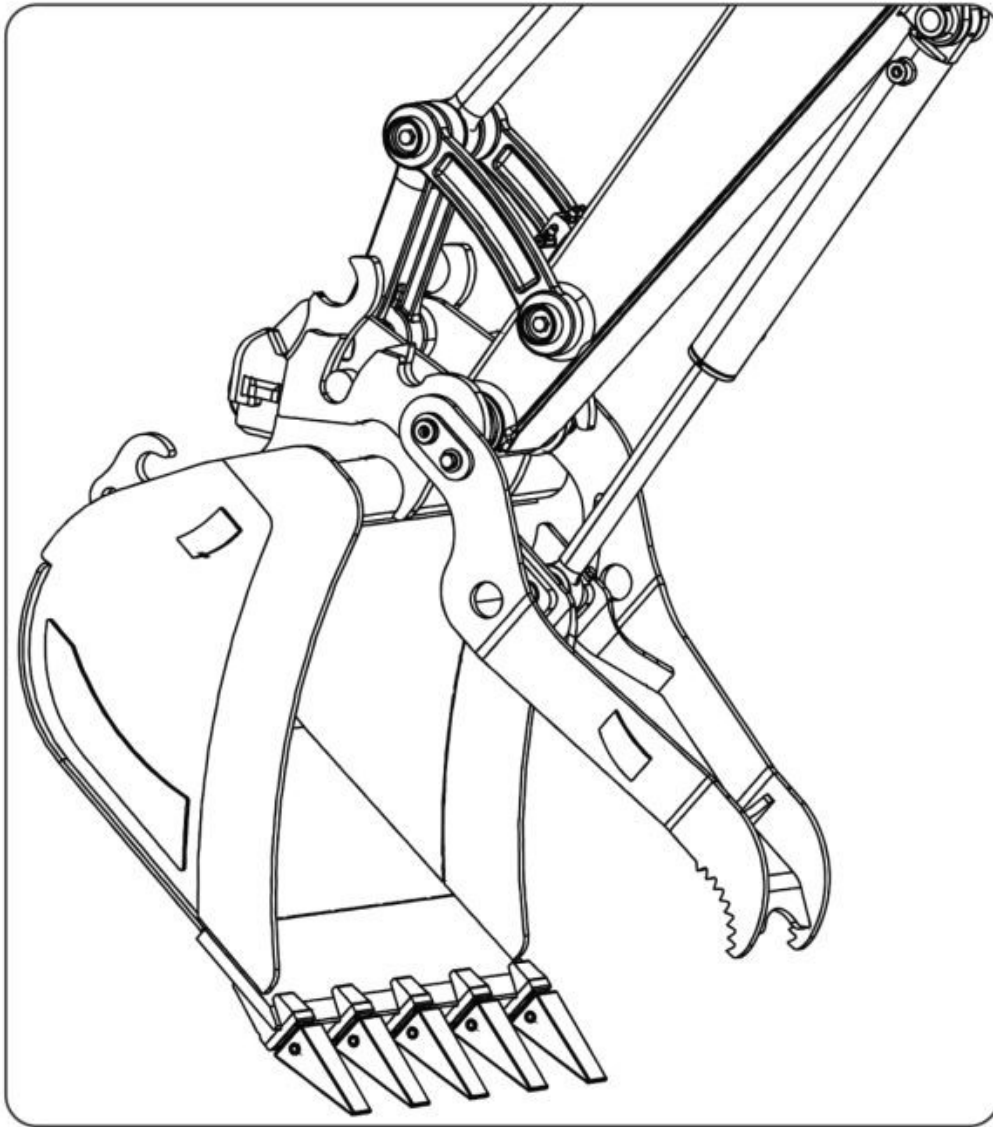


# OWNER MANUAL EXCAVATION EQUIPEMENT

UM-CO-EN Rev 1 01-22

# **COTECH**



**READ THIS MANUAL CAREFULLY  
KEEP READY AT ALL TIMES**

# Table of contents

Introduction.....	3-4
Safety information .....	5-9
Mechanical and Hydraulic Coupler.....	10-13
Mechanical coupler tool change procedure .....	14
Hydraulic coupler tool change procedure .....	15-16
Hydraulic thumb .....	17-19
Buckets .....	20-21
Other equipment.....	22-23
Troubleshooting.....	24

# INTRODUCTION

## **TO THE PURCHASER**

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation, and keep it in your files for further reference.**

This manual has been prepared to assist the owner and operators in the safe operation and suitable maintenance of the equipment. The information is applicable to products at the time of manufacture and does not include modifications made afterwards.

Read and understand this operator's manual before attempting to put equipment into service. Familiarize yourself with the operating instructions **AND ALL THE SAFETY RECOMMENDATIONS** contained in this manual and those labeled on the equipment and on the machine. Follow the safety recommendations and make sure that those with whom you work follow them.

## **TO THE DEALER**

Give this manual to the owner upon delivery of the equipment.

## **TO THE PURCHASER AND THE DEALER**

### **Illustrations**

The illustrations may not necessarily reproduce the full detail and the exact shape of the parts or depict the actual models, but are for reference only.

### **Direction Reference**

All references to right and left, forward or rearward are from the operator seat.

*To assist your dealer in handling your needs, please record hereafter the model number and serial number of your equipment and machine. It is also advisable to supply them to your insurance company. It will be helpful in the event that equipment or machine is lost or stolen*

## **Product Category**

**MODEL:** \_\_\_\_\_

**SERIAL NUMBER:** \_\_\_\_\_

**DATE OF PURCHASE:** \_\_\_\_\_

**DEALER NAME:** \_\_\_\_\_

**DEALER TELEPHONE NUMBER:** \_\_\_\_\_


# INTRODUCTION

All products are designed to give safe, dependable service if they are operated and maintained according to instructions. **Read and understand this manual before operation.** It is the owner's responsibility to be certain anyone operating this product reads this manual, and all other applicable manuals, to become familiar with this equipment and all safety precautions. Failure to do so could result in serious personal injury or equipment damage. If you have any questions, consult your dealer.



## SAFETY FIRST

This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully. It is essential that you read the instructions and safety regulations before you attempt to assemble or use this unit.

	<b>DANGER :</b> Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	<b>WARNING :</b> Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	<b>CAUTION :</b> Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
<b>IMPORTANT :</b>	Indicates that equipment or property damage could result if instructions are not followed.
<b>NOTE :</b>	Gives helpful information.

### Legal Disclaimer

Cotech Corporation notes that specifications and technical information are subject to change without notice and Cotech does not represent or warrant that the information in this publication is completely accurate or current; however, Cotech used reasonable efforts to set forth and include accurate and up to date information in this publication. Cotech disclaims all representations and warranties, whether express or implied, including, but not limited to, warranties of merchantability and fitness for a particular purpose and Cotech shall not be liable for any damages, whether compensatory, direct, indirect, incidental, special, or consequential, arising out of or in connection with the use of this publication, or the information therein.

The Product(s) described in this Publication are designed and manufactured only for the country in which they are initially wholesaled by Cotech. Cotech does not provide parts, warranty or service for any Product which is re-sold or retailed in any country other than the country for which the Product(s) were designed or manufactured.



# SAFETY INFORMATION

## **Children**

Tragic accidents can occur if the operator is not alert to the presence of children. Children are generally attracted to machines and the work being done. Never assume children will remain where you last saw them

1. Keep children out of the operating area and under the watchful eye of another responsible adult.
2. Be alert and turn machine off if children enter the work area.
3. Before and when backing, look behind for small children.
4. Never carry children while operating the machine. They may fall off and be seriously injured or interfere with the safe operation of the machine.
5. Never allow children to play on the machine or attachment even when the machine is turned off.
6. Never allow children to operate the machine even under adult supervision.
7. Use extra care when approaching blind corners, shrubs, trees, or other obstructions that might hide children from sight.

## **Before Operation**

1. Read and understand both the machine AND implement operator's manual before using the snowblower. Know how to operate all controls and how to stop the unit and disengage the controls quickly. Lack of knowledge can lead to accidents.
2. Park the machine/implement on level ground, set the parking brake, lower the implement to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop BEFORE making any implement adjustments, repairs or inspections.
3. Keep clear of all rotating parts. Do not put hands or feet under, or into snowblower and subframe with engine running.
4. For your safety, do not work under any hydraulically supported machine elements, they may creep down, suddenly drop or be accidentally lowered. Do not use loader, quick hitch, or an implement as a jack for servicing.

5. Do not operate the machine/implement that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.
6. Keep the machine/implement clean. Snow, dirt or ice build-up can lead to malfunction or personal injury from thawing and re-freezing in garage. Inspect and clean every rotating parts.
7. Do not modify or alter this implement or any of its components, or any implement function without first consulting your dealer. The manufacturer will not claim responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
8. Verify that all machine/implement safety protective devices are in place. Shields, guards and covers must be correctly installed at all times. When necessary to remove these for servicing, cleaning, or repair work, they must be reinstalled immediately.
9. Always make sure all implement components are properly installed and securely fastened.
10. Check that all machine/implement drivelines are in good working order.
11. Check for moving parts excessive wear regularly. ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED.
12. Prior to operation, clear work area and mark all curbs, pipes, etc. that cannot be moved.
13. Inspect the machine/implement after striking any foreign object to assure that all machine/implement parts are safe and secure and not damaged.
14. Handle fuel with care, as it is highly flammable. Use approved fuel container.
15. Never add fuel to a running engine or a hot engine.
16. Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors. Replace fuel cap securely and wipe up spilled fuel. Always refuel using a properly grounded system.



