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# McCONNEL

## ROBO-CHIPPER

### ROBOCUT ACCESSORY

Operation & Parts Manual



# IMPORTANT

## VERIFICATION OF WARRANTY REGISTRATION



### DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with McConnel Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the McConnel Limited web site at [www.mcconnel.com](http://www.mcconnel.com), log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the McConnel Service Department on 01584 875848.

#### Registration Verification

Dealer Name: .....
Dealer Address: .....
Customer Name: .....
Date of Warranty Registration: ...../...../..... Dealer Signature: .....

#### NOTE TO CUSTOMER / OWNER

*Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with McConnel Limited.*

**IMPORTANT:** During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

**CAUTION: DO NOT OVER TORQUE HYDRAULIC FITTINGS AND HOSES**

#### TORQUE SETTINGS FOR HYDRAULIC FITTINGS

HYDRAULIC HOSE ENDS		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

PORT ADAPTORS WITH BONDED SEALS		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm



# WARRANTY POLICY

## WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with McConnel Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

### 1. LIMITED WARRANTIES

1.01. *All mounted machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.*

*All Self Propelled Machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.*

1.02. *All spare parts supplied by McConnel Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*

1.03. *The warranty offered by McConnel Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*

1.04. *This warranty does not extend to any product from which McConnel Ltd's serial number plate has been removed or altered.*

1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.*

*Machines that are held in stock for more than 24 months cannot be registered for warranty.*

1.06. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*

1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*

1.08. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*

1.09. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.*

1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*

- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnell Ltd.*
- 1.12. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
  - 1.12.1. *Hoses, exposed pipes and hydraulic tank breathers.*
  - 1.12.2. *Filters.*
  - 1.12.3. *Rubber mountings.*
  - 1.12.4. *External electric wiring.*
  - 1.12.5. *Bearings and seals*
  - 1.12.6. *External Cables, Linkages*
  - 1.12.7. *Loose/Corroded Connections, Light Units, LED's*
  - 1.12.8. *Comfort items such as Operator Seat, Ventilation, Audio Equipment*
- 1.13. *All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.*
- 1.14. *Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.*

***NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. McConnell Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.***

## **2. REMEDIES AND PROCEDURES**

- 2.01. *The warranty is not effective unless the Selling Dealer registers the machine, via the McConnell web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.*
- 2.02. *Any fault must be reported to an authorised McConnell Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which McConnell Ltd cannot be held liable.*
- 2.03. *Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by McConnell Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.*
- 2.04. *All claims must be submitted, by an authorised McConnell Ltd Service Dealer, within 30 days of the date of repair.*
- 2.05. *Following examination of the claim and parts, McConnell Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by McConnell Ltd and appropriate labour and mileage allowances if applicable.*
- 2.06. *The submission of a claim is not a guarantee of payment.*
- 2.07. *Any decision reached by McConnell Ltd. is final.*

## **3. LIMITATION OF LIABILITY**

- 3.01. *McConnell Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.*
- 3.02. *McConnell Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.*
- 3.03. *Except as provided herein, McConnell Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.*
- 3.04. *No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.*

#### **4. MISCELLANEOUS**

- 4.01. McConnel Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.*
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.*
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.*

---

*McConnel Limited*





# DECLARATION OF CONFORMITY

*Conforming to EU Machinery Directive 2006/42/EC*

We,

**McCONNEL LIMITED**, Temeside Works, Ludlow, Shropshire SY8 1JL, UK

*Hereby declare that:*

The Product; *Plant Waste Shredding Machine (Robocut Attachment)*

Product Code; *RMOW*

Serial No. & Date ..... Type .....

Manufactured in; *Italy*

Complies with the required provisions of the Machinery Directive 2006/42/EC  
The machinery directive is supported by the following harmonized standards;

- BS EN ISO 12100 (2010) Safety of machinery – General principles for design – Risk assessment and risk reduction.
- BS EN 349 (1993) + A1 (2008) Safety of machinery - Minimum distances to avoid the entrapment with human body parts.
- BS EN ISO 14120 (2015) Safety of machinery - Guards general requirements for the design and construction of fixed and movable guards.
- BS EN 4413 (2010) Hydraulic fluid power. Safety requirements for systems and their components.

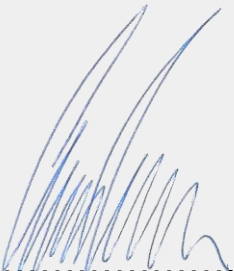
McCONNEL LIMITED operates an ISO 9001:2008 quality management system, certificate number: FM25970.

This system is continually assessed by the;

British Standards Institution (BSI), Beech House, Milton Keynes, MK14 6ES, UK

BSI is accredited by UK Accreditation Service, accreditation number: UKAS 003.

The EC declaration only applies if the machine stated above is used in accordance with the operating instructions.

Signed  ..... *Responsible Person*  
*CHRISTIAN DAVIES on behalf of McCONNEL LIMITED*

Status: *General Manager*

Date: *January 2018*







*For Safety and Performance...*

**ALWAYS READ THE BOOK FIRST**

**McCONEL LIMITED**

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**▲ WARNING**

**Cancer and Reproductive Harm**  
www.P65Warnings.ca.gov

D960

Operating, servicing and maintaining this equipment can expose you to chemicals including gasoline, diesel fuel, lubricants, petroleum products, engine exhaust, carbon monoxide, and phthalates, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). This website, operated by California's Office of Environmental Health Hazard Assessment, provides information about these chemicals and how individuals may be exposed to them.

# ROBOCUT ROBO-CHIPPER

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# **ROBOCUT ROBO-CHIPPER**

# ROBOCUT ROBO-CHIPPER

## 1. GENERAL INFORMATION

### 1.1 – PRELIMINARY INFORMATION

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This manual is valid for ROBO-CHIPPER machines (WGC 4000962) from serial number:

AEB225T0813001



### READ THE BOOK FIRST

This manual should be used in conjunction with the operation manual for the Robocut machine. Ensure all operators read and fully understand the manuals relating to all machinery being used. Keep manuals in a safe accessible location where they can be referred to as and when needed.

### **McCONNEL LIMITED**

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# ROBOCUT ROBO-CHIPPER

## 1.2 – REQUIRED OPERATOR TRAINING

---

Reading this manual thoroughly:

- All machine operators and maintenance personnel must read this entire manual thoroughly and carefully and follow the instructions provided.
- It is the duty of the employer to ensure that operators possess the skills required to operate the machine and that they have read this manual fully.

## 1.3 – INSTRUCTIONS FOR USE AND STORAGE

---

The operating instructions in this manual relate to the operation of the ‘McConnel Robo-Chipper’. This instruction manual must be read and used as follows:

- The instructions manual must be considered an integral part of the machine and must be read carefully
- The instructions manual must be easily accessible to operators and maintenance technicians.
- Keep the manual for the entire lifetime of the machine.
- Ensure that any updates are incorporated within the manual.
- Give the manual to any other user or subsequent owner of the machine.
- Use the manual in such a way as not to damage it or its contents.
- Do not remove, tear out or rewrite any part of the manual for any reason.
- Keep the manual away from moisture and heat.
- In the event that the manual is lost or partially damaged or it is otherwise unreadable in part or all of its content, a new copy should be requested from the manufacturer.

Pay maximum attention to the following symbols and their meanings; they are used to highlight important information such as:

### CAUTION



Refers to supplements or suggestions for correct use of the machine.

### WARNING



Refers to dangerous situations which can occur when using the machine, that could cause serious injuries and/or property damage.

### DANGER



Refers to dangerous situations that may arise when using the machine, which if not avoided, could cause serious injuries or death.

# ROBOCUT ROBO-CHIPPER

## 1.4 – INTRODUCTION

---

The service standards outlined in this manual represent an integral part of the machine supply contract.

These instructions are also addressed to operators already specifically trained to operate this kind of machinery and contain all information necessary and essential for safe operation and correct/optimal use of the machine.

Rushed and incomplete preparations lead to improvisation, the cause of many accidents.

Read the following suggestions carefully and put them into practice before starting work:

- 1) Familiarise yourself with all the operations that can be performed and work positions before manoeuvring the machine.
- 2) The instructions manual must be available to the operator at all times.
- 3) Carefully schedule all work.
- 4) Have a detailed understanding of where and how the machine is going to be used: ground bearing capacity, limitations to movement due to the presence of buildings, power lines etc.
- 5) Before starting work, make sure that the safety devices are working correctly and that there are no doubts regarding their functionality. If they are not working correctly or you have doubts, do not under any circumstances use the machine.
- 6) Pay careful attention to the warnings regarding specific hazards indicated in this manual.
- 7) Regular and thorough preventive maintenance will guarantee that the machine is always at its highest possible level of operational safety. Never put off repairs that are necessary and ensure they are carried out exclusively by qualified technicians and that only original spare parts are used.

### 1.4.1 – *Updates to the manual*

The information, the descriptions and the illustrations contained in this manual reflect the state of the art at the moment the machine was sold.

The manufacturer reserves the right to make modifications to its products at any time for technical or commercial reasons. In the event that such modifications are made, the manufacturer has no obligation (for safety reasons) to modify the other machines sold up to that point or send out updates to the manual. Moreover, this publication shall not be considered lacking in any way. Any supplements that the Manufacturer considers appropriate to supply at a later date must be kept together with the manual and considered an integral part of it.



# ROBOCUT ROBO-CHIPPER

## **1.4.2 – Copyright**

The copyright of this manual belongs to the machine's manufacturer. This manual contains technical texts, drawings and illustrations that must not be divulged or transmitted to third parties, in whole or in part, without the written authorisation of the machine Manufacturer.

## **1.4.3 – Warranties**

Materials supplied by McConnell are covered by a 12-month warranty, from the date of commissioning as indicated on the delivery note.

McConnell shall repair or replace parts recognised as defective during the warranty period.

By replacing the defective part, McConnell shall consider itself absolved from any other expense borne by the Dealer and the Dealer's Customer, for instance presumed damages, either present or future, such as lost earnings, liquidated damages, etc.

Scheduled and extraordinary maintenance must be performed in accordance with the instructions given in this manual. For all cases not included and for any type of support, be sure to contact McConnell directly by registered letter or via fax, even in the event a telephone agreement has already been made. McConnell shall not be liable for any delays or unperformed operations.

McConnell shall not be responsible for any damage or malfunctions due to technical operations carried out on the machine by unauthorised personnel.

# ROBOCUT ROBO-CHIPPER

## 1.4.4 – Liability

McConnel shall not be held liable for any incident involving personal injury or property damage which may occur due to:

- the failure to comply with the instructions provided in this manual regarding the operation, use and maintenance of the machine.
- abrupt movements or incorrect manoeuvres when operating or performing maintenance on the machine.
- modifications made to the machine without the prior written authorisation from McConnel.
- events that fall outside the normal and correct use of the machine.

### DANGER



**Using the machine as mentioned above can cause tipping hazards or structural failure that could result in injuries or even death.**

In any event, should the user ascribe any incident or accident to a machine defect, they must be able to demonstrate that the consequent damage was a principal and direct consequence of such a defect.

Any tampering with the machine or the use of non-original spare parts can be grounds for voiding the warranty and put the operator's safety at risk.

### WARNING



**Always use original spare parts for repairs and maintenance. McConnel shall not be held responsible for any damage which should occur due to failure to follow the above requirements.**

**The machine is guaranteed according to the contractual agreements specified at the time of sale.**

**The warranty shall nevertheless lapse whenever the regulations and/or instructions laid out in this manual are not followed.**

# ROBOCUT ROBO-CHIPPER

## 2. SAFETY INSTRUCTIONS

### 2.1 – GENERAL SAFETY RULES

---

#### WARNING



- Warning/information decals have been affixed to the machine for the purpose of safety. For this reason, they must be replaced immediately if they become damaged or otherwise are no longer legible.
  - Operators must not be occasional users; they must be competent and experienced in operating a machine of this type.
  - Check the condition and operation of any part subject to wear on a regular basis: (pins, valves, piping, etc.). When necessary, replace with original components recommended by the manufacturer.
  - Do not, for any reason, tamper with the hydraulic system and never remove the seal from the valves, as this will void all warranties. Contact an authorised repair shop if the valves should require adjustment.
  - Excessive heating of the hydraulic fluid can damage the seals in the hydraulic circuit and lead to the deterioration of the fluid itself. Heating is caused by the rolling oil by means of the pressure relief valve. Therefore, avoid sustained operations that cause the oil to overheat.
  - Check that the machine emergency stop button and the remote control stop button are working correctly. **WARNING:** If the emergency stop button or the stop button is damaged, the machine must not be started or must be switched off immediately.
  - The machine user is responsible for all property damage or personal injuries caused by machine operation.
  - It is strictly forbidden to carry out maintenance, cleaning, adjustments or similar operations on any part of the machine or the interchangeable equipment attached to it when the machine is running. Any form of maintenance, cleaning or adjustments must always be performed with the engine off and the starting key removed.
  - It is forbidden to remove or modify the guards for moving parts or hot surfaces of the machine, or on any equipment connected to it.
-

# ROBOCUT ROBO-CHIPPER

## 2.1.1 – Fully understand the machine

The machine must be used exclusively by qualified personnel, who must be familiar with the location and function of all controls, tools, indicators, indicator lights and the various safety plates.

