secure bolt M8 x12	S803D.108
109	1	Secure bolt M6 x 6	S803D.109
111	1 set	Cylinder nipple set (4 pcs)	S803D.111

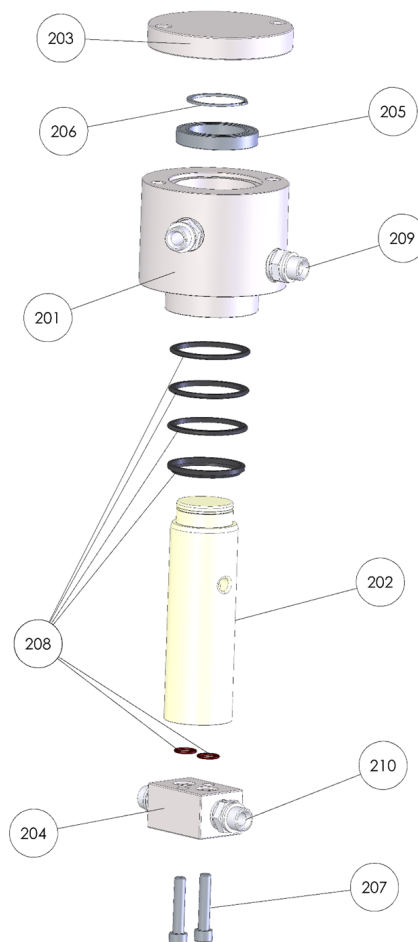
Exploded view cylinder right HDG-110R



Partslist C.O.D. HDG-110R

Part No.	Qty	Description	Order part No.
201	1	C.O.D. housing	S803D.201
202	1	C.O.D. rotor Ø60mm	S803D.202
203	1	C.O.D. cover	S803D.203
204	1	C.O.D. connection block	S803D.204
205	1	Bearing	S803D.205
206	1	Seeger circlip ring	S803D.206
207	1 set	Bolt set C.O.D. connection block (2 pcs)	S803D.207
208	1 set	Rotor seal kit C.O.D.	S803D.208
209	1 set	Connection nipples C.O.D. housing (2 pcs)	S803D.209
210	1 set	Connection nipples connection block (2 pcs)	S803D.210

Exploded view C.O.D. HDG-110R



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Torques Specification

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

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

Bolt size	Torque (Nm)	Torque (Kg/m)	
	Bolt 10,9	Bolt 10,9	
M8	40 Nm	4 Kgm	
M10	80 Nm	8 Kgm	
M12	130 Nm	13 Kgm	
M12x1,25	110 Nm	11 Kgm	Note ,fine pitch.
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	