

LABOUNTY®

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MDG

MOBILE DEMOLITION GRAPPLE

Safety, Operation & Maintenance

515933 User Manual 9/2021 Ver. 6

PREFACE

This manual contains information for the operation and maintenance of the LaBounty MDG Mobile Demolition Grapple. Read the entire manual before the initial start-up of the attachment. It is important to know the correct operating procedures of the attachment and all safety precautions to prevent the possibility of property damage and personal injury.

The LaBounty attachment has been designed and manufactured with high quality materials and care in workmanship. The instructions in this manual have been prepared to ensure that, when followed properly, the attachment will provide efficient and reliable service. Continuing product development and improvement may have caused changes in the attachment that are not reflected in this manual. If a question arises regarding the operation or maintenance of the attachment, contact a LaBounty dealer for the most current information available.

IMPORTANT

This operator's manual must accompany the attachment at all times and be readily available to the operator.

MANUAL REPLACEMENT

Should this manual become damaged, lost or additional copies are required, immediately contact any authorized LaBounty dealer. You may also download a PDF copy at www.stanleyinfrastructure.com.

REGISTRATION FORM

The Warranty Registration Form must be filled out by the dealer or customer and returned to LaBounty indicating the date the machine went into service.

POSSIBLE VARIATIONS

LaBounty cannot anticipate every possible circumstance that might involve a potential hazard, as the owner's requirements and equipment may vary. Therefore, the warnings in this publication and on the product may not be all-inclusive and you must ensure that the procedure, application, work method and operating technique is safe for you, and others, before operation.

PUBLIC NOTICE

LaBounty reserves the right to make changes and improvements to its products and technical literature at any time, without public notice or obligation. LaBounty also reserves the right to discontinue manufacturing any product at its discretion, at any time.

WARRANTY

All work or repairs to be considered for warranty reimbursement must be authorized by the LaBounty Service Department before work is started. Any alterations, modifications or repairs performed before authorization by the LaBounty Service Department will render all warranty reimbursement consideration null and void without exception. Improper operation or improperly performed maintenance may render any warranty null and void.

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SAFETY



Your safety and the safety of others is a direct result of how you operate and maintain your equipment. Read and understand this manual and other safety information provided with the base machine and be sure that you understand all controls and operating instructions before attempting to operate this equipment. Failure to follow the safety precautions can result in personal injury, death or property damage.

Carefully read all safety messages in this manual and on your equipment safety decals to reduce the risk of injury. Keep safety decals in good condition. Replace missing or damaged safety decals. Failure to follow the warnings and instructions may result in serious injury or damage to the tool.

Because LaBounty cannot foresee all hazardous circumstances, the precautions listed in this manual and on the equipment are not all-inclusive. If a procedure, method, tool or part is not specifically recommended by LaBounty, determine whether it is safe for you and others, and that the equipment will not be damaged or made unsafe as a result of your decision to implement it.

The basic rules are summarized in this section of the manual. They also appear throughout the manual along with additional specific rules for safety and operation.



DANGER



M004
Wear Eye
Protection



M003
Wear Ear
Protection



M016
Wear a Mask

- NEVER operate equipment without the original safety guards in place.
 - Ensure that the cab is equipped with the proper safety guards for LaBounty applications. The cab MUST be equipped with an approved Falling Object Protection Structure (FOPS). The FOPS must meet the requirements of SAE standard J1356. A transparent, shatter-resistant shield covering the front of the cab, is also required. Contact your base machine equipment dealer or manufacturer for more information on the availability of FOPS. Lack of proper FOPS may result in injury or death.
 - NEVER operate the excavator without a proper restraint (seat belt) system in place. Doing so can create loss of control or ejection from cab.
 - NEVER operate the equipment while under the influence of drugs, alcohol or other substances that inhibit mental abilities or reaction time.
 - DO NOT process material with the attachment over the operator's cab. Doing so will result in severe personal injury or death from falling debris.
 - NEVER remove any pins unless the attachment is on the ground and blocked up, or serious injury or death could result. Metal chips or debris may fly when a connecting pin is struck. Use a brass drift when striking pins and always wear protective clothing and proper eye protection.
 - Clear all persons and equipment from the area of operation and machine movement. NEVER move loads over people or equipment. When viewing the operation of the attachment, maintain a safe distance of at least 75 feet (23 meters).
 - NEVER approach power lines with any part of the machine. Keep clear at a minimum of 50 feet (16 meters).
 - DO NOT close the attachment on a structure and reverse the excavator in an attempt to pull down material.
 - Avoid tipping. The attachment will alter the lift capacities of the base machine. DO NOT overload the excavator or serious injury could result. Lift capacities will vary if the base machine is not on level ground. Lifting incorrectly can cause severe injury or machine damage. Use the recommended excavator counterweight. Use short slings and lift the load only
- Wear personal protection equipment. This includes eye protection, hard hat, steel toe shoes, gloves, hearing protection and respirator.
 - Use PPE that conforms to standards ANSI Z87.1 (Eye and Face Protection), ANSI Z89.1 (Head Protection) and ANSI Z41.1 (Foot Protection).
 - If the attachment is not functioning properly, shut down the machine, follow proper lockout / tag out procedures and follow proper repair procedures.

as high as necessary.

- Use of this tool on certain materials could generate dust potentially containing a variety of hazardous substances, such as, asbestos, silica or lead. Inhalation of dust containing these, or other hazardous substances could result in serious injury, cancer or death. Protect yourself and those around you. Research and understand the materials you are processing. Follow safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them. If appropriate, arrange for the safe disposal of the materials by a qualified person.
- NEVER modify or mount the attachment to a carrier other than the one it was originally designed for. Rotation component failure may result, causing the attachment to fall to the ground.
- Remove all hydraulic and electrical power from the excavator before installing or maintaining the attachment.



- ALWAYS lower the boom to the ground before leaving the cab. If it is necessary to work on an attachment off the ground, securely support the machine and attachment. DO NOT support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. DO NOT rely on a cylinder to hold the attachment in the air. DO NOT work under a machine that is supported only by a jack.
- DO NOT let hot hydraulic oil come in contact with the skin, as it could cause severe burns. Wear adequate protective clothing and safety equipment. DO NOT tamper with any hydraulic line or component while it is pressurized. Escaping fluid under pressure can penetrate the skin, causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluid under high pressure. Use a piece of cardboard to search for leaks. If ANY fluid is injected into the skin, seek immediate medical assistance.
- Use protective clothing and safety devices appropriate for the working conditions at all times when viewing, operating or maintaining the attachment. These may include, but are not limited to, close-fitting clothing, eye protection, hard hat, steel toe shoes, gloves, hearing protection and respirator

protection

- Keep clear of all potential pinch points, including the moving grapple halves, cylinder connections, bucket linkages and other moving parts.
- DO NOT weld on any structural member unless specifically authorized by LaBounty. Any unauthorized welding or welding procedures will void the warranty, and may cause structural failure or result in personal injury.
- Check ground conditions. Avoid unstable or slippery areas. Position the excavator on firm, level ground. If level ground is not possible, position the excavator to use the attachment from the front or back. Avoid working over the side of the excavator.
- Never leave equipment unattended with the engine running or with the attachment in a raised position.
- Do not operate poorly maintained or otherwise faulty equipment. Inform the proper authority and DO NOT operate until fixed.

DECLARATION OF CONFORMITY

LABOUNTY

STANLEY
Hydraulic Tools

EC DECLARATION OF CONFORMITY
EG KONFORMITÄTSERKLARUNG
DECLARATION CE DE CONFORMITE
DECLARATION CE DE CONFORMIDAD
DICHIARAZIONE CE DI CONFORMITA



We: **Stanley Hydraulic Tools/LaBounty**
Wir: **1538 Highway 2, Two Harbors, MN 55616, USA**
Je soussigné:
El abajo firmante:
Io sottoscritto:

hereby declare that the machine specified hereunder:
bestätige hiermit, dass die nachfolgend beschriebene Maschine:
déclare que l'équipement visé ci-dessous:
Por la presente declaro que el equipo se especifica a continuación:
Dichiaro che le apparecchiature specificate di seguito:

1. Category: **Excavator Mounted Demolition Grapple**
Kategorie:
Catégorie:
Categoria:
Categoria:
2. Make/Marke/Marque/Marca/Marca **LaBounty / Stanley**
3. Type/Typ/Type/Tipo/Tipo: **MDG70, MDG140, MDG160, MDG250, MDG310, MDG400**
4. Serial number of equipment:
Seriennummer des Geräts:
Numéro de série de l'équipement:
Numero de serie del equipo:
Matricola dell'attrezzatura:
- SN: MDG**

Has been manufactured in conformity with
Wurde hergestellt in Übereinstimmung mit
Est fabriqué conformément
Ha sido fabricado de acuerdo con
E' stata costruita in conformità con

Directive/Standards Richtlinie/Standards Directives/Normes Directriz/Los Normas Direttiva/Norme	No. Nr Numéro No n.	Details:
EN Machinery Directive	12100:2010 2006/42/EC:	This Directive applies to Interchangeable Machinery. 'Interchangeable equipment' means a device which, after the putting into service of Machinery or of a tractor, is assembled with that machinery or tractor by the operator himself in order to change its function or attribute a new function,