## 2.1.2 – Wear safety clothing

Wear tight-fitting clothing and use safety equipment which meets applicable regulations.

During use, the machine may generate dust when working with dry products (e.g. straw or on areas of bare ground). In this case, the use of appropriate respiratory protection, such as dust masks, is recommended.



## 2.1.3 – Instructions for carrying out inspections and maintenance

### DANGER



Apply a sign to the machine reading “DO NOT START”. Remove the keys from the ignition before performing any checks or maintenance.



# ROBOCUT ROBO-CHIPPER

## 2.1.4 – *Inspecting the machine*

- Inspect the machine thoroughly every day before using it, following the checklist indicated in this manual.
- Start the engine only in a well ventilated area and ensure that there are no persons in the machine's working range.
- Covers and safety devices must not be removed. They are designed and manufactured for your safety.
- Do not use the machine if the safety devices or covers are damaged or missing.
- Make sure all safety devices are put back in place immediately after cleaning or repair work has been carried out.
- Keep the machine and all its accessories clean and in good working order at all times. Remove any cuttings that have been deposited on the machine. **WARNING: Fire danger!**
- It is strictly prohibited to make modifications to the machine without prior authorisation from the manufacturer. Changes to the machine can cause hazards and injuries. The manufacturer shall not be held responsible for the machine if these instructions are not followed.
- Only refuel when the machine is switched off, if possible before having turned it on, and when the fuel tank is cold. If you need to refuel whilst work is in progress, do not add fuel to the tank if the tank is hot or if the engine is still warm. Allow the machine to cool down. **WARNING: Danger of explosion and fire!**
- Apply a guard or cover with appropriate means before cleaning.

# ROBOCUT ROBO-CHIPPER

## 2.2 – GENERAL REQUIREMENTS

### WARNING



**It is mandatory to read and follow the instructions indicated in the use and maintenance manual before performing any operation and/or manoeuvres with the machinery. You must be aware of all potential dangers before use.**

- Improper use or an incorrect manoeuvre can result in serious damage to persons or property.
- The operators and maintenance technicians must be very familiar with the machine, especially regarding the dangers associated with misuse or making incorrect repairs.
- Before starting the machine, carry out all the checks on the machine and equipment regarding: functionality, accident prevention and safety devices.
- Even when the machine is being used correctly, stones and other debris can be thrown a considerable distance by the machine. Therefore, no-one should be within the radius of danger (50m). Pay great attention when working near animals, roads, buildings or vehicles etc.
- Adjust the speed of the remote controlled carrying vehicle according to the conditions of the terrain. Watch out for obstacles. Go around rocks and logs.
- Before beginning a day's work, always check the condition of the tools and all the guards. If they are damaged or missing, replace them.
- Make sure that nobody can start the machine by mistake whilst the machine is being inspected or repairs are being carried out. Do not wear loose clothing.
- Never transport anyone on the machine.
- Be careful when refuelling. **WARNING:** Do not fill the diesel fuel tank while the engine is running. Do not smoke or use naked flames. Do not overfill the fuel tank when filling it with diesel. If it does overflow, dry any spills immediately. Use a funnel to prevent drips and carefully tighten the fuel cap after refuelling.
- Before starting the machine in an enclosed space, ensure that it is adequately ventilated. Exhaust fumes can kill.
- Never stand next to the machine if it has not come to a complete stop.
- Before starting the machine, ensure there are no people and/or animals in close proximity.
- In order to ensure machine stability and operator safety; do not use the machine on very steep slopes.
- Pay particular attention to the chosen work position when performing manoeuvres so as not to be too close to the machine or in areas next to the machine that are not permitted, or downhill from the machine when it is being operated on slopes.
- Check and delimit the work area with signs.
- Before leaving the machine unattended, proceed as follows:
  - 1) Park the machine on a flat surface.
  - 2) Reduce the rpm of the engine before turning it off. Press the remote control red button and turn the ignition key to the "O" position.
  - 3) Remove the ignition key and take the remote control away with you.
- Replace any missing or worn warning plate or pictogram immediately.
- Never underestimate or ignore safety regulations.
- Keep the remote control out of the reach of unauthorised personnel and especially children.

# ROBOCUT ROBO-CHIPPER

## **2.2.1 – Safety instructions**

Comply with current legislation, dispositions, recommendations, ordinances and directives for the machines described in this manual.

The materials used and the parts of the equipment, as well as production procedures, quality assurance and quality control, meet safety and reliability standards.

If the machine is used for the purposes specified in this manual, manoeuvred with care and maintenance and servicing is carried out carefully and correctly, the machine can provide constant reliability and high performance over time.

## **2.2.2 – Safety requirements for use on roads**

The manufacturer accepts no liability for accidents, whilst the machine is being used if the user does not comply with current legislation, regulations, recommendations and directives regarding the machines described in this manual. The machine is designed to work in normal weather conditions at a temperature of between -20°C and +40 C°. It must therefore only be used in these conditions. The machine must only be used in conditions of perfect visibility and during the hours of daylight. If it is used at night, an auxiliary lighting system must be used.

## **2.2.3 – Operational safety**

The manufacturer cannot be held responsible in case of malfunction and damage if the machine:

- is used for purposes other than those for which it was intended.
- is not manoeuvred, operated and maintained according to the instructions specified in the manual.
- is not regularly and periodically maintained as indicated or non-original spare parts are used.
- is modified or its equipment is replaced without the written permission of the manufacturer, especially when the efficiency of the safety systems has been reduced or they have been eliminated.
- is used outside the permitted temperature range.

## **2.2.4 – Operator safety**

- Children under the age of 16 and untrained personnel are not allowed to use this machine.
- While using the machine the user is liable to third parties.
- During shredding operations, gloves, protective glasses or a face shield, hearing protectors, safety shoes, dust mask, helmet and long trousers must be worn.
- Long hair must be tied above the shoulders.
- Do not operate the machine if tired, unwell or after having consumed alcoholic drinks, medicines or drugs.
- Under no circumstances use ladders, or any other such equipment, in order to reach the feeding roller located at the bottom of the hopper unless all machinery has been switched off completely and the starting key removed.

# ROBOCUT ROBO-CHIPPER

## 2.2.5 – Machine safety

- Before starting up the machine, make sure that all the parts of the machine have been correctly assembled.
- Replace any broken or damaged parts before using the equipment.
- Before leaving the shredder unattended its power source must be switched off.
- The machine must only be used with all the safety devices properly installed.
- Do not place any materials into the shredder before having switched on the engine and having brought it, and the hydraulic power unit, up to working speed.
- Direct the discharge chute away from the hopper before starting to introduce material.
- Do not continue to use the machine if there are vibrations that could lead to breakage or serious damage. Ascertain the cause of such problem and eliminate it.
- Never make any modifications to the machine.
- Do not use the machine for anything other than that for which it has been designed.

## 2.2.6 – Safety during shredding

- During shredding operations, the machine operator should be positioned in front of the loading hopper where the control and emergency handle is located.
- Other workers may be present that do not use the machine, but who assist in supplying materials to be shredded to the only operator that is in charge of using the machine.
- Never operate the shredder with the hopper reclined; there is a risk of being dragged in to the machine.
- When the shredder is in use, all operators must wear personal protective equipment, always stay close to the hopper in which to place the material to be shredded and check that there is nobody, including the operators themselves, within a radius of 50m of the discharge chute i.e. in the area where shredded materials are discharged.
- Do not put branches larger than the acceptable size (Ø9cm max.) into the machine; *refer to decal on hopper.*
- Do not introduce stones, metal, glass, plastic, earth, packs of newspapers etc. into the shredder; only use if for vegetation waste.
- Never remove any of the safety guards or accessories when the machine is in operation.
- The discharge regulator must be installed at all times when using the machine and removed only when the machine is switched off.
- When the machine is in operation, the operator must never stand close to the discharge chute.
- Do not reach into the hopper or any other part of the machine whilst it is switched on or running.





# ROBOCUT ROBO-CHIPPER

## 2.3.2 – Description of the safety decals

### CAUTION










Make sure that the safety plates are in good condition. If the plates are damaged, they must be replaced with original plates requested from the manufacturer and placed in the position indicated in the manual. Make sure that the safety decals are readable.

Clean them using a damp cloth dipped in soap and water.

<p>Robo-Chipper – maximum material diameter 90mm (3½”).</p>	
<ul style="list-style-type: none"> <li>• Use personal protective equipment.</li> <li>• Do not climb or stand on the machine.</li> <li>• Read the instructions manual before using machine.</li> <li>• Moving cutting tools.</li> <li>• Rotating components.</li> </ul>	
<p>Loading system controls &amp; Emergency Stop.</p>	
<p>Transport position.</p>	
<p>Warning – Read the instruction manual first.</p>	

# ROBOCUT ROBO-CHIPPER

<p>Warning – Flying objects.</p>	
<p>Warning – Cutting tools.</p>	
<p>Warning – Rotating components.</p>	
<p>Reset.</p>	
<p>Direction of rotation.</p>	
<p>Transport position reference mark.</p>	
<p>Lifting hooks.</p>	

# ROBOCUT ROBO-CHIPPER

## 3. MACHINE CHARACTERISTICS

### 3.1 – MACHINE DESCRIPTION

Mounted tool used to shred all types of plant waste into small pieces.

The equipment has a combination shredding unit with blades and hammers that has a high throughput capacity and a large hopper, making it suitable for professional use.

### 3.2 – IDENTIFICATION OF THE MACHINE

#### 3.2.1 – Machine plate

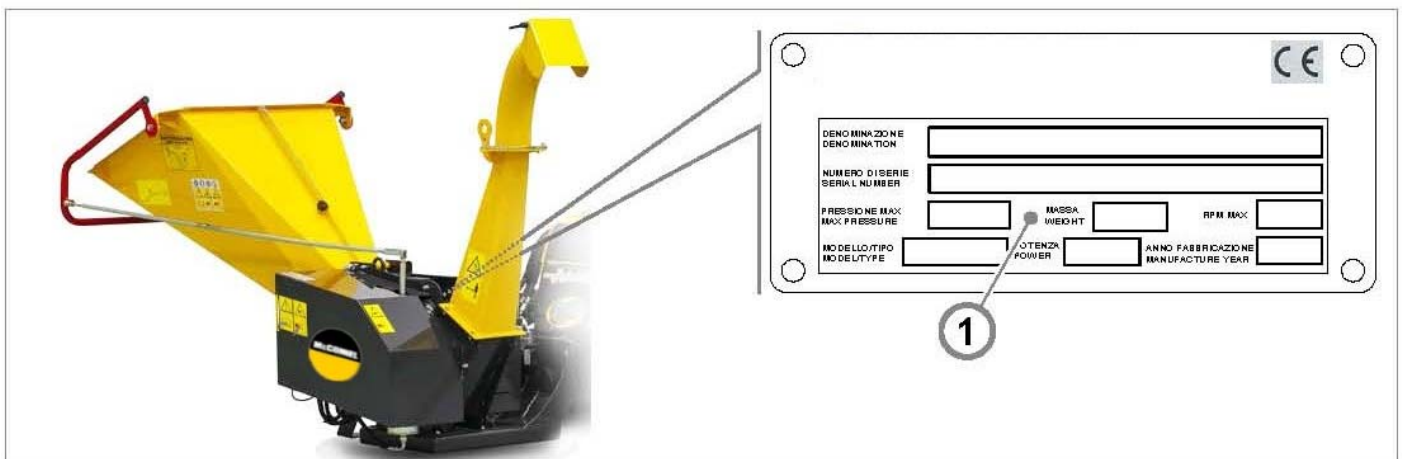
The machine plate (1), fastened to the frame, indicates that it complies with current safety regulations.



## WARNING



The serial number and year of manufacture must always be stated when requesting assistance or ordering replacement parts for the machine.



# ROBOCUT ROBO-CHIPPER

## 3.4 – PERMITTED USE

The ROBO-CHIPPER has been designed to be attached to a McConel remote controlled machine in order to shred all types of plant waste. It must not be used for any other purposes that are not expressly authorised in writing by the Manufacturer.

### WARNING



Improper use may cause injury to people or animals or damage to property and will immediately void the warranty.