## SAFETY INFORMATION

17. Check all machine controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
18. Make sure the machine is counterweighted and has tire chains for better traction and stability as recommended by your dealer. Weights provide the necessary balance to improve stability, traction and steering. Use only those recommended by your dealer.
19. Prolonged exposure to loud noise can cause impairment or loss of hearing. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable noises.
7. If the implement starts to vibrate abnormally, disengage the PTO, stop the engine immediately and check for cause. Excessive vibration is generally a sign of trouble.
8. Park the machine/implement on level ground, place the transmission in neutral, set the parking brake, disengage the driving system, lower the equipment to the ground, place all levers including auxiliary control levers in neutral, shut off the engine and remove the ignition key **BEFORE LEAVING THE MACHINE**.
9. Always drive the machine at speeds compatible with safety, especially when operating over rough ground, crossing ditches, slippery surface or when turning.

### **During Operation**

1. Never allow anyone to operate the machine and implement until they have read the manuals completely and are thoroughly familiar with their basic operation. Lack of operating knowledge can lead to accidents.
2. Do not allow anyone to ride on the machine/implement at any time. The only one allowed is the operator that **MUST** sit in the driver seat.
3. Never allow anyone near the work area. The debris that can be thrown could cause serious personal injuries.
4. Never stand alongside of the implement while the engine is running.
5. Never operate the implement without safety protective devices in place. All machine/implement shields, guards and covers must be correctly installed at all times.
6. Keep clear of all rotating parts. Do not put hands or feet under, or into the implement with engine running.
10. Operate only with good visibility and during daylight hours, or when the area is well lit with bright artificial light.
11. Do not run the engine indoors except when starting engine and transporting attachment in or out of building. Carbon monoxide gas is colorless, odorless and deadly.
12. Exercise extreme caution when operating on or crossing a gravel drive, walks, or roads. Stay alert for hidden hazards or traffic.
13. Use extra caution when backing up.
14. Operate up and down (not across) intermediate slopes. Avoid sudden starts and stops.
15. Drive machine backwards up steeper slopes with the implement off. Then operate as you travel down the slope.
16. Never park the machine on a steep slope. Do not attempt to operate on steep slopes. If operating on slopes is necessary, exercise extreme caution when changing direction.
17. Disengage power to implement when transporting or when not in use..



# SAFETY INFORMATION

## **MAINTENANCE**

### **ALWAYS USE GENUINE PARTS WHEN REPLACEMENT PARTS ARE REQUIRED**

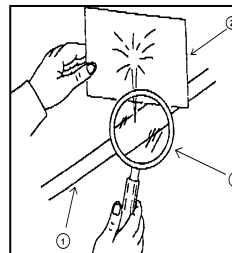
1. Keep the machine and blade properly maintained.
2. Park the machine/blade on level ground, set the parking brake, lower the blade to the ground, place all control levers in neutral, shut off the engine and remove the ignition key and allow the rotating parts to stop **BEFORE** making any blade adjustments
3. To avoid injury, do not service the blade when the tractor engine is running.
4. Keep the machine/blade clean. Snow, dirt or ice build-up can lead to malfunction or personal injury.
5. Always wear eye protection when cleaning or servicing the blade or frame
6. **DO NOT** service the machine while the engine is running or hot, or if the unit is in motion. Always lower blade to the ground. If necessary to service blade in raised position, securely support with stands or suitable blocking before working underneath. Do not rely on support devices already on the machine for your safety. They can settle suddenly or be accidentally lowered or an oil leak can occur.
7. The manufacturer will not assume responsibility for fitment of unapproved parts and/or accessories and any damages as a result of their use.
8. Make sure all shields and guards are securely in place following all service, cleaning, or repair work
9. Do not modify this blade or any of its components or operating functions. If you have questions concerning modifications, contact your dealer.
10. Do not operate a unit that is defective or has missing parts. Make sure that all recommended maintenance procedures are completed before operating the unit.

11. Check all controls regularly and adjust where necessary. Make sure that the brakes are evenly adjusted.
12. Periodically check all nuts and bolts for tightness, especially wheel hub and rim nuts.
13. Stop engine and relieve pressure before connecting or disconnecting hydraulic lines. Tighten all connections before starting engine or pressurizing lines.



**WARNING:** To avoid serious personal injury: Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury.

- **Do not use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks**



- (1) Hydraulic hose
- (2) cardboard
- (3) Magnifying glass

- **Stop engine and relieve pressure before connecting or disconnecting lines.**
- **Tighten all connections before starting engine or pressurizing lines.**
- **If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result.**



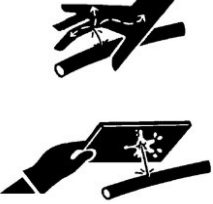
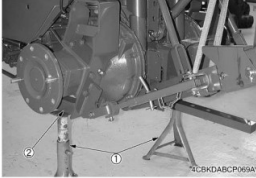

# SAFETY INFORMATION

	<p><b>BEFORE YOU START SERVICE</b></p> <ul style="list-style-type: none"> <li>• Read all instructions and safety instructions in this manual and on your machine safety decals.</li> <li>• Clean the work area and machine.</li> <li>• Park the machine on a stable and level ground, and set the parking brake.</li> <li>• Lower the implement to the ground.</li> <li>• Stop the engine, then remove the key.</li> <li>• Disconnect the battery negative cable.</li> <li>• Hang a "DO NOT OPERATE" tag in the operator station.</li> </ul>		<p><b>No Smoking or Open Flames while Fueling</b></p> <ul style="list-style-type: none"> <li>• Fuel is extremely flammable and dangerous. Never smoke near fuel. If fuel is spilled on the machine, its engine, or electrical parts, it may cause a fire. If fuel is spilled, wipe it all up immediately.</li> <li>• Never smoke while filling the machine with fuel. And always tighten the fuel cap securely and wipe up any spilled fuel.</li> </ul>
	<ul style="list-style-type: none"> <li>• When performing maintenance on the equipment, hang the DO NOT OPERATE sign where it will be obvious from and around the driver's seat.</li> <li>• When performing maintenance or repairs, always lower attachments to the ground, stop the engine and secure the tracks with blocks.</li> <li>• When performing maintenance on the equipment, always disconnect the negative battery cable.</li> <li>• Before using tools, make sure you understand how to use them correctly and use tools in good condition and of the right size for the job.</li> </ul>		<ul style="list-style-type: none"> <li>• Before getting on/off of the machine, clean off around the steps so there is no mud on them. Always give yourself 3-point support when getting on/off the machine.</li> </ul> <p><b>CAUTION</b></p> <ul style="list-style-type: none"> <li>• 3-point support means using both legs and one hand or both hands and one leg as you climb up/down.</li> </ul>
	<p><b>START SAFELY</b></p> <ul style="list-style-type: none"> <li>• Do not do the procedures below when you start the engine. <ul style="list-style-type: none"> <li>– short across starter terminals</li> <li>– bypass the safety start switch</li> </ul> </li> <li>• Do not alter or remove any part of machine safety system.</li> <li>• Before you start the engine, make sure that all shift levers are in neutral positions or in disengaged positions.</li> <li>• Do not start the engine when you stay on the ground. Start the engine only from operator's seat.</li> </ul>		<ul style="list-style-type: none"> <li>• Do not remove the radiator cap when the engine operates, or immediately after it stops. If not, hot water can spout out from the radiator. Only remove the radiator cap when it is at a sufficiently low temperature to touch with bare hands. Slowly loosen the cap to release the pressure before you remove it fully.</li> </ul>
	<p><b>Starting the Machine Safely</b></p> <ul style="list-style-type: none"> <li>• Before starting the engine, always sit in the driver's seat and make sure the area is safe and clear.</li> <li>• As it is dangerous, never start the engine from anywhere but the driver's seat.</li> <li>• Always check and make sure control lever(s) are not engaged before starting the engine.</li> <li>• Never start the engine by hot-wiring the starter circuit. This is not only dangerous, but may damage the machine.</li> </ul>		<ul style="list-style-type: none"> <li>• The engine, muffler, radiator, hydraulic line, etc., have parts that remain very hot even after the engine has been stopped. Be sure to avoid these parts, as touching them can result in burns. Radiator coolant, hydraulic fluid and oil also remain hot. Therefore, do not attempt to remove caps and plugs, etc., before these fluids have sufficiently cooled.</li> <li>• Make sure the coolant temperature has dropped sufficiently before opening the radiator cap. Also, since the inside of the radiator is pressurized, when removing the cap, first loosen it to release the pressure before removing the cap completely.</li> </ul>
	<ul style="list-style-type: none"> <li>• Wear clothes appropriate for working on equipment. Do not wear loose-fitting clothes as they may catch on the machine controls.</li> <li>• When working on the equipment, use all safety gear, such as a helmet, safety glasses and shoes, that are required by law or regulation.</li> <li>• Never perform maintenance while drowsy or under the influence of alcohol or drugs.</li> </ul>		<ul style="list-style-type: none"> <li>• Grease is under high pressure inside the hydraulic cylinder. It is very dangerous to loosen a grease nipple quickly as it may shoot off. Always loosen grease nipples slowly.</li> <li>• And never face a grease nipple while loosening it.</li> </ul>
	<p><b>Be Ready for an Emergency</b></p> <ul style="list-style-type: none"> <li>• Keep a first-aid kit and fire extinguisher close at hand so you can use it when needed.</li> <li>• Keep emergency contact information for doctors, hospitals and ERs handy.</li> </ul>		<p><b>PREVENT A FIRE</b></p> <ul style="list-style-type: none"> <li>• Fuel is very flammable and explosive under some conditions. Do not smoke or let flames or sparks in your work area.</li> <li>• To prevent sparks from an accidental short circuit, always disconnect the battery negative cable first and connect it last.</li> <li>• The battery gas can cause an explosion. Keep the sparks and open flame away from the top of battery, especially when you charge the battery.</li> <li>• Make sure that you do not spill fuel on the engine.</li> </ul>
	<p><b>KEEP A GOOD AIRFLOW IN THE WORK AREA</b></p> <ul style="list-style-type: none"> <li>• If the engine is in operation, make sure that the area has good airflow. Do not operate the engine in a closed area. The exhaust gas contains poisonous carbon monoxide.</li> </ul>		<p><b>Dispose of Waste Fluids Properly</b></p> <ul style="list-style-type: none"> <li>• Never dispose of waste fluids on the ground, in the gutter, a river, pond or lake. Always dispose of hazardous substances like waste oil, coolant and electrolytic fluid in accordance with the relevant environmental protection regulations.</li> <li>• Keep the safety plates clean so they can be read. If a safety plate is damaged and comes off or becomes illegible, put a plate with the same warnings back in its place.</li> </ul>