5. Special Provision: For compilation of the technical file the person listed under No. 6 is responsible.
Spezielle Bestimmungen: Für die Zusammenstellung der technischen Unterlagen ist die unter Nr.6 genannte Person verantwortlich
Dispositions particulières: Pour la compilation du dossier technique de la personne inscrite sous le n° 6 est responsable
Provisiones especiales: Para la compilación del expediente técnico a la persona que aparece bajo el N° 6 es responsable
Disposizioni speciali: Per la compilazione della scheda tecnica della persona elencato sotto No. 6 è responsabile
6. Representative in the Union: **Patrick Vervier, Stanley Dubuis 17-19, rue Jules Berthonneau-BP 3406 41034 Blois Cedex, France.**
Vertreter in der Union/Représentant dans l'union/Representante en la Union/Rappresentante presso l'Unione

Done at/Ort/Fait à/Dado en/Fatto a: **Stanley Hydraulic Tools/LaBounty, 1538 Highway 2, Two Harbors, Minnesota, USA 55616**

Date/Datum/le/Fecha/Data:

23 JUNE 2021

Name and Signature/Name und Unterschrift/Signature/Firma/Firma Michael W. Kaczowski

Position/Position/Fonction/Cargo/Posizione **Operations Manager**

LABOUNTY

UKCA DECLARATION OF CONFORMITY

STANLEY
Hydraulic Tools

**UK
CA**

We: **Stanley Hydraulic Tools/LaBounty**
Wir: **1538 Highway 2, Two Harbors, MN 55616, USA**
Je soussigné:
El abajo firmante:
Io sottoscritto:

hereby declare that the machine specified hereunder:
bestätige hiermit, dass die nachfolgend beschriebene Maschine:
déclare que l'équipement visé ci-dessous:
Por la presente declaro que el equipo se especifica a continuación:
Dichiaro che le apparecchiature specificate di seguito:

1. Category: **Excavator Mounted Demolition Grapple**
Kategorie:
Catégorie:
Categoria:
Categoria:
2. Make/Marke/Marque/Marca/Marca **LaBounty / Stanley**
3. Type/Typ/Type/Tipo/Tipo: **MDG70, MDG140, MDG160, MDG250, MDG310, MDG400**
4. Serial number of equipment:
Seriennummer des Geräts:
Numéro de série de l'équipement:
Numero de serie del equipo:
Matricola dell'attrezzatura:
- SN: MDG**

Has been manufactured in conformity with
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Directive/Standards Richtlinie/Standards Directives/Normes Directriz/Los Normas Direttiva/Norme	No. Nr Numéro No n.	Details:
EN Directive	12100:2010 S.I. 2012/1697	

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Vertreter in der Union/Représentant dans l'union/Representante en la Union/Rappresentante presso l'Unione

Done at/Ort/Fait à/Dado en/Fatto a: **Stanley Hydraulic Tools/LaBounty, 1538 Highway 2, Two Harbors, Minnesota, USA 55616**

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23 JUNE 2021

Name and Signature/Name und Unterschrift/Signature/Firma/Firma Michael W. Kaczrowski


Position/Position/Fonction/Cargo/Posizione

Operations Manager

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DECALS & TERMS

STANLEY  Made in the U.S.A. with Global Materials	1538 Highway 2 Two Harbors, MN 55616 tel: 1-800-522-5059 fax: 218-834-3879 www.stanleyhydraulics.com
Attachment Model:	
Serial Number:	
Year of Manufacture:	
Weight:	

Serial Number Plate

P/N: 511045

FIGURE 1



Pressure Relief
Warning Decal

P/N: 512572

FIGURE 2



Cab Guard Decal

P/N: 503647

FIGURE 3

LEFT JAW
SHELL

WEAR BLADE



LaBounty Logo Decal

FIGURE 4

ROTATING HEAD

DANGER
 Keep 30 feet (10m)
away during operation

Safe Distance Decal
P/N: 503708

FIGURE 7

RIGHT JAW
SHELL

GREASE →

Grease Decal
(At each fitting)

P/N: 116388

FIGURE 6

SAFETY FIRST

Read the Safety, Operation and Maintenance Manual before operating or servicing the equipment.

Keep the manual with the attachment so it is available for reference.

Safety First Decal
(Included w/ manuals)

P/N: 503590

FIGURE 5

INSTALLATION

Each MDG is shipped with a custom mounting bracket. Refer to the Parts Manual shipped with the attachment for specific installation information.

1. Locate flat, hard ground (e.g., concrete floor) for installation. Lift and place the attachment on the ground. Use blocking if necessary.
2. Remove the excavator bucket. Follow the manufacturer's recommended procedure.

Note: Plug hydraulic hoses to prevent contamination.

3. Install MDG, using the custom mounting bracket, to the excavator arm.

HYDRAULIC INSTALLATION



**DO NOT connect hydraulic lines while they are pressurized.
Escaping fluid under pressure can penetrate the skin, causing
serious injury.**

HYDRAULIC CIRCUIT REQUIREMENTS

Model	Jaw Cycle Circuit (Max)	Rotation Circuit (Max)
MDG 70	13 GPM (50 LPM) 4,350 PSI (300 Bar)	3 GPM (12 LPM) 2,755-3,045 PSI (190-210 Bar)
MDG 140	26 GPM (99 LPM) 5,075 PSI (350 Bar)	7 GPM (27 LPM) 2,755-3,045 PSI (190-210 Bar)
MDG 160	32 GPM (122 LPM) 5,070 PSI (350 Bar)	7 GPM (27 LPM) 2,755-3,045 PSI (190-210 Bar)
MDG 250	42 GPM (159 LPM) 5,070 PSI (350 Bar)	9 GPM (35 LPM) 2,755-3,045 PSI (190-210 Bar)
MDG 310	48 GPM (182 LPM) 5,070 PSI (350 Bar)	9 GPM (35 LPM) 2,755-3,045 PSI (190-210 Bar)
MDG 400	53 GPM (201 LPM) 5,070 PSI (350 Bar)	9 GPM (35 LPM) 2,755-3,045 PSI (190-210 Bar)

1. Connect the hydraulic hoses to the connections located on the rotating head.
2. Torque all hydraulic fittings using the table below.

ORFS Size	Hex Nut Size	Torque
-8 (0.5 in / 12.7 mm)	15/16 in (28.8 mm)	52 Ft-Lbs (95 Nm)
-16 (1 in / 25.4 mm)	1-5/8 in (41.3 mm)	200 Ft-Lbs (271 Nm)

WARNING

Do not check for hydraulic leaks with your hands. Hydraulic oil could inject into the skin. Seek immediate medical attention if an injection injury occurs

3. Visually check for hydraulic oil leaks or hydraulic hose interference.

Note: Hydraulics will need to be bled before putting into service (see "Bleed the Hydraulic Circuit" on page 12).

REMOVING MDG FROM THE EXCAVATOR

1. Curl the attachment under the boom of the excavator and use blocking to support it.

WARNING

Trapped hydraulic pressure may be present after the base machine is shut off. Extreme caution must be taken when removing hydraulic hoses or injury or death could result.

2. Carefully remove the hydraulic connections.

Note: Plug hydraulic hoses to prevent contamination.

WARNING

Disassembly of any pin-connected attachment can be hazardous. Never remove any pins unless MDG is on the ground and blocked up. Serious injury could result.

3. Remove MDG from the mounting bracket (see Parts Manual for details on the custom mounting bracket).

STORING MDG

1. Securely block the attachment off the ground using wood blocking.
2. Plug all open hydraulic ports.
3. Grease MDG as described in "Lubrication" on page 15.

OPERATION

BEFORE YOU START

Know Your Safety Program

- Read and understand this manual and the base machine manual.
- Know the employer's safety rules. Consult your foreman for instructions and safety equipment.
- Learn the traffic rules at the work site. Know the hand signals used on the job and who is responsible for signaling. Take signals from only **ONE** person.
- Wear personal protection equipment. This includes eye protection, hard hat, steel toe shoes, gloves, hearing protection and respirator.



M004
Wear Eye
Protection



M003
Wear Ear
Protection



M016
Wear a Mask

Know Your Equipment

- Learn and test the function of all controls. If malfunctions are found, shut the machine down and report the malfunction for repair.
- Be familiar with safety devices, indicators, warning devices and caution instructions. They will alert you to conditions that are hazardous.
- Know the clearances in the work area.

Daily Safety Checks

- Ensure all decals are installed and legible. Contact LaBounty for replacements as required.
- Have a **DAILY** safety dialog with all workers. Inform them of any abnormal work that is planned. Remind them of the safe working distance.
- Clear the area. **ALWAYS** look out for others. In any work area, people constitute a serious safety hazard. Before operating, walk around the machine to ensure no workers are next to, under or on it. Warn nearby workers that you are starting up. **DO NOT** start up until they are out of danger.
- Check the location of cables, gas lines and water mains before operation. Ensure work site footing has sufficient strength to support the machine. When working close to an excavation, position machine with the propel motors at the rear.
- Keep bystanders clear, especially before moving the boom, swinging the upper structure, or traveling. **ALWAYS** be alert for bystanders in or near the operating area.