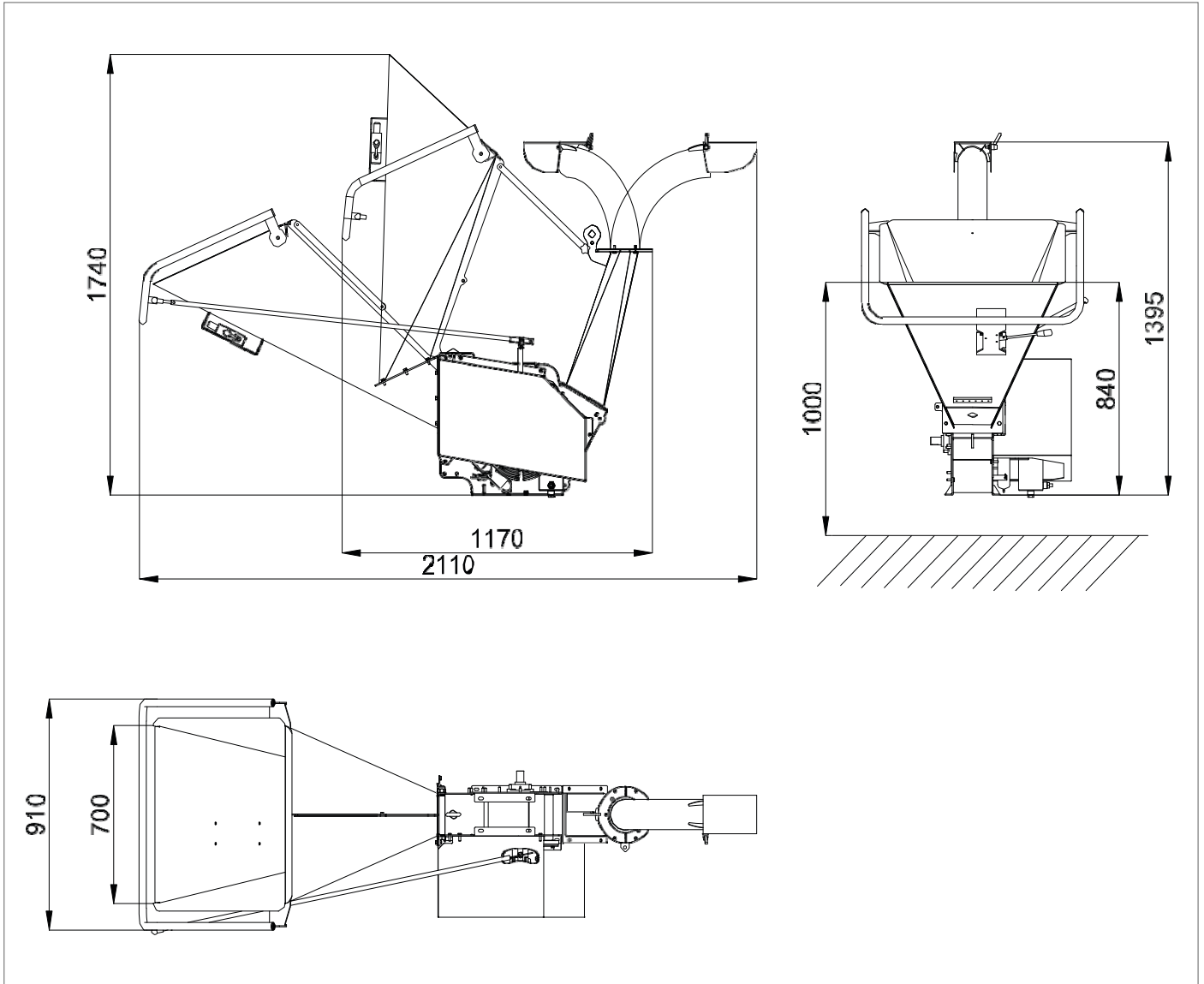
## 3.3 – MACHINE COMPONENT IDENTIFICATION

1	Body	6	Emergency valve lever
2	Casing	7	Adjustable discharge chute
3	Control rod	8	Discharge chute end flange
4	Hopper	9	Discharge chute
5	Handle		

# ROBOCUT ROBO-CHIPPER

## 3.5 – TECHNICAL DATA

### 3.5.1 – Overall machine dimensions



# ROBOCUT ROBO-CHIPPER

TECHNICAL DATA TABLE

Description	Unit	ROBO-CHIPPER
Power	kW / HP	25 / 34
Overall length	mm	2110 / 1170
Overall width	mm	910
Overall height	mm	1395 / 1740
Infeed height	mm	1000
Discharge height	mm	1395
Infeed width	mm	700
Weight	kg	170
Number of blades	pcs	2
Number of hammers	pcs	8
Max. wood diameter	mm	90
Rotor rpm	rpm	2780

## 3.6 – NOISE LEVEL

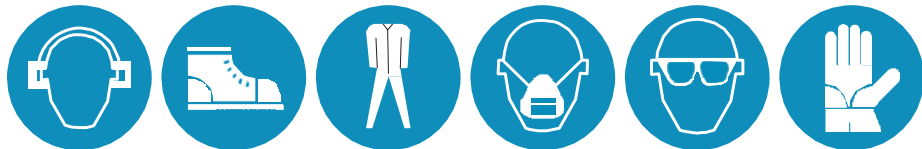
### Airborne noise

The A-weighted sound pressure level of the noise emission dB (A) in the work position is 117 dB (A).

### WARNING



It is recommended that Personal Protective Equipment is worn when using the machine. Always wear noise protection ear defenders when the machine is in operation.



# ROBOCUT ROBO-CHIPPER

## 4. INSTALLATION AND HANDLING

### DANGER



The operations described in the following paragraphs must be carried out by trained and qualified technicians.

### 4.1 – HANDLING AND TRANSPORT

### CAUTION



Pay maximum attention to safety during loading and unloading operations, which must be performed by personnel who are fully qualified to use the lifting equipment (slings, forklifts etc.).

When lifting the machine, the specific lifting points indicated on the illustration below must be used.

- Only lift the machine using lifting equipment and ropes or chains with a suitable lifting / load carrying capacity. Check the weight of the machine by referring to the 'Technical Data' table.
- Do not use the 2 hooks on the machine for transporting it.





# ROBOCUT ROBO-CHIPPER

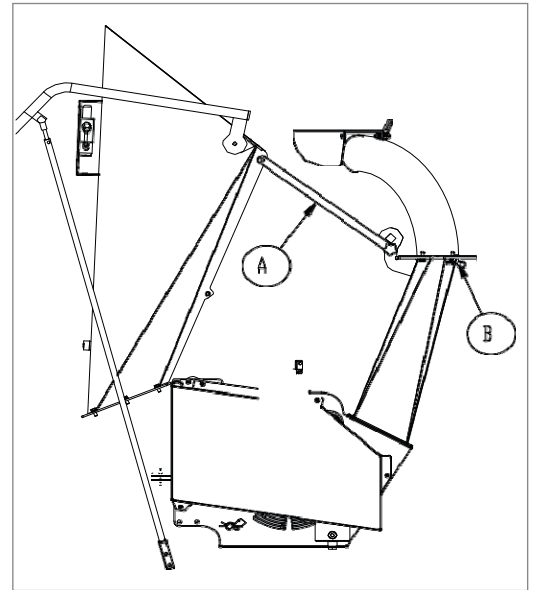
- If transporting the machine within a limited space, the overall dimensions of the machine can be reduced by inclining the hopper towards the discharge chute. To do this, unscrew the six bolts that fix it to the body of the machine and release the control rod handle from the extension.

## DANGER



**Never operate the shredder with the hopper reclined; there is a risk of being dragged into the machine.**

- The hopper should be hooked to the chute with the hopper fastening rod (A) as show in the illustration opposite.
- Turn the adjustable discharge chute towards the hopper and lock it using the pin (B).



## CAUTION



**After transportation, the hopper and the adjustable discharge chute should be returned to their correct work positions before starting work.**

# ROBOCUT ROBO-CHIPPER

## 4.2 – ATTACHING THE EQUIPMENT TO THE ROBOCUT MACHINE

### WARNING



The Robo-Chipper must be placed in its work position using the front lifting device so that there is a distance of 100mm or greater between the lower edge of the hopper and the ground.

To attach the equipment to the RoboCut machine:

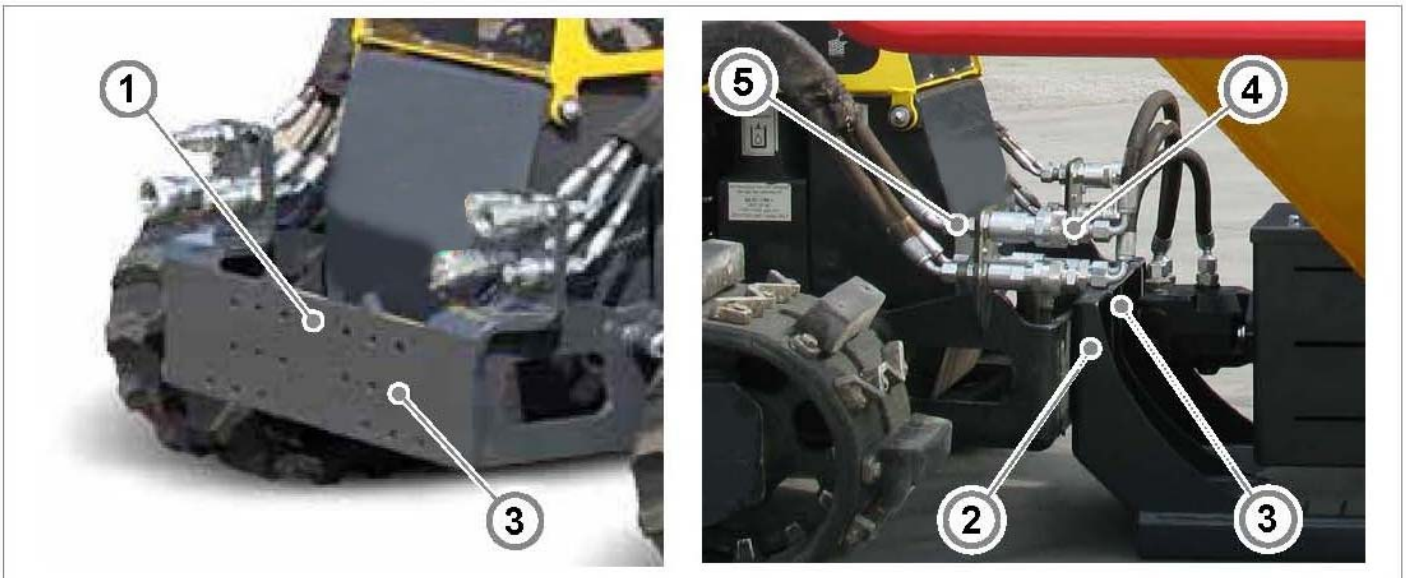
- Align the RoboCut with its attachment plate (1) parallel and centred to the Robo-Chipper attachment plate (2).
- Lower the RoboCut attachment plate (1) and slowly move the machine forwards until the two plates come into contact with one another and then gently raise the RoboCut attachment plate until the attachment plate (2) of the Robo-Chipper is engaged.
- Switch off the RoboCut machine and remove the safety key from the remote control unit.
- Fasten the two plates together via the holes (3) using 6 bolts and 6 self-locking nuts.

### WARNING



Clean all quick couplings thoroughly before connecting the hoses. Foreign bodies in the hydraulic circuit can damage the hydraulic components of the attachment tool and/or the RoboCut machine.

- Connect the 3 quick couplings hoses for the hydraulic motor of the Robo-Chipper (4) to the quick couplings of the RoboCut machine (5).
- Make sure that all the connections have been made correctly.
- Switch on the RoboCut machine and check that all controls correspond to their correct function; *specifically check to ensure that the direction of rotation causes the plant material to be shredded and not ejected.*



# ROBOCUT ROBO-CHIPPER

## 5. USING THE MACHINE

### 5.1 – PRELIMINARY CHECKS

---

The operator must check that the machine has been supplied with the:

- Use and maintenance manual.
- Inspection log book (*if required*).
- Third party liability insurance policy (*if required*).

If the machine is resold as a 'second hand' machine, the customer / user must provide the purchaser with the complete use and maintenance manual as well as the inspection log book (if requested).

### 5.2 – CHECKS TO BE PERFORMED AT THE START OF EACH WORKING DAY

---

Before using the machine, you must be familiar with the controls and their functions. Therefore, read the following information carefully and follow the information or technical advice provided by the manufacturer.

- 1) Generally inspect the area around the machine before starting the work, making sure that there is nothing to prevent it from being started.
- 2) Check for foreign objects that could prevent the cutting unit from working normally.

#### 5.2.1 – *General inspection for oil leaks*

Carry out an external inspection of the machine (joints, hoses, hydraulic components, etc.) and check for any leaks of oil or other liquids.

Check the machines hydraulic hoses to ensure there are no cuts, holes, leakages, or signs of chaffing etc.

### DANGER



**Do not look for oil leakages with your bare hands or other parts of your body. Use paper or rags to identify the leak.  
Always wear waterproof gloves and safety goggles.**

---

# ROBOCUT ROBO-CHIPPER

## 5.2.2 – Checking the safety devices

Check that the safety devices installed on the machine are working properly, especially the emergency stop button on the machine and the emergency stop button on the remote control.

Check the integrity of all the safety guards installed on the equipment.

### DANGER



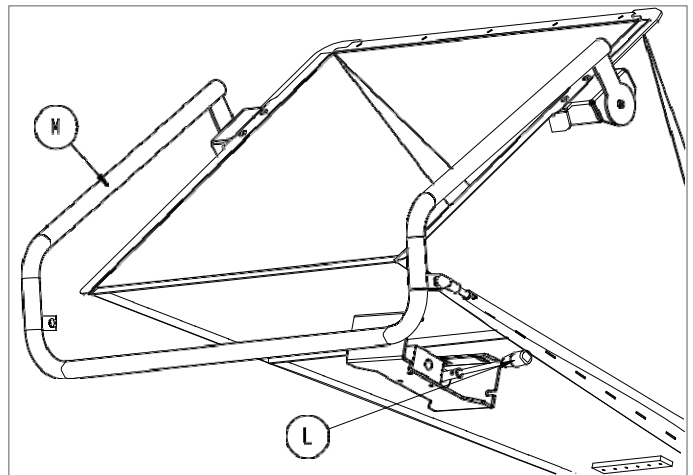
**If one or more of the parts listed above malfunctions or breaks; do not use the machine. The machine should only be used again when the problem has been correctly repaired by authorised technician.**

### Emergency stop device

The shredder is equipped with an Emergency Stop System which can be used in the event where unsuitable materials enter the machine, or in circumstances of danger.