# SAFETY INFORMATION

	<ul style="list-style-type: none"><li>• The pressure in the hydraulic circuit stays at pressure even after the engine stops. Before removing parts, such as hydraulic devices from the machine, first release the pressure. Please note that when releasing residual pressure, the machine itself and/or implements may move without warning, so be very careful when releasing the pressure.</li><li>• Oil gushing out under pressure is extremely dangerous as it may pierce your skin or your eyes. Similarly, oil leaking out of pinholes is not visible. So when checking for oil leaks, always wear safety glasses and gloves and use a piece of cardboard or a wood block to shield yourself from oil.</li></ul>		<ul style="list-style-type: none"><li>• When you need to access the underside of the machine for maintenance purposes, but sure to support the machine with a safety stand. Getting under the machine while supporting the machine by machine's own hydraulic cylinder or using a hydraulic jack can be extremely dangerous in the event of a hydraulic fluid leakage or similar mishap.</li></ul> <p>(1) Safety stand (2) Secure point for safety stand</p>
	<ul style="list-style-type: none"><li>• Do not open a fuel system under high pressure. The fluid under high pressure that stays in fuel lines can cause serious injury. Do not disconnect or repair the fuel lines, sensors, or any other components between the fuel pump and injectors on engines with a common rail fuel system under high pressure.</li><li>• Put on an applicable ear protective device (earmuffs or earplugs) to prevent injury against loud noises.</li><li>• Be careful about electric shock. The engine generates a high voltage of more than DC100 V in the ECU and is applied to the injector.</li></ul>		<ul style="list-style-type: none"><li>• Whenever it is necessary to open the engine covers or hood in order to service the machine, always prop them open.</li><li>• If it is absolutely necessary to run the engine while working on the machine, make sure you are clear of all rotating or moving parts. Also take care not to leave anything, such as tools or rags, near any moving parts.</li></ul>
	<ul style="list-style-type: none"><li>• Engage the loader control valve lock to prevent accidental actuation when the implement is not in use or during transport. Do not utilize the valve lock for machine maintenance or repair.</li><li>• Do not perform machine maintenance with loader in the air. If possible, follow loader instructions to remove loader before performing maintenance.</li><li>• If the machine has a backhoe, engage swing and boom locks.</li></ul>		

# Mechanical and hydraulic couplers

## Hydraulic and mechanical couplers

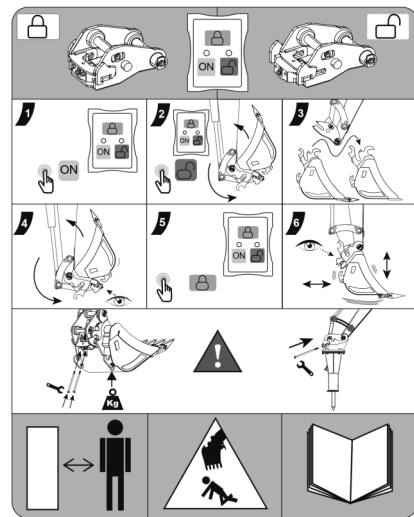
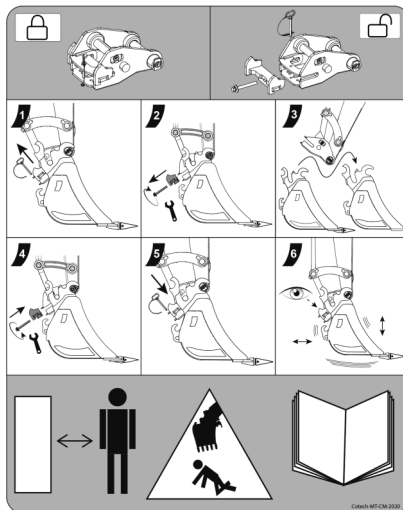
### INSTALLATION

Your coupler was installed at the dealership. If not, contact your dealer or Cotech customer service department for installation instructions.



### WARNING

Make sure that the following safety, information and usage decals are present before you use the coupler:



<b>COTECH</b>	
412, Route de la Station Saint-Éloi GOL 2V0 CANADA	
T : 418.898.4444 1 877.898.4440 www.cotech.ca	
# MODÈLE / MODEL #	
# SÉRIE / SERIAL #	



### WARNING

Installing a coupler can change some of the excavator specifications. Some of these settings may include: The maximum operating capacity, centre of gravity, load capacities according to the chart provided by the manufacturer, etc.



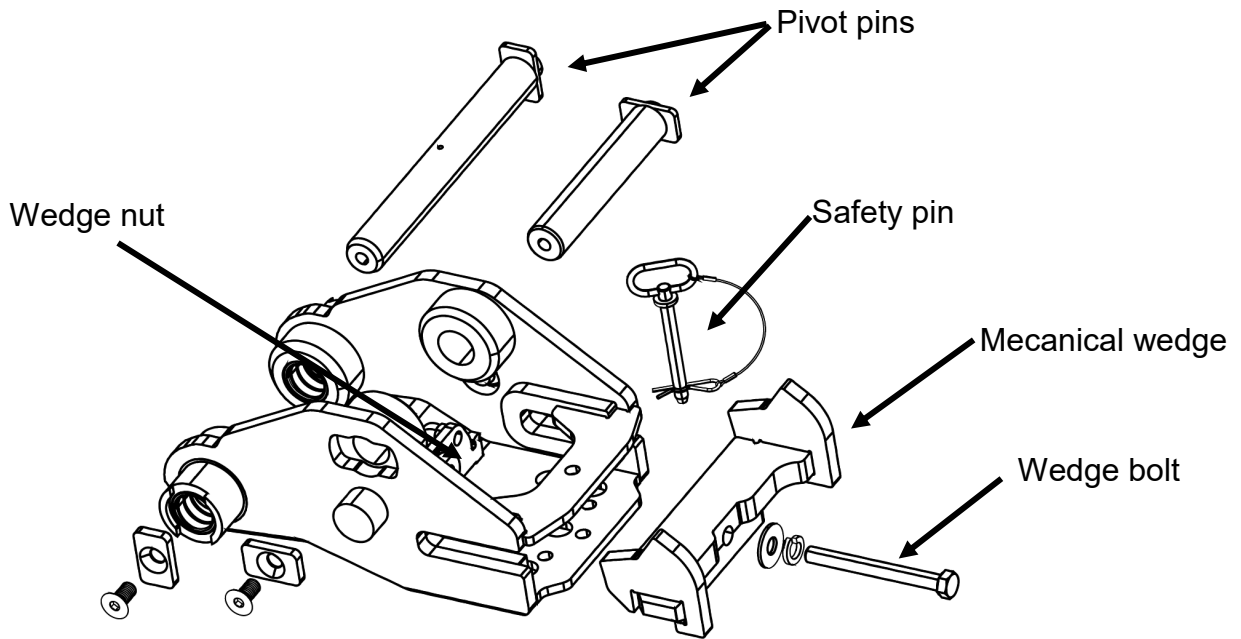
### CAUTION

Before using your coupler for the first time, fully rotate the coupler to confirm it is working correctly. Make sure there are no obstructions or contact between machine components and the coupler.