SAFETY DEVICES

- | | |
|--|-------------------------------------|
| • Seat belts | • Canopies |
| • Safety decals | • Shields and guards |
| • Flags and flares | • Barricades |
| • Signs and other markings | • Warning lights |
| • Falling Objects Protective Structures (FOPS) | • Visual or audible warning devices |

General Rules For Safe Operation

- **KNOW** the capacity of the excavator and it's attachments. **DO NOT** overload or serious injury could result. The attachment may have altered the machine's lift capabilities.
- MDG is for sorting materials. **DO NOT** use for unapproved purposes or warranty may be voided.
- If MDG stalls during processing, scale back the amount of material being processed at one time. Overloading can cause overheating and has adverse effects on the hydraulic system.
- Cycle the MDG cylinder completely when processing. Fully cycling MDG will allow hydraulic fluid to circulate and prevents overheating.
- Maintain a safe distance.
- **NEVER** leave MDG suspended or pass it over people, occupied vehicles or buildings.
- When working in confined spaces, keep watch on exposed parts, such as cylinder rods and hoses, to avoid damage.
- Maintain at least 50 feet (15 meters) between MDG and any nearby power lines.
- **ALWAYS** lower MDG to the ground and turn the base machine off when leaving the machine unattended.
- **DO NOT** close the jaws on a structure and reverse the excavator in an attempt to pull down material. This is dangerous and will damage the excavator and the attachment.
- **DO NOT** alter factory preset hydraulics. This may void the warranty.
- **DO NOT** shear high tensile steel, such as railroad rail, spring steel, axles and some types of wire. Jaw damage will result. This type of material breaks when processed and can become a projectile which could cause injury or death.
- Ensure the connecting pins between the excavator and the MDG are secured, as well as the wedge and the security pin of the quick release hitch system.

TECHNICAL SPECIFICATIONS

Model	Min. Excavator Weight	MDG Weight	Jaw Width	Jaw Opening	Jaw Capacity
MDG 70	11,000 Lbs 5 mTons	900 Lbs 400 Kg	28 in 710 mm	59 in 1,500 mm	0.3 yds ³ 0.2 m ³
MDG 140	22,000 Lbs 10 mTons	1,900 Lbs 900 Kg	31 in 790 mm	71 in 1,800 mm	0.5 yds ³ 0.4 m ³
MDG 160	29,000 Lbs 13 mTons	2,400 Lbs 1,100 Kg	35 in 890 mm	77 in 1,960 mm	0.8 yds ³ 0.6 m ³
MDG 250	37,000 Lbs 17 mTons	3,300 Lbs 1,500 Kg	39 in 990 mm	83 in 2,110 mm	1.0 yd ³ 0.8 m ³
MDG 310	55,000 Lbs 25 mTons	4,200 Lbs 1,900 Kg	47 in 1,190 mm	87 in 2,210 mm	1.2 yds ³ 0.9 m ³
MDG 400	66,000 Lbs 30 mTons	6,000 Lbs 2,700 Kg	54 in 1,370 mm	87 in 2,210 mm	1.4 yds ³ 1.1 m ³

CONTROLS

Excavator Control	MDG Action
Auxiliary Control	Opens/Closes Jaws

MDG uses two auxiliary hydraulic circuits. Consult your distributor for excavator specific installation information.

BLEED THE HYDRAULIC CIRCUIT

Air must be bled out of the hydraulic circuit prior to operation. Air in the system leads to cavitation, oxidation of the oil and excessive heat. These conditions promote hydraulic oil break-down, contamination, noise, sluggish operation, reduced component life and potential cylinder damage.

1. Start with MDG in the vertical position.
2. Set the excavator at idle speed.
3. Slowly open the jaws until a noticeable change in tone of the excavator is heard, indicating a full cylinder. Release the controls and do not continue to apply full operating pressure to the cylinder.
4. Slowly close the jaws until the cylinder rod is extended approximately 1/4 stroke.
5. Open the jaws to retract the cylinder all the way.
6. Repeat steps 3 and 4. Extend the cylinder a quarter stroke more each time, until you reach full stroke.
7. Slowly cycle back and forth, at least five times, to full stroke. Be careful not to apply full operating pressure to the cylinder at this time.
8. Check the base machine hydraulic fluid level and fill if

necessary.

9. Slowly extend and retract the excavator cylinder to it's limits. Check for interference between the attachment and the excavator boom or stick. Check the hydraulic lines that connect to the attachment. Ensure they are not rubbing or becoming damaged in any way. Contact your dealer immediately if interference occurs.

OPERATING TIPS

- When handling materials, keep the load as close to the base machine as safely possible. This will provide the greatest machine stability.
- Avoid handling long, heavy materials off center.
- Keep the attachment properly maintained. Lack of maintenance can lead to greater problems and potential downtime.

MAINTENANCE

DAILY BEFORE USE INSPECTION CHECKLIST

Inspect the attachment

- _____ Inspect the hydraulic system for proper fluid level and fluid leaks (see "Hydraulic Inspection" on page 14).
- _____ Inspect all bolts for damage (see "Inspect / Torque Bolts" on page 14).
- _____ Inspect the Wear Blades and replace if necessary (see "Replace Wear Blades" on page 14).
- _____ Lubricate (see "Lubrication" on page 15).

8-HOUR INSPECTION CHECKLIST

Inspect all safety devices

- _____ Ensure all safety decals are in place and legible (see "Decals & Terms" on page 8).
- _____ Ensure cab protection is in good condition and that excavator audible and visual warning systems are working.

Visually inspect for damage

- _____ Check for physical damage to the attachment, jaws, hoses and fittings.
- _____ Check for damage to the wear blades.

Lubricate all points

- _____ Lubricate (see "Lubrication" on page 15).

Inspect connecting pins and retaining hardware

- _____ Stick pivot and linkage pins.
- _____ Front and rear cylinder pins.
- _____ Pinheads and stops.

Inspect bolts and hydraulic fittings

- _____ Inspect all bolts and fittings. Torque or replace if necessary (see "Inspect / Torque Bolts" on page 14).

Inspected By: _____ Date: _____

HYDRAULIC INSPECTION

CAUTION

Wear personal protection equipment at all times. This includes eye protection, hard hat, steel toe shoes, leather gloves and hearing protection.

1. Locate flat, hard ground and place the attachment on the ground.
2. Check the hydraulic oil reservoir and ensure it is filled.
3. Visually inspect all hydraulic hoses for leaks or damage.

WARNING

Trapped hydraulic pressure may be present after the base machine is shut off. Extreme caution must be taken when removing hydraulic hoses or injury or death could result.

INSPECT / TORQUE BOLTS

Inspect all bolts for damage. Check the torque of all bolts and replace any bolt that is damaged or has been re-torqued more than once. Always use replacement bolts of the same size and class as the one removed. Unless otherwise specified, use class 10.9 metric hex head cap screws, class 10.9 metric flat head cap screws and class 12.9 metric socket head cap screws. When installing new bolts, ensure that the bolt is clean and dry.

Note: Some bolts have unique torque specifications. Refer to the parts manual.

WARNING

Never use an inferior class fastener. Fastener failure can cause damage, injury or death.

NOTICE

Replace Rotation bolts after 1500 hrs / 2 years.
You may need to rotate MDG to access bolts.

Size	Torque
M8	30 Ft/Lbs (40 Nm)
M10	59 Ft/Lbs (80 Nm)
M12	96 Ft/Lbs (130 Nm)
M12 x 1.25 (Fine Pitch)	81 Ft/Lbs (110 Nm)
M14	148 Ft/Lbs (200 Nm)
M16	221 Ft/Lbs (300 Nm)
M20	443 Ft/Lbs (600 Nm)
M24	738 Ft/Lbs (1,000 Nm)
M27	1,106 Ft/Lbs (1,500 Nm)
M30	1,475 Ft/Lbs (2,000 Nm)
M36	2,655 Ft/Lbs (3,600 Nm)
M39	3,393 Ft/Lbs (4,600 Nm)

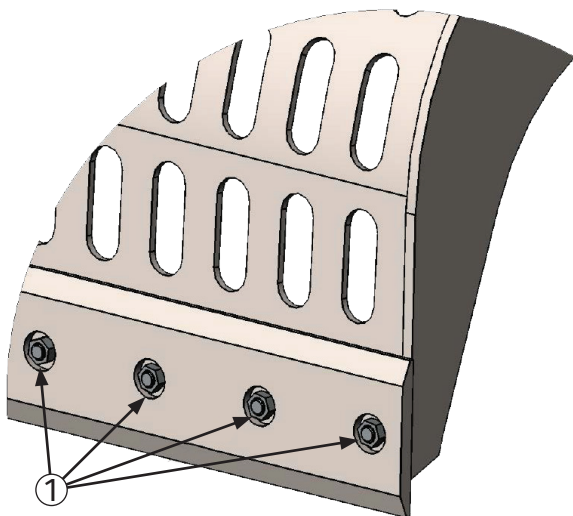
REPLACE WEAR BLADES

When the cutting blades of the jaw shells are worn down to such a degree that the grapple can no longer close fully, all work should be suspended immediately and the exchangeable wear blades must be replaced.