Pushing the handle (M) activates the lever (L) connected to the valve located beneath the hopper.

In order to check the working order of this device before use; turn on the engine and engage the transmission. Pull the handle (M) towards you and check that the valve lever is in the work position, and then push the handle with force towards the machine. If the infeed roller is not released, contact an authorised technician.



# ROBOCUT ROBO-CHIPPER

## 5.3 – STARTING THE MACHINE

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### DANGER



Make sure that there are no obstructions that prevent the mechanisms of the machine from moving. Make sure that all controls are in neutral.

---

### WARNING



To start the engine, follow the instructions in the RoboCut Operator Manual.

---

To start the machine:

- 1) Bring the engine to its correct operating temperature by running it at idle speed for a few minutes.
- 2) Bring the hydraulic oil to the correct operating temperature by running the machine empty for a few minutes.
- 3) Use the control for moving the machine.

### DANGER



Use only one control at a time and pay attention to the various movements in order to be able to control the machine at all times.

---

### 5.3.1 – WORKING HOURS

In accordance with regulations regarding noise, shredders can only be used at certain times; these are established by the legislation of the country in which the machine is being used.

### 5.3.2 – STARTING THE MACHINE

Place the shredder on firm dry flat ground. Make sure that all the guards are closed. Rotate the adjustable discharge chute to the required position.

Check the level of the hydraulic oil to ensure it is not less than the permitted limit - *refer to the Maintenance Section.*

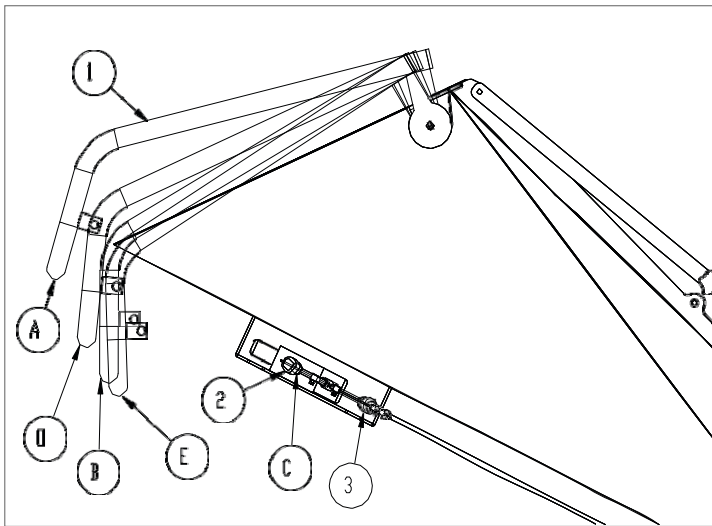
# ROBOCUT ROBO-CHIPPER

## 5.3.3 – USE

Use the machine at an ambient temperature of between -20°C and +40°C.

Users must wear work gloves, safety glasses or face shield, ear protectors, safety shoes, dust mask and helmet when operating the machine.

The operator should pull the control and emergency handle (1) towards him/her and check that the emergency valve lever (C) is in position (2). The handle allows you to establish the direction of rotation and the speed of the feeding roller.



Control handle positions	
Ref.	Description
A	Maximum material infeed speed
B	Maximum material discharge speed
C	Emergency valve lever
D	Stop position
E	Emergency stop position

Every time the handle is placed in the emergency stop position (E), the emergency valve lever (C) is automatically pulled into position 3 and the drive roller stops. In order to restart, move the handle out of the emergency stop position (E) to any other position (A, B, D) and manually move the emergency valve lever from position 3 to position 2.

The operator can then carefully introduce leaves, twigs and branches not exceeding 90mm in diameter into the hopper.

Note: 90mm is the maximum diameter that can be shredded; this is considered to be a single branch of medium-low wood hardness – therefore, where wood hardness is greater, the maximum diameter that can be shredded is reduced.

For optimum machine performance, it is recommended to use a material infeed speed that always allows the engine to work above its maximum torque.

If processing wet or fibrous materials such as lindens, pines or palms, reduce the infeed speed to avoid the machine becoming clogged.

After each session of use; clean the cutting unit, check that the nuts and bolts are tight and check that all the guards are intact and correctly fitted to the machine.

For storage, the machine should be kept in a clean dry environment where it is protected from the elements. Ensure the machine is stored in a safe stable condition.

# ROBOCUT ROBO-CHIPPER

## 5.4 – CONTROL STATION - WORK AREA

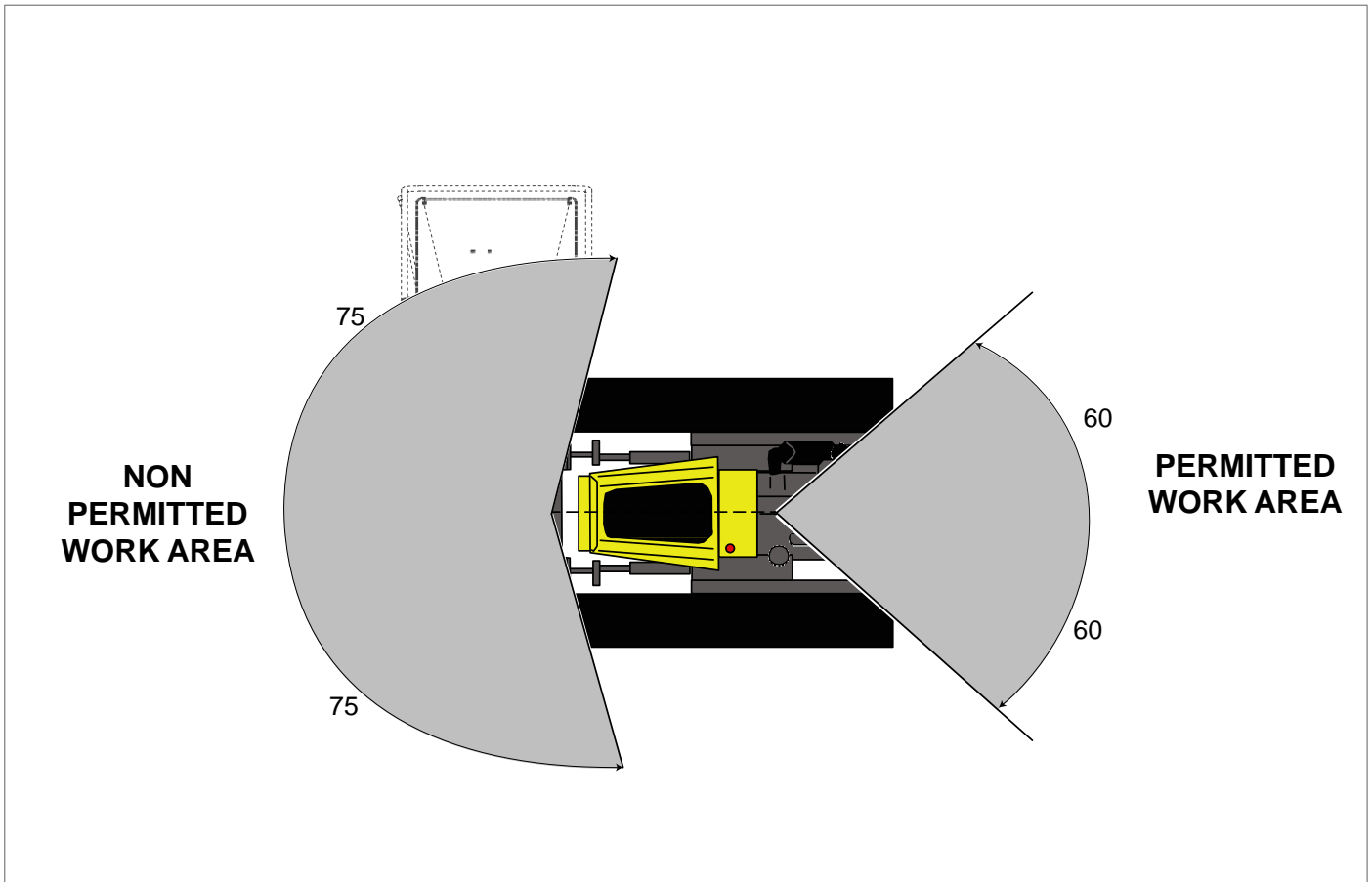
### WARNING



Do not operate the machine on slopes or in any position in which it could overturn with the equipment mounted on it.

### Operator responsibilities:

The operator must make sure that there are no people or animals in the vicinity of the machines work area during use (minimum 50m radius of the machine).



# ROBOCUT ROBO-CHIPPER

## 5.5 – REMOTE CONTROLS

The machine can be controlled via the RoboCut remote control unit.

1	<b>Shredder start button.</b> If the selected direction of operation is wrong, the material will be ejected from the loading inlet.
2	<b>Potentiometer;</b> Increases or decrease the RPM of the shredder.



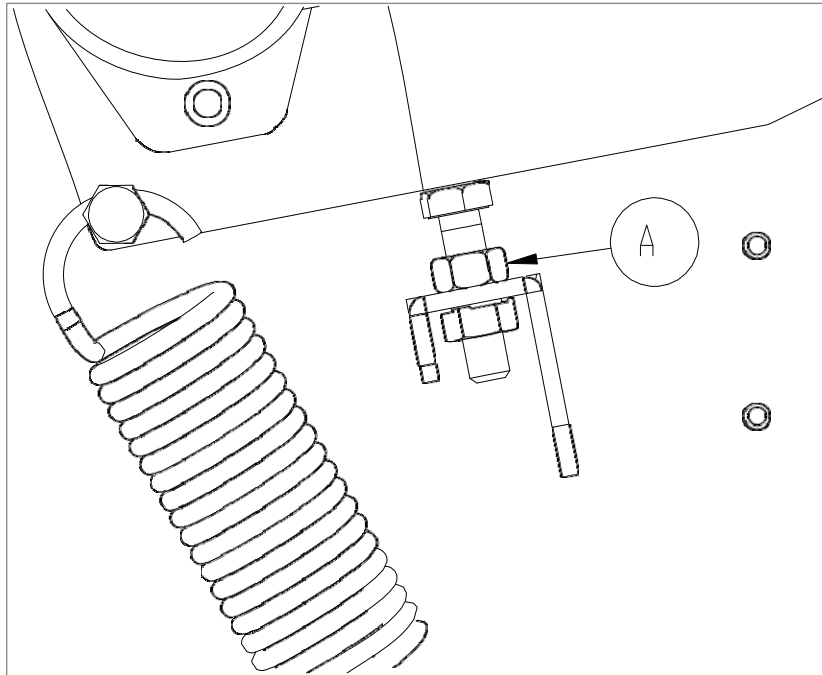


# ROBOCUT ROBO-CHIPPER

## 6. ADJUSTMENTS

### 6.1 – ADJUSTING THE HEIGHT OF THE HOPPER

If the height of the hopper needs to be adjusted (as indicated in chapter 9), remove the casing and adjust the nut (A), located at the side of the machine using a 22mm wrench.



# ROBOCUT ROBO-CHIPPER

## 7. FAULT, CAUSE, SOLUTION

### CAUTION



Most operational faults occur because the machine is used incorrectly; it is therefore essential to fully read and follow the instructions in the manual carefully.

If the machine malfunctions, refer to the following troubleshooting table for possible causes and possible solutions for overcoming them.

### WARNING



Maintenance and repair to the machine must be carried out by qualified technicians, after having checked that there are no potentially hazardous situations or conditions.

### CAUTION



Contact McConnell if faults should occur or if faults are discovered, indicating the machine identification number and its hours of operation. If the fault or the reason for it is not indicated in the list shown in the tables below - contact McConnell in order for repairs to be carried out.