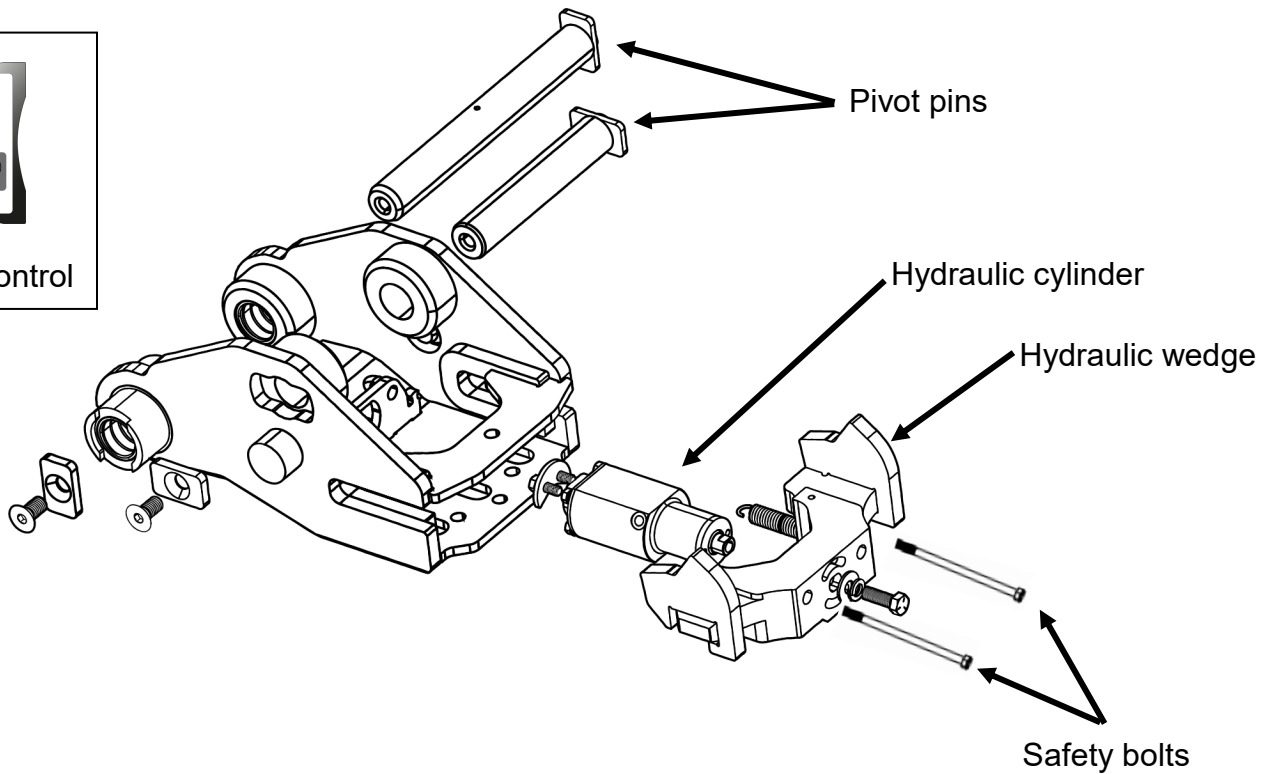
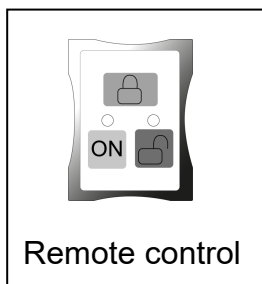
# Mechanical and hydraulic couplers

## EXPLODED VIEW

### MECHANICAL COUPLER

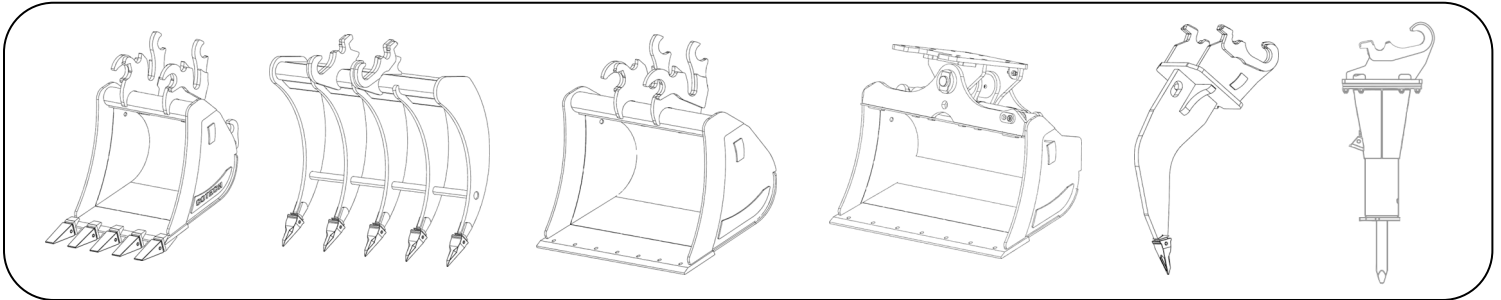


### HYDRAULIC COUPLER



# Mechanical and hydraulic couplers

Cotech couplers are designed to be installed on most excavator brands, models and capacities. The coupler you received should be used with the brand and model of excavator for which it was manufactured. Cotech couplers can be attached to a wide variety of tools for a wide range of applications.



## DANGER

This coupler was not designed to be used as a lifting device and should not be used this way.



## DANGER

This coupler cannot be used to transport or lift someone safely. It is prohibited to use the coupler for this purpose.



## WARNING

This coupler was designed for a specific brand and model. You can confirm this information by contacting your dealer.



## WARNING

This coupler has been designed mainly to be used on an excavator, to excavate. Employers and employees are responsible for ensuring that any other use of the excavator and coupler complies with the health and safety standards in effect, as well as good operating practices and equipment operation.



## WARNING

No modifications, additions or repairs can be performed on the coupler without the written agreement of the manufacturer. Failure to follow this instruction may result in voiding the warranty, breakage that could cause serious injury and even death.



## DANGER

No modifications, additions or repairs can be performed on the coupler without the written agreement of the manufacturer. Failure to follow this instruction may result in voiding the warranty, breakage that could cause serious injury and even death.



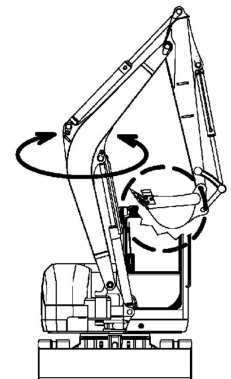
## WARNING

Keep people out of the reach of the machine when changing a tool.



## WARNING

Attachement impact hazard keep attachement away from cab and machine. Failure to do so may result in severe injuries or death or damage to the boomcylinder, hydraulic hoses or the cab.



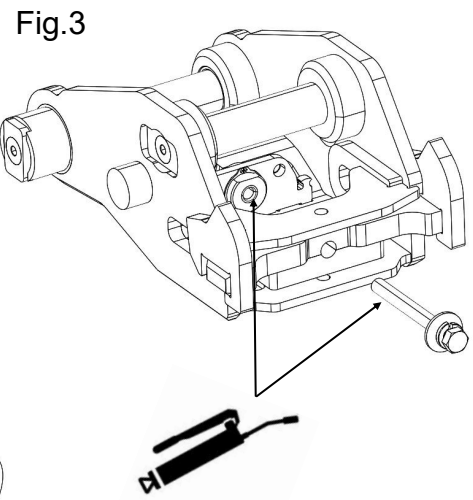
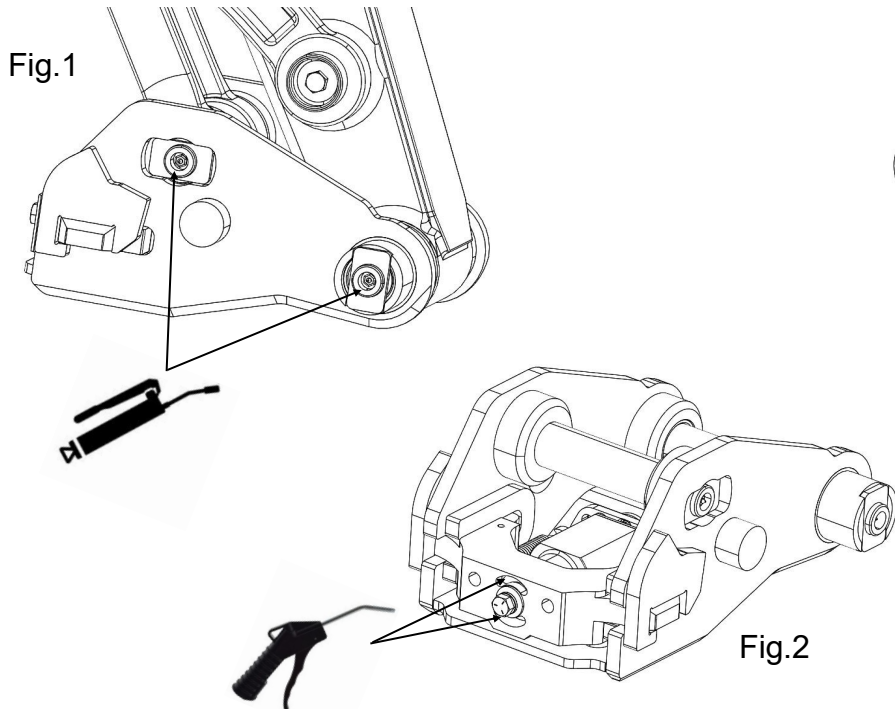
# Mechanical and hydraulic couplers

## **MAINTENANCE:**

**IMPORTANT:** Perform all the maintenance section without taking into account the hours given in the following cases:

- At least once a year if the blade is used less than 20 hours annually.
- After each storage period..
- After each wash.