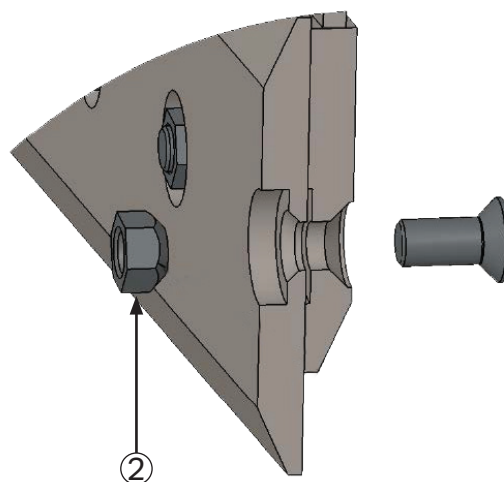
Note: The wear blades also function as a final stop for the cylinder. Neglect or excessive wear can lead to damage.

1. Remove the bolts and nuts that connect each wear blade to the MDG ("Figure 8" on page 15). Discard the used blades and fasteners.
2. Attach a wear blade to each jaw of the MDG. Ensure that the conical side of the nuts are facing towards the jaw when securing each screw, as shown in "Figure 9" on page 15.
3. Torque the nuts using the bolt torque table on page 14.
4. To ensure the wear blades are securely fastened to the shell, it is recommended to place some additional spot welding between the blades and jaw.
5. Cover the welded area with a heat shield and allow to cool completely.

LUBRICATION

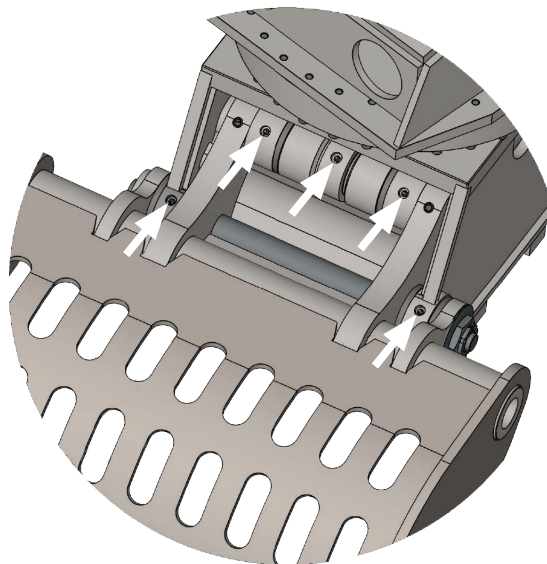
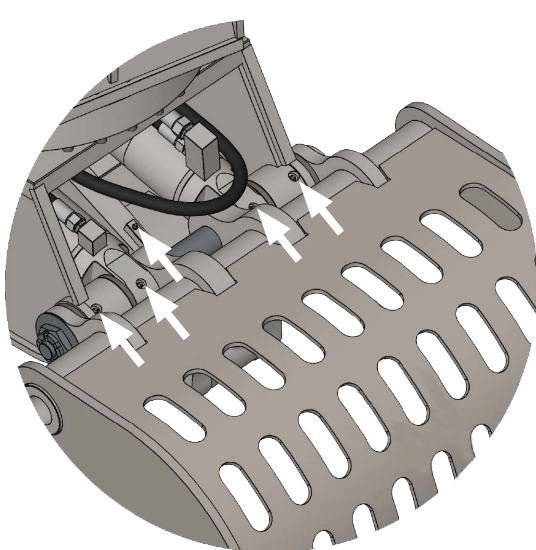


Wear Blade Hardware
FIGURE 8



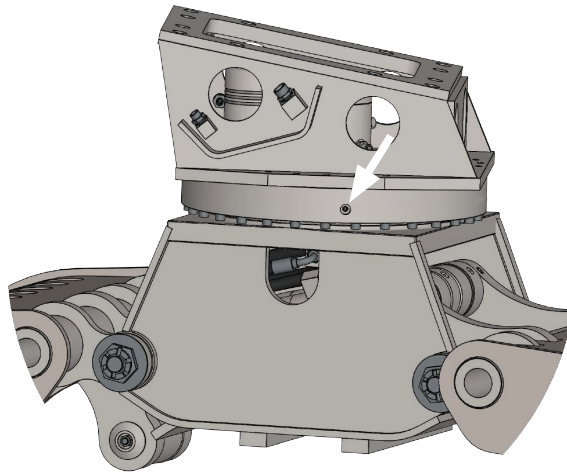
Wear Blade Conical
Nut Orientation
FIGURE 9

Use premium grease, No. 2EP. Grease fittings are indicated on the attachment by yellow "GREASE" decals. Grease each fitting with .3 oz (8 g) of grease. This is about 6 shots of grease from an average grease gun. Grease the attachment every 8 hours.