# ROBOCUT ROBO-CHIPPER

Fault	Possible Cause	Possible Solution
The shredder does not work when empty.	The power transmission may be damaged.	<i>Check the power transmission system. If the problem persists, request technical assistance.</i>
Excessive vibration.	Cutting unit unbalanced as a result of a strong impact. Broken blade or severe damage to the hammers. Seized support or loose transmission components.	<i>Find out what the exact cause of the problem is and contact an authorized technician to carry out repairs.</i>
Cutting unit blocked.	Excessive material introduced. Accidental introduction of stones or metal.	<i>Switch off the machine and put on protective gloves. Clean the shredder. Every time the shredder stops for the reasons indicated, always check the working efficiency of the transmission and the shredder unit, paying close attention to the integrity of the blades, hammers and shafts.</i>
Shredder blocked.	Lack of power.	<i>DO NOT restart the machine immediately because it could cause the transmission to break. Before starting the machine, remove any materials from under the drive roller as indicated above. If necessary, clean the shredder.</i>

# ROBOCUT ROBO-CHIPPER

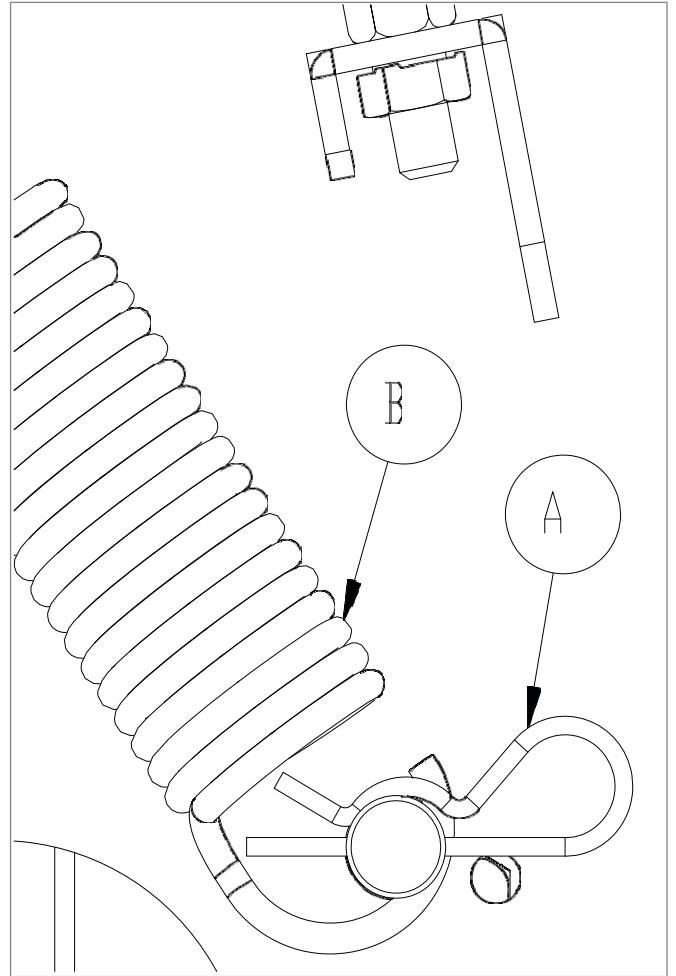
Fault	Possible Cause	Possible Solution
Hydraulic infeed systems blocked.	Roller blocked	<i>Check that the emergency stop has not been activated via the control handle. If it has, move the control handle from the emergency stop position and pull the emergency valve lever towards you. If the problem persists, switch off the machine.</i>
	Pieces of wood are stuck in the mechanisms.	<i>Check and remove the pieces of wood to release the mechanisms.</i>
	Toothed drive roller blocked because it is in contact with other parts of the machine.	<i>Check and if it is, lift the roller using the appropriate regulator so that there is a clearance of 5 mm between the teeth of the roller and the bottom of the machine body. If the problem persists after having carried out these checks, make sure there are no leaks in the hydraulic system.</i>
	The spring pin of the distributor control shaft is damaged or broken.	<i>Check that the spring pin joint is in good condition and that it is able to transmit motion to the pump. If the problem persists, contact an authorised technician.</i>

# ROBOCUT ROBO-CHIPPER

## 7.1 – MACHINE BLOCKED

If the machine is blocked it may be caused by material jammed between the feed roller and the rotor, in which case, proceed as follows:

- 1) Switch off the machine and remove starting key.
- 2) Put on protective gloves.
- 3) Remove the casing.
- 4) Remove cotter pin (a) and unhook spring (b).
- 5) Lift drive roller and remove any material that is stuck.
- 6) Lower the roller and refit the items removed.



# ROBOCUT ROBO-CHIPPER

## 8. STORAGE

If the machine is not going to be used for extended periods, it must be stored in a place protected from the elements to prevent damage. Before storing the machine, it is recommended that you clean it thoroughly and lubricate all mechanical components to protect them from rust.

The machine should be stored at a temperature between 0 °C and 40 °C.

Before storing the machine for long periods, it is recommended to perform the following tasks:

- Remove any residues of plant material from the equipment.
- Clean the machine thoroughly.
- Visually inspect the whole machine to identify any structural damage or deep scratches on the paintwork. Make sure that the original safety signs are still present in their proper positions and that they are intact and legible.
- Grease all mechanical parts that are subject to friction, the locking pins and all machine parts that are no longer covered with their original coating of paint in order to prevent rust from forming.
- If possible, store the machine in a clean dry covered area on a firm level surface.
- Make sure that the ignition key is removed and the remote control is kept in a safe place.

### WARNING



If the machine or any parts of it were decommissioned, all parts that could constitute a hazard must be made safe.

### DANGER



The fluids contained in the machine, once drained from the circuits and tanks must be collected into appropriate receptacles, taking care that the fluids do not come in contact with eyes, skin or mouth.

# ROBOCUT ROBO-CHIPPER

## 8.1 – DISMANTLING AND DECOMMISSIONING

Should you decide to no longer use the machine or any part of it, it must be dismantled and decommissioned. Before disposing of the equipment, any plastic, rubber and electrical components must be separated and disposed of in the correct manner according to the regulations in force.

Drain any used fluids and dispose of them in a recycling facility that is suitably equipped to handle these types of fluids.

Disposal of all components must be performed in accordance with all regulations in force.

### WARNING



If the machines, or parts of it, are to be decommissioned, all parts that could constitute a hazard must be made safe.

### DANGER



The fluids contained in the machine, once drained from the circuits and tanks, should be collected into appropriate containers, taking care that they do not come in contact with the eyes, skin or mouth.

# ROBOCUT ROBO-CHIPPER

## 9. MAINTENANCE

### DANGER



**Maintenance must be carried out exclusively by McConnel Service or by a suitably qualified and authorised McConnel Dealer.  
Always wear personal protective equipment when performing any work or maintenance on the machine.**

For best performance and maximum component life, the use and maintenance instructions in the manual must be followed by the operator. It is advisable to read these instructions carefully and consult the manual every time you need advice on how to overcome possible faults.

The nature of this machinery means it is often used in contact with moisture, sand, earth, etc., therefore regular lubrication is a necessary. This is of vital importance not only to ensure the long life of the machine, but also to keep running costs low. For further information, please contact our Service Department:

*Contact McConnel Service - Tel: +44 (0)1584 875848*

### DANGER



**All maintenance, cleaning, and repair work must be performed with the engine turned off and the starting key removed.  
Before carrying out cleaning or maintenance, allow the machine and the equipment to cool down.**

### WARNING



**Before each working day, check the integrity of the machine and the hydraulic hoses for wear. Check for oil leaks and check that all safety decals are intact and legible.  
If there are any faults or malfunctions, the cause of the problem must be investigated and the fixed immediately.  
Check that any guards that were removed during maintenance have been repositioned properly.**



# ROBOCUT ROBO-CHIPPER

## 9.1 – LUBRICATION POINTS

Grease the machine lubrication points that are indicated with grease point decals every 50 hours.

### LUBRICANTS TABLE

Grease Type:	AGIP MU EP1
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# ROBOCUT ROBO-CHIPPER

## 9.2 – PERIODIC MAINTENANCE

Maintenance Schedule	Frequency of inspection / replacement						
	8 hours	50 hours	100 hours	600 hours	6 months	1 year	2 years
Machine cleaning	X						
Check tightness of nuts and bolts	X						
Check casing	X						
Check hammers	X						
Check blades	X						
Check roller arm play			X				
Grease rotor bearings		X			X		
Check wear and play of joints			X				
Replace hydraulic oil ISO VG 46				X			X

### DANGER



Used oil is highly corrosive and harmful to the environment. Wear suitable clothing when carrying out the operation. Dispose of the oil properly after use and follow the current regulations regarding disposal. Replace with clean oil of the correct grade.

## 9.3 – CLEANING, INSPECTION AND REPLACING PARTS

### WARNING



Maintenance that involves removing the casing must be carried out exclusively by authorized service centres.

### WARNING



Before carrying out inspection, cleaning or maintenance at the end of each job, turn off the machine, and wear protective gloves and footwear. Maintenance that involves removing the casing must be carried out exclusively by authorized service centres.

### CAUTION



Check the hydraulic hoses for wear or oil leaks every day. Hydraulic hoses must be replaced periodically; every 2000 hours or yearly. Hoses that show signs of wear or damage should be replaced immediately.

# ROBOCUT ROBO-CHIPPER

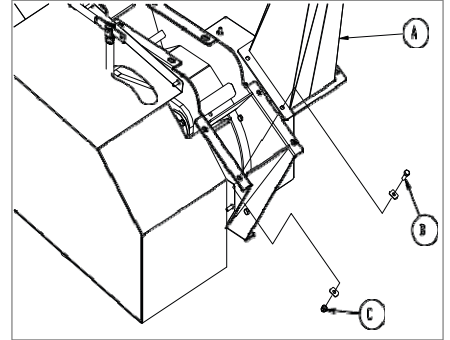
## CAUTION



Check the tools for wear every day and replace them if they are worn.

### 9.3.1 – CLEANING THE SHREDDER

Remove the discharge chute (A) by unscrewing the four nuts (C) and the respective bolts (B). Remove any material residues, paying attention to the machines cutting elements.



## DANGER

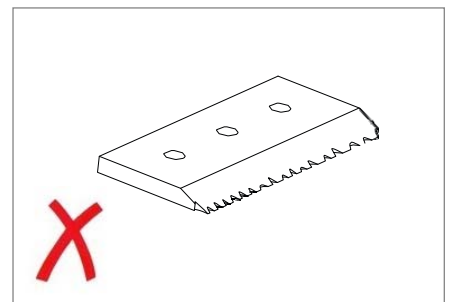
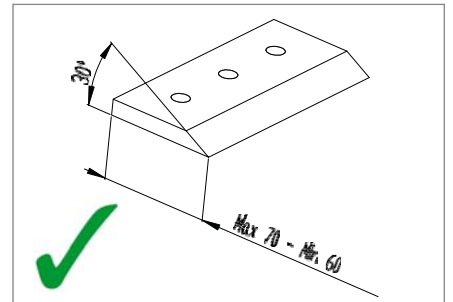


Handle the cutting tools with extreme caution.

### 9.3.2 – INSPECTION AND REPLACEMENT OR SHARPENING OF BLADES

The blades should be checked before each session of use. For the machine to work efficiently and avoid damage, the blades must be sharp and correctly fitted (fig. 7). The lifespan of the cutting edge of the blade depends on the nature and type of material being shredded. It is impossible to provide exact data on this subject, but if the machine is being used to shred materials that contains dust, sand, earth, etc., the cutting edges of the blades will rapidly become blunt.

- **Sharp blade (Yes)**
- **Worn blade (No)**



## WARNING



Using the machine with the blades that are in poor condition can cause mechanical failures that are attributable to the user.

# ROBOCUT ROBO-CHIPPER

To remove blades, loosen bolts (A) using a 17mm wrench. Remove the blades and sharpen; ensure the dimensional figures stated in the blade illustration shown below are respected. Replace the blade (B) ensuring it rests against the stop (C) and that the surface on which it rests is perfectly clean. Tighten the bolts (A) to a torque setting of 73Nm. If the bolts (A) appear worn, replace them with bolts of the same resistance class, 10.9 or higher.

When replacing parts, only original spares should be used (marked with the name of the manufacturer) and which are readily available from the manufacturer. If the blades have been subjected to severe shocks or blows ask an expert to examine them.

If blades are worn beyond the minimum dimension shown opposite the blades must be replaced immediately.