<i>MAINTENANCE SCHEDULE</i>		
<b>DESCRIPTION</b>	<b>INTERVAL</b>	<b>REQUIRED MAINTENANCE</b>
Hardware	After the first 8 hours of operation	Tightens all bolts and nuts according to the Torque Specification Table.
	40 hours of operation	
Hydraulic system	After the first 8 hours	Visual inspection to detect hydraulic leaks. Tighten, repair or replace if necessary.
	40 hours of operation	
Pivot points and cylinder	8 hours of operation	Remove dirt from pivot points and angling cylinder especially in cold weather. (Fig.1)
Hydraulic coupler wedge	8 hours of operation or when required	Clean through the openings any dirt that could accumulate between the cylinder and the lock and thus interfere with the locking of the tools. (Fig.2)
Mechanical coupler wedge	20 hours of operation	Clean and lubricate the wedge lock bolt and lock nut. Use all-purpose grease. (Fig.3)



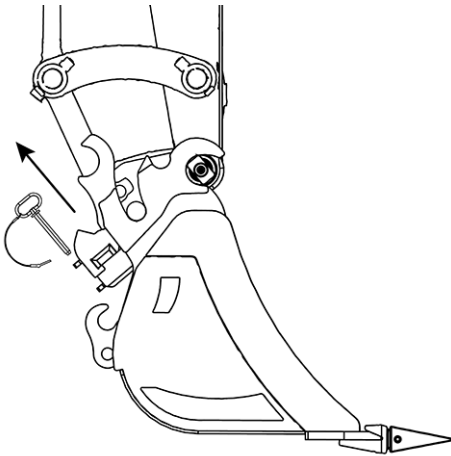
# TOOL CHANGING PROCEDURE

## MECHANICAL COUPLER

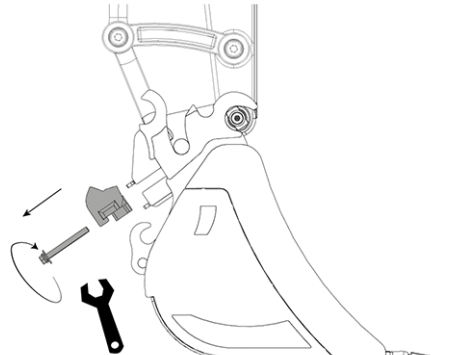


### WARNING

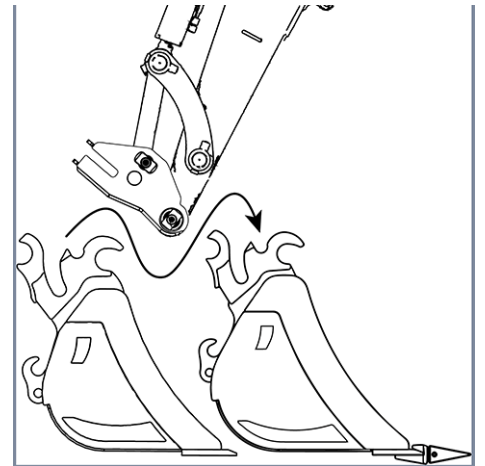
Check the tightness after 10 minutes of use. Tighten the wedge if necessary.



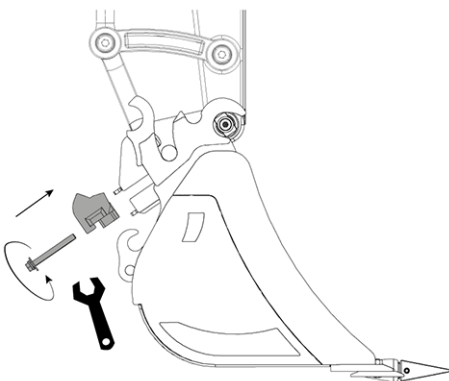
1. Remove the safety pin.



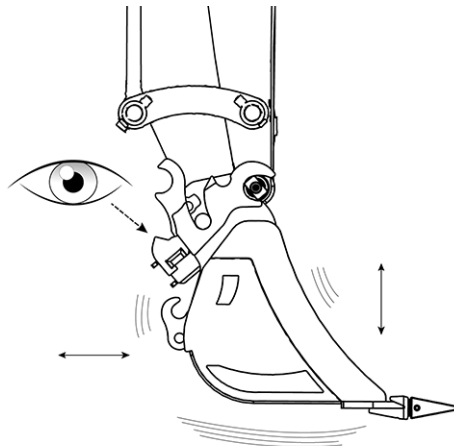
2. Loosen the wedge and remove it. If necessary, use a hammer to release it.



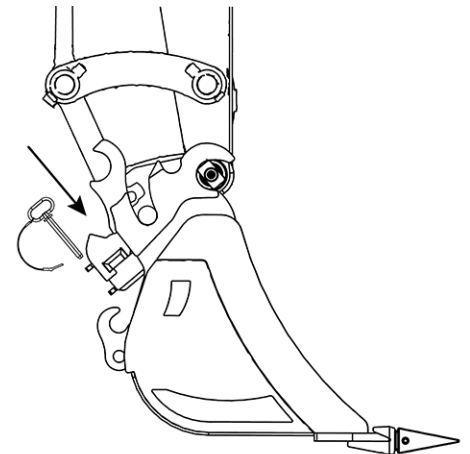
3. Remove the coupler from the tool in which it is located. Insert the coupler into the selected tool.



4. Tilt the tool inwards. Insert the wedge and tighten it in place.



5. Vigorously move the coupler. Press the tool on the ground and apply light pressure. Make sure the wedge is fully engaged and the bucket is securely locked.



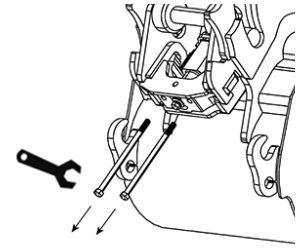
6. Replace the safety pin.

# TOOL CHANGING PROCEDURE

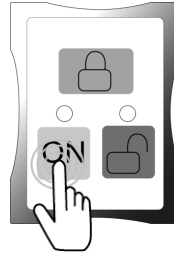
## HYDRAULIC COUPLER

### IMPORTANT

Make sure that the hydraulic wedge is fully disengaged before attempting to insert it into a tool. Otherwise, breakage could result.



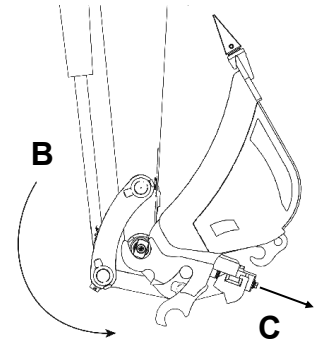
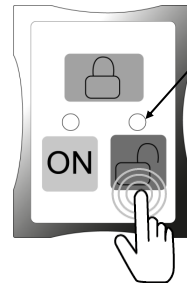
- 1** Press "ON". A yellow light comes on. An audible warning signal is heard. (slow repetitive audible beeps)



- 2** **A** -Press the red unlock button. A red light flashes and an intermittent beep sounds indicating that the coupler is in tool change mode.

**B** -Fully tilt the coupler toward the inside of the stick.

**C** -When the end of stroke is reached, hold hydraulic pressure for 3 seconds for the wedge to fully disengage.

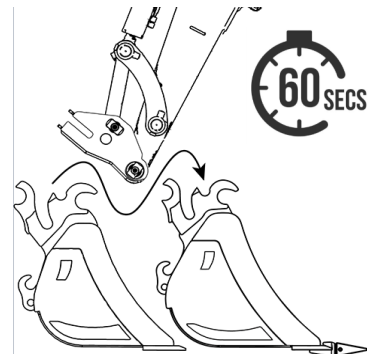


- 3** Remove the coupler from the tool in which it is located. Insert the coupler into the selected tool.

### NOTE:

The coupler is equipped with an automatic locking system. After 45 seconds the rhythm of the audible signal will increase to advise you of the imminent automatic locking of the coupler. You have a total of 60 seconds to change tools.

If the **Operator requires more time to execute the operation**, he/she must press the red button. This will add another 60 seconds to the cycle. The red LED will return to the original rate of blinking and the green LED will stop blinking but will stay lit.

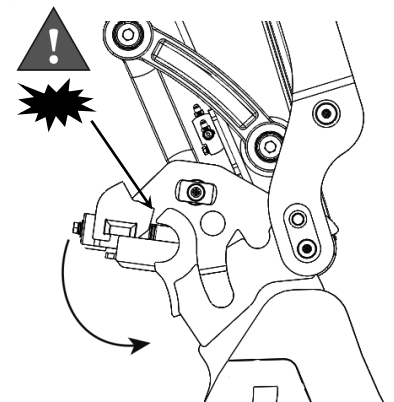


### IMPORTANT:

Make sure the hydraulic wedge is fully disengaged before attempting to insert it into a tool. The hydraulic cylinder must be completely open otherwise breakage may result.

This process should be done without having to apply force to insert the coupler into the tool.

If this is not the case check that the wedge is completely disengaged and that nothing is blocking the insertion of the coupler.

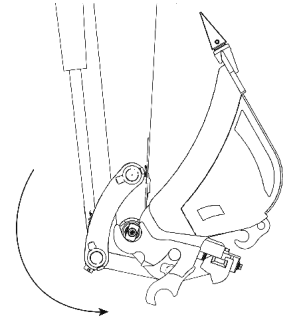


# TOOL CHANGING PROCEDURE

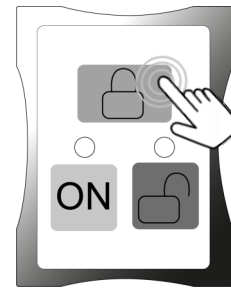
## HYDRAULIC COUPLER (FOLLOWING)

**4** Tilt the tool toward the inside of the stick so that the tool fits well into the coupler by gravity.

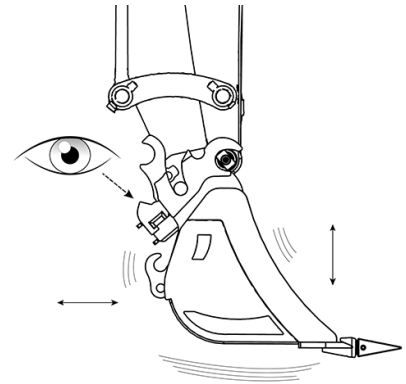
If this is not the case check that the wedge is completely disengaged and that nothing is blocking the insertion of the tool.