Jaw Lubrication
Locations
FIGURE 10

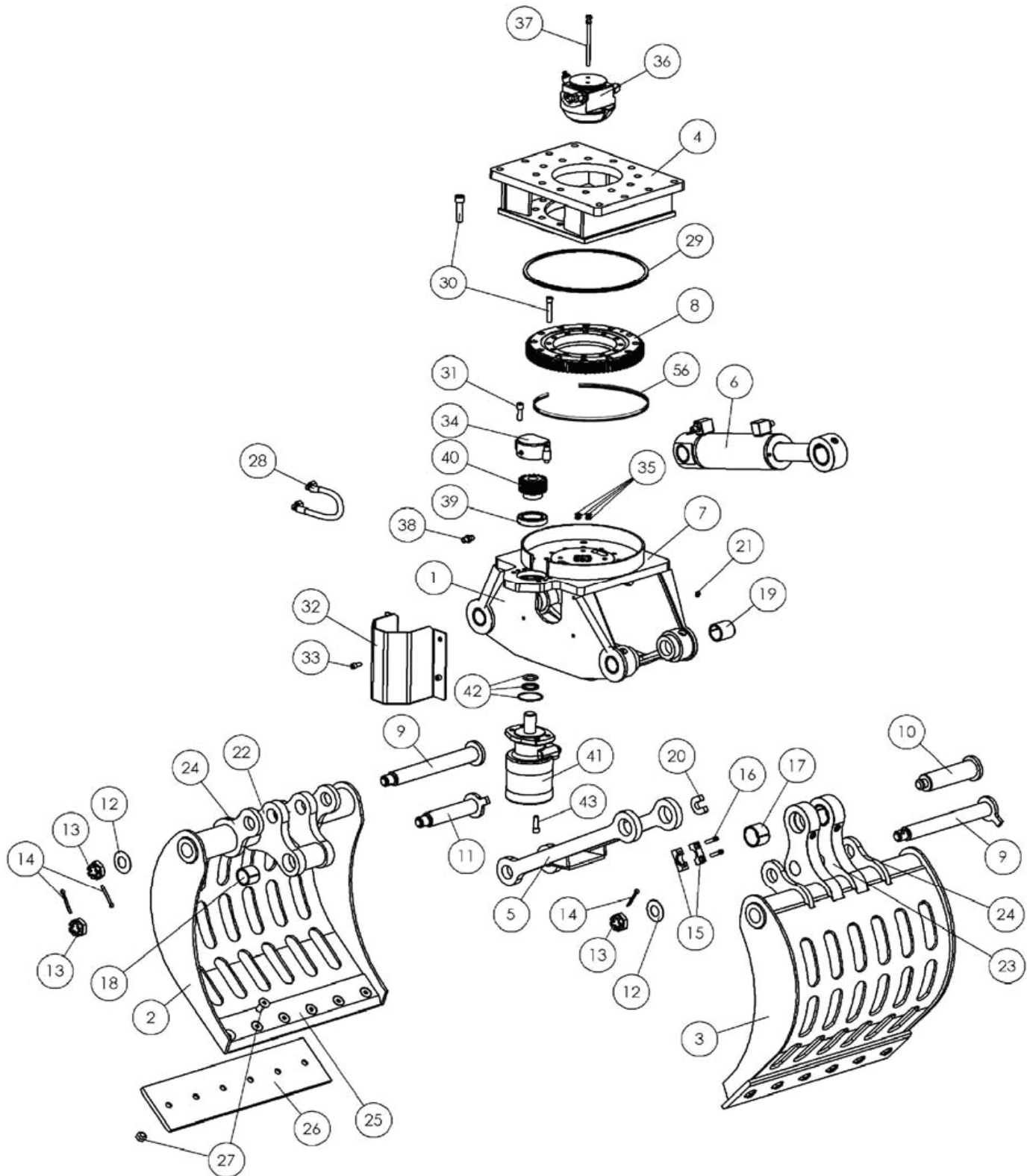
ROTATION HEAD LUBRICATION



Rotation Head
Lubrication
FIGURE 11

PARTS DIAGRAMS

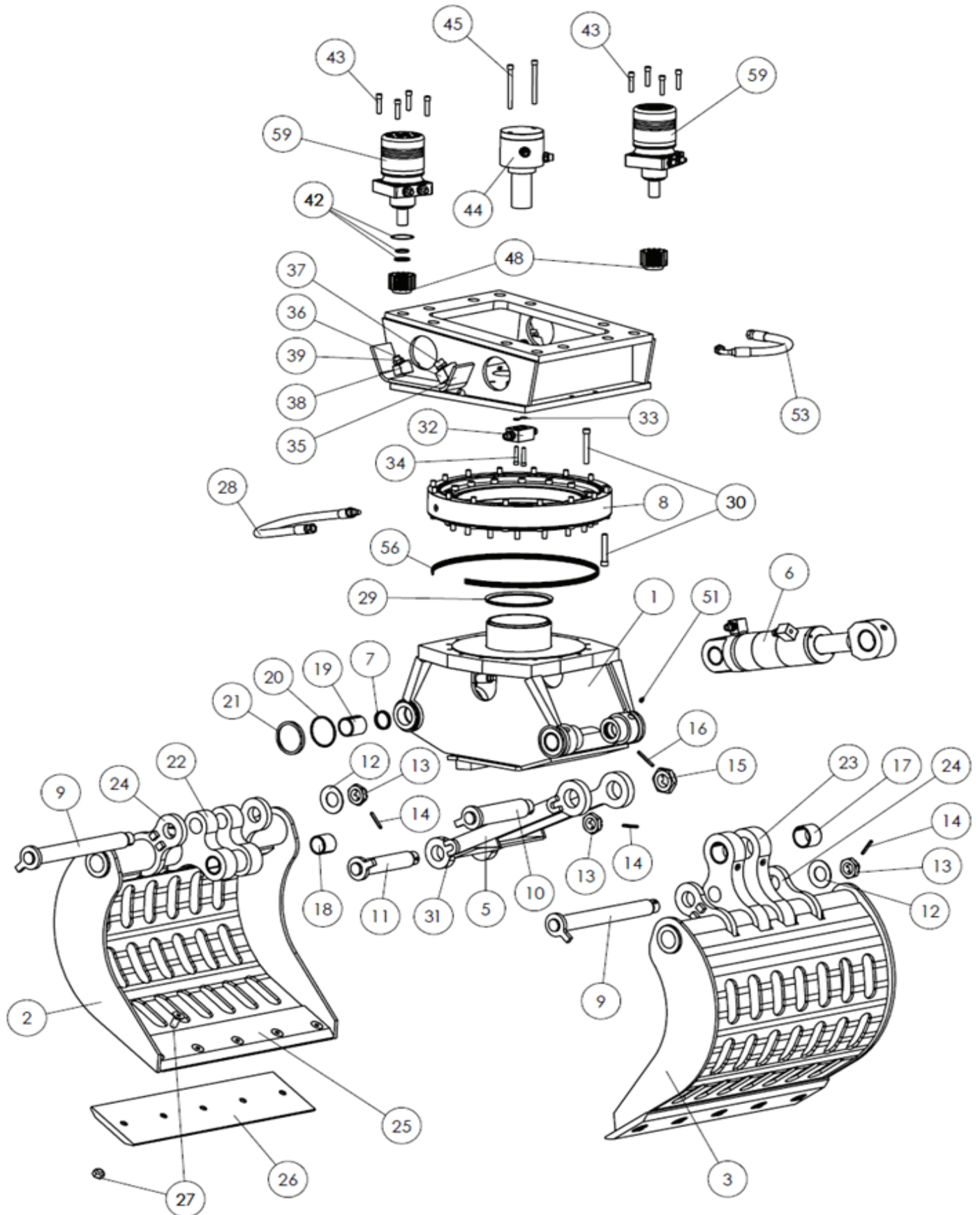
MDG70 EXPLODED VIEW



MDG70 PARTS LIST

Item	Qty	Description	Part Number
1	1	Main Frame Weldment	515594
2	1	Left Shell Weldment (Short Flange)	515595
3	1	Right Shell Weldment (Long Flange)	515596
4	1	Rotator Frame Weldment	515597
5	1	Linkage Weldment	515598
6	1	Cylinder Assembly (see page 18)	515599
7	1	Base	515600
8	1	Slewing Ring	515602
9	2	Main Hinge Pin - Ø 45mm (Under/Short)	515606
10	1	Linkage Axis - Ø 50mm (Upper/Long)	515607
11	1	Linkage Axis - Ø 40mm (Under/Short)	515614
12	3	Washer Spring	515626
13	3	Castellated Nut	515627
14	3	Roll Pin - 6.3mm x 63mm	515629
15	1	Rotation Lock Kit	515630
16	1	Rotation Lock Bolt Kit	515631
17	2	Right Shell Bearing	515632
18	2	Left Shell Bearing	515633
19	4	Main Frame Bearing	515634
20	2	U-Locker	515635
21	1	Grease Nipple Kit	515201
22	2	Shell Hinge (Short)	515636
23	2	Shell Hinge (Long)	515637
24	4	Shell Hinge Support	515639
25	2	Fixed Blade	515640
26	1	Replaceable Wear Blade	515641
27	1	Wear Blade Bolt Set	515644
28	1	Main Hose Kit	515645
29	1	V-Ring	515647
30	1	Slewing Ring Bolt Kit	515649
31	1	Gear Cover Bolt Kit	515650
32	1	Motor Cover	515651
33	1	Motor Cover Bolt Kit	515652
34	1	Gear Cover Assembly	515653
35	1	O-Ring Kit	515654
36	1	Swivel Assembly (see page 18)	515655
37	1	Swivel Assembly Bolt Kit	515656
38	1	Washer	515657
39	1	Gear Assembly	515658
40	1	Gear	515659
41	1	Motor Assembly	515600
42	1	Motor Seal Kit	515661
43	1	Motor Bolt Kit	515663
56	1	Slewing Ring Seal	515663