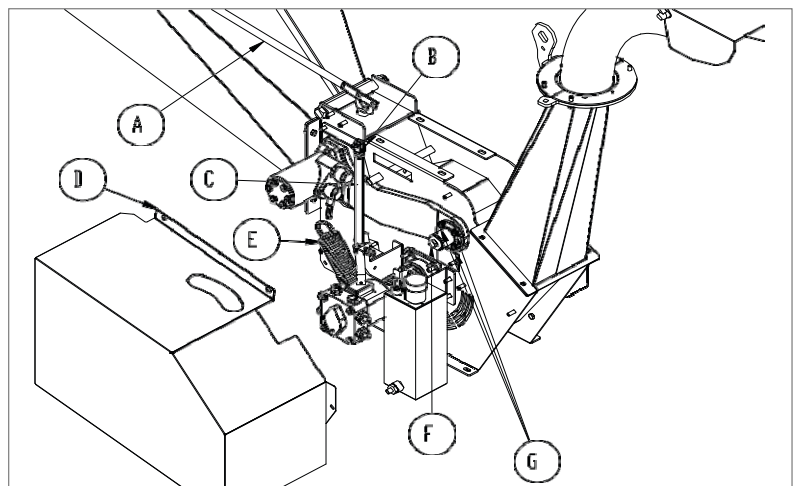
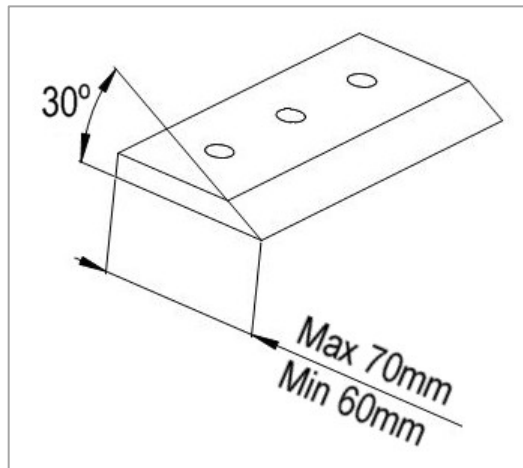
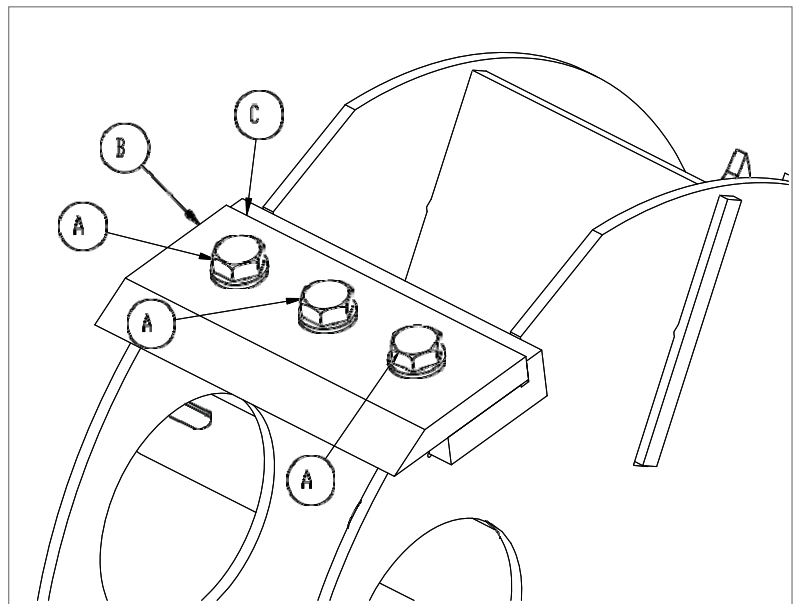
## 9.3.3 – CHECKING THE PLAY OF THE ROLLER ARM AND REPLACING BUSHINGS

Unhook the control rod handle (A) from the spring clevis (B), remove the pump guard (D) by unscrewing the four bolts and unhook the spring (E). By applying force by hand, check if the roller arm has any axial or radial play that could lead to the roller coming into contact with the body of the machine.

If it does, the two bushings should be replaced. Unscrew the bolt (F) at the end of the joint and the 4 bolts (G) that fasten it to the arm, withdraw it and remove the two worn bushings.

Replace the bushings and put back everything following a reversal of the removal procedure.

When replacing the bushings, it is recommended that a press is used to insert them.

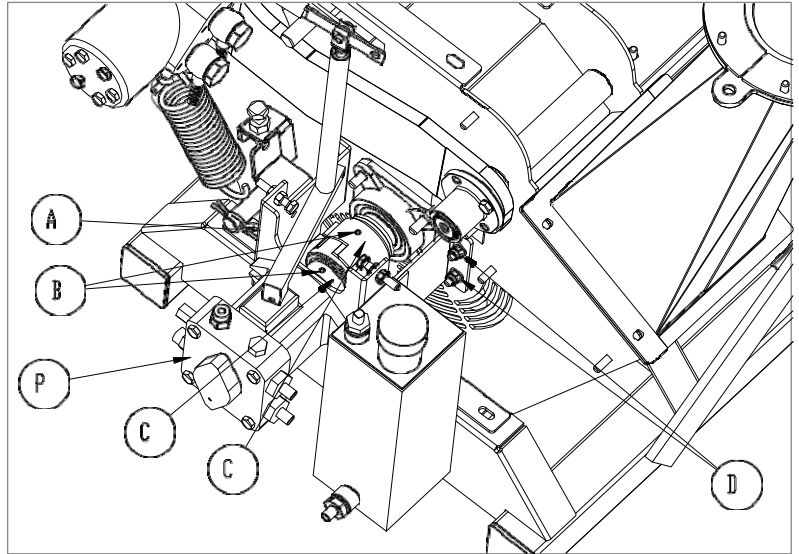


# ROBOCUT ROBO-CHIPPER

## 9.3.4 – CHECKING THE FLEXIBLE COUPLINGS

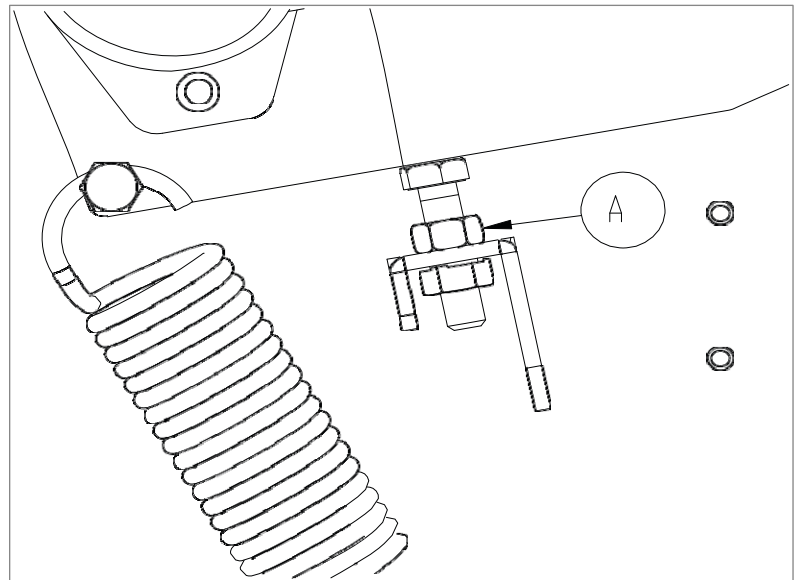
In order to check the wear on the pump coupling (C), remove the pump guard as stated in the previous paragraph.

Check for play by moving it manually. If play exists, it should be replaced. In order to replace the coupling, unscrew the two grub screws (B), the 4 nuts (D) and remove the pump support with the pump (P) still attached and remove the two couplings (C). Replace the complete coupling and replace all the components via reversal of the removal procedure.



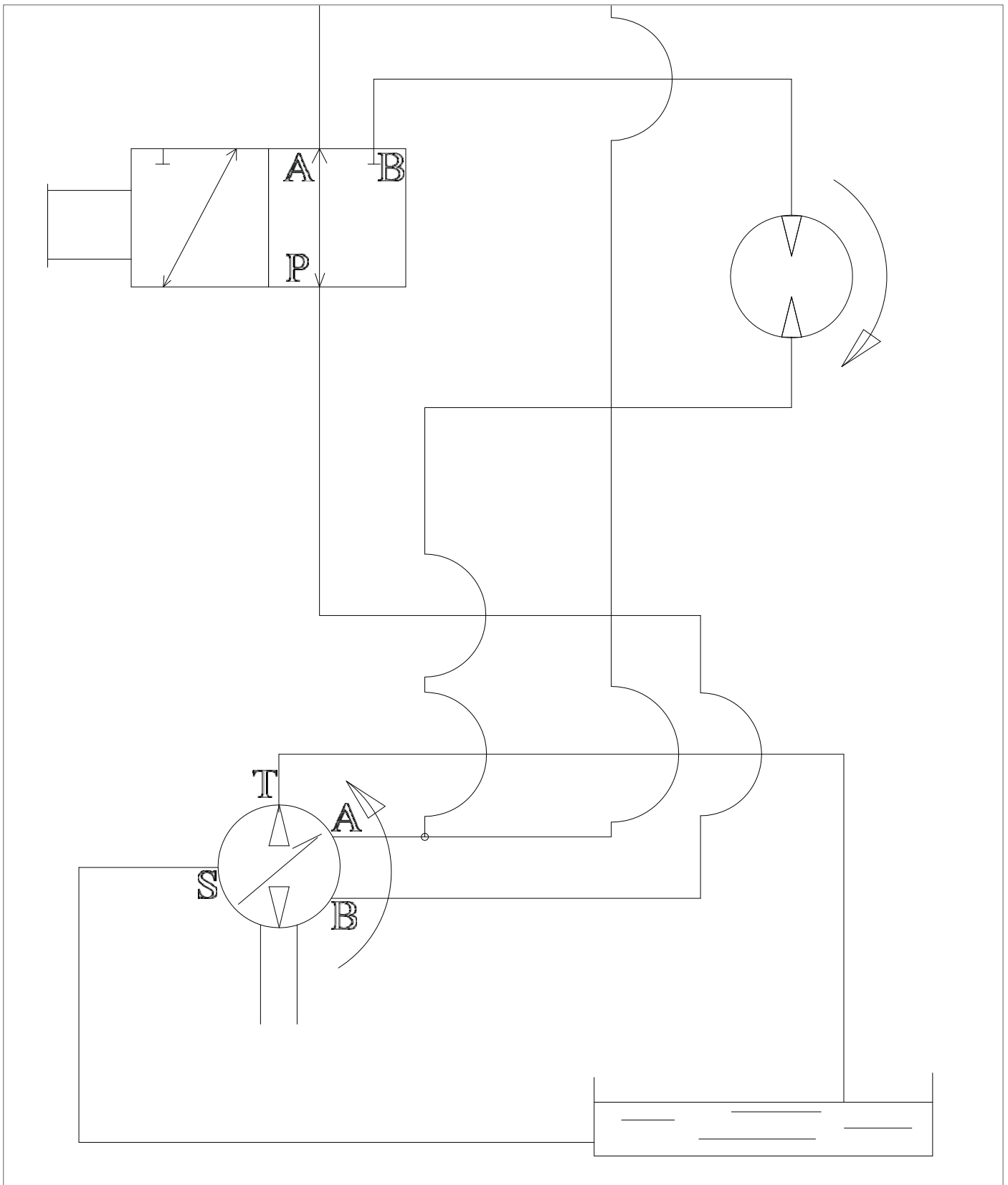
## 9.3.5 – CHECKING THE HEIGHT OF THE DRIVE ROLLER

The drive roller height should be checked every six months; the inspection is performed by looking inside the hopper to check that there is a clearance of at least 5mm between the feed roller and the bottom of the hopper. If the height needs to be adjusted, refer to chapter 6.



# ROBOCUT ROBO-CHIPPER

## 9.4 – HYDRAULIC SYSTEM DIAGRAM



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## 10. NOTES

# ROBO-CHIPPER

## Parts Manual



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*Design improvements may alter some of the parts listed in this manual –  
the latest part will always be supplied when it is interchangeable with an earlier one.*





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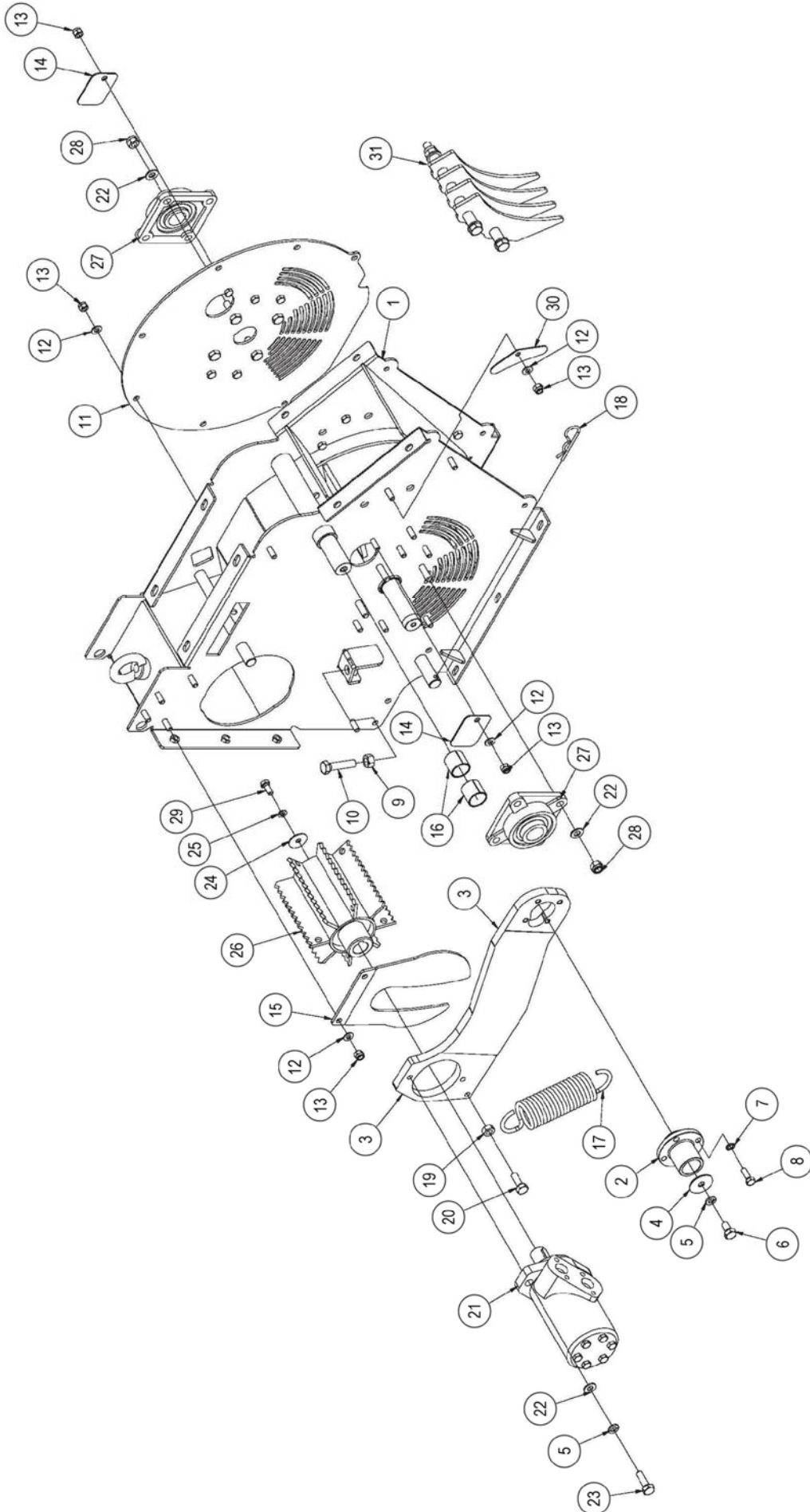
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Main Frame Module	4
Discharge Chute Module	6
Rotor Module	8
Hopper Module	10
Drive Module	12
Hydraulic Module	14