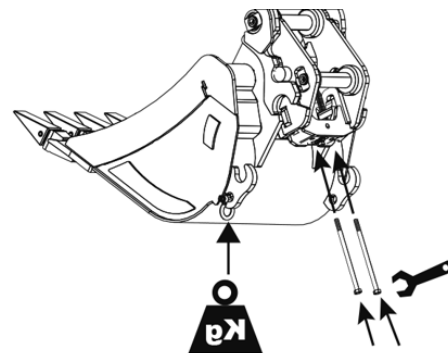
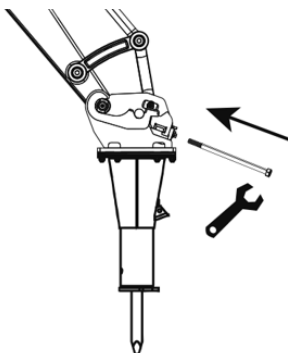
**5** Press the green lock button.  
The hydraulic wedge closes in the safe working position.  
The audible warning signal turns off.  
The red light goes out.  
The system deactivates itself.



**6** Tilt the tool toward the inside of the stick.  
Check that the hydraulic wedge is properly engaged.  
Vigorously move the coupler.  
Press the tool on the ground and apply light pressure.  
Make sure the hydraulic wedge is fully engaged and the tool is locked properly.



**IMPORTANT:** Always use safety bolts when lifting a load or using a jackhammer.





# HYDRAULIC THUMB

## Installation

Your hydraulic thumb was installed at the dealership. If not, contact your dealer or Cotech customer service department for installation instructions.



### WARNING

Make sure that the following safety, information and usage decals are present before you use the hydraulic thumb:



412, Route de la Station  
Saint-Éloi G0L 2V0 CANADA

T : 418.898.4444  
1 877.898.4440  
www.cotech.ca

# MODÈLE / MODEL #

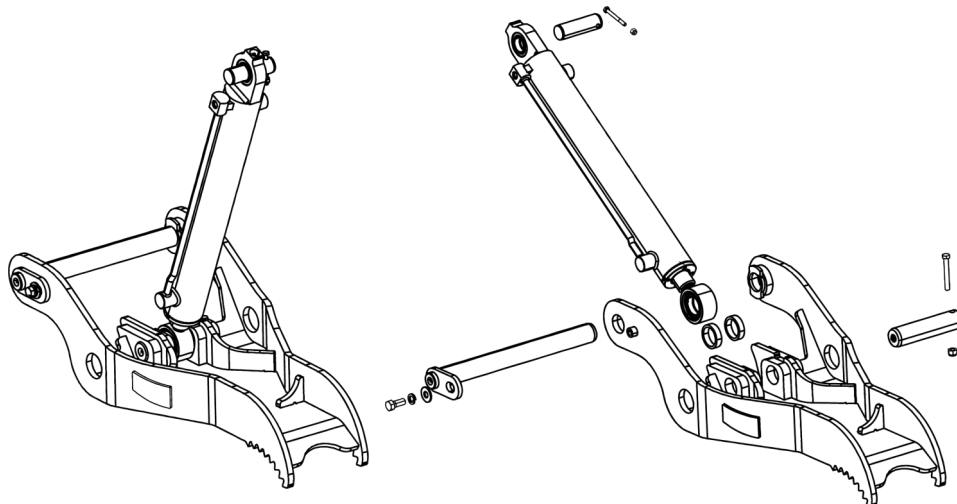
# SÉRIE / SERIAL #

## Usage

Hydraulic thumbs are designed to be installed on most excavator brands, models and capacities. The hydraulic thumb you received should be used with the brand and model of excavator for which it was manufactured. Cotech hydraulic thumbs are designed to work with Cotech buckets.

This hydraulic thumb is designed to hold or grab a load. It is important to use it for this purpose. When the bucket closes against the thumb, the load is held. If the rotational force exerted by the bucket against the load and thumb exceeds the maximum pressure allowed by the thumb's hydraulic pressure relief valve, the valve will make the cylinder rod retract. The oil flow would be returned to the tank through the pressure relief valve. This valve is included by the manufacturer of the excavator or, in some cases, by Cotech. It is important that the operating pressure of the thumb be adjusted according to the pressure determined by Cotech. The operating pressure specific to each model is provided in the installation manual.

## Hydraulic thumb



# HYDRAULIC THUMB



**DANGER**

This hydraulic thumb was not designed to be used as a lifting device and should not be used this way.

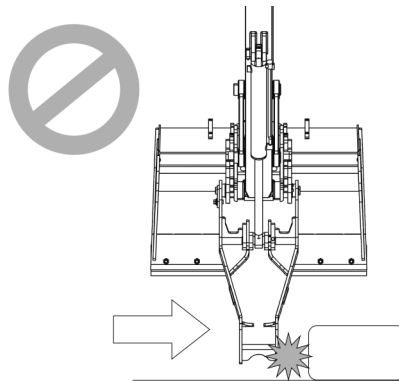


**WARNING**

Never try to adjust the position of the thumb when the load is lifted. The load could then fall.

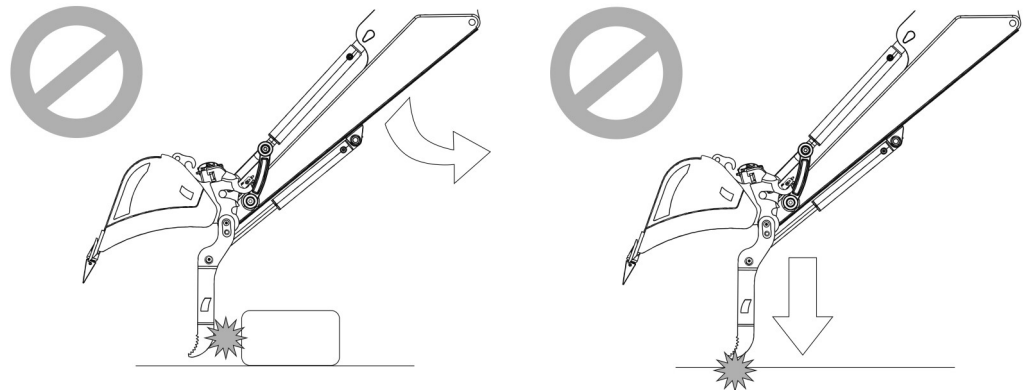
**IMPORTANT**

Under no circumstances should the Cotech hydraulic thumb be used for: scraping material, pulling or pushing material or moving material using the rotary movement of the excavator.



**IMPORTANT**

Do not apply downward force or hit anything with the thumb when it's closed as this will damage the hydraulic cylinder.



**IMPORTANT**

When not in use, the hydraulic thumb should be fully opened and pushed against the stick.

**IMPORTANT**

Never operate the excavator in a manner that the hydraulic thumb comes into contact with the boom.

**IMPORTANT**

The hydraulic thumb cylinders build with end stop (Cushion) system to limit the impacts between the structure and the cylinder at the end of the stroke (close on the stick boom). Restricted oil flow causes this slowdown. A whistling noise could be heard, it is normal and no action is required.

# MAINTENANCE

**IMPORTANT:** Perform all the maintenance section without taking into account the hours given in the following cases:

- At least once a year if the blade is used less than 20 hours annually.
- After each storage period..
- After each wash.

<i>MAINTENANCE SCHEDULE</i>		
DESCRIPTION	INTERVAL	REQUIRED MAINTENANCE
Hardware	After the first 8 hours of operation	Tightens all bolts and nuts according to the Torque Specification Table. Replace damaged bolts if needed.
	40 hours of operation	
Hydraulic system	After the first 8 hours	Visual inspection to detect hydraulic leaks. Tighten, repair or replace if necessary.
	40 hours of operation	
Pivot points and cylinder	8 hours of operation	Remove dirt from pivot points and angling cylinder especially in cold weather. Use high pressure grease. (Fig.1)