MDG140 EXPLODED VIEW

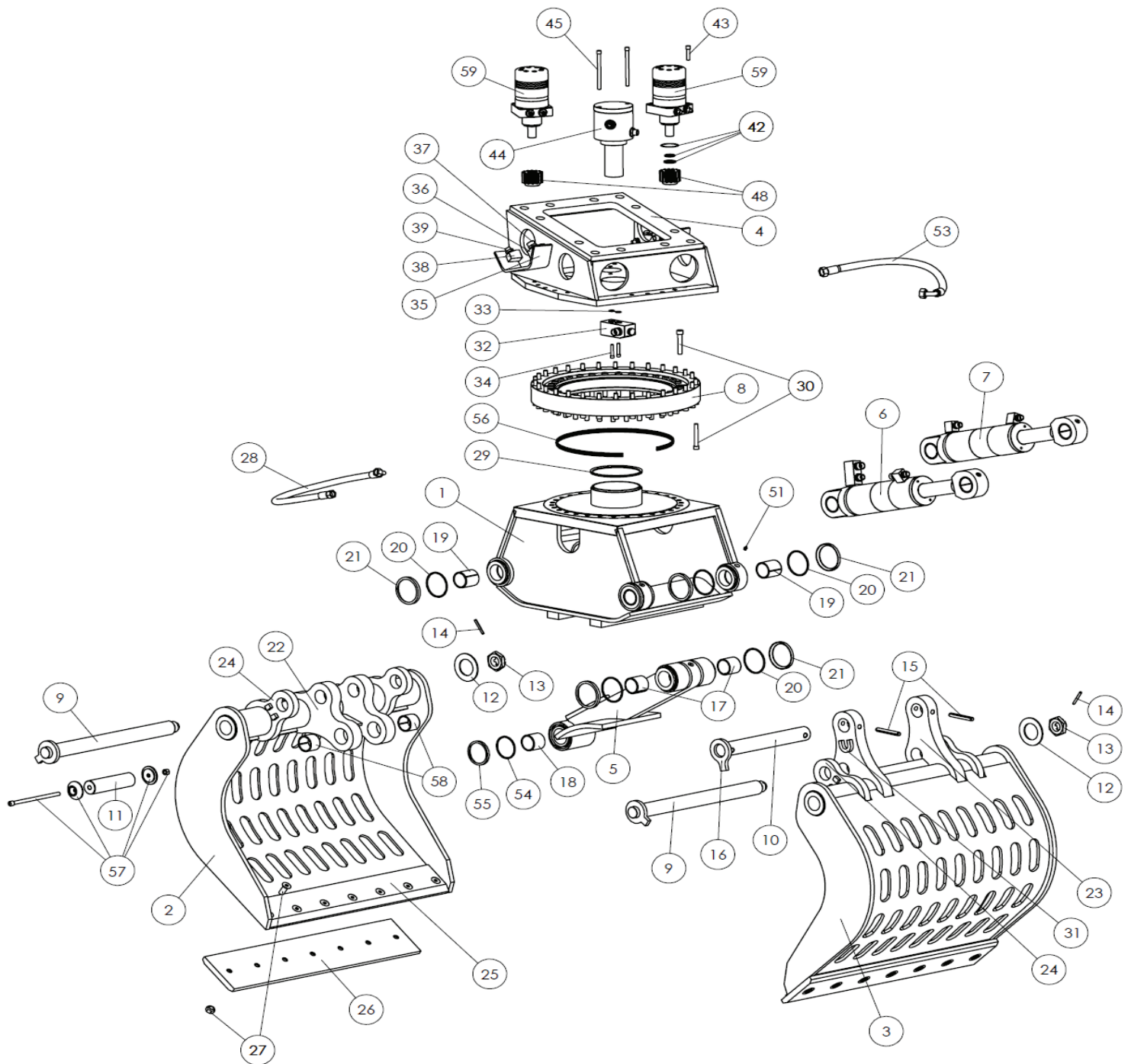


MDG140 PARTS LIST

Item	Qty	Description	Part Number
1	1	Main Frame Weldment	515414
2	1	Left Shell Weldment (Short Flange)	515421
3	1	Right Shell Weldment (Long Flange)	515422
4	1	Rotator Frame Weldment	515423
5	1	Linkage Weldment	515424
6	1	Cylinder Assembly (see page 20)	515426
7	4	Seal	515427
8	1	Slewing Ring	515329
9	2	Main Hinge Pin - Ø 50mm (Under/Short)	515428
10	1	Linkage Axis - Ø 60mm (Upper/Long)	515429
11	1	Linkage Axis - Ø 50mm (Under/Short)	515430
12	3	Spring Washer	515431
13	3	Castellated Nut	515334
14	3	Roll Pin - M8 x 60mm	515335
15	1	Castellated Nut - M45 x 5mm	515163
16	1	Roll Pin - M8 x 70mm	515164
17	2	Right Shell Bearing	515432
18	2	Left Shell Bearing	515446
19	4	Main Frame Bearing	515448
20	4	O-Ring	515340
21	4	Seal	515341
22	2	Shell Hinge (Short)	515479
23	2	Shell Hinge (Long)	515480
24	4	Shell Hinge Support	515481
25	2	Fixed Blade	515482
26	1	Replaceable Wear Blade	515483
27	1	Wear Blade Bolt Kit	515484
28	1	Main Hose Kit	515486
29	1	V-Ring	515490
30	1	Slewing Ring Bolt Kit	515350
31	2	U-Locker	515491
32	1	Connection Block	515352
33	1	O-Ring Kit	515353
34	1	Connection Block Bolt Kit	515354
35	2	Protective Cover	515492
36	2	Main Connect Block (Close/Open)	515356
37	2	Main Connect Nipple (Close/Open)	515357
38	2	Main Connect Block (Rotation)	515358
39	2	Main Connect Nipple (Rotation)	515359
42	2	Motor Seal Kit	515196
43	1	Motor Bolt Kit	515197
44	1	Swivel Assembly (see page 20)	515360
45	1	Swivel Bolt Kit	515361
48	2	Gear	515362
51	1	Grease Nipple Kit	515201
53	1	Rotation Hose Kit	515493

Item	Qty	Description	Part Number
56	1	Slewing Ring Seal	515364
59	2	Motor Assembly	515206

MDG160, 250, 310 & 400 EXPLODED VIEW

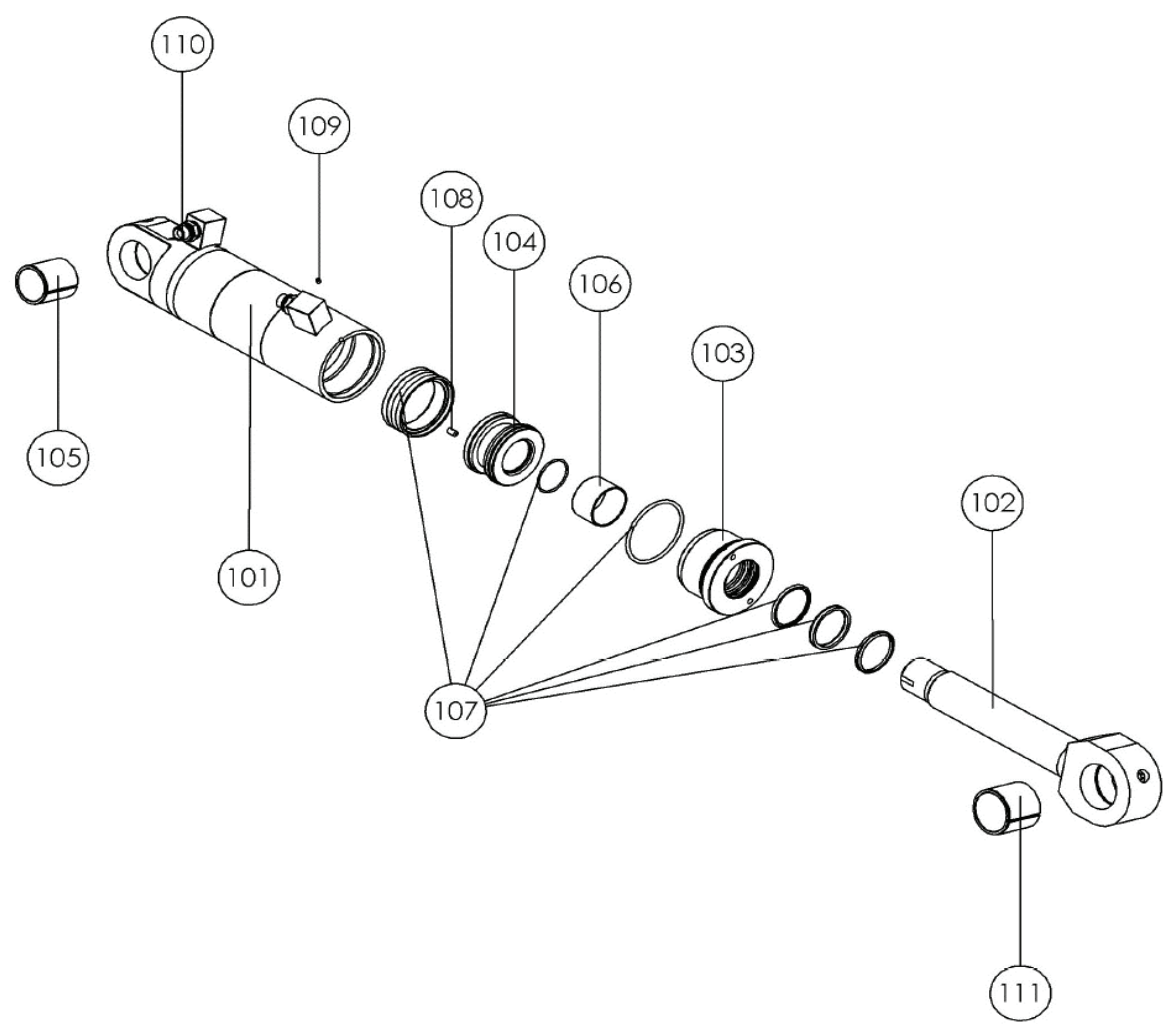


MDG160, 250, 310 & 400 PARTS LIST

Item	Qty	Description	Part Number			
			MDG160	MDG250	MDG310	MDG400
1	1	Main Frame Weldment	515322	515246	515151	515517
2	1	Left Shell Weldment (Short Flange)	515323	515247	515152	515518
3	1	Right Shell Weldment (Long Flange)	515324	515248	515153	515519
4	1	Rotator Frame Weldment	515325	515249	515154	515520
5	1	Linkage Weldment	515326	515250	515155	515521
6	1	Right Cylinder Assembly (4 Port,page 22)	515327	515251	515156	515522
7	1	Left Cylinder Assembly (2 Port, page 22)	515328	515253	515157	515523
8	1	Slewing Ring	515329	515254	515158	515158
9	2	Hinge Pin - Ø 60mm	515330	515255	515159	515524
10	1	Linkage Axis - Ø 60mm (Top/Long)	515331	5152556	515160	515525
11	1	Linkage Axis - Ø 60mm (Under/Short)	515332	515257	515161	515526
12	2	Washer Spring	515333	515162	515162	515527
13	2	Castellated Nut	515334	515163	515163	515163
14	2	Roll Pin - 8mm x 60	515335	515164	515164	515164
15	2	Roll Pin - 16mm	515164	515167	515167	515528
16	1	Locker Plate Linkage Axis - Ø 60mm	515336	515259	515168	515529
17	2	Right Shell Bearing (Long Hinge)	515337	515269	515169	515530
18	2	Left Shell Bearing (Short Hinge)	515338	515270	515170	515532
19	4	Main Frame Bearing	515339	515271	515171	515533
20	12	O-Ring - Ø 120mm	515340	515272	515172	515534
21	12	Seal - Ø 120mm	515341	515273	515173	515535
22	2	Shell Hinge (Short)	515342	515374	515174	515536
23	2	Shell Hinge (Long)	515343	515275	515175	515537
24	4	Shell Hinge Support	515344	515276	515176	515538
25	2	Fixed Blade	515345	515278	515177	515547
26	1	Replaceable Wear Blade	515346	515291	515178	515548
27	1	Wear Blade Bolt Set	515347	515292	515179	515549
28	1	Main Hose Kit	515348	515293	515180	515551
29	1	V-Ring	515349	515294	515181	515553
30	1	Slewing Ring Bolt Kit	515350	515295	515182	515182
31	1	U-Locker	515351	515296	515183	515554
32	1	Connection Block	515352	515710	515184	515184
33	1	O-Ring Kit (4 pcs.)	515353	515185	515185	515185
34	1	Connection Block Bolt Kit (2 pcs.)	515354	515186	515186	515186
35	2	Protective Cover	515355	515297	515187	515555
36	2	Main Connect Block (Close/Open)	515356	515188	515188	515556
37	2	Main Connect Nipple (Close/Open)	515357	515189	515189	515559
38	2	Main Connect Block (Rotation)	515358	515194	515194	515560
39	2	Main Connect Nipple (Rotation)	515359	515195	515195	515563
42	2	Motor Seal Kit	515196	515196	515196	515196
43	1	Motor Bolt Kit	515197	515197	515197	515197
44	1	Swivel Assembly (see page 22)	515360	515699	515198	515198
45	1	Swivel Bolt Kit	515361	515199	515199	515199
48	2	Gear	515362	515321	515200	515200
51	1	Grease Nipple Kit (12 pcs.)	515201	515201	515201	515201