# MAIN FRAME MODULE

Product: ROBO-CHIPPER

# McCONEL



**MAIN FRAME MODULE****McCONNEL**

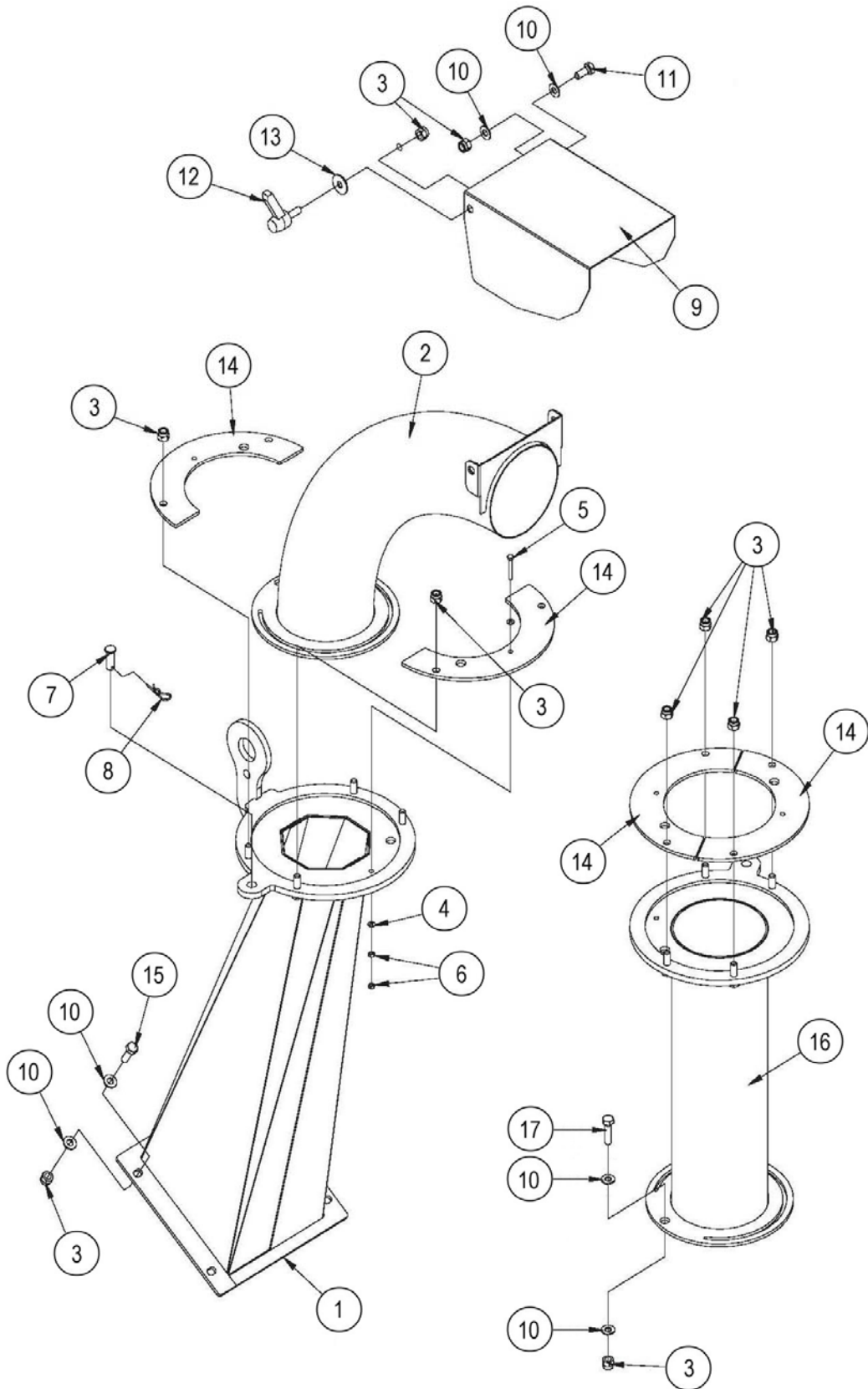
Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>MAIN FRAME MODULE</b>
1	1	4003201	MAIN FRAME
2	1	4003202	COUPLING
3	1	4003203	ARM
4	1	4003204	WASHER
5	3	4003205	SPRING WASHER
6	1	4003206	BOLT
7	4	4003207	SERRATED WASHER
8	5	4003208	BOLT
9	1	4003209	NUT
10	1	4003210	BOLT
11	1	4003211	FLANGE COVER
12	11	4003212	WASHER
13	11	4003213	NUT
14	2	4003214	COVER PLATE
15	1	4003215	COVER PANEL
16	2	4003216	BUSH
17	1	4003217	SPRING
18	1	4003218	SPLIT PIN
19	1	4003219	NUT
20	1	4003220	BOLT
21	1	4003221	MOTOR
22	10	4003222	WASHER
23	2	4003223	BOLT
24	1	4003224	WASHER
25	1	4003225	SPRING WASHER
26	1	4003226	ROLLER
27	2	4003227	BEARING
28	8	4003228	NUT
29	1	4003229	BOLT
30	2	4003230	COVER PLATE
31	1	4003231	GRILLE KIT

# DISCHARGE CHUTE MODULE

Product: ROBO-CHIPPER

**McCONEL**



**DISCHARGE CHUTE MODULE****McCONNEL**

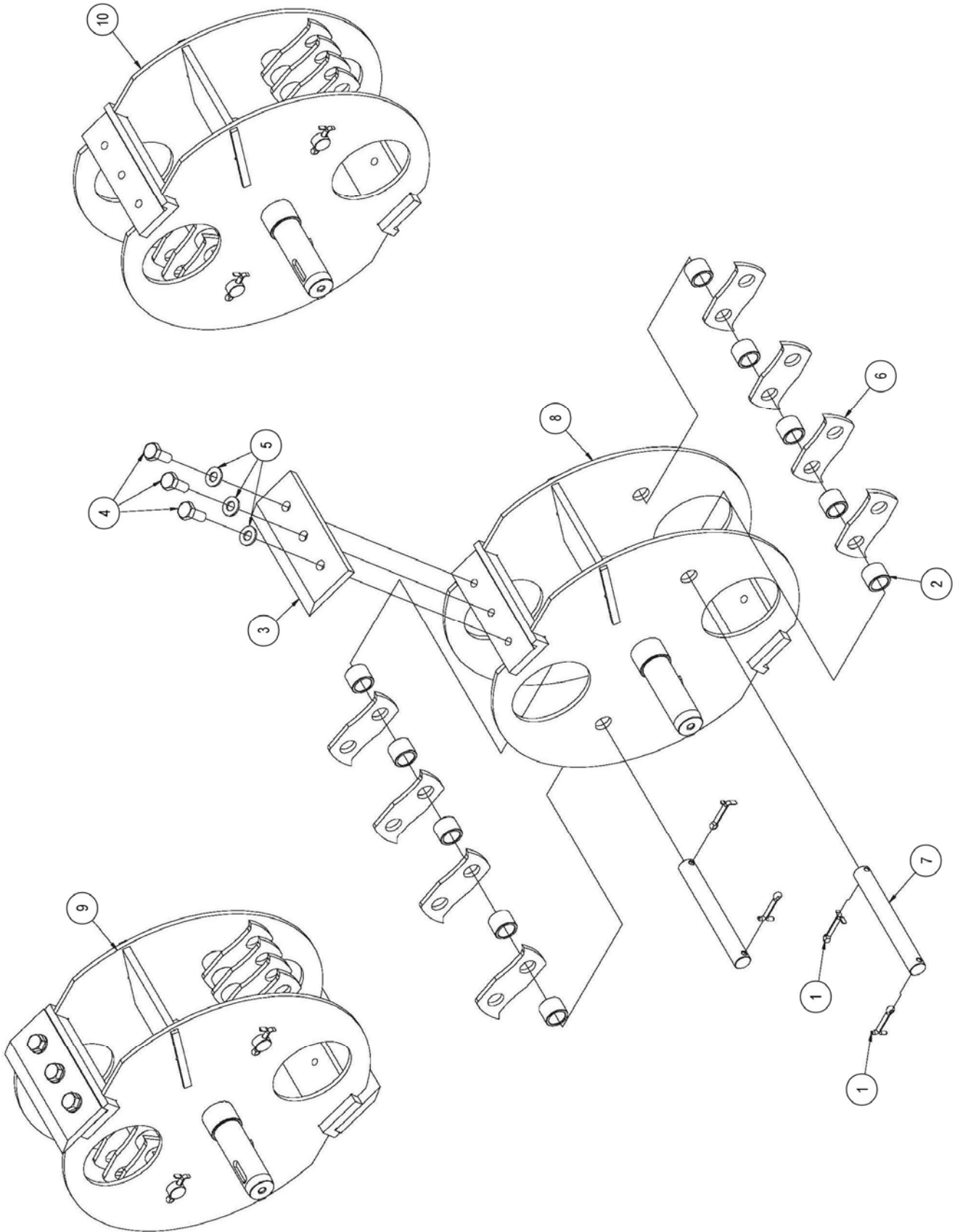
Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>DISCHARGE CHUTE MODULE</b>
1	1	4003232	DISCHARGE CHUTE
2	1	4003233	CURVED CHUTE
3	15	4003213	NUT
4	2	4003234	WASHER
5	1	4003235	BOLT
6	2	4003236	NUT
7	1	4003237	PIN
8	1	4003238	SPLIT PIN
9	1	4003239	DEFLECTOR
10	12	4003212	WASHER
11	1	4003229	BOLT
12	1	4003240	HANDLE
13	1	4003241	WASHER
14	4	4003242	FLANGE
15	4	4003208	BOLT
16	1	4003243	CHUTE EXTENSION
17	1	4003244	BOLT

# ROTOR MODULE

Product: ROBO-CHIPPER

**McCONEL**



**ROTOR MODULE****McCONNEL**

Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>ROTOR MODULE</b>
1	4	4003245	SPLIT PIN
2	10	4003246	SPACER
3	2	4003247	BLADE
4	6	4003248	BOLT
5	6	4003222	WASHER
6	8	4003249	SWEEPING BLADE
7	2	4003250	PIN
8	1	4003251	ROTOR
9	1	4003252	* ROTOR ASSEMBLY (with Blades)
10	1	4003253	** ROTOR ASSEMBLY (without Blades)