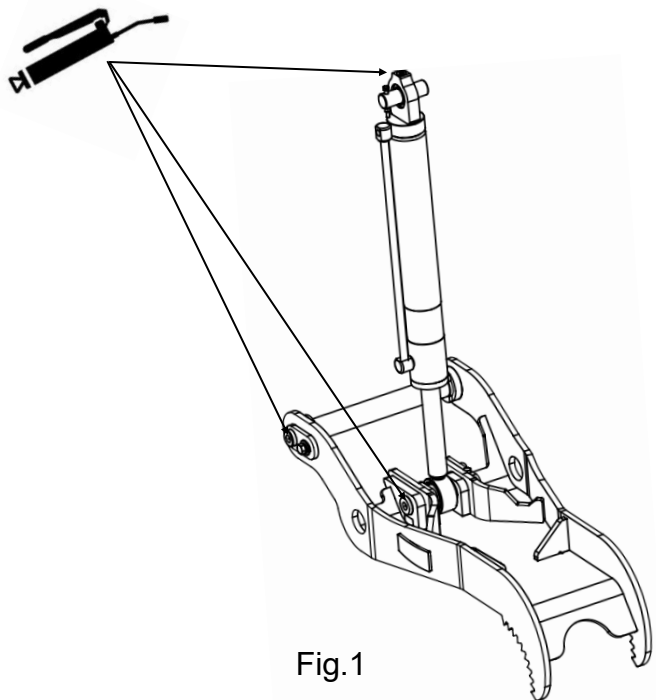


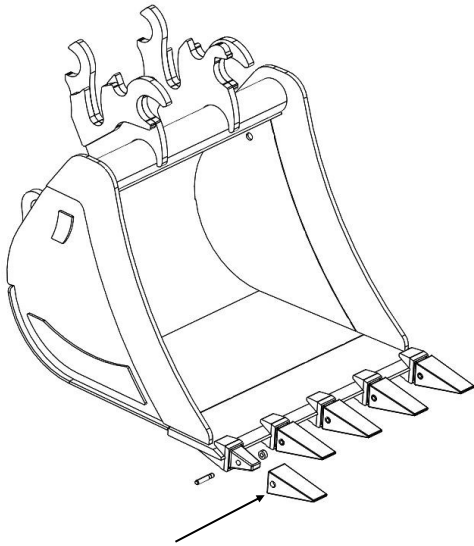
Fig.1

# BUCKETS

## Usage

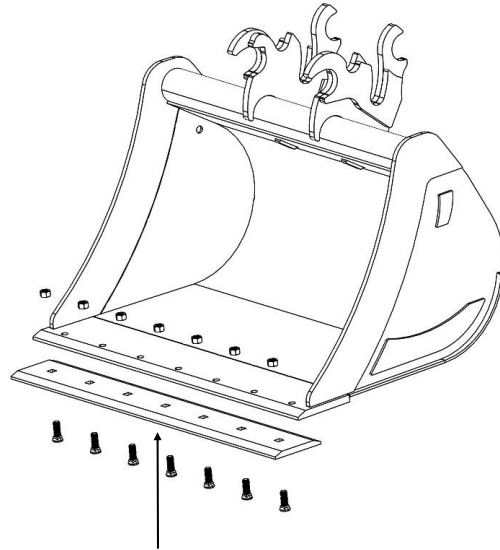
Buckets are designed to be used with a coupler of the same mark. They are mainly used for excavation. One of the advantages of those buckets is that they are reversible. This makes it easier to excavate along foundations, under buildings and to install a French drain. Refer to the coupler section for tool changing procedure.

### DIRT BUCKET



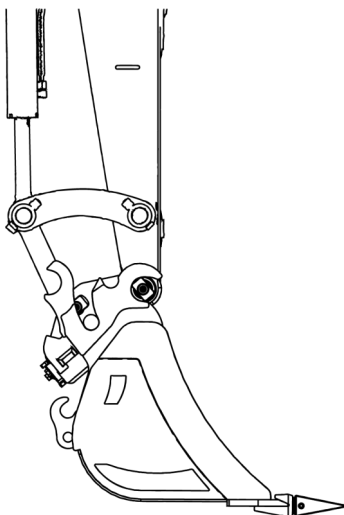
Replaceable wear teeth.

### DITCHING BUCKET

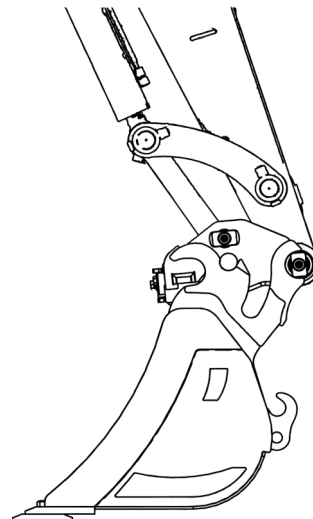


Replaceable bolt-on reversible wear blade sold separately.

### STANDARD excavation mounting mode



### REVERSIBLE excavation mounting mode



# BUCKETS

## Lifting hole

Buckets are fitted with lifting holes. Excavators were not designed for lifting applications. It is therefore essential to follow these instructions:



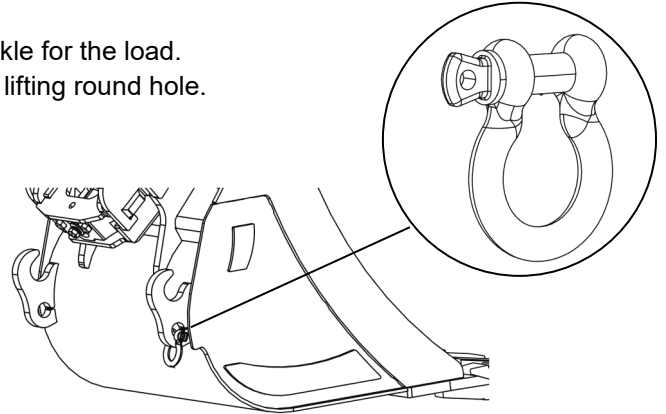
### DANGER

The load must not exceed the capacity of the excavator. Refer to the manual of the excavator.



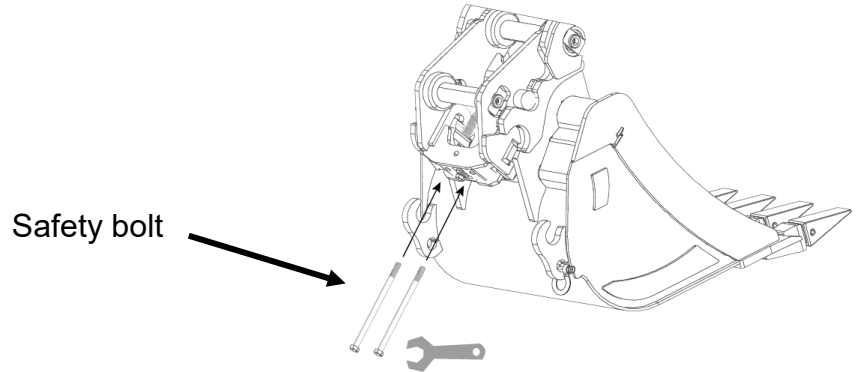
### DANGER

Always use the proper lifting shackle for the load.  
Always insert the shackle into the lifting round hole.



### DANGER

Always secure hydraulic coupler with safety bolts



### WARNING

Visually inspect the lifting hole, welds, excavator pins and lifting attachments (shackles, slings, etc.) on a daily basis.



### WARNING

Make sure to properly balance the load. The lifting attachments (shackle, slings, etc.) must not come into contact with the bucket.



### WARNING

Never use the lifting hole when using the bucket in the reversible position.



### WARNING

Never leave a load suspended from the bucket if the engine is off, idling or unattended by an operator.

### NOTE

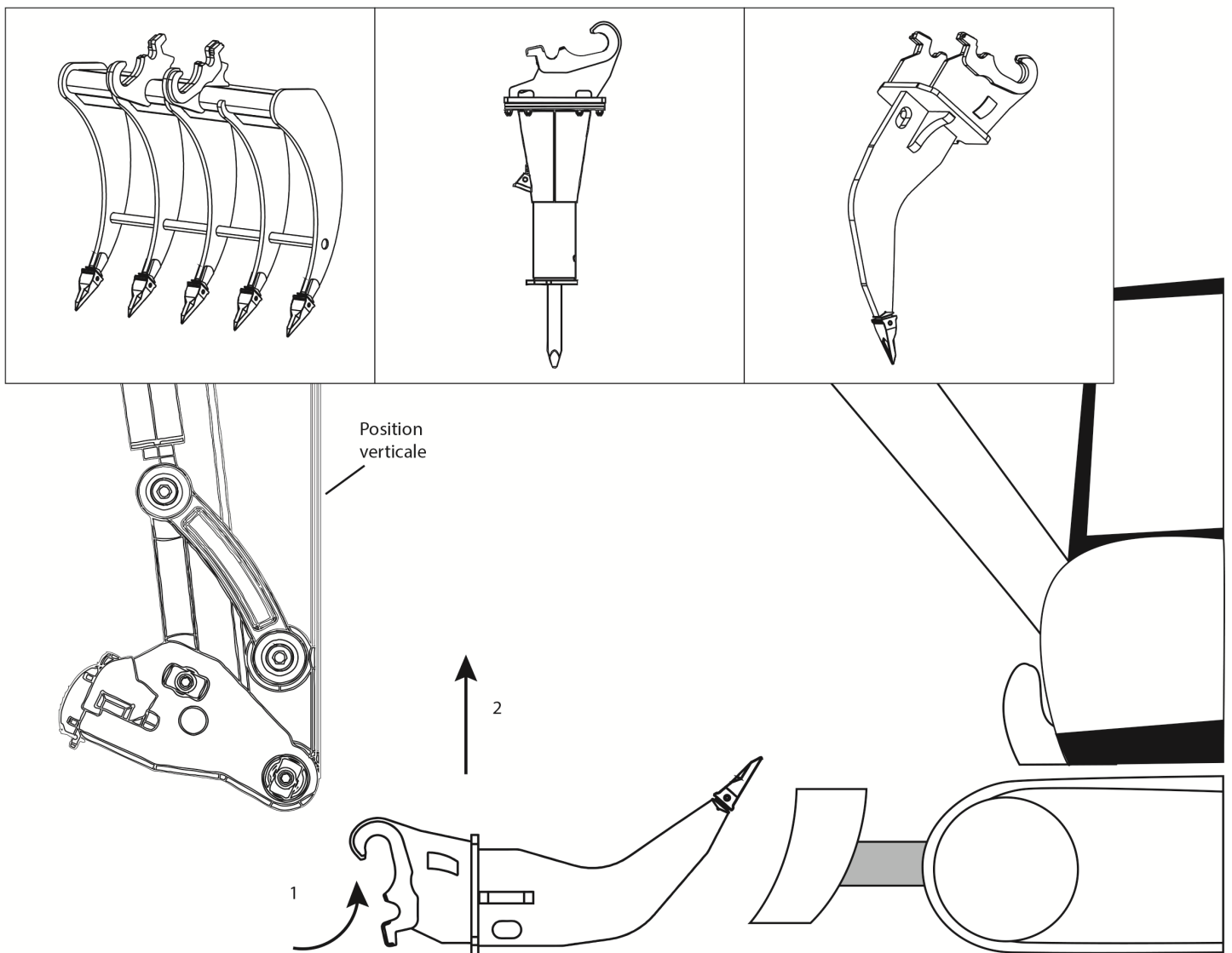
Ensure that the safety standards in effect allow for using the bucket of an excavator to lift loads.