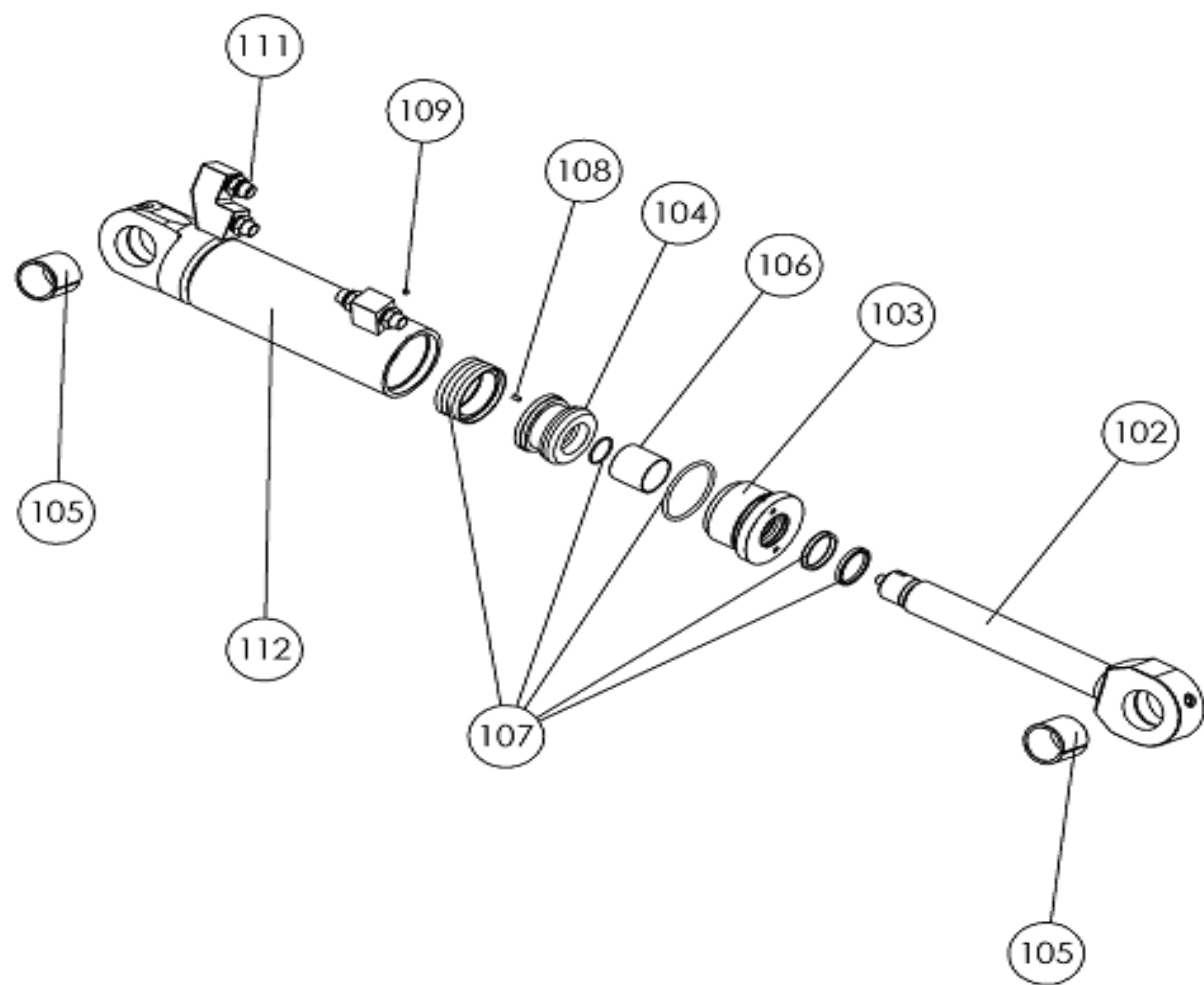
			Part Number			
Item	Qty	Description	MDG160	MDG250	MDG310	MDG400
53	1	Rotating Frame Hose Kit (6 pcs.)	515363	515298	515202	515564
54	1	Metal O-Ring Seal - Ø 106mm	N/A	515299	N/A	N/A
55	1	Metal Seal - Ø 106mm	N/A	515300	N/A	N/A
56	1	Slewing Ring Seal	515364	515301	515203	515203
57	1	Locker Set Linkage Axis Kit (Under/Short)	515366	515302	515204	515568
58	2	Linkage Bearings (Under/Short)	515367	515304	515205	515569
59	2	Motor Assembly	515206	515206	515206	515206

MDG70 & 140 CYLINDER PARTS LIST



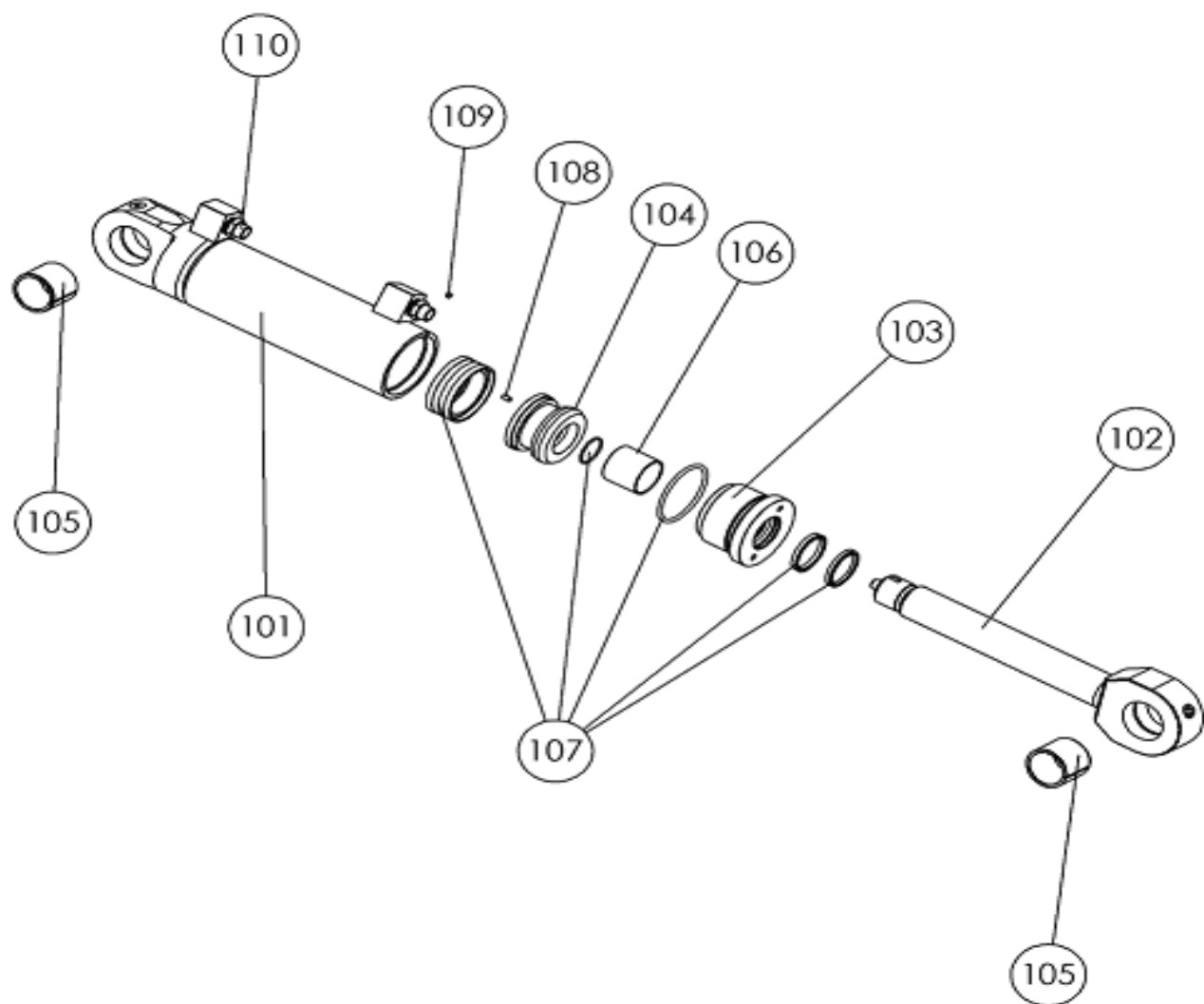
		Qty	Part Number		
Item	70 / 140	Description	MDG70	MDG140	
101	1	Cylinder Housing	515665	515494	
102	1	Rod	515666	515496	
103	1	Cylinder Nut	515667	515510	
104	1	Piston	515670	515511	
105	2 / 1	Bearing	515671	515512	
106	1	Bearing	515672	515513	
107	1	Cylinder Seal Kit	515673	515514	
108	1	Set Screw - M8	515218	515218	
109	1	Set Screw - M6	515220	515220	
110	1	Hydraulic Adapter Kit	515674	515378	
111	1	Bearing	515675	515515	