\* *Comprises of items 1, 2, 3, 4, 5, 6, 7 & 8*

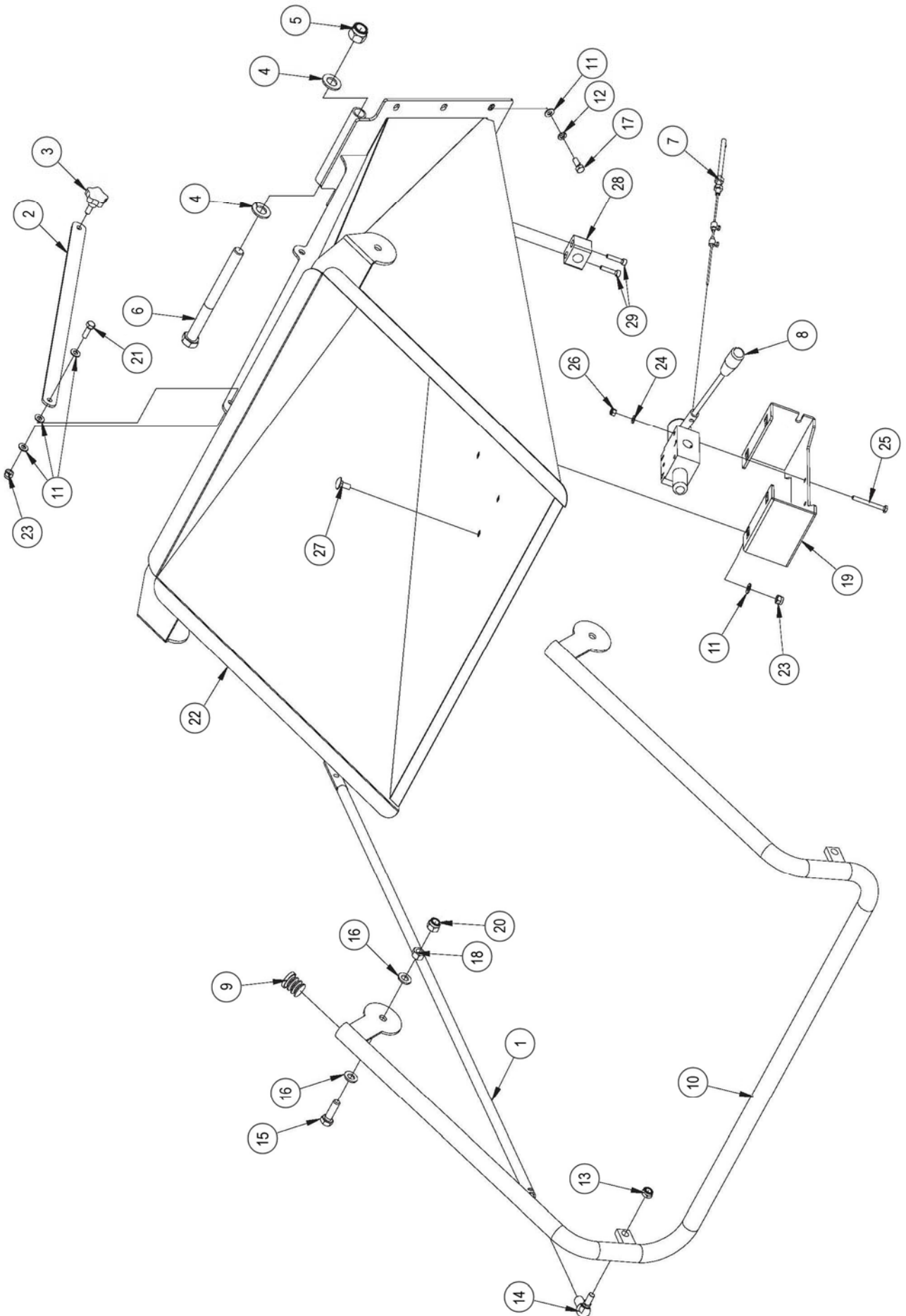
\*\* *Comprises of items 1, 2, 6, 7 & 8*



# HOPPER MODULE

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**HOPPER MODULE****McCONNEL**

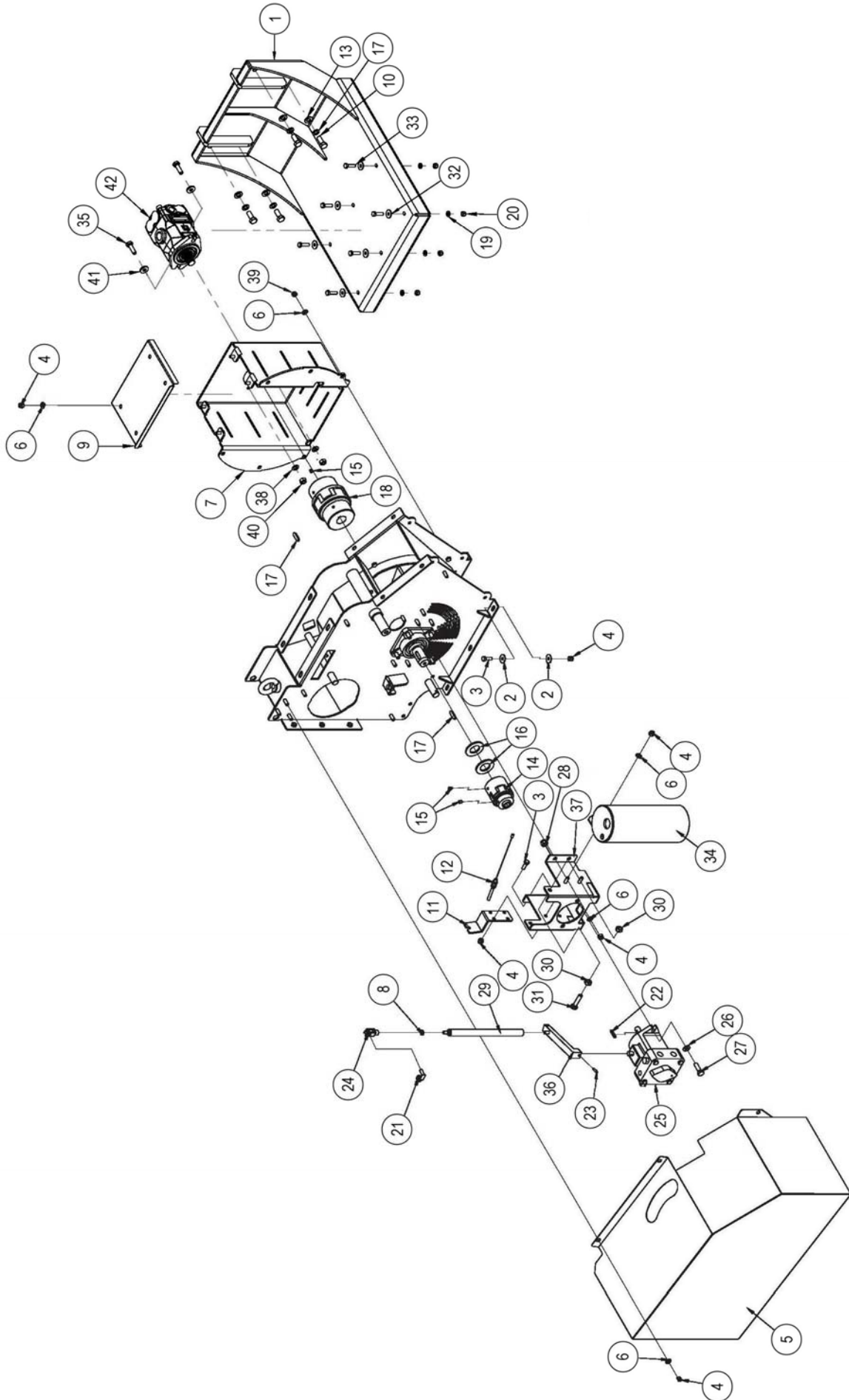
Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>HOPPER MODULE</b>
1	1	4003254	ROD
2	1	4003255	ROD
3	1	4003256	KNOB
4	2	4003257	WASHER
5	1	4003258	NUT
6	1	4003259	BOLT
7	1	4003260	CABLE
8	1	4003261	DIVERTER VALVE
9	2	4003262	PLUG
10	1	4003263	SAFETY HANDLE
11	13	4003212	WASHER
12	6	4003225	SPRING WASHER
13	1	4003264	NUT
14	1	4003265	JOINT
15	2	4003266	BOLT
16	4	4003267	WASHER
17	6	4003229	BOLT
18	2	4003209	NUT
19	1	4003268	VALVE BRACKET
20	2	4003269	NUT
21	1	4003208	BOLT
22	1	4003270	HOPPER
23	5	4003213	NUT
24	3	4003271	WASHER
25	3	4003272	BOLT
26	3	4003273	NUT
27	4	4003274	BOLT
28	3	4003275	COLLAR
29	6	4003276	BOLT

# DRIVE MODULE

Product: ROBO-CHIPPER

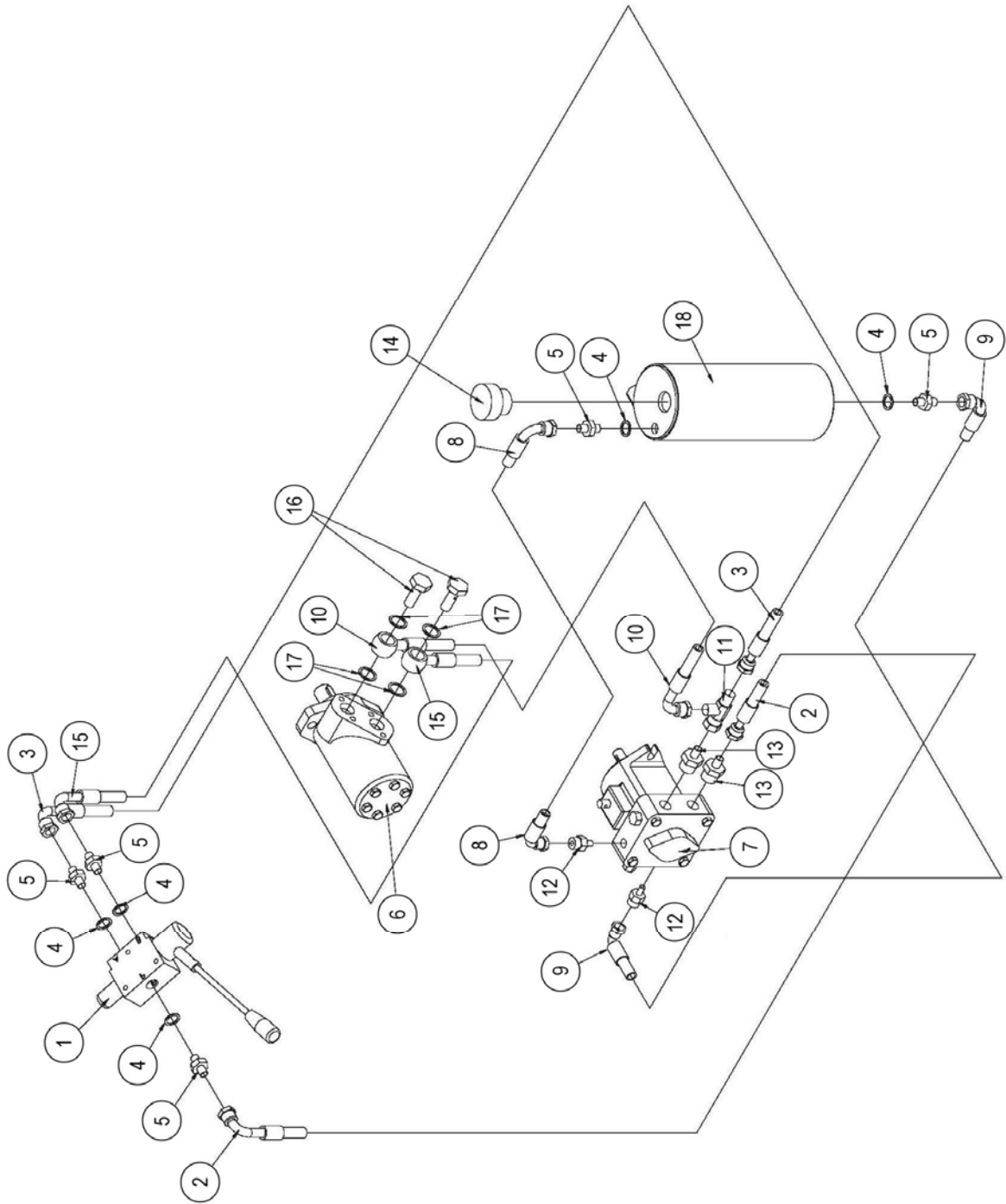
# McCONEL



**DRIVE MODULE****McCONNEL**

Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>DRIVE MODULE</b>
1	1	4003277	MOUNTING BRACKET
2	12	4003241	WASHER
3	8	4003208	BOLT
4	22	4003213	NUT
5	1	4003278	PUMP COVER
6	30	4003212	WASHER
7	1	4003279	COWL
8	11	4003225	WASHER
9	4	4003280	COVER PLATE
10	4	4000212	BOLT
11	1	4003281	BRACKET
12	1	4003260	CABLE
13	4	4000759	WASHER
14	1	4003282	COUPLING
15	4	4003283	GRUB SCREW
16	2	4003284	WASHER
17	4	4000760	WASHER
18	1	4003285	COUPLING
19	6	4000078	WASHER
20	6	4000865	LOCK NUT
21	1	4003286	LOCK PIN
22	3	4003287	KEY
23	1	4003288	ROLL PIN
24	1	4003289	FORK
25	1	4003290	PUMP
26	2	4003222	WASHER
27	2	4003223	BOLT
28	2	4003228	NUT
29	1	4003291	LEVER EXTENSION
30	4	4003219	NUT
31	2	4003292	BOLT
32	6	4000385	WASHER
33	6	4001527	BOLT
34	1	4003293	OIL TANK
35	2	4004008	BOLT
36	1	4003294	LEVER
37	1	4003295	PUMP BRACKET
38	2	4000758	WASHER
39	6	4003296	NUT
40	2	4000416	NUT
41	2	4001381	WASHER
42	1	4001396	MOTOR



**HYDRAULIC MODULE****McCONNEL**

Product: ROBO-CHIPPER

<b>REF.</b>	<b>QTY.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
			<b>HYDRAULIC MODULE</b>
1	1	4003261	DIVERTER VALVE
2	1	4003297	HOSE
3	1	4003298	HOSE
4	5	4003299	BONDED SEAL
5	5	4003300	ADAPTOR
6	1	4003221	HYDRAULIC MOTOR
7	1	4003290	PUMP
8	1	4003301	HOSE
9	1	4003302	HOSE
10	1	4003303	HOSE
11	1	4003304	TEE ADAPTOR
12	2	4003305	ADAPTOR
13	2	4003306	ADAPTOR
14	1	4003307	CAP
15	1	4003308	HOSE
16	2	4003309	BOLT
17	4	4003310	WASHER
18	1	4003293	OIL TANK





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