# OTHER EQUIPEMENTS

This type of attachment is designed to facilitate the coupling of certain equipment positioned on the ground (horizontally). Often used with combs, ripper teeth, jackhammer, etc.

The result is optimal when the equipment is close to the excavator and the stick boom is vertical.

See figure below for best practice.



## **BOLT-ON HAMMER BRACKET**

Cotech bolt-on hammer bracket are adapters that allow you to mount a jackhammer on your excavator. They are available in our different categories for several brands and models of jackhammer. Consult your dealer for more details.

Jackhammers are used to perform demolition tasks. These operations must be carried out in accordance with the recommendations for the use of your excavator and your jackhammer.



### **DANGER**

Always secure the hydraulic coupler with the safety bolts when using a jackhammer by tightening them manually with a wrench. Fig.1 Always secure the manual coupler with the safety pin when using a jackhammer. Fig.2

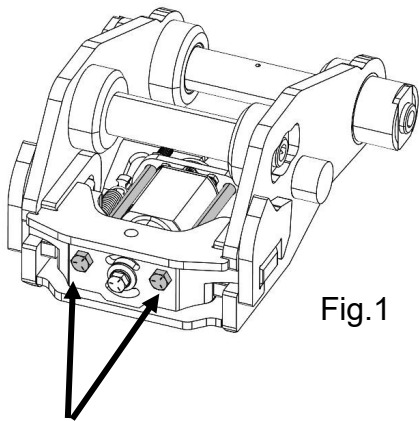


Fig.1

Safety bolts

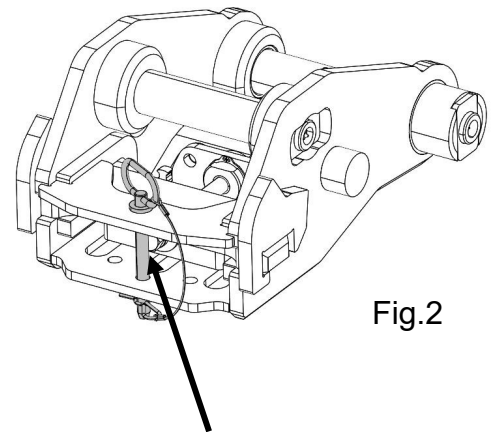


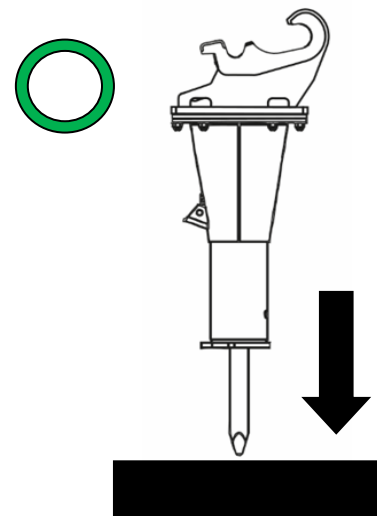
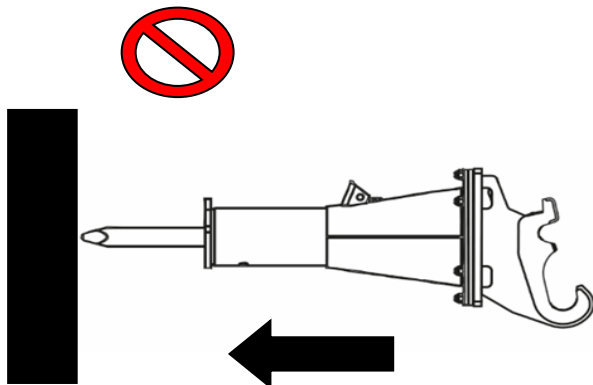
Fig.2

Safety pin



### **WARNING**

Never use the jackhammer horizontally, you risk damaging it. These tools are generally designed for vertical use. Consult your jackhammer manufacturer's user manual for more details.



# TROUBLESHOOTING

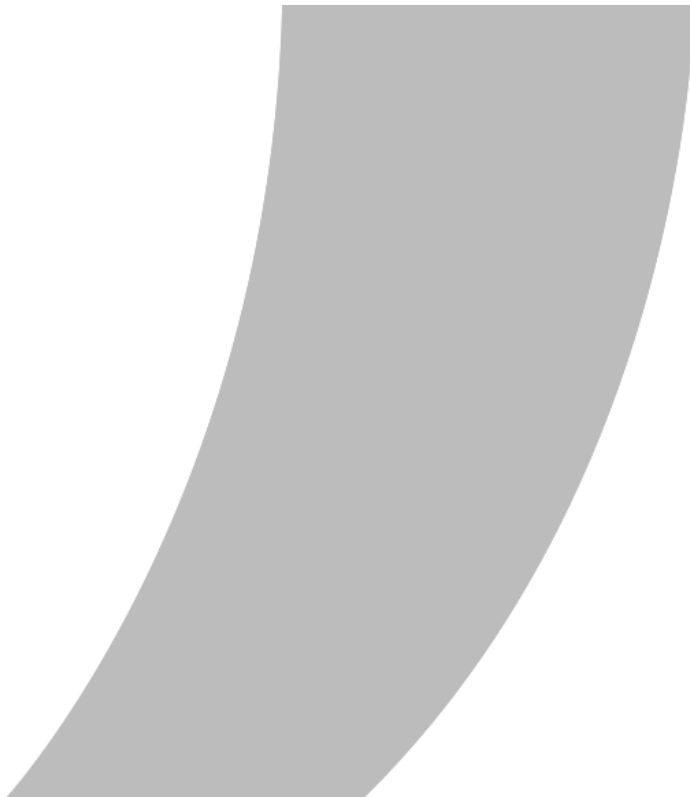
## HYDRAULIC COUPLER

ISSUE	POSSIBLE CAUSE	CORRECTIVE MEASURES
Hydraulic couplers are hard or impossible to connect.	Hoses, tractor side, are pressurized.	Turn the engine off and activate the valve control lever in all directions.
	Female couplers (equipment side) are partially open. The small coupler balls are visible.	Press on the elbow behind the coupler to reposition the coupler.
	The hydraulic couplers are defective.	Repair the couplers. Replace the hydraulic couplers.
The hydraulic wedge no longer disengages:	Rocks or sand block the movement of the lock.	Make sure that the coupler and the hydraulic wedge are well cleaned and free of any debris.
	Hydraulic leak.	Check the condition of the hydraulic circuit, hoses, connections, check that there are no leaks; replace if necessary.
	Electric trouble (Electrical wires / fuse)	1. Check the condition of the 7.5A fuse; replace if necessary. 2. Check the condition of the electrical wires, connections and cables; replace if necessary.
	Electric trouble (Control box)	1. Check the control box <ol style="list-style-type: none"> <li>a. Make sure that the green "PWR" indicator light are on the control valve.</li> <li>b. Start the machine. An audible signal is heard.</li> <li>c. Press the yellow "ON" button on the control box: A yellow indicator flashes and an audible warning signal is heard.</li> <li>d. Press the red unlock button on the control box: The red indicator flashes and audible warning signal is heard. The "ACT" indicator flashes on the control valve.</li> <li>e. Press the green button to lock the control box: The audible warning signal and the red indicator on the control box go off. The red "ACT" indicator on the control valve turns off.</li> </ol> If the tests in above section are not conclusive; replace the control box.
The hydraulic wedge does not fully engage:	Rocks or sand block the movement of the lock.	1. Make sure that the coupler and the hydraulic wedge are well cleaned and free of any debris. 2. Check the operating condition of the tension springs and the hydraulic wedge retaining bolt.

## HYDRAULIC THUMB

ISSUE	POSSIBLE CAUSE	CORRECTIVE MEASURES
Thumb goes down on its own without activating the hydraulic function	Internal hydraulic cylinder leak	Perform the piston seal kit tests with a hydraulic pressure gage. Validate if the oil transfers from the rod side to the piston side " by-pass test "  Perform leak tests by a qualified technician.
	Internal leak in the excavator hydraulic control valve.	Perform leak tests by a qualified technician
The bucket fails to close the thumb on itself	Wrong relief valve setting or improper installation	Refer to the technical manual of the equipment or excavator, validate the installation and adjustment procedure  Perform tests by a qualified technician
The hydraulic cylinder slows down at the end of stroke when it closes on the stick boom. A hissing noise is heard.	Cylinder end stop (Cushion)	The hydraulic thumb cylinders build with end stop (Cushion) system to limit the impacts between the structure and the cylinder at the end of the stroke (close on the stick boom). Restricted oil flow causes this slowdown. A hissing noise could be heard. No action required.





User manual no.: UM-CO-EN Rev 1 01-22

Date: 2022-01-06

Edited by: Cotech, 89 rue Villeray, L'Isle-Verte, Qc, Canada, 1-877-898-4440