MDG160, 250, 310 & 400 RIGHT CYLINDER PARTS LIST



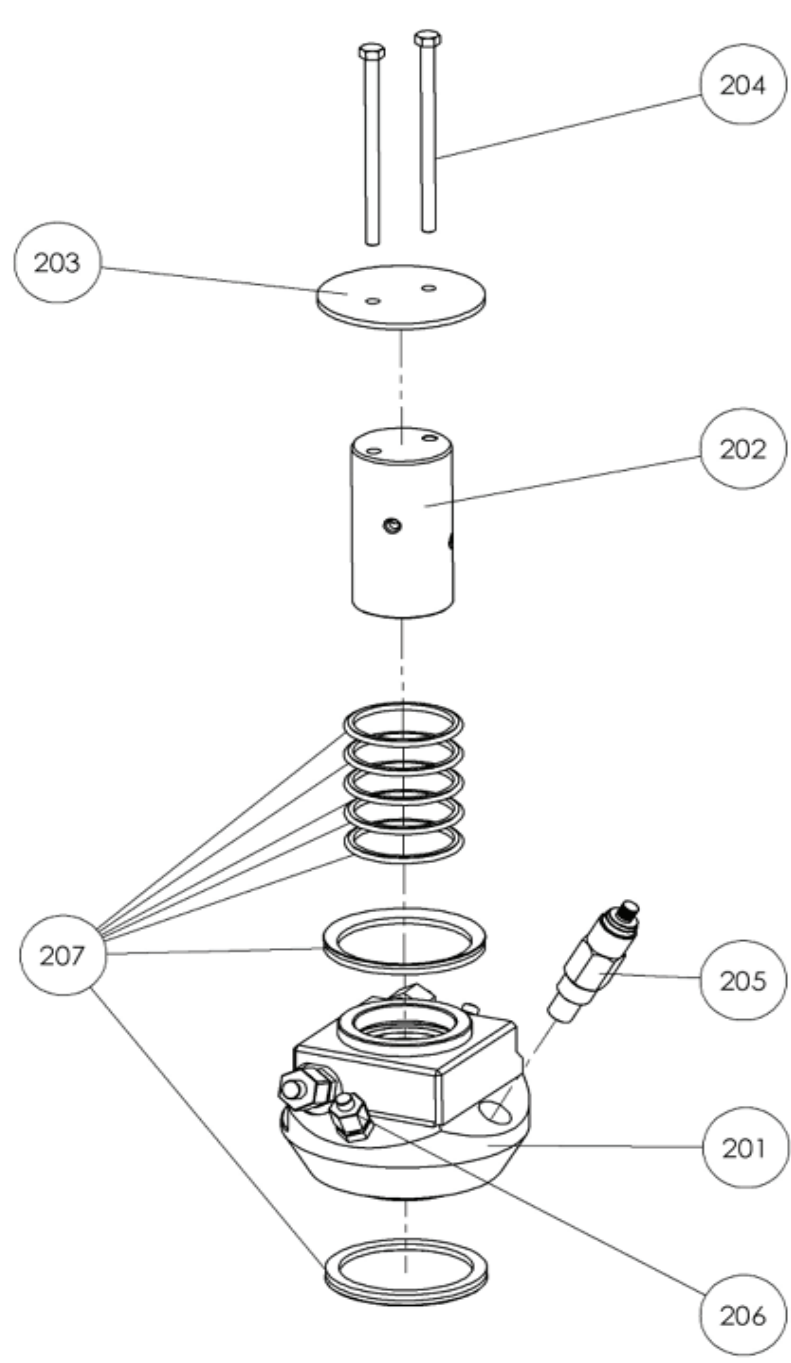
Item	Qty	Description	Part Number			
			MDG160	MDG250	MDG310	MDG400
102	1	Rod	515369	515308	515209	515574
103	1	Cylinder Nut	515370	515309	515210	515575
104	1	Piston	515374	515310	515211	515577
105	2	Bearing	515375	515311	515213	515578
106	1	Bearing	515376	515312	515216	515579
107	1	Cylinder Seal Kit	515377	515313	515217	515580
108	1	Set Screw - M8	515218	515218	515218	515218
109	1	Set Screw - M6	515220	515220	515220	515220
111	1	Hydraulic Adapter Kit	515381	515316	515226	515586
112	1	Cylinder Housing	515379	515315	515225	515583

MDG160, 250, 310 & 400 LEFT CYLINDER PARTS LIST



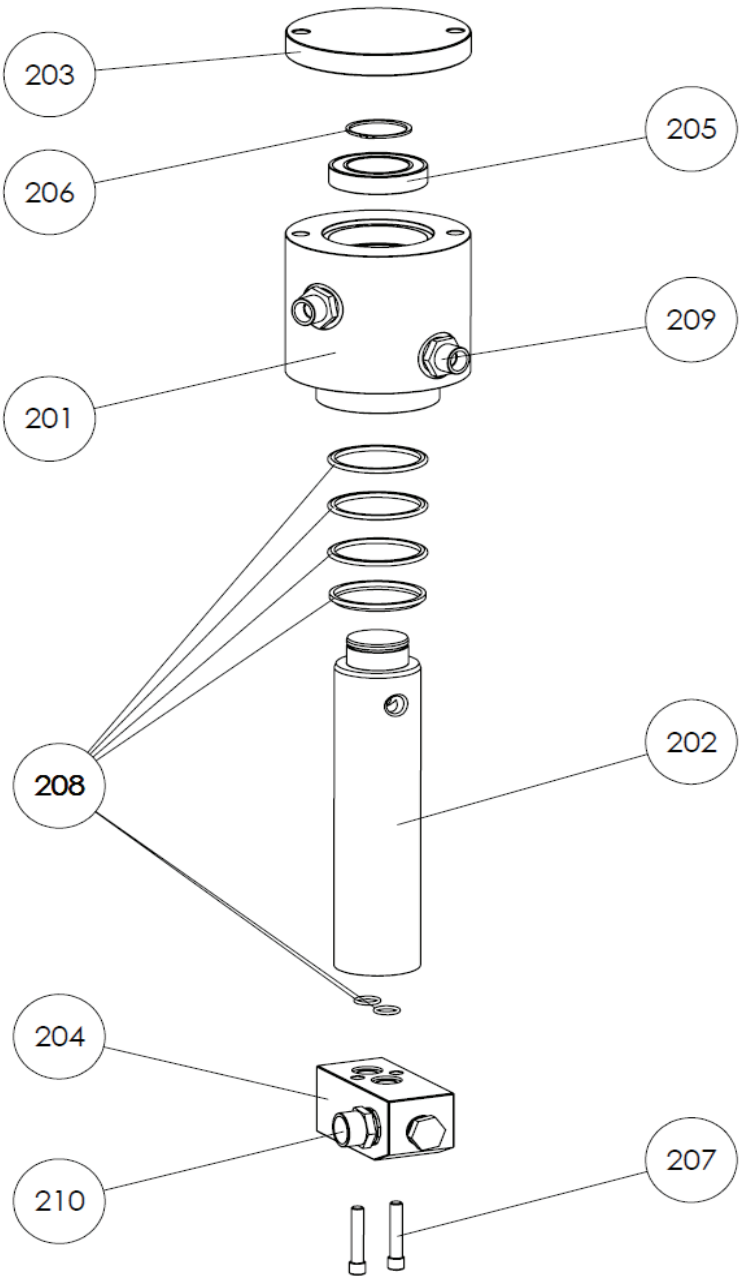
Item	Qty	Description	Part Number			
			MDG160	MDG250	MDG310	MDG400
101	1	Cylinder Housing	515368	515306	515207	515570
102	1	Rod	515369	515308	515209	515574
103	1	Cylinder Nut	515370	515309	515210	515575
104	1	Piston	515374	515310	515211	515577
105	2	Bearing	515375	515311	515213	515578
106	1	Bearing	515376	515312	515216	515579
107	1	Cylinder Seal Kit	515377	515313	515217	515580
108	1	Set Screw - M8	515218	515218	515218	515218
109	1	Set Screw - M6	515220	515220	515220	515220
110	1	Hydraulic Adapter Kit	515378	515314	515223	515582

MDG70 SWIVEL PARTS LIST



Item	Qty	Description	Part Number
201	1	Swivel Body	515676
202	1	Swivel Rotor	515677
203	1	Swivel Cover	515678
204	1	Swivel Bolt Kit	515656
205	1	Relief Valve	515679
206	1	Hydraulic Adapter Kit	515680
207	1	Swivel Seal Kit	515681

MDG140 ,160, 250, 310 & 400 SWIVEL PARTS LIST



				Part Number				
Item	Qty	Description		MDG140	MDG160	MDG250	MDG310	MDG400
201	1	Swivel Body		515382	515382	515227	515227	515227
202	1	Swivel Rotor		515383	515383	515228	515228	515228
203	1	Swivel Cover		515384	515384	515229	515229	515229
204	1	Connection Block		515352	515352	515710	515184	515184
205	1	Swivel Bearing		515385	515385	515230	515230	515230
206	1	Ring Clip		515386	515386	515235	515235	515235
207	1	Swivel Bolt Kit		515354	515354	515186	515186	515186
208	1	Swivel Seal Kit		515387	515387	515236	515236	515236
209	1	Hydraulic Adapter Kit		515389	515389	515237	515237	515237
210	1	Hydraulic Adapter Kit		515402	515402	515711	515238	515238

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